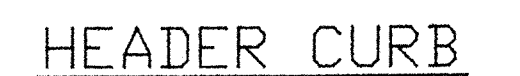
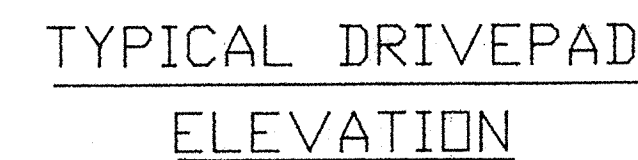


BENCHMARK: 12-JI4A ELEVATION-4957.76' MSL
LOCATED IN THE SOUTHWEST QUADRANT OF THE INTERSECTION OF 7TH ST.
NW AND MOUNTAIN RD, NW, A SQUARE CUT IN THE TOP OF THE WSW CURB RETURN.

EXISTING CURB & GUTTER
EXISTING SIDEWALK
TOP OF CURB OR CONCRETE
TOP OF WALK
TOP OF PAVEMENT
EXISTING GROUND ELEVATION
NEW FENCE
PROPERTY LINE
NEW HEADER CURB



REGISTERED PROCESS
STATE OF
HAROLD L. BUN
11/9/88



I. Location:

The study site is located in the Perfecto Armijo and Brothers Addition on the southwest corner of Granite Avenue and 7th Street, NW. The property is Lot No. 1-A, containing approximately 0.9784 acres. The site slopes from northeast to southwest, with an average slope of 0.5 percent. Flows from the site discharge directly to the street.

II. Development and Existing Drainage:

The development consists of a church, unpaved parking lot and four other buildings. The "other" buildings are being removed as a part of this project to make room for the proposed parking lot. The present drainage is to the street and then into a storm sewer system. The present contours and roof drainage are such that the unpaved parking lot on the west side of the church and about 75% of the roof drainage drains to Granite Avenue on the north and 7th Street on the east. 25% of the roof drainage and the drainage along the south side of the lot flows to the storm drain across the property to the south and into Marble Avenue. There are existing storm sewers in both Granite and Marble Avenues between 7th and 8th Streets.

III. Off-Site Flows:

Off-site flows have no impact on the property. Flows north, south and east and are prevented from contributing flows by the streets and flows from the west and south of the site flow west and south due to existing grades. The project is not within the 100 Year Flood Plain, FIRM Map 0028C.

IV. Proposed Drainage:

Our proposal is to construct a storm drain from the existing line in Granite Avenue to the southwest corner of the parking lot and collect the storm water from the proposed parking lot and the area of the roof that drains into the parking lot in a Type D inlet.

Calculations:

Soil Series = MWA
Hydrologic Soil Group = B - Runoff Curve Number 92
A = 0.98 acres
Rainfall = 2.3 inches
Tc = 10 minutes
 $I = (2.3)(2.2) = 5.06 \text{ in/hr}$

Existing On-Site Condition

78.3% Impervious
C = 0.80; CN = 92
Direct Runoff = 1.6 inches
 $Q(100) = (0.80)(5.06) 0.98 = 3.96 \text{ cfs}$
 $Q(10) = (3.96)(0.657) = 2.60 \text{ cfs}$

Proposed On-Site Condition

85.4% Impervious
C = 0.90; CN = 92
Direct Runoff = 1.6 inches
 $Q(100) = (0.90)(5.06) 0.98 = 4.46 \text{ cfs}$
 $Q(10) = (4.46)(0.657) = 2.93 \text{ cfs}$

Existing Areas

Church Building - 19177 ft² = 0.4402 Ac.
Existing Building to be Removed - 2280 ft² = 0.0523 Ac.
Sidewalk - 959 ft² = 0.0220 Ac.
Unpaved Parking - 6800 ft² = 0.1561 Ac.
Alley - 4200 ft² = 0.0964 Ac.
Landscaping - 9208 ft² = 0.2114 Ac.

Proposed Areas

Church Building - 19177 ft² = 0.4402 Ac.
Paved Parking - 16304 ft² = 0.3742 Ac.
Sidewalk - 959 ft² = 0.0220 Ac.
Landscaping - 6185 ft² = 0.1420 Ac.

Volume in Storm Drain

Parking Area - 16282 ft²
Roof Area - 14377 ft²

Total Area = 30659 ft² = 0.703 Ac. 78% Impervious
Q(100) = (0.90)(5.06) 0.703 = 3.2 cfs
18" Dia. RCP @ 0.001 ft/ft Flow = 3.2 cfs.



NEW STORM SEWER MANHOLE PER CITY STD. DETAILS
 4' DIAMETER- INV. 49.21
 INVERT NEW 18" RCP-49.21

EXIST. 18" RCP SS

GRANITE AVE. NW

NEW DRIVE PAD PER CITY STD. DRAWING

MATCH TOP OF DRIVEPAD
WITH TOP OF WALK

EL BUEN SAMARITANO
CHURCH BUILDING

FINISH FLOOR - 4755.34 MSL

LOT 1-A

7TH STREET NW

54.43
sidewalk culvert

LOT B

LOT C

MARBLE AVE. NW

RECEIVED
NOV 14 1988
HYDROLOGY SECTION

goes to