

WM STATION	APPURTENANCE	NORTH	EAST
0+00	CONNECT TO EX 8" W	588410	1352250
3+03	1/8" HB	588511	1351904
3+52	1/8" HB	588488	1351924
3+75	1/2" HB	588467	1351920
5+40	1/8 & 1/16 HB & 6" VALVE	588300	1351912
5+57	1/8" HB	588284	1351902
6+43	6" X 6" TEE	588296	1351820
6+48	6" X 6" TEE	588294	1351813
6+52	6" 1/8" HB	588283	1351813
6+53	6" VALVE	588283	1351813
6+54	END PUBLIC 6" DIP	588256	1351812
0+18	FIRE HYDRANT	588283	1351816

PROPOSED BUILDING - 3 STORY  
 MASONRY CONSTRUCTION  
 40' HEIGHT AND MAXIMUM  
 10,922 SQUARE FEET  
 Second Floor Elev. = 394.50  
 First Floor Elev. = 380.50  
 Lower Level Elev. = 366.50

Note: Contractor shall use restrained joints for the 8" Water Main between Stations 5+00 to 6+75

CALL "MISS UTILITY"  
 TELEPHONE 1-800-257-7777  
 FOR UTILITY LOCATION AT  
 LEAST 48 HOURS BEFORE  
 BEGINNING CONSTRUCTION.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

Engelhardt Engineering, Inc.  
 P.O. Box 1506  
 Columbia, Maryland 21044  
 (410) 960-7334  
 jesa@ellatlantic.net



DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	
BY:	NO
REVISION:	
DATE:	

