SITE DEVELOPMENT PLAN
CHASE QUARRY
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET INDEX

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GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.

3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AY LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

4. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.

5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.

6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY W.R.A., INC. DATED APRIL, 1985.

7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 48D6 AND 48A8 WERE USED FOR THIS PROJECT.

8. WATER IS PUBLIC. CONTRACT NO. 44-3778-D

9. SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATUXENT CONTRACT NO. 20-1230 & 20-1310

10. THE STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED VIA GRASS CHANNEL CREDIT FOR RECHARGE VOLUME AND A WET POND FOR WATER QUALITY AND CHANNEL PROTECTION VOLUMES. MANAGEMENT OF THE 10-YEAR AND 100-YEAR STORM EVENTS ARE NOT REQUIRED. THE FACILITIES WILL BE PRIVATELY MAINTAINED.

11. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.

12. THE 100-YEAR FLOODPLAIN IS DELINEATED FOR THIS PROJECT USING THE HOWARD COUNTY DORSEY RUN STUDY.

13. WETLANDS ARE SHOWN PER DELINEATION BY VIKA, INC., OCT 1997.

14. A CHAPTER 5 TRAFFIC STUDY HAS BEEN PREPARED BY GOROVE/SLADE ASSOCIATES, INC., DATED APRIL 1999.

15. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.

16. A GEOTECHNICAL CORE STUDY HAS BEEN PREPARED BY BOART LONGYEAR DRILLING CO. IN 1995.

17. THE BOUNDARY FOR THIS PROJECT IS SHOWN PER "BOUNDARY SURVEY THE CHASE PROPERTY" BY WHITMAN REQUART & ASSOC. DATED APRIL 1985.

18. SUBJECT PROPERTY ZONED M-1 & MXD-3 PER 10-18-93 COMPREHENSIVE ZONING PLAN.

19. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.

20. SEE DEPARTMENT OF PLANNING AND ZONING FILE NOs BA 95-58E, WP-00-34, ~~6P-04-11~~ AND ~~WP-04-68~~

21. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

22. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

23. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.

24. ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.

25. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.

26. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.

27. PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.

28. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.

29. THE PAVEMENT DETAILS SHOWN FOR THIS SITE REFLECT THE HOWARD COUNTY STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE.

30. THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS FOR FOREST CONSERVATION UNDER SECTION 16.1202.b.1.ix OF THE SUBDIVISION REGULATIONS. A RECLAMATION PLAN WILL BE ENACTED AFTER CESSATION OF THE QUARRY ACTIVITIES, IN CONJUNCTION WITH MDE PERMIT NO.(S). 02-SF-0599 , APPROVED ON DECEMBER 22, 2003.

31. SEDIMENT CONTROL PLAN FOR THIS PROJECT IS VALID FOR A PERIOD OF TWO YEARS AFTER HSCD SIGNATURES, AND MUST BE RESUBMITTED BEFORE EXPIRATION FOR ASSESSMENT AND APPROVAL.

32. WP-00-34 A WAIVER PETITION REQUEST TO WAIVE SECTIONS 16.115 AND 16.116(a) WAS APPROVED ON APRIL 10, 2000 SUBJECT TO THE FOLLOWING CONDITIONS:
1. THIS WAIVER APPROVAL APPLIES ONLY TO THE PROPOSED AREAS OF ENVIRONMENTAL DISTURBANCES IDENTIFIED AS "AREAS #1-6" (WETLAND AND STREAM DISTURBANCES) AND"FLOODPLAIN AREAS #1-3" (FLOODPLAIN AND STREAM DISTURBANCES) AS SHOWN ON THE WAIVER PETITION EXHIBIT RECEIVED BY THE DEPARTMENT OF PLANNING AND ZONING ON 2/24/2000.
2.THE PETITIONER MUST OBTAIN APPROVAL OF THE SITE DEVELOPMENT PLAN (SDP-99-134) PRIOR TO ISSUANCE OF ANY PERMITS FOR CONSTRUCTION OR GRADING ON SITE.
3. ALL GRADING AND CLEARING WITHIN THE FLOODPLAINS, WETLANDS, WETLAND BUFFERS, AND STREAM BUFFERS SHALL BE MINIMIZED AND SHALL COMPLY WITH THE APPROVED GRADING AND SEDIMENT EROSION CONTROL PLAN SHEETS, WHICH ARE TO BE PART OF SDP-99-134. STABILIZATION SHALL BE INITIATED IMMEDIATELY FOLLOWING THE GRADING AND CLEARING.
4.THE PETITIONER SHALL OBTAIN ALL APPLICABLE PERMITS FROM THE MARYLAND DEPARTMENT OF ENVIRONMENT AND.OR THE DEPARTMENT OF NATURAL RESOURCES, PRIOR TO COMMENCEMENT OF ANY DISTURBANCE TO THE ENVIRONMENT AREAS ON SITE.

33. NO QUARRY OR MINING SHALL OCCUR UNDER THIS PLAN. THIS PLAN IS FOR THE CONSTRUCTION OF OPERATION AREA AND REMOVAL OF OVERBURDEN ONLY.

34. A WETLANDS PERMIT HAS BEEN APPLIED FOR UNDER TRACKING NUMBER 200262372.

35. THE WHITE FAMILY CEMETARY HAS BEEN RELOCATED FROM THE SITE PER STATE OF MARYLAND GUIDELINES.

The Decision and Order for BOA Case No. BA95-58E has the following approval conditions:

1. The special exception shall apply only to the proposed stone, sand, gravel, clay and fill-dirt quarry and accessory asphalt and concrete plant uses as described in the petition, and as depicted on the special exception plan for Chase Limited Partnership submitted on September 22, 1995, consisting of an Existing Zoning and Utilities Plan, Land Use Plan, Operations Plan, Reclamation Plan, and Reclamation Cross Sections ("Special Exception Plan") as amended by this Decision and Order, and not to any other activities, uses, or structures on the subject property.

2. Areas on the site which are regraded during the Reclamation Plan phase shall be covered with suitable soil to sustain growth, then vegetatively stabilized using a perennial cover species as recommended by the County Soil Conservation District.

3. Upon the abandonment of excavation operations on the site or on any portion of the site, all access roads shall be suitably barricaded to prevent the passage of vehicles either into or out of the abandoned area, except such access as needed for vehicles engaged in rehabilitation work, until the plan for rehabilitation has been completed and other uses necessitating access have commenced on the property.

4. The Petitioner shall submit detailed engineering studies setting forth the estimated cost of the accepted plan for rehabilitation for the approval of the Board of Appeals prior to the final approval of the site development plan for the use. These studies shall be subject to periodic review by the Board of Appeals every five years beginning with final approval of the site development plan. A bond shall be provided, or adequate collateral shall be kept in escrow, drawing interest to the benefit of the Petitioner, to cover the approved estimated cost of the accepted plan for rehabilitation. Said bond or escrow shall be established in a manner acceptable to the Board and the County prior to the approval of the site development plan for the use and reviewed every five years thereafter. Said bond or escrow shall not be released unless it is determined that the Petitioner has achieved successful completion of the rehabilitation program.

5. Prior to the approval of the site development plan for the use, the Petitioner shall warrant and shall provide documentation that all persons having an interest of record in said land shall cause to be recorded among the land records of the County:

(a) A description of the area included within the special exception area, (b) The application number (BOA Case No. 95-58E) and the date of this Decision and Order, (c) A statement indicating that use of the land will be in accordance with the site development plan submitted for approval and the Special Exception Plan, including the Reclamation Plan as approved herein, and (d) A declaration binding their heirs and assigns to utilize the land in accordance with said site development plan and the Special Exception Plan, including the Reclamation Plan until excavation processing or filling operations cease and rehabilitation of the land is completed.

6. Prior to the approval of the site development plan for the use, the Petitioner shall enter into an agreement with the County which provides that, if the quarry is cited as operating in violation of any of the provisions or conditions of the special exception including failure to comply with the approved Reclamation Plan, in such a way as to require corrective action, the Petitioner shall cause the corrective action to be taken. The agreement shall also stipulate that if the Petitioner fails to take the necessary corrective action within 30 days or written notice from the County to do so, the required bonds or collateral noted above will be forfeited and the County may cause corrective actions to be commenced. The agreement shall also provide that the Petitioner shall agree to pay any costs for corrective action which exceed the bond or collateral amount.

7. Any exterior lighting shall be shielded and directed so that it does not illuminate residential properties, does not shine directly onto any adjacent properties, and does not produce glare which would cause a hazard for motor vehicle operators in the vicinity of the site.

8. Public water will be provided on site as required by the Department of Fire and Rescue Services.

9. The Petitioner shall make a good faith effort working with the community and CSX Railroad to construct a security fence along the western boundary to prevent access to the stockpile area.

10. Prior to the commencement of quarry operations, the Petitioner shall donate approximately 7 acres of land on Mission Road, as shown on the land Use Plan, to the Ridgely's Run Community Association for use as a community center. The Petitioner will construct on the 7 acres, at its own expense, (i) a community center building of approximately 5,000 square feet with parking , (ii) an exterior all-purpose basketball court, (iii) two tennis courts with nets and fencing, and (iv) grading for a little league baseball diamond and provide a little league baseball backstop. Construction will begin prior to commencement of quarry operations, and the Petitioner will diligently pursue completion of construction.

11.During each year of quarry operation, the Petitioner shall donate to the Ridgely's Run Community Association five cents (5\U+203A) per ton of marketable stone produce shipped from the project operations, with a minimum donation of $50,000.00 per year to be used for the programs of the community center for the betterment and welfare of the community.

12. The Petitioner will warrant that existing wells will not be affected by quarry operations. Tests will be done prior to development and subsequent well monitoring will occur with a sampling program by an independent environmental consultant.

13. The Petitioner shall establish and implement procedures for the investigation and reporting of vibration and damages attributable to the quarry operations on all homes within 1,000 feet of the quarry excavation area and the 12 Heritage Woods homes identified in the Petitioner's testimony.

14. The Petitioner will fill the existing quarry at the back of Pine Road using overburden from the new quarry and other material.

15. Structures shall not exceed a height of 65 feet; stockpiles shall not exceed a height of 60 feet; and berms shall not exceed a height of 40 feet.

16. Trees removed for construction of berms shall be replaced by adequate landscaping, reforestation, and seeding or sodding of the berms.

17. Dust emissions will be controlled and maintained within the confines of the site in accordance with applicable State regulations.

18. Blasting will occur no more than 10 seconds per month. No blasting will occur between the hours of 6:00 p.m. and 7:30 a.m. on any day.

19. The Petitioner shall provide adequate security to control unauthorized entry to the site along the entire perimeter, including security personnel on duty on the site 24 hours each day. The quarry will be fenced with a durable galvanized fence 6' high, located not less than 20 feet from the edge of excavation. The County shall have the right to enter and repair or maintain such fence whenever the property owner shall fail to do so. The property owner shall be liable to the County for the cost of the repairs or maintenance.

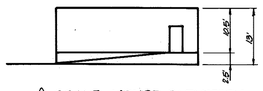
20. The Petitioner shall prohibit trucks from using Mission Road to enter or leave the quarry operation.

21. The northern entrance to the site shall be restricted to right-turns only from southbound Route 1, and a deceleration lane shall be installed. An acceleration lane shall be installed for southbound traffic exiting the southern entrance at Patuxent Range Drive.

22. The posted speed limit on U.S. Route 1 between Route 175 and Route 32 shall be reduced to no more than 40 miles per hour. (MSHA will not grant approval)

23. The special exception granted herein shall be subject to renewal five years from the date ofapproval of the final site development plan for the project, and every five year thereafter, in accordance with Section 131.H.2 of the Zoning Regulations; except that the special exception shall terminate without right of renewal 25 years from the date on which all necessary excavation permits for the project have been obtained.

24. The Petitioner shall comply with all applicable Federal, State, and County laws and regulations.



SCALE HOUSE ELEVATION
NO SCALE

SHEET INDEX (CONT.)

NO	DESCRIPTION	NO	DESCRIPTION
43	CULVERT A PLAN AND PROFILES	48	PROFILES
44	CULVERT B PLAN AND PROFILES	49	PROFILES
45	CULVERT C PLAN AND PROFILES	50	PROFILES
46	PROFILES	51	PROFILES
47	PROFILES		

GENERAL NOTES cont.

36. WP-04-68 was approved on 12/18/03, waiving Section 16.155a.(1), which requires approval of a site plan prior to issuance of a grading permit. The grading is limited to the proposed access points on Route 1, as shown on the waiver exhibit. Approval was subject to 4 conditions of approval.

