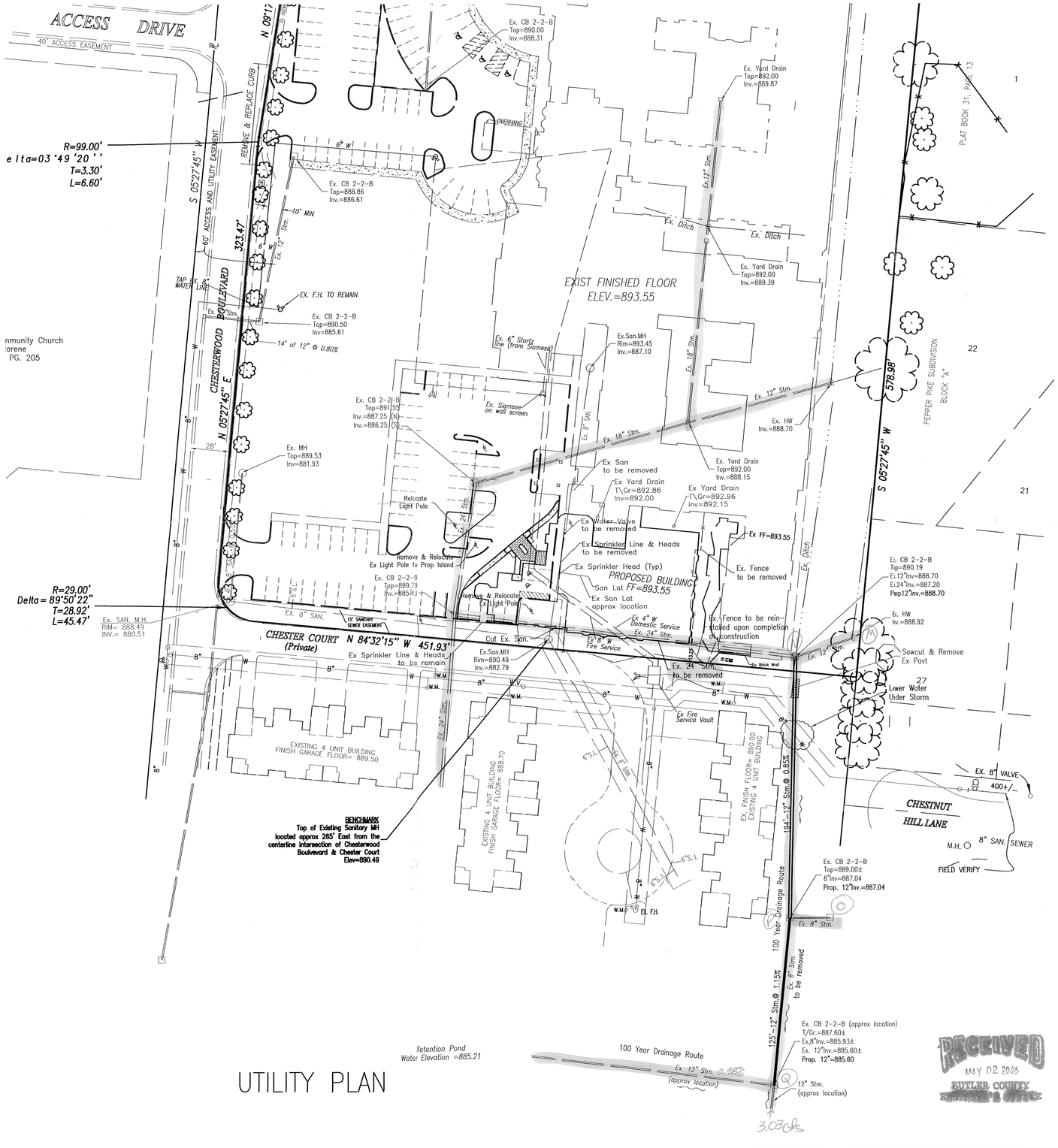
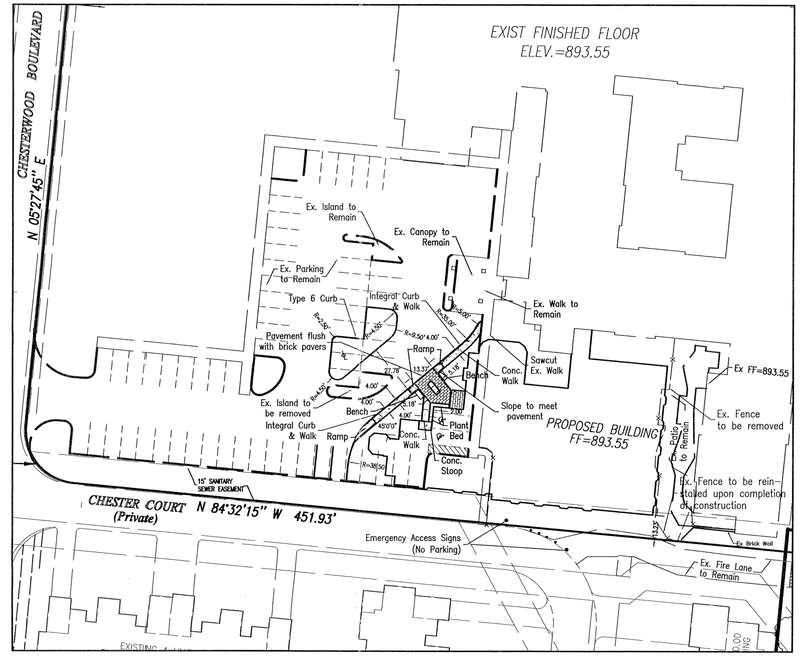


