ARROYO GRANDE CREEK
40th ANNIVERSARY 1958-1998
Completed 1/9/58

2000
Arroyo Grande Creek 566 Project was accomplished because people worked together to protect the prime farmland from periodic flooding. There have been mistakes made in the forty years since the work was finished and the AG 566 Project needs repair. Working together we can develop a project that will include the whole watershed, enhance agriculture, and protect nearby development.

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*Soil Conservation Service now Natural Resource Conservation Service
*Arroyo Grande Soil Conservation District now Coastal San Luis Resource Conservation District

This study is dedicated to the wise leadership of Edwin M. Taylor and the directors of the Arroyo Grande Soil Conservation District, Keith A. Rapp, Manuel F. Silva, L.C. Sullivan, Edward Campodonico, J.O. Pence, and George Dana.
The AG 566 Project was completed with excellent technical help from the Soil Conservation Service; Robert MiddlecAMP, Regional Construction Engineer, T. Earl Ross, Engineer, D.G. Porter, Inspector and Clark Moore, District Conservationist.

By Ella Honeycutt

Director, Coastal San Luis Resource Conservation District
Before 566 Project

State Highway Bridge across Arroyo Grande creek on State Highway No. 1 - Bridge to be replaced 5/14/56

Looking downstream at Arroyo Grande Creek from State Highway Bridge at H.W. No. 1. 5/14/57
WATERSHED WORK VITAL PART OF AG PL 566 PROJECT

Dust Bowl and the Central Coast

The devastation caused by erosion, floods and the dust storms of the 1930's, led to the passage of the Federal Soil Conservation Act of 1935. The Federal legislation enabled states to act locally, and to provide conservation assistance and introduce new farming methods to ranchers, farmers and other landowners. The history books teach about the Dust Bowl in the Midwest but few people today realize the extent of erosion damage to the hillside farmland on the Central Coast.

WPA depression-era workmen had camps in Corbett and Carpenter Canyon. Hundreds of men worked in the hills in the 1930's, near Noyes Road and east of Printz Road, building drainage ditches and terraces to control runoff water from the hills when it rained. They planted trees for reforestation and grasses for pasture improvement once the land was stabilized," wrote John Dunlap in the Los Angeles Times.

A 1935 Soil Survey Report prepared by the USDA Soil Conservation Service (SCS) describes the conditions of the eroded land in the Carpenter Canyon and the Arroyo Grande Creek watershed. The CCC was brought into the area to stabilize the hills, which had lost their fertile soil due to erosion and poor farming practices.

Sugar peas were grown on the highly erodable land in Arroyo Grande Creek watershed. The storm on Jan. 4-5, 1935 and rapid runoff from above caused the severe gulling and topsoil loss.

A Panoramic View of the erosion scared hills in AG Project near Arroyo Grande, Ca. in 1935. The Arroyo Grande Creek watershed has some of the most erosive soils in the world.
Before the AG 566 Project
they used old cars to help
stabilize the banks.

Channel flow in January storm. Note highwater
mark on right, looking down stream from the
County Bridge toward S.P.R.R. 1/26/56

Looking downstream from Hwy #1 bridge. Bank cutting prevented by car bodies
placed by Flood Control District in channel before storm. Note picture above.
ARROYO GRANDE CREEK FLOODS

“Flooding streams bring terror to city dwellers and raise havoc on farmlands. Every fire in the mountainous watersheds means ravaging erosion and muddy silt in the streambeds that can overflow covering precious farmland. Various federal agencies started to address the problem of destructive floodwaters as far back as the 1891 order setting aside the National Forest Reserves. The Soil Erosion Service was created in 1933 in the Department of the Interior, “wrote John Dunlap in the Los Angeles Times on July 27, 1957.

In response to soil erosion and flooding damage the United States Department of Agriculture started the Soil Conservation Service (SCS) in 1935 and Congress passed the Flood Control Act of 1937 which ushered in a partnership between local farmers and the Federal Government. In 1937 states began to pass laws authorizing farmers to organize soil conservation districts. The San Luis Obispo County Flood Control and Water Conservation District (CFCWCD) was organized in 1944. The Arroyo Grande Soil Conservation District (AGSCD) was founded in 1952.

“The flood of 1952 was severe and 450 acres of rich farmland was flooded leaving behind silt and debris. Roads and bridges were washed out and in the watershed raging water cut deep gullies and the silt was carried onto the farmland. The cost of the flood totaled $129,000, disrupting the economy of the Five Cities,” wrote Mr. Dunlap.

Congress appropriated $5,000,000 in 1953 to start 60 watershed projects. “The act was designed for smaller projects and to supplement present soil-water conservation programs and flood control plans at the local level. In 1954 Congress passed the Watershed Protection and Flood Prevention Act (Public Law 566). Each project is a local undertaking with Federal help, not a Federal project with local help,” wrote Mr. Dunlap.
Looking upstream toward SPRR Bridge, showing channel conditions. 10/29/56

AG Creek after farmers made repairs-Clark Moore in picture on Vincent Antonio farm. 10/29/56
"The Arroyo Grande Valley and the La Cienega Valley have approximately 2,500 acres of prime vegetable cropland on the valley floor that is threatened every time there is a flood. Damaging floods occurred in the Arroyo Grande Valley in 1862, 1895, 1909, 1911, 1914, 1926, 1927, 1931, 1932, 1933, 1937, 1938, 1941, 1943, and 1952. Both property and lives have been lost as a direct result of flooding," according to John Dunlap.

