



BAX ENGINEERING
Engineering - Planning - Surveying

1052 South Cloverleaf Drive
St. Peters, MO 63376-6445
314-928-5552
FAX 928-1718

Project: IMOS PLAZA SHEET 1 of
Date: 8-2-00 Project No: 87-2677B
Designed: Checked:

DRAINAGE CALCULATIONS

A DRAINAGE SWALE IS PROPOSED TO BE CONSTRUCTED BETWEEN LOTS 1 & 2 OF TRACY-DON ESTATES. THIS SWALE WILL CARRY THE WATER FROM THE EXISTING BACKYARDS AS WELL AS A PORTION OF THE IMOS PLAZA SITE WHICH CURRENTLY DRAINS TO THIS POINT;

FROM THE ATTACHED U.S.G.S. MAP THE PRE-DEVELOPED DRAINAGE TO THIS POINT INCLUDED 1.60 AC

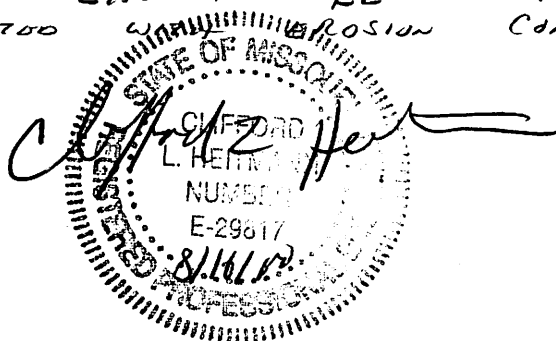
$$Q = 1.60 A^2 \times 1.87 \text{ c.f.s./A}^2 = 2.99 \text{ c.f.s.}$$

THE POST DEVELOPED DRAINAGE TO THIS POINT PER THE ATTACHED U.S.G.S. MAP INCLUDES 1.83 ACRES

$$Q = 1.57 A^2 \times 1.87 \text{ c.f.s./A}^2 + 0.26 A^2 \times 3.85 \text{ c.f.s./A}^2 = 3.94 \text{ c.f.s.}$$

THE SWALE SHOULD BE A MINIMUM 2' WIDE FLAT BOTTOM SWALE WITH 3:1 SIDE SLOPES. THE SWALE SHOULD MAINTAIN 2% SLOPE (MINIMUM) TO PROVIDE PROPER DRAINAGE.

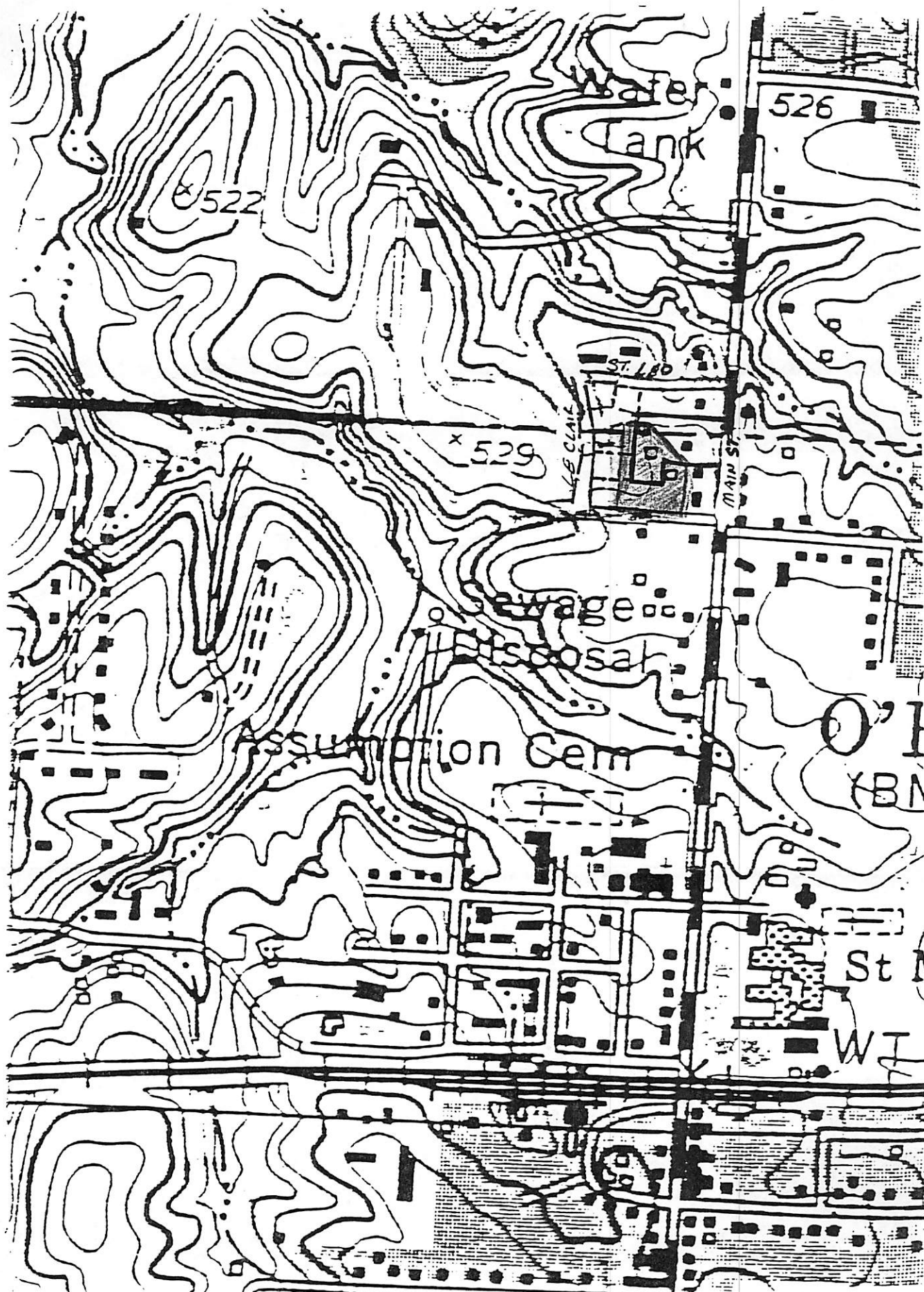
THE SWALE SHOULD BE SODDED OR SEEDER AND PROTECTED WITH EROSION CONTROL MAT.



