

Building Malmstrom's Minuteman Missile fields in Central Montana, 1960-1963



President John F. Kennedy (right) accepts a model of PT Boat 109 from Luke Flaherty as he greets the crowd gathered at Great Falls High School Memorial Stadium, Great Falls, Montana, September 26, 1963. (Image courtesy of the John F. Kennedy Presidential Library and Museum).

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In September of 1960, the Air Force Association held its 14th annual convention at the San Francisco Civic Auditorium in San Francisco, California. This grand event demonstrated to the American public (and the world) the best aerial hardware the Air Force had to offer. On display was a Bell X-1B rocket plane, North American Aviation's Hound Dog air-launched standoff missile, a Titan intercontinental ballistic missile (ICBM), and the Thor-Able missile that promised to reach the moon. While this display of weaponry sought to allay Americans' fears about a supposed missile gap in favor of the Soviet Union (USSR), the Air Force's unveiling of the Minuteman ICBM was the main attraction.¹ On September 22, at 7:00 PM Gen Thomas D. White, the Chief of Staff of the Air Force, San Francisco mayor George Christopher, and NBC producer Roy Neal took to the podium to introduce the United States' newest weapon system. As General White pushed a button, the "gleaming dummy missile rose to a vertical static display, where it would remain through the weekend."² Never underestimating the power of an image, White understood that the Air Force had to convince the American public to embrace the Minuteman as the "ultimate deterrent force." The future of missiles depended on their good graces.³

This study explores why the Air Force deployed the Minuteman to Malmstrom AFB in central Montana, how the United States Army Corps of Engineers (USACE) and Air Force built the weapon system's infrastructure, and their experience bringing the first flight of missiles to alert during the Cuban Missile Crisis. The Cold War was an international political contest that pitted the west, led by the United States, against the east as represented by the USSR.⁴ The ICBM emerged as an integral weapon system in waging the Cold War. While the Air Force trotted out the Atlas and Titan ICBMs, the Minuteman became the weapon system of the future.⁵ The Air Force selected Malmstrom AFB in central Montana as home for the first Minuteman strategic missile wing. Shortly after construction began in 1962, the U.S. and USSR engaged in the Cuban Missile Crisis following the Soviet Union's installation of intermediate-range ballistic missiles in Cuba. During this confrontation Strategic Air Command (SAC) ordered the 341st Strategic Missile Wing (341 SMW) to bring its first flight of Minuteman ICBMs to alert and entered into an unprecedented state of readiness. In the nuclear posturing that followed, the USSR agreed to remove its missiles from Cuba as long as the U.S. made some concessions of its own.⁶

The Cuban Missile Crisis brought long-term effects to Montana and the ICBM mission. The Minuteman program was a large scale defense infrastructure project that established a permanent military presence in central Montana. During this process, the Department of Defense (DoD) exacerbated tensions between property owners and the federal government while at the same time injecting millions of dollars into the state's economy. This economic relationship made Montana dependent on defense dollars in the decades that followed.⁷ Following the Cuban Missile Crisis, the U.S. and



An Atlas ICBM at a launch facility. (Image courtesy of the Air Force Global Strike Command History Office.)



A Titan I ICBM in its silo. (Image courtesy of the Air Force Global Strike Command History Office.)

Soviet Union realized that nuclear weapons posed a threat to each other together instead of one another separately. As a result, the DoD shifted from a counterforce strategy to mutually assured destruction and pared back resources for the ICBM mission. The first real world test of the Minuteman provided the foundation for the mission's institutional problems during the post-Cold War era.

Building Malmstrom's Missile Fields

First constructed as the Great Falls Army Air Base in May 1942, and later renamed Malmstrom AFB (MAFB) in 1955, MAFB has a storied history supporting World War II and the Cold War's broader strategic missions.⁸ For ex-

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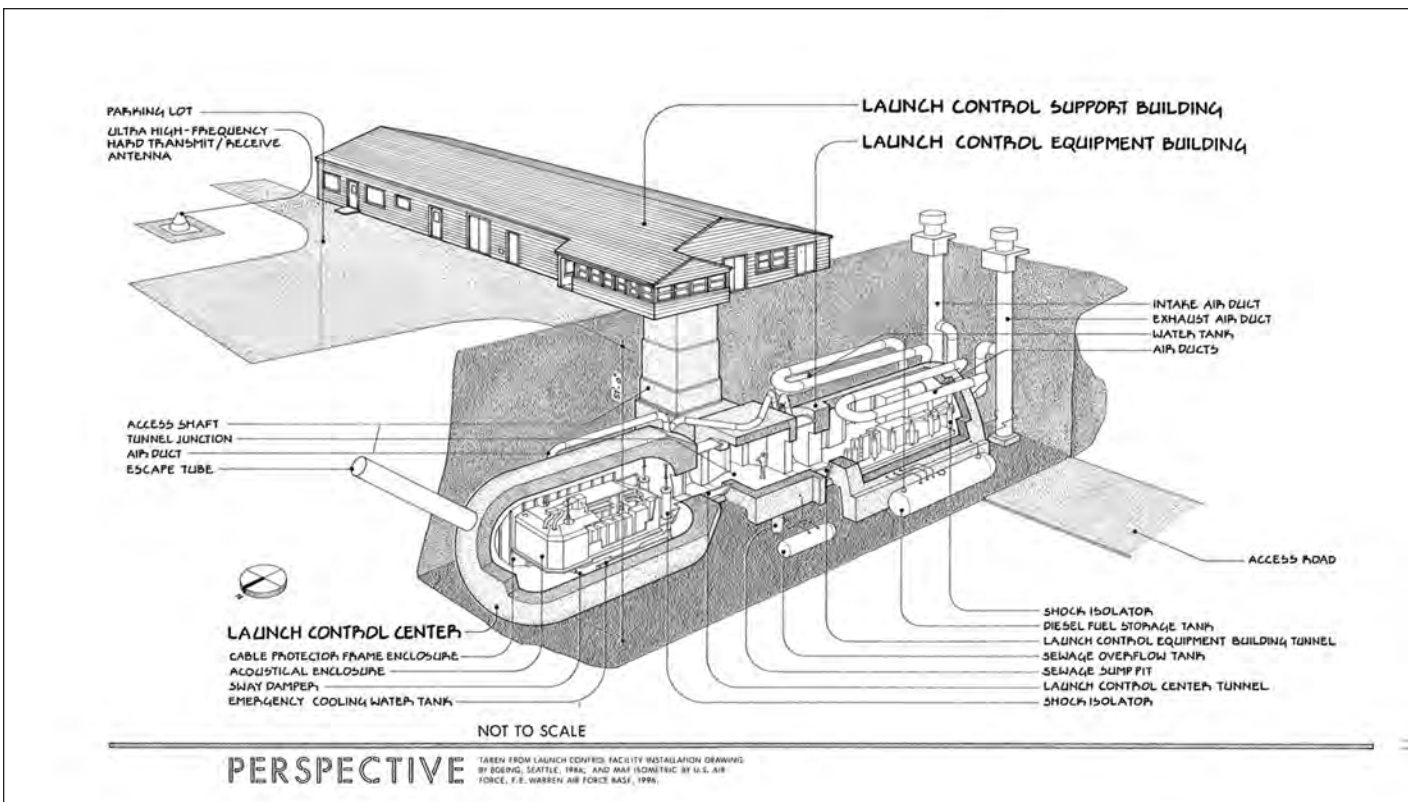
ample, during World War II Malmstrom was an integral piece of President Franklin D. Roosevelt's Lend-Lease program that provided material resources to U.S. allies—in this case the Soviet Union. Between 1942 and 1945, workers at both MAFB and Gore Hill processed 7,983 aircraft before airmen with the 7th Ferrying Group flew them from central Montana to Fairbanks, Alaska and turned them over to Soviet pilots for use on the eastern front against Germany.⁹ As the Cold War emerged following World War II, the 7101st Air Transport Wing at Malmstrom AFB helped win the first big conflict against the Soviet Union, the Berlin Airlift (Operation Vittles). After the Soviets cut off ground transport and rail access to West Berlin in June 1948, the U.S. and its allies rallied to deliver much-needed supplies. The Air Force chose MAFB to train the airlift's replacement pilots since its weather, terrain, and magnetic course was similar to Germany. Pilots and flight engineers attended a grueling three-week program that churned out 100 flight crews a month, replacing sixteen percent of the operation's Airmen every 30 days. Malmstrom's training mission was integral to the Airlift's success: allied forces demonstrated their air superiority by delivering 2.3 million tons of supplies into West Berlin and winning people's hearts and minds. The installation also hosted fighter interceptor and bomber escort missions and bomber refueling throughout the 1950s, 1960s, and beyond. Despite not being on the front lines, Malmstrom AFB's training and support missions were integral to winning World War II and the Cold War's early conflicts.¹⁰



