

SOIL SURVEY MAP

Data Courtesy of:
 NRCS Web Soil Survey: <http://websoil/survey.nrcs.usda.gov>
 Not To Scale

SOIL NOTES

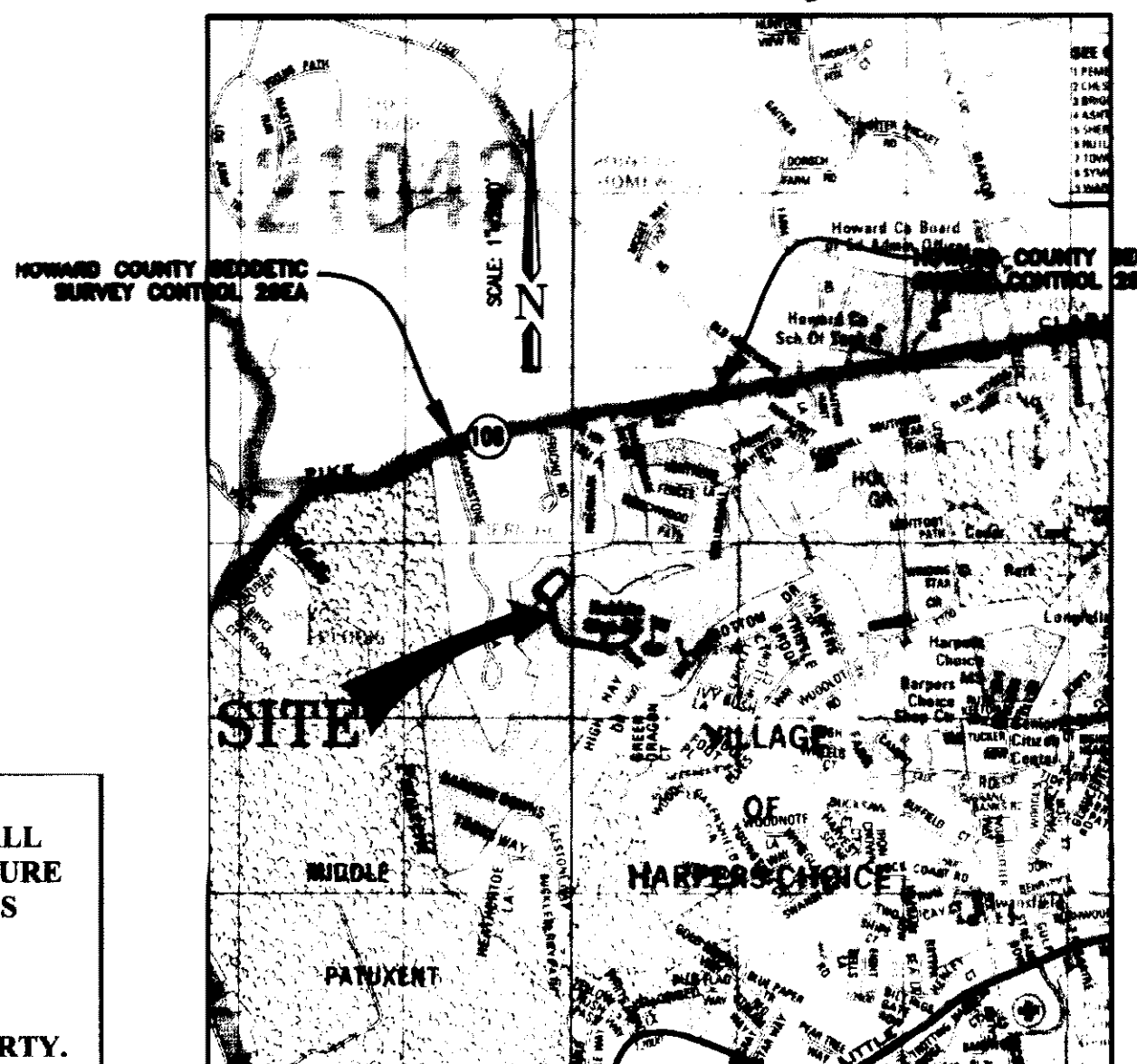
The project limits are composed of Chester, Manor and Glenelg soil types.
 The Glenelg series consists of very deep, well drained, moderately permeable soils on uplands formed in residuum weathered from micaceous schist. Slopes range from 0 to 55 percent. Mean annual temperature is 53 degrees F., and mean annual precipitation is 40 inches. This soil texture fine-loamy, mixed, semiactive, mesic Typic Hapludults.
 The Manor series consists of very deep, well drained to somewhat excessively drained, moderately permeable soils on uplands. They formed in materials weathered from micaceous schist. Slopes range from 0 to 65 percent. Mean annual temperature is 54 degrees F. Soil texture is coarse-loamy, micaceous, mesic Typic Dystrudepts

GENERAL NOTES NON-RESIDENTIAL SITE DEVELOPMENT PLAN

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA Standards and specifications if applicable.
- The subject property is zoned NT per the February 2, 2004 Comprehensive Zoning Plan and per the "Comp Lite" Zoning regulation amendments effective July 28, 2006.
- A MDE Dam Safety Permit must be obtained prior to commencing with any work.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 and the MDE Dam Safety Division at (410) 537-3655 at least five (5) working days prior to the start of work.
- The contractor shall notify "MISS Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- The existing topography is taken from field run survey with two foot contour intervals prepared by JA Rice dated May 2004 and Howard County GIS. Utilities shown hereon are from the survey performed by JA Rice on same date. Supplemental topography data was collected by Charles P. Johnson & Associates January 2006.
- The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System.
- The boundary lines shown hereon are based on recorded plats and limited field evidence found. A complete boundary survey was not performed.
- This plan contains proposed work on the following original DPZ file: SDP-06-038. Previous DPZ File Numbers include SDP-06-038, SDP-88-184C, and FDP-5A-11.
- Water: No public water system within limits of disturbance shown hereon.
- Sewer is public. Contract 34-1862 D.
- There is no existing or proposed stormwater management control, ownership or maintenance responsibility for this project. No new imperviousness is being created.
- The floodplain study for this project was taken from FEMA Floodplain Map Number 240044 0027C, Zone X.
- There are no wetlands within the LOD as found on a May 10, 2005 field visit by CPJ.
- No traffic study is required for this project.
- Project background information is included in the title block with the following additional information: Zoning: New Town Election District: 05.
- No clearing, grading or construction is permitted within the delineated wetlands or streams except as shown hereon. No MDE non-tidal wetlands authorization is required. The stream and stream buffer shown on these plans have been determined "necessary" in accordance with Section 16.116.c of the Subdivision Regulations. MDE Tracking Number 2009-81852. Impacts to
- These streams are Maryland Use Class I Waters. No work is to be performed in streams between March 1 and June 15.
- No material removed from this site shall be taken to an approved disposal site with an active grading permit.
- These plans were prepared with the field information at the time of project survey. It is possible that field conditions at the time of construction vary from these plans and it is the contractor's responsibility to verify field conditions such as elevations, depths, etc. prior to proceeding with work. It is the contractor's responsibility to verify with the supplier/manufacturer of any proprietary product that their product will function per the design for the given field conditions. The design engineer should be notified immediately if any deviations from the design plan are found.
- All specified and/or proprietary products shown hereon may be subject to substitution with other products recommended by the contractor, subject to written review and approval of the design engineer.
- This project is exempt from the requirements of Section 16.124 of the Howard County Code for landscaping since disturbance resulting from project activities is temporary and no permanent structures are proposed.
- The average estimated dry weather base flow for this project was estimated at 0.4 cfs for pump-around purposes. This information is provided for conceptual use by the contractor but should not be considered binding to this design as distant storm events, weather patterns, groundwater discharge, upstream man-induced releases, snow melt, etc. are incalculable factors which can increase or decrease dry weather flow. The contractor is responsible to carry out a site reconnaissance to determine the size and number of pumps he/she will need to bid and complete work.
- All quantities hereon are estimates only, the contractor is responsible for verifying quantities through a field visit and his own quantity takeoffs.
- This project is exempt from the Howard County Forest Conservation requirements per Section 16.1202(b)(1)(iv) of the Howard County Code since it is part a Planned Unit Development which had preliminary development approval and 50% or more of the land was recorded and substantially developed before December 31, 1992.

SITE NOTES:

- THE CONSTRUCTION OF THIS FACILITY SHALL BE INSPECTED BY HOWARD COUNTY TO INSURE THAT EXISTING PUBLIC INFRASTRUCTURE IS NOT DAMAGED.
- NO DREDGED SPOIL MATERIALS WILL BE REMOVED FROM THE GOLF COURSE PROPERTY.
- NO MDE NON-TIDAL WETLANDS/WATERWAYS PERMIT REQUIRED (TRACKING # 200961852).



VICINITY MAP

SCALE: 1"=2000'
 Map Grid 4-4
 Copyright © The Map People
 Permitted Use Number 20803121
 TM 29 PARCEL 135
 COLUMBIA ASSOCIATION, INC.
 LIBER 3324 FOLIO 191
 109.57 ACRES
 HOBBIT'S GLEN GOLF COURSE
 VILLAGE OF HARPER'S CHOICE
 LOT 8 (PLAT 9309)

SITE ANALYSIS CHART

A	Total project area is 8.58 acres.
B	Area of plan submission is the same as the limits of disturbance.
C	Limit of disturbed area (LOD) is 303,220 square feet or 6.96 acres, 20,288 Sqft or 5.75 acres.
D	Present zoning is New Town.
E	Proposed use of site is to remain for recreational use as a golfcourse.
F	Floor space/number of units/employees/parking is not applicable.
G	Required open space is not applicable.
H	Building coverage is not applicable.
I	Applicable DPZ file number: SDP-06-038, SDP-88-184C & FDP-5A-11.
J	This project is for riser & principal spillway replacement, sand filter diaphragm placement, and pond dredging only.

PERMIT INFORMATION BLOCK

Subdivision Name Village of Harpers Choice	Section/Area SECTION 5	Lot/Parcel Lot 8
Plot # or L/F 3324/191 (Plat. 9309)	Block # 22	Zone New Town, Open Space Credited Non-Credited Open Space
	Tax/Zone Map 29	Elec. Dist. 5
		Census Tract 6055.02

ADDRESS CHART

Lot Number 8	Premise Street Address 11130 Willow Bottom Drive Columbia, MD 21044
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UPDATES/REVISIONS :

1	REVISE PLAN TO RELOCATE DREDGE SPOILS AREA, RAISE STORM DRAIN INLET AND ADJUST LOD ACCORDINGLY - 10/5/10 JBB
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MARYLAND DEPARTMENT OF THE ENVIRONMENT
 1800 Washington Boulevard • Baltimore MD 21230
 410-537-3000 • 1-800-633-6101

Maria O'Malley
 Governor
 Anthony G. Brown
 Lieutenant Governor
 Robert M. Szemura, Ph.D.
 Deputy Secretary

PROJECT: Hobbit's Glen Pond
 SUBJECT: Initial Wetlands and Waterways Review Comments
 DATE: July 30, 2009

The Water Management Administration (WMA), Regulatory Services Coordination Office, forwarded a copy of your Joint Permit Application to us. We have reviewed the application and determined that a **Non-Tidal Wetlands and Waterways Authorization is not required.**

The proposed project does not impact any non-tidal wetlands or wetland buffer. Therefore, it is not subject to the Non-tidal Wetlands regulations. Requirements of the Waterway Construction regulations are addressed under the WMA Dam Safety Division review.

The U.S. Army Corps of Engineers has authorized this project under the Maryland State Programmatic General Permit (MDSGP-3), Category 1, Activity B (1). The MDSGP-3 conditions are attached.

Thank you for the opportunity to review this project. Should you have any questions or comments regarding this matter, please feel free to contact me at 410-537-3900, or decarlo@mdde.state.md.us.

Sincerely,
 Debra Corcia,
 Regulatory & Compliance Engineer
 Non-tidal Wetlands and Waterways Division

MDE Dam Safety Division
 MDE Compliance Program office

www.mde.state.md.us
 (410) 537-3224
 (Toll Free) 1-800-751-3224

OWNER/DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Signature of Owner/Developer: *Dennis Matthey* Date: 5-11-10
 Printed Name of Owner/Developer: Dennis Matthey, Columbia Association, Inc.

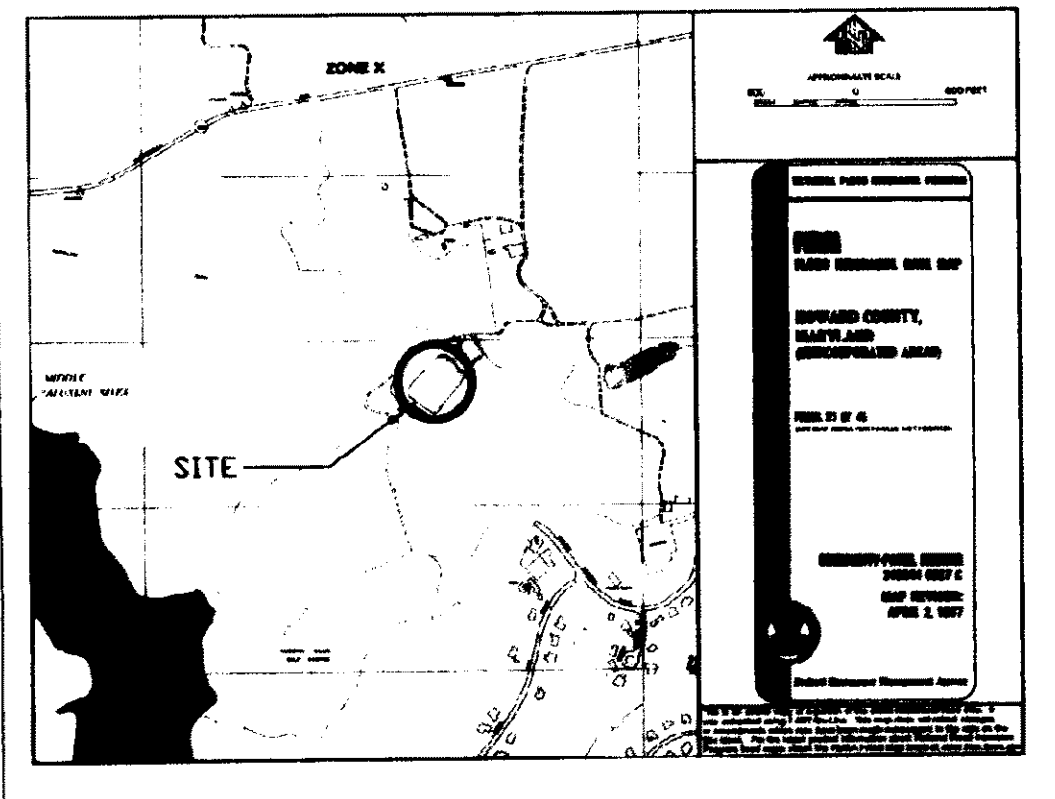
"This facility has been evaluated for downstream flooding hazard by studies entitled Hobbit's Glen Irrigation Pond Dam Final Breach Study (September 2009) prepared by Charles P. Johnson & Associates, Inc. According to these studies, this facility is a Class B facility with classification of "Significant Hazard".

Brian Davila, PE #19908
 Charles P. Johnson & Associates, Inc.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NUMBER: 19908
 EXPIRATION DATE: 1/6/11



FEMA MAP
 Source: FEMA Online, 2004 Scale As Shown

FEMA FLOOD INSURANCE RATE MAP
 Howard County, MD
 Community Panel Number
 240044 0027C
 Dated: April 2, 1997
 Not To Scale

SHEET INDEX

- COVER SHEET
- DRAINAGE AREA MAP
- SEDIMENT CONTROL PLAN VIEW OVERALL
- SEDIMENT CONTROL PLAN VIEW
- SEDIMENT CONTROL DETAILS AND NOTES
- POND REPAIR PLAN VIEW
- POND PROFILES
- POND DETAILS
- POND DETAILS
- SAND FILTER DIAPHRAGM DETAILS
- IRRIGATION SYSTEM REALIGNMENT PLAN
- SOILS BORINGS AND TV REPORT
- BATHYMETRIC SURVEY

Maryland Department of the Environment
 Water Resources Administration
 Dam Safety Division
 MDE
 V.P. Dalal 5/12/10
 Visty P. Dalal
 Senior Regulatory & Compliance Engineer Date

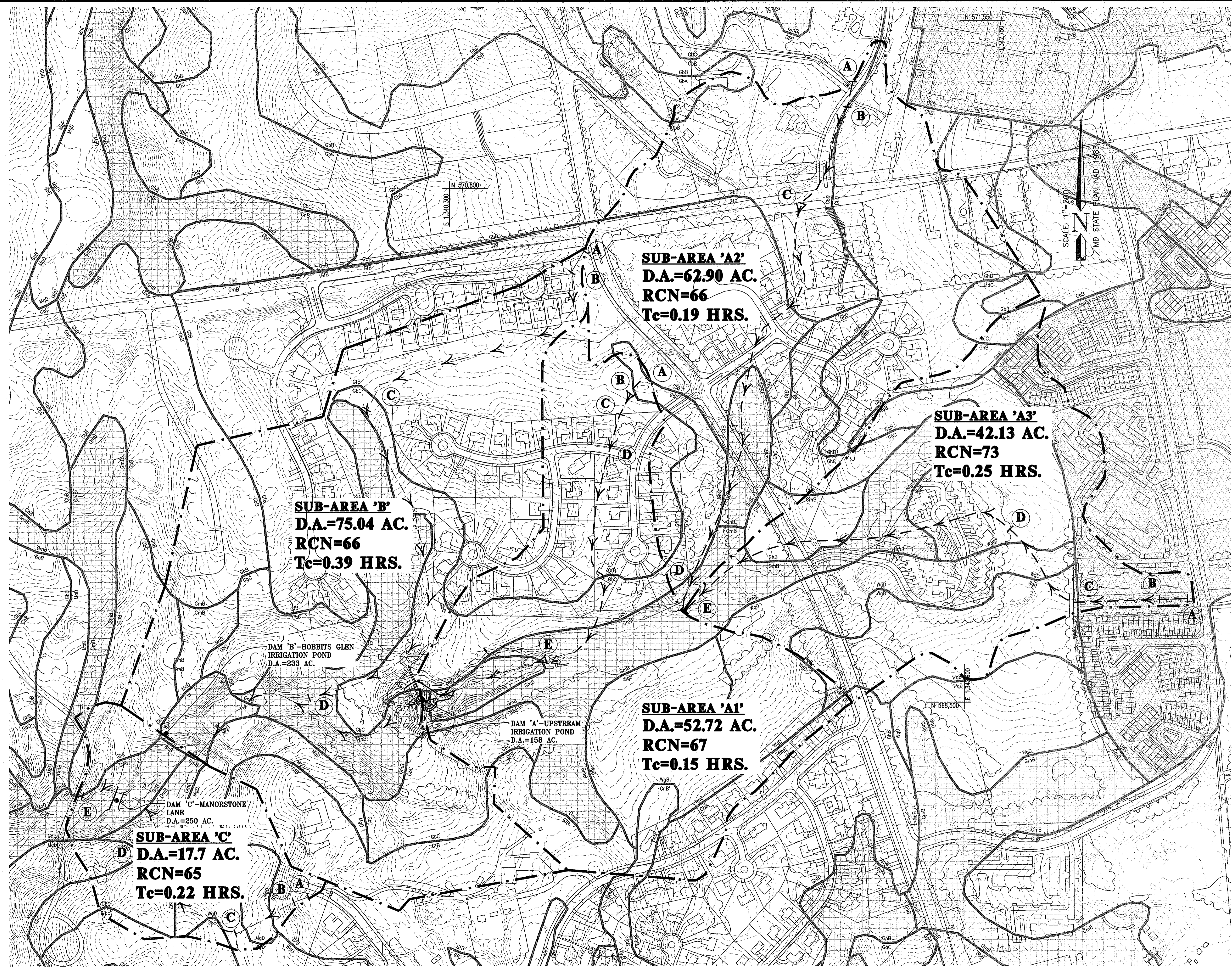
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

HOWARD COUNTY HEALTH DEPARTMENT
 Approved for Public Water and Public Sewerage Systems
 Richard G. Jamn
 Howard County Health Officer Date

COVER SHEET
 RECORD PLAT 9309, L. 3324/F.191
 HOBBIT'S GLEN GOLF COURSE DAM
 MAINTENANCE AND REPAIRS (MD DAM NO 431)
 VILLAGE OF HARPER'S CHOICE
 TAX MAP 29, PARCEL 135, LOT 8, AREA: 109.57 Ac.
 ELECTION DISTRICT NO. 5, HOWARD COUNTY, MD

CPJ Charles P. Johnson & Associates, Inc.
 Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
 1751 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9394
 www.cpja.com • Gaithersburg, MD • Frederick, MD • Stevensville, MD • Fairfax, VA

CLIENT: THE COLUMBIA ASSOCIATION 9450 GERWIG LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 381-0591 CONTACT: MR. DENNIS MATTHEY	PRELIMINARY PLAN NO: N/A	SITE PLAN NO: 09-003
	DESIGN: JBB	SHEET: 1 OF 13
	DRAFT: GC	
	DATE: DEC. 2008	FILE NO.:
	SCALE: 1"=200'	37-307-24.03 B



Flow Segment Description						
Segment	Flow Type	Length	Slope	Surface	Velocity	
Subarea A1						
A=>B	Sheet	50.00	8.00%	Grass		
B=>C	Shallow Conc.	130.00	4.60%	Unpaved		
C=>D	Shallow Conc.	200.00	2.50%	Paved		
D=>E	Open Channel	1000.00			6.0	
Subarea A2						
A=>B	Sheet	50.00	3.00%	Paved		
B=>C	Shallow Conc.	630.00	2.10%	Unpaved		
C=>D	Open Channel	2200.00			6.0	
Subarea A3						
A=>B	Sheet	50.00	2.40%	Grass		
B=>C	Shallow Conc.	230.00	2.60%	Unpaved		
C=>D	Shallow Conc.	500.00	5.80%	Unpaved		
D=>E	Open Channel	1460.00			6.0	
Subarea B						
A=>B	Sheet	50.00	1.00%	Grass		
B=>C	Shallow Conc.	1150.00	2.20%	Unpaved		
C=>D	Open Channel	1725.00			6.0	
Subarea C						
A=>B	Sheet	50.00	7.50%	Turf		
B=>C	Shallow Conc.	390.00	2.10%	Unpaved		
C=>D	Shallow Conc.	110.00	16.40%	Unpaved		
D=>E	Open Channel	900.00			6.0	

OWNER/DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

D. Mathey 5-11-10
 Signature of Owner/Developer Date

Dennis Mathey, Columbia Association, Inc.
 Printed Name of Owner/Developer

LEGEND

EXISTING DRAINAGE DIVIDE — — — — —

EXISTING FLOW PATH — — — — —>

HYDROLOGIC SOIL GROUP B [Symbol]

HYDROLOGIC SOIL GROUP C [Symbol]

HYDROLOGIC SOIL GROUP D [Symbol]



Maryland Department of the Environment
 Water Resources Administration
 Dam Safety Division

MDE

V. P. Dalal 5/12/10
 Visi P. Dalal Date
 Senior Regulatory & Compliance Engineer

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 6/18/10
 Chief, Development Engineering Division Date

[Signature] 7/10/10
 Chief, Division of Land Development Date

[Signature] 7/7/10
 Director Date

DRAINAGE AREA MAP
 RECORD PLAT 9309, L. 3324/F.191
 HOBBIT'S GLEN GOLF COURSE DAM
 MAINTENANCE AND REPAIRS (MD DAM No. 431)
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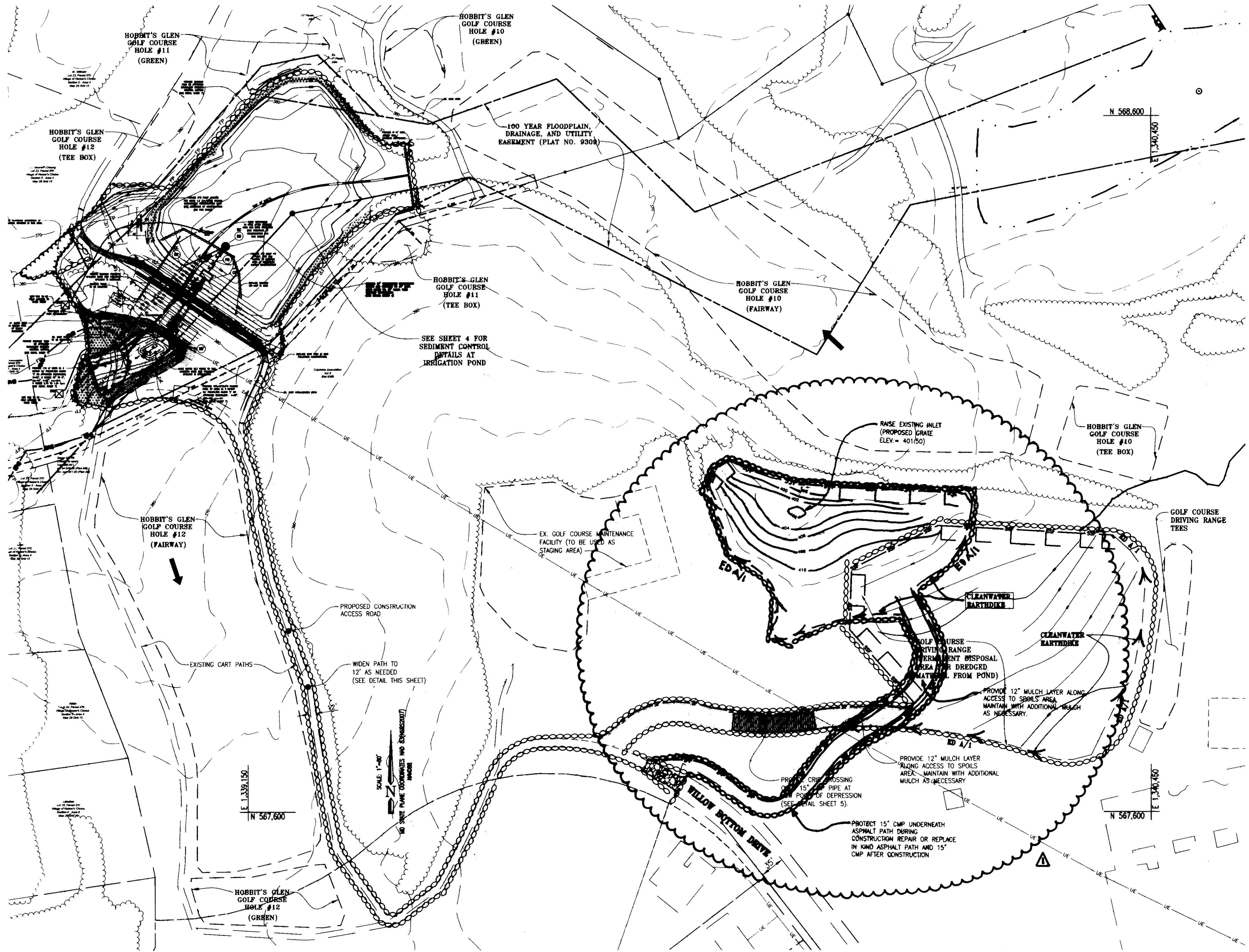
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CLIENT: THE COLUMBIA ASSOCIATION 9450 GERWICK LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 381-0591 CONTACT: MR. DENNIS MATHEY	PRELIMINARY PLAN NO: N/A SITE PLAN NO: 09-053	DESIGN: JBB DRAFT: GC DATE: DEC., 2008 SCALE: 1"=200'	SHEET: 2 OF: 13 FILE NO: 37-307-24.03 B
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EMBANKMENTS

A UPSTREAM AESTHETIC POND
 B HOBBITS GLEN IRRIGATION POND
 C MANORSTONE LANE

NOTE:
 NO CHANGES WILL OCCUR TO EXISTING DRAINAGE DIVIDES OR FLOW PATHS.