UTILITY PLAN



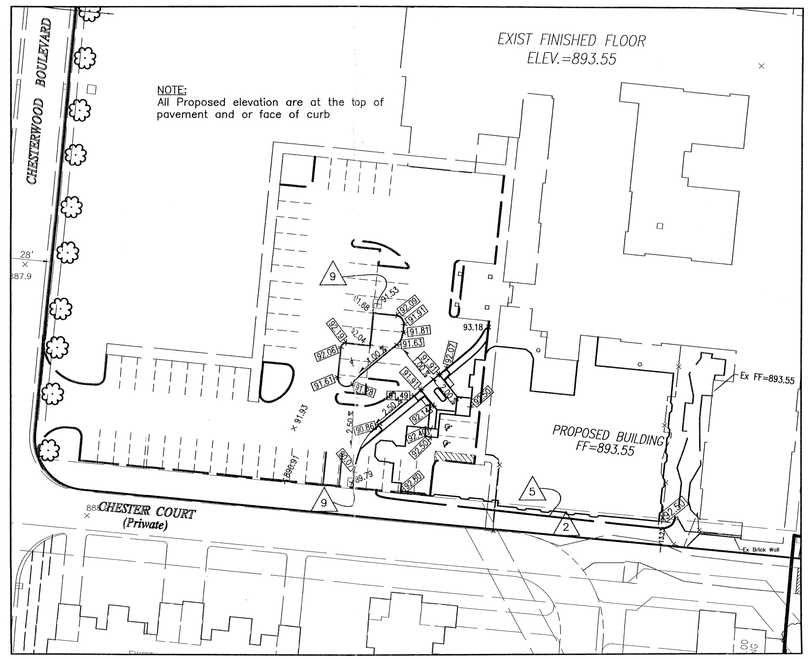
SITE PLAN

EROSION CONTROL LEGEND

1. SEEDING AND MULCHING
2. SEEDING
3. PRESERVING EXISTING VEGETATION
4. STRAW BALE
5. SILT FENCE
9. BLOCK & GRAVEL DROP INLET SEDIMENT FILTER

"All sediment and erosion control measures must be visually inspected and the appropriate maintenance and repair actions taken whenever precipitation exceeds 1/2 inch in any 24 hour period."

TYPICAL DITCH SECTION



GRADING PLAN

Plans 12-20-02

engineers planners architects surveyors
bayer becker
700 Millers Rd. Fairfield, OH 45014 513-829-2149

SCALE: 1" = 40'
0 40 80

NO.	REVISION	DATE
1		
2		
3		
4		
5		
6		
7		

CHESTERWOOD VILLAGE ASSIST. LIVING ADDITION

WEST CHESTER TOWNSHIP, BUTLER COUNTY OHIO

SITE, UTILITY & GRADING PLAN

STATE OF OHIO
ETTA M. REED
E-61606
REGISTERED PROFESSIONAL ENGINEER

DRAWN BY:	ELB
CHECKED BY:	RWB
JOB NO.:	02167
FILE NAME:	M02167.dwg
ISSUE DATE:	12/20/02

DRAWING NO:
C100

J:\2002\02167 M02167.dwg, 12/23/02 08:14:51 AM, D.G.B.