GOVERNMENT AGENCIES OFFER HELP

“A full scale coordinated approach to the water problems of the entire Arroyo Grande Creek watershed was mapped at a joint meeting of representatives of nine local, state, and federal agencies on October 27, 1954, reported the Arroyo Grande Herald Recorder (AG Harold Recorder) on 11/5/54. The meeting was held in the Arroyo Grande Soil Conservation District office in the Brisco Building on Branch Street. Edwin Taylor, Chairman of AGSCD stated, "Flood control and water conservation are probably of equal importance to the watershed, with soil erosion control next in importance."

The AGSCD directors called the meeting. The AGSCD Board members assisting Taylor were: Keith Rapp, vegetable and cattle farmer, Lester Sullivan and Manuel Silva vegetable growers, and Ed Campodonico cattle and grain farmer. Keith Rapp spent many hours as District Secretary and Bookkeeper. His dedication to detail can be seen in the AGSCD official minutes and the documents he cataloged.

The AGSCD and CFCWCD Directors were confident Arroyo Grande could qualify for the PL 566 Project funds because the benefits to the community far exceeded the costs. They formed a partnership with the federal and state government so that the Soil Conservation Service and the Forest Service could provide financial aid and trained technicians.
Before 566 Project

View showing mouth of Arroyo Grande Creek before construction. Looking up stream. 10/29/56

Looking up stream at county road bridge from S.P.R.R. bridge showing channel conditions. 10/29/56
Problem-1953 Arroyo Grande Watershed Report

"Flood damage is prevalent along all major channels due to debris stoppages and inadequate channel sections, and from tributary overland flow across cultivated lands. The lower Arroyo Grande Valley is flooded on a frequency of about once every five years. This damage is attributed to inadequate channels and channels with poorly aligned gravely embankments. Which fail to contain flood waters in the Los Berros and Arroyo Grande Creeks, from a point approximately ¼ mile above State Highway No. 56 (Hwy. #1) to the Pacific Ocean, an area of about 1,685 acres.

Truck crops and commercial flower seeds are damaged during flood flows by debris, inundation and sedimentation. In the years 1911 and 1914 deposition and gullying required releveling of the entire area. Releveling of portions of the area was required in the years 1936, 1941, 1944, and 1952. During the 1952 floods, 12 residences in Oceano area were damaged by floodwaters. The newly constructed Oceano airport, a San Luis Obispo County owned and operated installation is situated in the flood area. State Highway No. 56 (Hwy. #1) is inundated during flood flows and a portion of the Halcyon Road, an improved County Road, was washed out during the 1952 flood. Telephone and power lines are rendered inoperative and the Southern Pacific Railroad main line is placed in jeopardy during flood flows," page 2 of the 1953 AG Watershed Report.

"The main thread of the Arroyo Grande Creek, ¼ miles above State Highway No. 56 (Hwy. #1) upstream to the City of Arroyo Grande has been observed to be deepening. It is presently 30 to 50 feet in depth and 100 to 300 feet in width, while downstream in Arroyo Grande and Los Berros Creeks, deposition has been occurring to the extent of inadequate channel capacity. Disposal of runoff waters along all principal streams causes fingering into adjacent farmlands."
The silt from these erosive hills ends up in Arroyo Grande Creek.

Under the stimulus of important local markets, most of the valley lands and many of the steeper slopes have been brought under cultivation. Owing to the limited precipitation in localities of arable land, irrigation is generally necessary for all but winter-grown crops. Where water is available, a wide variety of deciduous fruits, nuts, and field crops is produced. Lands without water for irrigation are usually dry-farmed to small grains or utilized for grazing, principally for beef cattle. Fairly extensive areas are also used for grapes and deciduous fruits under dry-farming conditions. In the southern part of this central sector, favored by nearly frostfree winters, garden peas are a common winter-grown crop, whereas dried beans are an important summer crop.

Of the more than 9,000,000 acres in this central subarea of the Coast Ranges and Lowlands country, some 5,500,000 acres (58 per cent) are in farms. Of this, nearly 1,700,000 acres (18 per cent of the total) are classed as cropland. The 25,000 farms average 220 acres in size, including about 70 acres of cropland. This is the third most important of the major problem areas of the Pacific Southwest. Total value of all farm land and buildings exceeds $400,000,000; the average farm valuation is nearly $16,500, or about $875 an acre.

Most of the land is privately owned, public land being largely restricted to the relatively small acreages in national forest and in state, and national parks. Specialty farms predominate, although considerable diversification and even extensive operations are prevalent in some sections. Napa, Sonoma, and other northern valleys include important vineyards, orchards, and poultry farms; Ignacio and San Ramon Valleys specialize in walnuts and vegetables; Livermore Valley produces principally grain hay and livestock; Santa Clara Valley, prunes and apricots; Pajaro Valley, apples and vegetables; lower Salinas Valley, lettuce, other truck crops, and sugar beets; and central and upper Salinas Valley, livestock, hay, pink beans, and almonds. Santa Maria and Lompoc Valleys are largely devoted to the production of truck crops, sugar beets, dried beans, and flower and vegetable seed. Most of the seed used for planting mustard as a cover crop in California orchards are grown in Lompoc Valley, in rotation with small grain.

