d. Street Pattern

The heart of any industrial district is its circulation pattern. The street pattern proposed for the project area is based upon the needs of a firstclass commercial--industrial district. Only if that circulation pattern is adequate, can the expenditure of public funds on the redevelopment of the area be justified in terms of the long run future of the area, and investors be confident of the stability of their investment. The physical pattern of the area will be replanned according to standards that will insure the adequacy of its circulation pattern.

Virtually all of the streets in the area will be rebuilt using width and design standards keyed to the needs of an industrial district. The standards will provide a minimum of four traffic lanes, adequate for trailer trucks. In addition, all businesses in the area must provide adequate off-street loading and parking facilities so as to reserve streets for their major functions as traffic arteries.

The new street system will be co-ordinated with the proposed MDC overpass--traffic circle at the junction of Washington Street and the Northern Artery, so as to provide maximum efficiency for both internal circulation and access and egress. A study of the new street pattern and the MDC overpass demonstrates this relationship. (See maps entitled "Plan 1" and "Plan 2"). Note that all traffic will be able to enter and leave the area making right turns only. It is expected that all traffic will use the traffic circle rather than cut across the flow of Northern Artery traffic as is now required for vehicles leaving the area and heading toward Boston or Cambridge.

Sub-Soil Conditions

From MDC records and information from engineers who have built large structures in the area, it may be concluded that virtually all of the area has good sub-soil conditions with a good clean sand and gravel base to a general average depth of 10-to-12 feet with clay and hardpan below this depth. There is no evidence of water conditions or of the type of soil which will require caissons or cause undue expense.

Utilities

McGrath Highway which borders the area on two sides has located beneath it the major lines of each utility. This means that while changes by virtue of additional loads may be required within the area itself, extensive changes or changes in main lines will, as far as can be foreseen, be unnecessary.

With the addition of the new sewers to be put in by this Authority, the sewer system will be able to carry anything but the load of an industry with an excessively high liquid waste. Even this kind of an industry creates no great problem since the major trunk line of the MDC sewer system runs through the project area with a connection point at which the MDC trunk sewer intercepts local sewers within the project area.

Water lines now in the area are basically adequate. As part of the project, the Housing Authority plans to install approximately 2,000 lineal feet of new water lines. On completion of this, water lines will provide adequate pressure and volume for any foreseeable use and for fire protection, both public and private (sprinkler system). The lines within the project area will derive their pressure from a 20" main on Washington Street and a 16" main on McGrath Highway. The Water Commissioner of the city has stated that the city considers it an obligation to make adequate water supply available for good new plants.

There are at present two gas main systems in the area, the largest of which has a 12" steel main. This main will be the base from which expansion will be provided to meet new industrial demand. The Gas Company is confident that adequate supplies are available for any foreseeable use, especially now that the system is being converted to use natural gas.

Some of the major power lines of the Boston Edison lines which supply Somerville run under the Northern Artery. One of these lines is a transmission system running directly to a sub-station. The other, the District System Supply, can feed directly into the project area at any point, should any industrial use involving a high power demand be introduced. Any industries with such demands could build its own transformer racks outside the plant.