WATER PLAN

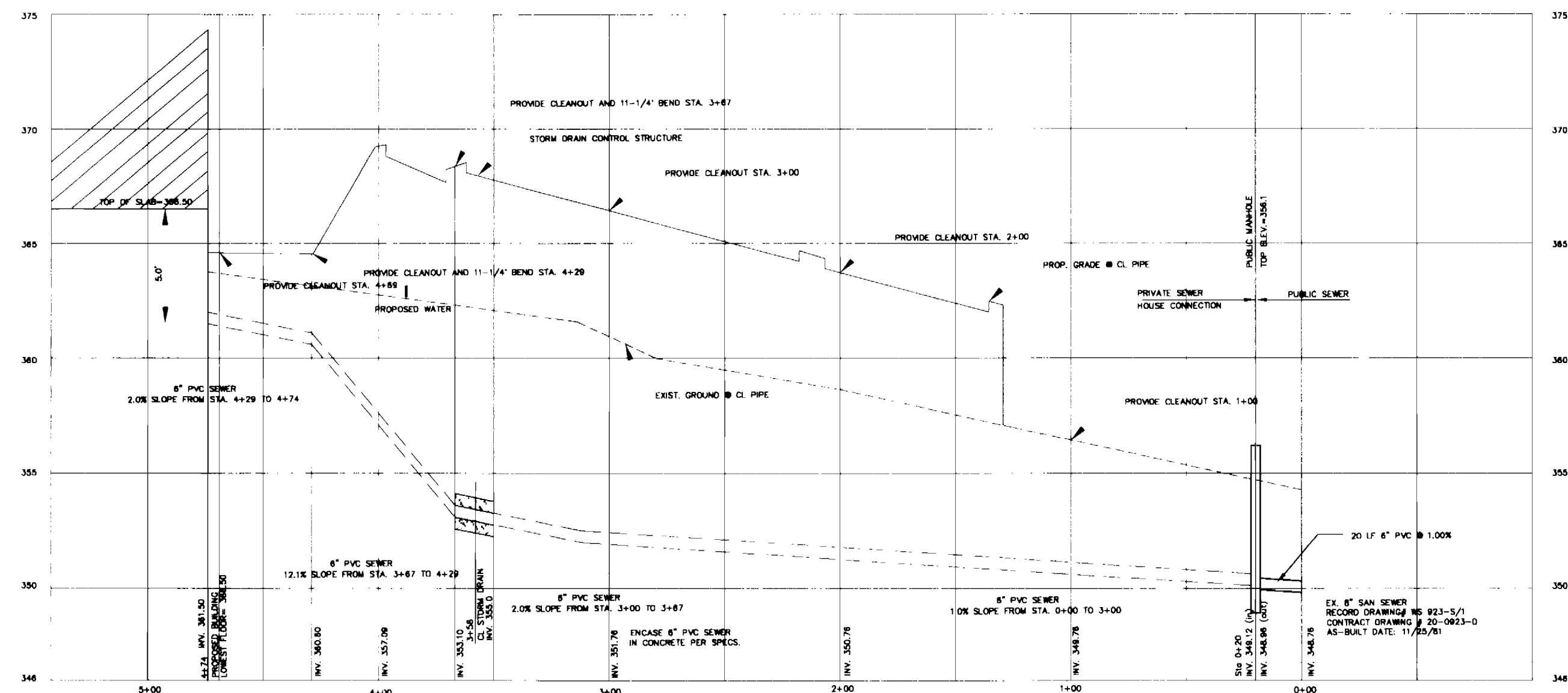
BETHANY LANE VILLAGE CENTER

CONTRACT NO. 24-3872-D  
 Election District No. 02, Howard County, Maryland

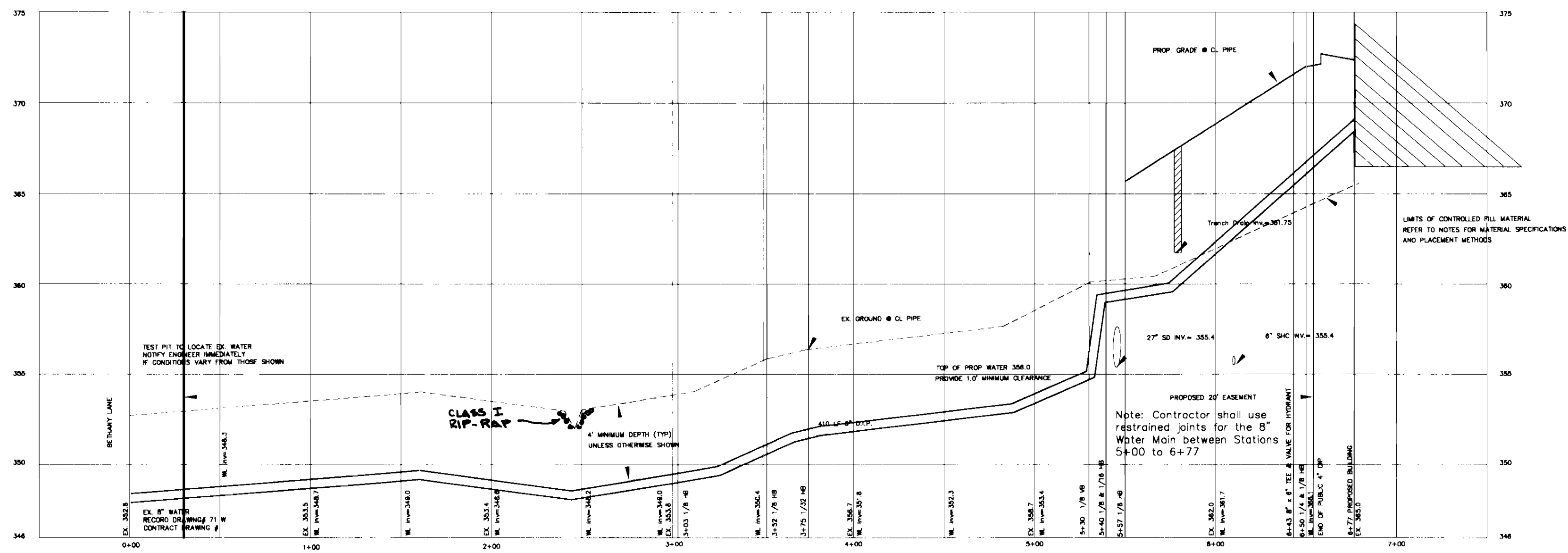
Scale  
 1" = 50'