The principal soils are those of the Yolo, Botella, Rincon, Los Osos, Cayucos, and Arnold groups. Because of their good water-holding capacity, the Cayucos and Los Osos are only moderately susceptible to erosion. In spite of this, however, considerable damage by erosion has resulted from overgrazing and improper farming practices. In marked contrast, the soils of the less extensive Arnold series are highly susceptible to erosion. Some spectacular examples of sheet and gully washing are found on this shallow, sandy soil (Fig. 332). Most of the severe erosion of the Arroyo Grande vicinity has occurred during the past 10 to 20 years, or

Accelerated erosion exists along the upper sloping lands adjacent to the valley bottoms where winter peas and pole beans are or have been grown,” page 3 of the AG watershed Report.

DISTRICT ASSESSMENT 1953
“The present district assessment, based on benefits to zone No. 1, San Luis Obispo County Flood Control and Water Conservation District, has been levied annually since 1946, 1949 excepted, and raises approximately $5000 annually. A bond issue has recently been passed bonding Zone No. 1 for $40,000. Those funds are available plus $5,000, which will be available in this tax year, a total of $45,000,” page 8 of the 1953 Watershed Report. “In 1942 the Corps of Engineers, U.S. Army, investigated a multiple purpose dam structure on Arroyo Grande Creek below the junction of Lopez Canyon and found the site satisfactory, but not economically feasible at that time,” from the Arroyo Grande Watershed Project Report.

“R. D. Perry of the SCS complimented the local board on its approach to the watershed problem and on the start made. He said that the Department of Agriculture regards the control of erosion as an important object of the Watershed Protection Act,” reported Mr. Newell W. Strother, Editor AG Harold-Recorder.

According to Clark Moore, retired SCS District Conservationist, “The main channel of the Arroyo Grande Creek was studied by SCS Engineer F. Earl Ross. He documented the watershed involvement in the channel erosion and sediment deposits. The new information was added to previous investigations and surveys by all organizations.” Mr. Ross developed a comprehensive flood control plan for the entire valley.”

People worked together to get the project underway. “Of the farmers, particular credit goes to Edwin Taylor, large scale vegetable grower in Oceano and Lompoc. Edwin was president of the Arroyo Grande Water Conservation District (AGSCD), served as trustee on both the Arroyo Grande High School and on the Elementary School.
In the 1930s they grew sugar peas and the hills had to be reconstructed by the CCC. In 1999 grapes are planted straight up and down the hills, not on the

since the beginning of large-scale use of this highly erodible land for winter peas.

Most range land is overgrazed, and little is being done to retard the resultant erosion. Many farms are inadequately covered with vegetation during the rainy season, and no provision is made for removing excess rainfall without damage to the land. Ranges are generally in need of grazing management to maintain a proper ground cover, involving adjustment to carrying capacity, contour furrowing where soil type permits, development of water holes, and installation of check dams. The

upland areas are devoted principally to livestock production; and to achieve maximum returns over a period of years, it is necessary that land-use programs for crop production be closely integrated with those for the range. The natural forage of highest value is composed predominantly of annual plants. This is a circumstance that necessitates an even more carefully planned grazing program than in the case of a perennial cover. In order to relieve the range during periods when native forage is not available in satisfactory amount and quality, a supplementary supply of forage must be produced. This can be accomplished by devoting those parts of the cultivated area better suited for pasture and forage crops to the production of feed.

The erosion problem cannot be wholly solved by protection of range land alone. Adjoining cultivated land will require the use of such measures as cover crops, strip cropping, contour furrowing, tree planting, and mechanical structures in order to provide defense for the varying types of land used for various crops.
Grande High School and on the Elementary School District. Taylor devoted long hours to district meetings, right-of-way conferences, inspections and other responsibilities of his volunteer assignment," wrote Mr. Dunlap.

"Edwin Taylor is a native son whose grandfather settled in Arroyo Grande in 1876, so he knows the need of protecting the 2000-acre valley from flooding," continued John Dunlap in the Los Angeles Times. Edwin's son John Taylor is carrying on the family tradition of farming in the Arroyo Grande Valley,

Edwin was also chairman of the FCWCD along with J. Vard Loomis, John Enos, Joe T. Silva, Emmett Montgomery, Kazuo Ikeda and C.L. Conrow. Kazuo Ikeda served on the FCWCD Board. His sons Vard and Stan farm their land in the Arroyo Grande Valley and La Cienega valley.

**DESIGNATED CONSULTANT**

Clark Moore was assigned by SCS to help the Arroyo Grande farmers on their flood control project. He arrived in Arroyo Grande in 1954 as the District Conservationist; Moore was a graduate of the University of Nebraska. Counting his 16 years of service with the SCS and his Army Corps of Engineer work during World War II and the Korean War, Clark Moore was well qualified to be the designated consultant for the proposed 566 Project.

"Moore is largely responsible for the educational efforts and guidance, which inspired the Arroyo Grande farmers to organize the district and get the project moving," was written in a San Luis Obispo newspaper on August 2, 1957. Clark Moore conducted on site interviews with local farmers to determine how much damage was done by past floods. This information was needed to show that benefits of a flood control program would be greater than the cost.
Reviewing Watershed Plan at top of watershed.
Clark Moore, SCS, Ernest Draves, USFS.