GENERAL NOTES

1. Item numbers refer to the Ohio Department of Transportation construction and material specifications, and all construction work shall be done according to said specifications of Butler County requirements and standards for subdivisions. When in conflict, the County requirements shall prevail.
2. Items that pertain to underground utilities such as watermain pipe, sanitary sewer pipe, water valves and manhole frames and covers, etc., will remain under specifications of the utility serving the area. Storm sewers shall be designed and constructed in accordance with the requirements of the Butler County Engineer.
3. All trenches within the right-of-way and 10' utility easement shall be compacted and backfilled in accordance with Item 203 and 603 in the state specifications.
4. Developer shall be responsible for the installation of conduits for the full width of the public right-of-way at a depth of 36" for use by the electric, telephone and cable TV services. The location of the lines shall be coordinated with utility companies by the developer.
5. All electrical transformers shall be located so that they do not interfere with the existing manholes or water main appurtenances.
6. Water main materials, valves, fire hydrants, fittings and appurtenances and installation to be as per Butler County specifications using Class 53 Ductile Iron as per AWWA C-151 with 4' minimum cover.
7. Sanitary sewer materials and installation to be as per Butler County specifications, using ABS 6" pipe, as per ASTM D-2751 with joint specification as per ASTM D-3212, using ABS composite 8" pipe, as per ASTM D-2680 with joint specifications as per ASTM D-2235.
8. Minimum 10" horizontal, 18" vertical separation between Water Main and Sanitary and/or Storm Sewer.
9. Storm sewer pipe to be A.D.S. N-12 plastic or equal unless otherwise noted on plans. Bedding to be first class. All sewers to be installed as per Butler County specifications.
10. Roof drains, foundation drains, and other clean water connections to the sanitary sewer system are prohibited.
11. All buildings to be served by the public sewer system shall be constructed so as to provide a minimum of four feet (4') of vertical separation between the public sanitary sewer, at the point of connection, and the lowest building level served by a gravity sewer connection. In addition, said building level shall be at least one foot (1') above the lowest point of free-overflow (non-sealed manhole cover) upstream of any treatment facility or wastewater pumping facility that receives the discharge from said building. Said minimum service levels shall be recorded on the "As Built" plans for the development which will be kept on file in the office of the Butler County Sanitary Engineer.
12. Butler County Water and Sewer Department does not accept any responsibility for the relocation, repair, or replacement of any other utility installed within five (5) feet of the center line of any sanitary sewer main or water main.
13. 18' Minimum vertical clearance to be maintained between water, storm and sanitary sewers at crossovers.
14. Lower water services as needed to avoid conflicts with storm with a 4' min. cover.
15. Location of all existing utilities to be determined in the field prior to work beginning.
16. Building fire protection system shall be per architect and building official. The shop drawings for the fire protection system (including the sprinkler pit) shall be submitted for approval of the building official before construction. All water mains shall be installed in accordance with NFPA 24, American Water Works Association and Butler Co. Water & Sewer Department Standards and specifications. The sprinkler system (including valve pit) and the fire department connection shall meet the requirements of the Union Twp. Fire Department.
17. All recommendations in the geotechnical report shall be followed, and geotechnical inspection is required.
18. Besides meeting all local requirements, all construction and materials shall meet applicable state and federal requirements including OSHA requirements.
19. All recommendation in "Rain Water and Land Development", second Edition, shall be followed by the contractor.
20. A silt fence shall be placed down hill of all ground to be disturbed before any work begins.
21. Contractor shall obtain or verify that all permits have been obtained.

SEDIMENTATION CONTROL NOTES

The project has been designed to control erosion and prevent damange to other property. All stripping, earthwork, and regrading shall be performed to minimize erosion. Natural vegetation shall be retained wherever possible. The proposed plan will allow almost all eroded materials to be retained on site.

All areas disturbed by the construction of the roadways, ditches and sedimentation basins shall be seeded. Payment will be by the number of square yards disturbed as per the grading plan.

METHOD

Straw bales are to be utilized to create temporary dams to catch the silt. These are to be installed at points where the flow is concentrated.

Surface water is to be directed into these temporary silt basins by means of temporary swales and ditches.

As the installation of the storm sewer progress, staw bales are to be placed at the inlet and outlet of sewers to control the silt.

Payment for the above shall be included in Items Excavation, Embankment.