Sheet

2 OF 4



Sewer Profile  
 Horz. Scale: 1" = 50'  
 Vert. Scale: 1" = 5'



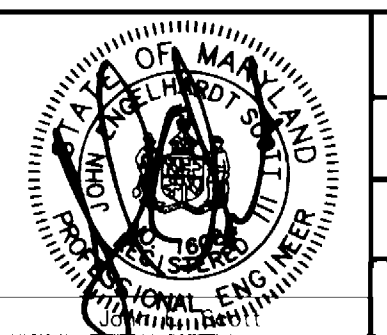
Water Profile  
 Horz. Scale: 1" = 50'  
 Vert. Scale: 1" = 5'

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WATER PROFILE

BETHANY LANE VILLAGE CENTER  
 CONTRACT NO. 24-3872-D  
 Election District No. 02, Howard County, Maryland

Scale  
 As  
 Shown

Sheet  
 3 OF 4

*R. L. ...*  
 CHIEF, BUREAU OF UTILITIES  
 DATE: 9/21/24

*[Signature]*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 9/21/24

**MGWC 1.2: PUMP-AROUND PRACTICE**

*Temporary measure for dewatering in-channel construction sites*

**DESCRIPTION**

The work should consist of installing a temporary pump around and supporting measures to divert flow around in-stream construction sites.

**IMPLEMENTATION SEQUENCE**

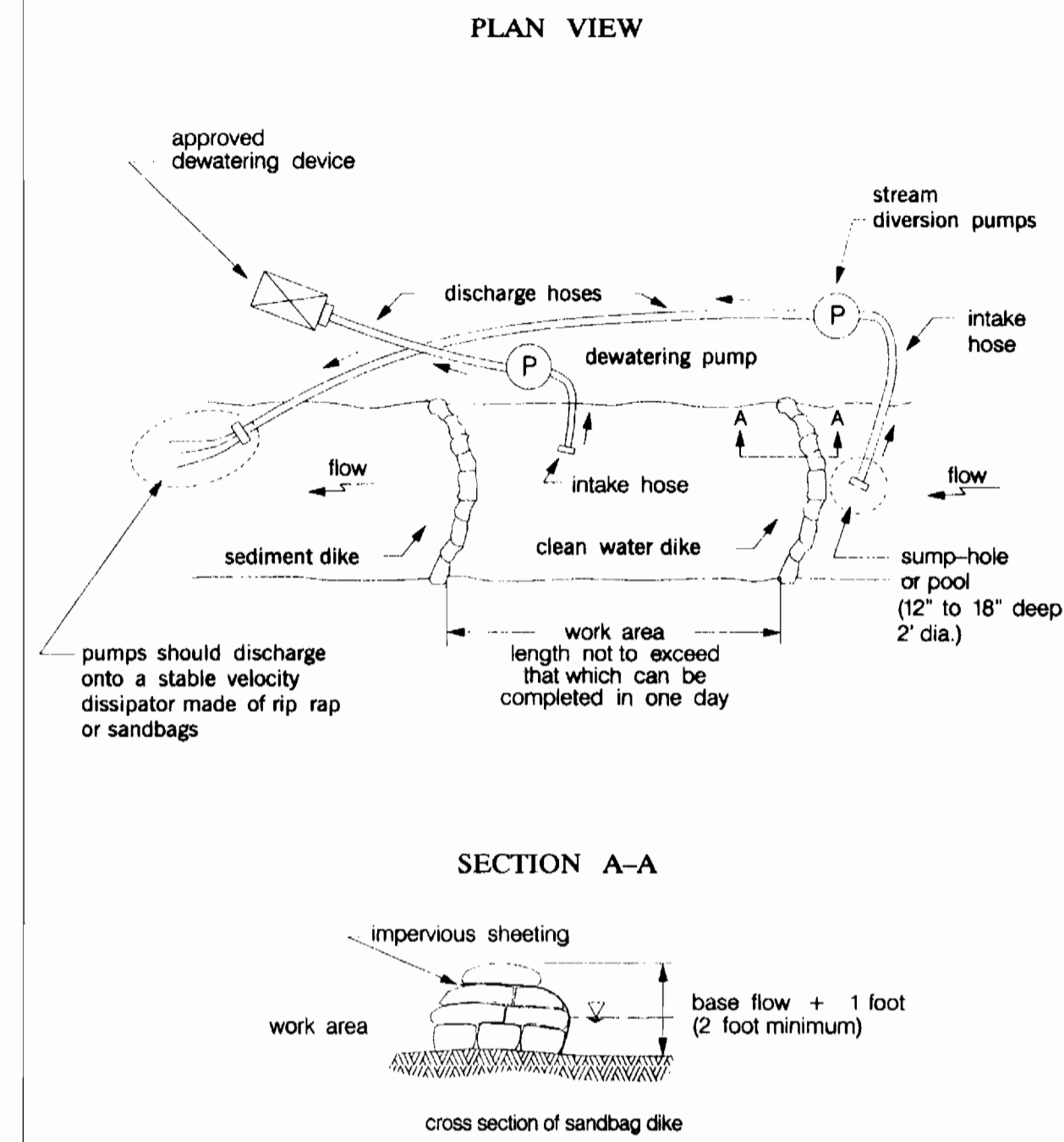
Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

- Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
- The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
- The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.
- Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
- Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
- Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

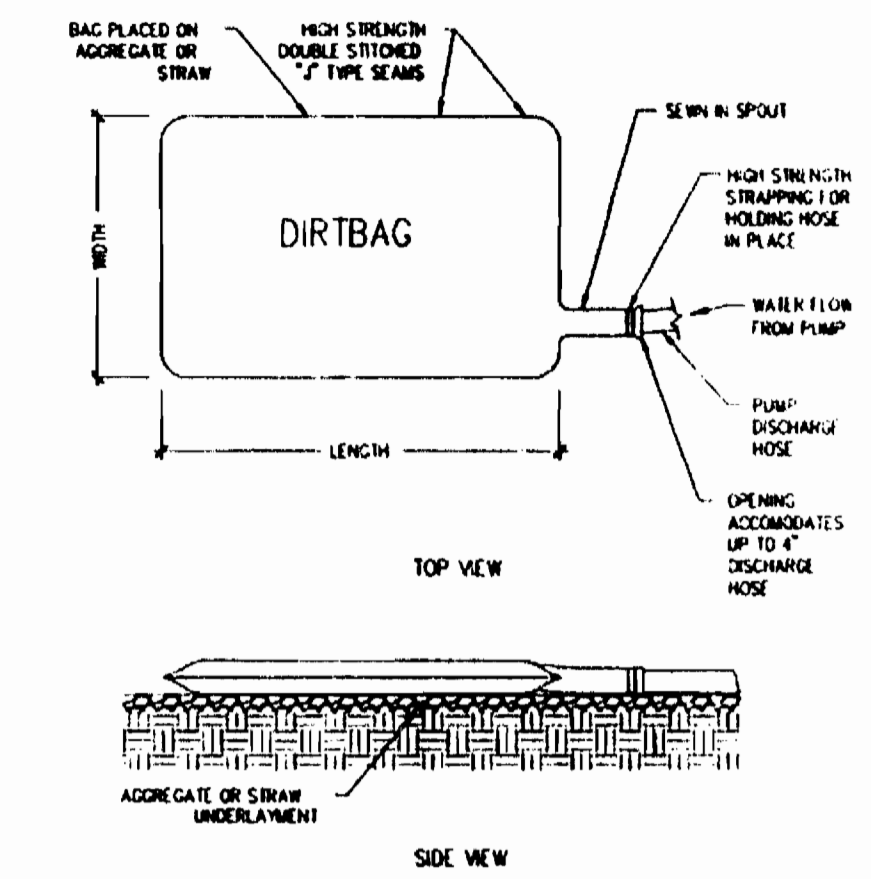
**MGWC 1.2: PUMP-AROUND PRACTICE**

- Water from the work area should be pumped to a sediment filtering measure such as a sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
- Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction).
- All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross-sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
- After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
- A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
- If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
- The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
- After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

**Maryland's Guidelines To Waterway Construction  
DETAIL 1.2: PUMP-AROUND PRACTICE**



**Typical Construction:**



**Dirtbag® Specification:**  
Control of Sediment In Pumped Water

**1.0 Description**

1.1 This work shall consist of furnishing, placing and removing Dirtbag® pumped sediment control device as directed by the design engineer or as shown on the contract drawings. Dirtbag® pumped-silt control system is marketed by The BMP Store.