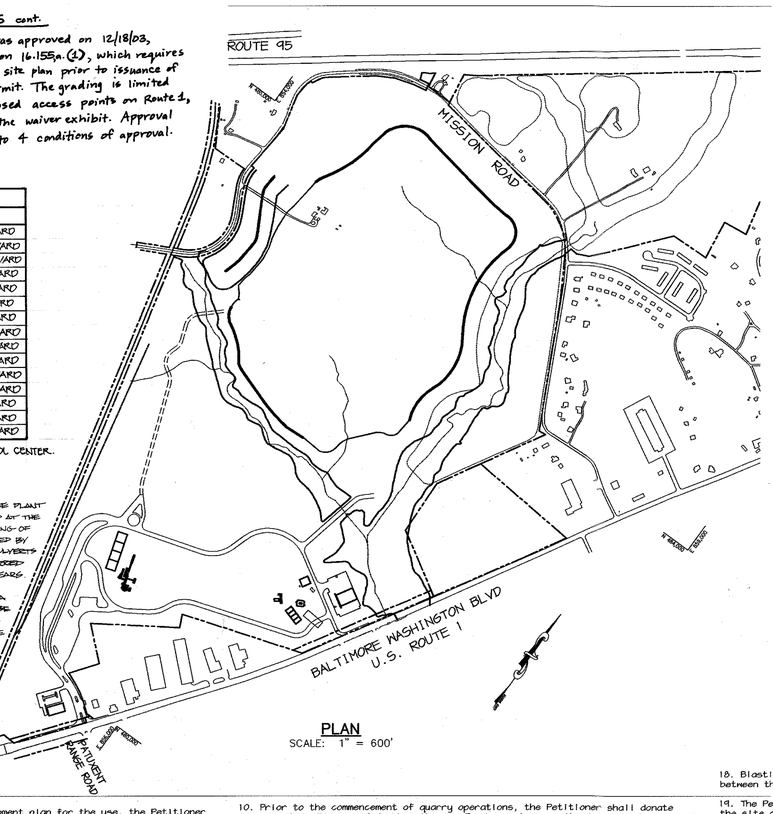
ADDRESS CHART

BUILDING	STREET ADDRESS
STATION 1	8424 WASHINGTON BOULEVARD
STATION 2	8426 WASHINGTON BOULEVARD
STATION 3	8428 WASHINGTON BOULEVARD
STATION 4	8430 WASHINGTON BOULEVARD
STATION 5	8432 WASHINGTON BOULEVARD
STATION 6	8434 WASHINGTON BOULEVARD
STATION 7	8436 WASHINGTON BOULEVARD
STATION 8	8438 WASHINGTON BOULEVARD
STATION 9	8440 WASHINGTON BOULEVARD
STATION 10	8442 WASHINGTON BOULEVARD
STATION 11	8444 WASHINGTON BOULEVARD
STATION 12	8446 WASHINGTON BOULEVARD
MCC #1	8448 WASHINGTON BOULEVARD
MCC #2	8450 WASHINGTON BOULEVARD
LAB	8452 WASHINGTON BOULEVARD

NOTE: MCC STANDS FOR MOTOR CONTROL CENTER.

GENERAL NOTES (CONT.)

37. THE THREE STREAM CROSSINGS FROM THE PLANT AREA TO THE QUARRY AREA WILL BE REMOVED AT THE COMPLETION OF MINING. THE BIOENGINEERING OF THE STREAMS WILL BE DESIGNED AND APPROVED BY THE APPROPRIATE AGENCIES BEFORE THE CULVERTS ARE REMOVED. THE DESIGN IS BEING DEFERRED BECAUSE THE MINING WILL LAST FOR 25 YEARS AND THE SITE AND UPSTREAM CONDITIONS WILL CHANGE IN THE INTERIM. EACH YEAR, A COPY OF THE ANNUAL MINING REPORT WILL BE SENT TO THE COERP OF ENGINEERS, HOWARD SOILS CONSERVATION DISTRICT, AND THE MDE NONTIDAL WETLANDS PERMIT SECTION. THIS WILL BE DONE SO THAT THESE AGENCIES MAY TRACK THE RECLAMATION. FOR THE 25 YEARS, THE FINAL RECLAMATION REPORT WILL ENSURE THE STREAM RESTORATION IS COMPLETED BEFORE THE BOND AND PERMIT ARE RELEASED.



PLAN
SCALE: 1" = 600'

STATE OF MARYLAND
CHRISTOPHER J. REID
No. 19949
PROFESSIONAL ENGINEER

CNA INC.
215 BYNUM ROAD
FOREST HILL MD 21050
410-879-7200

FOR REVISION 3 AND 4 AND 5 ONLY

BENCH MARKS

HO.CO.SURVEY CONTROL STATION: 436A
N 541,748.136 E 1,364,162.220
ELEVATION: 134.51'

HO.CO.SURVEY CONTROL STATION: 436B
N 544,118.628 E 1,370,553.547
ELEVATION: 112.49'

SITE ANALYSIS

TOTAL SITE AREA	536.1 ACRES
AREA OF SUBMISSION (SPECIAL EXCEPTION AREA)	327.75 ACRES
LIMIT OF DISTURBANCE FOR DEVELOPED AREA	61.7 ACRES
CURRENT ZONING	M-1 & MXD-3
PROPOSED USE	QUARRY W/ ASSOCIATED USES
EXISTING USE	VAGANT LAND / RESIDENCE
PROPOSED BUILDINGS	
BUILDING A - OFFICE	7,800 S.F.
BUILDING B - MAINTENANCE AND STORAGE	13,724 S.F. 2 3
PARKING REQUIREMENTS	
OFFICE BUILDING A	26 SPACES
MAINTENANCE BUILDING B	18 SPACES
PARKING PROVIDED	
OFFICE BUILDING A	50 SPACES (INCL 2 H.C.)
MAINTENANCE BUILDING B	34 SPACES (INCL 1 H.C.)
BUILDING COVERAGE	179,800 S.F. (0.45 AC.)=(0.1% OF SITE)
DPZ REFERENCES	BA 95-58E & WP-00-34, WP-04-68 6P-04-11

SETBACK SUMMARY

1. 100' LANDSCAPE BUFFER AROUND SPECIAL EXCEPTION BOUNDARY.
2. 300' SETBACK FROM SPECIAL EXCEPTION BOUNDARY FOR QUARRY USE. THIS DOES NOT APPLY TO THE OFFICE BUILDING AND MAINTENENACE SHOP.
3. 1000' SETBACK FROM US RTE 1 CRUSHING, SCREENING AND STOCKPILES.
4. 100' SETBACK FROM ANY PROPERTY LINE FOR THE 6' FENCE AROUND THE QUARRY PIT. FENCE SHALL BE A MINIMUM 20' FROM THE EXCAVATION LINE FOR THE PIT.
5. 100' SETBACK FROM ROUTE 1 FOR THE SEDIMENT POND.
6. HEIGHT LIMITS: SEE CONDITION OF APPROVAL #15 FOR BA95-58E.
7. 100' SETBACK FROM ROUTE 1 FOR OFFICE BUILDING, MAINTENANCE BUILDING AND PARKING LOTS.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY RETENTION PONDS #1 & 3

ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.

3. Debris and litter shall be removed during regular mowing operations and as needed. 4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.

2. Sediment should be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY DETENTION POND #2 ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, and maintenance access shall be mowed as needed.

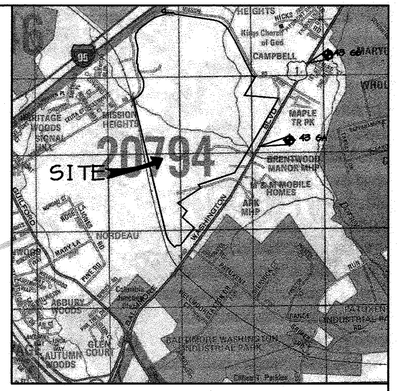
3. Debris and litter shall be removed during regular mowing operations and as needed.

4. Visible signs of erosion in the pond as well as riprap or gabion outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.

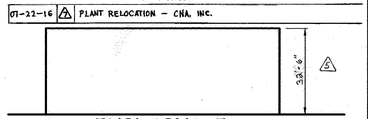
2. Sediment should be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.



VICINITY MAP
SCALE: 1" = 2000'
COPYRIGHT: ADC 'THE MAP PEOPLE'
PERMITTED USE NO. 20844285

BUILDING A
NOT TO SCALE

07-22-16	1	PLANT RELOCATION - CNA, INC.



BUILDING B
NOT TO SCALE

3-15-16	6	REV. S.F. OF BUILDING 'B' - CNA INC.
1-9-15	5	REDUCED BUILDING FOOTPRINT - CNA INC.
6-15-05	4	REV. SHEET INDEX, REV GEN. NOTES, ADDED GEN. NOTE #37

APPROVED : FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

COUNTY HEALTH OFFICER DATE

ADDRESS CHART

BUILDING	STREET ADDRESS
A	8420 WASHINGTON BLVD
B	8418 WASHINGTON BLVD
SCALE HOUSE	8422 WASHINGTON BLVD

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
2-17-05	2	ADDED ADDRESS INFORMATION FOR PLANT
1-6-05	1	ADDED BUILDING ELEV., REV. SHEET INDEX

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

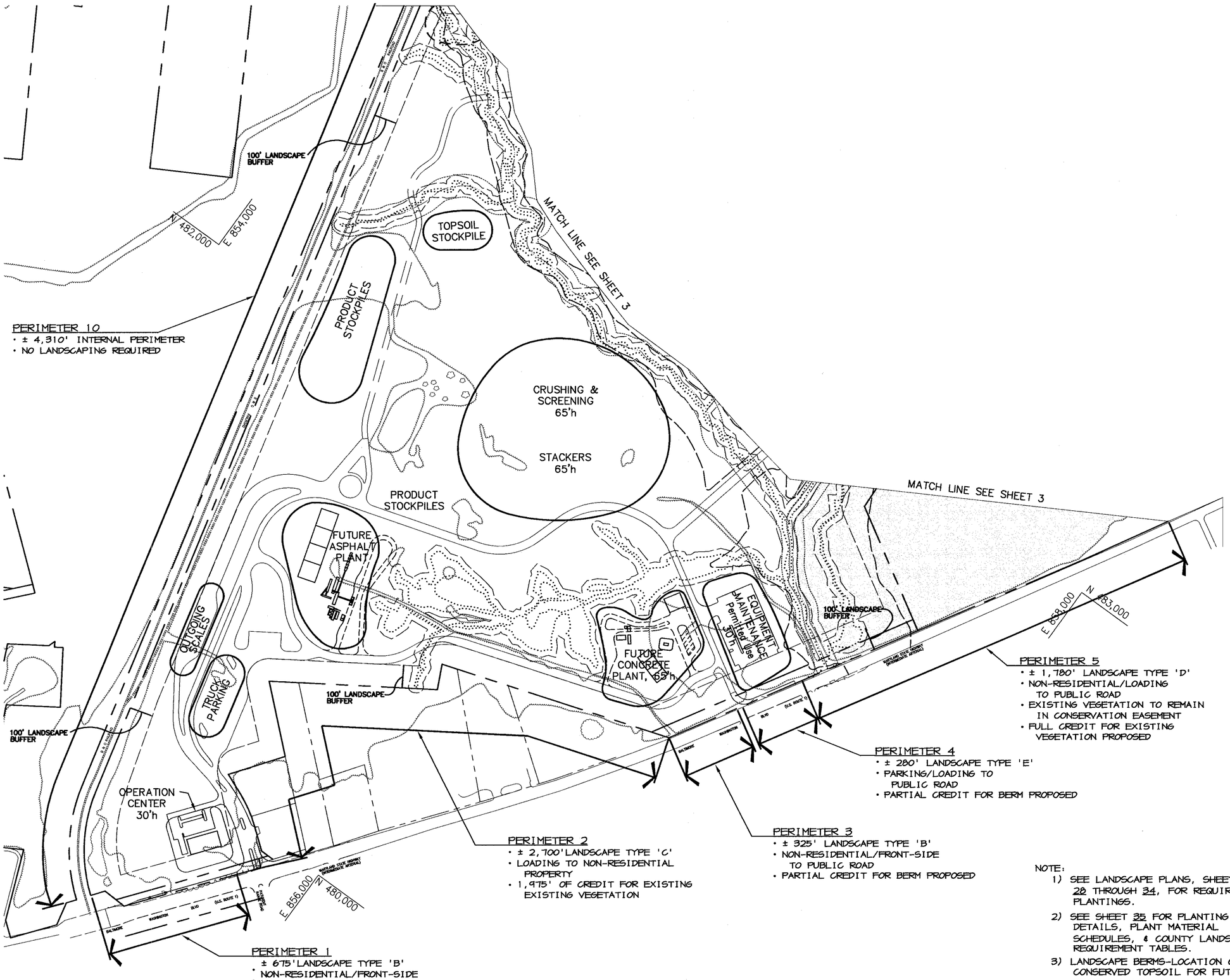
CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.	
DRAWN BY : MAD	
CHECKED BY : C.J.R.	
PROJECT NO : 99092/COVER.DWG	
DATE : JANUARY 29, 2004	
SCALE : AS SHOWN	
DRAWING NO. 1 OF 51	

SDP-99-134

SUBDIVISION NAME – CHASE QUARRY			SECT./AREA –	PARCEL – 234 & P.O.235	
PLAT # –	BLOCK #	ZONE	TAX MAP NO	ELECT. DIST	CENSUS TR.
–	19	M-1 & MXD-3	43	6th	6069.01
WATER CODE – B02			SEWER CODE – 4200000		

P:\projects\99092\1-0\Engr\Plans\COVER.DWG, Layout1, 01/29/2004 10:54:16 AM, HP750C(98).pc3, Arch D - 24 x 36 in. (landscape), 1:100



LEGEND

- EXISTING TREE LINE
- CONSERVATION EASEMENT
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- EASEMENT
- EXISTING FENCE
- EXISTING WETLANDS

NOTE:

1) SEE LANDSCAPE PLANS, SHEETS 28 THROUGH 34, FOR REQUIRED PLANTINGS.
2) SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, & COUNTY LANDSCAPE REQUIREMENT TABLES.
3) LANDSCAPE BERMS-LOCATION OF CONSERVED TOPSOIL FOR FUTURE REGENERATION OF SITE FOLLOWING COMPLETION OF MINING.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 2/12/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL LOCATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE

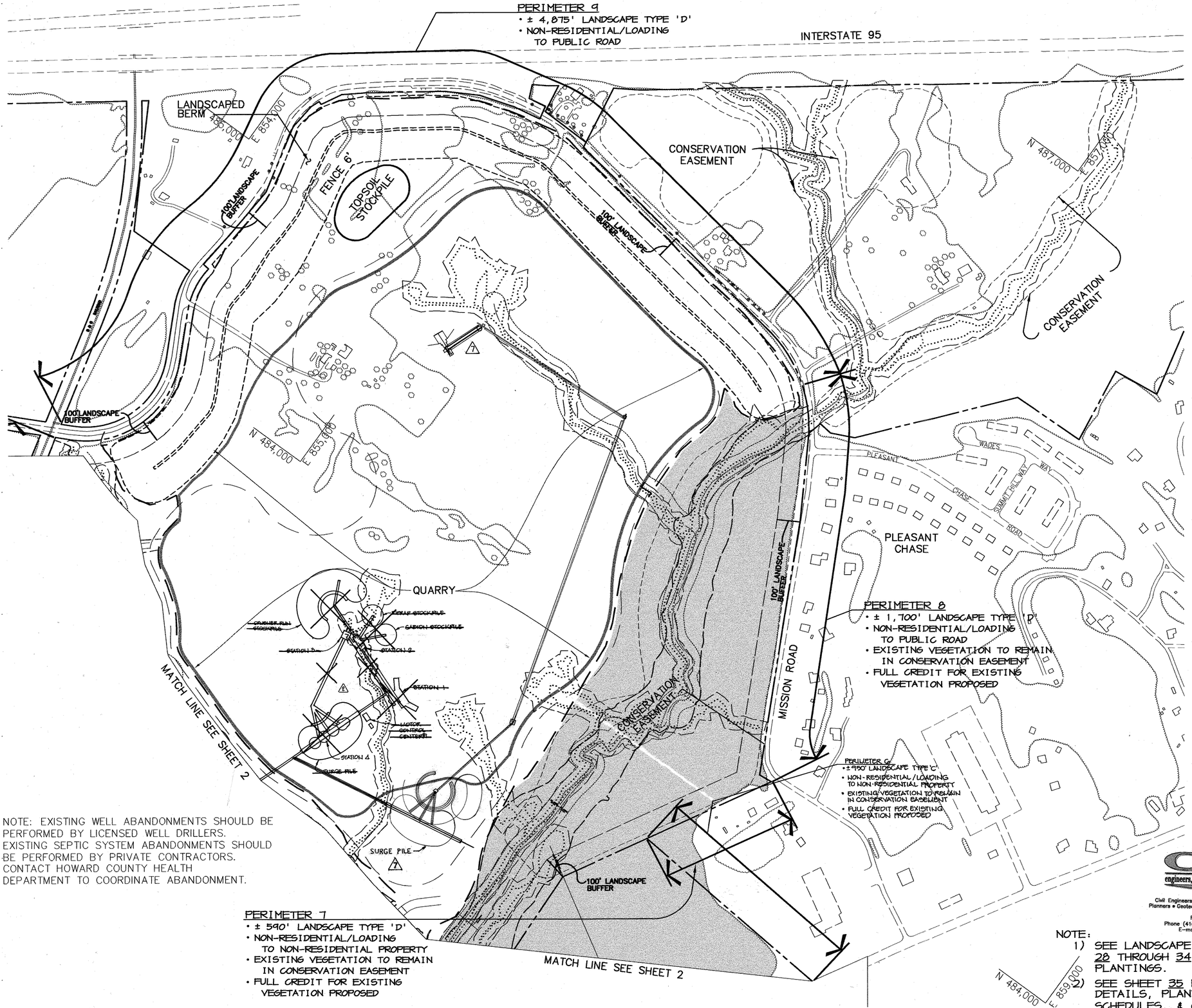
STATE OF MARYLAND — SCOTT R. WOLFORD — No. 19802 — REGISTERED PROFESSIONAL ENGINEER

Scott R. Wolford

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ OVER2.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 200'
DRAWING NO.	2 OF 40

SDP-99-134

P:\project\99092\1-01Engr\Plans\Over2.dwg, Layout1, 01/29/2004 10:55:22 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



NOTE: EXISTING WELL ABANDONMENTS SHOULD BE PERFORMED BY LICENSED WELL DRILLERS. EXISTING SEPTIC SYSTEM ABANDONMENTS SHOULD BE PERFORMED BY PRIVATE CONTRACTORS. CONTACT HOWARD COUNTY HEALTH DEPARTMENT TO COORDINATE ABANDONMENT.

NOTE:
1) SEE LANDSCAPE PLANS, SHEETS 28 THROUGH 34, FOR REQUIRED PLANTINGS.
2) SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, & COUNTY LANDSCAPE REQUIREMENT TABLES.

LEGEND

- EXISTING TREE LINE
- CONSERVATION EASEMENT
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EASEMENT
- EXISTING FENCE
- EXISTING WETLANDS
- QUARRY LIMITS

DATE	NO.	REVISION
07-22-16	7	PLANT RELOCATION – CNA, INC.
6-15-05	3	CHANGED SHEET NUMBER

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — HB — DATE 3/11/04

DATE	NO.	REVISION
2-21-05	2	ADDED PLANT LAYOUT
1-6-05	1	CHANGED SHEET NUMBER

DEVELOPER/OWNER:

(OWNER) CHASE LIMITED PARTNERSHIP, P.O. BOX 850, LAUREL, MD 20725, 410.792.7234

(DEVELOPER) CHASE MINING LLC, P.O. BOX 850, LAUREL, MD 20725, 410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43, PARCEL 234 & P.O. 235, BLOCK 19, 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE

OVERALL LOCATION PLAN

FOR REVISION 7 ONLY

STATE OF MARYLAND — CHRISTOPHER R. WOLFORD — No. 28379 — PROFESSIONAL ENGINEER

CNA engineers, surveyors & landscape architects

Civil Engineers • Land Surveyors • Landscape Architects
Planners • Geotechnical Engineers • Environmental Engineers
215 Bynum Road
Forest Hill, Maryland 21050
Phone (410) 879-7200 • Fax (410) 838-1811
E-mail: cnamail@cna-engineers.com

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE

STATE OF MARYLAND — SCOTT R. WOLFORD — No. 797 — REGISTERED LANDSCAPE ARCHITECT

Scott R. Wolford

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/OVER3.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 200'
DRAWING NO.	3 OF 51

SDP-99-134

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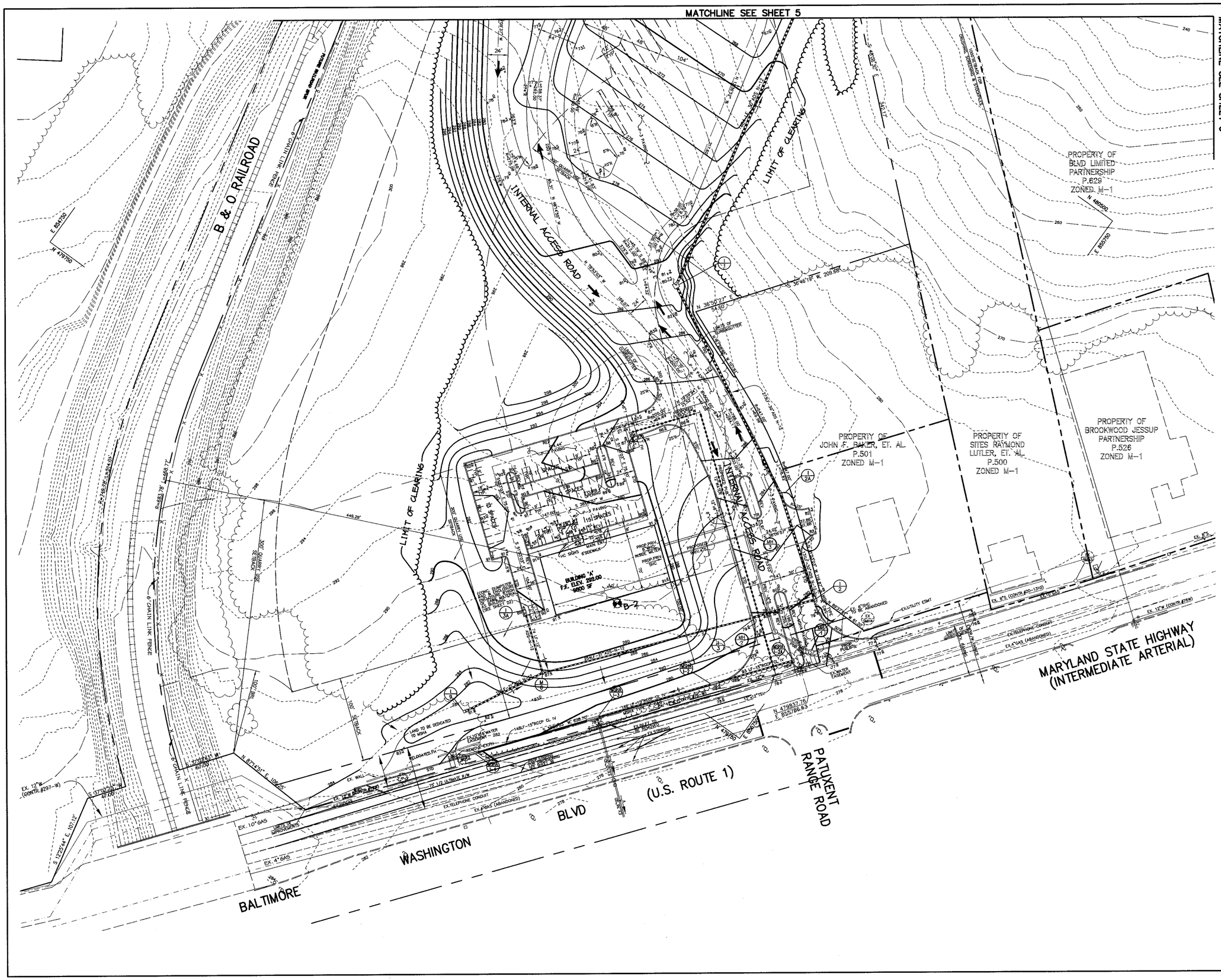

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING
- MSHA PAVING

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — NO. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SDP-4.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	4 OF 40

SDP-99-134

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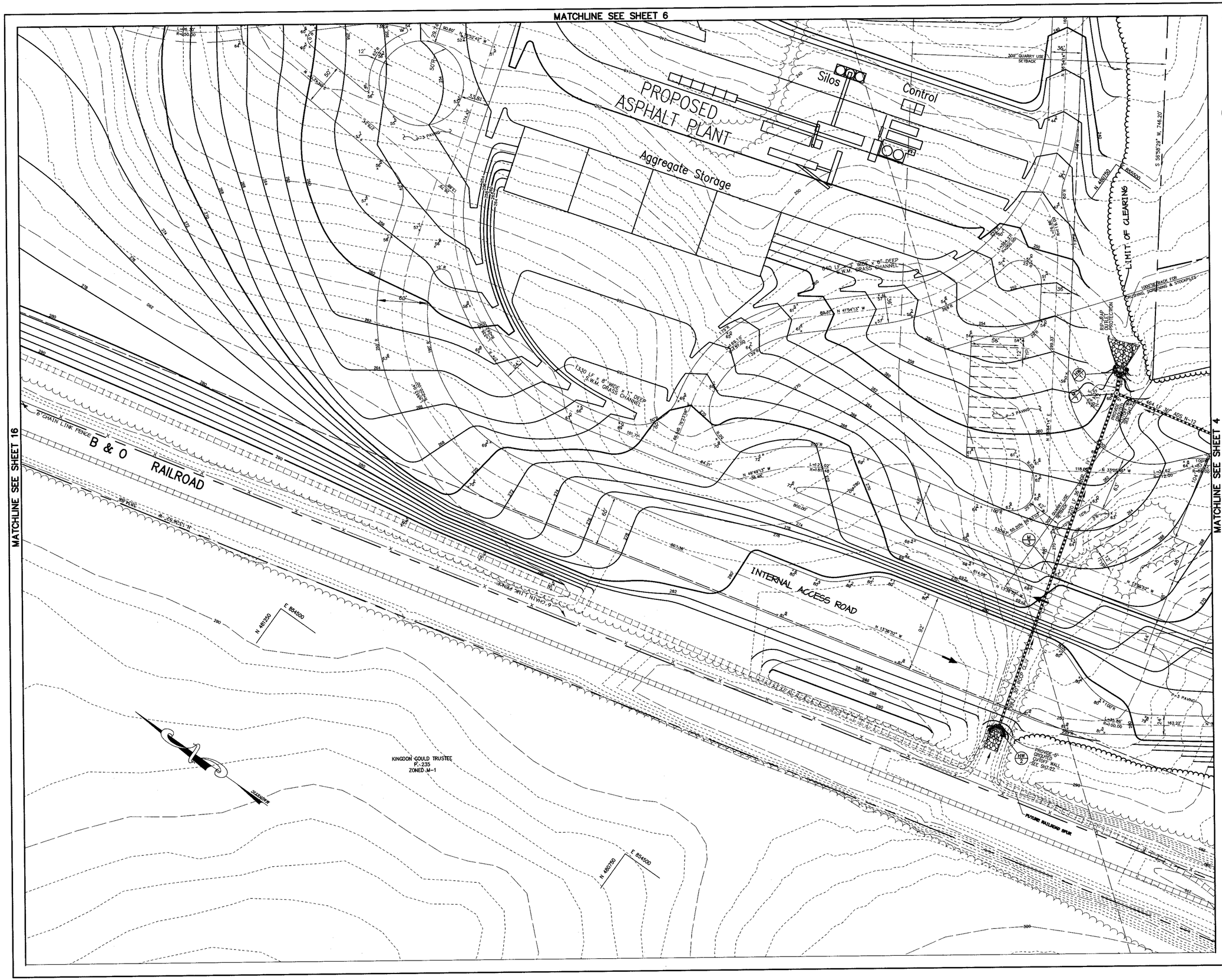