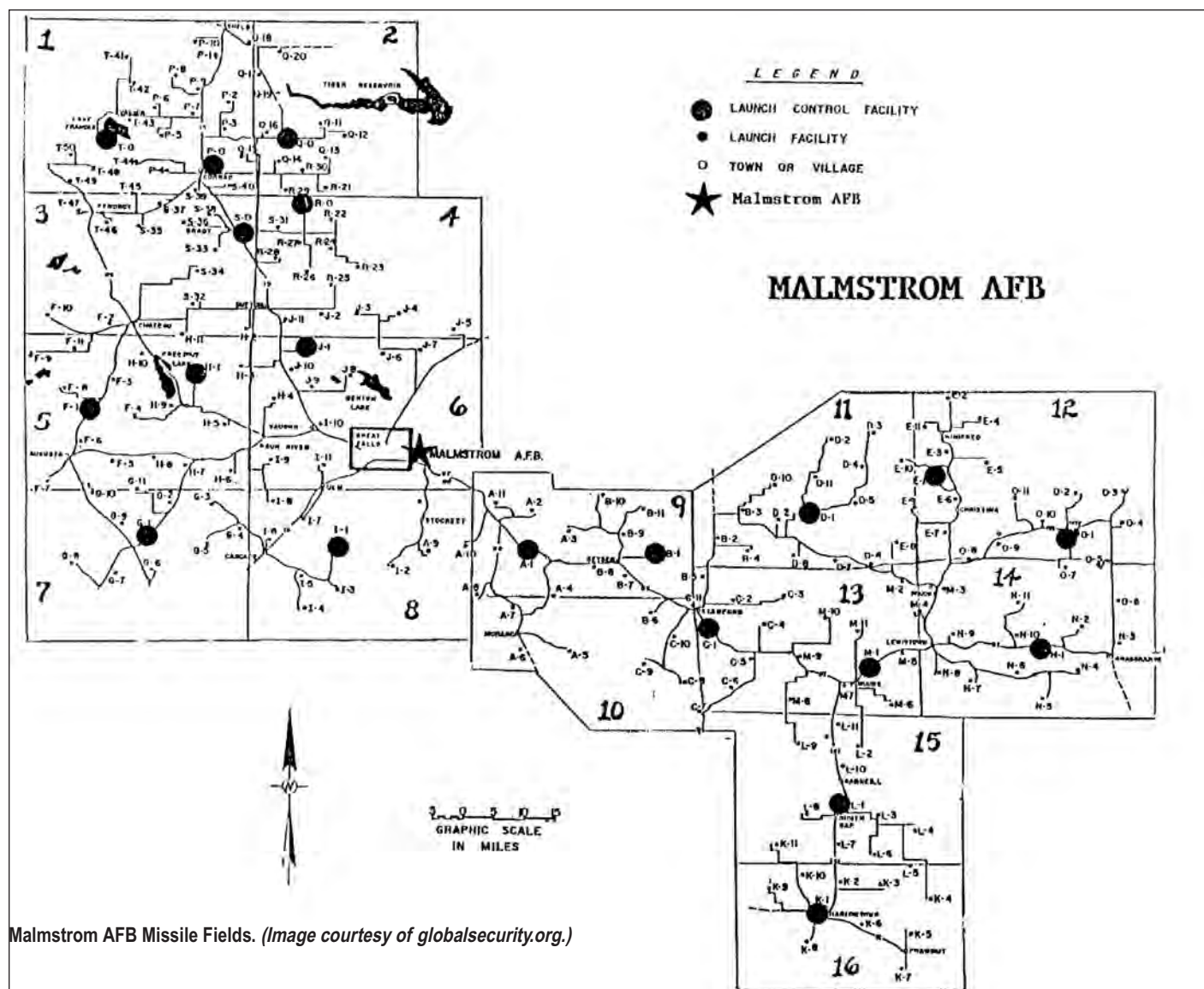
This successful launch took place at Cape Canaveral, Fla., on Nov. 17, 1961. The Minuteman became operational less than a year later. (Image courtesy of the National Museum of the Air Force.)

The Air Force chose MAFB as home of the first Minuteman ICBM missile wing for two interconnected reasons. First, the Minuteman IA's technical limitations forced the Air Force to move the first Minuteman squadron from Vandenberg AFB, California to Malmstrom AFB. The Minuteman's engineers discovered a flaw in its first stage booster that reduced its range from 6,300 to 4,300 miles. This proved a major setback for any Minutemen stationed at Vandenberg—4,300 miles was simply insufficient to carry them over the North Pole to their targets in the Soviet Union. Since MAFB was 600 miles north of Vandenberg, this move placed the missiles that much closer to their targets. Also, Great Falls' 3,500 foot elevation made it easier to launch the Minuteman into space. Instead of delaying deployment for six months to a year while the engineering team redesigned the missiles, the Air Force moved the first wing to Malmstrom.¹¹

The Air Force also selected Montana (and the Great Plains states) because the USACE needed wide swaths of sparsely populated land to build 341 SMW's launch control centers (LCC) and launch facilities (LF).¹² The wing consisted of three 50-missile squadrons—the 10th Strategic Missile Squadron (10 SMS), 12th Strategic Missile Squadron (12 SMS), and the 490th Strategic Missile Squadron (490 SMS)—divided into five flights of 10 missiles each. Each flight consisted of one underground LCC, a 59 foot long by 29 foot in diameter command center staffed by a two-person missile crew that monitored 10 LF's. LF's were hardened launch tubes that were 12 feet in diameter and 62 feet long. The Minuteman ICBMs rested in these facilities until missileers in the LCCs received or-



The Launch Control Facility, (above) also called a Missile Alert Facility, is the main Minuteman working space. Each one controls a flight of 10 widely-dispersed missiles, contained in a Launch Facility. (Image courtesy of the National Museum of the Air Force.)



ders to launch them towards their targets somewhere in the Soviet Union. To ensure the weapon system survived a nuclear attack, the USACE spaced each LF 3.5 to 17.5 miles away from its LCC and each LF 3.5 to 8.5 miles apart from one another. While this footprint ensured a 10-megaton blast from a Soviet warhead would not destroy the neighboring facilities thus negating the United States' retaliatory response, it also guaranteed a long-term military presence across 13,800 square miles in central Montana.¹³