NOTE:

DITCHING ALONG THE EXISTING LANDSCAPED MOUNDING AND IN BETWEEN EXISTING COTTAGES AND MOUNDING SHALL BE PROPERLY GRADED AS TO INSURE NO PONDING AND TO HAVE POSITIVE RUNOFF AWAY FROM THE BUILDINGS! THIS MUST BE STRICKLY ADHERED TO!

EROSION CONTROL LEGEND

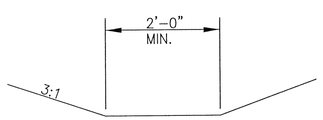
1. SEEDING AND MULCHING
2. SEEDING
3. PRESERVING EXISTING VEGETATION
4. STRAW BALE
5. SILT FENCE
9. BLOCK & GRAVEL DROP INLET SEDIMENT FILTER

"All sediment and erosion control measures must be visually inspected and the appropriate maintenance and repair actions taken whenever precipitation exceeds 1/2 inch in any 24 hour period."

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
Call 1-800-362-2764
UNITED UTILITY PROTECTION SERVICE
NON MEMBERS
MUST BE CALLED DIRECTLY

OWNER/DEVELOPER

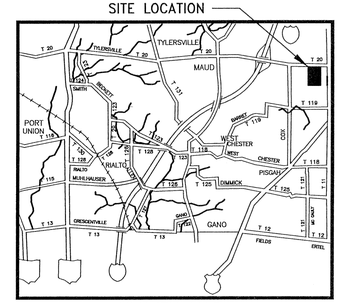
Chesterwood Village, Inc.
4195 Hamilton Mason Road
Indian Springs, Ohio 45011



TYPICAL DITCH SECTION

BENCHMARK
Top of Existing Sanitary MH
located approx 265' East from the
centerline intersection of Chesterwood
Boulvevard & Chester Court
Elev=890.49

SITE LOCATION



VICINTY MAP
SCALE=N.T.S.

GENERAL NOTES

EROSION AND SEDIMENT CONTROLS

Vegetative practices
Such practices may include: emporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing and protection of trees. The contractor shall initiateappropriate vegetative practices on all disturbed areas within seven (7) days if they are to remain dormant (undisturbed) for more than forty-five (45) days. Permanent or temporary soil stabilization shall be applied o disturbed areas within seven (7) days after final grade is reached on any portion of the site.

Structural Practices
Structural practices shall be used to control erosion and trap sediment from all sites remaining disturbed for more than fourteen (14) days.

Timing
Sediment control structures shall be functional throughout earth disturbing activity. Sediment ponds and perimeter sediment barriers shall be implementec as the first step of grading and within seven days from the start of grubbing. They shall continue to function until the upslope development area is restabilized.

Sediment Barriers
Sheet flow runoff from denued areas shall be intercepted by sediment barriers. Sediment arriers, such as sediment fences or diversions direction runoff to settling facilities, shall protect adjacent properties and wate resources from sediment transported by sheet flow.

Erosion and sediment controlpractices used to satisify the conditions of this plan shall neet the standards and specifications in the current edition of Watr Management and Sediment Control in Urbanized Areas (Soil Conservation Service.)

Waste Disposal
No solid or liquid waste, including building materials, shall be discharged in storm water runoff. Off-site vehicle tracking of sediments shall be minimized. The plan shall ensure and demonstrate compliance and applicable State of local waste disposal, sanitary sewer or septic system regulations.

Maintenance
All temporary and permanentcontrol practices shall be maintained and repaired as needed to csure continued performance of their intended function.

⚠5 SILT FENCE DETAILS

⚠5 SILT FENCE
- -Put up before any ther work is done.
- -Install on downslopeside(s) of site with ends extended up sieslopes a short distance.
- -Place parallel to th contour of the land and and at the flattest irea available to allow water to pond behind fens.
- -Stake to be a minimum of 32 inches long
- -Minimum height SiltFence 16 inches above original ground surface
- -Leave no gaps between sections of silt fence Inspect and repair nce a week and after every 1/2 inch rain. Remve sediment if deposits reach half the fence heigt.
- -Maximum distance bm toe of the slope, leaving at least 5' distance
- -Stake on uphill sideof geotextile with 8" of cloth cloth below the grouid surface; excess material to lay on the bottom o 6" trench
- -ODOT Type "C" Geotxtile Fabric or equal
- -Maintain until a law is established.