Protecting the valuable vegetable industry from floods started in the watershed of Arroyo Grande Creek.
ALTERNATIVES CONSIDERED

Discharges from the watersheds of Arroyo Grande Creek and Los Berros Creek have caused flooding and silt deposition on the highly productive agricultural lands on the flood plain. Fire in the steep headwaters contributed to flooding. Wind erosion from the sand dunes clogged waterways and caused loss of farmland. The Official AGSCD Minutes, July 22, 1955, recorded by Keith Rapp: Edwin Taylor summarized the three alternatives from which the board could choose:

1. We could drop the project completely. This is not feasible since the district raised $40,000 by bond issue two years before to provide some measure of protection for land and property in the lower Arroyo Grande Valley and Oceano Area.

2. We could spend the $40,000 under direction of the county supervisors through the county engineer. This would require another survey, at additional cost, and would result in a plan of work, which undoubtedly cost more than the $40,000 available. This would not be feasible.

3. We could accept the plan of the Soil Conservation Service. This service through our local conservation district has spent many thousands of dollars on preliminary plans and surveys. None of this money was raised locally. This plan is the only one presented that has a chance to be partially financed by the Federal Government, and eventually completed, to the advantage of our whole district.

Both the Arroyo Grande Soil Conservation District and Flood Control District voted to accept the third alternative, the detailed work plan prepared for the 566 Project by W. W. Fox, Acting SCS State Conservationist. Keith Rapp, AGWCD Secretary recorded the names of those present at the meeting: Edwin M. Taylor, John Enos, Emmett Montgomery, Clayton Conrow, Joe T. Silva, Kazu Ikeda, Keith Rapp, and Lester Sullivan. William F. Fox, Earl Ross, P.O Tinker and Clark Moore represented the SCS, and Tom Aldrich,
Arroyo Grande Creek Watershed 566 Project

LOCATION
The 162 square mile watershed in San Luis Obispo county discharges into the Pacific Ocean near Oceano, about 15 miles south of San Luis Obispo.

TEAM JOB
U.S. Soil Conservation Service, U.S. Forest Service in cooperation with the sponsors. Levee reinforcement done with assistance of California Department of Water Resources.

PLANNERS
Sponsors, Arroyo Grande Soil Conservation District and the San Luis Obispo County Flood Control and Water Conservation District.

COST-SHARING
Project was financed with local, state and federal funds. Structural measures were paid for with $584,000 in federal funds and $180,000 of state monies. In addition $209,000 of state and local funds were spent for easements, rights-of-ways, and land treatment practices.

PROBLEM
Discharges from the watersheds of Arroyo Grande and Los Berros Creeks have caused flooding and deposition on agricultural lands of the flood plain. Fire in steep headwaters contributed to flooding. Wind erosion from sand dunes has obstructed waterways and caused loss of farmlands.

SOLUTION
Land treatment includes better cropping systems, range management, range and pasture seedings, and sand dune stabilization. Structural works includes more fire protection on 18,000 acres and 3½ miles of rock revetted-channel construction with highway bridges and other appurtenant structures.

Reproduced from the Soil Conservation Service "Arroyo Grande Story" booklet.

"A bill to hasten congressional approval of the Arroyo Grande Creek watershed project and similar proposals was introduced into congress and, with the backing of Congressman Teague of this district, is up for consideration by the House at the present time," reported the AG Herald Recorder. "Telegrams from Senator Thomas H. Kuchel and Congressman Teague informed the Telegram Tribune that the waiting period was changed from 45 days to 15 days in order for the AG PL 566 Project to be considered in the 1956 congressional session," reported the Telegram Tribune on July 14, 1956.

WATERSHED WORK PLAN SIGNED


*Whereas, the Watershed Work Plan for the Arroyo Grande Creek Watershed met the requirements of the Watershed Protection and Flood Prevention Act. The SCS is now authorized to provide assistance to the Sponsoring Organization: in the installation of works of improvement in accordance with the terms, conditions, Public Law 1018 (84th Congress, 2nd Session). The sponsoring Local Organization will acquire without cost to the Federal Government such land, easements, right-of-way as will be needed in connection with the works of improvement. (Estimated cost $64,632).*

**Work Begins**

Bids for the channel work on the lower Arroyo Grande Creek were opened in May 1957. The contract was awarded to the low bidder, Peter Kiewit and Sons. The AG PL 566 Project was the first 566 Project.
AG Project 566 1957

AG SCD PL 566 - Looking downstream from Highway #1 Bridge, a Rip-Rap section during construction. 11/4/57

AG SCD PL 566 - Straw blowing machine placing straw on side slopes of dikes. Project Contract # SLO-FC-1 11/7/57
west of the Mississippi and so there was a lot of publicity. The Los Angeles Times ran full-page stories on the Project. "The total cost is about $408,000, with the Federal agencies contributing $289,244 and local sponsors matching the remainder. Local farmers are paying about $3 per acre to finance the work," wrote Mr. Dunlap.

"Engineers estimate that the project will return $1.24 in benefits for each $1 of cost. The Arroyo Grande watershed covers 103,400 acres, and recurrent floods have been a problem since 1862. In 1952 alone, it was estimated that floods caused more than $100,000 damage to farm crops in the valley. Averaging the benefits over the years, John S. Barnes, State Conservationist of the SCS, estimates the savings will be $22,765 annually," according to the 8/3/56 AG Herald Recorder.