Before the Minuteman became a reality, Malmstrom AFB butted heads with Great Falls, Montana's city government over city services and housing. Throughout the mid-to-late 1950s, elected officials lobbied the Air Force to get Malmstrom to renegotiate its water agreement with the city. Simply put, the base tapped into the city's water lines and strained the city's system. Mayor J.B. Austin requested that SAC invest approximately \$80,000 to help the city improve its water capacity. The Air Force stood firm, stating it had no funds to improve a municipal water system and forced Great Falls to abide by the agreement.¹⁴ Other residents sparred with the USAF over new housing construction on base. Despite a post-WWII housing construction

boom, during the 1950s the military faced a housing shortage across the nation. As a result, bases like Malmstrom did not have enough units to house their personnel, forcing many to do battle with an expensive housing market in Great Falls. For those that could get housing on base, they often dealt with horrid living conditions.¹⁵ Enter the Capehart housing program.¹⁶ Malmstrom stood to gain upwards of 400 of these new units to remedy the installation's housing needs.¹⁷ However, several landlords and property managers in town took issue with this approach. They believed Great Falls could handle the Airmen's housing requirements: they had the stock, needed tenants, and believed a partnership between the base and landlords would be mutually beneficial by injecting much needed money into the local economy.¹⁸ With the base population set to increase during and after Minuteman construction, one resident griped that "the base has been instrumental in helping to raise our taxes, for example the need for more water, policemen, firemen, etc." but "the base personnel does not contribute their share to these increased costs."¹⁹ Simply put, if the base was good for Montana, why did it hurt so many residents' bottom line?



A Launch Control Facility under construction near Malmstrom AFB, Mont. Cold War requirements to build up U.S. nuclear defenses speeded up Minuteman site construction. Builders often labored year-round in three shifts, seven days a week. The Army Corps of Engineers Ballistic Missile Construction Office and its contractors built 1,000 silos between 1961 and 1966. (Image courtesy of the National Museum of the Air Force.)

To encourage Montanans to let the federal government install nuclear weapons within the state, officials at all levels undertook a public information campaign to sell the Minuteman ICBM to a skeptical public.²⁰ First and foremost, Air Force officials emphasized how the program would inject money into the state's economy. While they estimated the construction contract would cost around \$50 million, boosters believed the project would spark \$330 million of overall spending within the state across the project's 2.5 year lifespan. For example, the program improved rural roads within the missile fields; the DoD scheduled 120 miles of improvements in Cascade County alone.²¹ This meant that local governments would not spend money improving these sections of roads and could spend this money elsewhere. As a result of this infusion of cash, workers could spend the millions of dollars in anticipated salaries on goods and services around the state. It's perhaps no surprise that journalist Martin P. Moler called the ICBM program "the darnedest thing to hit Montana since they found copper in Butte Hill."²² Given the project's estimated 3,600 new skilled and semi-skilled jobs, the Minuteman's economic effect would seemingly touch almost everyone living in Montana.²³

Second, boosters noted how the program would improve infrastructure throughout the state. Not only would Montanans see road improvements, but towns like Lewistown witnessed new housing development. For example, Boeing constructed 200 housing units in town. It purchased 10 acres from George Machler to build 100 mobile home family housing and five acres from the city for bachelor style dwellings. While this served an immediate need (housing for an influx of workers), Boeing also installed sewer and water lines to these units and constructed roads and sidewalks in accordance with city code. Once the USACE and Boeing finished constructing and installing the Minuteman missiles, it could sub-lease the land to a



Widely dispersed missile silos were nearly featureless in the open landscape, and most equipment was deep underground. This silo is near Malmstrom Air Force Base, Great Falls, Mont. (Image courtesy of the National Museum of the Air Force)

private housing company thus increasing Lewistown's housing stock.²⁴ Finally, the Air Force tried to convince Montanans that the Minuteman would not interfere in their lives in a meaningful way. Capt Donald B. Smith, Malmstrom's public information officer, took to the pages of the *Great Falls Tribune* to make the wing's case. He explained that the USACE would place the missile sites in remote, sparsely populated areas. Given Montana's natural beauty, Captain Smith declared "they will not be unsightly or detract from the...landscape," thus protecting the state's sylvan allure.²⁵ The only evidence that they existed would be the small fenced in area with a few security guards. Perhaps most importantly, these were retaliatory weapons; no practice launches would occur in the state. And to hammer the point home, the *Tribune* made sure to tell its readers that a Montanan led the project.²⁶ While no evidence exists these efforts persuaded residents to accept the Minuteman ICBM, they do demonstrate that the DoD did its best to convince them this program was in their best interest.

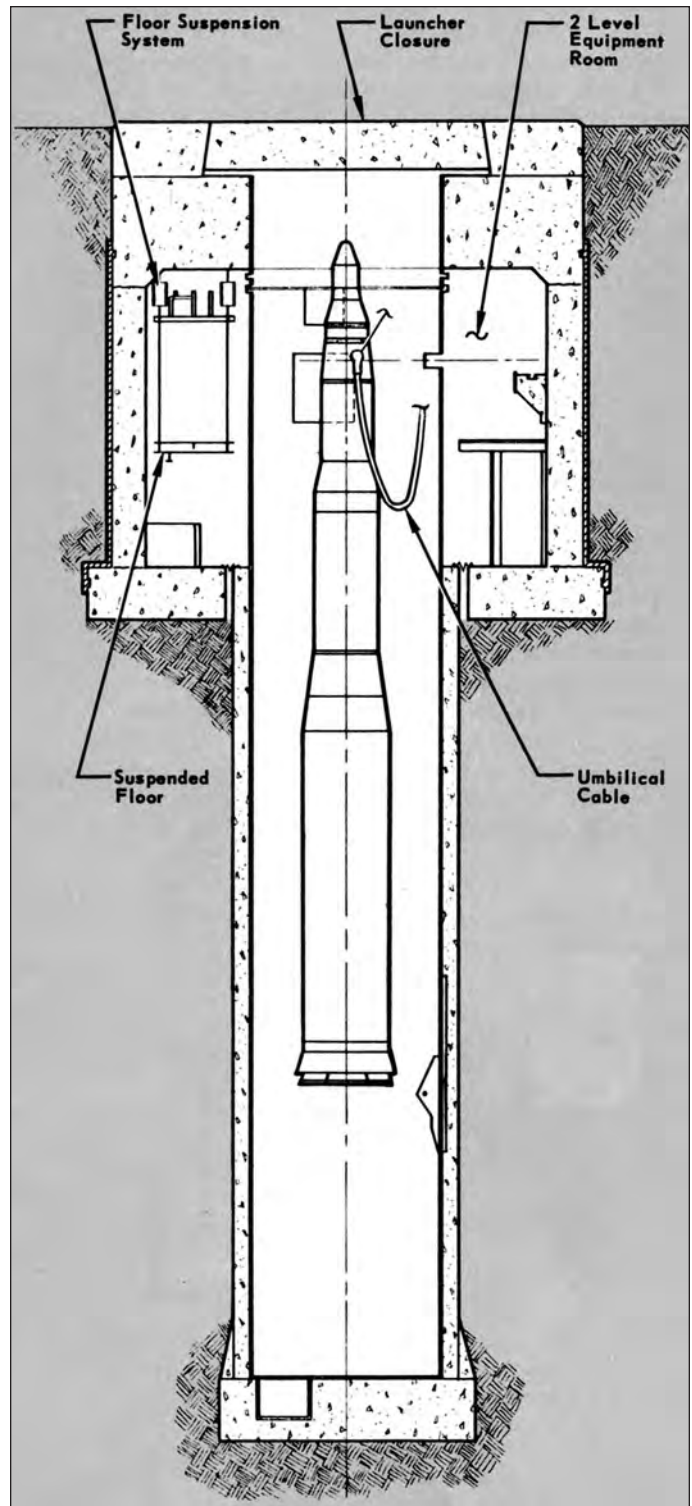
Following the Air Force's announcement that Malmstrom would become SAC's first Minuteman ICBM base, the USACE began acquiring land, easements, and rights of ways to build the infrastructure necessary to operate this new weapon system.²⁷ From its perspective, this was a straightforward process; it had to acquire 5,200 tracts of land totaling 20,000 square miles. During the early survey work, workers approached land owners and requested a right of entry so they could conduct detailed core drilling and soil samples to determine if the terrain was suitable for an ICBM. Next, it purchased approximately two acres for each LCC and LF and acquired permanent easements for access roads to the sites, communication cable lines, and azimuth markers. The DoD would pay "just compensation" for individuals' property based on "fair market value." Once agreed upon, the USACE received title to the property and the property owner received their money in a timely fashion. However, if a property owner refused the USACE's

