

## ENGINEER ENVIRONMENTAL CONCERNS ON THE BORDER

Dozers, graders, scrapers, front-end loaders, dumptrucks and water trucks perform a slow, intricate dance on the California/Mexico border. Their operators shape the earth - taking dirt from here, moving it to there, creating safe roads for Border Patrol and law enforcement access, and stable footings for the border barrier. But the details, the where and how of their operation, show that California National Guard Counterdrug Team Engineers also consider the impact their construction has on the border environment.

Along the fifteen-mile stretch of border that separates Tijuana from San Diego, the engineers have dealt with every kind of terrain from steep cliffs to table-flat mesas. The engineers' biggest environmental concern has been erosion control. Before the Engineers arrived, Border Patrol had only a backhoe, loader and dumptruck to maintain the existing roads. As CPT Wade Rowley, Commander of Team Engineers points out, "After the spring rains finished, [Border Patrol] would go out to maintain the road system, and it would take them all summer, and [they would finish] just in time for the first rains of spring to wipe it all out"

The soil in the San Diego area is a very unstable mix of sedimentary sand and washed rock, one of the most difficult types of material to work with. And the area receives seven inches of rainfall a year -- most of it in two or three big storms. Team Engineer took this adversity in stride, designing and installing a road network that would provide low-maintenance, year-round mobility to the Border Patrol.

"The way we've done that," said CPT Rowley, "is we re-aligned and re-structured a lot of the roads -- added a lot of drainage and culverts and things like that...to control the erosion here."

Garbage and sewage have been another problem in the Tijuana border area. In an area called "Washerwoman Flat," Tijuana residents would dump their trash on U.S. soil. The garbage pile was 6 to 8 feet deep, and covered more than seven acres. It contained "Cars, mattresses, everything you could think of that would end up in a dump," said CPT Rowley. The Engineers hauled off thousands and thousands of pounds of trash, reclaiming and restoring the land. Untreated sewage flowing north from Tijuana has been channelized and re-directed by the engineers. The U.S. government is constructing a sewage treatment plant to deal with the problem. The sewage will be treated and shipped back to Tijuana.

Eastern San Diego County is sparsely populated, and much of the border terrain is rugged and mountainous. There are stretches, though, of flat, sandy plain where smugglers attempt to drive dope-laden vehicles across our border. These stretches of border need vehicle barrier. But, besides stopping vehicles, the barrier must: 1) allow Border Patrol agents to watch for signs of smugglers preparing to cross; 2) withstand the infrequent but torrential rainfall and flash-flooding of the area, and; 3) allow wildlife unimpeded migration across the border.

The new barrier design accomplishes all this. It is constructed from railroad rail welded to lengths of well-drilling pipe cemented into the ground. As an added insult to smugglers, re-bar and cement are being installed inside the drilling pipe -- frustrating any smuggler with a cutting torch. Animals and water flows can pass between the uprights and under the rail, but a vehicle can't easily go over. Smugglers jury-rigged a ramp, but it collapsed, impaling their pickup truck on the barrier.

All border engineering projects must be reviewed and approved by the Army Corps of Engineers. The reviewing agency checks the plans for compliance with Environmental Protection Agency requirements.

During project planning, the construction area is surveyed, noting the physical setting, climate, water and air quality, plant and animal species and their respective populations - especially including threatened or endangered species. The survey also notes any archaeological sites, noise levels, aesthetics, current land use, socioeconomic and transportation uses.

With the survey data in hand, the planners examine the mission plans looking for ways to avoid or minimize environment damage to the area. For example; Team Engineer plans include the heavy use of water trucks spraying clean water to keep construction sites moist, so little or no dust is produced to settle on nearby plants and animal habitats. The Engineers also avoid removing endangered or exotic vegetation, and they replace vegetation and re-seed the sites after construction is completed. It takes approximately one year to initiate and complete an environmental assessment and impact study.

During the course of a project, one or more site surveys are made to determine what changes there are in the environment and how great the change is. The monitors have the authority to halt work on a project if they find that construction has too great an impact on some aspect of the site environment. Team Engineer has not yet had to halt work on a project due to excessive environmental damage.

The engineers also promptly clean up any toxic spills of fuel, lubricant or solvent, before the contaminant has a chance to spread. The contaminated soil is packed into 55-

gallon drums for pickup by toxic-disposal companies. Each drum costs \$1,250 to pick up, so the sooner the engineers pick up the spill, the less soil is contaminated, and the less taxpayer money is spent..

“When I was working in Oregon, I lived and died by environmental issues,” CPT Rowley said. “I learned you have to join them [environmental concerns.] As a government employee, I have no incentive to cut environmental corners and every reason to comply with environmental regulations. And from the start [of Team Engineer,] our compliance has been right on the money.”