**Work Progress**

"Most tangible result so far is the dust being churned up by four 18-cubic-yard earth movers, two bulldozers and a grader, excavating Arroyo Grande Creek for more than a mile back from the ocean outlet. Other bulldozers are at work in the 70 square mile headwater portion of the watershed, as the Forest Service intensified fire prevention steps in Los Padres National Forest. Already accomplished in the Lopez Mountain-Gay Mountain-Pinery Ridge area and the Bald Mountain area are opening up of 1.7 miles of old mechanized trail. The opening of 1.3 miles of old roads, constructing 8 miles of new mechanized trail,
AG PL 566 Dozer working adjacent to Shishido Bros. Farm. Peter Kiewit and Sons Contractor-1957

A.G. PL 566 Temporary Dam on Oceano Park Lagoon above outlet structure. 6/27/57
bulldozing 7.4 miles of firebreaks, and constructing five heliports and building five staging areas, wrote Mr. Dunlap.

"The construction of the channel to carry the waters of Arroyo Grande and Los Berros Creeks to the ocean started in Oceano and extended 2.8 miles inland to Halcyon. Above the SP Bridge the channel was 11 feet deep, 60 feet wide at the bottom and 126 feet at the top. From the beach to the SP Railroad Bridge for about a mile two dikes were built making the channel 14 feet deep, 60 feet wide at the bottom and 126 feet wide at the top. For a space on either side of the bridge, the channel was widened to 80 feet at the bottom. This was done because in previous floods debris had been caught under the bridge and virtually created a dam. The water would back up and pour over the banks and flood the cultivated vegetable fields, causing thousands of dollars of crop damage and millions of dollars of economic damage to the area. "Rock rip rap up to 20 inches in diameter was used to protect the banks and the both sides of the bridge. Along the whole channel the inner banks were planted to stop erosion. Telegram Tribune reports August 12, 1957.

LOS BERROS CREEK

The Los Berros diversion channel was designed to prevent water from backing up into Pismo Beach State and county parks, located two miles inland. A check dam at the lower end of the Arroyo Grande Creek dike with two concrete abutments and pierced by two huge steel pipes six feet wide and almost flat on the bottom was installed."
AG PL 566 Project
Completed 1961
1. A deepened and controlled stream bed for Arroyo Grande Creek,
2. Diversion of Los Berros Creek into Arroyo Grande Creek. Control of Lopez Creek and Tar Creek.
3. Tidal Gates in and working.
4. Planting of beach grass to stabilize miles of sand dunes.
5. Levees and water flow-controls measures in and working.
6. Land treatment-crop cover, range fertilization, and pasture and range seeding.
8. Awareness of the problem among the residents in the 161 square miles included in the watershed.

Los Berros Creek storm overflow

Celebrating the completion of the AG PL 566 Project: Clark Moore, Keith Rapp, Lester Sullivan and Edwin Taylor.
Not pictured: Ed Campodonico, Manuel Silva and new AGSCD Directors J.O. Pence and George Dana.
TIDE GATES
“One important feature of the plan was the proposal to close the mouth of
the slough in the lower valley, and also the mouth of the Los Berros Creek
where it flows into the Arroyo Grande Creek. Tide gates would act like
check valves in a water pipe line and they would prevent tide or flood waters
from backing up into the slough and creek. A diversion channel would
require about nine acres of additional farmland but would be less costly than
a retention dam or dikes along the full length of Los Berros Creek,” was
reported in the July 22, 1955, AG Harold Recorder.

PROJECT SHUT DOWN
D.G. Porter was the SCS Inspector on the AG 566 Project. The contractor
began putting in clay balls instead of the rock material that was specified in
the plans. Clark Moore had D.G. Porter shut the job down until the problem
was corrected. There was debate on how to determine what was rock and
what were clay balls and Keith Rapp solved the problem. Keith Rapp took a
sledgehammer and broke up the hard material and threw it into a bucket of
water. The contractor had to haul away the clay material and bring in the
agreed upon rock.

CLAY SEALS CREEK BED
A gravel operation up stream from Arroyo Grande further complicated
problems in the Arroyo Grande Creek. The gravel was washed in the creek
to remove the clay particles. The clay could have been washed down stream
but the rains were meager that year. However the clay eventually washed
down stream sealing the creek bed which reduced the water recharge in the
basin. Farmers still have problems with their wells 40 years later.

MAINTENANCE HISTORY-ARROYO GRANDE CREEK

SLO County doing annual silt removal maintenance before 10/29/56.
Looking upstream from Valley Road. View of upper portion of Los Berros Creek diversion with rock rip-rap protection to the top of channel section. 1/27/61

No damage to rock after storm - Los Berros Creek from Valley Road Bridge. 2/12/62
The Natural Resource Conservation Service (formerly the SCS) the Coastal San Luis Resource Conservation District (formerly the Arroyo Grande Soil Conservation District) and San Luis Obispo County Engineering Department continue to do yearly inspections of Arroyo Grande Creek under the AG 566 Project Operation and Maintenance Agreement.

**LOST CAPACITY**

The Arroyo Grande Creek was cleaned out on an annual basis before the AG 566 Project. Arroyo Grande Creek was a dry sand bed most of the year before Lopez Dam was built because the water in the creek goes underground near Halcyon and Highway #1. A steady release of water for farming was an agreement between the farmers and the county when Lopez dam was being constructed. The released water has contributed to the growth of willows and other vegetation in the middle of the creek that traps silt. The capacity of the creek has been reduced to only 15% of its original design, according to San Luis Obispo County Engineer Greg Martin, at the October 22, 1999 CSLRCD Board meeting.
1978 Storm
January 16, 1978

Arroyo Grande Creek from 22nd Street Bridge. 2:30 P.M. Photo by John Taylor. 1/16/78

AG Creek looking from Fred Perry Farm. 2:30 P.M. Photo by John Taylor 1/16/78
In 1978 CSLRCD took pictures and documented the flood potential caused by the creek maintenance not being done annually. CSLRCD has continued to photograph and monitor the creek conditions as they deteriorate because maintenance is not done in a timely manner.