APPROVED, DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

Date: 5/15/10
 Date: 5/15/10
 Date: 5/15/10

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Signature: [Signature]
 DATE: 5/15/10
 HOWARD SCD

ENGINEER'S CERTIFICATE

I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Signature of Engineer: [Signature]
 Date: 5/15/10

Brian Davila, Charles P. Johnson
 Printed Name of Engineer

OWNER/DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

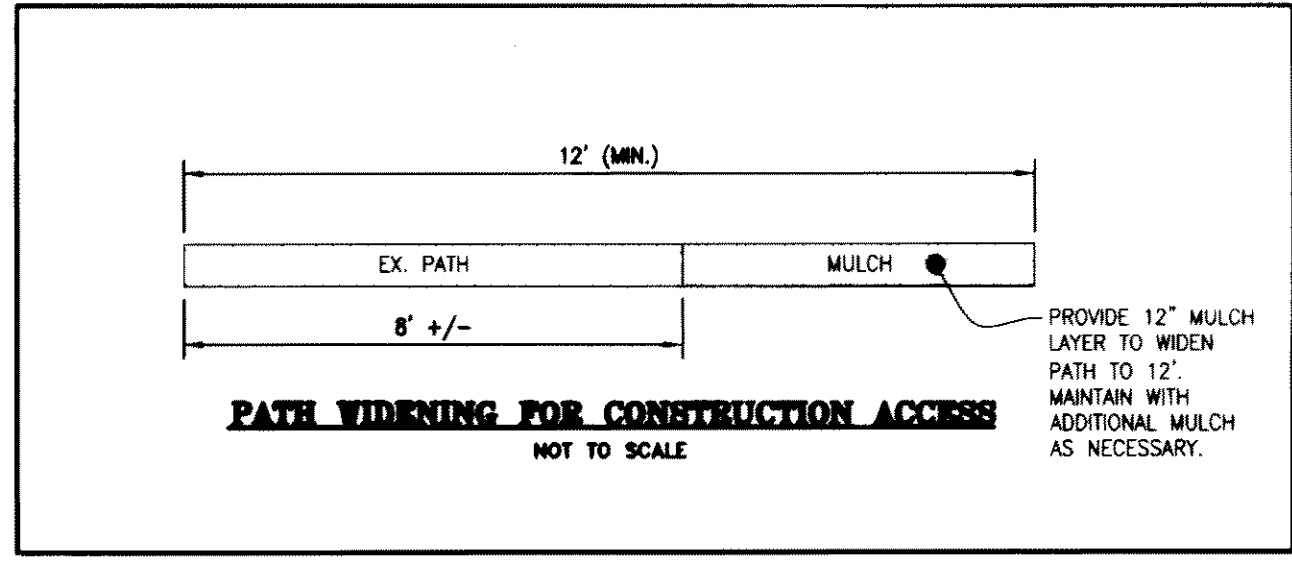
Signature of Owner/Developer: [Signature]
 Date: 5-15-10

Dennis Matthey, Columbia Association, Inc.
 Printed Name of Owner/Developer

SEDIMENT CONTROL PLAN VIEW OVERALL
 RECORD PLAT 9309, L. 3324/F.191
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CLIENT: THE COLUMBIA ASSOCIATION 3450 GERWIG LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 381-0291 CONTACT: MR. DENNIS MATTHEY	PRELIMINARY PLAN NO. N/A DESIGN JBB DRAFT GC DATE DEC. 2008 SCALE 1"/80'	SITE PLAN NO. 09-053 SHEET 3 OF 13 FILE NO. 37-307-24.03 B
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NOTE:
 SEE SHEET 11 FOR BATHYMETRIC INFORMATION.

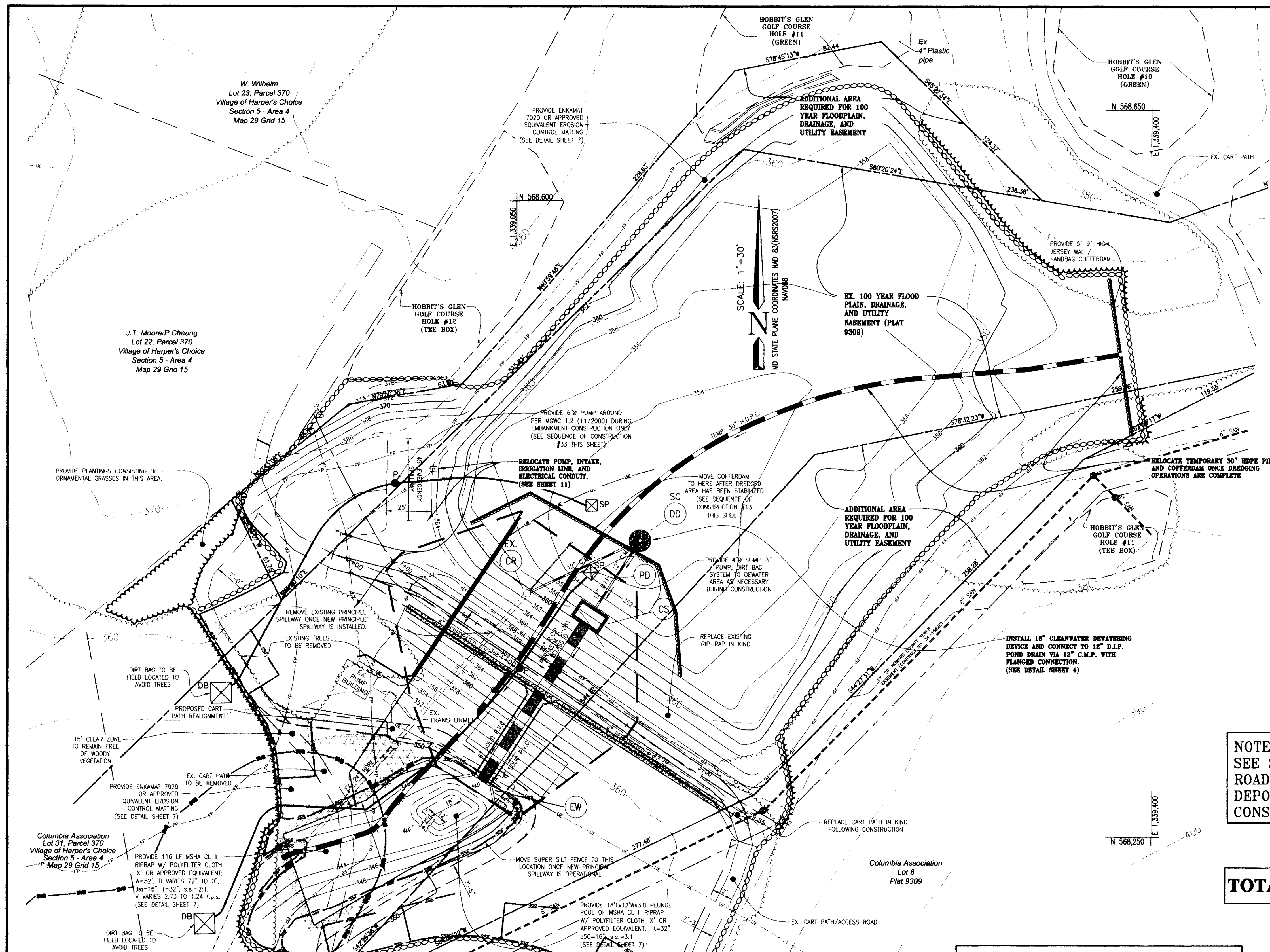
TOTAL DISTURBED AREA=6.96 Ac.

LEGEND

EXISTING CONTOUR	---
PROPOSED CONTOUR	----
STABILIZED CONSTRUCTION ENTRANCE	[Symbol]
SUPERSILT FENCE	---SFS---
LIMIT OF DISTURBANCE	~~~~~
JERSEY WALL / SANDBAG COFFERDAM	=====

UPDATES/REVISIONS:
 1. RELOCATE DREDGE SPOILS AREA, RAISE STORM DRAIN INLET AND ADJUST LOD, ACCORDINGLY - 10/3/10 JBB

HOWARD COUNTY SDP # 09-053
 Attached Xrefs: TEB4-357/100



- 21.0 STANDARD AND SPECIFICATIONS**
- GENERAL NOTES**
- The Hobbit's Glen Golf Course Irrigation (MD Dam #431) is located in the Patuxent River watershed, designated Class I use waters by the Maryland Department of the Environment. Stream closure dates for Class I waters are March 1 to June 15.
 - The contractor or owner must contact the Howard County Construction Inspection Division (410-313-1880) and the Maryland Department of the Environment's Dam Safety Division (410-537-8655) at least five (5) days in advance of the start of construction.
 - The Maryland Department of the Environment Non-Tidal Wetlands Authorization is not required per MDE (Tracking #200961852). Prior to starting construction, a grading permit must be obtained from Howard County and a Dam Safety permit must be obtained from MDE.
- Sediment Control Installation and Base Flow Diversion**
- Conduct a pre-construction meeting with the contractor, owner, engineer, MDE Dam Safety Inspector, and Howard County Sediment Control Inspector at least five (5) days prior to the start of construction. MISS Utility shall be contacted by this time and to have had an opportunity to mark all utilities within the limits of disturbance. Work areas and limits of disturbance should be marked in the field prior to this meeting. (1 DAY)
 - With the sediment control inspector's permission, install a stabilized construction entrance at the end of Willow Bottom Road near the Hobbit's Glen Golf Course maintenance yard. (1 DAY)
 - Clear and grub as necessary for the installation of sediment control measures only. (1 DAY)
 - Install silt fence and clean water earth dike as shown on the plans. (2 DAYS)
 - The contractor is responsible for providing access to and maintaining all erosion and sediment control measures until the sediment control inspector approves their removal.
 - After construction, all disturbed areas should be re-graded and stabilized. Install complete dewatering methods above and below sections to be worked on and run equipment downstream to location agreed upon with the sediment control inspector as being able to be completed and permanently stabilized within one (1) five (5)-day period. No work to be done when rain is forecast by the National Weather Service within five days.
 - Install a 12" mulch layer adjacent to the existing cart path to be used as an access road to widen the path to 12' minimum. (1 DAY)
 - Completely dewater pond. Use auxiliary sump pump/drainage system as shown on plan as necessary. The additional sediment filtration measures as necessary or as required by sediment control or MDE inspectors. Pond should be drawn down to at most six (6) inches per day. (20 DAYS)
 - Install temporary 30" H.D.P.E. diversion pipe through pond from downstream to upstream. Install 5" x 9" foot high jersey wall/sandbag cofferdam around upstream end of pipe. (3 DAYS)
 - Install 18" C.M.P. dewatering device and connect to existing 36" C.M.P. riser with 12" C.M.P. pipe via welded connection. (1 DAY)
- Dredging**
- Dredging may not concurrent with dam reconstruction operations when approved by the sediment control and MDE inspectors.
 - With permission from the sediment control and MDE inspectors, excavate dam within limits as shown on plan. The existing principal spillway riser and barrel should remain functioning until the new principal spillway is activated. (1 WEEK)
 - Dredge pond to depths shown on the bathymetric survey. Remove dredge material from pond and permanently dispose of on the Hobbit's Glen Golf Course driving range area as shown on plan. With the approval of the sediment control inspector, the disposal site for dredged material may change to a different site with active grading permit at the contractor or owner's option. Disposal area should be temporarily stabilized daily and permanently stabilized as soon as possible to prevent erosion from the site. (3 WEEKS)
- Principal Spillway Installation**
- 12A. Raise inlet in spoils area prior to depositing spoils around it.
- Notes:**
- This work to be done under supervision of a professional geotechnical engineer.
 - Once dewatered area has been stabilized, move cofferdam and diversion pipe intake downstream to work area as shown. (1 DAY)
 - Excavate and prepare ground for riser base installation. (1 DAY)
 - Install form work for riser base installation. Use of a stone base is NOT PERMITTED. (1 DAY)
 - Riser base. (1 DAY)
 - Excavate ground for the installation of the portion of the sand filter diaphragm below the concrete cradle. (3 DAYS)
 - Install the ASTM C-33 sand filter diaphragm as shown on plans up to the bottom elevation of the concrete cradle (2 foot depth). Install the sand filter diaphragm between the concrete cradle and the riser base. (2 DAYS)
 - Install 72" R.C.P. principal spillway pipe and 24" R.C.P. irrigation conduits. (5 DAYS)
 - Four concrete cradles in one continuous pour against undisturbed earth. (1 DAY)
 - Install 12" D.I.P. pond drain horizontal section. DO NOT INSTALL TURN-UP ELBOW OR INTAKE AT THIS TIME. (1 DAY)
 - Install form work for riser wall installation. (2 DAYS)
 - Pour riser walls around 72" R.C.P. principal spillway and 12" D.I.P. pond drain pipes. (2 DAYS)
 - Pour riser top slab. (1 DAY)
 - Install precast end wall, weir trash racks, and riser manhole and valve covers. (5 DAYS)
 - Install the 12" D.I.P. pond drain valve and extension stem per plan. Leave the valve in the open position until final inspection is complete and the pond is ready to be filled. (1 DAY)
 - Form plunge pool and grade riprap channel at the end of the principal spillway and install riprap. (5 DAYS)
 - Once dewatering has been completed and new principal spillway is operational, disconnect the 18" C.M.P. dewatering device from the existing 36" C.M.P. riser and connect it to the horizontal section of the 12" D.I.P. pond drain via a 12" C.M.P. using a flange connection. (3 DAYS)
 - Remove the existing principal spillway (36" C.M.P. riser, 21" C.M.P. and 24" D.I.P.E. Barrels). (3 DAYS)
 - Install 6" Schedule 80 P.V.C. pipe and observation wells as shown on plans. (2 DAYS)
 - Install MSHA #7 stone envelope concurrent with P.V.C. pipe installation. (2 DAYS)
- Embankment Backfilling**
- Install removable pumping station (6" diameter pump and pipe) and pump around base flow during embankment backfill. (1 DAY)
 - Remove the 30" H.D.P.E. diversion pipe and establish pump around base flow. (1 DAY)
 - Install remaining portions of ASTM C-33 sand filter diaphragm as shown on plans. Install the sand in six (6) inch lifts, compacting in between each lift. (2 DAYS)
 - Place controlled backfill in the excavated portion of the dam including over and around the sand filter diaphragm per MD-378 specifications under supervision of a professional geotechnical engineer. Top of Dam elevation should be established such that construction elevation is level and at 369.85 NVGD. The post settlement elevation should be 369.00 NVGD. (2 DAYS)
 - Stabilized all exposed portions of the dam as soon as possible to prevent erosion. (2 DAYS)
- Emergency Spillway Modifications**
- This work to be done under supervision of a professional geotechnical engineer.
 - Shut off pond irrigation lines out of dam and into dam from Patuxent River, and electrical line to water fountain and pond water feature. (1 DAY)
 - Remove fuse box from emergency spillway. (1 DAY)
 - Excavate emergency spillway as shown on plans to lower and widen crest. Remove any pipes encountered. (3 DAYS)
 - Grade the emergency spillway as shown on the plan. (2 DAYS)
 - Grade the emergency spillway as shown on the plan. (2 DAYS)
 - Stabilize the emergency spillway as soon as possible with soil to prevent erosion. (2 DAYS)
 - Disconnect 1" Water fountain line, 10" Irrigation line, 6" Irrigation line, and Electrical Conduit and backfill with low slump concrete if not removed under #36. FLOWABLE FILL IS NOT PERMITTED FOR THIS OPERATION. (3 DAYS)
- Pond Completion**
- Install 10" Irrigation line in 24" R.C.P. conduit. Grout around pipe to crown of 10" D.I.P. with low slump concrete. FLOWABLE FILL IS NOT PERMITTED FOR THIS OPERATION. (1 DAY)
 - As soon as grout has cured enough to support pipes, install 6" P.V.C. water supply line and 2" electrical conduit in 24" R.C.P. conduit. Grout remainder of annular space around low slump concrete. FLOWABLE FILL IS NOT PERMITTED FOR THIS OPERATION. (2 DAYS)
 - Connect 3" Electrical conduit with existing electrical conduit in pond basin. (1 DAY)
 - Install 10" Irrigation line intake in pond basin and connect downstream side of 10" D.I.P. to existing 10" D.I.P. at pump house. (1 DAY)
 - Install 10" perforated P.V.C. end cap on 10" C.M.P. riser. Connect downstream side of 6" P.V.C. to existing 6" P.V.C. (1 DAY)
 - Backfill all open trenches created under #38-42.
 - With the sediment control inspector's permission, disconnect and remove the 18" C.M.P. dewatering device. Additional dewatering should continue to be provided by the sump pump/drainage pump around system during pond completion. (2 DAYS)
 - Install the remaining portion of the 12" D.I.P. pond drain and intake. Keep the valve open until after the final inspection. (1 DAY)
 - Install/replace cart paths as shown on the plans. Repair the golf cart path along access road as necessary. Remove mulch layer on access road. (5 DAYS)
 - Stabilized all remaining areas. (2 DAYS)
 - Contact MDE Dam Safety inspector and hold final inspection of site (five (5) days notice). (5 DAYS)
 - With sediment control inspector's permission, remove the cofferdam, sump pump/drainage system and all other sediment control measures. (5 DAYS)
 - Complete as-built survey and plans and obtain approval from MDE Dam Safety within 60 days of final inspection completion. (60 DAYS)

NOTE:
SEE SHEET 3 FOR CONSTRUCTION ACCESS ROAD, STAGING AND DREDGED MATERIAL DEPOSIT AREAS, AND STABILIZED CONSTRUCTION ENTRANCE

TOTAL DISTURBED AREA = 6.96 Ac.
5.75 Ac.

NOTE:
PLEASE SEE SHEET 11 FOR IRRIGATION LINE RE-ALIGNMENT PLAN.

LEGEND

EXISTING CONTOUR
PROPOSED CONTOUR
SUPERSILT FENCE
LIMIT OF DISTURBANCE
JERSEY WALL / SANDBAG COFFERDAM
SUMP PIT
PUMP
DIRT BAG

APPROXIMATE LIMITS OF PROPOSED DAM EXCAVATION FOR PRINCIPAL SPILLWAY WORK (2:1 SIDE SLOPES)

ENKAMAT 7020 OR APPROVED EQUIVALENT

15' CLEAR ZONE TO REMAIN FREE OF WOODY VEGETATION

1. REVISE PLAN TO RELOCATE DREDGE SPOILS AREA, RAISE STORM DRAIN INLET AND ADJUST LOD ACCORDINGLY - 10/25/10 JBB

ENGINEER'S CERTIFICATE

I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Signature of Engineer: Brian Davila, Charles P. Johnson
Printed Name of Engineer: Brian Davila, Charles P. Johnson

OWNER/DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Signature of Owner/Developer: Dennis Matley
Printed Name of Owner/Developer: Dennis Matley, Columbia Association, Inc.

Maryland Department of the Environment
Water Resources Administration
Dam Safety Division

MDE
V.P. Dalal
Senior Regulatory & Compliance Engineer

5/12/10
Date

APPROVED DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division
Chief, Division of Land Development
Director

5/15/10
Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

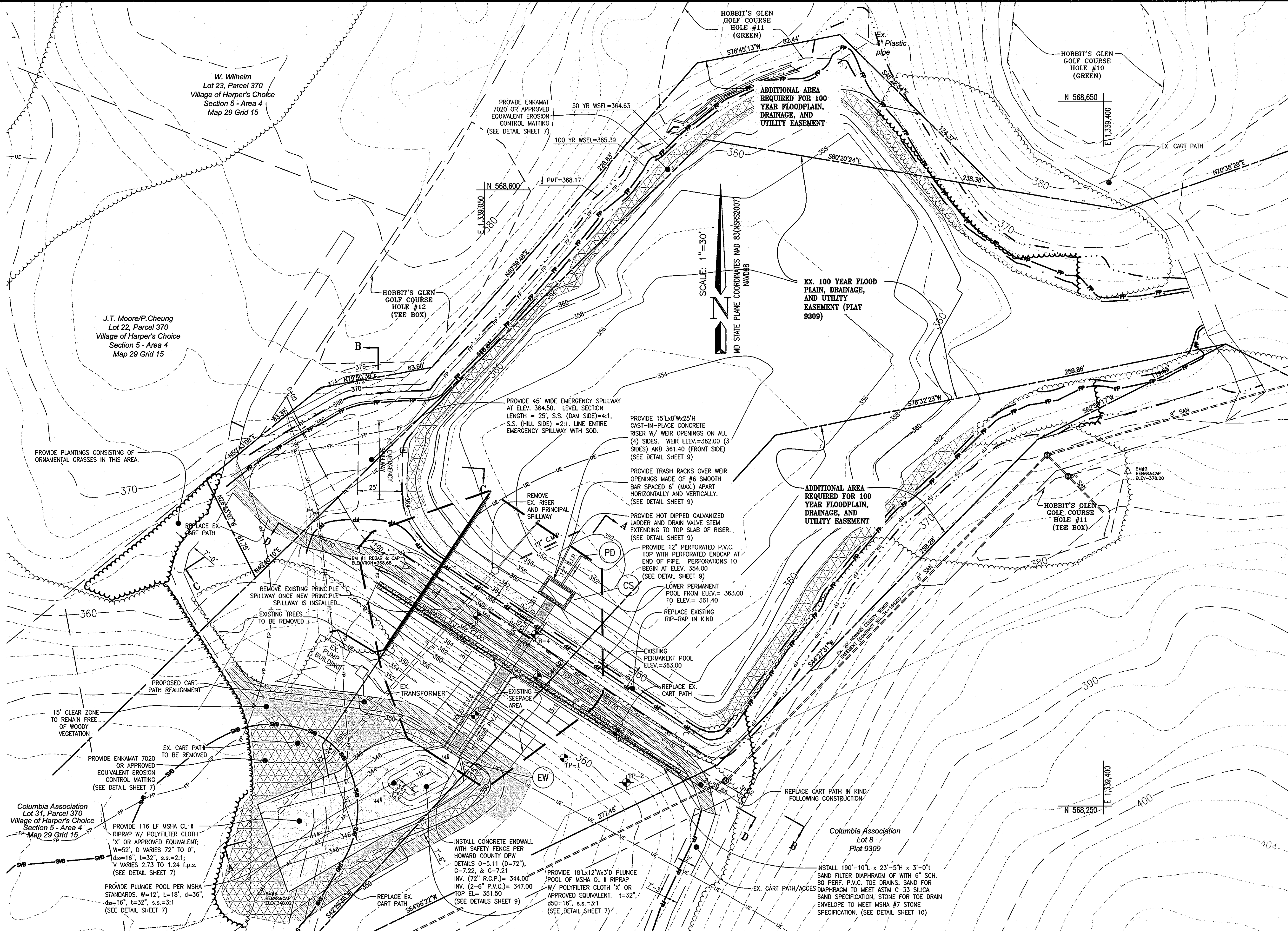
HOWARD SCD

SEDIMENT CONTROL PLAN VIEW
RECORD PLAT 9309, L. 3324/F.191
HOBBIT'S GLEN GOLF COURSE DAM
MAINTENANCE AND REPAIRS (MD DAM No 431)
VILLAGE OF HARPER'S CHOICE
TAX MAP 29, PARCEL 135, LOT 8, AREA: 109.57 Ac.
ELECTION DISTRICT NO. 5, HOWARD COUNTY, MD

CPJ Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
1781 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9394
www.cpja.com • Gaithersburg, MD • Frederick, MD • Stevensville, MD • Fairfax, VA

CLIENT: THE COLUMBIA ASSOCIATION COLUMBIA, MARYLAND 21044 PHONE: (410) 381-0591 CONTACT: MR. DENNIS MATLEY	PRELIMINARY PLAN NO: N/A DESIGN: JBB DRAFT: GC DATE: DEC. 2008 SCALE: 1"=30'	SITE PLAN NO: 09-053 SHEET: 4 OF 13 FILE NO: 37-307-24.03 B
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HOWARD COUNTY SDP # 09-053
Accessed: 5/17/2010 3:58 PM Sheet: N/A 3/307/DWG 24-035



NOTE:
PLEASE SEE SHEET 11 FOR
IRRIGATION LINE RE-ALIGNMENT
PLAN.

OWNER/DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

D. Mathey 5-11-10
Signature of Owner/Developer Date
Dennis Mathey, Columbia Association, Inc.
Printed Name of Owner/Developer

POND DATA

1 YR. W.S.E.L.=	361.99
10 YR. W.S.E.L.=	363.65
50 YR. W.S.E.L.=	364.63
100 YR. W.S.E.L.=	365.39
1/2 PMF W.S.E.L.=	368.17
EX. POND BOTTOM=	354.00
PROP. POND BOTTOM=	352.00
LOW WEIR CREST=	361.40
HIGH WEIR CREST=	362.00
EMERGENCY SPILLWAY CREST=	364.50
TOP OF DAM =	369.00
EX. POND WET POOL WSEL=	363.00
PROP. POND WET POOL WSEL=	361.40

LEGEND

EXISTING CONTOUR	---
PROPOSED CONTOUR	---
MSHA RIPRAP (SEE PLAN FOR CLASS)	[Hatched Box]
LIMITS OF CART PATH REPLACEMENT	[Hatched Box]
50 YR WSEL	---
100 YR WSEL	---
1/2 PMF WSEL	---
APPROXIMATE LIMITS OF PROPOSED DAM EXCAVATION FOR PRINCIPAL SPILLWAY WORK (2:1 SIDE SLOPES)	---
15' CLEAR ZONE TO REMAIN FREE OF WOODY VEGETATION	[Hatched Box]
ENKAMAT 7020 OR APPROVED EQUIVALENT	[Cross-hatched Box]

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED IRRIGATION POND

Routine Maintenance:

- Facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the pond is functioning properly.
- Top and side slopes of the embankment shall be mowed a minimum of two (2) times per year, once in June and once in September. Other side slopes and maintenance access shall be mowed as needed. Annual inspection should occur immediately after a mowing operation.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the pond as well as the riprap or gabion outlet area shall be repaired as soon as it is noticed.
- Spillway inspection (riser and barrel) should be completed every five (5) years.