**2.0 Materials**

**2.1 Dirtbag®**

2.1.1 Dirtbag® shall be manufactured using a polypropylene nonwoven geotextile from SI Geosolutions, then sewn into a bag with a double needle matching using a high strength thread.

2.1.2 Each standard Dirtbag® has a fill spout large enough to accommodate a 4" discharge hose. Straps are attached to secure the hose and prevent pumped water from escaping without being filtered.

2.1.3 Dirtbag® seams shall have an average wide width strength per ASTM D-4884 as follows:

Dirtbag® Style	Test Method	Test Results		
Dirtbag® 53	ASTM D-4884	60 Bv./in		
Dirtbag® 55	ASTM D-4884	100 Bv./in		
Property	Test Method	Units	Test Results, Style 53	Style 55
Weight	ASTM D-3776	oz/yd	8	10
Grab Tensile	ASTM D-4632	lbs.	265	250
Puncture	ASTM D-4833	lbs.	110	150
Flow Rate	ASTM D-4491	gal/min/ft²	110	85
Permeability	ASTM D-4491	sec.⁻¹	1.5	1.2
Machine Burst	ASTM D-3786	lbs./in.	330	460
UV Resistant	ASTM D-4355	%	70	70
AOS % Retained	ASTM D-4751	US Sieve	90	100

All properties are Minimum Average Roll Value (MARV) except the weight of the fabric which is given for information only. Depending on soil conditions and filtration requirements, additional geotextile options are available. Please call our engineering staff for solutions.

**3.0 Construction sequence**

3.1.1 To install Dirtbag® on a slope so incoming water flows downhill through Dirtbag® without creating more erosion. Strap the neck of Dirtbag® tightly to the discharge hose. To increase the efficiency of filtration, place the bag on an aggregate or haybale bed to maximize water flow through the surface area of the bag.

3.1.2 Dirtbag® is full when it no longer can efficiently filter sediment or allow water to pass at a reasonable rate. Flow rates will vary depending on the size of Dirtbag®, the type and amount of sediment discharged into Dirtbag®, the type of ground, rock or other substance under the bag and the degree of the slope on which the bag lies. Under most circumstances Dirtbag® will accommodate flow rates of 1100 gallons per minute. Use of excessive flow rates or overflowing Dirtbag® with sediment will cause the bag to rupture or failure of the hose attachment straps.

3.1.3 Dispose Dirtbag® as directed by the site engineer. If allowed, Dirtbag® may be cut open and the contents seeded after removing visible fabric. Dirtbag® is strong enough to be lifted with optional straps if it must be hauled away. Off-site disposal may be facilitated by placing Dirtbag® in the back of a dump truck or flatbed prior to use and allowing the water to drain from the bag while in place, thereby eliminating the need to lift Dirtbag®.

**4.0 Basis of Payment**

4.1 The payment for any Dirtbag® used during construction is to be included in the bid of overall erosion and sediment control plan unless a unit price is requested.

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HOWARD COUNTY, MARYLAND

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P.O. Box 1506  
Columbia, Maryland 21044  
(410) 960-7334  
jesa@bellatlantic.net

DESIGNED BY: [Signature]  
DRAWN BY:  
CHECKED BY:  
DATE: John E. Scott

BY	NO.	REVISION	DATE

SEDIMENT CONTROL DETAILS

BETHANY LANE VILLAGE CENTER  
CONTRACT NO. 24-3872-D  
Election District No. 02, Howard County, Maryland

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Sheet  
4 OF 4

[Signature] 9-23-04  
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 9/21/04  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE