IN 1954 MARINA DEL REY WAS CREATED BY THE COMBINED EFFORTS OF THE U.S. CONGRESS (Public Laws 389 and 780), LOS ANGELES COUNTY AND LOS ANGELES CITY

Millions of dollars were spent to dredge the channel, widen our beach 450 feet for 5.5 miles, create a small craft harbor, provide fishing, swimming, recreation and wildlife opportunities for the people of LA.

Note: U.S. Public Law 780 requires reasonable rates with equal access for all.

May 13, 1954 U.S. Congress House Document (HD) 389, by the 83rd Congress created Playa del Rey inlet and harbor, Venice, CA, with federal participation in the provision of entrance jetties, entrance channel, and interior channel and central basin recommended in the project report by the Army Corps of Engineers. Page 7 of the document said, "*Provide without cost to the United States all lands, easements, and rights-of-way the construction and maintenance of the proposed improvements*."

Sept 3, 1954 US Congress, Public Law 780, signed by President Dwight D. Eisenhower approved a federally funded project to create the Marina del Rey harbor and recreation area from 900 acres of the Ballona Wetlands.

2005-2012 (HD) 389 Update by the Joint Power Authority (JPA) comprised of Los Angeles County Public Works and Santa Monica Bay Restoration Commission worked on a Joint EIR-EIS of the Lower Ballona Watershed. This was in compliance with the U.S. Congress Documents 389 and 780 requests for an assessment of damage done to the Watershed over the intervening 60 years and remediation needed. In 2012, the JPA cancelled this Joint EIR-EIS in what appears to be an effort to avoid Congressional scrutiny. This issue and the required Closeout Report must be addressed. The public needs accountability for millions of taxpayer dollars.

P. 6
Local contributions
At its meeting on April 25, 1946, and June 7, 1949, the City Council of Los Angeles adopted a report declaring that the public interest and welfare of the City of Los Angeles and vicinity require the provision of additional small craft facilities by means of construction of a small craft harbor at Playa del Rey, assisting the Federal Government in such undertaking by assuming those obligations required under Federal law in connection with this project.

By resolution adopted September 28, 1948, and June 7, 1949, the Board of Supervisors of the County of Los Angeles declared that the public interest and welfare of the County of Los Angeles and its citizens require that provision be made for additional small craft facilities by means of construction of a small craft harbor at Playa del Rey.

P. 7
(1) Provide without cost to the United States all lands, easements, and rights-of-way the construction and maintenance of the proposed improvements.

27. The plan of development proposed by local interests includes the following features: Widened and improved beaches, adequate bathhouses and parking areas, picnic facilities, special recreation centers, salt-water bathing pools and children's wading pools, fishing piers, youth organization camps, tourist parks with cabin and trailer accommodations, and a bird sanctuary to perpetuate the wildlife now inhabiting the area.

P. 31
49. *Effect on wildlife*. --- Construction of the proposed harbor would eliminate existing marshlands of some wildlife value. . . Local interests propose to construct a bird refuge about 800 feet wide and 2,500 feet long adjacent to the flood-control channel as part of the overall park development to provide for shore birds nesting in the area. Principal among these birds are killdeer, sandpiper, stilt, and tern. In addition there are many other species of bird life that are not dependent on the area. Bird Refuge 800'x2500' = 2,000,000 square feet. *One acre is 43,560 square feet.*

Promised square feet:	*2,000,000 square feet or 45.9 acres.*
Actual square feet:	*450,000 square feet or 10.7 acres.*
Under delivered by 77%:	*1,550,000 square feet or 35.2 acres.*

P. 32
Provide for the continuation of this existing birdlife, local interests should construct the bird refuge simultaneously with the construction of the harbor.

Courtesy: Sierra Club Airport Marina Group
Jeanette Vosburg, 310-721-3512
jeanette@saveballona.org 4/23/2015

83D CONGRESS
2d Session
} HOUSE OF REPRESENTATIVES { DOCUMENT
No. 389

PLAYA DEL REY INLET AND BASIN, VENICE, CALIF.