MATERIALS: Filter fabric shll meet the requirements of CMS 712.09, Type C. Support stakes shall be aminimum of 1.5"x1.5" [38x38], nominal, and shall be hardwood of sound qualy. The stakes shall be driven a minimum of 6" [150] below the bottomof the filter fabric. The maximum spacing between support stakes shc be 10' [3 m].

CONSTRUCTION: The botton of the fabric shall be buried 6" [150] below the ground. The ends of adjacent sections of fence shall be overlapped with the end stke of each section wrapped together prior to installation. The groundelevation of the fence shall be held constant except that the end elevations shall be raised upslope to prevent flow around the end of the fens.

MAINTENANCE: The filter fabric fence shall be maintained to be functional. This shall include removal o trapped sediment and required cleaning, repair, and replacement of the filte fabric. The maintenance or replacement cost will be paid for by the Department under unit bid prices, agreed unit prices, or CMS 109.04.

PAYMENT: The cost of all naterials, construction and removal shall be paid for under Item 877 - Temporary Perimeter Filter Fabric Fence or Temporary Ditch Check Filter Fabric Fence, Linear Foot [Meter].

REVEGETATION
Seed, sod or mulch bare soil as soon as possible

⚠1 SEEDING AND MULCHING
Spread 4 to 6 inches of topsoil.
Fertilize according to soil test (or apply 10 lb./1000 sq. ft. of 20-10-10 or 10-10-10 fertilizer.)
Seed with an appropriate mix for the site (see table.) Rake lightly to cover seed with 1/4" of soil. Roll lightly.
Mulch with straw (70-90 lb. or one bale per 1000 sq. ft.)
Anchor mulch by punching 2 inches into the soil with a dull, weighted disk or by using netting or other measures on steep slopes, or windy areas. Water gently every day or two to keep soil moist. Less watering is needed once grass is 2 inches tall.

⚠2 SODDING Spread 4 to 6 inches of topsoil.
Fertilize according to soil test (or apply 10lb./1000 sq. ft. of 20-10-10 or 10-10-10 fertilizer.)
Lightly water the soil.
Lay sod. Tamp or roll lightly.
On slopes, lay sod starting at the bottom and work toward the top. Peg each piece down in several places.
Initial watering should wet soil 6 inches deep (or until water stands 1 inch deep in a straight-sided container.) Then water lightly every day or two for 2 weeks.

If construction is completed after October 31, seeding or sodding may be delayed. Applying mulch or temporary seed (such as rye or winter wheat) is recommended if weather permits. Straw bale or silt fences must be maintained until final seeding or sodding is completed in spring March 15- May 31.

⚠3 PRESERVING EXISTING VEGETATION
Wherever possible, preserve existing trees, shrubs, and other vegetation.
To prevent root damage, do not grade, place soil piles, or park vehicles near trees marked for preservation.
Place plastic mesh or snow fence barriers around trees to protect the area below their branches.

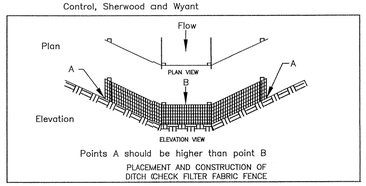
⚠6 SOIL PILES
Located away from any downslope street, driveway, stream, lake, wetland, ditch or drainageway.
Temporary seed such as annual rye is recommended for topsoil piles.
Surround with straw bales or silt fence.

GRAVEL DRIVE
Install a single access drive using 3 to 5 inch aggregate over a geotextile material.
Lay gravel 6 inches deep and 10 feet wide from the foundation to the street.
Use to prevent tracking dirt onto the road by all vehicles.
Maintain throughout construction until driveway is paved.
Park all construction vehicles on the street and off of the site.

SEDIMENT CLEANUP
By the end of each work day, sweep or scrape up soil tracked onto the road.
By the end of the next work day after a storm, clean up soil washed off-site, and check straw bales and silt fence for damage or sediment buildup.

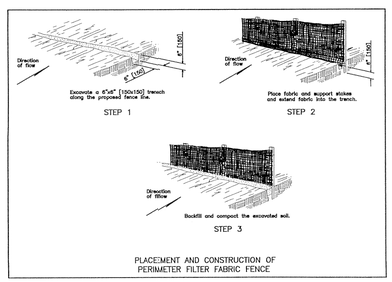
DOWNSPOUT EXTENDERS
Not required, but highly recommended.
Install as soon as gutters and downspouts are completed.
Route water to a grassed or paved area.
Maintain until a lawn is established.