offer, then it would turn to the federal courts to make a determination though a condemnation proceeding. The USACE would acquire this land one way or another, and as one can imagine, this could be a contentious process.²⁸

While the Minuteman land acquisition process went relatively smoothly, some property owners dug in their heels to protect their land from federal government.²⁹ In the spring of 1960, DoD representatives approached Vernon Taylor, owner of a 25,000 acre ranch in Fergus County, Montana, with a proposal to install an ICBM site on his property. While he did not want to “interfere with the proper defense of my country,” he argued that having an ICBM on his ranch would prevent him from using it as intended.³⁰ After refusing the USAF’s initial attempt to survey the land, and later acquiescing in court following a condemnation proceeding, Taylor asked Montana Senator Mike Mansfield to work with the Air Force to get them to relocate the site. Mansfield did, but the DoD would not budge. Instead it explained the rationale behind its decision and attempted to put Taylor’s concerns to rest. The USACE could not relocate the ICBM site since it would be too close to other missile facilities and a nearby mining operation. Also, the land north of the proposed site contained a geological fault that rendered the area unstable for ICBM use. Additionally, the Air Force claimed the ranch would “still be subject to virtually full use, with only a minor diminution in value.” It explained the ICBM would be enclosed underground with a seven foot fence around the 300ft by 300ft site; odorless and without noise except for infrequent maintenance by 341 SMW personnel; and no hazard to life or property (it did not mention it could be a target for incoming Soviet ICBMs).³¹ This rationale did not cut it for Taylor.

In response to the Air Force’s stonewalling, Taylor took his fight directly to Washington D.C. While he exerted some of his effort lobbying members of the Senate and House Appropriation Committees, since, in his mind this was “just another example of the terrific waste that shows up [*sic*] daily in the Armed Services,” he personally met with Secretary of the Air Force Dudley C. Sharp to make his case for moving the ICBM site off his land.³² Unfortunately, Taylor did not appear to get anywhere with the Secretary. In a response to Taylor’s June 1st visit, Sharp provided the same worn out response the Air Force gave him previously: that the site would not interfere with his ranch. The whole experience left Taylor discouraged.³³ After this futile back and forth with the Air Force he decided to pull up stakes and leave Montana forever. In the November 7, 1960 issue of the *Wall Street Journal* he offered his 25,000 acre ranch for sale. He hoped “to be out before the Minutemen comes in.”³⁴ While Taylor’s experience dealing with the Air Force was not typical, it did demonstrate the lengths some people would take to get out from under the thumb of the federal government.

As the DoD acquired land for the Minuteman missile, it also hired a general contractor to build the weapon system’s infrastructure. On September 2, 1960, the Army Corps of Engineers Ballistic Missile Construction Office (CEBMCO), headquartered in Los Angeles, California,



Thick concrete and steel protected the Minuteman from nuclear attack, and the missile could be stored unattended and with minimum maintenance for long periods. (Image courtesy of the National Museum of the Air Force)

announced its call for bids from a general contractor to construct Malmstrom’s missile fields.³⁵ Unfortunately, CEBMCO rejected the first round of bids; the lowest one came in at almost \$79m whereas the USACE anticipated the project costing between \$50m-\$55m. Eventually the contract went to Fuller-Webb, a joint venture between the George A. Fuller Company and the Del E. Webb Corporation. The company signed a fixed price incentive contract



A typical two-man Minuteman IA launch crew. These crewmen served with the 10th Strategic Missile Squadron, 341st Strategic Missile Wing, Malmstrom Air Force Base, Mont. The 341st was one of six Minuteman wings. (Image courtesy of the National Museum of the Air Force.)

initially valued \$61,773,644 with a March 6, 1961 proceed date.³⁶ On March 16, 1961, dignitaries from local and state governments, the Fuller-Webb Company, local labor leaders, Boeing, the USACE, Air Force, and the Site Activation Task Force (SATAF) attended a groundbreaking ceremony at Malmstrom's base theater. To honor the occasion, Montana Governor Donald G. Nutter detonated an excavation blast in Alpha flight marking the beginning of construction.³⁷ In many ways this was a standard ceremony, but it marked a notable moment in Montana and the nation's past: it ushered in a key component of the US's nuclear triad, flooding the state of Montana with cash and jobs.

Despite being an economic boon to Montana, labor controversies hampered the Minuteman project from the start. Montana workers and construction companies accused Fuller-Webb of hiring too many out-of-state firms and laborers. This ruffled more than a few feathers. Tim Babcock, Montana's Lieutenant Governor had earlier declared that this project would be "a tremendous boost for Montana's economy if Montana's firms and labor are used." He continued, "It was essential that employment, equipment, and supplies went to Montana workers in every possible instance."³⁸ Montanans of all stripes advocated on the state's behalf. Senator Lee Metcalf lobbied Frank McGarvey, Fuller-Webb's project manager, to meet with tribal delegations to discuss hiring Native Americans to work on the project. Another worker wrote Senator Mansfield demanding that he "look into this matter at once."³⁹ Governor Nutter met with military and contracting officials to get to the bottom of this, and after his initial meeting he was not pleased. "What I want to guard



Minuteman missiles are transported overland in a special vehicle called a transporter erector. (Image courtesy of the National Museum of the Air Force)

against is that at the end of the project, we might find that Montanans have not benefited appreciably and that we will be left with many additional people on our relief rolls," he bemoaned.⁴⁰ However, construction officials allayed Nutter's concerns following a public Q & A session; a 1962 study showed that approximately 41 percent of workers on the project hailed from Montana. Prosperity, if even short lived, had arrived.⁴¹

