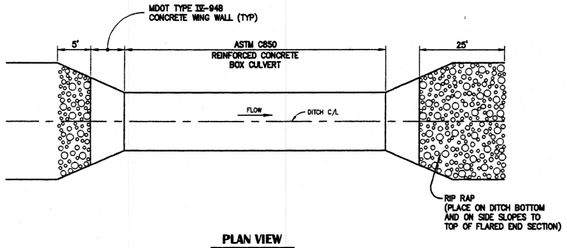
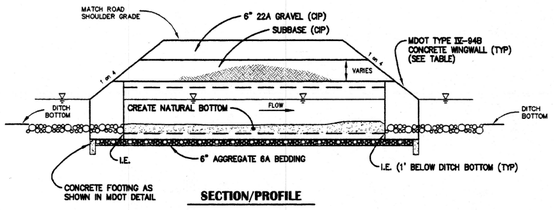


PLAN VIEW



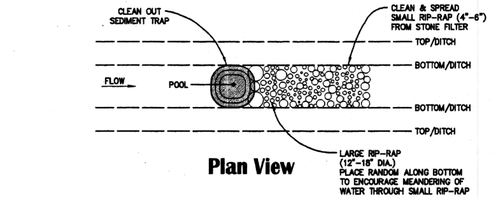
SECTION/PROFILE

CONCRETE BOX CULVERT

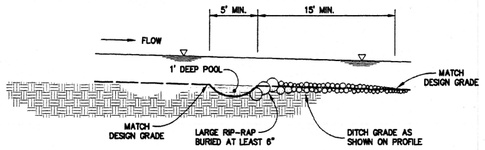
NO SCALE

NOTE:
SET 8' X 4' CULVERTS UNDER
WILSON AVE. AT DITCH ELEVATIONS.
THEY WILL NOT HAVE NATURAL BOTTOMS.

WING WALL TABLE	
CULVERT SIZE	END SECTION LENGTH
10' X 5'	5'
7' X 5'	5'
6' X 4'	4'
8' X 4'	4'-COMBINE END SECTIONS FOR TWIN CULVERTS



Plan View

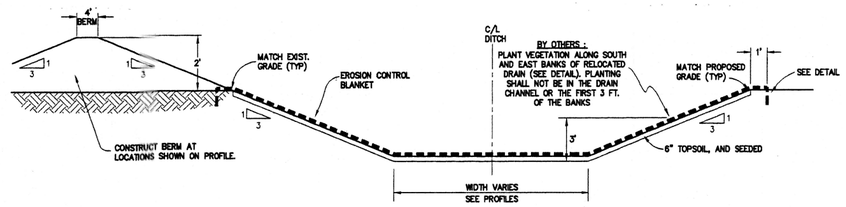


Profile View

NOTE :
PLACE RIFFLE/POOLS AT ALL
SEDIMENT TRAP LOCATIONS.

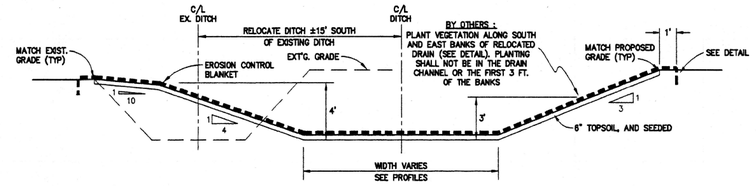
RIFFLE / POOL DETAIL

NO SCALE



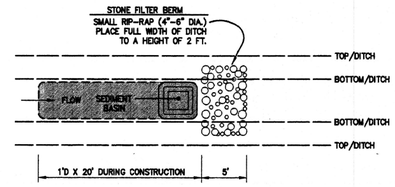
TYPICAL DRAIN CROSS SECTION

NO SCALE



RIVERTOWN DRAIN CROSS SECTION

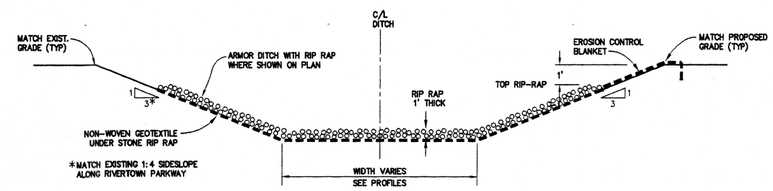
NO SCALE



NOTE :
PLACE WHERE SHOWN ON THE PLAN SHEETS.
CONTRACTOR SHALL CLEAN OUT SEDIMENT BASIN
AND STONE FILTER AS NEEDED DURING
CONSTRUCTION.