LETTER

FROM

THE SECRETARY OF THE ARMY

TRANSMITTING

A LETTER FROM THE CHIEF OF ENGINEERS, DEPARTMENT OF THE ARMY, DATED AUGUST 8, 1952, SUBMITTING A REPORT, TOGETHER WITH ACCOMPANYING PAPERS AND AN ILLUSTRATION, ON A PRELIMINARY EXAMINATION AND SURVEY OF HARBOR AT PLAYA DEL REY, CALIF., AND A REVIEW OF REPORTS ON PLAYA DEL REY INLET AND BASIN, VENICE, CALIF., AS AUTHORIZED BY THE RIVER AND HARBOR ACT APPROVED ON AUGUST 26, 1937, AND REQUESTED BY A RESOLUTION OF THE COMMITTEE ON COMMERCE, UNITED STATES SENATE, ADOPTED ON JUNE 2, 1936

MAY 13, 1954.—Referred to the Committee on Public Works and ordered to be printed, with one illustration

DEPARTMENT OF THE ARMY,
Washington 25, D. C., May 11, 1954.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

DEAR MR. SPEAKER: I am transmitting herewith a report dated August 8, 1952, from the Chief of Engineers, Department of the Army, together with accompanying papers and an illustration, on a preliminary examination and survey of Harbor at Playa del Rey, Calif., and a review of reports on Playa del Rey Inlet and Basin, Venice, Calif., with a view to determining whether any improvement of the locality is warranted at the present time, authorized by the River and Harbor Act approved on August 26, 1937, and requested by a resolution of the Committee on Commerce, United States Senate, adopted on June 2, 1936.

47022—54——1

In accordance with section 1 of Public Law 14, 79th Congress, the views of the State of California and the Department of the Interior are set forth in the enclosed communications.

The Bureau of the Budget advises that while there is no objection to submission of the report to Congress, authorization of the improvement recommended therein would not be in accord with the program of the President unless the Federal participation is limited to 50 percent of the cost of the general navigation facilities. The complete views of the Bureau of the Budget are contained in the attached copy of its letter.

Sincerely yours,

ROBERT T. STEVENS,
Secretary of the Army.

COMMENTS OF THE BUREAU OF THE BUDGET

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington 25, D. C., April 28, 1954.

The honorable the SECRETARY OF THE ARMY.

MY DEAR MR. SECRETARY: Your letter dated March 20, 1953, states that no modifications or revisions need be made from the standpoint of general policy or procedure in the 27 final proposed reports of the Chief of Engineers pending in the Bureau of the Budget on January 20, 1953. One of these is the report on the project at Playa del Rey, Calif. This report had been authorized by the River and Harbor Act approved on August 26, 1937, and requested by a resolution of the Committee on Commerce, United States Senate, adopted on June 2, 1936. Acting Secretary Johnson submitted the report to this office on August 19, 1952.

The Chief of Engineers recommends, subject to certain conditions of local cooperation, the provision of a harbor at Playa del Rey, Calif. First costs to the United States, including aids to navigation, are estimated at $6,193,000 by the Board of Engineers for Rivers and Harbors. First costs to local interests are estimated at $19,427,000. It is noted that the Board's estimate of $25,620,000 for total first costs is based largely on cost estimates made in 1948. On this basis, annual costs are computed to be $933,025. Annual benefits are estimated at $1,296,000. The resulting benefit-cost ratio is 1.4.

The Chief of Engineers considers the proposed Federal participation in the project appropriate "if it is the intent of Congress to provide Federal assistance in the development of recreational boating facilities of the type proposed in this report."

The President in his 1955 budget message stated that, "to the greatest extent possible, the responsibility for resource development, and its cost, should be borne by those who receive the benefits." The benefits from Playa del Rey harbor evidently will be largely local in character. While it is recognized that under the proposed plan local interest will be required to spend large sums for lands,

abandoned due to low production and salt-water intrusion, leaving 111 wells on low production.

