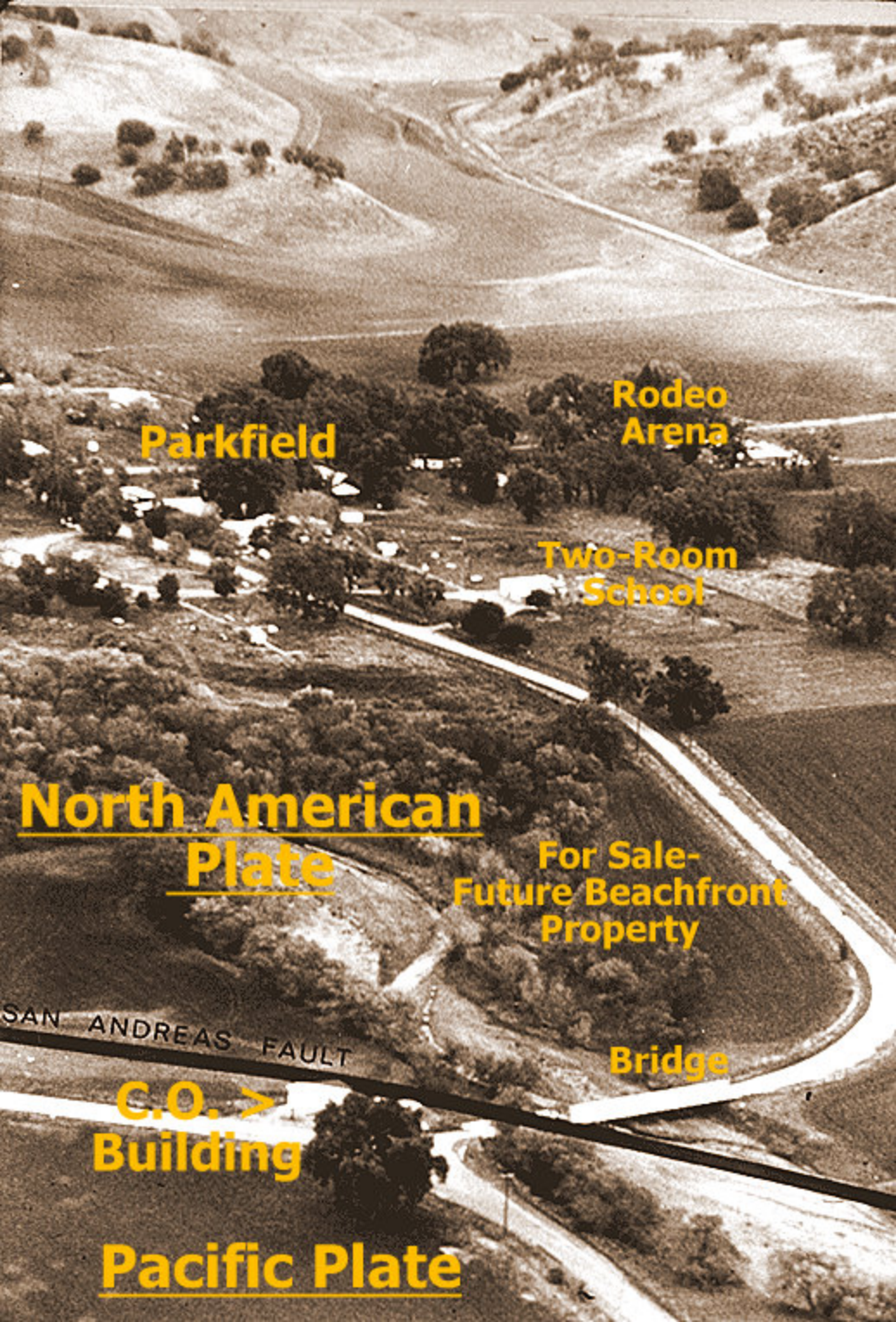

-Parkfield Central Office-
-San Miguel Telephone Co./Contel/GTE/Verizon-
Orignally Housed a
Stromberg Carlson X-Y Switch-
Currently a Nortel DMS-10
This Building Housed The First Dial Office-
A Wall-Mounted North Electric CX-x0 Switch
San Andreas Fault
Bridge >>>


Parkfield
Rodeo Arena
Two-Room School
North American Plate
For Sale- Future Beachfront Property
SAN ANDREAS FAULT
Bridge
C.O. > Building
Pacific Plate


SAN ANDREAS
FAULT
NOW ENTERING
NORTH AMERICAN
PLATE
<< Central Office
<< Fiber Toll Cable


SAN ANDREAS
FAULT
NOW ENTERING
PACIFIC
PLATE
<<Parkfield C.O.


