

PROJECT 36, MAYWOOD DRIVE RETAINING WALL

C.W.A. Project 36 provided for renewal of a retaining wall on N.W. Maywood Drive at N.W. Melinda Avenue.

N.W. Maywood Drive is a direct and convenient route to Kings Heights, a residential district of substantial homes. The roadway follows the contour of the hill and was made by cutting one side for the fill of the other and near its junction with N.W. Melinda Avenue it was necessary to construct a concrete retaining wall to hold the earth fill in place. This concrete wall was constructed about twenty years ago by the real estate interests which were developing the Kings Heights district and was about 215 feet long, 8 feet thick at the bottom tapering to about 2 feet thick at the top, some part of it attaining a height of 16 feet.

The toe of the wall rested on what was at that time considered a good foundation, but which later disintegrated after a certain amount of exposure to the elements, this disintegration taking place under the toe of the wall caused it to begin slipping about ten years ago. This slippage amounted to about three quarters of an inch per year causing pavement on N.W. Maywood Drive to crack and settle which also allowed surface water to seep through, increasing the weight and hastening the movement.

The cracks in the pavement were sealed several times and the sewer was thought to be leaking from the shift.

part of the sewer was relaid and the pavement was brought up to grade but still the movement continued.

On December 21, 1932, after a series of heavy rains, part of the pavement settled several feet and a 35 foot section of the wall tipped over on N.W. Melinda Avenue, while another 40 foot section moved on its foundation, so that it was no longer safe to retain the load behind it. Although the street area was not entirely closed to traffic, the situation was a hazard and precaution was necessary to avoid accidents for those obliged to use this street as a means to reach homes in this district.

Mr. L. G. Apperson, City Engineer, ordered a survey, also plans and specifications made in November 1933 which resulted in an estimate of \$13,071.00 being submitted to the C.W.A. on November 21, 1933 for replacing the wall, pavement and curb on N.W. Maywood Drive with a viaduct type structure 215 feet long.

The City furnished plans, specifications and \$5,000.00 was provided by Ordinance 65234 to apply against the cost of material, truck hire and equipment rental.

The C.W.A. approved the amount of \$8,071.00 which they were to furnish on November 27, 1933 and the City Engineer designated Mr. F. T. Fowler and Mr. A. M. Plebuch to supervise the project.

Work was started on November 29, 1933 and furnished 16,234 man hours of employment for an average of 70 men classified as follows:

- 1 - Foreman at \$1.20 per hour
- 44 - Unskilled laborers at 50¢ per hour
- 8 - Carpenters at \$1.20 per hour
- 3 - Carpenter Helpers at 75¢ per hour
- 4 - Jack hammer men at \$1.20 per hour
- 3 - Concrete finishers at \$1.20 per hour
- 2 - Structural steel workers at \$1.20 per hour
- 1 - Compressor operator at \$1.20 per hour
- 2 - Truck drivers with trucks at \$1.65 per hour
- 2 - Stone masons at \$1.20 per hour

These men were furnished by the National Employment Service and as a whole were competent and efficient.

In preparing the site for the new structure, it was necessary to remove approximately 790 cubic yards of earth and rock, also 280 cubic yards of old concrete which was broken up and piled adjacent to the work, later being used for rip-rap of slope under the new structure.

Owing to the urgency of supplying immediate employment under C.W.A. for a given number of men, there were conditions that could not be foreseen when the preliminary survey, plans and estimates were made which later arose to increase the work and the cost. Some of these were:

Rental of two large compressors of 180 cubic feet capacity with extra equipment. In making excavation for cross walls it was necessary to excavate five feet deeper than the original plan increasing cost of labor and material.

During the period of excavation heavy rains made material difficult to handle and at the same time hold the surrounding earth and rock in place. A spring and considerable seepage water were encountered which necessitated the laying of drain tile to take care of this condition.

Before the project could be completed it was necessary to submit revised estimates January 17th and February 10th, 1934 which made the final estimate or cost

Labor	\$11,817.70
Truck Hire and Equipment Rental CWA Fund	1,436.26
Truck Hire and Equipment Rental Local Cash Fund	341.81
Material CWA Funds	2,702.73
Material Local Cash Fund	2,090.00
Local Contribution of Plans and Specifications	<u>325.00</u>
Total	\$18,713.50

Units of progress and accomplishment were -

- ✓ Active work began on November 29, 1933.
- ✓ Average number of men employed 70
- ✓ Total man hours of employment 16,234
- Maximum height of viaduct. 32 feet
- Length of viaduct 215 feet
- ✓ Cubic yards excavation earth and rock. 790
- ✓ Cubic yards excavation, old concrete 280
- ✓ Cubic yards concrete placed 375
- ✓ Cubic yards rip rap placed 280
- Date completed March 22, 1934.

The project was completed March 22, 1934 to the satisfaction of City and C.W.A. officials and is one

of the best structures of this kind to be found in the City. The pleasing appearance of the structure was enhanced by the use of the broken concrete from the old wall as rip-rap on the slope under the viaduct portion.

Following are eighteen photographs taken at various stages of the destruction of the old wall and reconstruction of the new viaduct which replaced it. Photograph numbers and brief descriptions are as follows:

- 1 - Wall from west side before it fell, Dec. 21, 1932.
- 2 - Wall after short section of top broke off.
- 3 - Wall a few minutes before it fell.
- 4 - Wall from east side, falling at 11:25 A.M. Dec. 21, 1932.
- 5 - Wall from east side, just after it fell.
- 6 - Wall from west side, just after it fell.
- 7 - Showing damage to sidewalk, after wall fell.
- 8 - Close up view showing large piece of concrete, after breaking away.
- 9 - After work was started Dec. 20, 1933.
- 10 - Men at work, Dec. 23, 1933.
- 11 - View from west side, showing construction.
- 12 - View from east side, showing construction.
- 13 - View from west side, showing street.
- 14 - View from west side of wall, showing part of concrete forms stripped.
- 15 - View from east side of wall, showing part of concrete forms stripped.
- 16 - View from East, showing completed wall.
- 17 - View from East, showing completed street.
- 18 - View from East, showing riprap and completed wall.