Local interests consider that the proposed harbor at Playa del Rey would be an integral unit of an adopted general plan for development of the Santa Monica Bay shoreline. This plan includes widening and improving beaches, providing adequate bath houses, parking areas, picnic facilities, special recreation centers, bathing and wading beaches, fishing piers, youth organization camps, tourist parks with cabin and trailer accommodations, and a bird refuge.

Cost of proposed works

In the report of the district engineer, the total first cost of the project is given as $25,603,000, with a Federal first cost of $9,098,000 and non-Federal first cost of $16,505,000. The total annual carrying charges would be $919,920, and the annual benefits would be $1,529,000. The benefit-cost ratio of the proposed harbor project would be 1.7 to 1.

The Board of Engineers for Rivers and Harbors, in reviewing the report of the district engineer, reevaluated the costs and benefits estimated by the district engineer. In considering both the evaluated and intangible benefits, the Board stated in its report that the Federal interest in the proposed improvement would be served by Federal participation to the extent of providing and maintaining the entrance jetties, entrance channel, interior channel, and central basin shown on the maps accompanying the district engineer's report, all at an estimated first cost of $6,151,000 for construction exclusive of aids to navigation, and $25,000 annually for maintenance, with local interests providing and maintaining all other works including dredging of the side basins at an estimated first cost of $19,427,000.

The Board of Engineers for Rivers and Harbors also reduced the benefits allocated by the district engineer to sport fishing vessels from $280,000 to $47,000, making the total annual benefits $1,296,000. Subsequent to the submission of the report by the district engineer, the United States Coast Guard submitted a revised estimate of $42,000 for first cost of aids to navigation, an increase of $17,000, making a total first cost of the project of $25,620,000. The total annual carrying charges are estimated by the Board to be $933,025, of which $277,555 is Federal, and $655,470 is non-Federal, giving a benefit-cost ratio of 1.4. The recommendation of the Board of Engineers for Rivers and Harbors as to Federal participation is concurred in by the Chief of Engineers.

Local contributions

At its meeting on April 25, 1946, the City Council of Los Angeles adopted a report declaring that the public interest and welfare of the city of Los Angeles and vicinity require the provision of additional small craft facilities by means of construction of a small craft harbor at Playa del Rey, assisting the Federal Government in such undertaking by assuming those obligations required under Federal law in connection with the project.

By resolutions adopted September 28, 1948, and June 7, 1949, the Board of Supervisors of the County of Los Angeles declared that the public interest and welfare of the county of Los Angeles and its citizens require that provision be made for additional small craft facilities by means of construction of a small craft harbor at Playa del

Rey. The Board agreed, insofar as it is authorized by law and the favorable vote of the electorate to do so, to assume the following obligations in connection with the Playa del Rey Harbor project:

(1) Provide without cost to the United States all lands, easements, and rights-of-way for the construction and maintenance of the proposed improvements;

(2) Hold and save the United States free from all claims for damages arising from the construction or operation of the improvement;

(3) Assume the cost of alteration, relocation, or rebuilding of highways and highway bridges, or arrange for the alteration, relocation, or rebuilding of these highways and highway bridges without cost to the United States;

(4) Assume the cost of relocation or reconstruction of utilities or drainage structures;

(5) Contribute in cash or equivalent work, the cost of a steel sheet pile bulkhead and stone revetment required in the side basins;

(6) Provide without cost to the United States all necessary slips and slip facilities and facilities for the repair, service, and supply of small craft on terms reasonable and equal to all;

(7) Secure and hold for public interest lands bordering on the proposed improvement to a depth sufficient for the proper functioning of the harbor;

(8) Furnish assurances satisfactory to the Secretary of War that the area will be improved by the construction of slips, utilities, repair facilities, and other appurtenant works, without cost to the United States and at a rate that will result in complete development of the harbor area within a reasonable time in accordance with plans and time schedules to be approved by the Secretary of War;

(9) Assume the cost of extending the upcoast jetty at Ballona Creek flood-control channel.

(10) Operate and maintain the entire project except aids to navigation, entrance jetties, and project depths in the entrance and interior channels, and in central basin.