Bridge


Parkfield Central Office

USGS Earthquake Monitoring Station
Parkfield, California

Our Parkfield Central Office was built on an active earthquake fault so our consulting engineer, Norman Mills, E.E., P.E. specified that the foundation of the building be excavated to a depth* of 16-feet. The pit was then filled with pea-gravel and a reinforced concrete foundation was pored over it. A reinforced C-Block building was then constructed upon it.

The idea was that in the event of a significant earthquake, the entire building would "float like a ship on water."

A couple of years later, a magnitude 6.0 earthquake occurred. While the building "floated" as predicted, telephone service was still interrupted since no one thought to include expansion loops for the commercial power or incoming toll and exchange cables.

The exchange batteries kept the switch functioning until the stand-by generator could start-up and since it took only a short time to splice the cables so the exchange was not isolated for long.

The only other damage that occurred was when a beige, A.E. 80 deskset fell onto the floor along with the 5-gallon bottled water dispenser that it was setting on top of, fell over.

Several decades latter, I called Norm at his home in Billings, Montana when I retrieved the X-Y switch that he originally specified for Parkfield. He asked what type of switch replaced it and I informed him Contel had installed a DMS-10.

He inquired about the type of earthquake bracing and how it was installed. I told him they anchored special earthquake bracing to the C-Block walls and the overhead ironwork and DMS cabinets. He stated "That is too bad." I ask him why and he replied that in the event of an earthquake it would cause more damage than necessary.

He said he specified that the original X-Y switch be anchored to the the overhead ironwork which in turn was abutted up against the c-block but NOT fastened to the walls. In 1966 when the M-6.0 earthquake occurred, the ironwork bounced up against the the walls but only scratched the paint while flexing enough so as not to cause significant damage.

I have attached a pdf file containing photographs showing the relationship of the central office in relationship to the San Andreas Fault.

The entire Parkfield region is dotted with hundreds of earthquake sensors installed by the USGS. Before the use of radio and satellite links, we garnered a significant amount of revenue from the special circuits that terminated from these sensors direct to USGS/Stanford offices in Menlo Park/Palo Alto.

In those early years we interfaced with tens-of-miles of military surplus spiral-4 armored cable that they payed-out across the fields to their installations located throughout the country side. I've been 10 to 15-miles out in the middle of nowhere and have come across some of these installations. I still have some of the early circuit layout card that show details of these installations. The sensors transmitted fsk tones to their terminating offices. We generally used a fused WECo protector and 120-type repeating coil at the point of demarc.

*(the precise depth seems to have varied throughout the years as my memory ages)

WIKI Entry..... http://en.wikipedia.org/wiki/Parkfield,_California

Geology

Parkfield lies along the San Andreas Fault, one of the longest and most active faults in the world, which appears in the town as a seasonally dry creek bed. The fault marks the divide between the North American Plate and the Pacific Plate (see Plate Tectonics). There is a bridge across the creek with piers on either side that have shifted more than five feet relative to one another due to aseismic creep since the bridge was constructed in 1936.

Since at least 1857, Parkfield has had an earthquake of 6 or greater magnitude on average of every 22 years. In 1985, the US Geological Survey predicted that there would be a comparably-sized earthquake in this community by 1993, but no such event came until September 28, 2004 when a magnitude 6.0 earthquake struck at 10:15 am Pacific Daylight Time. The additional time did offer the opportunity to add improvements in instrumentation as technology further developed.

Parkfield is the most closely observed earthquake zone in the world.

Scientists constantly measure the strain in rocks, heat flow, microseismicity, and geomagnetism around Parkfield. The observation of the San Andreas fault in Parkfield will hopefully help scientists better understand the physics of earthquakes and faulting; information gathered from Parkfield may still be used someday to issue predictions for major earthquakes along the San Andreas fault and around the world.

Since 1985, the United States Geological Survey has been working on a project known as "The Parkfield Experiment", a long-term research project on the San Andreas fault. "The experiment's purpose is to better understand the physics of earthquakes — what actually happens on the fault and in the surrounding region before, during and after an earthquake."

In 2004, work began just north of Parkfield on the San Andreas Fault Observatory at Depth (SAFOD). The goal of SAFOD is to drill a hole nearly 2.5 miles (4 kilometers) into the Earth's crust, across the San Andreas Fault. The specific target of the probe was a patch of fault known to generate sequences of repeating microearthquakes of around magnitude 1.0. The drilling was completed in the midyear of 2005, and an array of sensors was installed to capture and record earthquakes that happen near this area. It is hoped that SAFOD observations will provide insight into the source mechanisms of these small earthquakes, which can be scaled up in an effort to understand larger events.

http://earthquake.usgs.gov/research/parkfield/
http://earthquake.usgs.gov/research/parkfield/safod_pbo.php