

NATIONAL RADIO ASTRONOMY OBSERVATORY
Tucson, Arizona

TO: Distribution
FROM: Dale A. Webb
DATE: November 16, 1992
SUBJECT: Springerville/Eagar Trip
November 9 - 10, 1992

This memo is being written as a record of my impressions of our visit to the Springerville/Eagar area on November 10, 1992.

At 7:30 a.m., Darrel Emerson, Campbell Wade, Bob Brown and I met with the Apache County Planning and Zoning Manager, Mr. Nick McDonough. We spent a short time discussing the political and economic environment of Apache County and in doing so, he let us know that as a representative of Apache County, he was very enthused about having the National Radio Astronomy Observatory locate its Millimeter Wave Array in the Springerville/Eagar area.

Mr. McDonough took us to visit the Superintendent of Public Schools in the combined Springerville/Eagar school district. We were informed that all the schools have been built within the last nine years and are funded with 90% taxes from the Tucson Electric Power generating station and 10% from local taxes. (We learned that the taxes on a home of 1,600 - 2,000 sq. ft., valued at \$75,000.00, would be approximately \$200.00 per year.) Mr. McDonough then gave us some additional statistics. The school district has a 7% dropout rate, compared to the state

average of 20%. The teacher to student ratio is 1 to 16, compared to a state average of about 1 to 19. Fourteen percent of the students obtain free lunches, 20% are hispanic (generally, from families who have long been established in the community), and about 45% of their students plan to attend college (some have made it into big name schools, but the majority go to state-supported schools). They typically have 12 - 15 teacher openings per year and that was the case in 1991. For those openings, they generally have about 100 applicants and most of their turnover of 8% to 10% is in the young singles category. There are about 550 high school students and a total of 2,000 students within their entire school system. Seventy-five percent of the high school students participate in extra-curricular activities such as drama, choir, speech, etc. There are no parochial schools in the area. The principal religion in the area is with the LDS Church, but, in addition, there are at least two Catholic churches, three Baptist churches and six more Protestant churches. The combined Springerville-Eagar school system is known as the Round Valley School System. They have about 20 buses; they closed two days for snow in the last four years.

We then went to the kindergarten through 2nd grade school and were taken through six classes by the principal, Ms. Lynn O'Connor. She was, in my opinion, a very vivacious and enthusiastic individual. Most of her teachers showed the same qualities; they were all bubbling with enthusiasm for their students, their teaching methods, their classrooms and their school system. Their schools, by the way, had been designed jointly by architects and the teachers so that each group of teachers were able to have an input into the planning of their schools. This was particularly true in the science areas where we noticed unique features. I should point out at this time that all of the school rooms in each of the grades from K-12 which we observed seemed to be well-equipped with satellite TVs, intercoms, indirect lighting, the latest in audio-visual equipment, computers, chalk boards and, in the science areas, laminar fume hoods, safety

glasses, etc. What was even more impressive was the capability and exuberance exhibited by the teachers. From what we could determine, the students began cursive writing in kindergarten. First grade children were writing journals every day. One girl I observed wrote about what she likes to do with her mom and dad, like jumping and playing. It was obvious that there was extensive parental involvement. In fact, they have about 50 parents who come into the classrooms, plus helpers. Two of the science teachers received special Arizona Science Teacher of the Year Awards within the Springerville system during 1991.

Next, we visited the high school. Here, we were first shown a 950-seat auditorium which features an orchestra pit and oak wall slats over curtains (providing excellent acoustics). This building was designed to be multi-use so they can serve formal dinners in the lobby to 100 people and, in fact, the community uses it on a regular basis to hold weddings. It even has a "crying room" -- a room where parents can take crying children so they won't disturb the audience, but which is equipped so parents won't miss any of the performances. Even with heavy use by students and the general public, this building was in excellent condition.

We then toured the high school's high-tech center. Here, we saw about 125 computers made by Apple, IBM and compatibles. About 15 of them were being used by students who were using Auto-CADD. Another 20 or so were being used by biology students who were tied into a satellite learning class at the University of Illinois. This area is open from 7:00 a.m. until 10:00 p.m and students, as well as the local town people, can use this room for word processing, computing, etc. The room can handle five classes simultaneously. The teacher within this area was another enthusiastic individual. He had about 25 students who could clean and repair the systems. They have the only school system in the state where a TV studio is next door to the

computer center and they are in the process of gearing up for TV teaching. Next door they have a TV studio which they use for dance classes and they can actually broadcast from that area. Again, I must comment about the neatness and cleanliness of the schools. The floors were highly polished and extremely clean. The students look neat and tidy, although not wealthy, but there was no horsing around and no misbehaving in any of the classes we walked into unannounced. All of the labs were extremely well-equipped and you would not guess that these buildings were as much as nine years old because they looked brand new and ultra modern. All of the food services are provided by ARA and they have eight custodians at the high school and dome.

We visited the dome. It cost \$56.00 per sq. ft. and houses a 200-meter track plus a 100-meter racing track. It can handle seven basketball games or seven tennis courts, or a complete football field. It has fixed seating for 3,500 and another 1,830 seating capability with moveable seats. It has a field area of 120,000 sq. ft. with 17,000 sq. ft. of showers and lockers. Like many of their other facilities, this facility is open to the public for a minimal amount of money (such as \$5.00 per year) so that anyone can come in from 6:00 a.m. until 10:00 p.m. and go running indoors or exercise within the facility. Many people within the community own access cards to this facility. By the way, we were also told that everyone in the community has access to an indoor heated swimming pool for approximately \$100.00 per year and that includes aerobics as well.