According to the report of the Board of Engineers for Rivers and Harbors, local interests were advised of the reduction in financial participation by the Federal Government in the first cost of the project and, at a public hearing held by the Board of Engineers for Rivers and Harbors in the area of the desired improvement, local interests indicated they would endeavor to cooperate in the work of improvement to the extent considered necessary by the Board.

COMMENTS BY STATE AGENCIES

The proposed report of the Chief of Engineers on survey, navigation Playa del Rey Inlet and Basin, Venice, Calif., has been reviewed. As a result of this review and study, the following comments are respectfully submitted:

Division of Water Resources

The following is quoted from the district engineer's report concerning the effect of the construction of the project on saline contamination of the ground waters of the west coast basin:

50. *Saline contamination.*—An investigation was made concerning the effects of the proposed harbor on saline contamination of underground water. This investigation indicated that (1) sea water has already contaminated the ground water

surface. Such dredging will obviously decrease the thickness of impermeable material lying between the floor of the harbor and the top of the water-bearing zone, thereby decreasing the resistance offered to the percolation of sea water into the aquifer.

From the foregoing observations, it is believed that the quoted conclusion No. 3 of the district engineer is contrary to what may be expected if the harbor is constructed, and that construction of the harbor would aggravate the present conditions of sea-water intrusion and endanger the water quality of wells located near its perimeter in the following ways:

1. By reducing (through dredging) the thickness of relatively impermeable materials which lie between the surface and the top of the 50-foot gravel aquifer.
2. By increasing the landward slope of the water table and consequently the rate of landward flow of saline water. This slope would be increased as a result of moving the shoreline inland through construction of the harbor.
3. By decreasing the lateral distance that sea water must travel to reach producing wells.

It is believed that if this project is pursued, the ruination of water wells in the immediate vicinity of the harbor should be contemplated. However, the present landward sloping water table indicates that the threat of ocean water pollution already exists at these wells. Also, lands presently irrigated in the vicinity are rapidly being subdivided, and these subdivisions are being served with domestic water imported from outside sources. For these reasons, and because of the probable increase in property values due to the harbor project, ultimate benefits may offset the possible damage to the limited ground-water supply.

Division of Highways

G. T. McCoy, State highway engineer, by communication dated June 11, 1952, submitted the following:

> State highway routes will not be directly affected by the recommended plan of the harbor improvement. The proposed development plan of the local planning commission includes provisions for access parkway facilities which will cross and connect with U. S. 101, State Route 60. It is understood that such development involving interchanges or alterations affecting the State highway will be undertaken as part of the obligations of the local interests without commitment of the Division of Highways to costs thereof. The Division of Highways' attitude with respect to the project will, we assure you, be cooperative.

State Lands Commission

Col. Rufus W. Putnam, executive officer of the State Lands Commission, submitted the following comments on April 15, 1952:

> The jurisdiction of the tide and submerged lands adjacent to the proposed harbor development is in the city of Los Angeles by legislative grant. No State lands under the jurisdiction of the State Lands Commission are affected by the proposed development.

Department of Fish and Game

Seth Gordon, director, Department of Fish and Game, by communication dated June 6, 1952, submitted the following:

> We do not believe the project would have any harmful effect on the fisheries. However, the benefit figures given for sport-fishing operations (p. 33) are optimistic. Operations at Palya del Rey would draw fishermen away from other landings rather than add new fishermen, it is believed.
> It would affect a small waterfowl marsh.