Non-Routine Maintenance:

- Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
- Sediment shall be removed from the pond, and/or forebay, no later than when the capacity of the pond and/or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons.

Maryland Department of the Environment
Water Resources Administration
Dam Safety Division

V.P. Dalal 5/12/10
Visty P. Dalal Date
Senior Regulatory & Compliance Engineer

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 5/12/10
Chief, Development Engineering Division Date

[Signature] 5/12/10
Chief, Division of Land Development Date

[Signature] 5/12/10
Director Date

"This facility has been evaluated for downstream flooding hazard by studies entitled 'Hobbit's Glen Irrigation Pond Dam Final Breach Study (September 2008)' prepared by Charles P. Johnson & Associates, Inc. The study concludes that this facility is a Class B facility with a 'Significant Hazard'."

[Signature] 5/12/10
Brian Davis, PE #19508 Date
Charles P. Johnson & Associates, Inc.

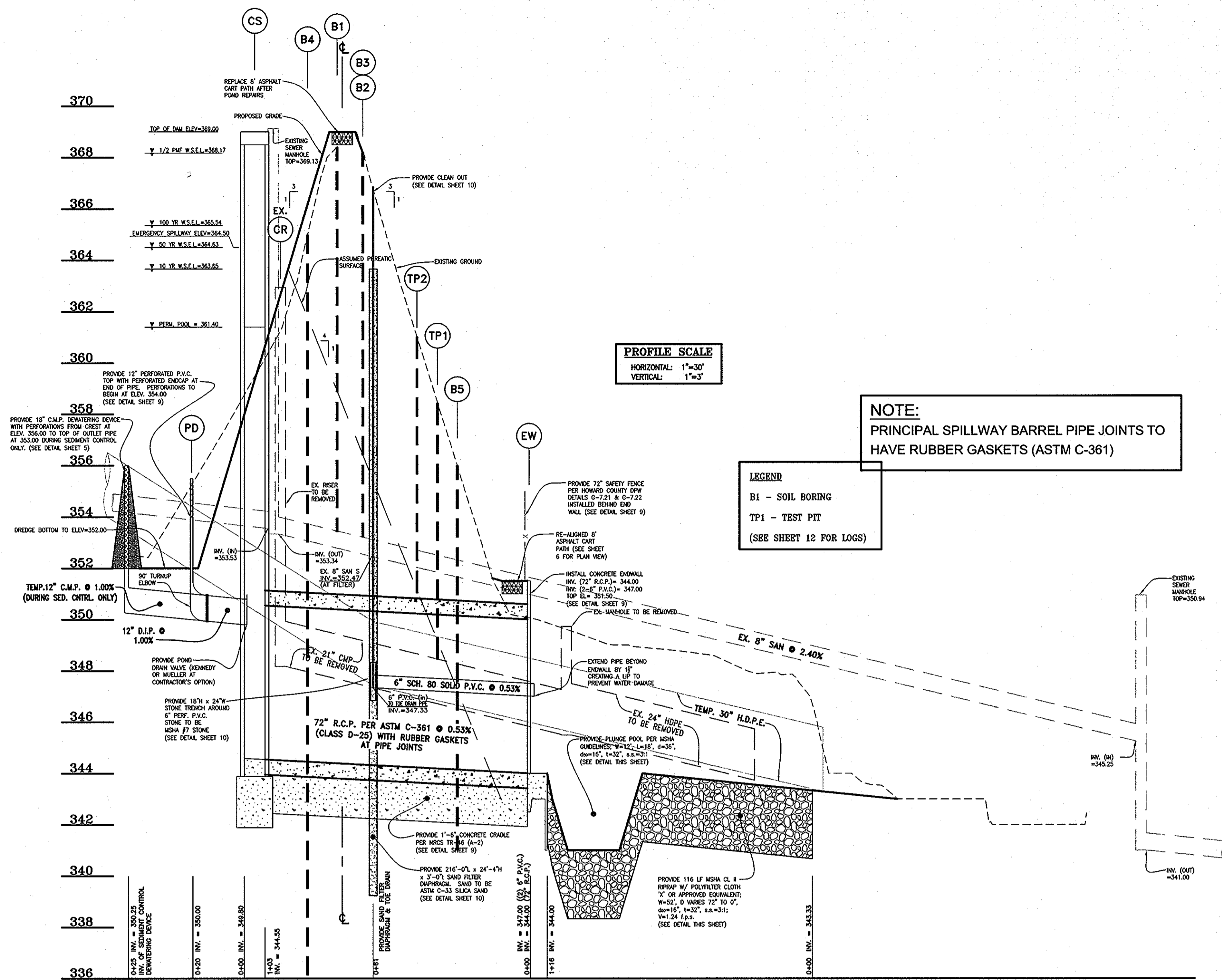


POND REPAIR PLAN VIEW
RECORD PLAT 9309, L. 3324/F.191
HOBBIT'S GLEN GOLF COURSE DAM
MAINTENANCE AND REPAIRS (MD DAM No 431)
VILLAGE OF HARPER'S CHOICE
TAX MAP 29, PARCEL 135, LOT 8, AREA: 109.57 AC.
ELECTION DISTRICT NO. 5, HOWARD COUNTY, MD

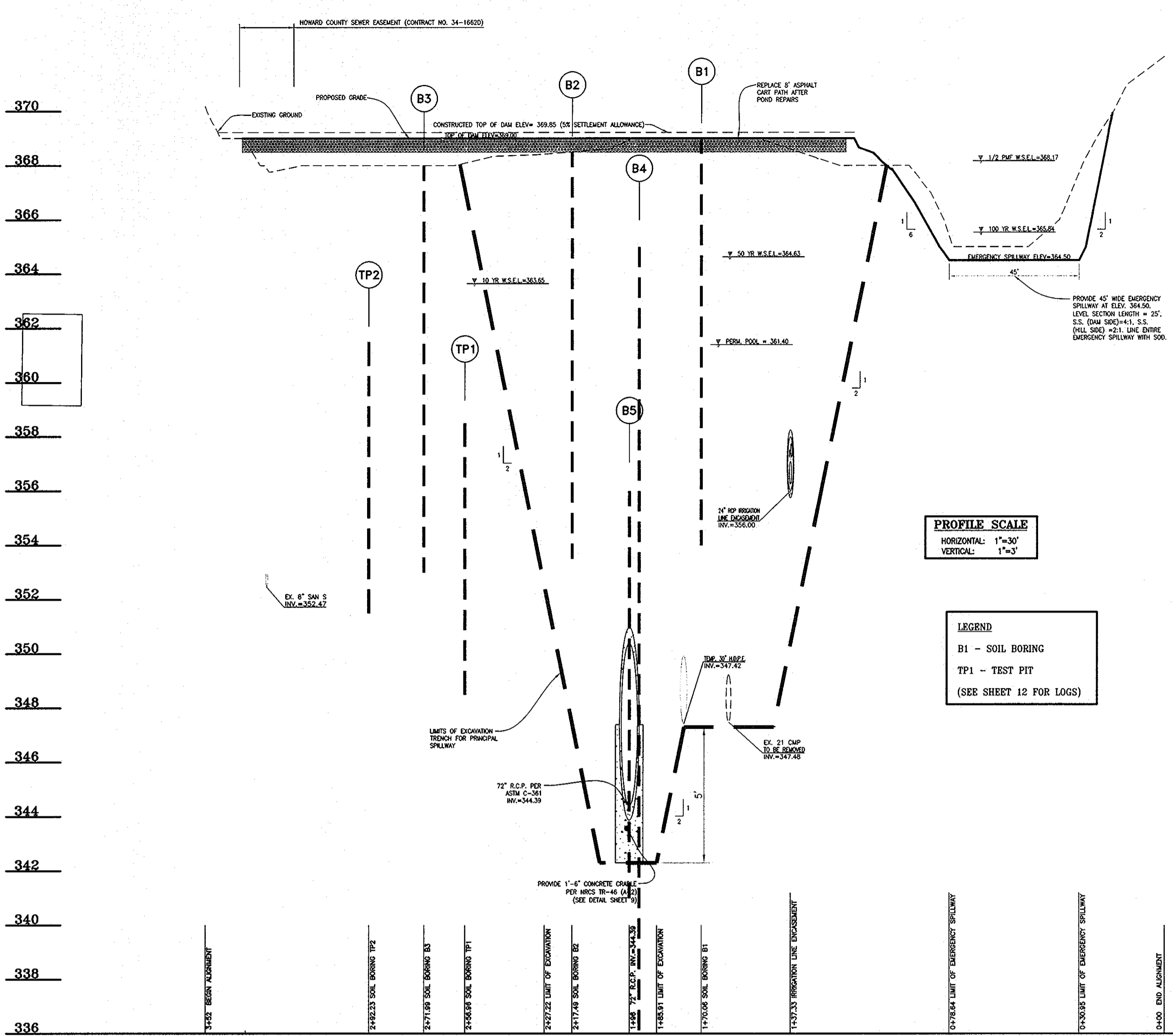
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www.cpja.com • Gaithersburg, MD • Frederick, MD • Stevensville, MD • Fairfax, VA

CLIENT:	THE COLUMBIA ASSOCIATION	PRELIMINARY PLAN NO:	N/A	SITE PLAN NO:	09-053
DESIGN:	JBB	DATE:	DEC, 2008	SHEET:	6
DRAFT:	GC	SCALE:	1/30'	OF:	13
DATE:	DEC, 2008	FILE NO.:	37-307-24.03 B		

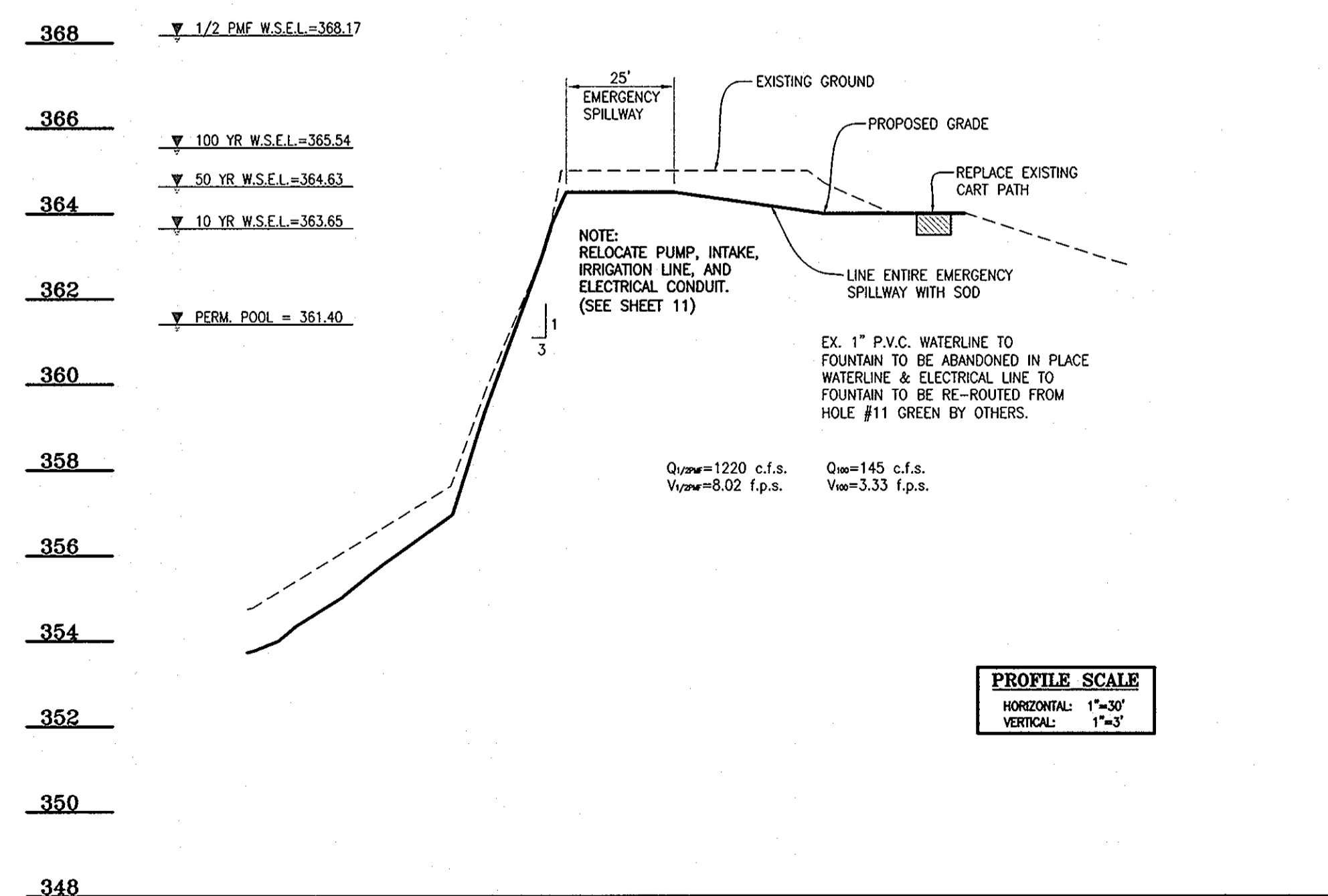
HOWARD COUNTY SDP # 09-053



EMBankment CROSS SECTION PROFILE (SECTION A-A)



EMBankment CENTERLINE PROFILE (SECTION B-B)



EMergency SPILLWAY PROFILE (SECTION C-C)

ENKAMAT - EROSION CONTROL MATTING

Channel / ditch lining installation

Installation step-by-step:

- Shape and compact the ditch to specifications and dress the ditch so that it is free of any rocks, soil clumps, or vehicle ruts that would prevent the Enkamat from being flush to surface contours. Then cut side slope shapers and check slope into the soil. (See detail sheet 10)
- Starting downstream, cut a terminal slot and align the initial roll along the ditch center line. Anchor Enkamat into the slot, then backfill. Roll the mat upstream over the rolled terminal and stake on diagonal. Then progress upstream with the Enkamat spread side down, working across the check slots, and joining the Enkamat with temporary anchors to maintain tension and alignment. Then back the Enkamat into slots and anchor. (Note: Starting Enkamat approximately 1/2 percent before rising. Downstream slopes should cut up slightly.)
- The side rolls should follow in staggered sequence behind the initial roll. Working upstream over the ditch centerline, overlap the first roll by 4 inches with another roll and by 4 inches onto the side-slope shed.
- Proceeding upstream, anchor the overlaps and mat edges on side-slope shapers at 3 to 5 foot intervals.
- Repeat steps 3 and 4 with the remaining side-slope roll.
- If splicing a new roll is necessary, use 3 foot overlaps and overlap downstream.
- Secure the upstream roll ends in a terminal slot.
- Backfill and tamp soil into the check slots and both upper and lower terminal slots.
- Distribute the grass seed by specific method. (700 requires soil filling the mat.)

Note: Please consult the Enkamat instruction manual for complete installation specifics.
* Place 2 to 3 inches of topsoil over the mat prior to planting.

RIP-RAP POND OUTFALL DETAIL

(NO SCALE)

PLUNGE POOL DETAIL

(LOOKING DOWNSTREAM) N.T.S.

NOTES:

- PLUNGE POOL TO BE CLASS II RIPRAP (50=16", t=32")
- LINE PLUNGE POOL WITH POLYFILTER CLOTH "X" OR APPROVED EQUIVALENT UNDER RIPRAP

PIPE SCHEDULE

Material	Length	Specification
Solid 6" PVC	74'	Schedule 80
Perforated 6" PVC	183'	Schedule 80
72" R.C.P.	103'	ASTM C-361 (CL D-25)
12" DIP	22'	Class 54
24" R.C.P.	100'	ASTM C-361 (CL D-25)

Maryland Department of the Environment
Water Resources Administration
Dam Safety Division

V. P. Dalal 5/12/10
Senior Regulatory & Compliance Engineer Date

APPROVED DEPARTMENT OF PLANNING AND ZONING

[Signature] 6/12/10
Chief, Development Engineering Division Date

[Signature] 7/7/10
Chief, Division of Land Development Date

[Signature] 7/7/10
Director Date

POND PROFILES

RECORD PLAT 9309, L. 3324/F.191
HOBBIT'S GLEN GOLF COURSE DAM
MAINTENANCE AND REPAIR (MD DAM No 431)
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OWNER/DEVELOPER'S CERTIFICATE

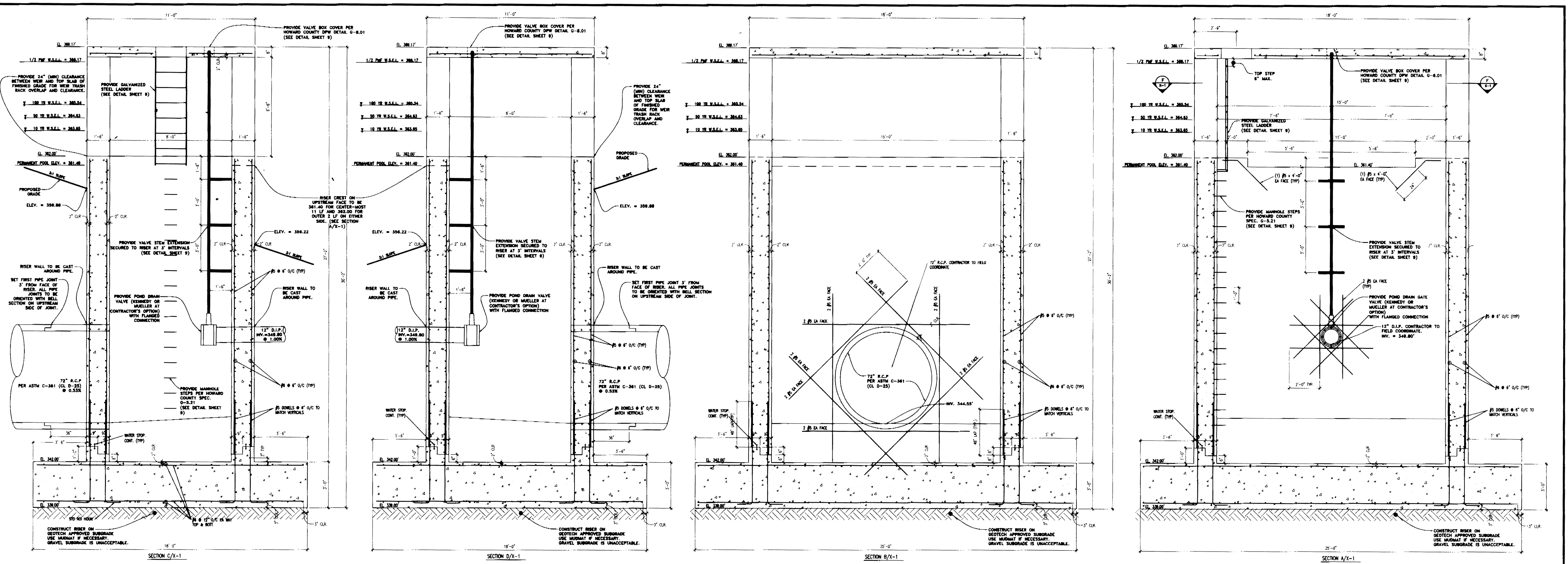
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[Signature] 5-11-10
Signature of Owner/Developer Date

Dennis Matthey, Columbia Association, Inc.
Printed Name of Owner/Developer

CLIENT: THE COLUMBIA ASSOCIATION 9450 GERVING LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 381-0591 CONTACT: MR. DENNIS MATTHEY	PRELIMINARY PLAN NO.: N/A DESIGN: JBB DRAFT: JBB DATE: DEC., 2008 SCALE: AS SHOWN	SITE PLAN NO.: 09-053 SHEET 7 OF 13 FILE NO.: 37-307-24.03 B
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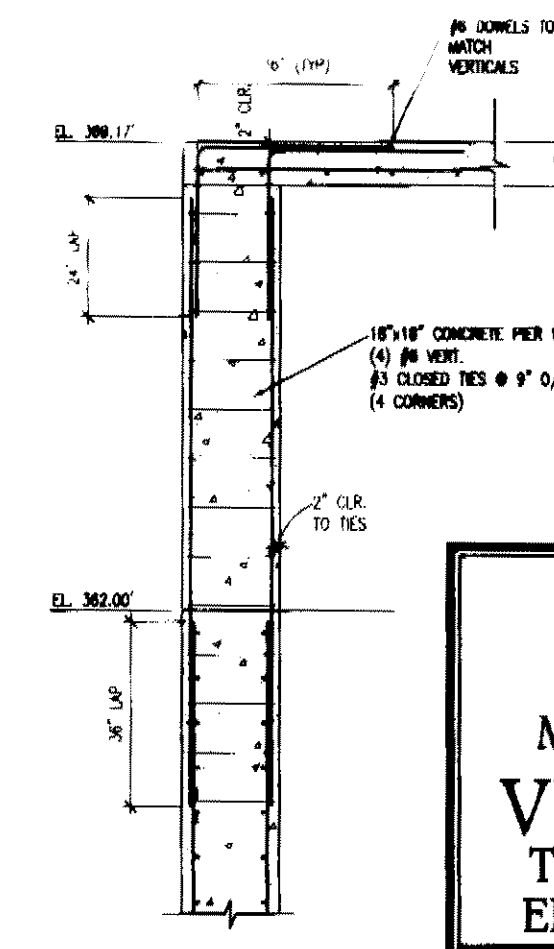
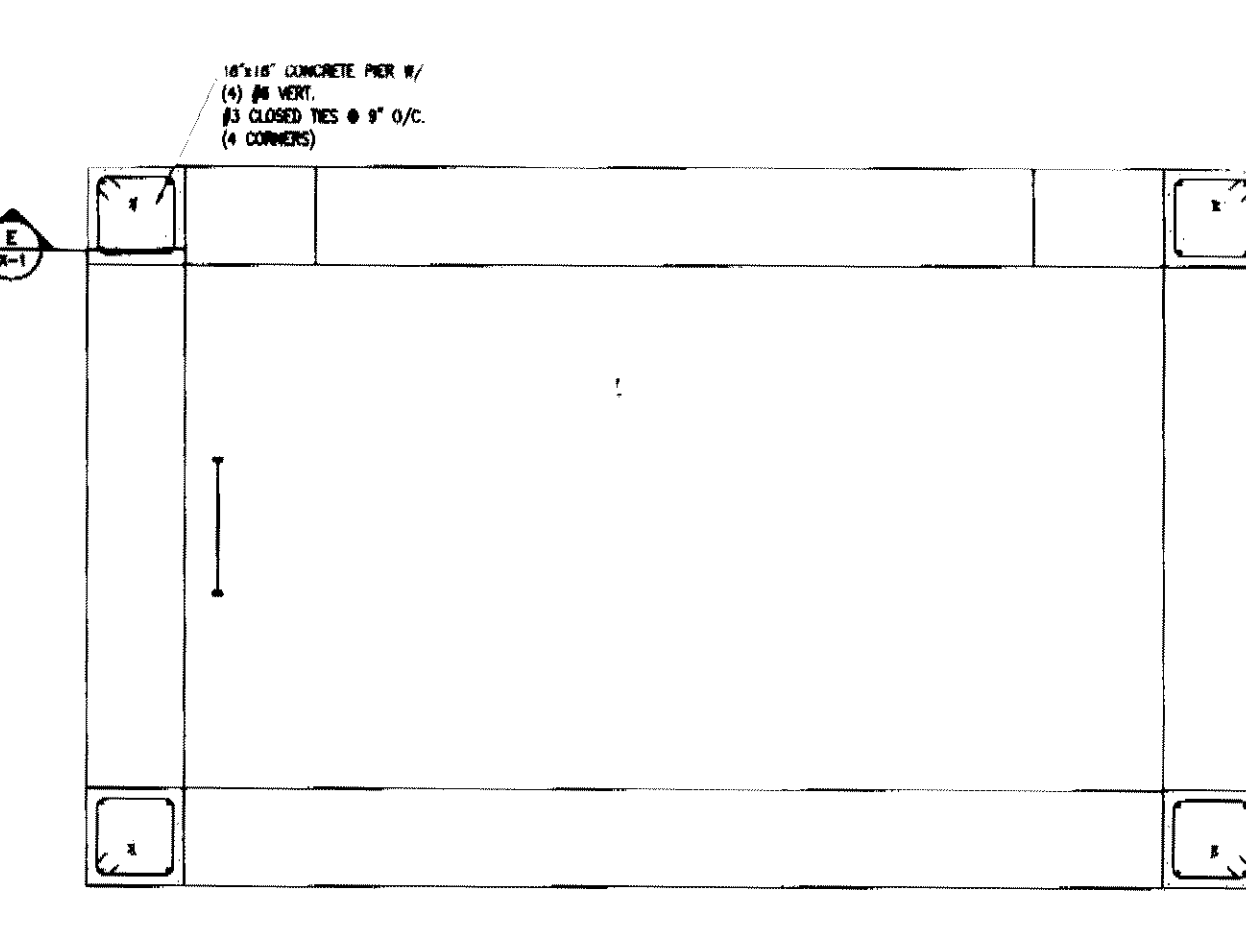
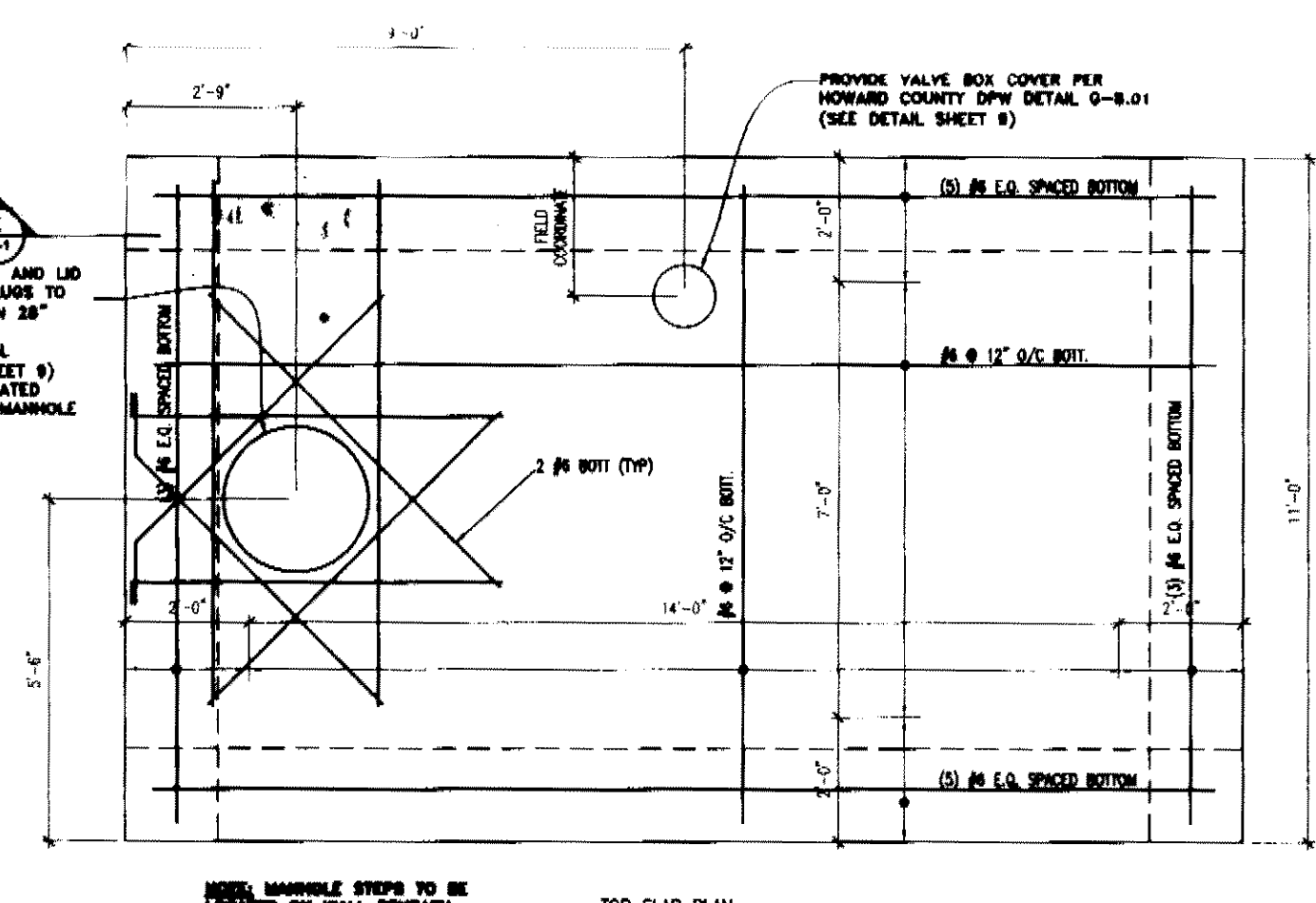
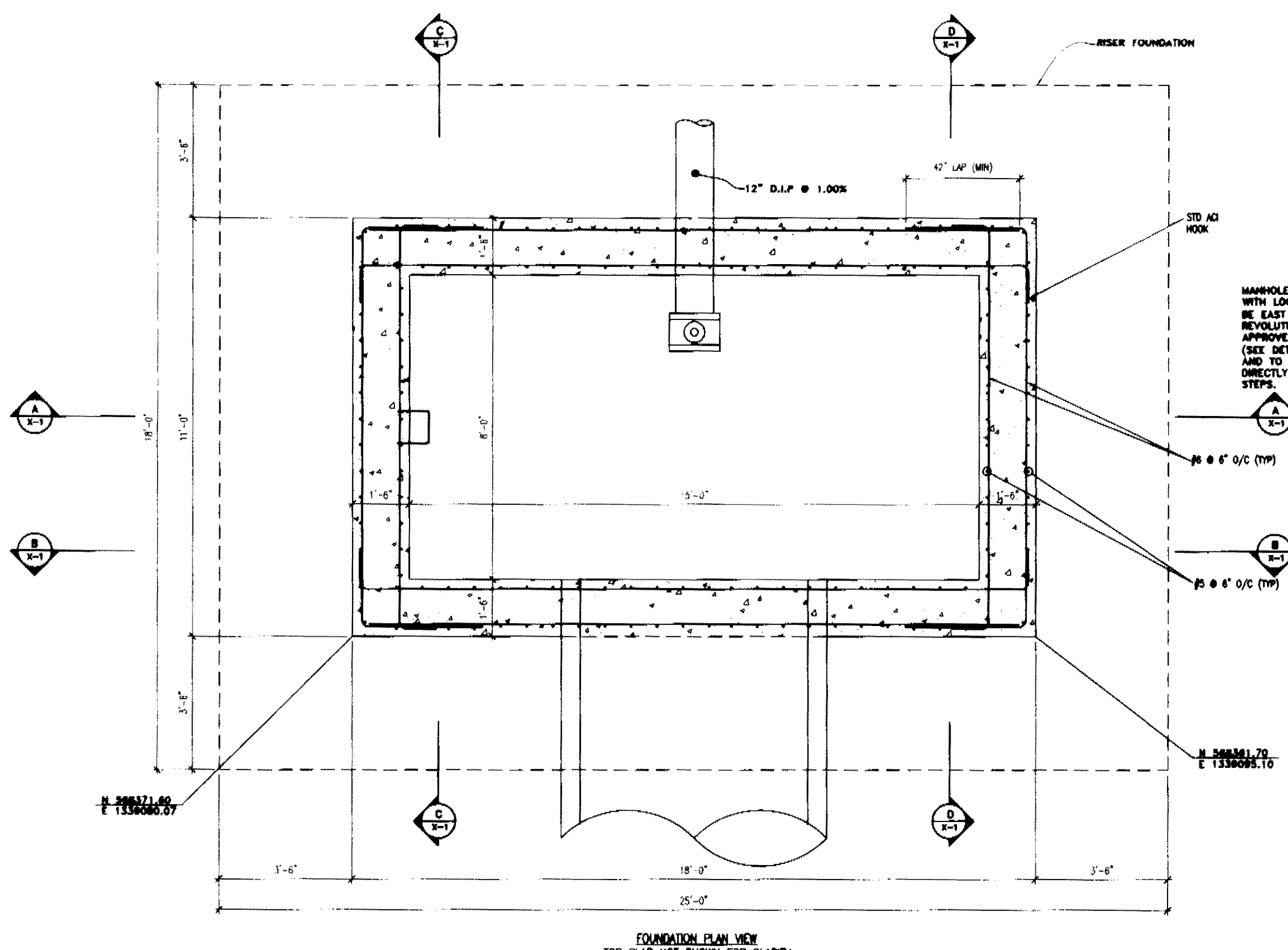
HOWARD COUNTY SDP # 09-053