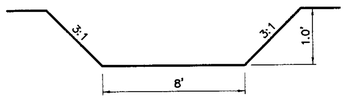

TYPICAL SECTION
S.W.M. GRASS CHANNEL
NO SCALE

NOTE: USE 4"-7" STONE PRESSED INTO THE SOIL A MINIMUM OF 7" WHERE SPECIFIED ON THE PLAN VIEW; OTHERWISE USE EROSION CONTROL MATTING.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING
- STONE CHECK DAM

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — REGISTERED PROFESSIONAL ENGINEER — 19949

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SDP-5.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	5 OF 40

SDP-99-134

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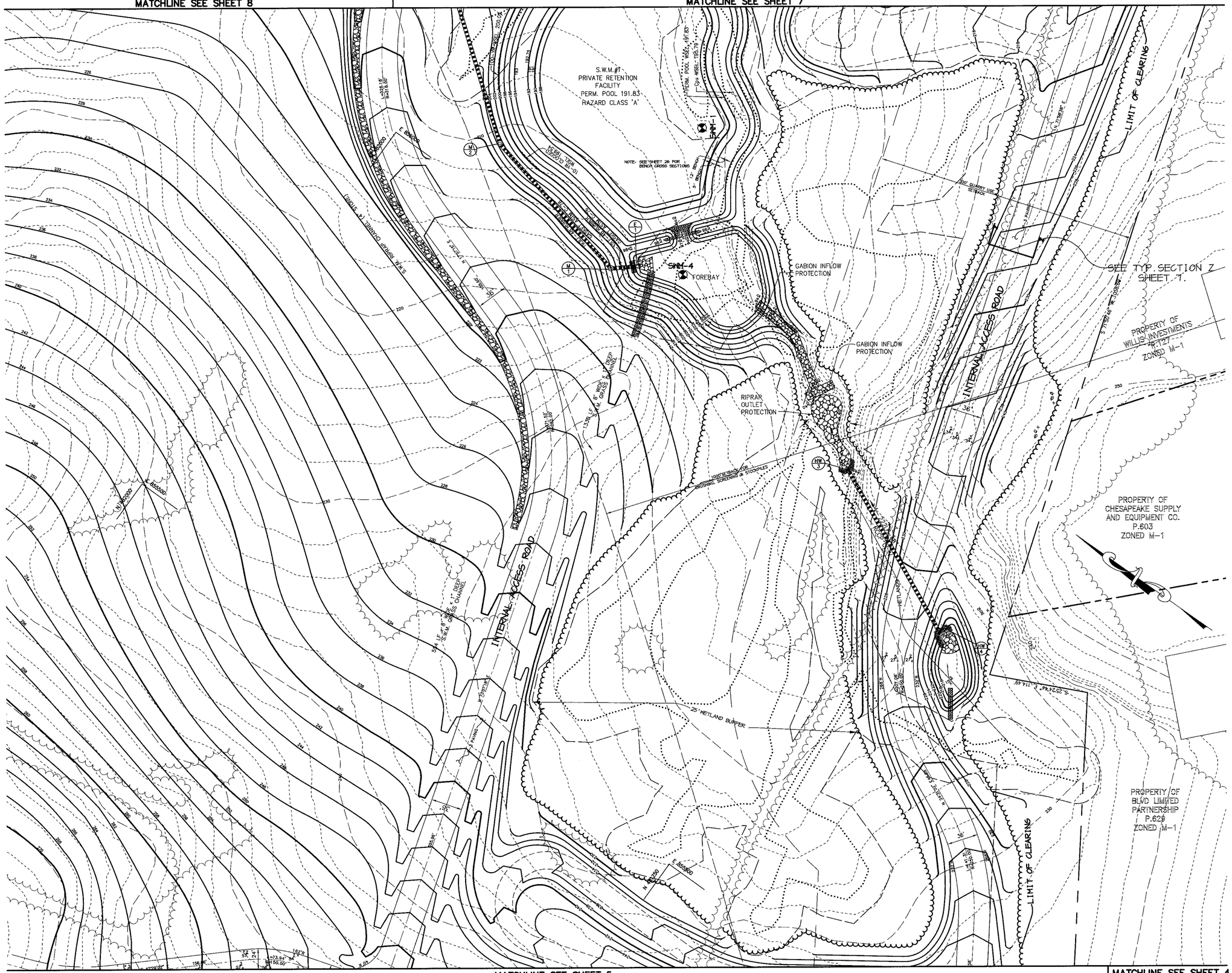
MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 7



MATCHLINE SEE SHEET 5

MATCHLINE SEE SHEET 4

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING
- STONE CHECK DAM

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 14
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND
CHRISTOPHER J. REID
No. 19949
PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

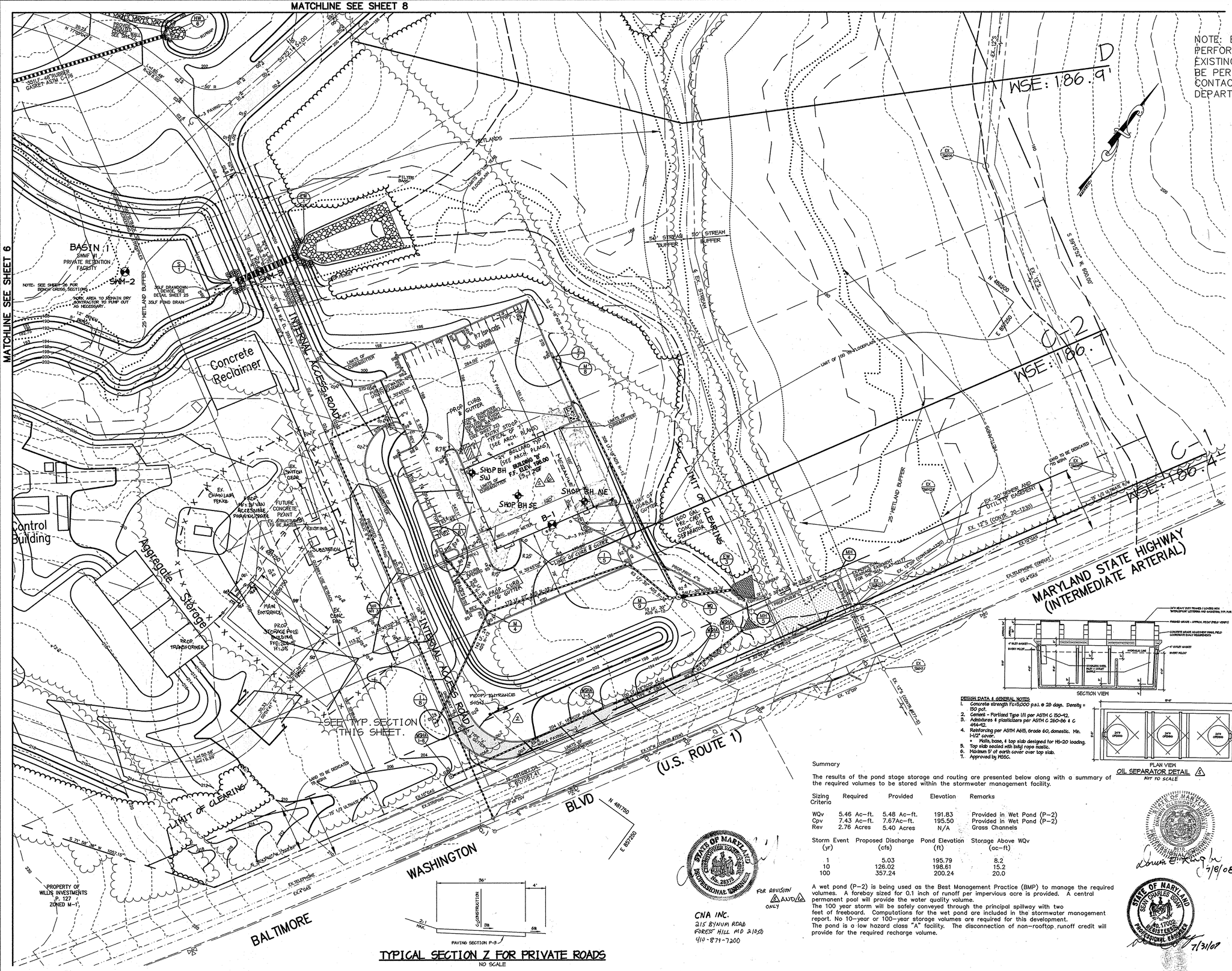
DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SDP6.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	6 OF 40

SDP-99-134

P:\project\990921-0\Engr\Plans\Sdp-6.dwg, Layout1, 01/29/2004 12:25:22 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 6



NOTE: EXISTING WELL ABANDONMENTS SHOULD BE PERFORMED BY LICENSED WELL DRILLERS. EXISTING SEPTIC SYSTEM ABANDONMENTS SHOULD BE PERFORMED BY PRIVATE CONTRACTORS. CONTACT HOWARD COUNTY HEALTH DEPARTMENT TO COORDINATE ABANDONMENT.

3-15-16	6	REV. S.E. OF BLDG 'B' - CNA INC.

LEGEND

- EXISTING CONTOURS (300)
- PROPOSED CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- MSHA PAVING
- P-3 PAVING

1-9-15	5	REDUCED BUILDING FOOTPRINT - CNA INC.
7-8-08	4	ADDED POLE BLDG + SUBSTATION + FENCE
7-31-07	3	ADDED SHOP BOREHOLES

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/25/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

6-15-05	2	ADDED ENTRANCE SIGN, CHANGED SHEET NUMBER
1-6-05	1	CHANGED SHEET NO.

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DESIGNED BY : C.J.R.	
DRAWN BY : MAD	
CHECKED BY : C.J.R.	
PROJECT NO : 99092/SDP-7.DWG	
DATE : JANUARY 29, 2004	
SCALE : 1" = 50'	
DRAWING NO. 7 OF 51	

1-30-04 DATE

CHRISTOPHER J. REID #19949

SDP-99-134

DESIGN DATA & GENERAL NOTES

1. Concrete strength f'c=5,000 p.s.i. @ 28 days. Density = 150 pcf.
2. Cement - Portland Type I/II per ASTM C 150-42.
3. Admixtures & plasticizers per ASTM C 260-86 & C 494-42.
4. Reinforcing per ASTM A615, Grade 60, domestic. Min. 1-1/2" cover.
   - Walls, base, & top slab designed for HS-20 loading.
5. Top slab sealed with butyl rope mastic.
6. Maximum 5' of earth cover over top slab.
7. Approved by MDSC.

OIL SEPARATOR DETAIL 5
NOT TO SCALE

Summary

The results of the pond stage storage and routing are presented below along with a summary of the required volumes to be stored within the stormwater management facility.

Sizing Criteria	Required	Provided	Elevation	Remarks
WQv	5.46 Ac-ft.	5.48 Ac-ft.	191.83	Provided in Wet Pond (P-2)
Cpv	7.43 Ac-ft.	7.67Ac-ft.	195.50	Provided in Wet Pond (P-2)
Rev	2.76 Acres	5.40 Acres	N/A	Grass Channels

Storm Event (yr)	Proposed Discharge (cfs)	Pond Elevation (ft)	Storage Above WQv (ac-ft)
1	5.03	195.79	8.2
10	126.02	198.61	15.2
100	357.24	200.24	20.0

A wet pond (P-2) is being used as the Best Management Practice (BMP) to manage the required volumes. A forebay sized for 0.1 inch of runoff per impervious acre is provided. A central permanent pool will provide the water quality volume.
The 100 year storm will be safely conveyed through the principal spillway with two feet of freeboard. Computations for the wet pond are included in the stormwater management report. No 10-year or 100-year storage volumes are required for this development.
The pond is a low hazard class "A" facility. The disconnection of non-rooftop runoff credit will provide for the required recharge volume.