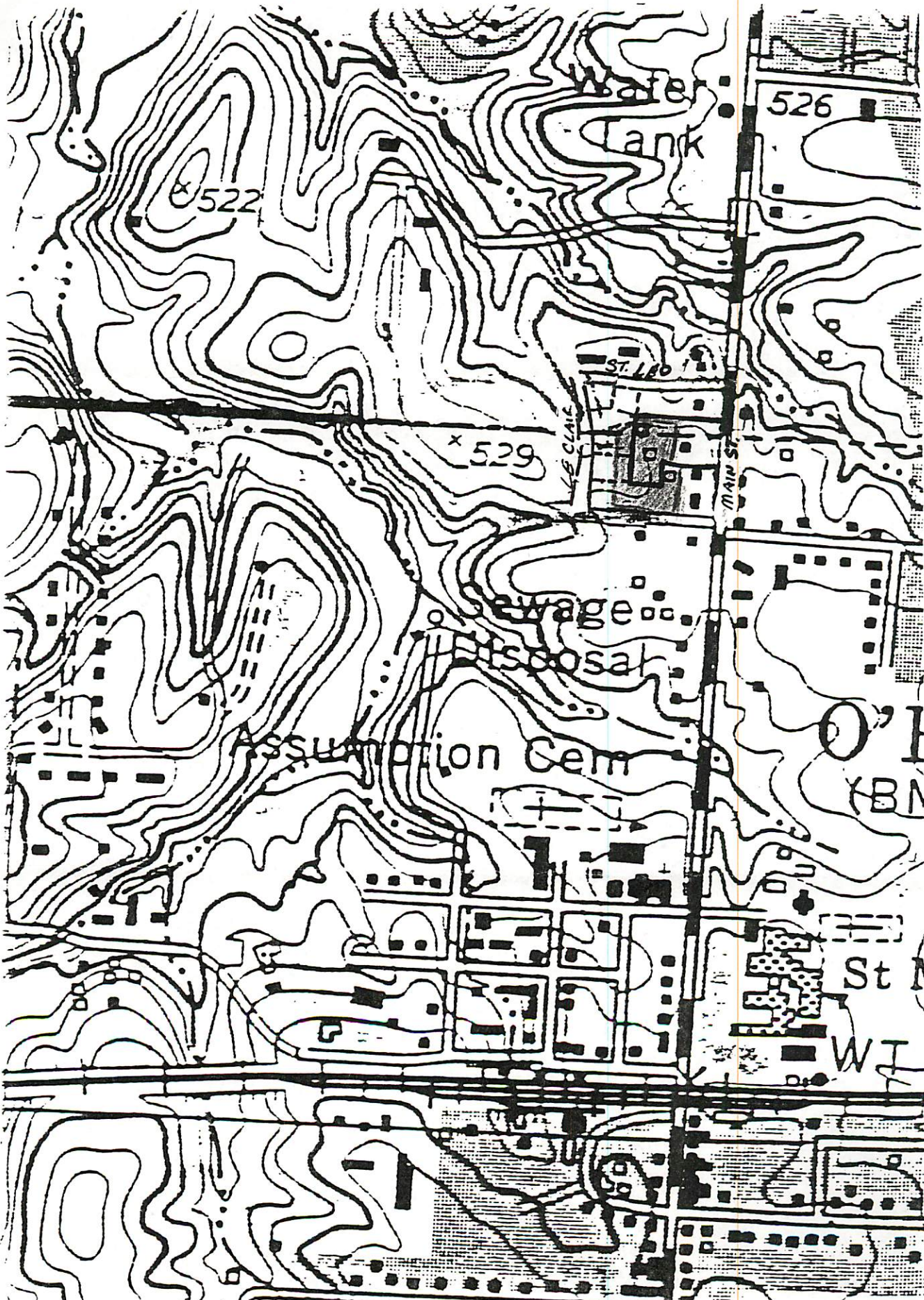
PRE-DEVELOPED
1.60 A²



1" = 500'
O'FALLON
QUAD.
U.S.G.S.



POST DEVELOPED
1.83 AC



1" = 500'
O'FALON
QUAD.
U.S.G.S.

526

Water Tank

522

ST. LAB

529

LE CLAC

MAIN ST

Sewage

Assosah

Assumption Cem

O' I
KBA

St

WI

MAN-MADE CHANNELS

VARIABLES LIST:

Y - FLOW DEPTH
Q - FLOWRATE

B - CHANNEL BOTTOM WIDTH
M - CHANNEL SIDE SLOPE

S - CHANNEL SLOPE
N - CHANNEL ROUGHNESS

VARIABLE TO BE SOLVED (Y,Q,B,M,S OR N) ? Y

Q (CFS) ? 3.94
B (FT) ? 2
M (FT/FT) ? 3
S (FT/FT) ? .02
N (FT^{1/6}) ? .028

RESULTS

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Y= 0.39 FT
A= 1.24 SF
P= 4.47 FT
V= 3.19 FPS
F= 1.05

SUPER-CRITICAL FLOW

<Shift> <Prt Sc> print

<Return> repeat

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