Silt has been accumulating for the past 20 years. The lack of consistent maintenance has caused the creek to lose its flow capacity. Flooding of the farmland, nearby homes and infrastructure is a very real danger because Arroyo Grande Creek has only a 15% flood capacity at the present time.

The yearly inspection documentation can be viewed at the Natural Resource Conservation Service (SCS) Office in Templeton.
Subj.: 1999 O&M Inspection of Arroyo Grande Channel PL-566

To: Charles Davis
430 G Street #4164
Davis, Ca., 95616-4164

The annual Operation & Maintenance (O&M) Inspection for the Arroyo Grande Channel Project (AGCP) was performed on August 26, 1999. The channel’s existing condition was evaluated to identify any potential effects on its hydraulic performance during operation. Those present at the inspection were:

Greg Martin, Engineer, SLO County
Greg Norris, Engineer, NRCS

Some vegetation in the center portion of the channel, such as arundo and willows, which were identified at the 1997 O&M inspection as problematic, had been removed. No work was completed within the last year to address any of the sedimentation or structural concerns also identified in the 1997 O&M inspection letter.

The county has informed our office that they are pursuing a potential grant from the Army Corps of Engineers which would provide money and technical assistance to essentially over-haul the AGCP. It is proposed to change the configuration of the creek to provide similar flood protection and to make it more environmentally friendly. The Coastal San Luis RCD will maintain an active role in the process by acting as a link between the local farmers and the County of San Luis Obispo. Overall, the channel’s condition has remained constant since last year’s O&M inspection.

Sincerely,

Marly Lindquist
District Conservationist

pc: George Gibson, SLO County Engineering Dept.
Neil Havlik, Coastal San Luis RCD
Carter Christensen, NRCS
## MAINTENANCE HISTORY

**Arroyo Grande and Los Berros Double Levees**

### Maintenance History

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<td>1989</td>
<td>P208210</td>
<td>STA 50+00 to 69+00 and STA 143+00 to 150+00</td>
<td>16470</td>
<td>$56,176</td>
</tr>
<tr>
<td>1990</td>
<td>P208211</td>
<td>STA 26+00 to 48+00</td>
<td>12875</td>
<td>$36,320</td>
</tr>
</tbody>
</table>

Los Berros Creek - No maintenance

Arroyo Grande Creek 1999 NRCS
O&M Inspection Report Findings

The Levees are used as riding trails and the picture documents the damage. Oct. 1999

The Arroyo Grande Creek levee is being damaged by vehicles in 1999 even though locked gates were installed by SLO County in 1999.
The project consists of restoring the channels to its original design by removing sediment from the and placing it as fill where necessary using earthmoving equipment. Earthmoving equipment will include excavators, loaders, bulldozers, graders, and bottom dumps. Attachment D shows the order of work. The work will be performed during the summer when low flows exist. The following steps shall be taken during construction in order to maintain a low flow channel in the creek.

1. Construct low flow ditch on one side of channel
2. Use earthmoving equipment on other side of channel to restore channel to original design.
3. Move low flow ditch to other side of the channel.
4. Use earthmoving equipment to restore channel.
5. Remove low flow ditch.
6. Plan for mitigation of temporal displacement of wetlands by creating wetland on a 1:1 basis on land adjacent to the channel. Hold the funds for this work in abeyance for one to two years. During this time, seek matching funding for a project above and beyond this mitigation. If matching funds are not found implement planned mitigation.


Creating wetland on a 1.1 basis of land adjacent to channel is part of Arroyo Grande Creek Reconstruction Plan. Will this take additional prime farmland out of production?
Financing

Although assistance is being pursued from the Army Corps of Engineers, the Department is moving forward with developing local financing for this project. The Army Corps of Engineers assistance program is described in Attachment J.

The financing of this project considers current balances and revenues against existing annual expenditures and anticipated project expenditures.

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount/Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Accounts</td>
<td>Approximately $350,000</td>
</tr>
<tr>
<td>Annual Revenue</td>
<td>Approximately $53,000 annually is generated by Flood Control Zone 1 &amp; 1A from a property tax allocation and assessments (Res. 87-278) and $15,000 from interest on reserves.</td>
</tr>
<tr>
<td>Annual Expenditures</td>
<td>Approximately $15,000 is spent each year on willow removal, mowing, and maintenance (signs, gates; and flapgates).</td>
</tr>
<tr>
<td>Project Expenditures</td>
<td>The project cost is estimated at $2.3 million dollars.</td>
</tr>
</tbody>
</table>

The existing accounts of $350,000 are insufficient to fund the project. When bonds for the Cambria Flood Control Project are sold, the Flood Control District will have in excess of $2 million dollars in reserves which can be loaned to Flood Control Zone 1 & 1A. The annual available revenue from the two zones of forty nine thousand dollars a year is insufficient to repay the loan. To repay $1.9 million dollars over ten years at an interest rate of five percent would require $246,000 annually. Therefore approximately $200,000/year of additional revenue is needed. This would require the existing assessment of $10/acre be raised to $160/acre. It should be noted that the revenue from the assessment is labeled as "service charge" in the Engineering Department's budget (refer to Res. 87-278, Attachment K).