$25,000 for annual maintenance of the 2 entrance jetties and of project depths in the entrance and interior channels and in the central basin. The net non-Federal annual carrying charge is estimated at $524,370 after deducting $190,600, returns from slip rentals. The total annual carrying charge is $919,920. The district engineer estimates the average annual benefits from the proposed improvement at $1,529,000, comprising $215,000 from land enhancement due to fill, $16,000 from decreased cost of mosquito control, $280,000 from increased fish catch from sport fishing activities, $75,000 from prevention of storm damage to small craft, $43,000 from decreased automobile travel and decreased boat maintenance resulting from transfer of vessels from distant harbors, and $900,000 from recreational benefits to owners of new vessels. The benefit-cost ratio is 1.7. The district engineer recommends adoption of a project to establish a harbor in accordance with his proposed plan subject to the conditions that local interests give assurances satisfactory to the Secretary of the Army that they will secure and hold in the public interest lands bordering on the proposed development to a width sufficient for proper functioning of the harbor; provide without cost to the United States rights-of-way, including disposal areas; assume the cost of relocating oil wells and the cost of relocating and constructing public utilities; construct a bulkhead around one basin and stone revetment on the side slopes of the remaining basins; extend the north jetty at Ballona Creek; provide adequate berthing and other facilities for small craft; develop the harbor area for park and recreational purposes; establish a public body empowered to regulate the use, growth, and free development of the harbor facilities, open to all on equal and reasonable terms; prepare definite plans and schedules for construction of small craft facilities, subject to approval by the Secretary of the Army; maintain and operate the entire project, except entrance jetties, project depths in the entrance and interior channels and in the central basin, and aids to navigation; and hold and save the United States free from all claims for damages arising from construction or operation of the project. The division engineer concurs.

7. With respect to the effect of the improvement on adjacent shorelines, the district engineer finds that the shores of Santa Monica Bay down coast of the Santa Monica breakwater have been deprived of normal littoral nourishment since construction of the breakwater in 1933, and that the Playa del Rey jetties, 3 miles south of the breakwater, would act as a complete littoral barrier and would benefit the shore to the north. The plan of improvement proposed by the district engineer provides for deposition of 10,130,000 cubic yards of material, dredged from the harbor, on the beaches immediately upcoast of the Playa del Rey jetties and downcoast between Playa del Rey and Ballona Creek jetties, and deposition of 3,200,000 cubic yards of material downcoast of the Ballona Creek jetties. Disposal of the dredged material on the downcoast beaches as proposed would provide adequate nourishment for many years, and thereafter the beaches can be maintained in their advanced position by mechanical bypassing of material, a method now being considered in a cooperative beach erosion control study between the United States and the State of California. The Beach Erosion Board concurs in the conclusions of the district engineer as to the effect of the proposed improvement on the adjacent shorelines. It points out that adoption of the project

and construct public utilities as required; (*d*) construct a bulkhead around basin "K" and stone revetment on the side slopes of the remaining basins; (*e*) extend the north jetty at Ballona Creek to a length sufficient to hold the fill to be placed on the beach to the north thereof; (*f*) provide adequate berthing and other facilities for small craft; (*g*) provide adequate parking areas, access roads, and landscaping of the piers; (*h*) establish a public body to regulate the use and development of the harbor facilities which shall be open to all on equal terms; (*i*) dredge or bear the actual cost of dredging the 12 side basins; (*j*) maintain and operate the entire project except aids to navigation, entrance jetties, and project depths in the entrance channel, the interior channel, and in the central basin; and (*k*) hold and save the United States free from damages due to the construction and maintenance of the improvement; and also subject to the condition that adoption of a project as recommended shall not relieve local interests of responsibility for stabilization of beach fill along the shores of Santa Monica Bay with such Federal assistance as may be authorized following completion of the cooperative beach erosion control study now in progress.

For the Board:

G. J. NOLD,
Major General, Chairman.

REPORT OF THE DISTRICT ENGINEER

SYLLABUS

The district engineer finds that there is need for additional small-craft facilities in Santa Monica Bay. He finds that the provision of such facilities at Playa del Rey is practicable, that the site is the one most suitable for construction of a small-craft harbor near the Los Angeles metropolitan area, and that the facilities would be used to capacity.

The district engineer estimates the tangible benefits at $1,529,000 a year and that large intangible benefits would accrue. He estimates the total first cost of the project at $25,603,000 (including $25,000 costs to the United States Coast Guard for aids to navigation), and the annual charges at $919,920. The benefit-cost ratio would be 1.7 to 1.