The Minuteman project had many different construction jobs spread across several phases, but an examination of cable ditching and emplacement work reveals what the experience was like for workers. The Etz-Hokin and Galvin Co., headquartered in San Francisco, California, was responsible for installing approximately 2,100 miles of communication cable that spanned 34 underwater crossings, 107 highway crossings, and 74 railroad crossings and connected the 150 LFs, 15 MAFs, and Malmstrom AFB. During the project's two year lifespan, the company would hire between 180 and 200 workers from Montana to ditch and lay this vast network of cables.⁴² Workers like Jack A. Gannon, a Great Falls resident, leapt at the opportunity to work on the Minuteman project; he left his job in a tire shop after Etz-Hokin offered him a 400% hourly wage increase to be a Quality Assurance inspector. Working out of Lewistown, him and his crew of 10 (five teams of two; one splicer and one splicer's assistant) would meet at the airfield before sunrise, load up their trucks, and drive to the day's work location. Upon arrival, the splicers set up their station and got to work.⁴³ Unfortunately, since the project began in the winter, they would often have to dig snow and ice out of the trenches before they could splice the communication lines. In one instance Gannon remembered "Everything was frozen but it was full of water. And they dug that out and it was still freezing...This water came down through the cable line and we had to put a pump on there and pump for 24 hours for a couple days to dry that thing out enough."⁴⁴ Once complete, his team spliced the cables, set them in a capsule, and tested the connection. After Gannon determined the splice was up to standard, another contractor came through and injected it with sili-cone to waterproof it. As the USACE and Fuller-Webb got Malmstrom's missile field construction underway, the first nuclear standoff of the Cold War took shape and forced SAC to bring its nuclear arsenal to an unprecedented state of readiness.



Senator Mike Mansfield at Malmstrom AFB, Great Falls, Montana, October 30, 1962. (Image courtesy of Archives and Special Collections, Mansfield Library, University of Montana.)

The 341st Strategic Missile Wing during the Cuban Missile Crisis

The Cuban Missile Crisis began on October 14, 1962 after an American U-2 surveillance plane photographed Soviet military personnel emplacing medium and intermediate range ballistic missiles throughout Cuba. Soviet Premier Nikita Khrushchev's planned deployment of 36 R-12 medium range ballistic missile had a 1,292 mile range with 1-2 megaton warheads that could hold the eastern half of the U.S. hostage.⁴⁵ He sought to spread Communism through Latin America, ensure Fidel Castro's Communist revolution endured, and project Soviet military strength in the United States' backyard. In response to this aggression, on October 22, 1962, President Kennedy called for an immediate meeting of the Organization of American States to organize a regional security arrangement and asked the United Nations Security Council to resolve that the USSR dismantle and remove its offensive weapons from Cuba. As Commander-in-Chief Kennedy directed the military to take action: the navy initiated a strict quarantine on all Soviet military equipment shipped to Cuba; he reinforced Guantanamo naval base and evacuated all dependents; and increased aerial reconnaissance of the island. Perhaps most damning, Kennedy stated "It shall be the policy of this Nation to regard any nuclear missile launched from Cuba against any nation in the Western Hemisphere as an attack by the Soviet Union on the United States, requiring a full retaliatory response upon the Soviet Union."⁴⁶

Kennedy's address forced military personnel in Montana into an unprecedented state of activity. The governor activated the Montana National Guard since almost half the state's counties did not make adequate civil defense preparations; Butte, Custer, and Miles City were the only towns that had a plan in place. Given the state's shortcomings, the Guard established a shelter plan, communication network, warning systems, and a radiological program for forecasting and detecting radioactive fallout.⁴⁷ The Air Force also moved fighter planes from Malmstrom AFB to a civilian airfield in Billings. Officials claimed "the dispersal is in

accordance with a predetermined dispersal plan. The idea is to get all of our eggs out of one basket and provide much better combat capability."⁴⁸ Dwight A. Spencer, a Nuclear Weapons Arming and Fusing Systems Specialist in the 341st Missile Maintenance Squadron, worked at a frenetic pace over the next month: "Typically, 16-hour days were normal, weekends included. The payoff was the Missile Squadrons [sic] and Wing [sic] reaching operational readiness well ahead of schedule."⁴⁹ The unfolding events even took the construction crews by surprise. Jack Gannon heard about the crisis while driving to Lewistown from Eddie's Corner. Upon arrival he told his co-workers they "Better get them wrapped up, we're going to be using them in about 20 minutes."⁵⁰ The speed at which the Cuban Missile Crisis occurred made everyone associated with the ICBMs in Montana work to get them operational as soon as possible.

Two days later on October 24, while Kennedy coordinated the U.S. response with his administration, Air Force Systems Command (AFSC) and Strategic Air Command entered into an agreement where SAC assumed operational control of all AFSC ballistic missile launch complexes in Emergency Combat Capability (ECC). Upon declaration of Defense Condition two or higher SAC would assume operational control of all ECC ICBMs and bring them on alert. Fortunately, the USACE and Boeing had already completed construction on 341 SMW's LCC and 10 LFs in Alpha flight and finished installing all the Minuteman's equipment. Unfortunately, the wing accepted the Air Force's first flight of Minuteman IA ICBMs before contractors finished their tests and demonstrations. SAC requested the Ballistic Systems Division "conduct an immediate technical evaluation of the flight in order to ascertain the possibility of accidental launch."⁵¹ While the system passed inspection, it ordered the heavy steel LF lids closed, disconnected, and manually locked with the safety control switch in the safe position—in the event of an accidental launch the Minuteman would explode in the LF. However, if crewmembers received an emergency war order, maintenance crews would have to reconnect the explosive charges that blew the lid open before liftoff. According to historian Michael Dobbs, "they had to plug the cable back in, jump into a waiting pickup truck, and 'run like hell.'"⁵² This "suicide squad" had a dangerous job; if they were lucky enough to survive an outgoing Minuteman launch, there was a good chance they would be killed by an incoming Soviet missile.

Following Kennedy's address SAC Commander-in-Chief Gen Thomas Power instructed Col Burton C. Andrus, Jr., the 341 SMW commander, to determine if the wing could posture all 10 Minuteman ICBMs in its Alpha flight and find a way to launch them. Engineers designed the weapon system to require launch commands from two different LCCs—the problem was that 341 SMW only had one constructed. In order to bypass the weapon system's safety procedures, Colonel Andrus had to "kluge the system."⁵³ His airmen did so by introducing "the critical part of a second launch control unit into the circuitry in Alpha's Launch Control Center so that a double crew could turn four keys simultaneously and thus launch the birds."⁵⁴



President Kennedy addresses a capacity crowd at Great Falls High School Memorial Stadium, Great Falls, Montana, September 26, 1963. (Image courtesy of the Cascade County Historical Society.)

SAC's first Minuteman went on alert at 3:07 PM on October 27, 1962. Colonel Andrus reported to SAC that its new weapon system had entered the war plan. Five days later all of Alpha Flight was on alert. The gravity of bringing the first flight of Minuteman ICBMs on alert was not lost on Colonel Andrus. Reflecting on the Cuban Missile Crisis, he said "If we seemed nervous it was only because we were—being not only 99% sure that you can't have an inadvertent launch is not good enough when you are looking at the possibility of starting WW III."⁵⁵ Luckily for 341 SMW and the world, Khrushchev agreed to dismantle and remove the USSR's missiles from Cuba on October 29, 1962. In exchange for Soviet withdrawal, President Kennedy agreed to make no further attempts to invade the island and dismantle the Jupiter intermediate range ballistic missiles stationed in Turkey. He then lifted the naval blockade on November 20.⁵⁶