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER — 7/31/07

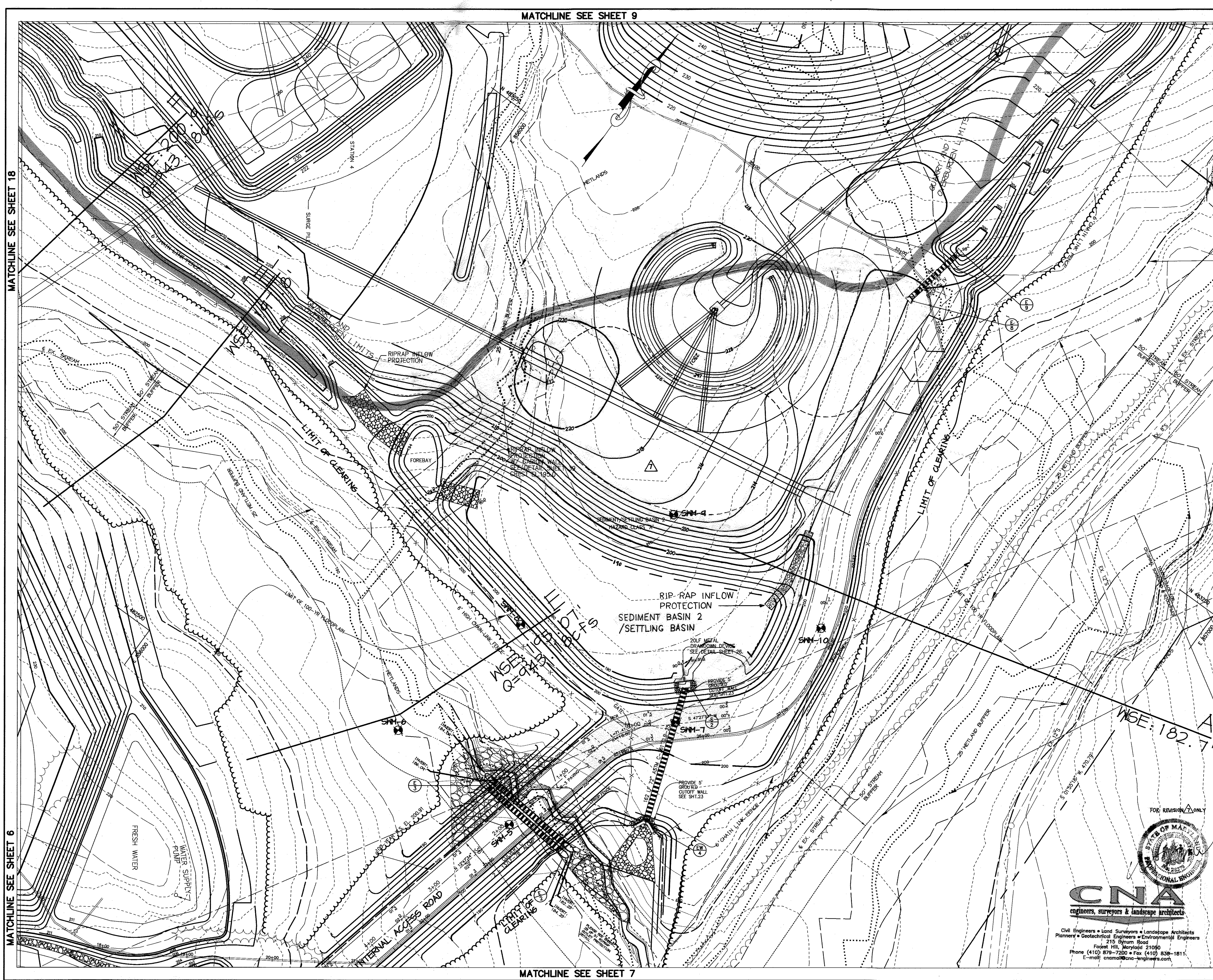
FOR REVISION 5 AND 6 ONLY

CNA INC.
215 BYNUM ROAD
FOREST HILL MD 21050
410-879-7200

STATE OF MARYLAND — DOWN E. KING JR. — No. 23216 — PROFESSIONAL ENGINEER — 7/8/08

TYPICAL SECTION Z FOR PRIVATE ROADS
NO SCALE

P:\project\99092\1-01\Eng\Plans\Sdp-7.dwg, Layout1, 01/29/2004 12:25:54 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

Symbol	Description
—300—	EXISTING CONTOURS
—300—	PROPOSED CONTOURS
	EXISTING TREE LINE
	PROPOSED TREE LINE
	EXISTING ROAD
	EXISTING BOUNDARY LINE
	EXISTING BUILDING
	EXISTING WETLANDS
	APPROXIMATE LOCATION OF BENCH FOR BERM
	EASEMENT
	PROPOSED FENCE
	RIP RAP OUTLET PROTECTION
	LIMIT OF 100–YR FLOODPLAIN
	10' BENCH
	50'STREAM BUFFER
	WETLAND BUFFER LIMITS
	EXISTING STREAM
	P–3 PAVING
	2' CONTOUR
	10' CONTOUR
	DRAINAGE AREA

07-22-16 ⚠7 PLANT RELOCATION – CNA, INC.

PRIVATELY OWNED AND MAINTAINED SEDIMENT/SETTLING BASIN 2- DESIGN SUMMARY

DESIGN STORM (YR.)	ALLOWABLE RELEASE (C.F.S.)	POND & STUDY POINT #2 FACILITY DISCHARGE (C.F.S.)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME (AC. FT.)
2	56.5	23.7	194.5	10.0
10	190.9	123.8	196.4	16.9
100	372.3	276.7	198.1	23.1

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/2/05

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/3/05

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/6/05

DATE	NO.	REVISION
8/30/05	2	ADDED WATER + SEWER AND REVISED GRADING
1/06/05	1	REVISED GRADING & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

REVISED
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

CNA
engineers, surveyors & landscape architects
Civil Engineers • Land Surveyors • Landscape Architects
Planners • Geotechnical Engineers • Environmental Engineers
215 Bynum Road
Forest Hill, Maryland 21050
Phone (410) 879-7200 • Fax (410) 838-1811
E-mail: cnamail@cna-engineers.com

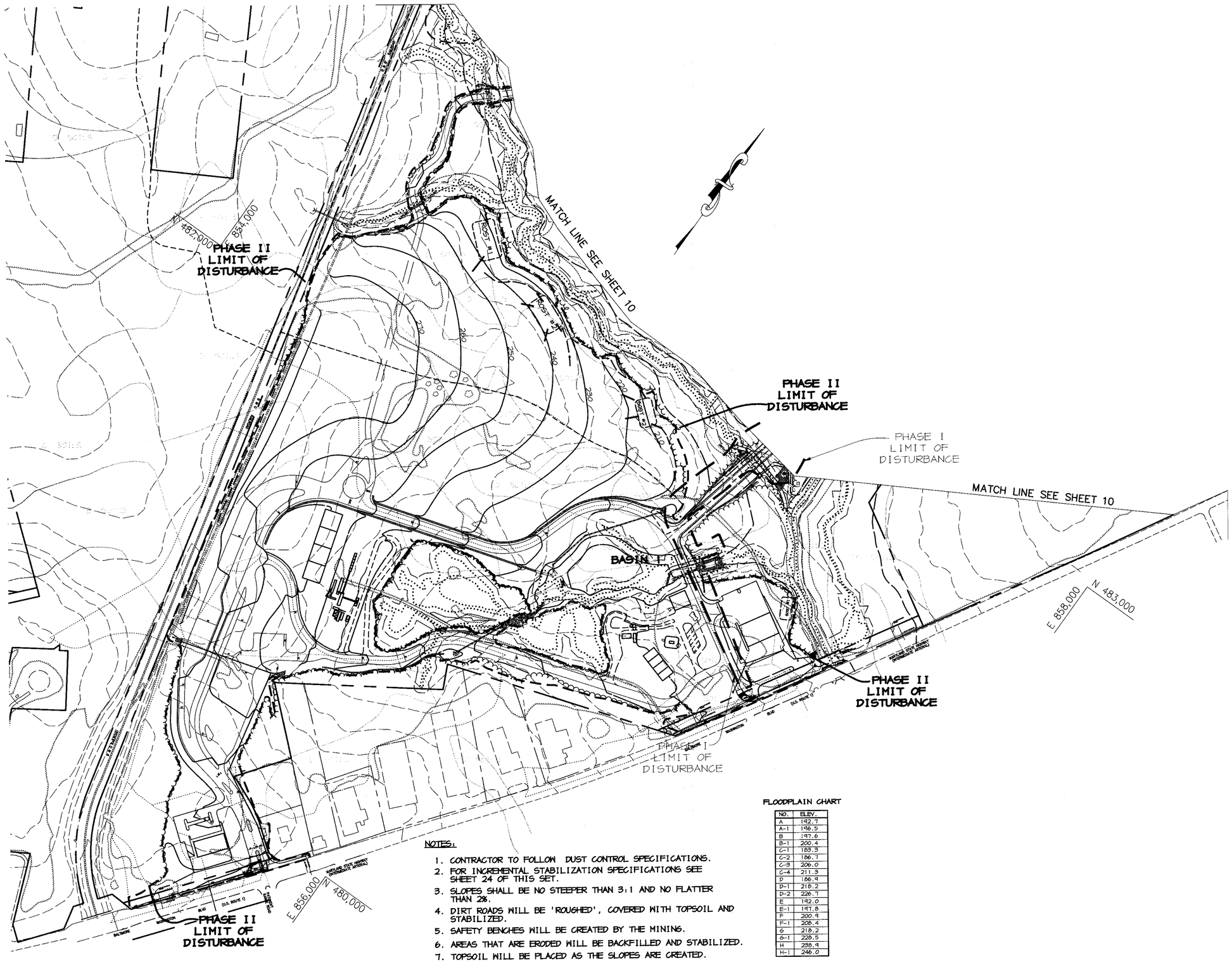
8·30·05
DATE

STATE OF MARYLAND AIMEE C. REMINGTON No. 29923 PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #29923

DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/ SDP8.DWG
DATE :	AUGUST 30, 2005
SCALE :	1" = 50'
DRAWING NO.	8 OF 51

SDP-99-134



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EXISTING SOILS
- EASEMENT
- PROPOSED FENCE
- DRAINAGE AREA DIVIDE TO INLETS
- LIMIT OF DISTURBANCE, PHASE I
- LIMIT OF DISTURBANCE, PHASE II
- EROSION CONTROL MATTING
- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- RIP RAP OUTLET PROTECTION
- GABION INFLOW PROTECTION
- EARTH DIKE
- TEMPORARY SWALE
- WET BUFFER LIMITS
- RPS — REMOVABLE PUMPING STATION
- 100-YR FLOODPLAIN LIMITS
- 50'STREAM BUFFER
- EXISTING STREAM

NOTES:

1. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
2. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
3. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
4. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
5. SAFETY BENCHES WILL BE CREATED BY THE MINING.
6. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
7. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

FLOODPLAIN CHART

NO.	ELEV.
A	192.7
A-1	196.5
B	197.6
B-1	200.4
C-1	183.3
C-2	186.7
C-3	206.0
C-4	211.3
D	186.9
D-1	218.2
D-2	226.7
E	192.0
E-1	197.8
F	200.3
F-1	206.4
G	218.2
G-1	228.5
H	238.4
H-1	246.0

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	2/5/04 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	2/20/04 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	2/11/04 DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL EROSION & SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

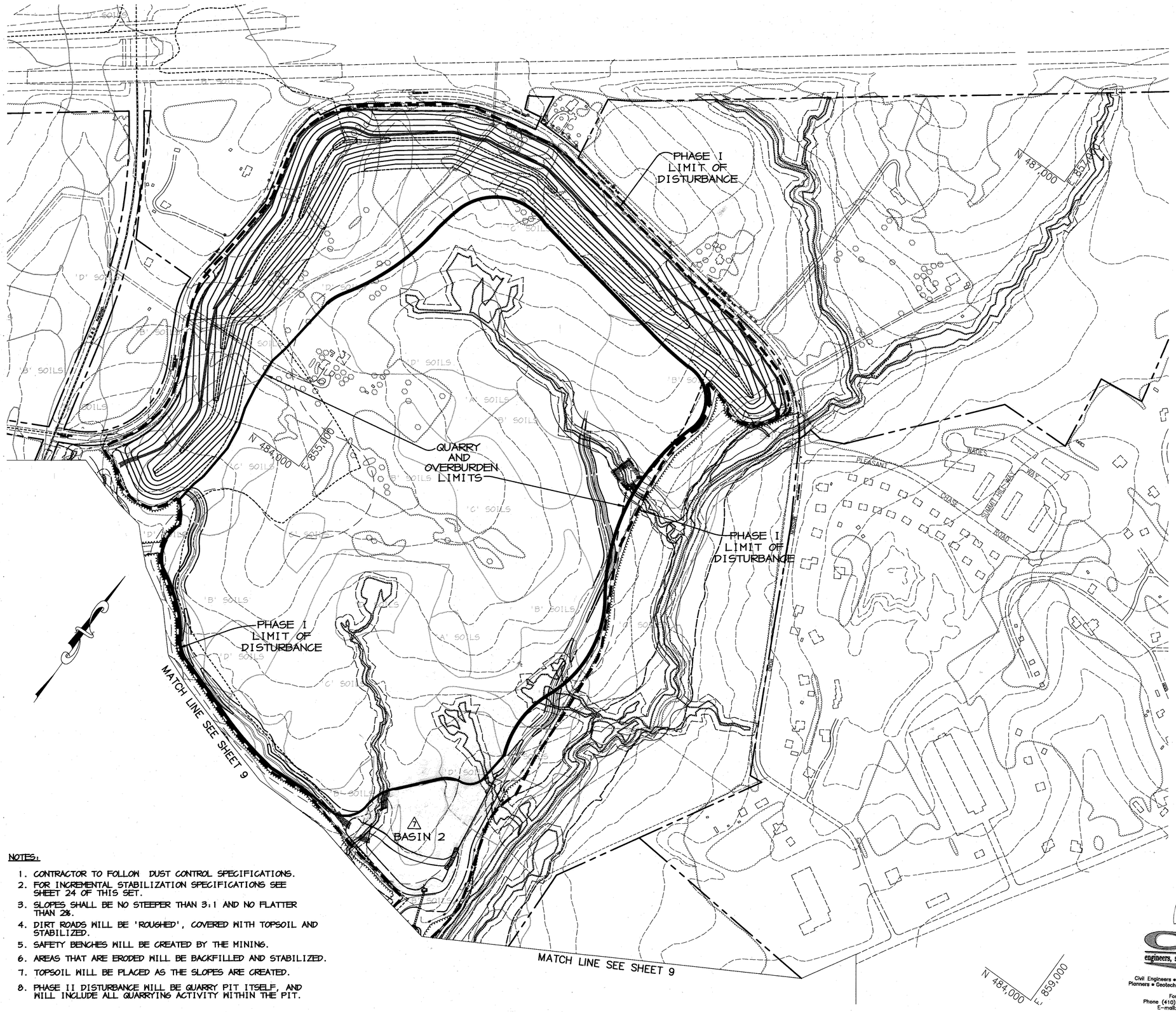
1.30.04
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.	
DRAWN BY :	
CHECKED BY : C.J.R.	
PROJECT NO : 99092/OVER4.DWG	
DATE : JANUARY 29, 2004	
SCALE : 1" = 200'	
DRAWING NO. 9 OF 40	

SDP-99-134

P:\project\9909261-01\Engr\Plans\OVER9.dwg, Layout1, 01/29/2004 12:27:48 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- DRAINAGE AREA DIVIDE TO INLETS
- LIMIT OF DISTURBANCE, PHASE I
- EROSION CONTROL MATTING
- SILT FENCE
- SUPER SILT FENCE
- RIP RAP OUTLET PROTECTION
- GABION INFLOW PROTECTION
- EARTH DIKE
- TEMPORARY SWALE
- LIMIT OF 100-YR FLOODPLAIN
- REMOVABLE PUMPING STATION
- 10' BENCH ALONG LANDSCAPE BERM
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM

NOTES:

1. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
2. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
3. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
4. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
5. SAFETY BENCHES WILL BE CREATED BY THE MINING.
6. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
7. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.
8. PHASE II DISTURBANCE WILL BE QUARRY PIT ITSELF, AND WILL INCLUDE ALL QUARRYING ACTIVITY WITHIN THE PIT.