TRASH RACKS NOT SHOWN FOR CLARITY

FOR STRUCTURAL NOTES SEE SHEET 9

OWNER/DEVELOPER'S CERTIFICATE
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 Signature of Owner/Developer: *D. Mathey* Date: 5/10/10
 Dennis Mathey, Columbia Association, Inc.
 Printed Name of Owner/Developer



POND DETAILS (1 OF 2)
 RECORD PLAT 9309, L. 3324/F.191
 HOBBIT'S GLEN GOLF COURSE DAM
 MAINTENANCE AND REPAIRS (MD DAM No. 431)
VILLAGE OF HARPER'S CHOICE
 TAX MAP 29, PARCEL 135, LOT 8, AREA: 109.57 AC.
 ELECTION DISTRICT NO. 5, HOWARD COUNTY, MD

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 www.cjpa.com • Gaithersburg, MD • Frederick, MD • Stevensville, MD • Fairfax, VA

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: *[Signature]* Date: 5/10/10
 Chief, Division of Land Development: *[Signature]* Date: 5/10/10
 Director: *[Signature]* Date: 5/10/10

Maryland Department of the Environment
 Water Resources Administration
 Dam Safety Division
V.P. Dalal 5/12/10
 Visty P. Dalal
 Senior Regulatory & Compliance Engineer

CLIENT: THE COLUMBIA ASSOCIATION 9450 GERWIG LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 361-6991 CONTACT: MR. DENNIS MATHEY	PRELIMINARY PLAN NO: N/A SITE PLAN NO: 09-063
DESIGN: JBB DRAFT: GC DATE: DEC. 2008 SCALE: 1/4"=1'	SHEET: 8 OF 13 FILE NO: 37-307-24.03 B

HOWARD COUNTY SDP # 09-053

STRUCTURAL NOTES

- BUILDING CODES**
 - ALL CONSTRUCTION SHALL CONFORM WITH THE 2006 INTERNATIONAL BUILDING CODE AND ALL SUBSEQUENT SUPPLEMENTS.
 - IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE.

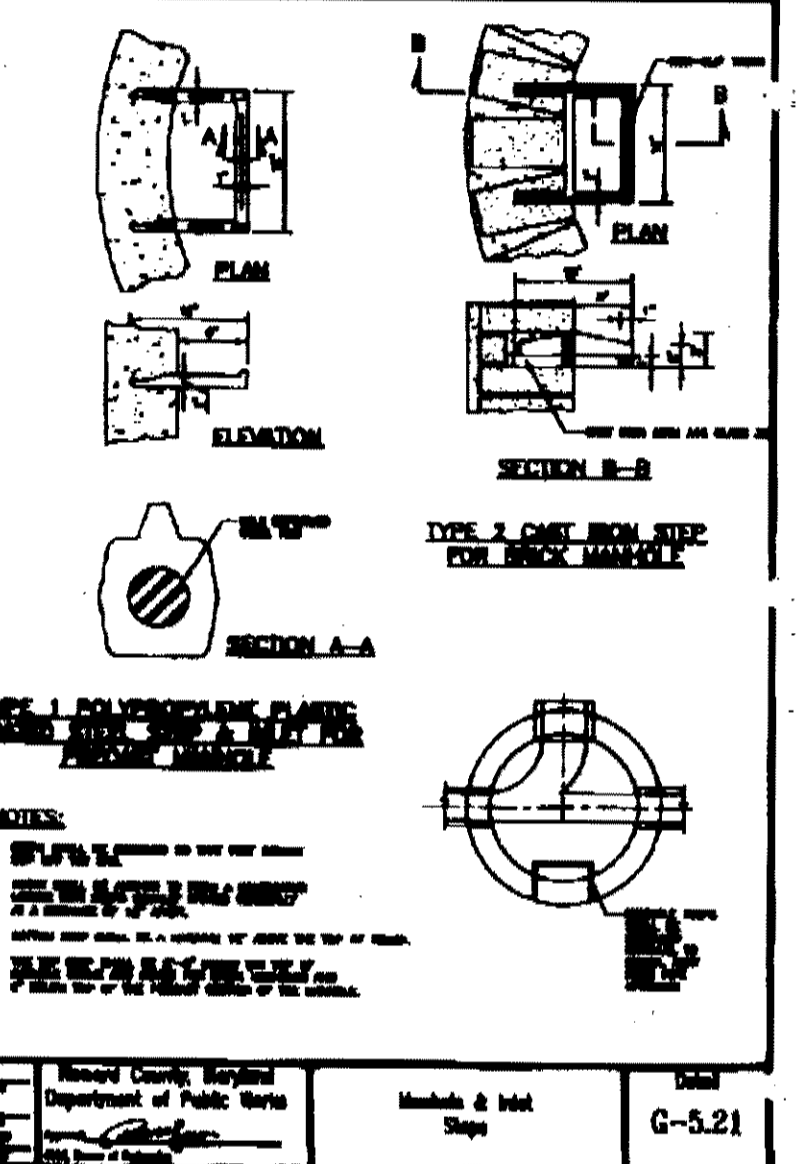
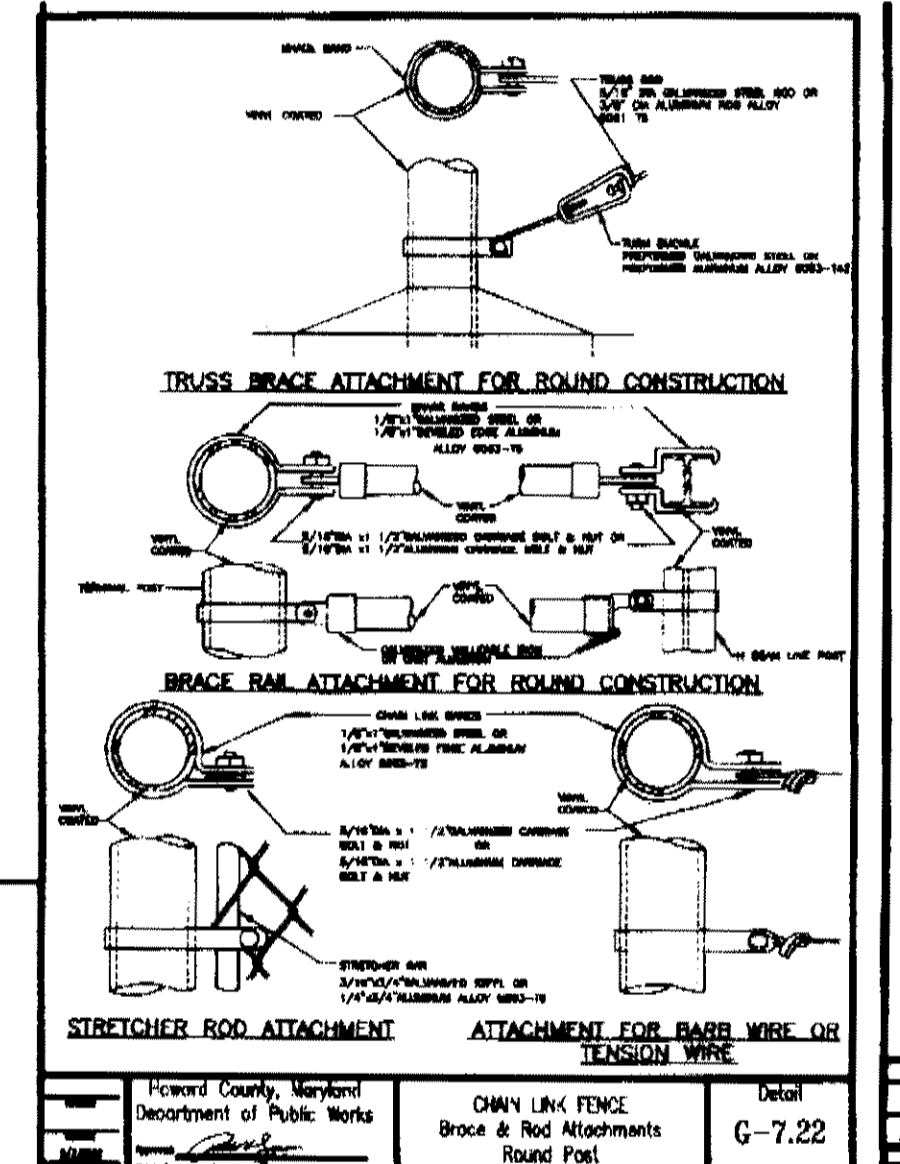
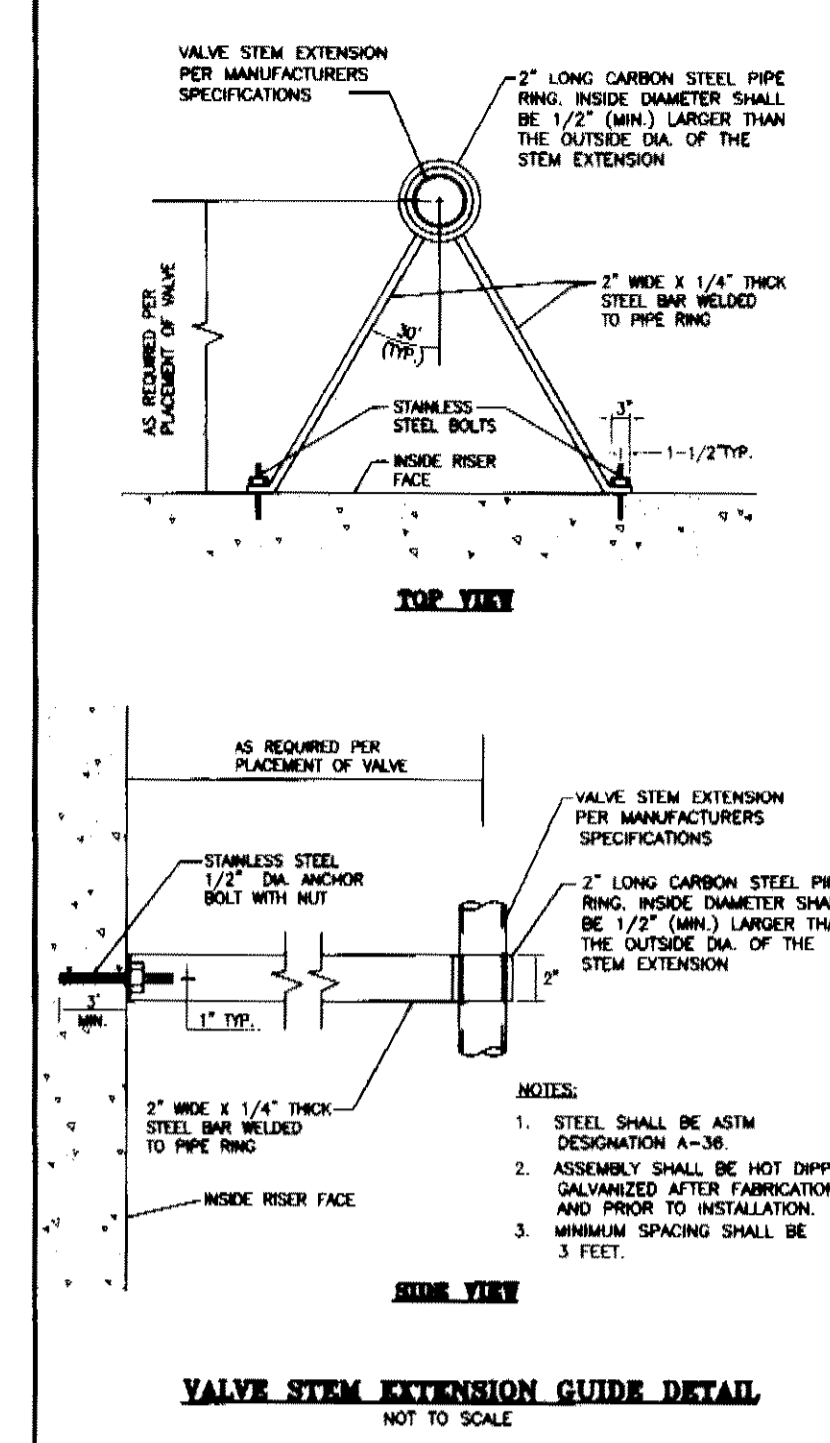
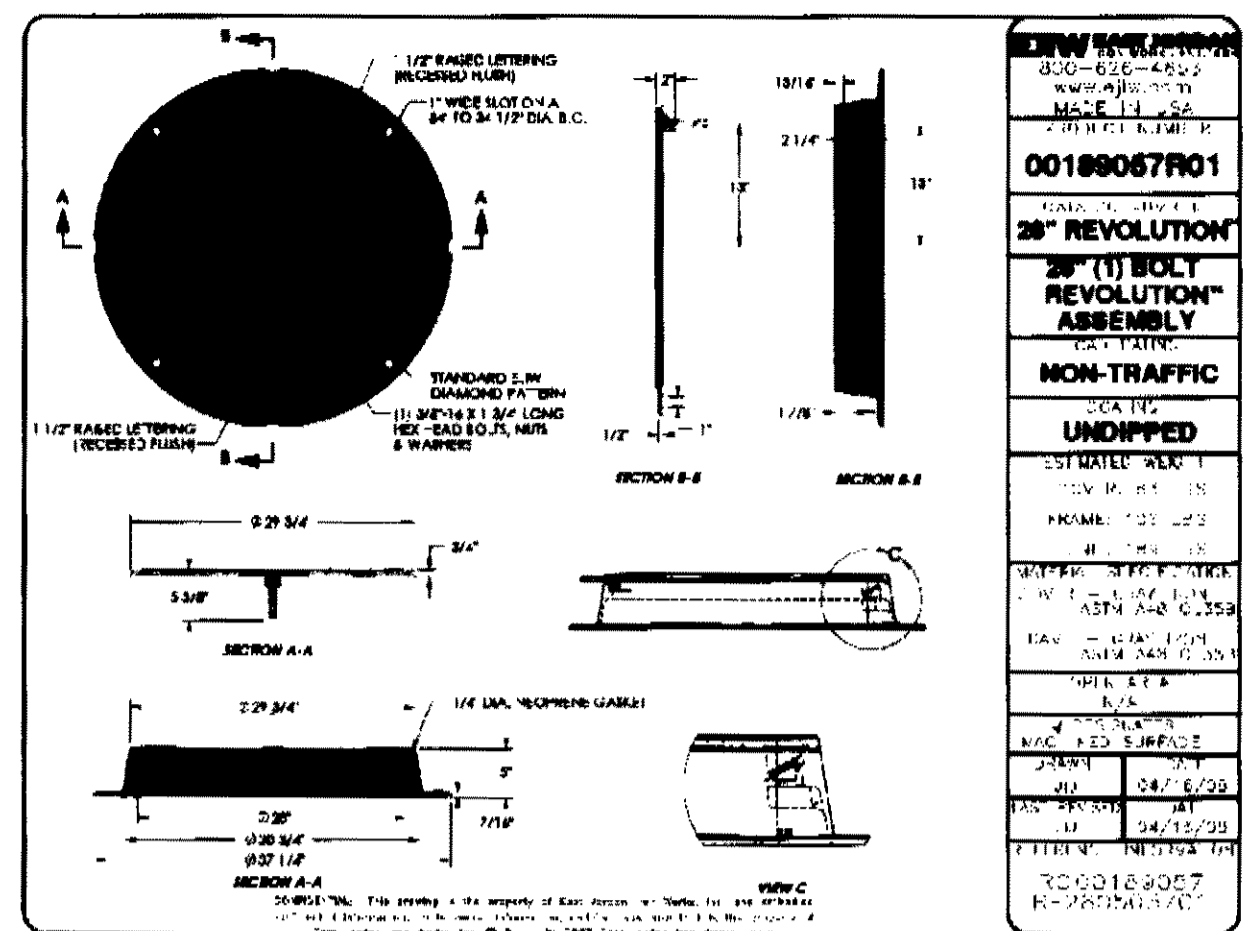
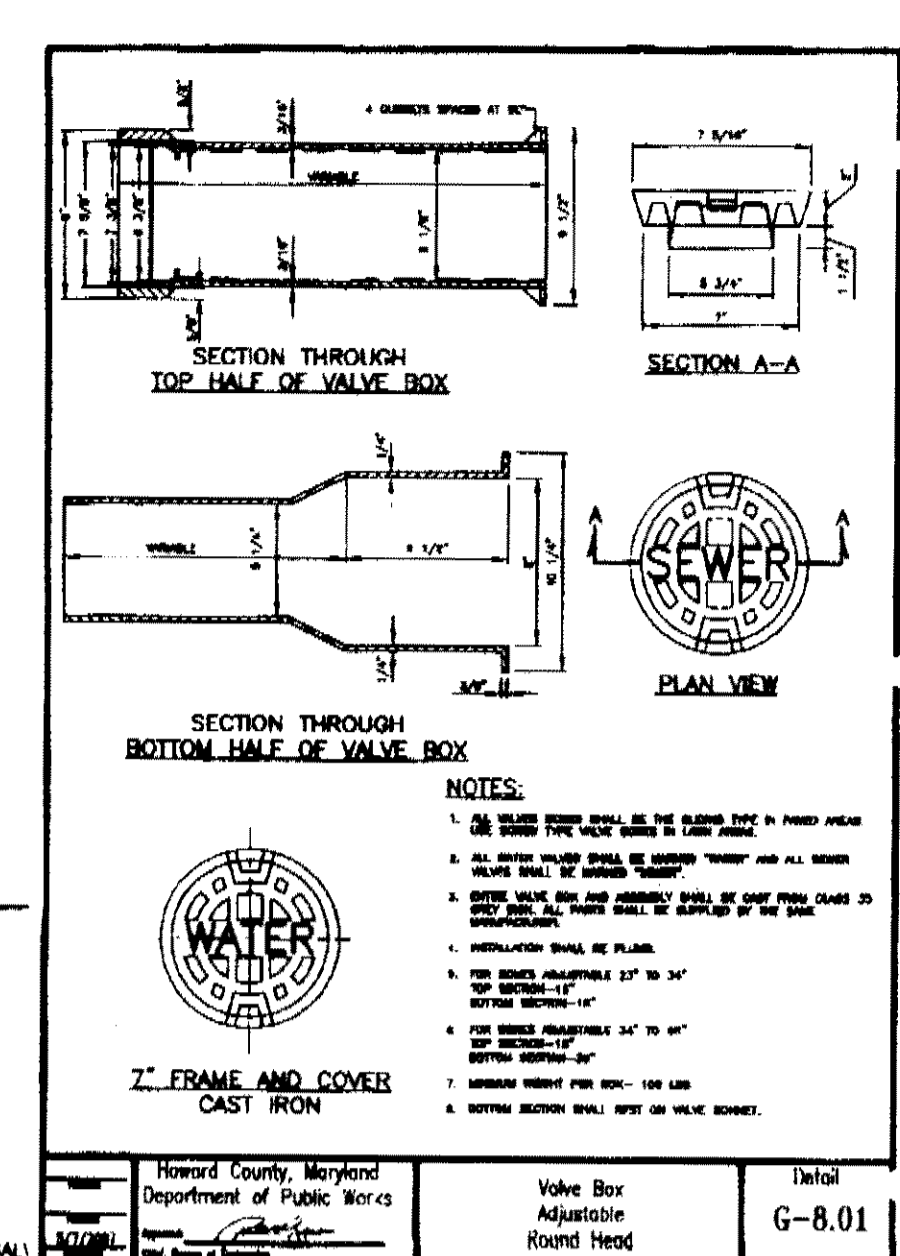
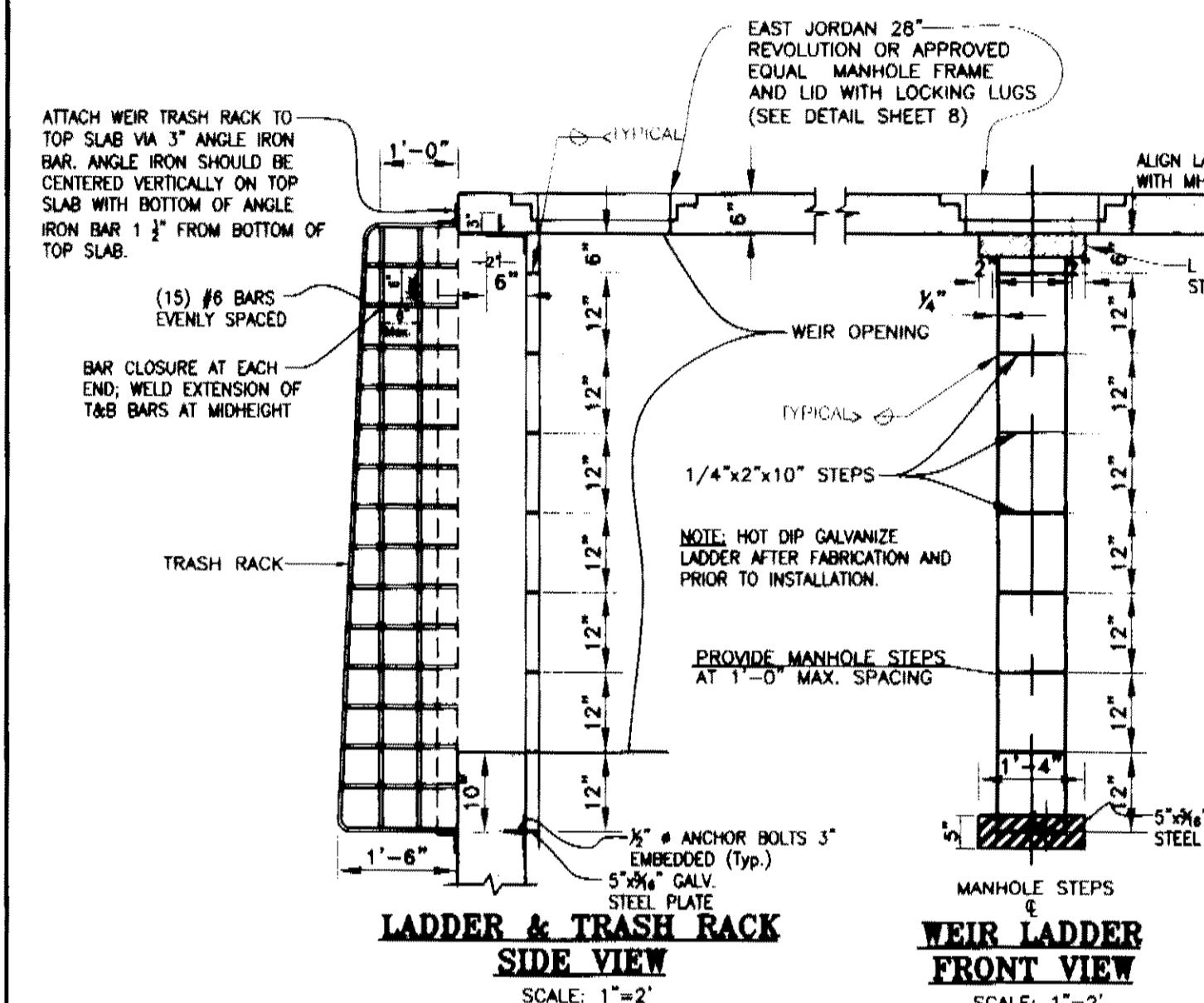
REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIAL CONSTRUCTION.
- MISCELLANEOUS**
 - THE CONTRACTOR SHALL REVIEW CIVIL DRAWINGS PREPARED BY CRJ ASSOCIATES, DATED 2-2010 FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS.
 - THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
 - THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
 - SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- FOUNDATIONS**
 - ALL FOUNDATIONS HAVE BEEN DESIGNED FOR A NET ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOUNDATIONS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 2000 PSF, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
 - ALL FILL PLACED UNDER FOUNDATIONS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698.
 - ALL EXCAVATION AND BACKFILLING OPERATIONS WITHIN THE STRUCTURE FOOTPRINT, INCLUDING ALL COMPACTION TESTS AND INSPECTIONS, SHALL BE DONE UNDER THE DIRECTION AND SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER. CONTRACTOR SHALL BACKFILL AROUND PERIMETER OF THE RISER AT AN EVEN RATE SO AS NOT TO CAUSE AN OVERTURNING MOMENT.
 - THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL FOUNDATION AND SOIL CONDITIONS WHICH DIFFER FROM THOSE ANTICIPATED OR INDICATED IN THE CONTRACT DOCUMENTS.
 - ALL EXISTING SOIL CONTAINING GRAVEL, CONSTRUCTION OR DEMOLITION DEBRIS, ORGANIC SUBSTANCES, OR OTHER FOREIGN OBJECTS SHALL BE REMOVED FROM THE REGION WITHIN THE FOOTPRINT OF THE STRUCTURE.
- CAST IN PLACE CONCRETE**
 - ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE "ENVIRONMENTAL CONCRETE STRUCTURES CODE" (ACI 308), LATEST APPROVED.
 - IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:
 - RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 305).
 - RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
 - RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 347).
 - ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 5% ±. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE 1". WATER/CEMENT RATIO SHALL BE 0.45. MAXIMUM SLUMP SHALL BE 4". 3" FOR SLABS ON GRADE. ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C 33.
 - ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A 615 GRADE 60. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A 185. LAP ALL REINFORCING BARS A MINIMUM OF 48 BAR DIAMETERS AND ALL W.W.F. A MINIMUM OF TWO FULL GRIDS, UNLESS OTHERWISE INDICATED.
 - ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI "MANUAL OF STANDARD PRACTICE," ACI 318' DETAILS AND DETAILING OF CONCRETE REINFORCEMENT," ACI SP 88 "DETAILING MANUAL".
 - ALL CONCRETE MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED BY ENGINEER PRIOR TO PLACING FIRST CONCRETE.
 - ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE.
 - GROUND BLAST FURNACE SLAG MAY BE USED (OWNERS AUTHORIZATION) TO REPLACE UP TO 30% PERCENT OF THE PORTLAND CEMENT IN A CONCRETE MIX, AND FLY ASH OR POZZOLAN MAY BE USED TO REPLACE UP TO 25 PERCENT OF PORTLAND CEMENT, SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND SHALL CONFORM TO ASTM C 989.
 - MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:

FOUNDATIONS	3 INCHES
WALLS	2 INCHES
TOP SLAB	2 INCHES
 - RETAINING WALLS HAVE BEEN DESIGNED WITH BACKFILL MATERIAL HAVING THE FOLLOWING CHARACTERISTICS:

EARTH PRESSURE CALCULATED BASED EQUIVALENT FLUID PRESSURE OF 50K

IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSURE THE BACK FILL MATERIAL MEETS THESE CHARACTERISTICS.
 - RETAINING WALLS HAVE BEEN DESIGNED FOR THE FOLLOWING MINIMUM FACTORS OF SAFETY:

OVERTURNING	2.0 OR BETTER
SLIDING	1.5 OR BETTER
BOUYANCY	1.5 OR BETTER UNDER 1/2 P.M.F.
 - DO NOT BACKFILL UNTIL CONCRETE HAS REACHED ITS DESIGN STRENGTH AT 28 DAYS.

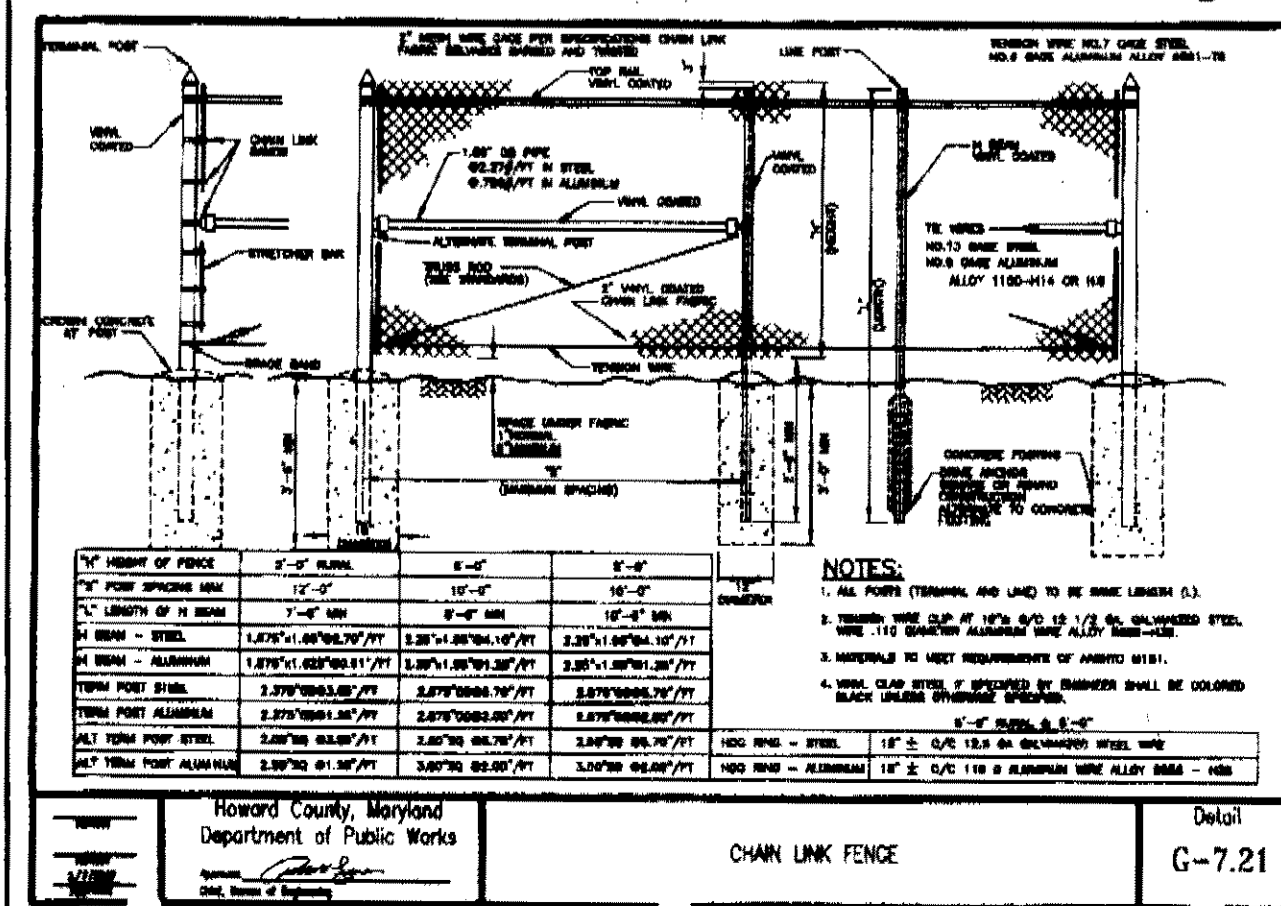
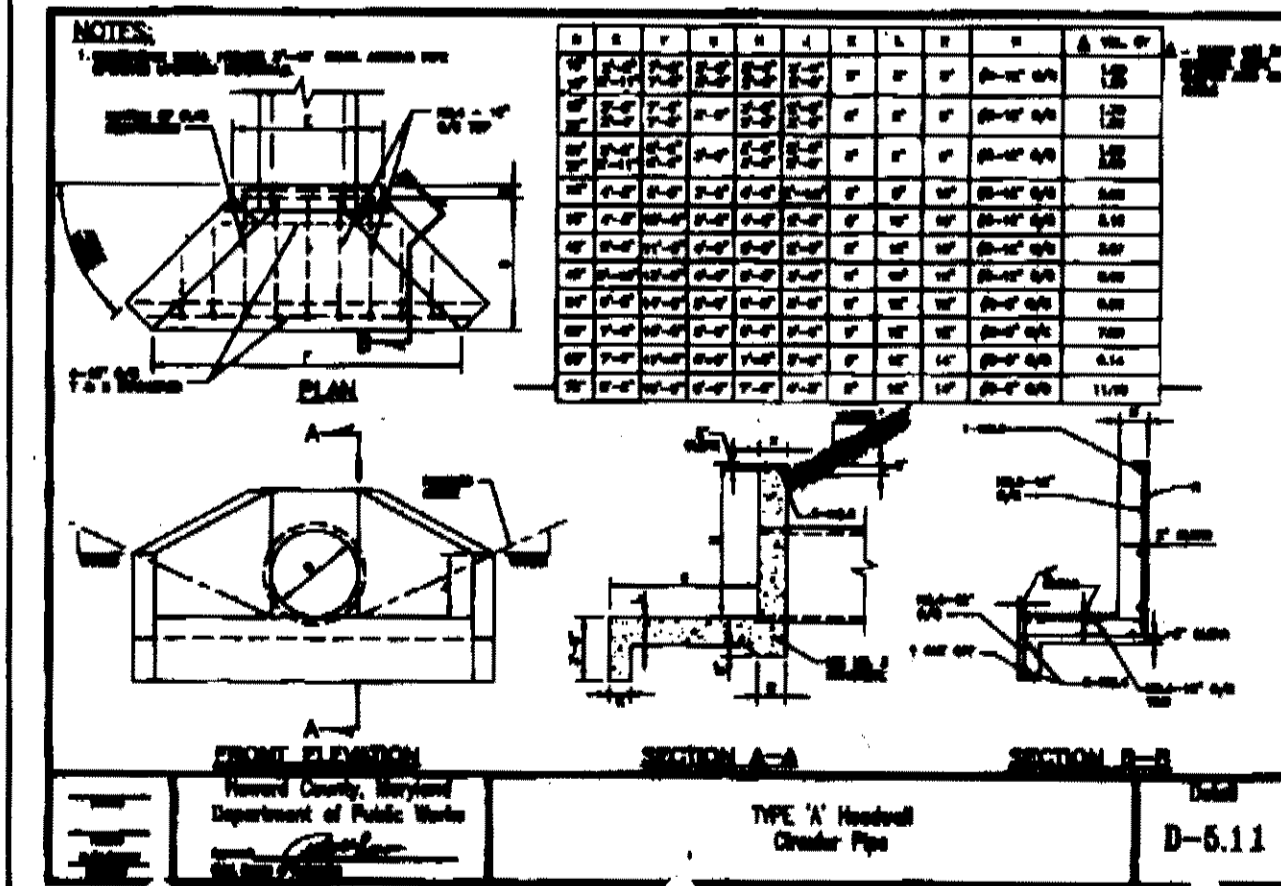
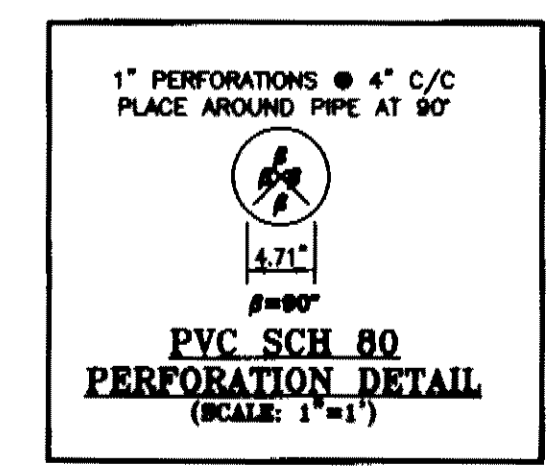
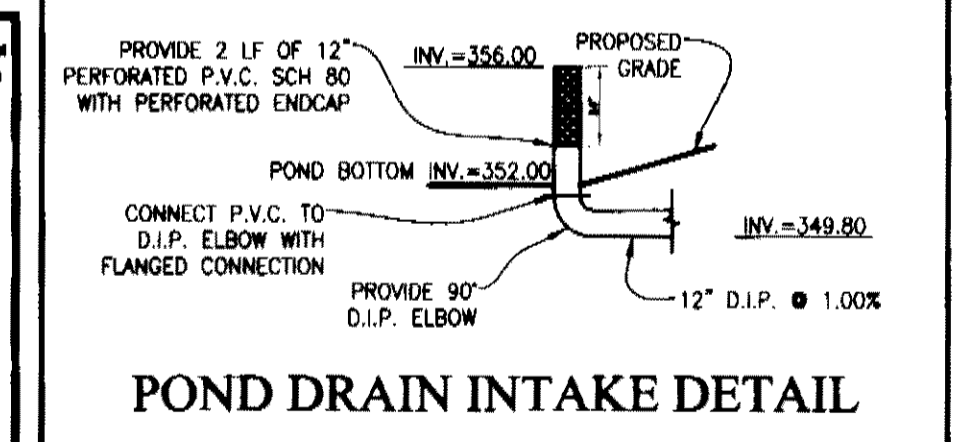
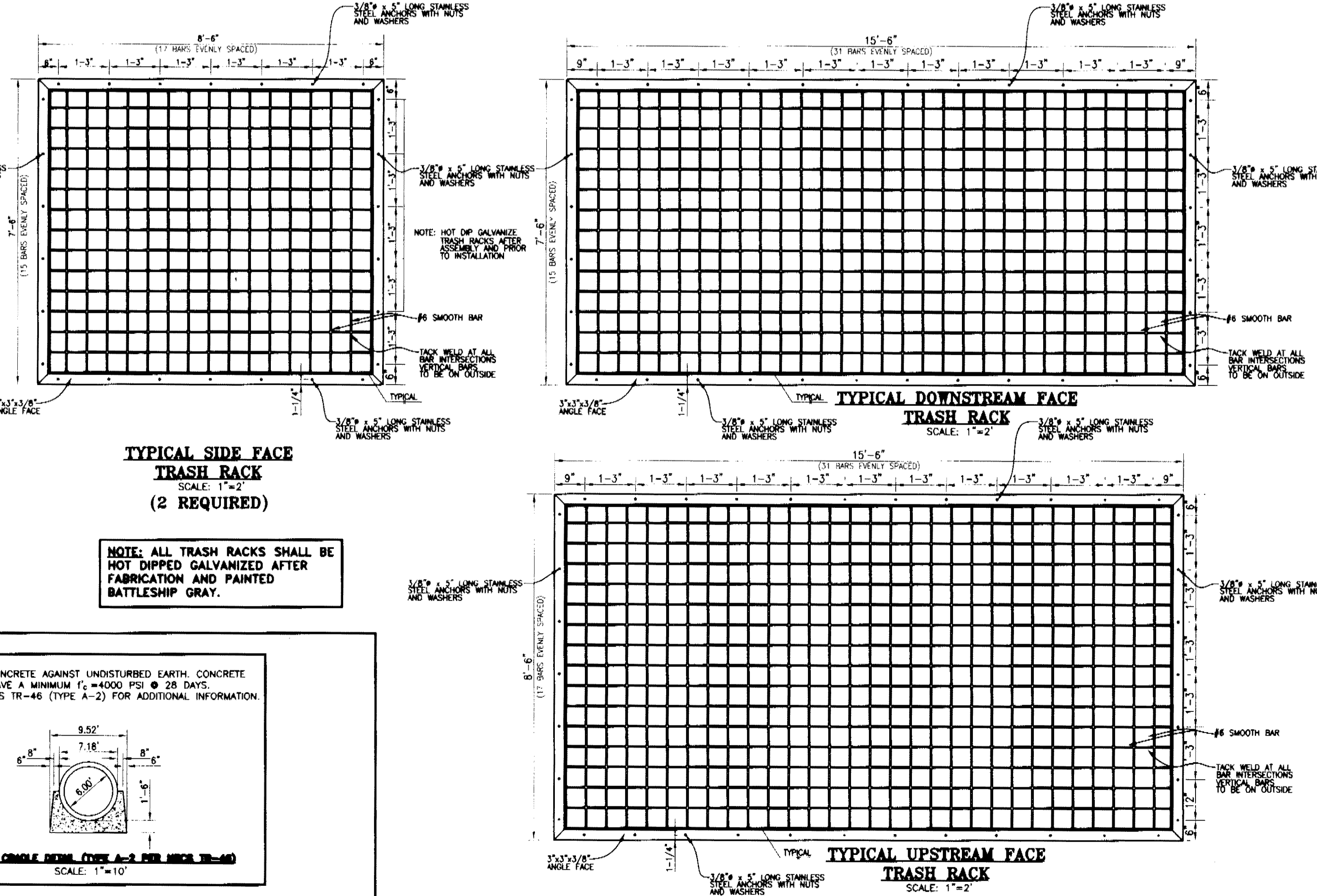


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D. Matty *SHP*
Signature of Owner/Developer Date

Dennis Matthey, Columbia Association, Inc.
Printed Name of Owner/Developer



Maryland Department of the Environment
Water Resources Administration
Dam Safety Division

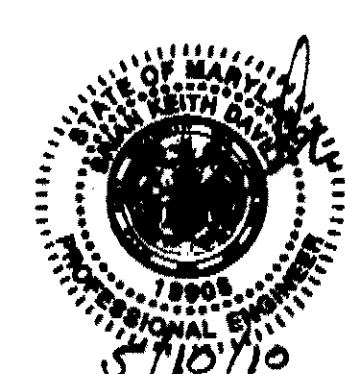
V. P. Dajal *5/12/10*
Vistay P. Dajal Date
Senior Regulatory & Compliance Engineer

APPROVED DEPARTMENT OF PLANNING AND ZONING
Chief, Department of Planning and Zoning *Ullako*
Chief, Division of Land Development *7/2/10*
Amos *7/2/10*
Director

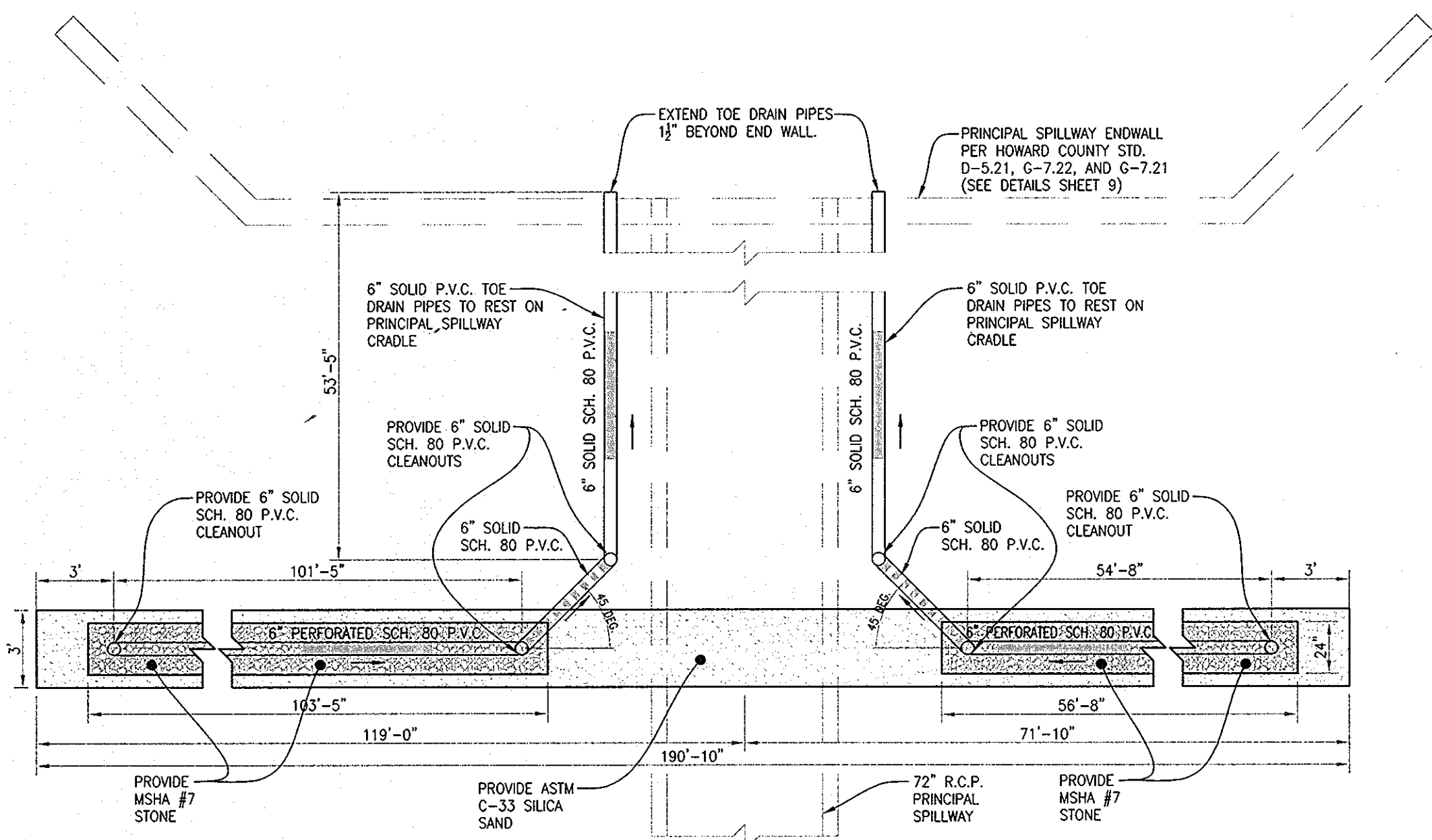
POND DETAILS (2 OF 2)
RECORD PLAT 9309, L. 3324/F.191
HOBBITT'S GLEN GOLF COURSE DAM
MAINTENANCE AND REPAIRS (MD DAM No. 431)
VILLAGE OF HARPER'S CHOICE
TAX MAP 29, PARCEL 135, LOT 8, AREA: 109.57 Ac.
ELECTION DISTRICT NO. 5, HOWARD COUNTY, MD

CPJ Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
1751 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9394
www.cpj.com • Gaithersburg, MD • Frederick, MD • Stevensville, MD • Fairfax, VA

CLIENT: THE COLUMBIA ASSOCIATION 9450 GREENING LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 361-0591 CONTACT: MR. DENNIS MATTHEY	PRELIMINARY PLAN NO: N/A DESIGN: JBB DRAWN: GC DATE: DEC., 2008 SCALE: AS SHOWN	SITE PLAN NO: 09-053 SHEET: 9 OF 13 FILE NO: 37-307-24.03 B
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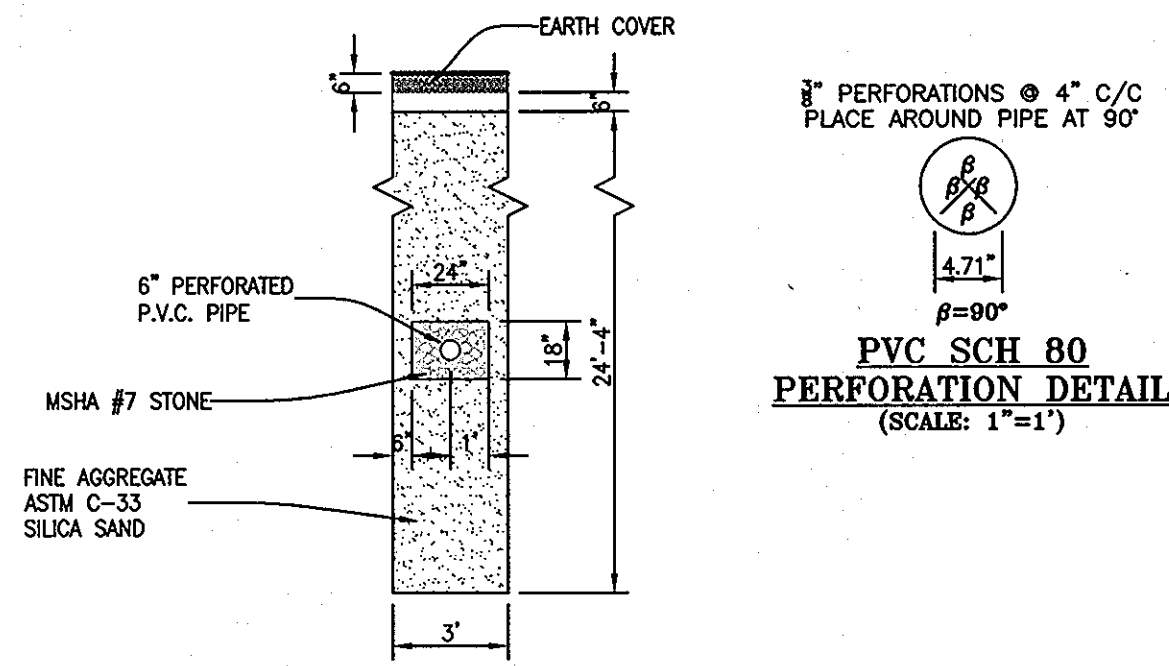
HOWARD COUNTY SDP # 09-053
Attached Axis: T82x36



FILTER DIAPHRAGM PLAN VIEW

SCALE: 1"=5'

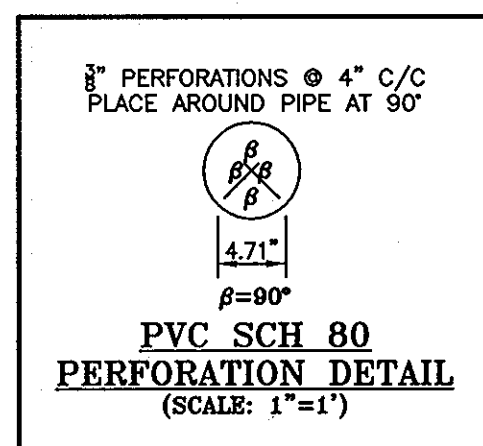
SEE CLEANOUT DETAIL THIS SHEET



- CONSTRUCTION NOTES:**
- SAND TO BE PLACED IN 6" LIFTS PRIOR TO COMPACTION.
 - EACH LIFT SHALL BE COMPACTED BY A MIN. OF 2 PASSES OF A VIBRATORY PLATE COMPACTOR OR SMOOTH WHEELED ROLLER.
 - THE UPPER SURFACE OF THE SAND CONSTRUCTED CONCURRENTLY WITH ADJACENT ZONES OF FILL SHALL BE MAINTAINED AT A MIN. ELEVATION OF 1FOOT ABOVE THE UPPER SURFACE OF ADJACENT FILL.
 - SAND SHALL BE COMPACTED TO AT LEAST 95% OF A ONE POINT ASTM D698A ENERGY TEST ON A DRY SAND SAMPLE.