We next visited the local hospital which is managed by the Samaritan Health Services. The hospital has 25 beds, 12 physicians with anywhere from 3 to 20 years seniority and 28 nurses, 12 of whom were R.N.'s. They also manage a 64-bed care center which right now is 100%

occupied. Total employment for the hospital was 140 persons and they have specialists in all fields on a monthly basis.

Again, at the hospital, we were amazed at and impressed by not just the facilities, but primarily, the people and their enthusiasm. The head nurse was, again, exuberant over the capabilities which they have at the hospital, as was the X-Ray Technician/Manager who proudly pointed out that they have two CT units here and have had one of them for seven years; even Show Low doesn't have any and sends all their work to Springerville. They have a testing laboratory which is open from 5:00 a.m. until 10:00 p.m. and technicians are on call at all other times. They can have X-Rays read by radiologists at Good Samaritan hospital in Phoenix on almost a moment's notice. The hospital performs 40 to 50 surgeries per month, including 10 eye cases per month. When the hospital needs something, they have a community fund-raising event to help them out. In the past, these events provided funds for a new chapel, new equipment, or additional rooms (such as birthing rooms).

The next person we talked to was Barbara Hunter who happens to be Mayor of Springerville, as well as a real estate agent. She took us around the area and showed us typical housing. I would say most nice houses in the Springerville area run between \$60,000.00 and \$120,000.00. Springerville has a master plan and a 10-year airport plan. Approximately 125 homes in the Eagar/Springerville area at the present time are for sale. They have four licensed builders; one who primarily builds log cabins here and in Japan. A typical log home of 3,000 sq. ft. on 2.5 acres is about \$125,000.00 while a typical 1,500 sq. ft. home on .5 acre is about \$50,000.00 to \$55,000.00. They have two volunteer fire departments; one for Springerville, one for Eagar. One of the things which Ms. Hunter was extremely proud is the apparent crime-free

nature of the community. She claimed her daughter lost the key to their brand new house five years ago and never had a new one made; she just never locked her house at all. Everywhere we went, it was obvious that no one locked their cars either.

The next meeting was with the Forest Service. At this point, Peter Napier and Frazer Owen joined us on behalf of NRAO. The Forest Service personnel were Jon Schendel, whose title might be Integrated Resort Specialist; Vince Ordoncz, a wildlife biologist; Jim Shores, a recreation and land staff; and Vearl Haynes, the recreational land staff from the Apache Sitgreaves section. Generally, I would say the Forest Service was extremely helpful. Their only concern was the visual impact our telescopes might have near the road since the Phoenix fishermen make use of the area. They preferred to have as many telescopes as far away from the road as possible, but after they understood that the largest (3 kilometer) configuration would only be used in the winter, they did not seem nearly as concerned and they were very willing to assist us. For example, they said that if the county would take over the roads, they would be very happy to give them a long-term lease for an easement, or deed the property over to them as an easement, which would be under their care. They were also concerned with the impact of a power line and how the route would be taken. We indicated that we could bury it below the road which was going to the access. They said that if you had it down three feet, equal to the frost line, that would probably be acceptable. They did not have a good answer as to whether water was available up there. In fact, they said you might have to haul it, although there certainly is lots of water around. Perhaps, if we had a genius with a divining rod, we would be in good shape. We asked about archaeological clearances and they said there was not much archaeological impact above 8,000 feet; we probably wouldn't have to worry about it. Vince indicated there were no endangered species known at the present time which have habitats in

that particular area. We described roughly what we are now thinking will be the types of construction up there (i.e., a control building of 10,000 to 15,000 sq. ft., perhaps a four-room residence hall, an antenna services building and a garage, with daily attendance of up to 40 people). However, we explained that since we now have this new road, we may consider building an office in the Springerville area since the site is accessible within 20 minutes easy driving time. This would definitely reduce the impact on the array site.

The next thing the Forest Service staff mentioned was that July 15 through September 1 is the season of increased lightning strikes in the area. Typically one person per year during this time of year is hit by lightning. They were concerned that we be sure that the livestock permittees were kept informed as to what was going on. They also indicated that there is a property owners' association in Greer which represents about 150 people and they, too, should be kept informed. He then gave us the names of the permittees and suggested that in addition to contacting them, we also contact the White Mountain Conservation League.

Our next meeting was held with Tom Hollender and Leighayn Green, who represent the White Mountain Conservation League. They already had a very good idea of what types of facilities we were anticipating, as well as the social and the population impact we were considering. It was apparent they had done their homework; in fact, they had published an article in their local newspaper which was quite accurate. The newspaper goes out to interested parties in all of the local environmental organizations.

We then took a trip out the Water Canyon road to the new site. It was almost ten miles from pavement in town along a dirt road to the site. It took approximately 20 minutes at dusk.

The road was well-maintained and very, very wide until we got to the last two miles where you could see for a long distance because the land is so flat. This is the road which the Forest Service would deed over to the county and which the county has agreed to maintain for us. At first glance, it seemed very reasonable that we could have our antennas located out here most of the time without having any major visual impact from a main highway.

Our last official duty for the evening was to accompany the Apache County Manager, Clarence Bigelow, Nick McDonough and one of the three Apache County Supervisors, Art Lee to dinner. We then discovered that both the County Manager and County Supervisor were lifelong residents of the area and both were very enthused about the possibility of the NRAO setting up facilities in the Springerville area. They seemed extremely willing to provide whatever county resources were available to assist us in this effort. We considered the trip to be extremely valuable. It is my opinion that Springerville/Eagar is a community of enlightened, responsive, and enthusiastic people.

DAW/nlc

Distribution: Millimeter Array Memo Series
Bob Brown
Darrel Emerson
Peter Napier
Frazer Owen
Campbell Wade