San Luis Obispo County Flood Control and Water Conservation District Act
Assessments can be enacted under the authority of the San Luis Obispo County Flood Control and Water Conservation District Act.

Proposition 218 Considerations
Proposition 218 will affect the financing of this project and future ongoing maintenance in two ways. First, the new revenue source shall be considered an assessment and general benefits will need to be identified and funded separately. Second, the existing service fee (assessment under Prop 218) methodology is not adequate.

General benefit will be difficult to quantify and will likely be a conservative estimate to
An Equitable Solution Needed

Existing assessments of $10/acre to be raised to $160/acre. This would assess a farmer $16,000 per year on a 100 acre parcel of land. It should be noted that the revenue from the assessment is labeled as “service charge” in the Engineering Department Budget (refer to Res. 87-28, attachment K). From: Project Status Report, Reconstruction of Arroyo Grande Creek and Los Berros Creek Double Levees, June 1999.

Inventory of Property at Risk and Potential Damage

<table>
<thead>
<tr>
<th>Asset</th>
<th>Number</th>
<th>Potential Damage per Asset</th>
<th>Potential Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Homes</td>
<td>125</td>
<td>$20,000</td>
<td>$2,500,000</td>
</tr>
<tr>
<td>Mobile Homes</td>
<td>34</td>
<td>$5,000</td>
<td>$170,000</td>
</tr>
<tr>
<td>Commercial Structures</td>
<td>5</td>
<td>$50,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Planes</td>
<td>20</td>
<td>$2,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Airport</td>
<td>1</td>
<td>$50,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>Wastewater</td>
<td>1</td>
<td>$50,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>Treatment Plant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Fields</td>
<td>1500 acres</td>
<td>$1,500</td>
<td>$2,250,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$5,310,000</td>
</tr>
</tbody>
</table>

The existing service fee methodology adopted in 1987 is exempt from Proposition 218 and under Proposition would be considered an assessment. However, the language in the resolution does not adequately establish a connection between the fee and benefit received to be utilized for a new assessment. The language in the 1987 resolution states:

- The fee is $10 per acre.
- There is no documented connection between the assessment and the benefit received.
- An urban building site is defined as ¼ acre and parcels of less than ½ acre are equivalent to ½ acre.
- This does not establish a nexus between the assessment and the benefit.
Some vegetation in the center of the channel, such as arundo and willows, which were identified in the 1997 O&M inspection as problematic, had been removed.

September 23, 1999 Official NRCS Report states, "No work was completed within the last year to address any of the sedimentation or structural concerns also identified in the 1997 O&M inspection letter." (Left of page 13)
LIST OF ATTACHMENTS

D. Letter to CSLRCD from SLO Co. Engineer Glen L. Priddy-Aug. 3, 1999
C. Map of potential flood area SLO County Attachment C
E. Executive Summary----Project Status for Reconstruction of Arroyo Grande creek and Los Berros Creek Double Levees, June 1999

Arroyo and La Cienega Valley prime farmland classed finest in the world.

3 crops a year are grown next to Arroyo Grande Creek
Subj: 1997 O&M INSPECTION
ARROYO GRANDE CHANNEL PL-566

To: CHARLES K. DAVIS
State Conservation Engineer

The annual operation and maintenance inspection for the Arroyo Grande Channel Project was performed on August 7, 1997. The existing conditions of the channels were evaluated to determine their overall performance within the original scope of the project. Those present during the inspection were:

Dan Erdman, Engineer, SLO County
Greg Norris, Engineer, NRCS
Karl Striby, Range Conservationist, NRCS

Existing conditions controlled through maintenance were evaluated to estimate their impact on the hydraulic performance during operation. Both wood and grass type vegetations are growing in the center portion of the channels which is decreasing the hydraulic capacity and increasing the scour along the channel banks. In addition, sediment has been deposited in portions of the channel which has decreased the hydraulic capacity.

The inspection also raised some structural concerns relating to the channel. The channel bank toe has been eroded away in sections of Arroyo Grande Channel leaving unstable slopes. Also, sections of the levee have been eroded by high traffic which has lowered the height and decreased the effectiveness.

The County of San Luis Obispo has taken steps to address each of the maintenance issues that were identified during the inspection. To reduce the traffic on the levees, locked gates were installed this year. Currently, prison crews have been acquired to remove the identified vegetation from the center of the channels before the rainfall season begins. Last summer, the county surveyed the channels and determined that 165,000 cubic yards of sediment needs to be removed and 17,000 cubic yards of compacted fill needs to be placed. However, the earthwork can not begin until all necessary permits have been obtained. Currently, permits from Army Corps of Engineers, Coastal Commission, and the County Planning Department are still needed.

Although the channels are still operational, proven by the winter storms of 1994-95, it is apparent that the overall condition and integrity of the channel is slowly degrading.

MARGY LINDBQUIST
District Conservationist

cc: George Gibson, SLO County Engineering Dept.
Dan Erdman, SLO County Engineering Dept.
Linda Chipping, Coastal San Luis RCD
Glenn Wilcox, NRCS
The annual Operation & Maintenance (O&M) Inspection for the Arroyo Grande Channel Project was performed on September 10, 1998. The channel's existing condition was evaluated to identify any potential effects on its hydraulic performance during operation. Those present at the inspection were:

Jreg Martin, Engineer, SLO County
Jreg Norris, Engineer, NRCS
Mark Harris, Volunteer Asst. Engineer, NRCS

Some vegetation in the center portion of the channel, such as bamboo and willows, which were identified at the 1997 O&M inspection as problematic, had been removed. However, it appears that vegetation was removed in only the upper half of the project reach. No other work was completed within the last year to address any of the sedimentation or structural concerns identified in the 1997 O&M inspection letter.