TYPICAL SECTION OF TOE DRAIN

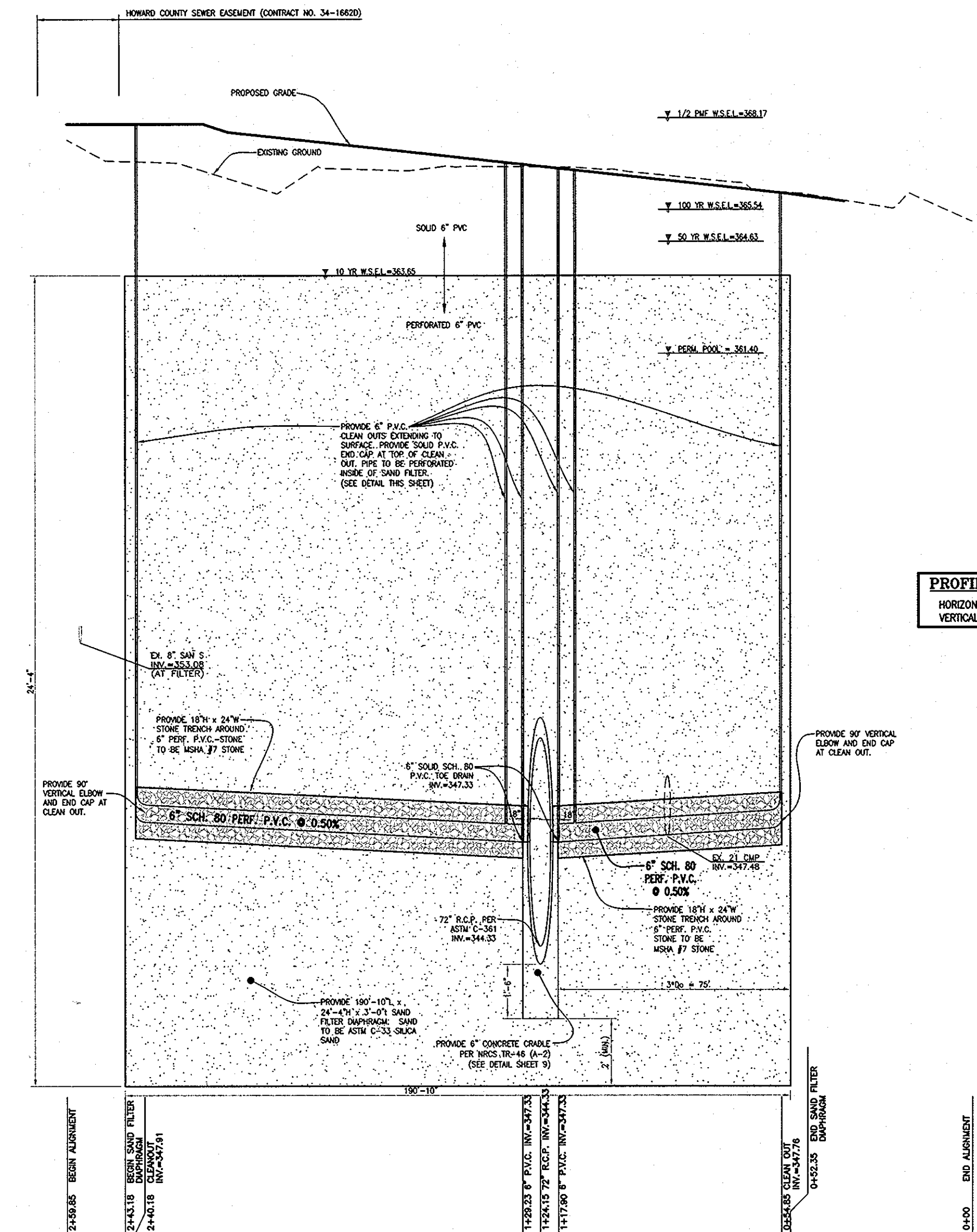
(SCALE: 1"=5')



PVC SCH 80 PERFORATION DETAIL

(SCALE: 1"=1')

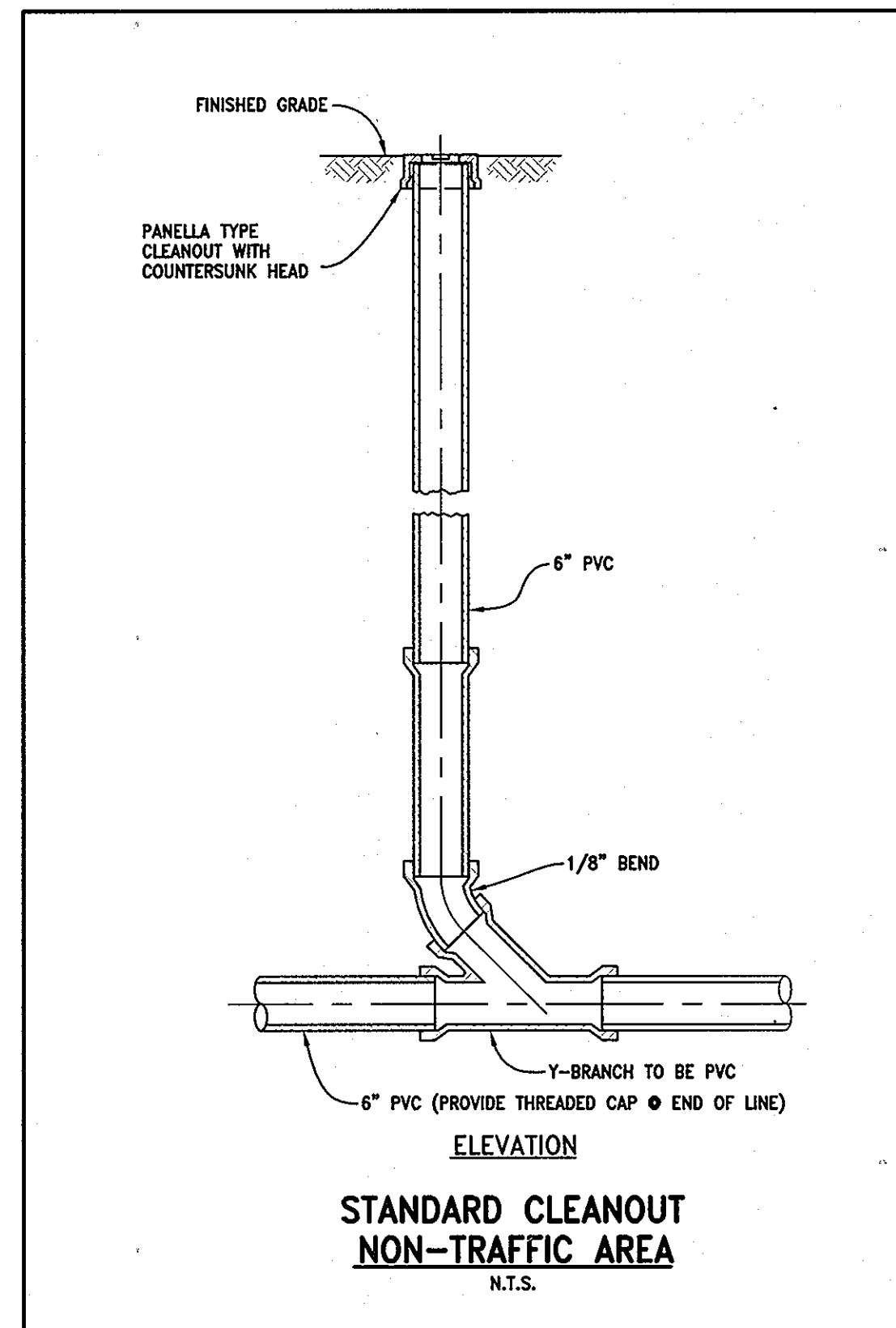
370
368
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346
344
342
340
338
336



PROFILE SCALE

HORIZONTAL: 1"=30'
VERTICAL: 1"=3'

FILTER DIAPHRAGM CENTERLINE PROFILE (SECTION D-D)



STANDARD CLEANOUT NON-TRAFFIC AREA

N.T.S.

OWNER/DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Dennis Matthey Signature of Owner/Developer
Dennis Matthey, Columbia Association, Inc. Printed Name of Owner/Developer

5/11/10 Date

Maryland Department of the Environment Water Resources Administration Dam Safety Division

V.P. Dalal Senior Regulatory & Compliance Engineer
5/12/10 Date

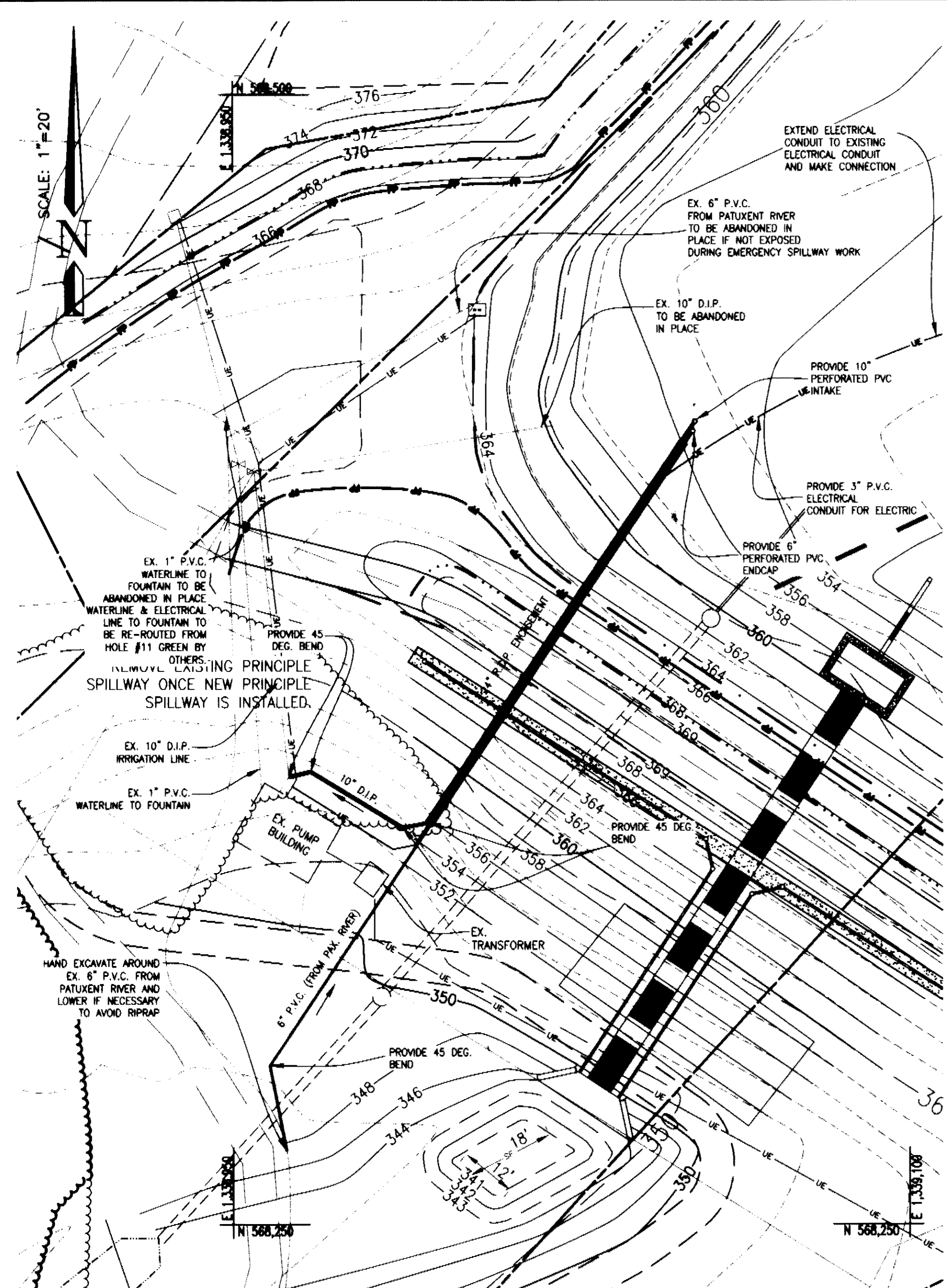
APPROVED DEPARTMENT OF PLANNING AND ZONING

[Signature] Chief, Development Engineering Division
[Signature] Chief, Division of Land Development
[Signature] Director

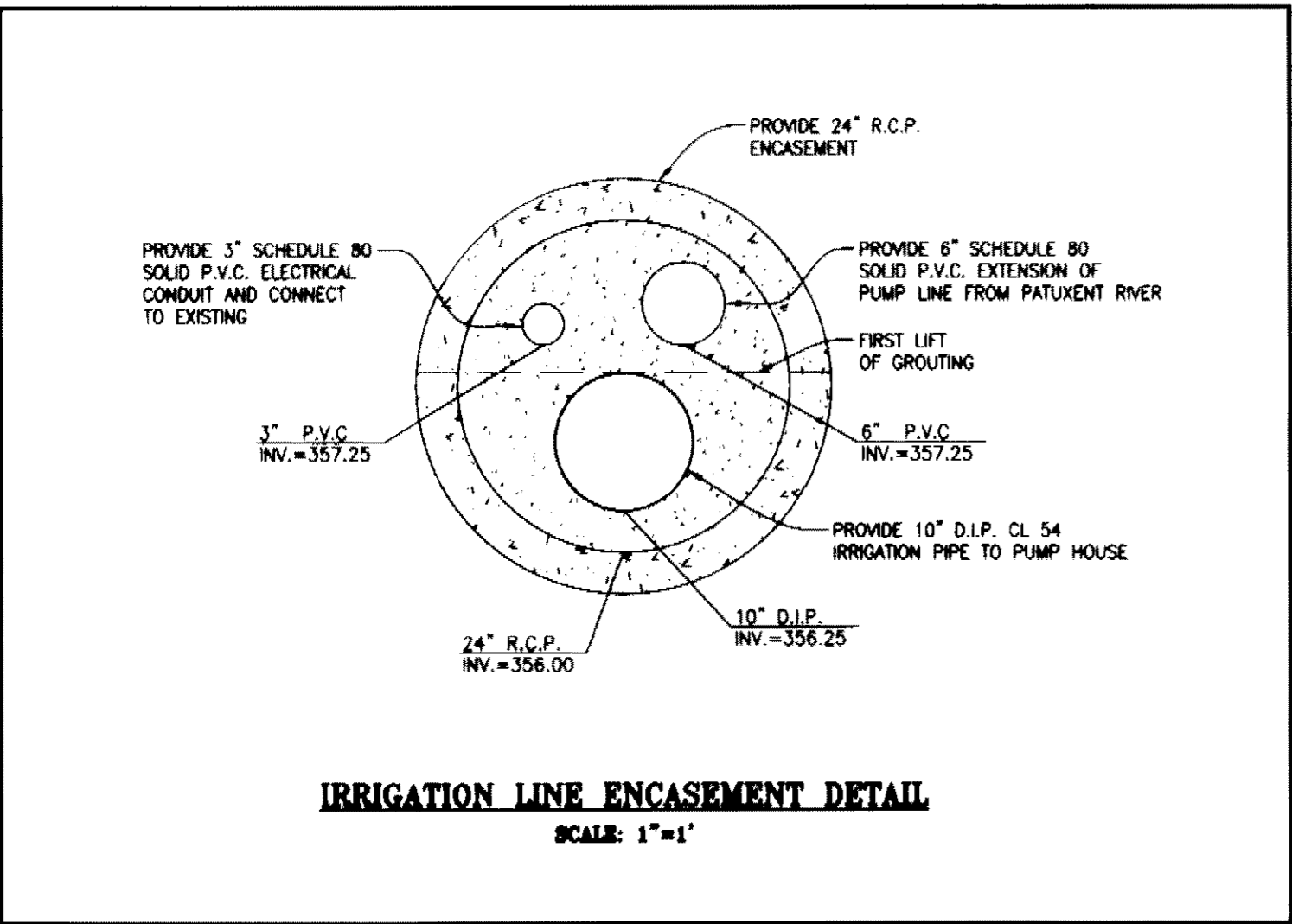
SAND FILTER DIAPHRAGM DETAILS
RECORD PLAT 9309, L. 3324/F.191
HOBBIT'S GLEN GOLF COURSE DAM
MAINTENANCE AND REPAIR (MD DAM No 431)
VILLAGE OF HARPER'S CHOICE
TAX MAP 29, PARCEL 135, LOT 8, AREA: 109.57 Ac.
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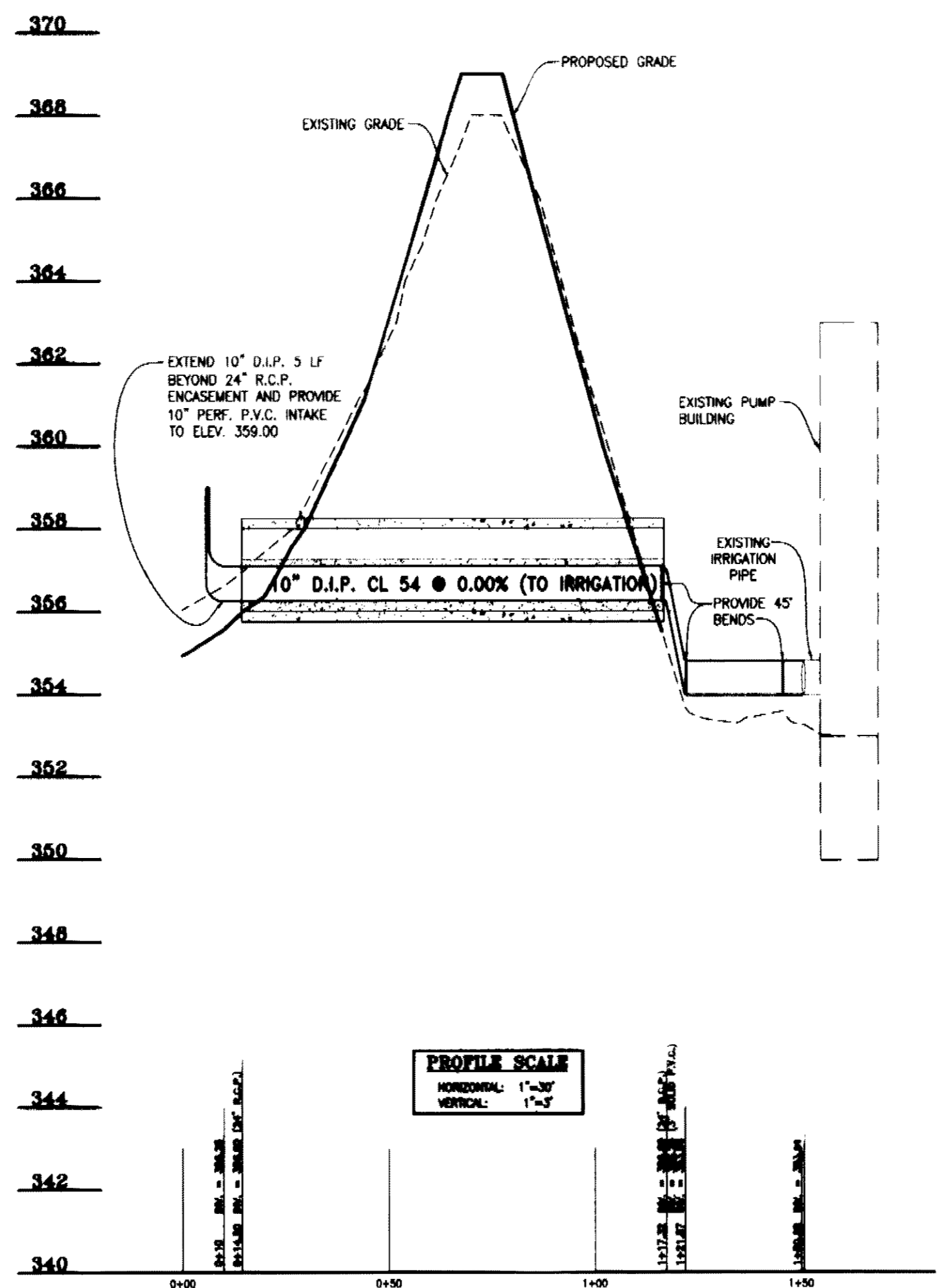
CLIENT: THE COLUMBIA ASSOCIATION 9400 GERWING LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 381-0591 CONTACT: MR. DENNIS MATTHEY	PRELIMINARY PLAN NO.: N/A DESIGN: JBB DRAFT: JBB DATE: DEC., 2008 SCALE: AS SHOWN	SITE PLAN NO.: 09-053 SHEET: 10 OF: 13 FILE NO.: 37-307-24.03 B
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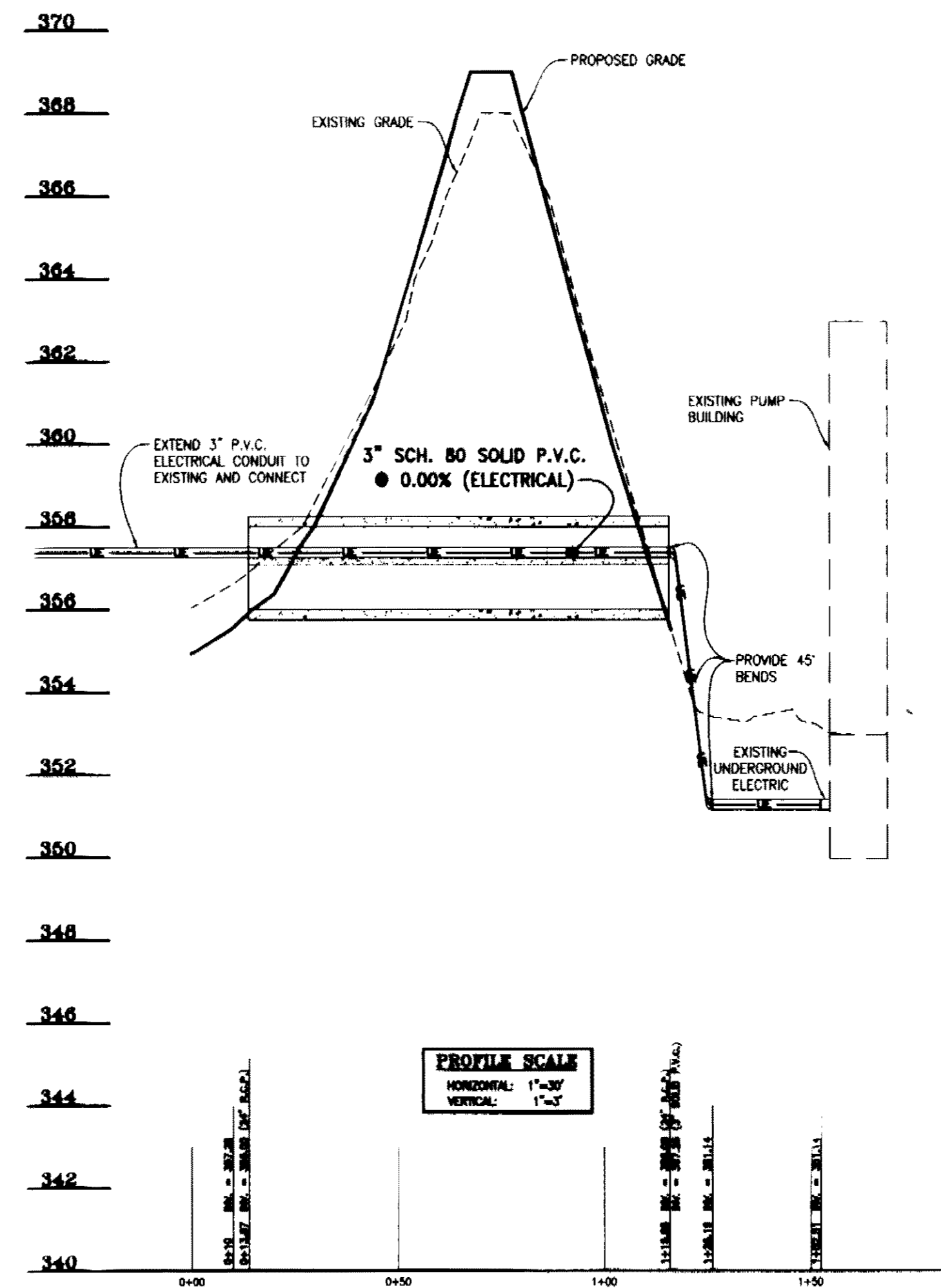
IRRIGATION LINE RE-ALIGNMENT PLAN VIEW
(SCALE: 1"=20')