The Cuban Missile Crisis was the first real world test of the Minuteman ICBM. The 341 SMW's successful effort to bring a brand new weapon system to alert was unprecedented, especially given Alpha Flight's status—constructed, installed, but not tested. Couple this with a maintenance crew that had yet to see a live nuclear warhead and one can comprehend the challenge that lay before them. Luckily, Colonel Andrus had "been in SAC long enough to become convinced that the weapon system had not yet been invented that professional airmen could not outsmart."⁵⁷ On December 11th the wing placed its second flight on alert and by July 1963, all 150 Minutemen ICBMs at Malmstrom were ready to receive their emergency war orders. The crisis also provided SAC an opportunity to bring its forces to an unprecedented state of readiness: by November 3, 1962, it achieved 186 missiles on alert. The Minuteman's success, along with technical improvements to the emerging Minuteman II ICBM, prompted Secretary of Defense Robert McNamara to authorize a 1,000 Minuteman ICBM force.⁵⁸

The Minuteman ICBM program in Montana had long-standing effects on the state and ICBM community. The following September, while on an 11-state "conservation" tour of the western United States, President Kennedy addressed a crowd of approximately 20,000 people at Great Falls High School's Memorial Stadium. In his remarks on September 26, 1963, he placed Great Falls on the frontlines of the Cold War. Unlike World War I, World War II, or the Korean War, the Cold War was fought in Montana on American soil—no longer was war something that happened "over there." Pointing to the "100 Minuteman missiles which ring this city" Kennedy called on "the 180 million people of the United States throw their weight into the balance in every struggle...on side of freedom." As if he contracted both time and space he pointed to a grave reality, "We are many thousands of miles from the Soviet Union, but this State [*sic*], in a very real sense, is only 30 minutes away."⁵⁹ Montanans might not have realized it but the Cuban Missile Crisis, and the Cold War in general, shifted the United States to a permanent war footing.⁶⁰ With 150 Minuteman ICBMs standing watch in their backyard against the Soviet Union, wartime was always right now. Montanans eventually came to accept this reality, especially since the Minuteman was a weapon system never "used" in the Cold War. Yes, the threat of a nuclear strike, its deterrent power, became its primary function. But no airman ever launched an ICBM from central Montana. Combined with the money Malmstrom AFB and the Minuteman pumped into the state's economy, even those that were wary of the weapon system came to depend on it.⁶¹

The Cuban Missile Crisis also had a damaging effect on the ICBM mission itself. While many historians claim the end of the Cold War led to the ICBM mission's decline within the USAF, historian and former missileer David W. Bath roots its post-Cold War problems in the era immediately following the Cuban Missile Crisis.⁶² Just a few years

earlier, President Kennedy argued the Minuteman could help fill the missile gap between the U.S. and Soviet Union, but following the crisis his administration questioned its utility as a weapon. Both the Kennedy and Khrushchev administrations realized that “fighting a limited nuclear war within defined boundaries...was impossible.”⁶³ It persuaded the U.S. and Soviet Union that nuclear weapons presented a threat to both sides equally rather than to one another separately. The Cuban Missile Crisis was the closest the world came to World War III and “provided a glimpse of a future no one wanted: of a conflict projected beyond restraint, reason, and the likelihood of survival.”⁶⁴ The Kennedy administration moved quickly to remove the Atlas and Titan I missiles from the Air Force inventory. This rush led to both enlisted personnel and officers leaving the career field. Additionally, as the Vietnam War accelerated, in March 1964 the Air Force ordered 1,700 qualified pilots in non-rated assignments back to flying duty, depriving the missile field of almost all of its senior members. Seemingly overnight the ICBM field went from a group of mostly rated midlevel officers with years of experience to a group composed of nonrated personnel with less than four years of experience. These events, combined with an increasingly automated “push button” weapon system that left few opportunities for innovation, the stress of continuous evaluations, remote duty assignments like Montana, and the lack of upward mobility for missileers within Air Force leadership, prompted morale among ICBM operators to decline.⁶⁵

According to Bath, Air Force leaders never fully accepted the ICBM mission. Once McNamara and other political leaders stopped advocating for the new weapon system Air Force leaders like LeMay, and later General Merrill A. McPeak, “placed the bulk of their money, personnel, and emphasis back in the areas they preferred—flying and support for flying operations.”⁶⁶ “This remarkable change in attitude toward nuclear conflict among influential American leaders and politicians had significant and long-term influence on U.S. defense posture and allocations for military forces after 1963, particularly on the Air Force missiles and missileers,” Bath concluded.⁶⁷ Combined, these factors from the 1960s, left largely unattended by leaders in the Air Force, provided the foundation for the mission’s post-Cold War problems.⁶⁸

As the Air Force begins the research and development process on its next ICBM weapon system, the Ground Based Strategic Deterrent, the DoD, Air Force, and 341st Missile Wing must be cognizant of the longstanding tensions that landowners adjacent to missile alert facilities, LFs, and access roads still have towards the Air Force.⁶⁹ Some have long-simmering distrust against the Air Force and might resist efforts to outfit the Minuteman sites with the next generation ICBM. As for the missileers themselves, with the U.S. and Russia pulling out of Cold War-era nuclear arms treaties, the ICBM may well return as an integral tool of international diplomacy.⁷⁰ Whether this is a positive development for Malmstrom AFB, Montana, and the US, only time will tell. ■

NOTES

1. On the missile gap see William I. Hitchcock, *The Age of Eisenhower: America and the World in the 1950s* (New York: Simon and Schuster, 2018), pp. 377-78; and Julian E. Zelizer, *Arsenal of Democracy: The Politics of National Security from World War II to the War on Terror* (New York: Basic Books, 2010), pp. 134-43.
2. Gretchen Heefner, *The Missile Next Door: The Minuteman in the American Heartland* (Cambridge: Harvard University Press, 2012), p. 16.
3. *Ibid.*, pp. 15-20.
4. The literature on the Cold War is vast. See for example John Lewis Gaddis, *The Cold War: A New History* (New York: Penguin Press, 2005); Hitchcock, *The Age of Eisenhower*; and Odd Arne Westad, *The Cold War: A World History* (New York: Basic Books, 2017). For the Cold War’s effect on American society see Mary L. Dudziak, *War Time: An Idea, Its History, Its Consequences* (New York: Oxford University Press, 2012), pp. 63-94; Heefner, *The Missile Next Door*; Brian McAllister Linn, *Elvis’s Army: Cold War GIs and the Atomic Battlefield* (Cambridge: Harvard University Press, 2016); David W. Mills, *Cold War in a Cold Land: Fighting Communism on the Northern Plains* (Norman: The University of Oklahoma Press, 2015); and Catherine McNicol Stock, “Nuclear Country: The Militarization of the U.S. Northern Plains, 1954-1975,” in *Local Consequences of the Global Cold War*, Jeffery A. Engel, ed., (Stanford: Stanford University Press, 2008), pp. 238-72.
5. The literature on the Air Force’s ICBM program is slowly growing. See David W. Bath, *Assured Destruction: Building the Ballistic Missile Culture of the U.S. Air Force* (Annapolis: Naval Institute Press, 2020); Heefner, *The Missile Next Door*; John C.