It is my understanding that the County is still awaiting permits to remove the sediment and reshape the levees. Overall, the channel's condition has remained constant since last year's O&M inspection.

Sincerely,

Margy Lindquist
District Conservationist

cc: George Gibson, SLO County Engineering Dept.
Linda Chipping, Coastal San Luis RCD
Carter Christensen, NRCS
Area of Potential Flooding

Area of potential flooding
August 3, 1999

Neil Havlik, President
Resource Conservation District
545 Main Street Suite B-1
Morro Bay, CA 93442

Subject: Army Corps of Engineers Involvement with Arroyo Grande Creek Channel and Los Berros Creek Diversion Improvements

Dear Neil:

This letter is in regards to Arroyo Grande Creek Channel and Los Berros Creek Diversion Improvements which are currently under the maintenance responsibility of the San Luis Obispo County Flood Control and Water Conservation District (SLOCFC&WCD). The SLOCFC&WCD is pursuing Section 205 funding from the Army Corps of Engineers (Corps) to rehabilitate these facilities to their design capacity. As you know, these facilities have deteriorated since their construction in the late 1950s and are now in need of major improvement and structural maintenance. There are insufficient funds to accomplish this presently and Corps support is being requested. Your cooperation and assistance in this matter is needed.

In the event of the Corps' involvement, jurisdictional authority and responsibility may need to be modified and/or amended, necessitating revisions to existing agreements with the Resource Conservation District. The revisions or agreements would be predicated on the Corps agreeing to provide the same or higher flood control capacity as the original facilities.

At this point in time, no financial commitment of any kind has been made by the Corps with respect to Section 205 funding. I will keep you informed of the status of this potential project and would like to thank you in advance for the support you have offered this effort. If you have any questions please do not hesitate to contact Greg Martin of my office at (805) 781-4470, he will be the project engineer for this work.

Sincerely,

GLEN L. PRIDDY
Deputy County Engineer - Engineering Services

cc: Margie Lindquist, District Conservationist, Natural Resource Conservation Service, 65 Main St., Suite 108, Templeton, CA 93465

File: Arroyo Grande/Los Berros Channels
Project Status for Reconstruction of Arroyo Grande Creek and Los Berros Double Levees, June 1999

Executive Summary
The existing channel has capacity for approximately a 15 year event. The original design was intended to be for a 100 year event. Over $5 million dollars of property damage could occur if the channel is overtopped. Because of changes in the watershed and in computational techniques, restoring the channel to its original design today would provide capacity for approximately a 65 year event. Our goal is to restore the channel to its original design.

We are currently waiting until the end of June to see if the Army Corps of Engineers will provide assistance under the Section 205 program. Any political support received could help ensure funding. It is unknown exactly how long the Corps would take to complete the project. It could be as early as Summer 2001.

If this is unsuccessful, then up to $1.9 million dollars will need to be financed through a loan from the Flood Control District, new local assessments subject to a majority vote, and Flood Control District funds. The earliest the project could be completed is Summer 2001.

Note Maintenance History
Official SLO Co.
Report June 1999

Authority for Project
In 1958, the Soil Conservation Service constructed the Arroyo Grande and Los Berros Channels. Following it's construction the operation and maintenance of the facility was relinquished to the San Luis Obispo County Flood Control and Water Conservation District. In 1965, the "Operation and Maintenance Manual for Arroyo Grande Creek Channel and Los Berros Creek Diversions Improvements, Arroyo Grande Creek Watershed Project" otherwise known as the "O & M Manual" was approved by Resolution No. 132-66 by the District Board. Attachment A, excerpted from the O & M Manual, shows the project limits.

Maintenance History
The channel has been maintained since its construction. Annually vegetation which would substantially affect the hydraulic capacity of the channel is removed. In addition, the tops of the levees are mowed for access and fire control. Sediment is removed following major streamflow events. See Attachment B for dates and locations of previous work.

Current Condition
The O & M Manual specifies the inspection and maintenance activities for the Arroyo Grande and Los Berros Channels. In accordance with the O & M Manual, the District inspected the channel in October of 1998 and found that the channel bottom has risen several feet from sediment deposition requiring the removal of approximately 100,000 cubic yards. Rock rip rap is being undercut in other places. Levee heights have dropped up to three feet over the last forty years requiring at least 80,000 cubic yards of fill to restore to their original height. Just to the west of the railroad bridge near 22nd Street, a private property owner has placed a fence which is located on the levee. Near here a substantial number of trees have been established.

People and Property At Risk
If the double levee channel is breached there will be a threat to public health and safety, and damage to public and private property. Attachment C shows the area of potential flooding. The total number of persons in the area of inundation are approximately 500 to 750 persons. On the next page is an inventory of the property at risk and the potential damage. The total potential damage of $6,310,000 could be much higher as there are many soft costs which are not easily determined.
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Arroyo Grande Organization Minutes-February 24, 1953
Watershed Report Arroyo Grande Watershed 1953
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Robert Middlecamp, SCS Regional Construction Engineer, Portland
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USDA SCS Official Activity Report, March 6, 1958
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Project-------------------Page 1-3
Cost Estimates----------Page 8-F
Financing---------------Page 9
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