HYDROLOGY

K20/D25

K20/D25

GENERAL ARNOLD

APARTMENTS

1 PLAN

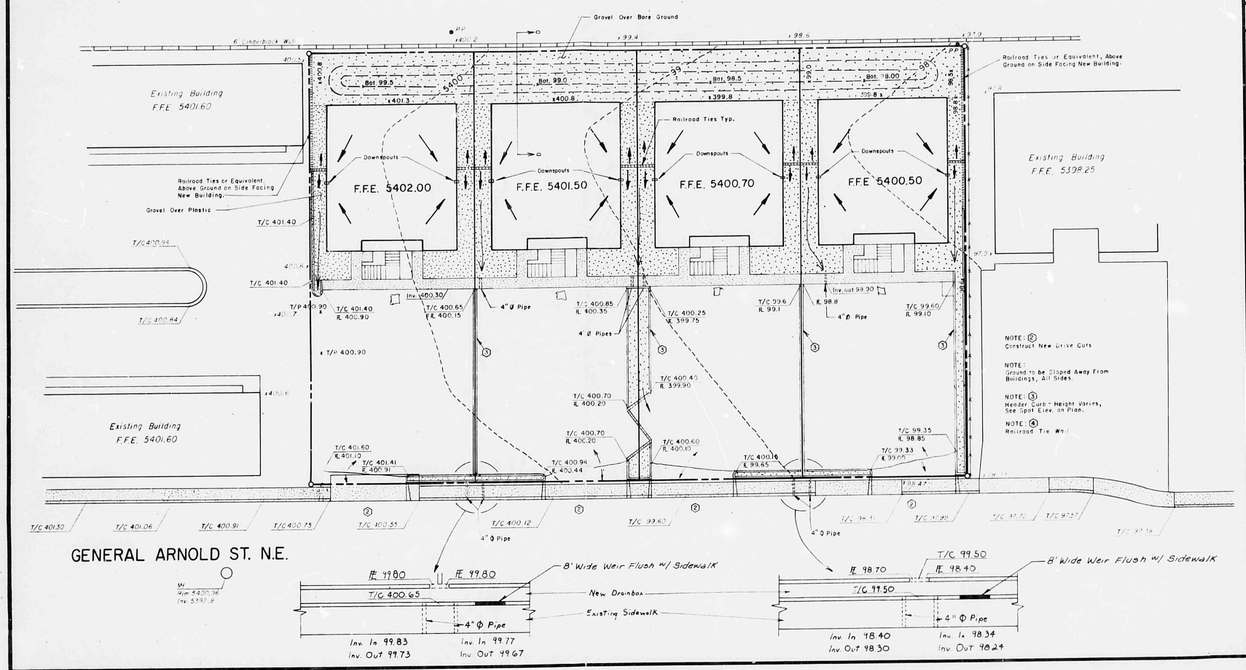
AMENDED GRADING AND DRAINAGE PLAN

GENERAL ARNOLD ST. APARTMENTS

ALBUQUERQUE, N.M.

NOTE:
1. B.M. = Albuquerque Brass Cap 6 - K20 R, Elev. 5390.69
2. All Four Lots Are Covered By A Common Private Drainage Easement.

Scale: 1" = 20'



SOILS INFORMATION

Soil series and map symbols	Degree and kind of limitations for—						Suitability as source of				Soil features affecting—		Hydrologic soil group
	Septic tank absorption fields	Sewage lagoons	Shallow excavations	Dwellings without basements	Sanitary landfill (trench type)[1]	Local road and streets	Road fill	Sand	Gravel	Topsoil	Pond reservoir areas	Dikes, levees, and other embankments	
*Madurez: MaB, MbC, MWA, MWB. For Bluepoint part of MbC, see Bluepoint series; for Wink part of MWA and MWB, see Wink series.	Slight	Moderate: seepage.	Slight	Moderate: shrink swell.	Slight	Moderate: shrink swell.	Moderate: shrink swell.	Unsuited	Unsuited	Good for sandy loam. Poor for loamy fine sand, loamy sand.	Slope if more than 3 percent.	Low strength; piping.	B

DESCRIPTION:

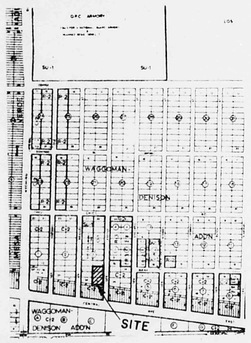
MWA—Madurez-Wink association, gently sloping. This mapping unit is about 55 percent a Madurez fine sandy loam that has 1 to 5 percent slopes and 25 percent a Wink fine sandy loam that has 1 to 7 percent slopes. It is on the East and West Mesas.

The gently sloping Madurez soil is mainly on slightly convex piedmont fans. It has the profile described as representative of the Madurez series. The gently sloping Wink soil is on the sides of low ridges. It has a profile similar to that described as representative of the Wink series, but the surface layer is about 4 inches thick.

Included in this unit in mapping are areas of Bluepoint, Pajarito, and Latene soils, which make up about 20 percent of the unit.

Runoff is slow, and the hazard of soil blowing is moderate to severe.

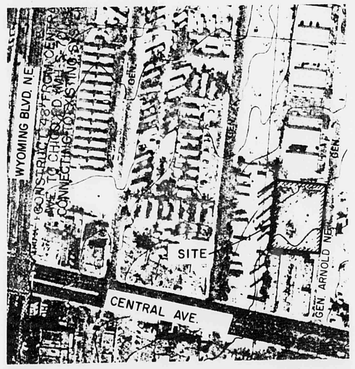
VICINITY MAP *From ABQ. ZONE ATLAS K-20*



ZONE ATLAS K-20

SOILS MAP *From Soil Survey, Bernalillo County - USDA, SCS*

FLOOD HAZARD MAP *From ABQ. Master Drainage Study*



DRAINAGE REPORT

EXISTING CONDITIONS

The proposed building site is currently undeveloped and, according to the Albuquerque Master Drainage Plan, is not impacted by any offsite flow due to 100-year or smaller storms. The soil is a fine sandy loam and is covered by sparse, native, vegetation.