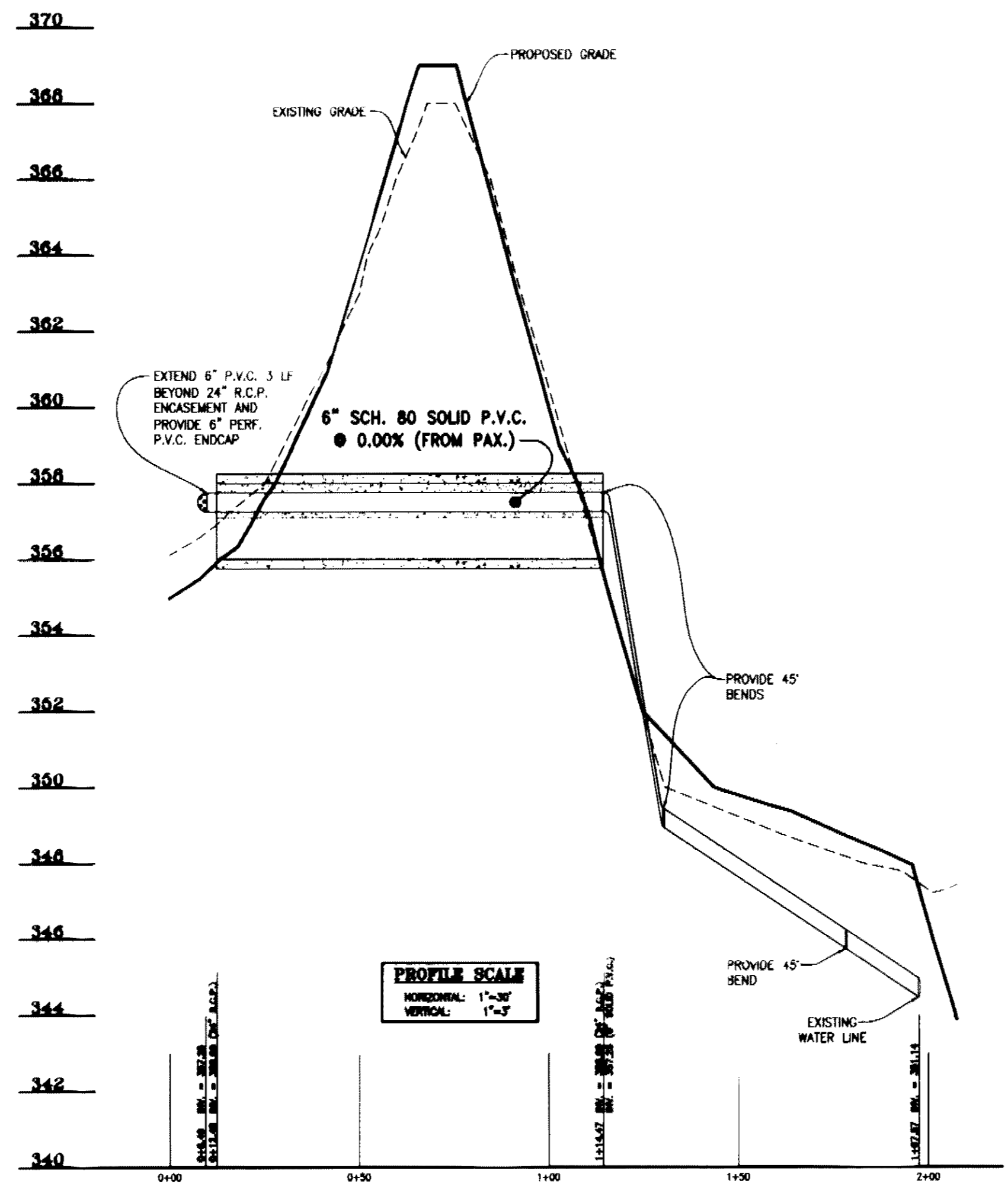
IRRIGATION LINE ENCASUREMENT DETAIL
SCALE: 1"=1'



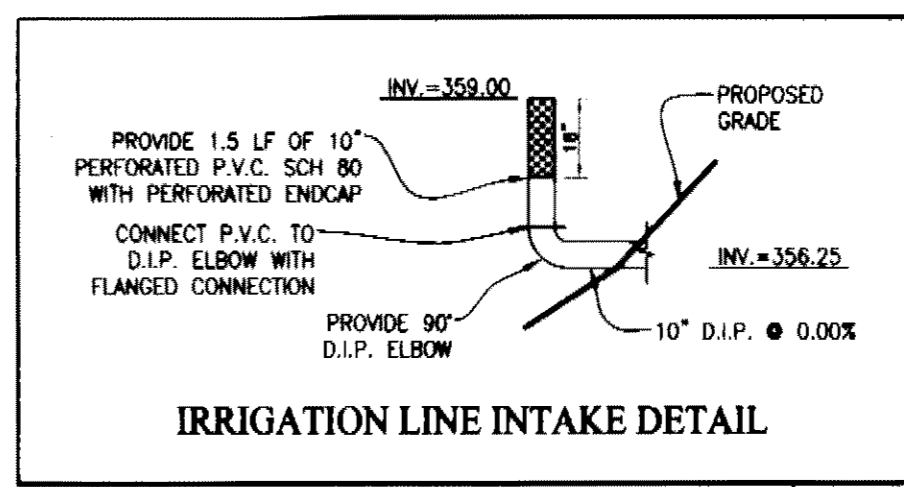
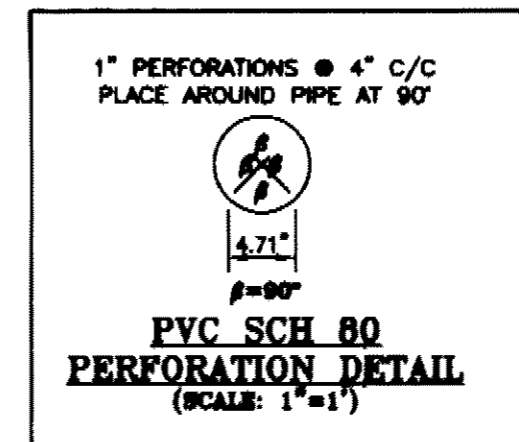
10" D.I.P. IRRIGATION PIPE PROFILE



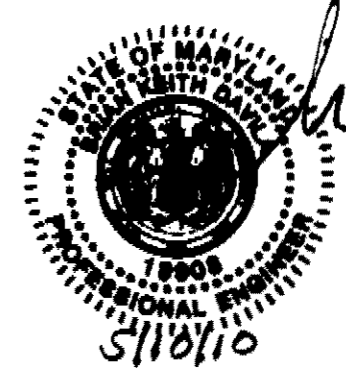
3" SOLID PVC (ELECTRICAL) PROFILE



6" SOLID PVC (FROM PATUXENT RIVER) PROFILE



Maryland Department of the Environment
Water Resources Administration
Dam Safety Division
V.P. Dabal 5/12/10
Vistay P. Dabal
Senior Regulatory & Compliance Engineer



Groutability Test Results
Grout Material: USCP Grout 715 is suitable when mixed at a rate of one bag of grout to 1 gallon of water, which results in about 0.6 cubic feet of grout with a "milkshake" consistency. Flowable fill is not recommended unless enough additional cement is added to ensure that a 28-day compressive strength of at least 1500psi. Lightweight or cellular grouts are not recommended for use in dam spillway slippage projects.
Sequencing and grout injection.
The grouting equipment should be capable of mixing and delivering the grout at a rate that will allow the annular space to be entirely filled in a continuous operation of 2 to 4 hours (unless sealer grouting is being used). The recommended procedure is to mix small batches of grout (10-15 bags) and a small grout pump. (Grout delivered by a local supplier in large ready-mix concrete trucks is not recommended, unless the contractor can be sure that all of the grout can be placed in a timely manner. Two grouting methods are:
Pressure grouting from the downstream end.
Small grout pipes (typically 3/4 inch diameter for pipes less than 50 feet long or 1 1/2-inch diameter for longer pipes) can be fastened to the crown of the slipliner prior to installation. Two grout pipes could extend from the downstream end to points about one third and two thirds along the length of the pipe. Bulkheads are placed around the annulus of the slip liner at both ends of the conduit to contain the grout. The bulkheads must be secured in place and sealed, so no leakage of grout will occur during grouting operations. Additional air vent pipes also need to be installed through the bulkheads near the crown of the existing conduit at both ends of the conduit to prevent air bleed water from being trapped within the annular space. Grouting is initiated from the downstream end through the longest grout pipe first. Grout pressures should be kept as low as possible to avoid collapsing the HDPE slip liner. As grouting begins, the upstream air vent is closed. Grouting continues in the longest pipe until no air returns from the next longest pipe, or grout no longer flows through the longest pipe. The longest pipe is then plugged and grouting is initiated on the next longest grout pipe and the sequence repeated for this pipe. Grouting of the last grout pipe is continued until the annular space is fully grouted. When the annular space is fully grouted and heavy grout returns from the downstream air vent, a pressure of 10psi is maintained for 10 minutes to ensure all voids are filled.
Inspection and testing.
The engineer should observe and document grout procedure to ensure that the entire void is filled with grout. The amount of grout pumped should be compared to estimate of the volume of the annular space to ensure that entire space is fully grouted. Samples of the grout should be obtained periodically by the engineer during the grouting process for laboratory strength testing.

- GENERAL NOTES FOR IRRIGATION SYSTEM RE-ALIGNMENT:**
1. GROUTING SHOULD BE COMPLETED FROM DOWNSTREAM TO UPSTREAM.
 2. GROUTING OF 24" R.C.P. SHOULD BE COMPLETED AS QUICKLY AS POSSIBLE. INSTALLATION OF 3" AND 6" P.V.C. CONDUIT SHOULD OCCUR AS SOON AS LOWER LIFT OF GROUT HAS CURED ENOUGH TO SUPPORT PIPES.
 3. HAND TAMP AROUND 24" R.C.P. ONLY IF MECHANICAL COMPACTION MEASURES CANNOT BE USED.

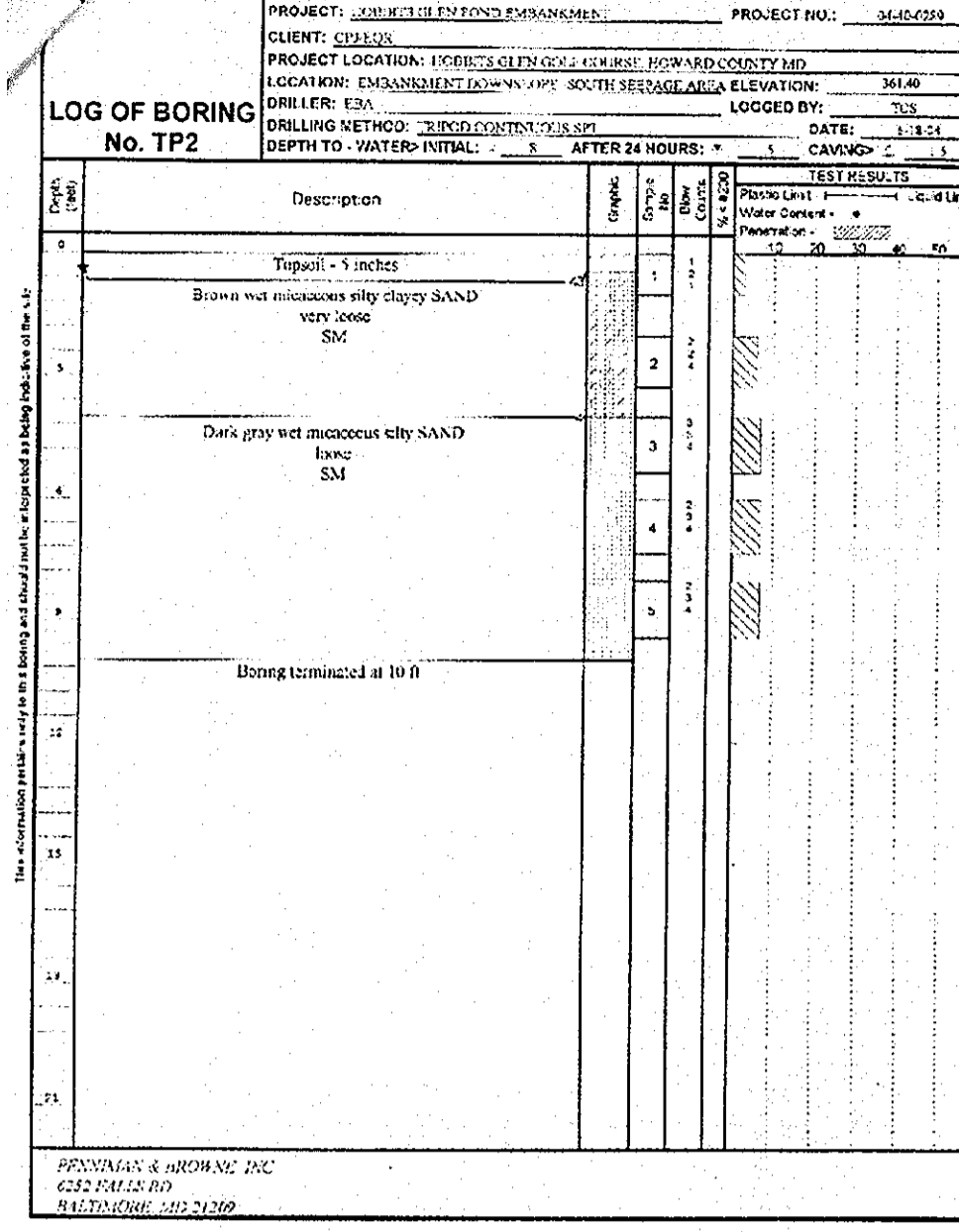
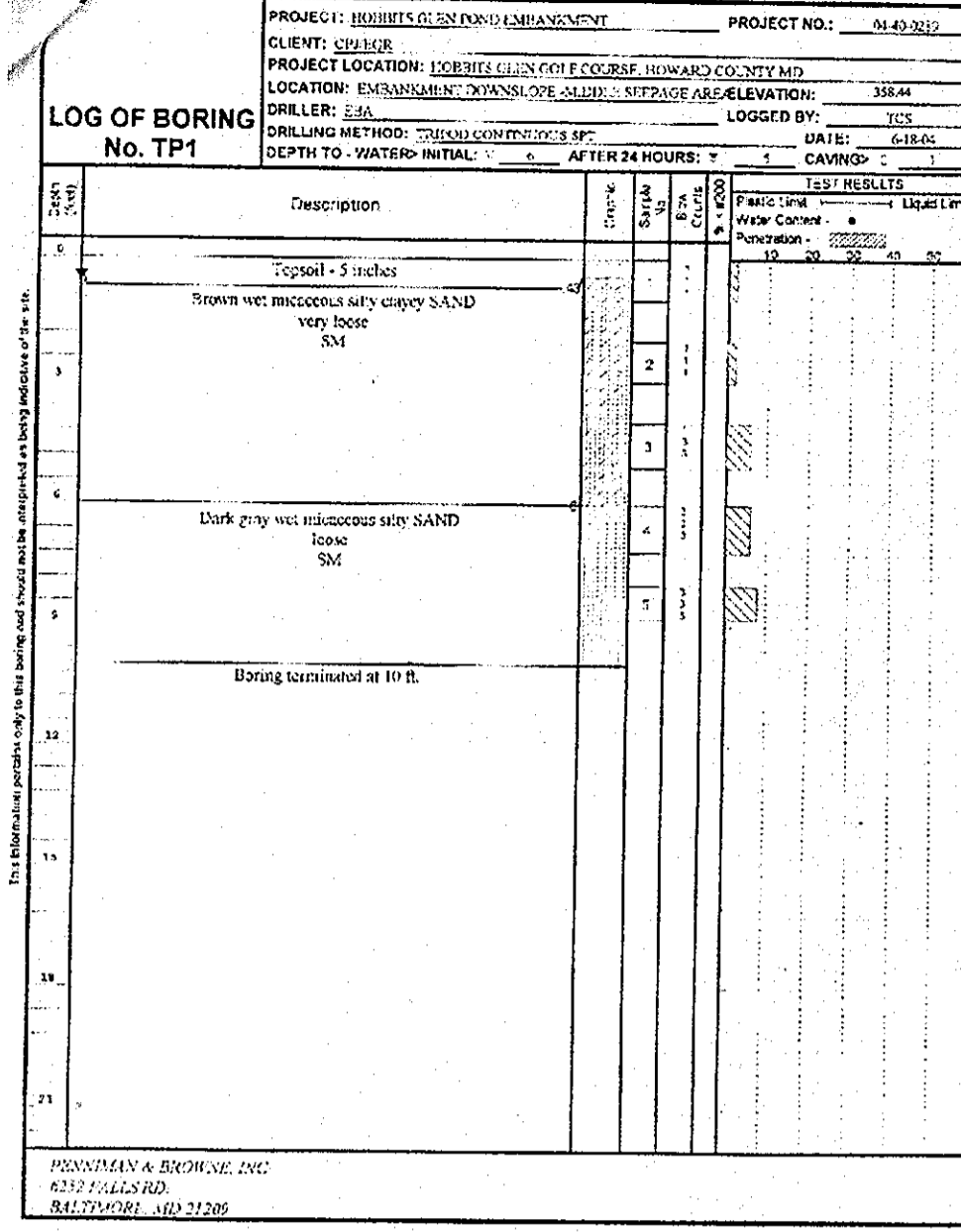
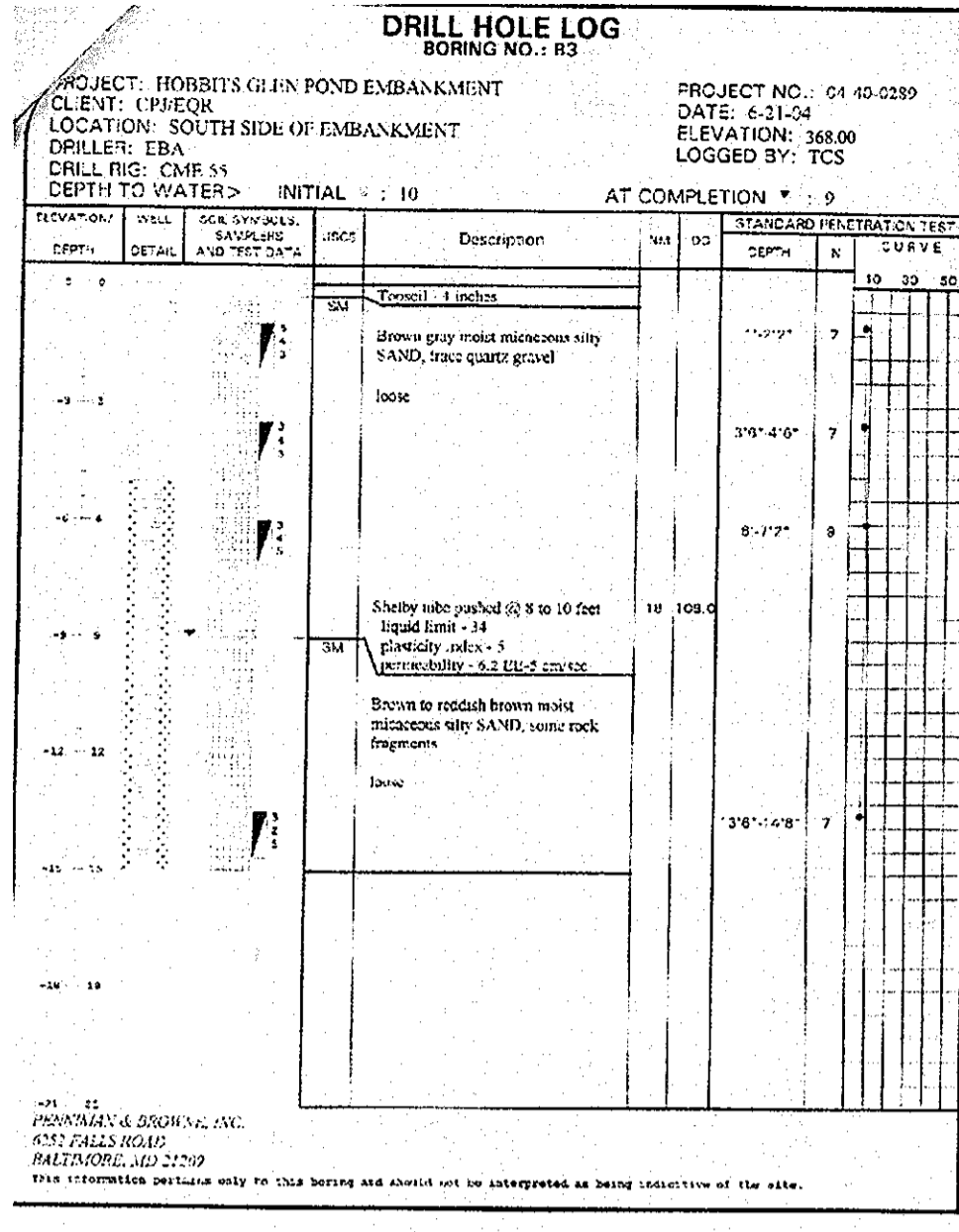
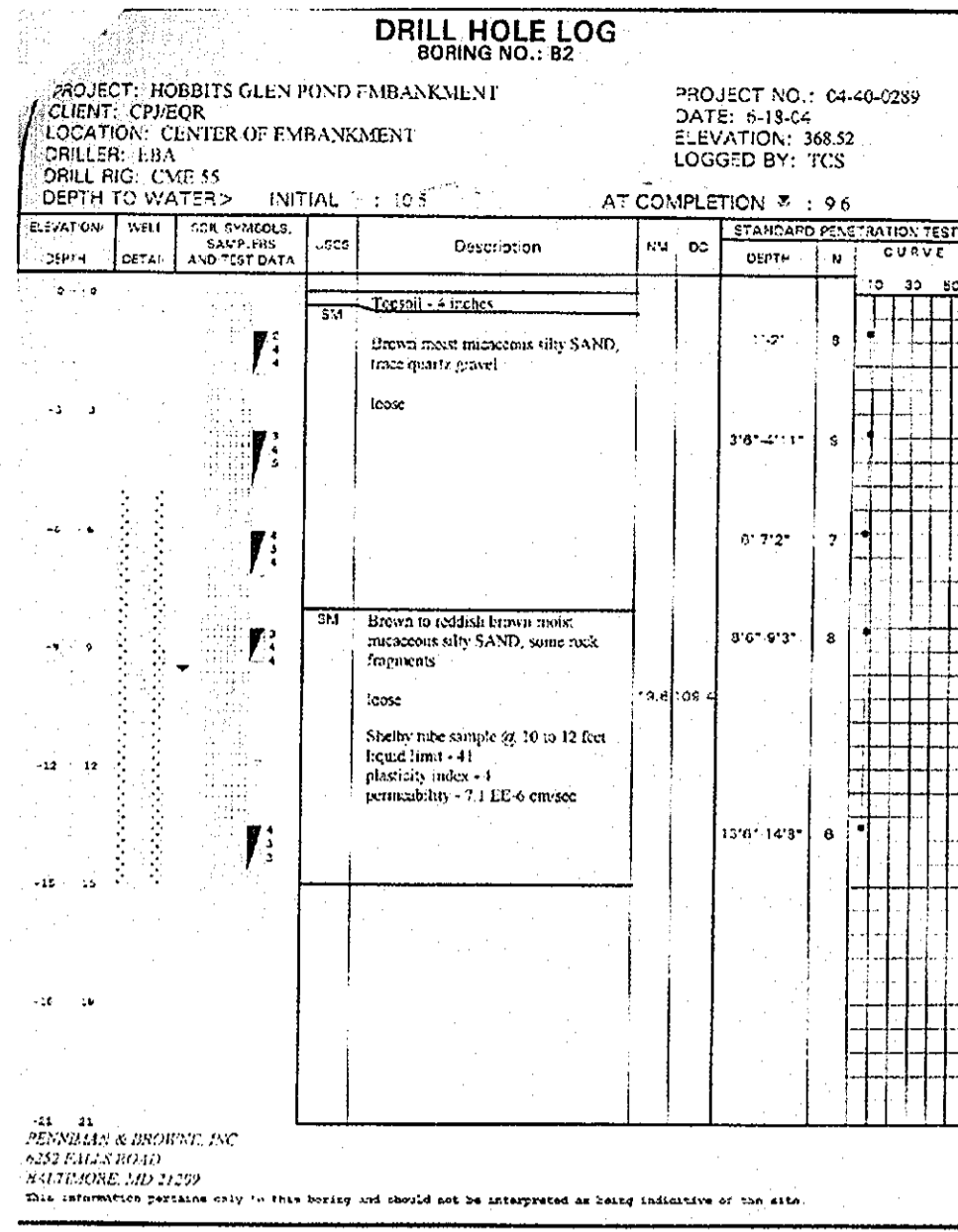
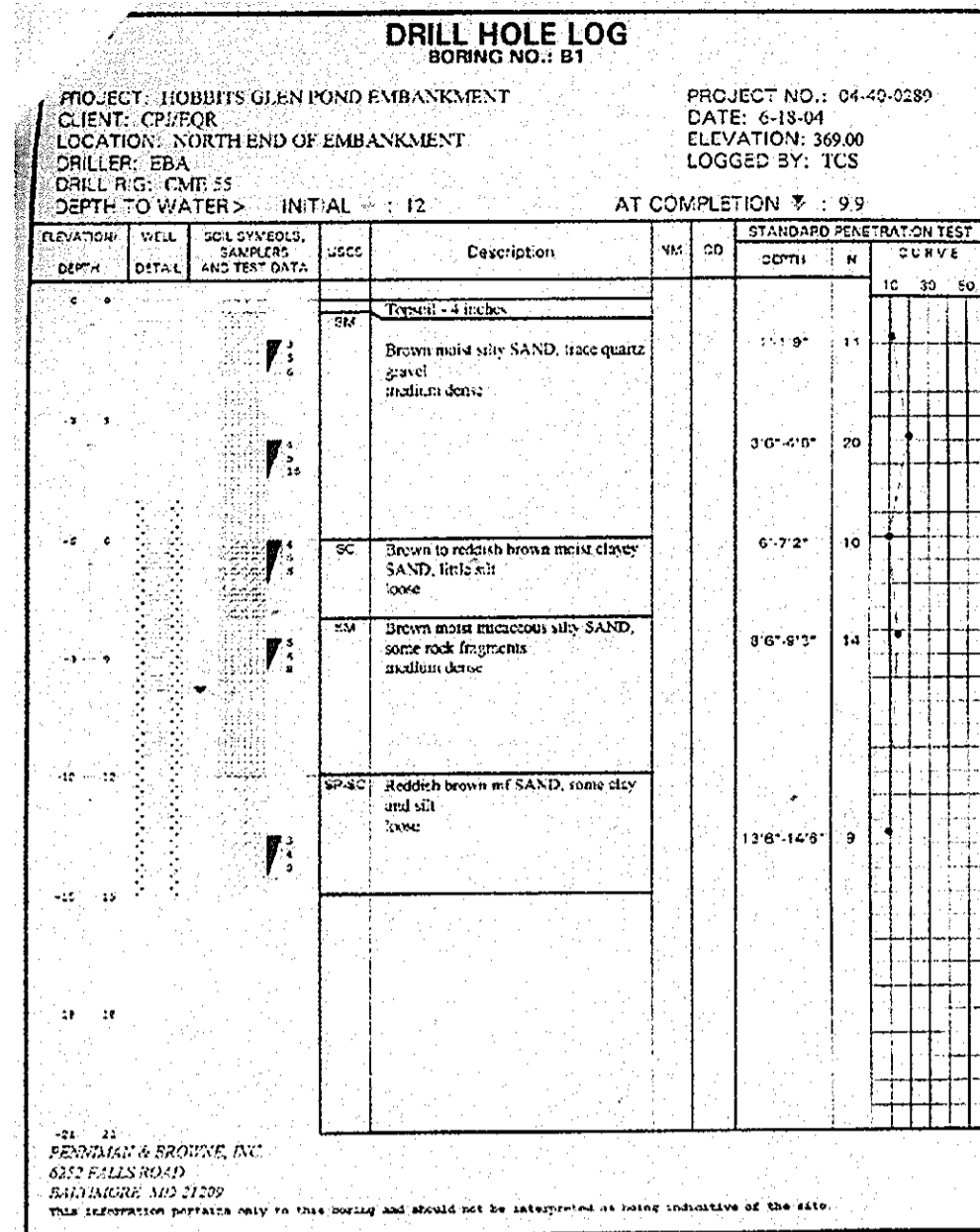
OWNER/DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.
D. Matney 5-11-10
Signature of Owner/Developer Date
Dennis Matney, Columbia Association, Inc.
Printed Name of Owner/Developer