Source: Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

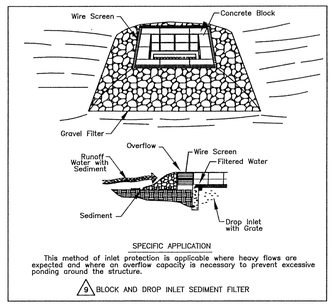


Points A should be higher than point B

PLACEMENT AND CONSTRUCTION OF DITCH CHECK FILTER FABRIC FENCE



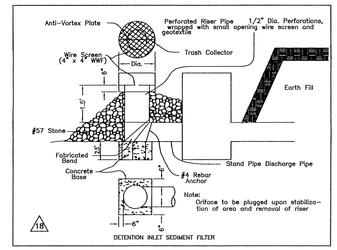
PLACEMENT AND CONSTRUCTION OF PERIMETER FILTER FABRIC FENCE



SPECIFIC APPLICATION

This method of inlet protection is applicable where heavy flows are expected and where an overflow capacity is necessary to prevent excessive ponding around the structure.

9 BLOCK AND DROP INLET SEDIMENT FILTER



18 DETENTION INLET SEDIMENT FILTER

INLET PROTECTION DETAILS

Pool Design Criteria

- -Design the storage basin and principal spillway in accordance with approved engineering standards and specifications as found in "Rainwater and Land Development". A copy of this is available at your SWCD office.
- -The minimum sediment storage volume shall be no less than 67 cubic yards for each acre of contributing drainage area, measured below the principal spillway outlet elevation.
- -Remove accumulated sediment when capacity of the basin is reduced to 40 cubic yards per contributing area. This can be shown by placing a mark at the appropriate elevation on the riser.
- -the pool may be oversized to accommodate estimated sediment accumulation, while maintaining final design capacity of the storage basin.

Slow release Device Installation

- -The outlet as illustrated above is designed to function as a sediment trap by releasing water slowly through the outlet.
- -this device is designed to temporarily store runoff water for up to three days, providing sufficient time for sediment to settle out.
- -Install at time of outlet construction or immediateluy following construction of the storage basin.
- -Attach firmly to the principal outlet being certain there are no leaks.
- -Cover riser pipe with small opening wire screen and wrap with geotextile to filter sediment or double wrap with geotextile.
- -Gravel/small rock needs to be piled against the riser and on horizontal pipes or embed the riser in concrete to provide support and to prevent the pipe from floating.

Maintanance

- -The slow release device needs to be inspected weekly.
- -Clean out accumulated sediment as needed to retain capacity.
- -replaced the filter fabric if torn or becomes clogged.
- -Remove the slow release device after all upslope areas including home sites in the drainage area have been seeded and sloping areas proteted.
- -Reseed as needed fertilize and mulch all parts of the basin following removal of temporary outlet.
- -Steep slopes may need erosion control matting or blankets.

Planning Considerations

- -The drainage area of the storage basin should be limited to the construction area.
- -The storage basin needs to be the first practice constructed before the contributing area is disturbed.
- -the storage basin must be accessible for sediment removal and maintenance as needed.
- -The basin should be designed by a qualified engineer.
- -the temporary modification for sediment control must meet proper design criteria.

Estimating Annual Sediment Volume

Average Slope of Disturbed Area	Volume of Sediment Per Acre of Disturbed Area (cubic yards)
<6%	20
10%	45
14%	75
18%	120

Note: It is assumed that erosion control practices will be used.

bayer becker
engineers planners architects surveyors
7080 Miller Rd. Fairfield, OH 45014 513-829-8149

NO.	REVISION	DATE
1		
2		
3		
4		
5		
6		
7		

CHESTERWOOD VILLAGE ASSIST. LIVING ADDITION

WEST CHESTER TWP, BUTLER COUNTY OHIO

GENERAL NOTES & EROSION CONTROL

STATE OF OHIO
ETTA M. REED
E-61606
REGISTERED PROFESSIONAL ENGINEER

DRAWN BY:	ELB
CHECKED BY:	RWB
JOB NO.:	02167
FILE NAME:	M02167.dwg
ISSUE DATE:	12/20/02

DRAWING NO:
C200

J:\2002\02167\M02167.dwg, 12/23/02 08:07:16 AM, D.C.B.