DEVELOPED CONDITIONS

The site is an infill which will hold four apartment buildings and has been divided into four equal 6000 sq. ft. sub-sites each with its own internally controlled drainage system.

The lot grading has been designed so that all runoff from roof, grass, and paved areas will be directed towards the front of the site to a ponding area which will reduce the developed 100-year or smaller discharges to or below those occurring under existing conditions. The pond is drained of lower flows by a gravel seep and of excess flows by a 4" diameter pipe to General Arnold Street. In the event the pipe becomes clogged, approximately half the 100-year flow could be safely contained on site while overflow would be directed to the street via the driveway or drainbox spillways.

All runoff generated by the areas to rear and rear sides of each building will be stored on site in gravelled depressions.

CALCULATIONS (NOTE: All of the following calculations represent conditions existing on one of the four subsites.)

Tc = 10 minutes i = 5.14 inches/hr 100-year 6 hour rainfall = 2.4"

REAR AREA

NOTE: All runoff will be retained where it falls.

Developed Conditions

CN = 80

Runoff Volume = .83 inches

Vol_{100} = (.83/12)(1040) = 72 cu. ft.

FRONT AREA

Existing Conditions

C = .34 CN = 70

Runoff Volume = .42 inches

Q_{100} = cia = (.34)(5.14)(.11) = .19 cfs

Vol_{100} = (.42/12)(4960) = 174 cu. ft.

Developed Conditions

C = .90 CN = 97

Runoff Volume = 1.8 inches

Q_{100} = cia = (.97)(5.14)(.11) = .55 cfs

Vol_{100} = (1.8/12)(4960) = 744 cu. ft.

Elev. H above ___ 4" pipe

$Q = CA\sqrt{2gh}$, C = .6, Q = .19 cfs

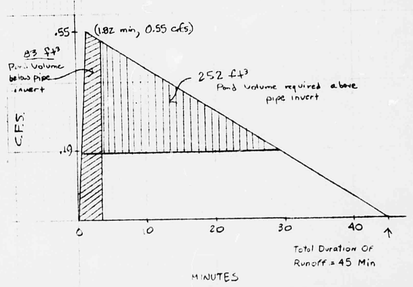
H = .21 ft.

EROSION CONTROL

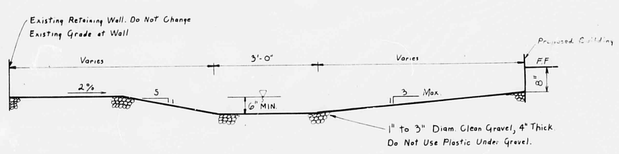
The site will be fully developed immediately. Erosion problems generated by phased development will not, therefore, be a problem.

Construction Phase: The contractor shall exercise reasonable care during construction to prevent the movement of sediment from the site into the street. Loose soil stockpiled in the street during utility connection activities shall be protected from being carried downstream by flowing water in the street.

POND INFLOW HYDROGRAPH FOR FRONT AREA

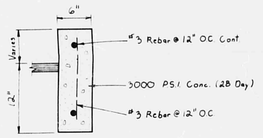


SECTIONS & DETAILS



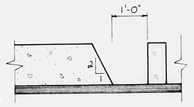
SECTION D-D, GRAVEL DEPRESSION

Scale: 1" = 2'-0"



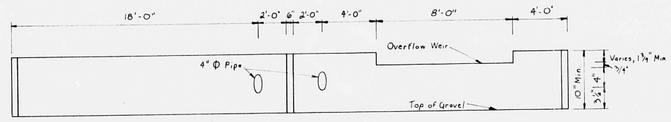
CURB DETAIL

Scale: 1" = 1'-0"



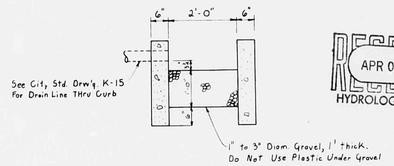
SECTION C-C, CURB RUNDOWN DETAIL

Scale: 1" = 2'-0"



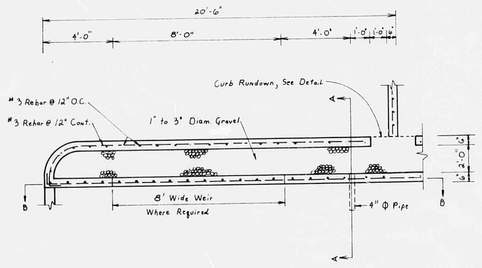
SECTION B-B, DRAINBOX WEIR & PIPE

Scale: 1" = 5'-0" Horiz., 1" = 1'-0" Vertical



SECTION A-A DRAINBOX & PIPE

Scale: 1" = 2'-0"



DRAINBOX & PIPE - PLAN

Scale: 1" = 4'-0"

RECEIVED
APR 03 1985
HYDROLOGY SECTION

6-28-84

LEVERTON - EASTERLING, INC.
— CONSULTING ENGINEERS – SURVEYING – LAND PLANNING —
6629 PARADISE BLVD. NW ABQ. NM 87114 (505) 898-8051

DRAINAGE AND GRADING PLAN
GENERAL ARNOLD ST. APARTMENTS
ALBUQUERQUE, N.M.

DATE: JUNE, 1984
REV. APRIL, 1985 REV. ___ REV. ___
SHEET 1 OF 1

K20/D25