

February 3, 1982

96

Continued February 3, 1982

EXCAVATION OR
DEEPENING OF LODI
LAKE

At an earlier shirtsleeve meeting, Councilman Pinkerton inquired about the difficulty of preparing plans and specifications for the excavation or deepening of Lodi Lake. It was understood that the purpose of the request for lake excavation was to increase the flow to the City's groundwater table. Following investigation of the matter, Staff had prepared a report which had been presented to Council at the Informal Informational meeting of February 2, 1982.

A lengthy discussion followed with questions being directed to Staff.

On motion of Mayor Pro Tempore Murphy, Pinkerton second, Council authorized the expenditure of approximately \$700.00 for permeability tests of the Lodi Lake bottom. The motion carried by the following vote:

Ayes: Councilmen - Murphy, Pinkerton, and McCarty
Noes: Councilmen - Hughes
Absent: Councilmen - Katrich

MEMORANDUM, City of Lodi, Public Works Department

TO: City Manager
FROM: Public Works Director
DATE: January 13, 1982
SUBJECT: Lodi Lake

At a previous shirtsleeve meeting, Councilman Pinkerton inquired about the difficulty of preparing plans and specifications for the excavation or deepening of Lodi Lake. It was understood that the purpose of the request for lake excavation was to increase the flow to the City's groundwater table.

From the report completed April 1974 by The Spink Corporation to determine the feasibility of keeping water in Lodi Lake on a year-round basis, the following data was obtained:

Total area of lake	- 36 acres
Average depth at center of lake	- 7 feet
Maximum depth	- 12 feet
Volume	- 250 acre feet

As part of this study, there were permeability tests taken at the locations where additional fill embankment was recommended. Those tests showed that permeability did increase as you went from a two-foot to a seven-foot depth below the existing grade.

It is felt that if excavation is to be considered for the purpose of increasing the flow of the groundwater table, that additional permeability tests should be made in the actual lake bottom. Kleinfelder & Associates from Stockton estimated the cost of taking and evaluating two permeability tests would be approximately \$650 to \$700 (assuming testing equipment can be moved into and out of the lake bottom).

In reviewing this matter with the Recreation & Parks Director, it is felt that the center of the lake can be deepened, however, for safety and erosion control, it is recommended that the sides remain relatively shallow as they presently exist.

Prior to the Council requesting us to proceed further in this project, it is felt that the following items should be considered:

COST -

Based on deepening approximately 70% of the lake bottom proper an additional two feet, there would be approximately 80,000 cubic yards of excavation. Based on \$2.00 - \$4.00 per cubic yard, the approximate cost would be \$160,000 to \$320,000.

City Manager
January 13, 1982
Page 2

FUTURE LAKE PLANS -

If it is intended to ultimately keep water in the lake on a year-round basis, this excavation may be detrimental since it would increase permeability and would require additional water pumping to keep the lake filled.

GROUNDWATER INFILTRATION -

The 1974 Spink report estimated, based on existing conditions, seepage at 800 - 1,000 gallons per minute or one million gallons per day. The actual groundwater flow and/or increase in flow cannot be determined until permeability tests are actually taken.

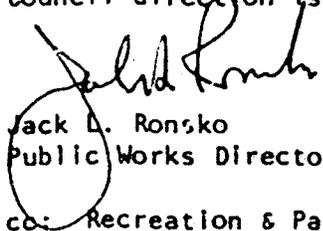
FUTURE MAINTENANCE -

It is felt that approximately every two years additional minor excavation of lake bottom would be required in order to maintain the same level of permeability.

WATER QUALITY -

It is not anticipated that two feet of excavation will have any effect on water quality.

It is not our intent to do any additional work on this matter until specific Council direction is given.


Jack L. Ronsko
Public Works Director

cc: Recreation & Parks Director

JLR/eeh