The district engineer recommends that a project be adopted to establish a harbor for small-craft navigation at Playa del Rey, Calif., to consist of two harbor entrance jetties; an entrance channel 600 feet wide and 20 feet deep; an interior channel 600 feet wide, 5,600 feet long, and 20 feet deep; 2 side basins 20 feet deep and a central basin and 10 side basins 10 feet deep separated by mole-type piers; and deposition of dredged material in the mole-type piers, on adjacent lowlands, and along beach frontage; all at an estimated Federal first cost of $9,073,000, exclusive of aids to navigation, and $25,000 annually for maintenance; subject to the condition that local interests shall give assurances satisfactory to the Secretary of the Army that the required cooperation will be furnished, such cooperation to be performed by a competent and duly authorized public body, financially able to accomplish the obligations so assumed and empowered to regulate the use, growth, and free development of the harbor facilities with the understanding that such facilities shall be open to all on equal terms. The required local cooperation would consist of: (1) Securing and holding in the public interest, lands bordering on the proposed development to a width sufficient for proper functioning of the harbor; assuming the cost of all rights-of-way, including disposal areas; the cost of relocating oil wells; and the cost of relocating and constructing public utilities; constructing stone revetments, a vertical bulkhead, and an extension of the upcoast jetty at Ballona Creek flood-control channel; providing adequate facilities for operating, berthing, maintaining, repairing, servicing, and supplying small craft; and for developing the harbor area for park and recreational purposes, all at an estimated non-Federal first cost of $16,505,000; (2) preparing definite plans and construction schedules for the construction of

PRIOR REPORTS

21. The only published report concerning harbor improvements in the vicinity of Playa del Rey is listed in the following table:

List of prior reports

Report	Published as—	Recommendation
Preliminary examination of Playa del Rey Inlet and Basin dated Nov. 4, 1916.	H. Doc. No. 1880, 64th Cong., 2d sess.	Improvement not advisable at that time.

OTHER IMPROVEMENTS

22. *Navigation.*—Navigation improvements in the area resulted from early attempts by local interests to create a commercial harbor at Playa del Rey and from the construction of canals as a part of a real estate development. In 1887 the Ballona Harbor Improvement Co. constructed sheet-pile jetties on each side of the inlet and attempted to dredge an interior basin. The dredge was inadequate and the enterprise was abandoned.

23. Beginning in 1903 the Beach Land Co. dredged a series of canals in the Venice area and constructed tide gates in the inlet. After the tide gates were destroyed by storms many of the canals were artificially filled to create city streets in lieu of the canals which had failed to attain popularity.

24. *Flood control.*—The Federal Government completed the Ballona Creek flood-control channel and jetties in 1938. This project was constructed in part under the Emergency Relief Act of 1935 and the remainder under the Flood Control Act approved June 22, 1936. The lower reach of the flood-control channel constitutes the southerly boundary of the proposed harbor area. In this section the channel is trapezoidal, 200 feet wide at the bottom with side slopes of 1 on 3. The side slopes are paved with one-man stone supported by a fill of dumped stone at the toe of paving. The invert is not paved. The jetties at the entrance are random stone, and the voids between the stones above mean lower low water have been filled with concrete to a depth of 3 feet. The jetties as originally constructed were about 775 feet long, measured from mean high-tide line, and are 340 feet from centerline to centerline. The jetties were extended 580 feet in 1946 by the city of Los Angeles. The crest width is 16 feet and the elevation at the crest is 13 feet above mean lower low water. The side slopes are 1 on 1.5. A steel and concrete tide gate was installed to connect the main Venice canal with the flood-control channel. The cost of Ballona Creek Channel (including entrance jetties and tide gate) was about $7 million.

25. *Petroleum production.*—In 1930 an oilfield was discovered in this area and about 151 producing wells have been drilled. The field has been in production continuously since that time. In recent years salt water has encroached in the field and production has been reduced so that about 40 wells have been abandoned, leaving only 111 on low production. The daily production of the entire field is reported to have been 2,300 barrels during 1946, whereas the peak daily production exceeded 40,000 barrels in November 1930. A part of the proposed

harbor area would be over the Del Rey Hills area and the ocean front or Venice area of the Playa del Rey oilfield. Only one productive zone, the lower zone, is present in the Del Rey Hills area. In the older ocean front area, production is obtained both from the lower zone and from a relatively shallow zone, the upper zone. Although acquisition of all oil rights in fee within the proposed harbor was considered, it would be feasible to redrill a part of the wells and to allow production to continue in those wells that would not interfere with the harbor function. In the interest of conservation of mineral resources, it would be more desirable to continue petroleum recovery by redrilling from offset wells equipped with low-height surface pumps than to abandon the field. Local interests do not anticipate difficulty in settlement of the oil rights.