STONE FILTER / SEDIMENT TRAP (33)

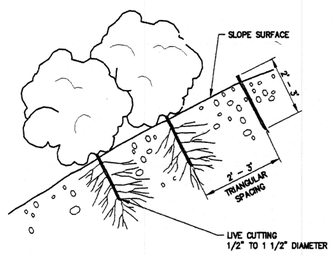
NO SCALE



NOTE: TO BE USED AT INTERCEPTS, CULVERTS, AND BENDS AS SHOWN ON PLAN.

TYPICAL DRAIN CROSS SECTION w/ ARMOR PROTECTION

NO SCALE



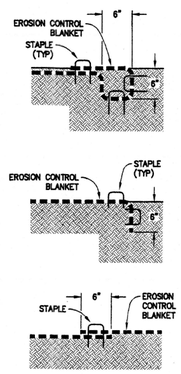
Section View

NOTE: ROOTED
LEAFED CONDITION
OF THE LIVING PLANT
MATERIAL IS NOT
REPRESENTATIVE OF
THE TIME OF
INSTALLATION

RELOCATED DRAIN : LIVE STAKE PLANTING

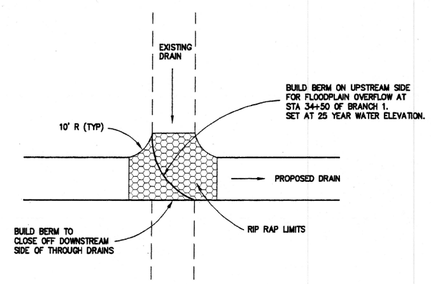
NO SCALE

NOTE : BY OTHERS



EROSION BLANKET ANCHOR DETAILS

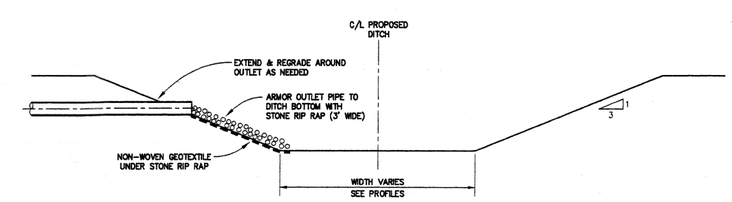
NO SCALE



NOTE: REALIGN & REGRADE EXISTING DITCH
TO MATCH CENTERLINES AS NEEDED, IN
INTERCEPTING AREAS. STAY INSIDE EASEMENT.

INTERCEPT DRAIN DETAIL

NO SCALE



PIPE OUTLET DETAIL

NO SCALE

Gosling Czubak
Engineering Sciences, Inc.
Consulting Engineers
Environmental Services
1290 Business Park Drive
Traverse City, MI 49686
616-946-9191
800-968-9191
Fax: 616-941-4603

By:

Revisions:

No.:	Date:
1	
2	
3	
4	
5	
6	

Drawn By: TLR/TcR
Checked By: TDH
Date: 10-13-97
Scale: AS NOTED

Location: PART OF THE NORTH 1/2 OF SECTION 29, T.6 N., R.12 W., CITY OF GRAND RAPIDS, KENT COUNTY, MICHIGAN

Sheet Title: **DRAIN CROSS SECTIONS AND DETAILS**

Project: **RiverTown Crossings**

Project No. 96300.09

Sheet **7** of 36

G:\96300\09 Drainage.dwg, 1=1, 10/10/97 at 11:16