FOR REVISION 7 ONLY

STATE OF MARYLAND PROFESSIONAL ENGINEER No. 2357

CNA
engineers, surveyors & landscape architects

Civil Engineers • Land Surveyors • Landscape Architects
Planners • Geotechnical Engineers • Environmental Engineers
215 Bynum Road
Forest Hill, Maryland 21050
Phone (410) 879-7200 • Fax (410) 838-1811
E-mail: cnamail@cna-engineers.com

DATE	NO.	REVISION
07-22-16	7	PLANT RELOCATION - CNA, INC.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL EROSION & SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 REGISTERED PROFESSIONAL ENGINEER

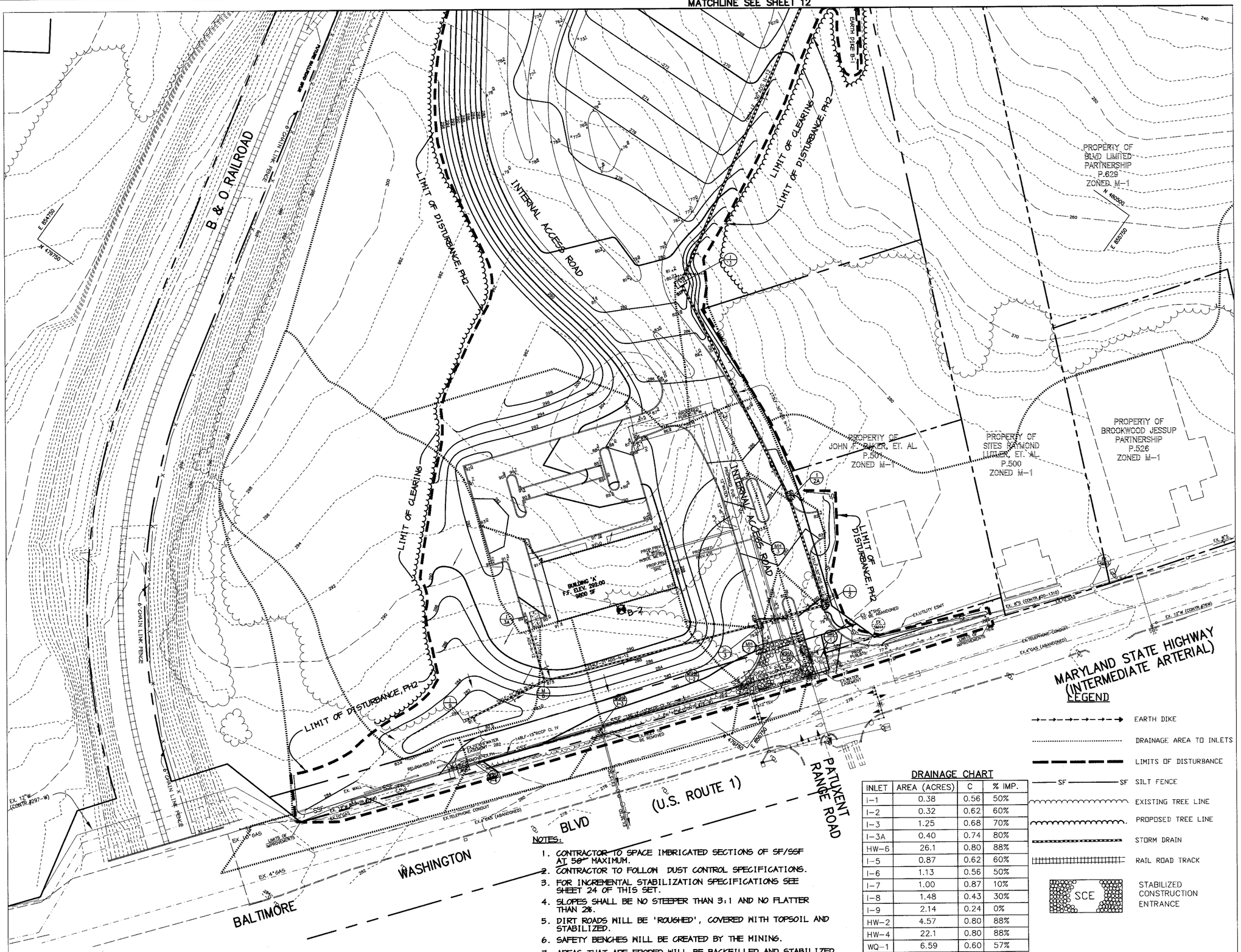
CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY :
CHECKED BY : C.J.R.
PROJECT NO : 99092/OVER10.DWG
DATE : JANUARY 29, 2004
SCALE : 1" = 200'
DRAWING NO. 11 OF 51

SDP-99-134

P:\project\99092\1-0\Engr\Plans\OVER10.dwg, Layout1, 01/29/2004 12:28:26 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 12



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
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3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
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6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

DRAINAGE CHART

INLET	AREA (ACRES)	C	% IMP.
I-1	0.38	0.56	50%
I-2	0.32	0.62	60%
I-3	1.25	0.68	70%
I-3A	0.40	0.74	80%
HW-6	26.1	0.80	88%
I-5	0.87	0.62	60%
I-6	1.13	0.56	50%
I-7	1.00	0.87	10%
I-8	1.48	0.43	30%
I-9	2.14	0.24	0%
HW-2	4.57	0.80	88%
HW-4	22.1	0.80	88%
WQ-1	6.59	0.60	57%

LEGEND

- EARTH DIKE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- SCE STABILIZED CONSTRUCTION ENTRANCE

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE 2/2/04 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT 2/2/04 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 2/5/04 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/2/04 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 2/11/04 DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.	
DRAWN BY : MAD	
CHECKED BY : C.J.R.	
PROJECT NO : 99092/SEDIMI.DWG	
DATE : JANUARY 29, 2004	
SCALE : 1" = 50'	
DRAWING NO. 11 OF 40	

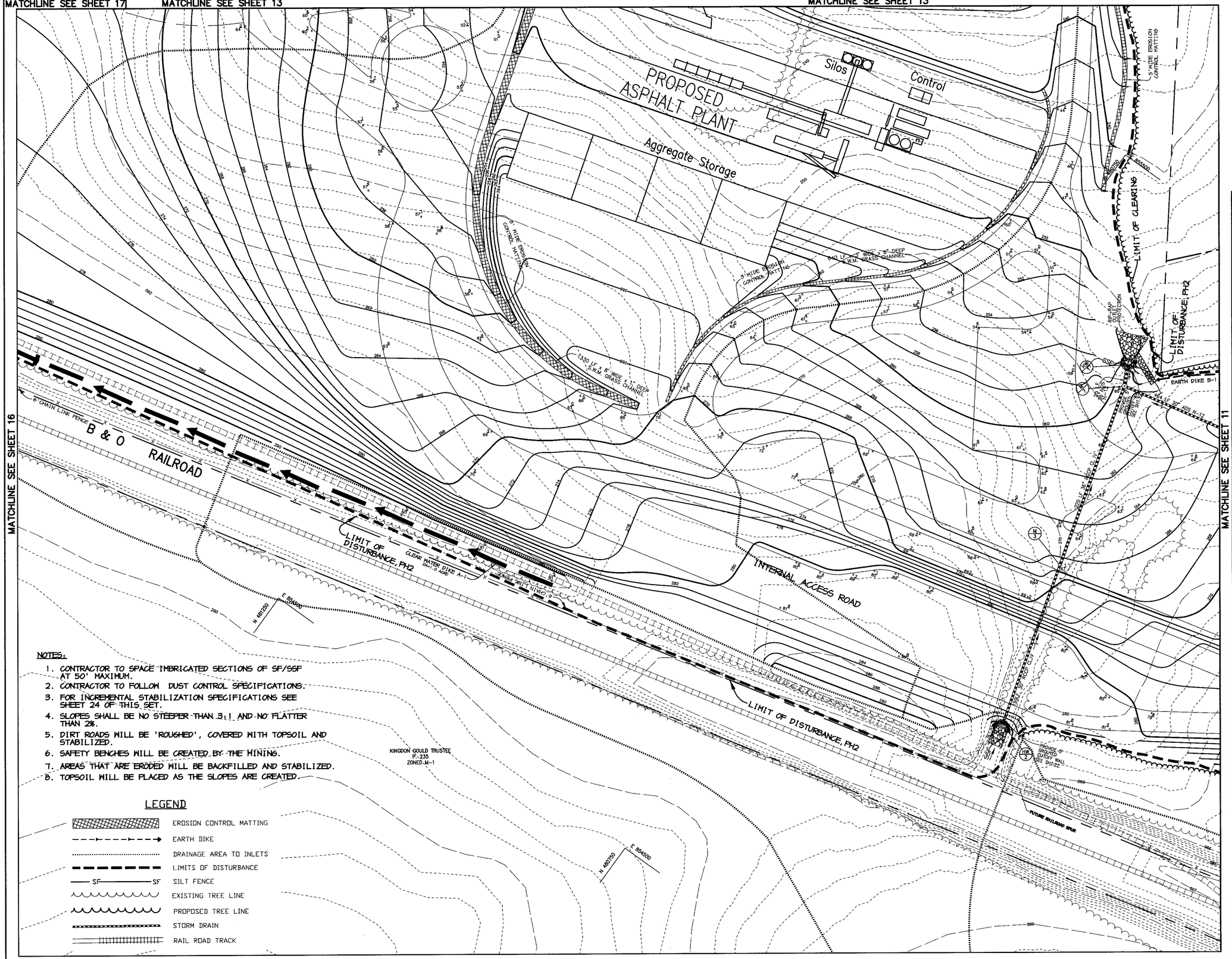
SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim1.dwg, Layout1, 01/29/2004 12:32:18 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 17 | MATCHLINE SEE SHEET 13 | MATCHLINE SEE SHEET 13

MATCHLINE SEE SHEET 16

MATCHLINE SEE SHEET 11



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/GS — 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

PHR+A

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

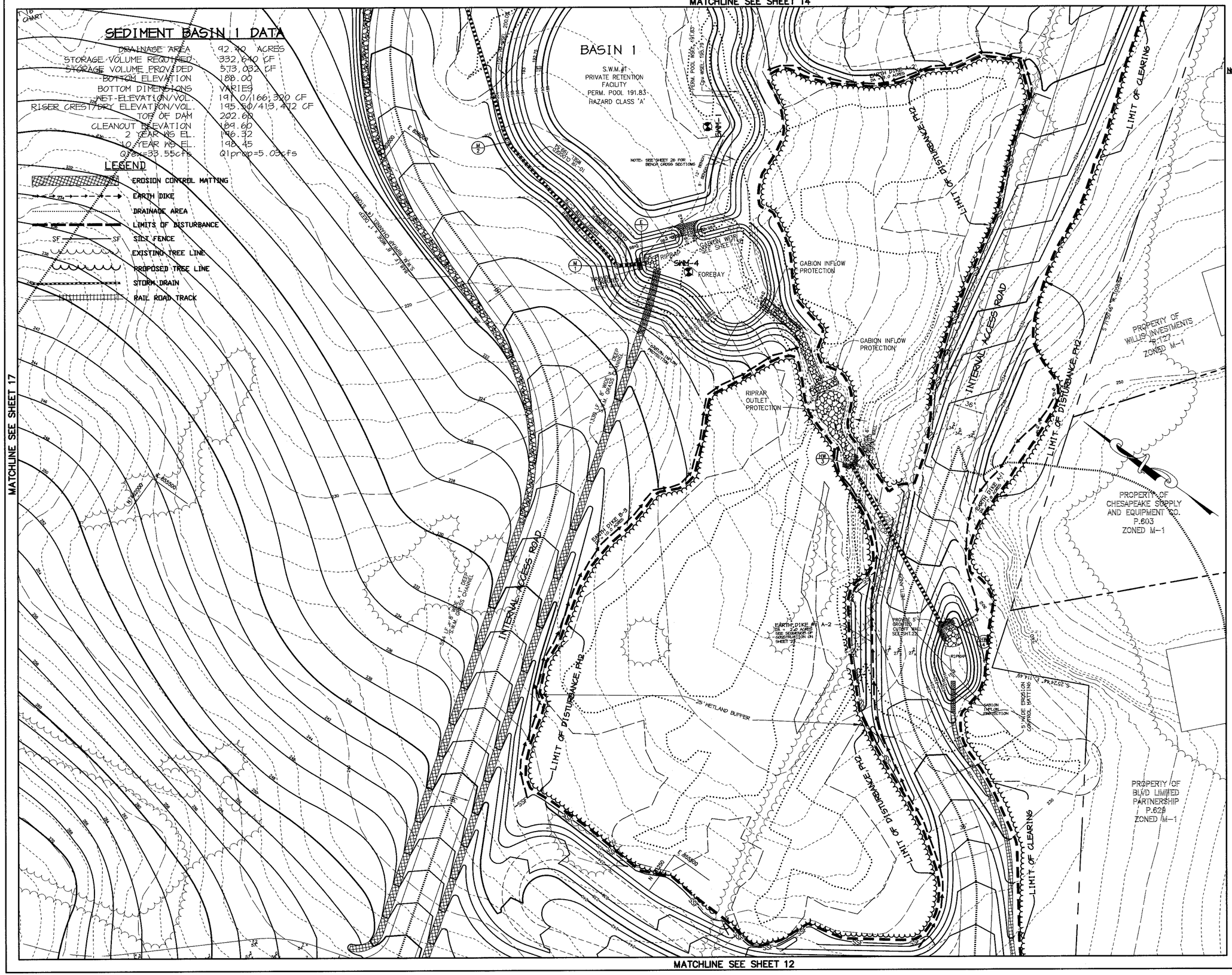
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM2.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	12 OF 40