26. *Proposed shoreline improvements.*—The city of Los Angeles voted a bond issue of $10 million, to which other cities in the metropolitan area, and the State of California have added $11 million, making a total of $21 million, which will be used for the construction of a complete sewage-treatment plant at Hyperion to replace the present screening plant and outfall sewer. In connection with the preparation of the site for the sewage-treatment plant, the city of Los Angeles has excavated 14,100,000 cubic yards of dune sand, and has deposited it on the beach between Ocean Park and El Segundo (about 5.5 miles). This resulted in a general widening of the beach about 450 feet throughour that distance. The deposit of this material constitutes the initial step in the overall plan for beach improvement. The city extended the Ballona Creek jetties 580 feet seaward to protect the flood-control outlet from the shoaling caused by the new beach fill.

27. Local interests consider that the proposed harbor at Playa del Rey would be an integral unit of the plan for the development of the Santa Monica Bay shoreline. The plan of development proposed by local interests includes the following features: Widened and improved beaches, adequate bathhouses and parking areas, picnic facilities, special recreation centers, salt-water bathing pools and children's wading pools, fishing piers, youth organization camps, tourist parks with cabin and trailer accommodations, and a bird sanctuary to perpetuate the wildlife now inhabiting the area. In addition to scenic and through highways along the improved beach front, local authorities also have completed plans for the construction of a highway and freeway system to facilitate access to the beach areas. The proposed freeway system would avoid the congested metropolitan areas and would shorten both the distance to be traveled and the time required to reach the proposed beach recreation and park area and the proposed harbor facilities at Playa del Rey from any locality within the immediate tributary area.

28. The city of Los Angeles has employed a consulting firm of New York City to prepare an economic analysis and report for financing purposes on the entire beach development, including the proposed harbor, at a cost of $35,000.

TERMINAL AND TRANSFER FACILITIES

29. There are no terminal or transfer facilities at Playa del Rey.

30. Santa Monica Harbor, 3 miles upcoast from the proposed harbor at Playa del Rey, has terminal and transfer facilities for small commercial fishing and recreational craft at the municipal pier. This pier

(*a*) The shores of Santa Monica Bay downcoast from Santa Monica breakwater have been deprived of normal littoral nourishment since construction of Santa Monica breakwater in 1933.

(*b*) Proposed jetties at Playa del Rey would act as a complete littoral barrier for a considerable period of time and would benefit the shore to the north by preventing further littoral loss from that area. Beach fill made in this area with material dredged from Playa del Rey Harbor would assist in completion of the comprehensive shore development planned by the city of Los Angeles.

(*c*) Between Ballona Creek jetties and proposed Playa del Rey jetties, the shore would stabilize after minor realinement.

(*d*) Downcoast from Ballona Creek, establishment of a feeder beach would be required to provide nourishment for shores to the south, and to prevent depletion of the fill recently completed by the city of Los Angeles. Deposit of 3,200,000 cubic yards along 5,000 feet of shore would be expected to provide adequate supply for a period of about 20 years.

(*e*) Future maintenance of Santa Monica Bay shores between Santa Monica breakwater and Playa del Rey may be accomplished by periodic replenishment of a suitably located feeder beach, or by removal of the breakwater and reestablishment of normal littoral transport at Santa Monica.

(*f*) Shores downcoast from Ballona Creek can be maintained in their advanced position by mechanical bypassing of sand past the proposed harbor entrance or by periodic deposit of sand from inland areas on the feeder beach. The most economic method can best be determined after the plan for maintenance of upcoast beaches has been established.

47. *Field surveys.*—Hydrographic and topographic surveys of the harbor and adjacent shore areas were made in March and April 1945, and during 1948. The surveys included the area from Washington Street to the Playa del Rey Hills and extended from Highway U. S. 101 Alternate (Lincoln Blvd.) seaward to about the 40-foot-depth contour. Shore topography was traced from aerial photographs and existing maps. The character of materials to be dredged was determined from auger borings.

48. *Coordination with other improvements.*—The improvement would not involve flood control, water power, water supply, or other subjects that could be coordinated with the improvement to compensate the United States for expenditures made. The project is an integral part of an overall plan of improvement of the beach areas by municipal and county agencies.

49. *Effect on wildlife.*—Construction of the proposed harbor would eliminate existing marshlands of some wildlife value. However, the Fish and Wildlife Service by letter dated April 26, 1946, state that no objection will be interposed to the construction of the project. Local representatives of the Fish and Wildlife Service state that few game birds occupy the area because of oil pollution which results from the operation of the oil field. Local interests propose to construct a bird refuge about 800 feet wide and 2,500 feet long adjacent to the flood-control channel as a part of the overall park development to provide for the shore birds nesting in the area. Principal among these birds are killdeer, sandpiper, stilt, and tern. In addition there are many other species of birdlife which are not dependent on the area. To

BIRD REFUGE PROMISED
800' X 2500' =
2,000,000 sq ft
ACTUAL 10.7 acres
450000 sq ft
LESS THAN 25%

provide for the continuation of this existing birdlife, local interests should construct the bird refuge simultaneously with the construction of the harbor.

50. *Saline contamination.*—An investigation was made concerning the effects of the proposed harbor on saline contamination of underground water. This investigation indicated that (1) sea water has already contaminated the ground water within most of the area that would be occupied by the harbor; (2) further landward progress of this contamination depends primarily on the rate of withdrawal of ground water in the vicinity of the harbor site and on the steepness of the landward gradient produced by this withdrawal; and (3) introduction of sea water by constructing the harbor would not modify existing ground-water conditions.

51. *Harbor lines.*—Harbor lines have not been established in Santa Monica Bay. The plan considered would not adversely affect the future establishment of harbor lines.

52. *Aids to navigation.*—If the proposed harbor is constructed, the district Coast Guard officer, 11th Coast Guard District, recommends the installation of coded lights on the seaward ends of the proposed harbor jetties, the installation of a fog signal on the upcoast jetty, and installation of additional lights at the beginning of the curve on each jetty. Three light buoys would be required to mark the turns in the basin channel. The district Coast Guard officer estimates the total cost of aids to navigation at $25,000.

PLANS OF IMPROVEMENT

53. *Plans considered.*—In determining the best plan of improvement the district engineer gave consideration to the desires of local interests as stated at the public hearings, to the more recent desires of local interests as developed by conferences, to modifications suggested by experienced small-craft operators, and to the requirements of navigation interests in general.

54. The plan originally proposed by local interests included a symmetrically arranged U-shaped harbor which had two entrances and capacity for about 5,200 craft. Local interests now believe that a harbor of that capacity would be inadequate to meet all the demands for anchorage, berthing, and maneuvering, and for adequate servicing and concessionary facilities; therefore, a modified elliptical area approximately 6,500 feet by 6,300 feet was proposed for consideration. The elliptical harbor would have capacity for about 8,000 craft. The two entrances were decided to be undesirable, as a stretch of beach about 2,100 feet long would be rendered inaccessible except by boat. This isolated island would not conform to the general plan of improvement approved by the Los Angeles City Council.

55. Combining the entrance channel with the Ballona Creek flood-control outlet would prove unsatisfactory, from the standpoint of navigation and maintenance of harbor depths. To eliminate both the isolated beach and entrance through the flood-control outlet, local interests proposed a curving entrance adjacent to the flood-control outlet. However, experienced small-craft operators state that a curved entrance is difficult to navigate, especially in foggy or heavy weather. Accordingly, consideration was given to straightening the proposed entrance. This would result in a long and rather wide en-