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief of Planning & Zoning *[Signature]* 5/12/10
Chief of Land Development *[Signature]* 5/12/10
Director *[Signature]* Date

IRRIGATION SYSTEM REALIGNMENT
RECORD PLAT 9309, L.3324/F.191
HOBBIT'S GLEN GOLF COURSE DAM
MAINTENANCE AND REPAIR (MD DAM NO 431)
VILLAGE OF HARPER'S CHOICE
TAX MAP 29, PARCEL 135, LOT 8, AREA: 109.57 Ac.
ELECTION DISTRICT NO. 5, HOWARD COUNTY, MD

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1781 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9994
www.cpj.com • Gaithersburg, MD • Frederick, MD • Stevensville, MD • Fairfax, VA

CLIENT: THE COLUMBIA ASSOCIATION 1450 GERWIG LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 381-0991 CONTACT: MR. DENNIS MATNEY	PRELIMINARY PLAN NO. N/A DESIGN JA RICE DRAFT JA RICE DATE APRIL, 2006 SCALE 1/2"=1'	SITE PLAN NO. 09-083 SHEET 11 OF 13 FILE NO. 37-307-30.1B
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Inspection Report

REI DRAYCO, INC.
6801 MORRIS PARK DRIVE - BALTIMORE, MD 21237
MH OUTFALL-1 TO MH RISER-1
Inspected on Wednesday, June 2, 2004

WD R: 1112 HOLE POND	Date: 06/02/2004	Status: COMP
Contractor: OUTFALL RISER 1	Contact: 01-ED-0004	
Inspector: BILL NEVINS	Type: CORR/METAL	
Operator: A. OGLARA	Direction: UPSTREAM	
System: Sub Syst. 0000	Sta: 0024	Pipe Length: 181.6
Log: Trunk: 18	Up Dp: 0000	Down Dp: 0000
Up Stream: OUTFALL-1	Up Dp: 0000	Start: RISER-1
Down Stream: RISER-1	Down Dp: 0000	
Video Volume: 00	Video File: 00	
Ver: OUTFALL-1		
Comment 1: TV STORM POND FOR CPJED OR ENV.		
Comment 2: EOR J28 # 34-524		
Comment 3:		
US Drawn: US Rev: OS Drawn: OS Rev: Year Released:	Year Released:	
Flow Dir: Sta 2 (RISER)	TY Const: Year Const:	
Propose: Check Date: PO Number:	PO Number:	
Survey Cont:		
Start MH Log: Start MH Lat: End MH Long: End MH Lat:		
Gen File 1: Gen File 2: Gen File 3: Gen File 4:		
Gen File 5: Gen File 6: Gen File 7: Gen File 8:		
Gen File 9: Gen File 10: Gen File 11:		

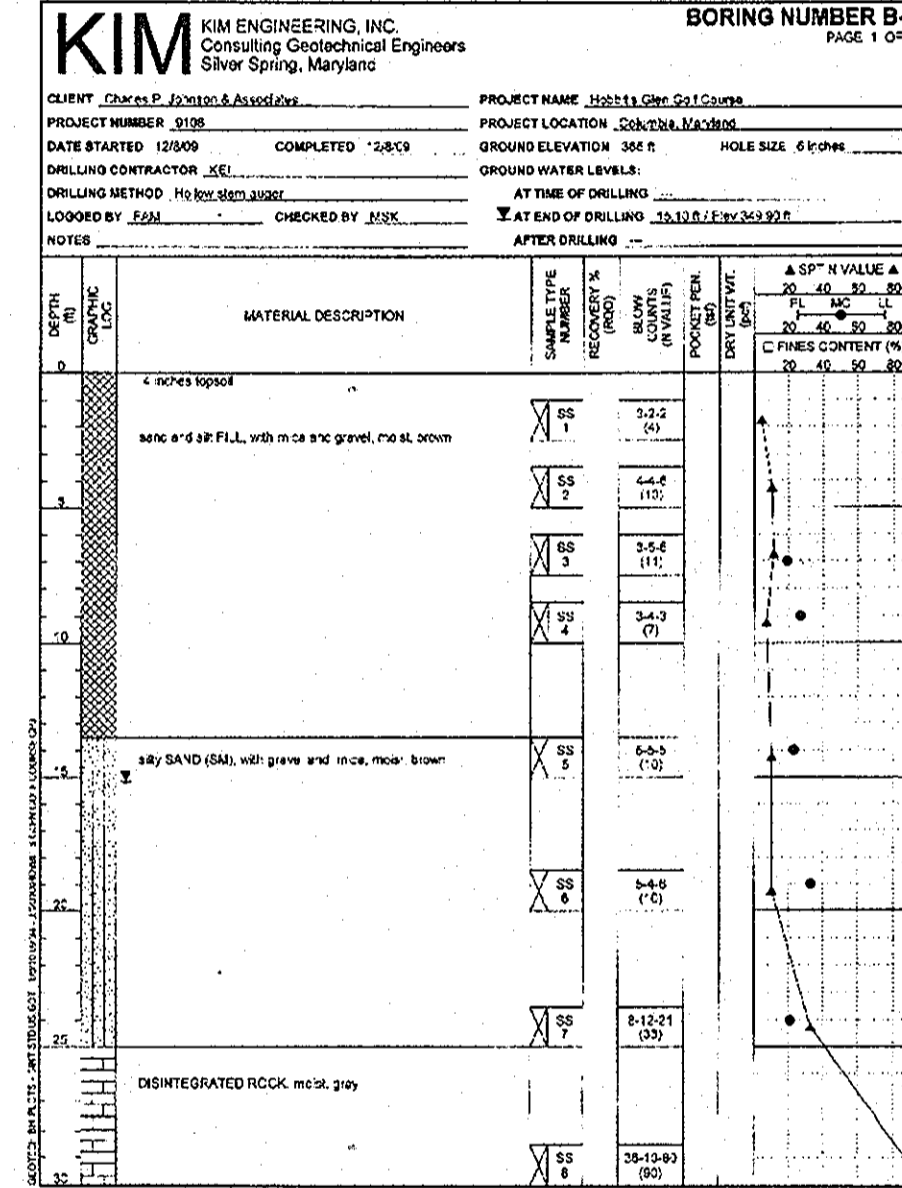
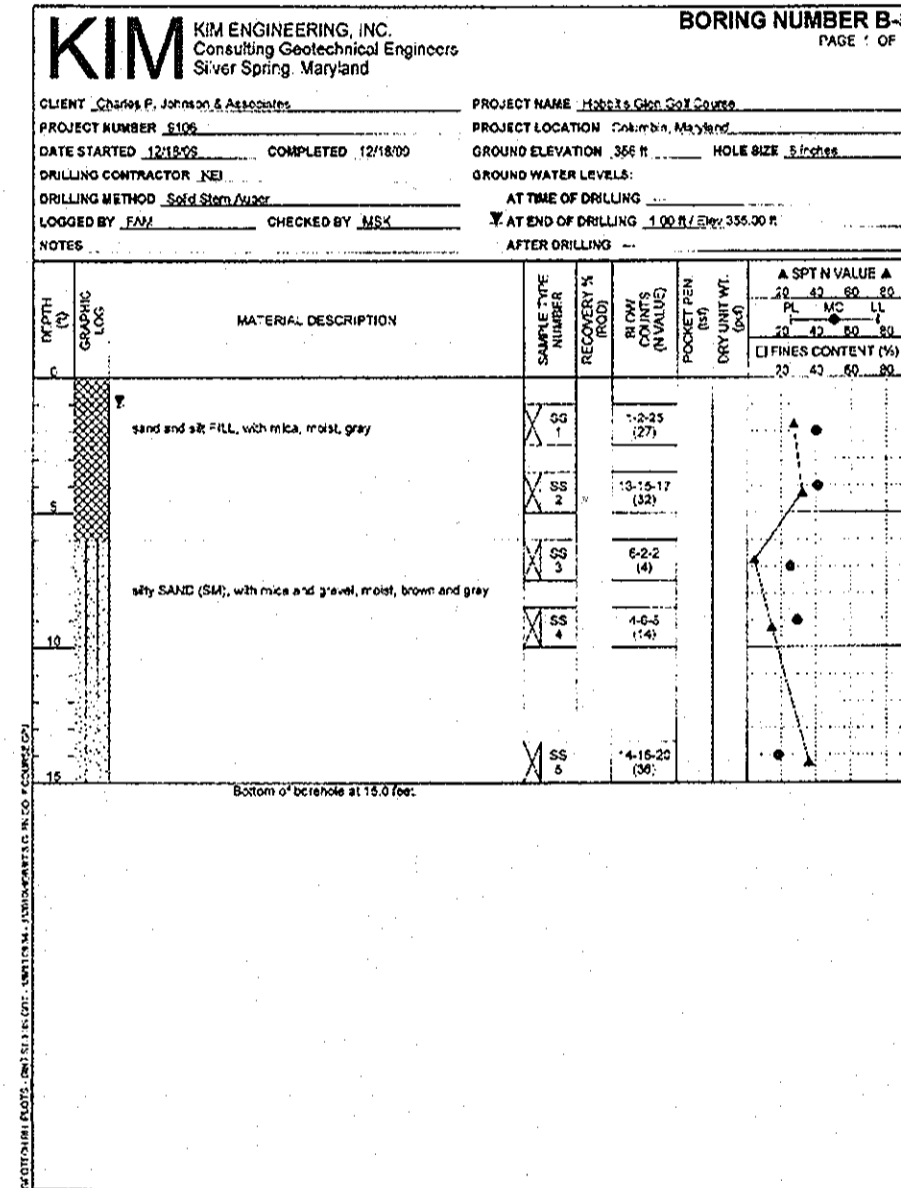
Time	Time	Remarks	Inspector	Client
08:00	08:00	START INSPECTION		
08:15	08:15	MANHOLES DOWNSTREAM		
08:30	08:30	MH OUTFALL-1		
08:45	08:45	MH PIPE CHANGE TO CONDUIT		
09:00	09:00	MH OUTFALL-1		
09:15	09:15	MH RISER-1		
09:30	09:30	MH RISER-1		
09:45	09:45	MH PIPE CROSSING OVERHEAD		
10:00	10:00	MH RISER-1		
10:15	10:15	MH RISER-1		
10:30	10:30	COMPLETE INSPECTION		

Inspection Report

REI DRAYCO, INC.
6801 MORRIS PARK DRIVE - BALTIMORE, MD 21237
MH OUTFALL-1 TO MH RISER-1
Inspected on Wednesday, June 2, 2004

WD R: 1112 HOLE POND	Date: 06/02/2004	Status: COMP
Contractor: OUTFALL RISER 1	Contact: 01-ED-0004	
Inspector: BILL NEVINS	Type: CORR/METAL	
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System: Sub Syst. 0000	Sta: 0024	Pipe Length: 181.6
Log: Trunk: 18	Up Dp: 0000	Down Dp: 0000
Up Stream: OUTFALL-1	Up Dp: 0000	Start: RISER-1
Down Stream: RISER-1	Down Dp: 0000	
Video Volume: 00	Video File: 00	
Ver: OUTFALL-1		
Comment 1: TV STORM POND FOR CPJED OR ENV.		
Comment 2: EOR J28 # 34-524		
Comment 3:		
US Drawn: US Rev: OS Drawn: OS Rev: Year Released:	Year Released:	
Flow Dir: Sta 2 (RISER)	TY Const: Year Const:	
Propose: Check Date: PO Number:	PO Number:	
Survey Cont:		
Start MH Log: Start MH Lat: End MH Long: End MH Lat:		
Gen File 1: Gen File 2: Gen File 3: Gen File 4:		
Gen File 5: Gen File 6: Gen File 7: Gen File 8:		
Gen File 9: Gen File 10: Gen File 11:		

Time	Time	Remarks	Inspector	Client
08:00	08:00	START INSPECTION		
08:15	08:15	MANHOLES DOWNSTREAM		
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08:45	08:45	MH PIPE CHANGE TO CONDUIT		
09:00	09:00	MH OUTFALL-1		
09:15	09:15	MH RISER-1		
09:30	09:30	MH RISER-1		
09:45	09:45	MH PIPE CROSSING OVERHEAD		
10:00	10:00	MH RISER-1		
10:15	10:15	MH RISER-1		
10:30	10:30	COMPLETE INSPECTION		



OWNER/DEVELOPER'S CERTIFICATE

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D. Matvey Signature of Owner/Developer
Date: 5/12/10

Dennis Matvey, Columbia Association, Inc.
Printed Name of Owner/Developer

Maryland Department of the Environment
Water Resources Administration
Dam Safety Division

V.P. Dalal Visty P. Dalal
Senior Regulatory & Compliance Engineer
Date: 5/12/10

APPROVED: DEPARTMENT OF PLANNING AND ZONING

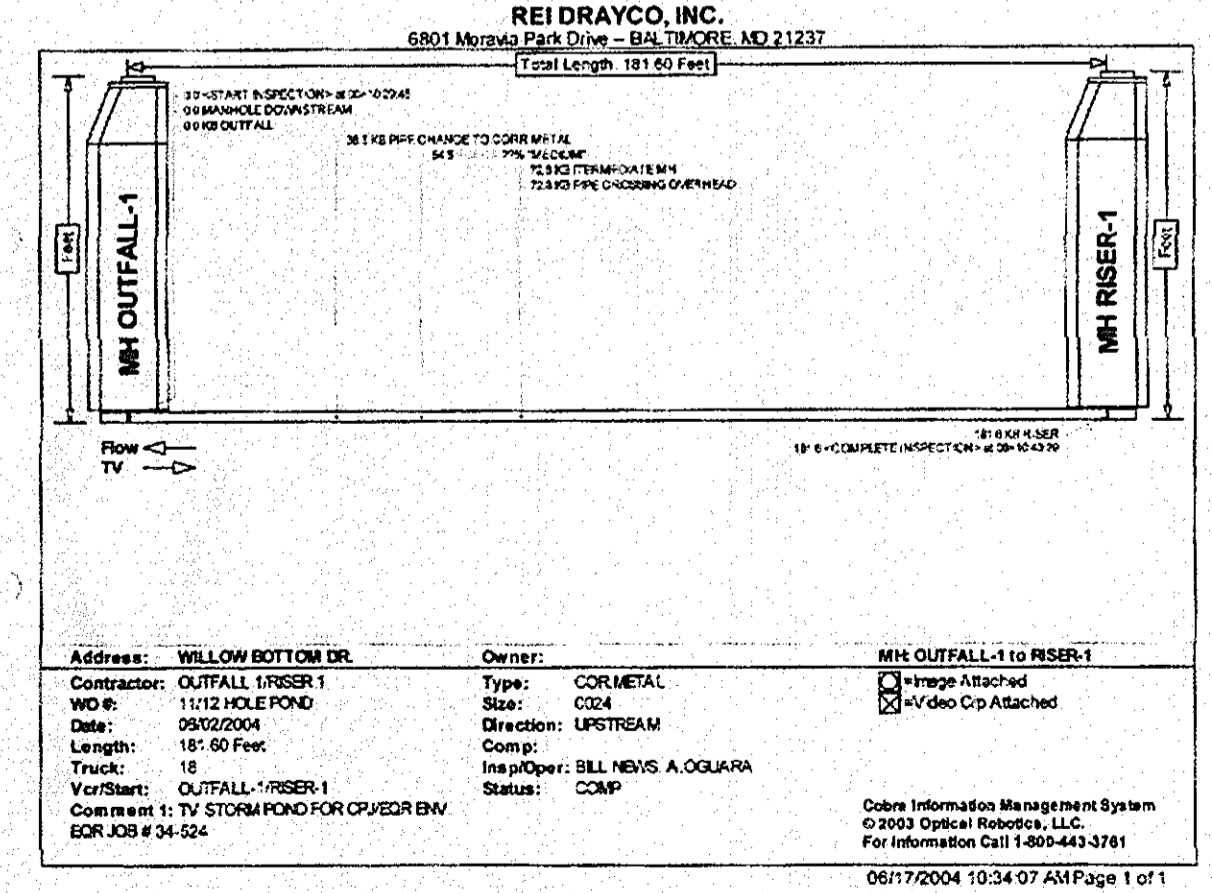
[Signature] Chief, Development Engineering Division
Date: 5/12/10

[Signature] Chief, Division of Land Development
Date: 5/12/10

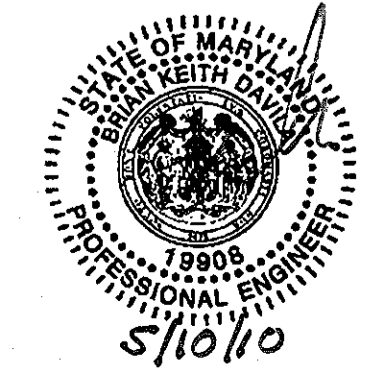
[Signature] Director
Date: 5/12/10

SOIL BORINGS AND TV REPORT
RECORD PLAT 9309, L. 3324/F.191
HOBBIT'S GLEN GOLF COURSE DAM
MAINTENANCE AND REPAIRS (MD DAM No. 431)
VILLAGE OF HARPER'S CHOICE
TAX MAP 29, PARCEL 135, LOT 8, AREA: 109.57 AC.
ELECTION DISTRICT NO. 5, HOWARD COUNTY, MD

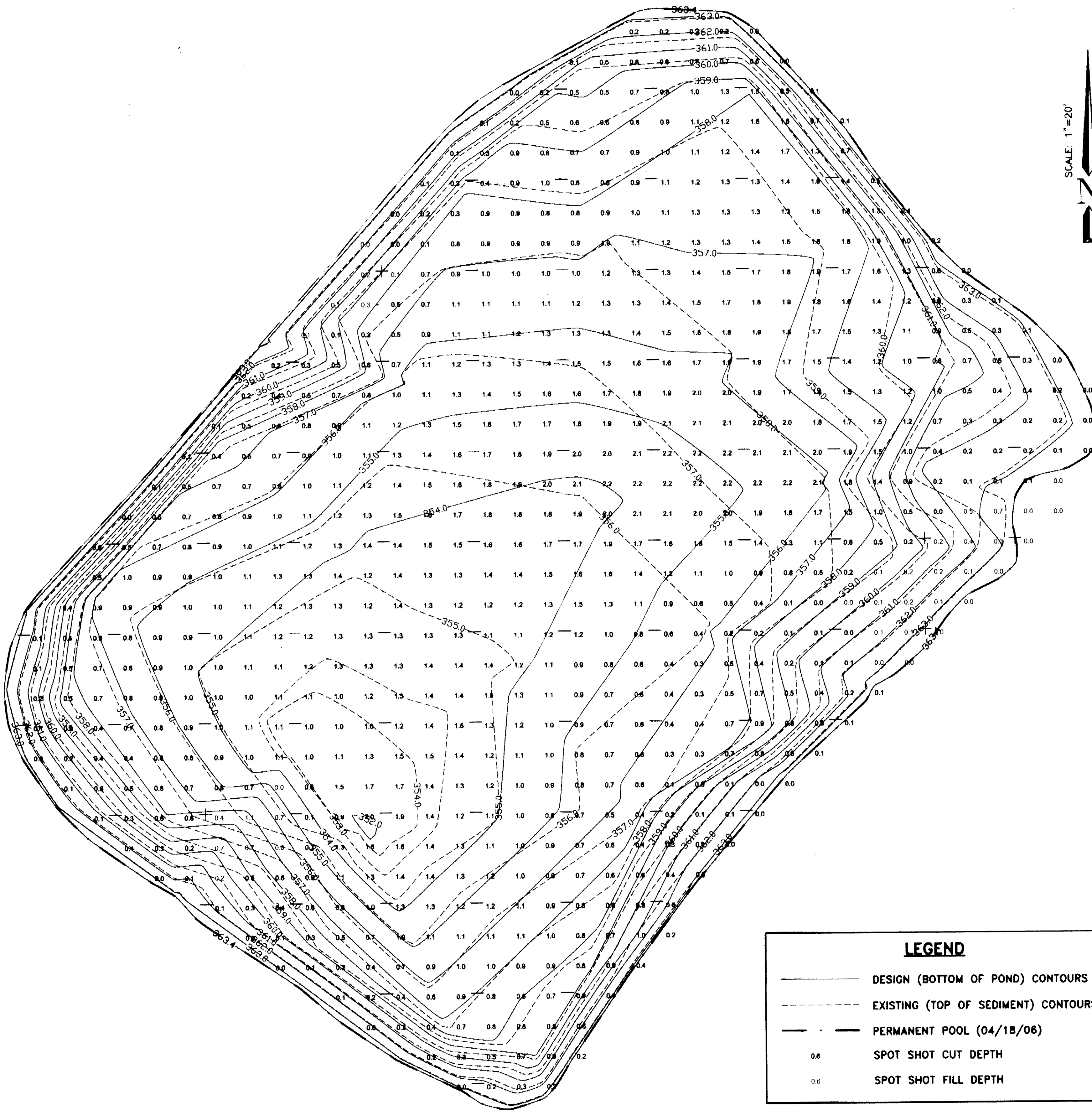
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www.cpja.com • Gaithersburg, MD • Frederick, MD • Stevensville, MD • Fairfax, VA



Address: WILLOW BOTTOM DR	Owner: COR/METAL	MH OUTFALL-1 TO RISER-1
Contractor: OUTFALL RISER 1	Type: CORR/METAL	Video Cap Attached
WD R: 1112 HOLE POND	Size: 0024	
Date: 06/02/2004	Direction: UPSTREAM	
Length: 181.60 Feet	Consp: 0000	
Trunk: 18	Inspector: BILL NEVINS, A. OGLARA	
Verifiers: OUTFALL-1/RISER-1	Status: COMP	
Comment 1: TV STORM POND FOR CPJED OR ENV.		
Comment 2: EOR J28 # 34-524		
Comment 3:		



CLIENT: THE COLUMBIA ASSOCIATION 9460 GERWIG LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 381-0591 CONTACT: MR. DENNIS MATVEY	PRELIMINARY PLAN NO: N/A DESIGN: JBB DRAFT: JBB DATE: DEC. 2008 SCALE: N/A	SITE PLAN NO: 09-053 SHEET: 12 OF 13 FILE NO: 37-307-24.03 B
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SCALE: 1"=20'

LEGEND

- DESIGN (BOTTOM OF POND) CONTOURS
- - - EXISTING (TOP OF SEDIMENT) CONTOURS
- PERMANENT POOL (04/18/06)
- 0.6 SPOT SHOT CUT DEPTH
- 0.6 SPOT SHOT FILL DEPTH

NOTE:
ALL DREDGED MATERIAL SHALL BE TAKEN TO THE
HOBBIT'S GLEN GOLF COURSE DRIVING RANGE (LOCATED
ON-SITE), SPREAD AND PERMANENTLY STABILIZED
(SEE SHEET 3).

OWNER/DEVELOPER'S CERTIFICATE

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D. Matley 5-11-10
Signature of Owner/Developer Date

Dennis Matley, Columbia Association, Inc.
Printed Name of Owner/Developer

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 4/18/10
Chief, Department of Planning and Zoning Division Date

[Signature] 7/2/10
Chief, Division of Land Development Date

[Signature] 7/2/10
Director Date

BATHYMETRIC SURVEY
RECORD PLAT 9309, L3324/F.191
HOBBIT'S GLEN GOLF COURSE DAM
MAINTENANCE AND REPAIR (MD DAM No 431)
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Site Volume Table: Pond Dredging Only

Site	Stratum	Surf1	Surf2	Cut (CY)	Fill (CY)	Net (CY)	Method
LowerPond	LowerBathy	Silt	Bottom	2530	29	2509 (C)	Composite Grid
				2494	20	2474 (C)	



CLIENT: THE COLUMBIA ASSOCIATION 9450 ORWING LANE COLUMBIA, MARYLAND 21044 PHONE: (410) 381-0591 CONTACT: MR. DENNIS MATLEY	PRELIMINARY PLAN NO. N/A DESIGN JA RICE DRAFT JA RICE DATE APRIL, 2006 SCALE 1/2"=1'	SITE PLAN NO. 09-053 SHEET 13 OF 13 FILE NO: 37-307-301B
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HOWARD COUNTY SDP # 09-053