- Lonnquest and David F. Winkler, *To Defend and Deter: The Legacy of the United States Cold War Missile Program* (Rock Island, IL: Defense Publishing Services, 1996); Jacob Neufeld, *Development of Ballistic Missiles in the United States Air Force, 1945-1960* (Washington, DC: Office of Air Force History, 1990); Neufeld, *Bernard Schriever: Challenging the Unknown* (Washington, D.C.: Office of Air Force History, 2005); Steven A. Pomeroy, “Highball! Missiles and Trains,” *Air Power History* Vol. 57, No. 23 (Fall 2010), pp. 22-33; Pomeroy, *An Untaken Road: Strategy, Technology, and the Hidden History of America’s Mobile ICBMs* (Annapolis: Naval Institute Press, 2016); Neil Sheehan, *A Fiery Peace in a Cold War: Bernard Schriever and the Ultimate Weapon* (New York: Random House, 2009); Christina Slattery, et al., *The Missile Plains: Frontline in America’s Cold War: Historic Resource Study* (Minuteman Missile National Historic Site, South Dakota, 2003); and David Stumpf, *Titan II: A History of a Cold War Missile Program* (Fayetteville: University of Arkansas Press, 2002).
6. David W. Bath, ed., *Air Force Missileers and the Cuban Missile Crisis* (Breckenridge, CO: The Association of Air Force Missileers, 2012); Bath, *Assured Destruction*, pp. 93-122; Michael Dobbs, *One Minute to Midnight: Kennedy, Khrushchev, and Castro on the Brink of Nuclear War* (New York: Vintage Books, 2008); Jerome H. Kahan and Anne K. Long, “The Cuban Missile Crisis: A Study of Its Strategic Context,” *Political Science Quarterly* Vol. 87, No. 4 (Dec., 1972), pp. 564-90; Robert F. Kennedy, *Thirteen Days: A Memoir of the Cuban Missile Crisis* (New York: W.W. Norton & Company, Inc., 1969); Mills, *Cold War in a Cold Land*, pp. 153-69; Sheldon M. Stern, *The Cuban Missile Crisis in American Memory: Myths versus Reality* (Palo Alto: Stanford University

Press, 2012); Curtis A. Utz, *Cordon of Steel: The U.S. Navy and the Cuban Missile Crisis* (Washington, DC: Naval Historical Center, 1993); and Zelizer, *Arsenal of Democracy*, pp. 148-77. For the Cuban Missile Crisis from the Soviet perspective see Sergo A. Mikoyan, *The Soviet Missile Crisis: Castro, Mikoyan, Kennedy, Khrushchev, and the Missiles of November*, ed. Svetlana Savranskaya (Palo Alto: Stanford University Press, 2014).

7. See Roger Lotchin, *Fortress California, 1910-1961: From Warfare to Welfare* (Lincoln: University of Nebraska Press, 1992).

8. "History, Air Base Headquarters, Army Air Base, Great Falls, Montana, 9th May to 31st December 1942," August 13, 1943, p. 1, *341st Missile Wing History Office* (341 MW/HO), Malmstrom AFB, Montana. For clarity I will refer to Great Falls Army Air Base, Great Falls Army Air Field, and Great Falls Air Base as Malmstrom AFB throughout this essay.

9. James C. Bard, Sara A. Scott, and David C. Schwab, *Base and Missile Cold War Survey: A Baseline Inventory of Cold War Material Culture at Malmstrom Air Force Base, Montana* (CH2MHill, 1997), pp. 15-16; and Glenda Lesondak, ed., "ALISB Lend-Lease and the Air Support Command," in *The World War II Heritage of Ladd Field, Fairbanks, Alaska* (Ft. Collins, 2004), pp. 35-49.

10. Bard, Scott, and Schwab, *Base and Missile Cold War Survey*, pp. 21-28; and Roger G. Miller, *To Save a City: The Berlin Airlift, 1948-1949* (Washington D.C.: Air Force History and Museums Program, 1998), pp. 79-80.

11. By deploying the Minuteman to the central United States, they were also out of range of the USSR's submarine launched ballistic missiles. See Lonnquest and Winkler, *To Defend and Deter*, pp. 77-78, 249-50.

12. The Air Force reorganized and re-designated the 341st Bomb Wing as 341 SMW on July 15, 1961. See "341st Strategic Missile Wing Chronology," May 17, 1962, *341 MW/HO*.

13. Lonnquest and Winkler, *To Defend and Deter*, pp. 249-55.

14. J.B. Austin to Strategic Air Command, July 26, 1954, S17, B55, F2, *Mike Mansfield Papers* (MMP), Archives and Special Collections, Maureen and Mike Mansfield Library, The University of Montana-Missoula; John Obstarczyk to Mike Mansfield, April 5, 1957, S19, B558, F3, *MMP*; and Maj Gen Joe W. Kelley to Mike Mansfield, May 10, 1957, S19, B558, F3, *MMP*.

15. Mike Mansfield to Gordon Nease, August 26, 1959, S19, B558, F2, *MMP*; and Mary R. Patee to Mike Mansfield, September 10, 1959, S17, B151, F11, *MMP*.

16. The brainchild of Indiana Senator Homer Capehart, the Capehart housing program provided thousands of new homes to military installations across the country. Private contractors designed, planned, and constructed these new homes and then turned them over to the military for management and maintenance. This agreement ensured high occupancy (service members were assigned to these homes as opposed to voluntarily living in them) and since the military owned them, and therefore did not pay taxes, rental rates would not rise ensuring a soldier or airman's housing allowance would always be enough. Most were single family homes laid out in what would now be considered a traditional suburban neighborhood, but the DoD also constructed numerous duplexes and apartments for single personnel or couples without children. See United States Army Environmental Center, *"For Want of A Home": A Historic Context for Wherry and Capehart Military Family Housing* (Aberdeen Proving Ground, MD, 1998), pp. 57-74.

17. Col Jay P. Thomas to Mike Mansfield, September 12, 1958, S17, B151, F11, *MMP*; and Brig Gen Cecil P. Lessig to Mike Mansfield, March 2, 1960, S17, B150, F1, *MMP*.

18. S.M. Swanberg to James E. Murray, August 16, 1957, S17, B151, F10, *MMP*; R.F. Kitchingman to Mike Mansfield, January 2, 1958, S17, B151, F10, *MMP*; and Leo Graybill, Jr. to Mike Mansfield, March 6, 1959, S17, B151, F11, *MMP*.

19. Jim Brown to William Swanberg, February 11, 1960, S17, B150, F1, *MMP*.

20. Heefner, *The Missile Next Door*, pp. 30-48.

21. "24-Foot Missile Site Roads Asked," *Great Falls Tribune*, May

11, 1961; "18-Foot Missile Road Accepted by County," *Great Falls Tribune*, May 24, 1961; and William S. Dunbar, interview by Troy A. Hallsell, February 13, 2020, Helena, Montana. On the Defense Access Roads program see Darcel M. Collins and Darryl M. Hampton, "Defense Access Roads," *Public Roads* Vol. 75, No. 6 (May/June 2012), 1-10, <https://www.fhwa.dot.gov/publications/publicroads/12mayjune/02.cfm>, accessed on June 17, 2020.

22. Murray M. Moler, "Minuteman is Greatest In Magnitude Ever in Montana," *Great Falls Tribune*, September 22, 1960.

23. "Cost of Minuteman Complex In State Estimated \$330 Million," *Great Falls Tribune*, January 26, 1961; and "Boeing Gets Lewistown Housing Sites," *Great Falls Tribune*, January 26, 1961.

24. "Boeing Gets Lewistown Housing Sites," *Great Falls Tribune*, January 26, 1961.

25. Capt Donald R. Smith, "Solid-Fuel Minuteman Missiles to be Based in State Can Blast off in Seconds; Won't Clutter up Scenery," *Great Falls Tribune*, March 27, 1960.

26. Frank Norberg, "Former Montana Resident Guides Minuteman Launch Complex Work," *Great Falls Tribune*, May 7, 1961.

27. DoD, Press Release, "Air Force Selects First Minuteman Site," March 23, 1960, S19, B55, F20, *MMP*.

28. USACE, "Montana Minuteman Land Acquisition: Here Are the Facts!," October 1, 1960, S17, B155, F "Minuteman ICBM Base," *MMP*; Heefner, *The Missile Next Door*, p. 60; and Mills, *Cold War in a Cold Land*, p. 203.

29. Citizen resistance to large scale federal infrastructure projects was widespread in the postwar period. See for example Troy A. Hallsell, "The Overton Park Freeway Revolt: Urban Environmentalism, Historic Preservation, and Neighborhood Protection in Memphis, Tennessee, 1956-2016," (PhD Diss., University of Memphis, 2018); Mark W.T. Harvey, *A Symbol of Wilderness: Echo Park and the American Conservation Movement* (Albuquerque: The University of New Mexico Press, 1994); and Samuel Zipp, *Manhattan Projects: The Rise and Fall of Urban Renewal in Cold War New York* (New York: Oxford University Press, 2010).

30. Vernon F. Taylor to Mike Mansfield, May 9, 1960, S17, B154, F "re Vernon Taylor," *MMP*.

31. Woodrow Herge to Mike Mansfield, June 10, 1960, S17, B154, F "re Vernon Taylor," *MMP*; and Col Harold B. Sparks to Mike Mansfield, June 17, 1960, S17, B154, F "re Vernon Taylor," *MMP*.

32. Vernon Taylor to Mike Mansfield, June 23, 1960, S17, B154, F "re Vernon Taylor," *MMP*; and Vernon Taylor to Mike Mansfield, June 28, 1960, S17, B154, F "re Vernon Taylor," *MMP*.

33. Edward L. Fike to Mike Mansfield, June 20, 1960, S17, B154, F "re Vernon Taylor," *MMP*; and Secretary Dudley C. Sharp to Vernon Taylor, July 26, 1960, S17, B154, F "re Vernon Taylor," *MMP*.

34. Vernon Taylor to Mike Mansfield, August 8, 1960, S17, B154, F "re Vernon Taylor," *MMP*; and Vernon Taylor to Mike Mansfield, September 3, 1960, S17, B154, F "re Vernon Taylor," *MMP*.

35. USACE, letter, "Advance Information: Minuteman Construction, Central Montana," September 2, 1960, S17, B154, F "re contract awards," *MMP*; USACE, Bid Announcement, "Notice to Interested Parties in Minuteman Construction-Central Montana," September 2, 1960, S17, B154, F "re contract awards," *MMP*; and United States Army Corps of Engineers Ballistic Missile Construction Office, "WS133A Minuteman Technical Facilities, Malmstrom Air Force Base, Great Falls, Montana," undated, chapter 3.

36. "Bids Rejected...Start Delayed On Minuteman," *Great Falls Tribune*, December 24, 1960; and United States Army Corps of Engineers Ballistic Missile Construction Office, "WS133A Minuteman Technical Facilities, Malmstrom Air Force Base, Great Falls, Montana," undated, chapter 11.

37. "Minuteman Formal Groundbreaking Will Be Conducted at Base Theater Thursday," *Great Falls Tribune*, March 15, 1961; \$61.7M...Minuteman Project Starts Today With Dynamite Explosion," *Great Falls Tribune*, March 16, 1961; and United States Army Corps of Engineers Ballistic Missile Construction Office, "WS133A Minuteman Technical Facilities, Malmstrom Air Force

Base, Great Falls, Montana," chapter 19.

38. Quoted in Mills, *Cold War in a Cold Land*, p. 204.

39. Basil Emry to Mike Mansfield, June 15, 1961, S17, B154, F "re jobs," *MMP*. See also Ingvald Kjera to Mike Mansfield, March 11, 1961, S17, B155, F "Minuteman ICBM Base," *MMP*; and Lee Metcalf to Frank McGarvey, Telegram, June 9, 1961, S17, B154, F "re jobs," *MMP*.

40. Quoted in Mills, *Cold War in a Cold Land*, p. 204.

41. *Ibid.*, pp. 203-5.

42. "Easements Sought for Missile Lines," *Great Falls Tribune*, June 2, 1961; "Missile Cable Ditching Will Start This Month," *Great Falls Tribune*, June 6, 1961; and "Local Labor Will Work on Missile Cable Laying," *Great Falls Tribune*, June 14, 1961.

43. Jack A. Gannon, interview by Troy A. Hallsell, November 20, 2020, Great Falls, Montana.

44. *Ibid.*

45. Dobbs, *One Minute to Midnight*; Gaddis, *The Cold War*, pp. 75-78; and Sheehan, *A Fiery Peace*, pp. 437-51.

46. John F. Kennedy, "Radio and Television Report to the American People on the Soviet Arms Buildup in Cuba," October 22, 1962, <https://www.presidency.ucsb.edu/documents/radio-and-television-report-the-american-people-the-soviet-arms-buildup-cuba>, accessed on June 17, 2020.

47. Mills, *Cold War in a Cold Land*, pp. 157-59, 164-6.

48. Quoted in *Ibid.*, p. 165.

49. Dwight A. Spencer, "Recollection of the early days of 341st MMS & 341st SMW as it formed and became operational from June 1962 through August 1964," undated, *341 MW/HO*.

50. Jack A. Gannon, interview by Troy A. Hallsell, November 20, 2020, Great Falls, Montana.

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53. Quoted in *Ibid.*, p. 277.

54. Burton C. Andrus, Jr., "The Cuban Missile Crisis and the 341st's Reaction," undated, *341 MW/HO*.

55. *Ibid.* See also Dobbs, *One Minute to Midnight*, pp. 276-9; and Frederick J. Shaw, Jr. and Timothy Warnock, *The Cold War and Beyond: Chronology of the United States Air Force, 1947-1997* (Washington DC: Air Force History and Museums Program, 1997), p. 32.

56. Dobbs, *One Minute to Midnight*, pp. 276-9; Gaddis, *The Cold War*, p. 78; and Kipp, Peake, and Wolk, *Strategic Air Command Operations*, pp. 64-5, 72-4.

57. Andrus, Jr., "The Cuban Missile Crisis."

58. Bernard C. Nalty, *USAF Ballistic Missile Programs, 1962-1964* (USAF Historical Division Liaison Office, 1966), pp. 7, 21-8, <https://nsarchive2.gwu.edu/nukevault/ebb249/doc03.pdf>, accessed on June 17, 2020; and Kipp, Peake, and Wolk, *Strategic Air Command Operations*, pp. 66, 72-4.

59. John F. Kennedy, "Remarks at the High School Memorial Stadium, Great Falls, Montana," September 23, 1963, <https://www.presidency.ucsb.edu/documents/remarks-the-high-school-memorial-stadium-great-falls-montana>, accessed on June 17, 2020. See also "President Arrives Today Amid Growing Excitement," *Great Falls Tribune*, September 26, 1963; and "20,000 Pay Tribute At Stadium," *Great Falls Tribune*, September 27, 1963.

60. See Dudziak, *War Time*.

61. Walter Herman Harris, "Economic impact of Malmstrom Air Force Base on Great Falls Montana: A model," (MA Thesis, University of Montana, 1978), <https://scholarworks.umt.edu/cgi/view-content.cgi?article=6172&context=etd>, accessed on June 17, 2020; *Malmstrom AFB and Central Montana: Partners in One Community* (September 2015), <https://greatfallsmt.net/sites/default/files/fileattachments/community/page/40351/malmstromafbcentralmtpartnerscommunityflyer.pdf>, accessed on June 17, 2020; and Heefner, *The Missile Next Door*, pp. 188-99.

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