SDP-99-134

P:\project\990921.0\Eng\Plans\Sedim2.dwg, Layout1, 01/29/2004 12:32:57 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 14



SEDIMENT BASIN 1 DATA

DRAINAGE AREA	92.40 ACRES
STORAGE VOLUME REQUIRED	332,640 CF
STORAGE VOLUME PROVIDED	573,032 CF
BOTTOM ELEVATION	180.00
BOTTOM DIMENSIONS	VARIES
WET-ELEVATION/VOL.	191.0/166,320 CF
RISER CREST/DRY ELEVATION/VOL.	195.50/413,472 CF
TOP OF DAM	202.60
CLEANOUT ELEVATION	189.60
2 YEAR WS EL.	196.32
10 YEAR WS EL.	198.45
Q25=33.55cfs	Q1prop=5.03cfs

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE
- SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers for — 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

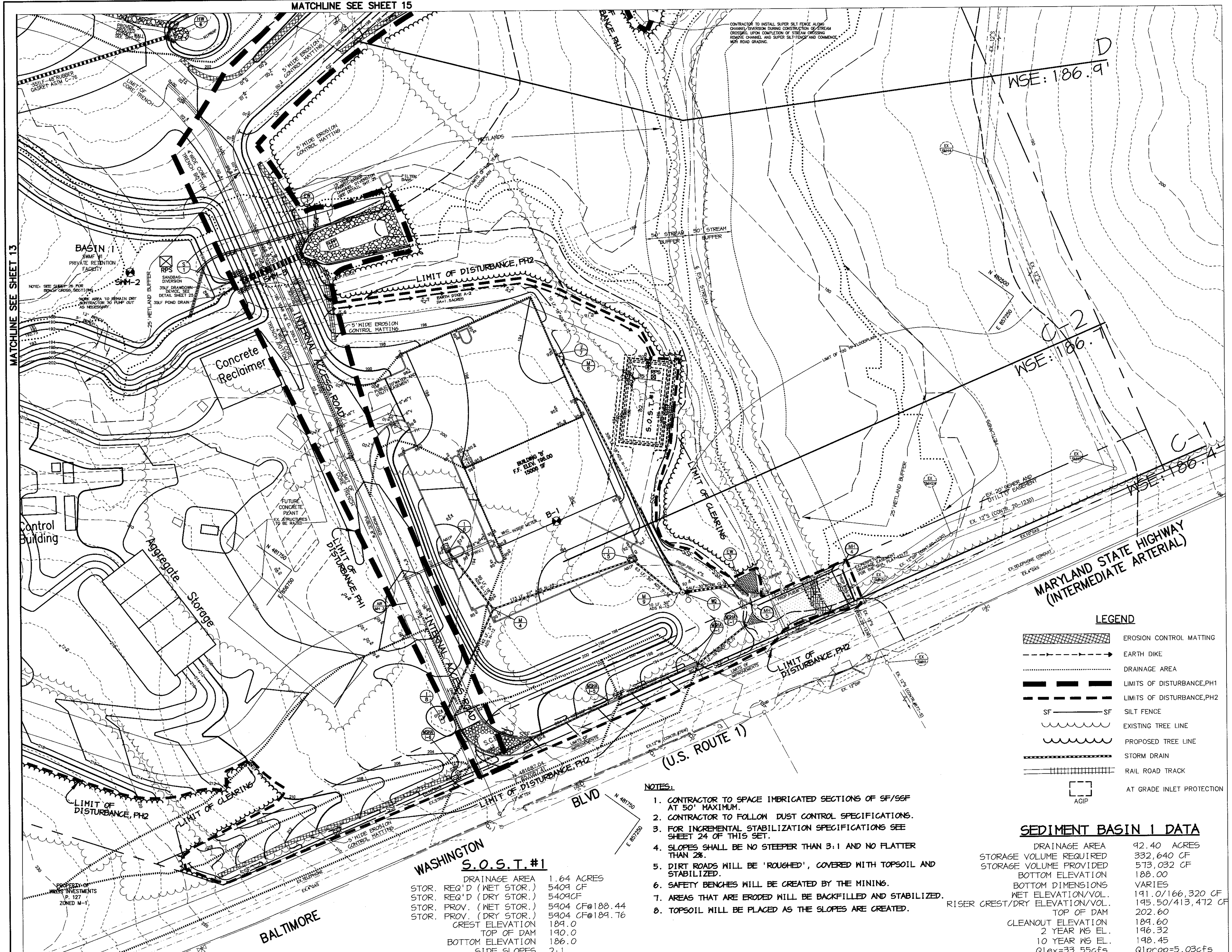
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM3.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	13 OF 40

SDP-99-134

P:\project\0990921-01\Engr\Plans\Sedim3.dwg, Layout1, 01/29/2004 12:33:33 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



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S.O.S.T. #1

DRAINAGE AREA	1.64 ACRES
STOR. REQ'D (WET STOR.)	5409 CF
STOR. REQ'D (DRY STOR.)	5409CF
STOR. PROV. (WET STOR.)	5904 CF@188.44
STOR. PROV. (DRY STOR.)	5904 CF@189.76
CREST ELEVATION	189.0
TOP OF DAM	190.0
BOTTOM ELEVATION	186.0
SIDE SLOPES	2:1

SEDIMENT BASIN 1 DATA

DRAINAGE AREA	92.40 ACRES
STORAGE VOLUME REQUIRED	332,640 CF
STORAGE VOLUME PROVIDED	573,032 CF
BOTTOM ELEVATION	188.00
BOTTOM DIMENSIONS	VARIES
WET ELEVATION/VOL.	191.0/166,320 CF
RISER CREST/DRY ELEVATION/VOL.	195.50/413,472 CF
TOP OF DAM	202.60
CLEANOUT ELEVATION	189.60
2 YEAR WS EL.	196.32
10 YEAR WS EL.	198.45
Q1ex=33.55cfs	Q1prop=5.03cfs

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- AGIP AT GRADE INLET PROTECTION

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

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Christopher J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers /cs 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton HB 3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)	(DEVELOPER)
CHASE LIMITED PARTNERSHIP	CHASE MINING LLC
P.O. BOX 850	P.O. BOX 850
LAUREL, MD 20725	LAUREL, MD 20725
410.792.7234	410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

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F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID NO. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

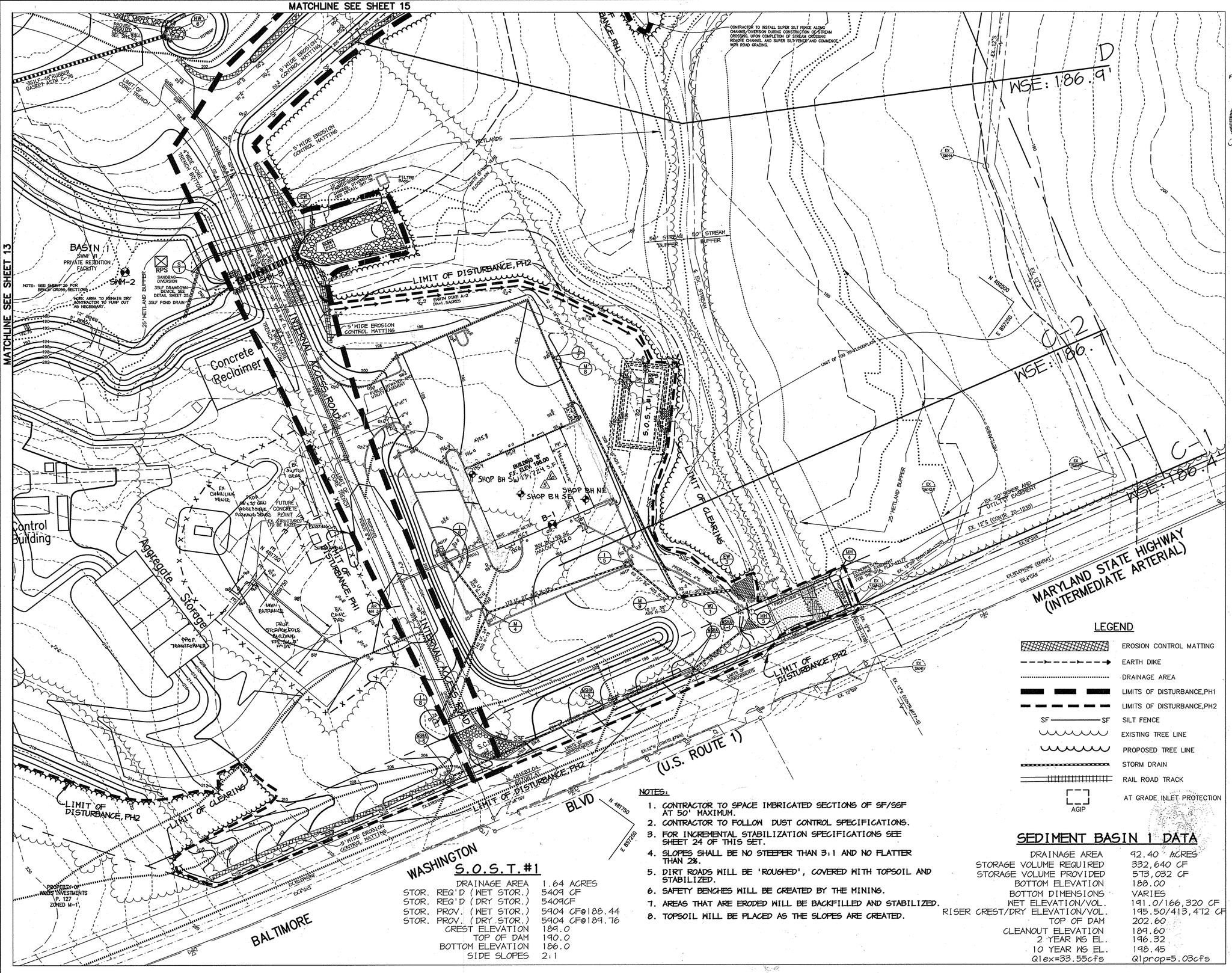
DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM4.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	14 OF 40

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim4.dwg, Layout1, 01/29/2004 12:34:10 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 15

MATCHLINE SEE SHEET 13



LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- AGIP AT GRADE INLET PROTECTION

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

S.O.S.T. #1

DRAINAGE AREA	1.64 ACRES
STOR. REQ'D (WET STOR.)	5404 CF
STOR. REQ'D (DRY STOR.)	5404CF
STOR. PROV. (WET STOR.)	5904 CF@188.44
STOR. PROV. (DRY STOR.)	5904 CF@189.76
CREST ELEVATION	189.0
TOP OF DAM	190.0
BOTTOM ELEVATION	186.0
SIDE SLOPES	2:1

SEDIMENT BASIN 1 DATA

DRAINAGE AREA	92.40 ACRES
STORAGE VOLUME REQUIRED	332,640 CF
STORAGE VOLUME PROVIDED	573,032 CF
BOTTOM ELEVATION	188.00
BOTTOM DIMENSIONS	VARIES
WET ELEVATION/VOL.	191.0/166,320 CF
RISER CREST/DRY ELEVATION/VOL.	195.50/413,472 CF
TOP OF DAM	202.60
CLEANOUT ELEVATION	189.60
2 YEAR WS EL.	196.32
10 YEAR WS EL.	198.45
Qlex=33.55cfs	Qlprop=5.03cfs

CNA INC.
215 GYNUM ROAD
FOREST HILL MD 21050
410-879-7200

FOR REVISION 6 ONLY AND 7

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

STATE OF MARYLAND — SEAN CHARLES BRYANT — No. 17008 — REGISTERED PROFESSIONAL ENGINEER

3-15-16	6	REV. LOCATION OF BLDG 'B'
1-9-15	5	REDUCED BUILDING FOOTPRINT
7-8-08	4	ADDED POLE BLDG + SUBSTATION + FENCE
7-31-07	3	ADDED SHOP BOREHOLES

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 1-30-04

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

ENGINEER — DATE 1-30-04

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 2/17/04

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 2/17/04

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/11/04

DATE	NO.	REVISION
6-15-05	1	CHANGED SHEET NO.
1-6-09	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT -

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

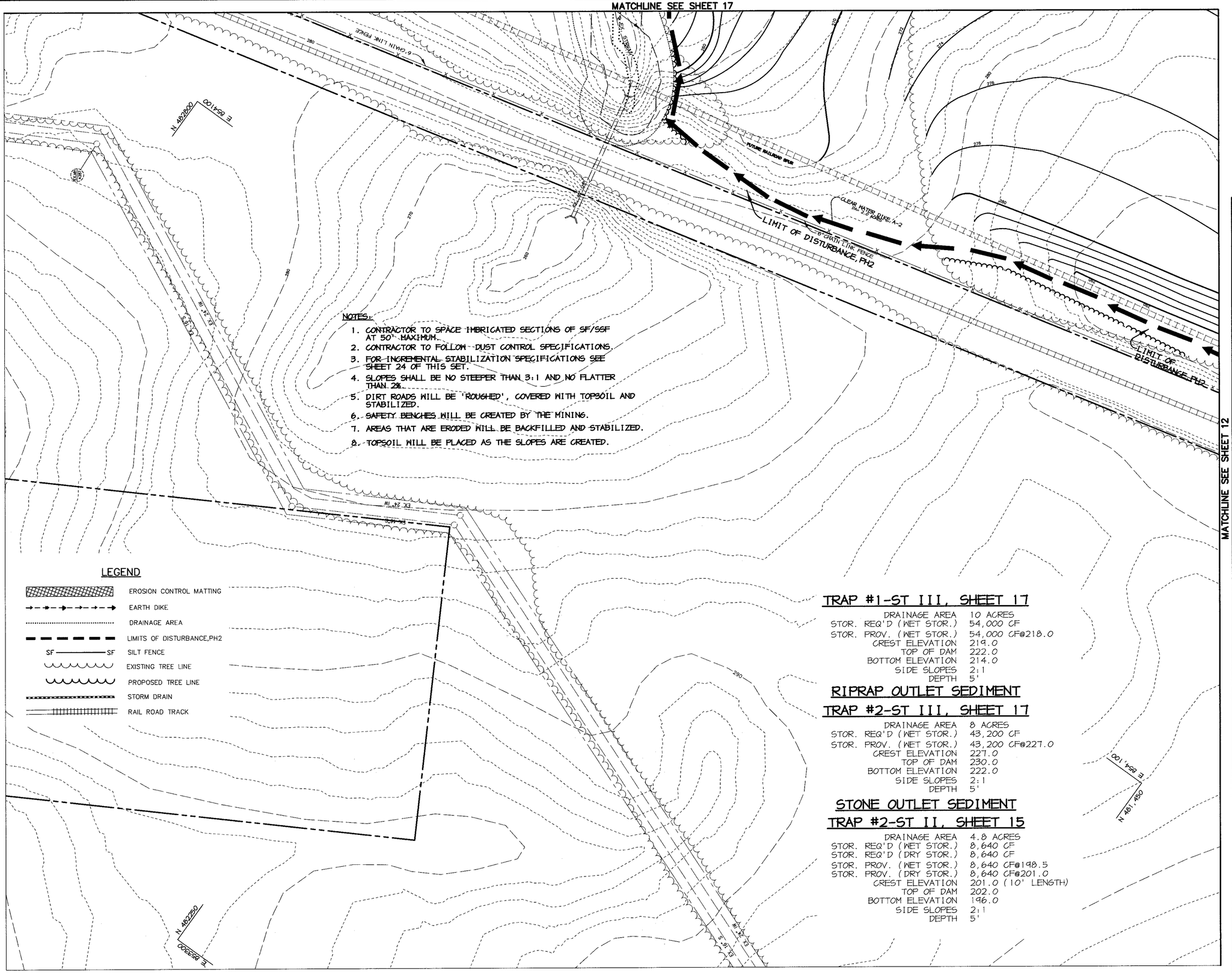
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM4.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	15 OF 51

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim4.dwg, Layout1, 01/29/2004 12:34:10 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 17



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
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7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

TRAP #1-ST III, SHEET 17

DRAINAGE AREA	10 ACRES
STOR. REQ'D (WET STOR.)	54,000 CF
STOR. PROV. (WET STOR.)	54,000 CF@218.0
CREST ELEVATION	219.0
TOP OF DAM	222.0
BOTTOM ELEVATION	214.0
SIDE SLOPES	2:1
DEPTH	5'

RIPRAP OUTLET SEDIMENT TRAP #2-ST III, SHEET 17

DRAINAGE AREA	8 ACRES
STOR. REQ'D (WET STOR.)	43,200 CF
STOR. PROV. (WET STOR.)	43,200 CF@227.0
CREST ELEVATION	227.0
TOP OF DAM	230.0
BOTTOM ELEVATION	222.0
SIDE SLOPES	2:1
DEPTH	5'

STONE OUTLET SEDIMENT TRAP #2-ST II, SHEET 15

DRAINAGE AREA	4.8 ACRES
STOR. REQ'D (WET STOR.)	8,640 CF
STOR. REQ'D (DRY STOR.)	8,640 CF
STOR. PROV. (WET STOR.)	8,640 CF@198.5
STOR. PROV. (DRY STOR.)	8,640 CF@201.0
CREST ELEVATION	201.0 (10' LENGTH)
TOP OF DAM	202.0
BOTTOM ELEVATION	196.0
SIDE SLOPES	2:1
DEPTH	5'

MAGNETIC

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/5/04
DIRECTOR DATE

2/27/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 950
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 950
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.	
DRAWN BY : MAD	
CHECKED BY : C.J.R.	
PROJECT NO : 99092/SEDIMG.DWG	
DATE : JANUARY 29, 2004	
SCALE : 1" = 50'	
DRAWING NO. 16 OF 40	

SDP-99-134

P:\project\99092\1-01Engr\Plans\sedimt6.dwg, Layout1, 01/29/2004 12:37:45 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 15

NOTES:

1. CONTRACTOR TO SPACE INDRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
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6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
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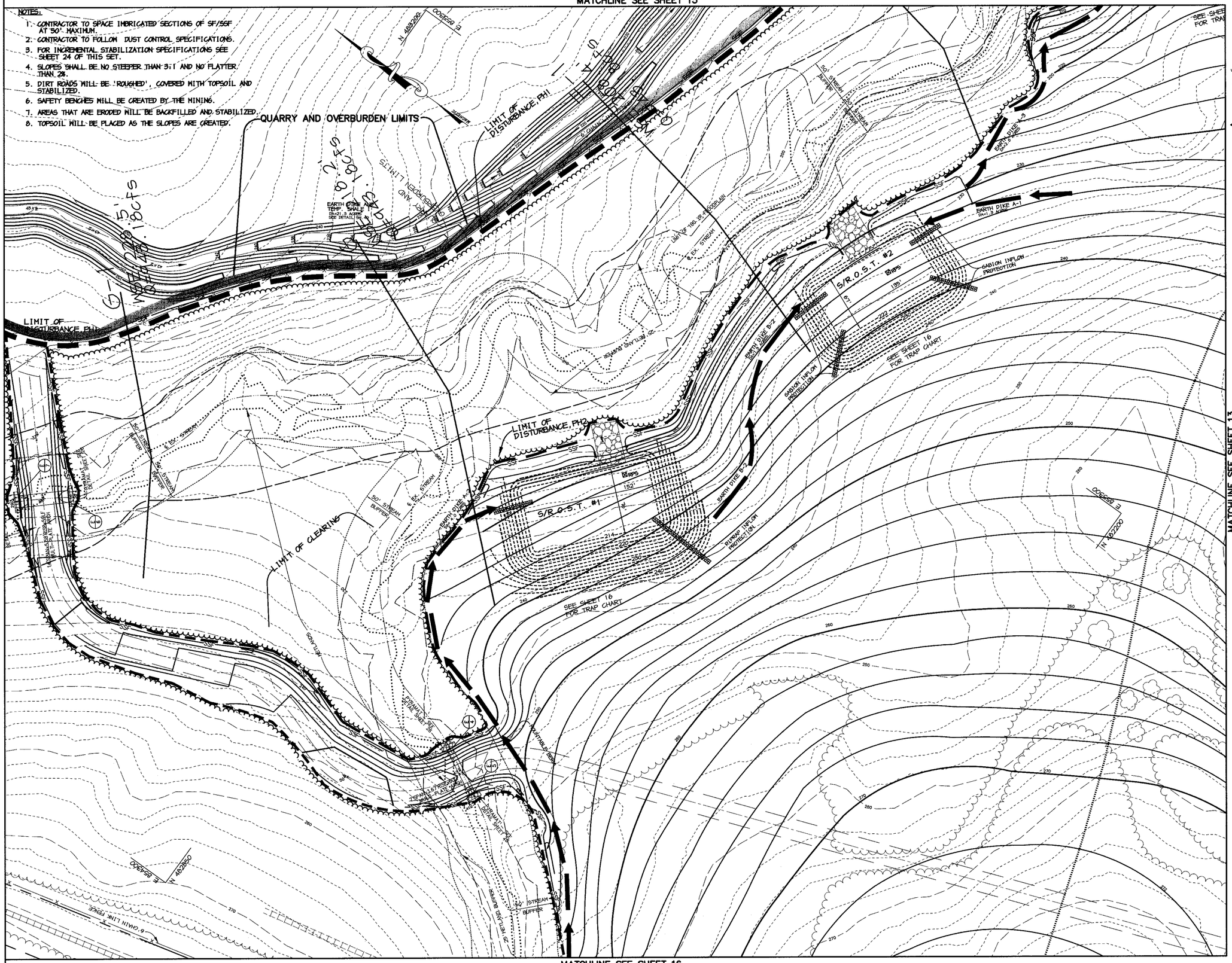
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.



MATCHLINE SEE SHEET 16

MATCHLINE SEE SHEET 13

LEGEND

- TEMPORARY SWALE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- EARTH DIKE
- PYRAMAT REINFORCED MATTING

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers — 2/2/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[signature] — 2/2/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Joseph Laughlin — 3/15/04
DIRECTOR — DATE

[signature] — 2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Andy Hanson — 3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

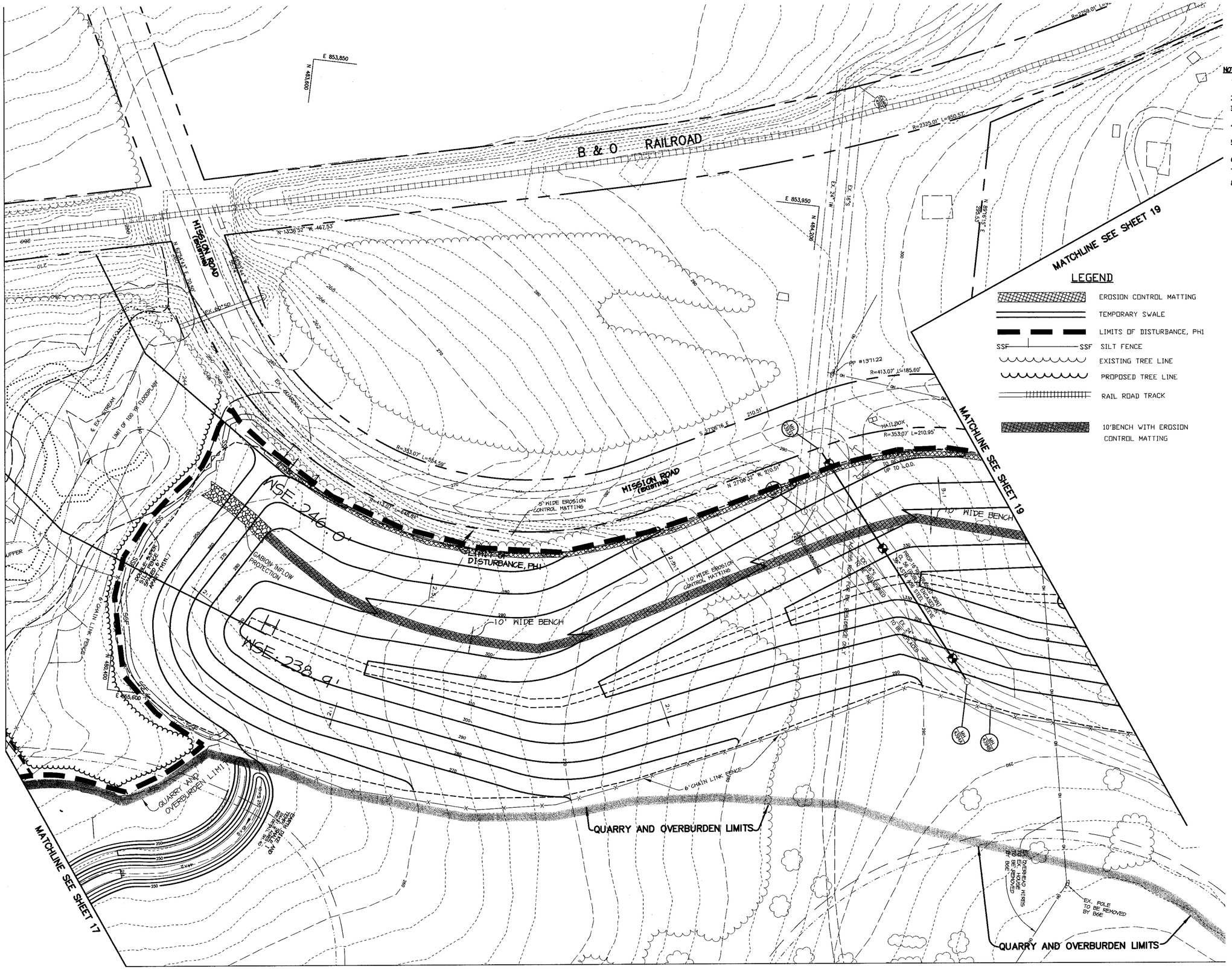
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM7.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	17 OF 40

SDP-99-134

P:\project\990921-01\Engr\Plans\sedim7.dwg, Layout1, 01/29/2004 12:38:24 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers /CB 2/2/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/2/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

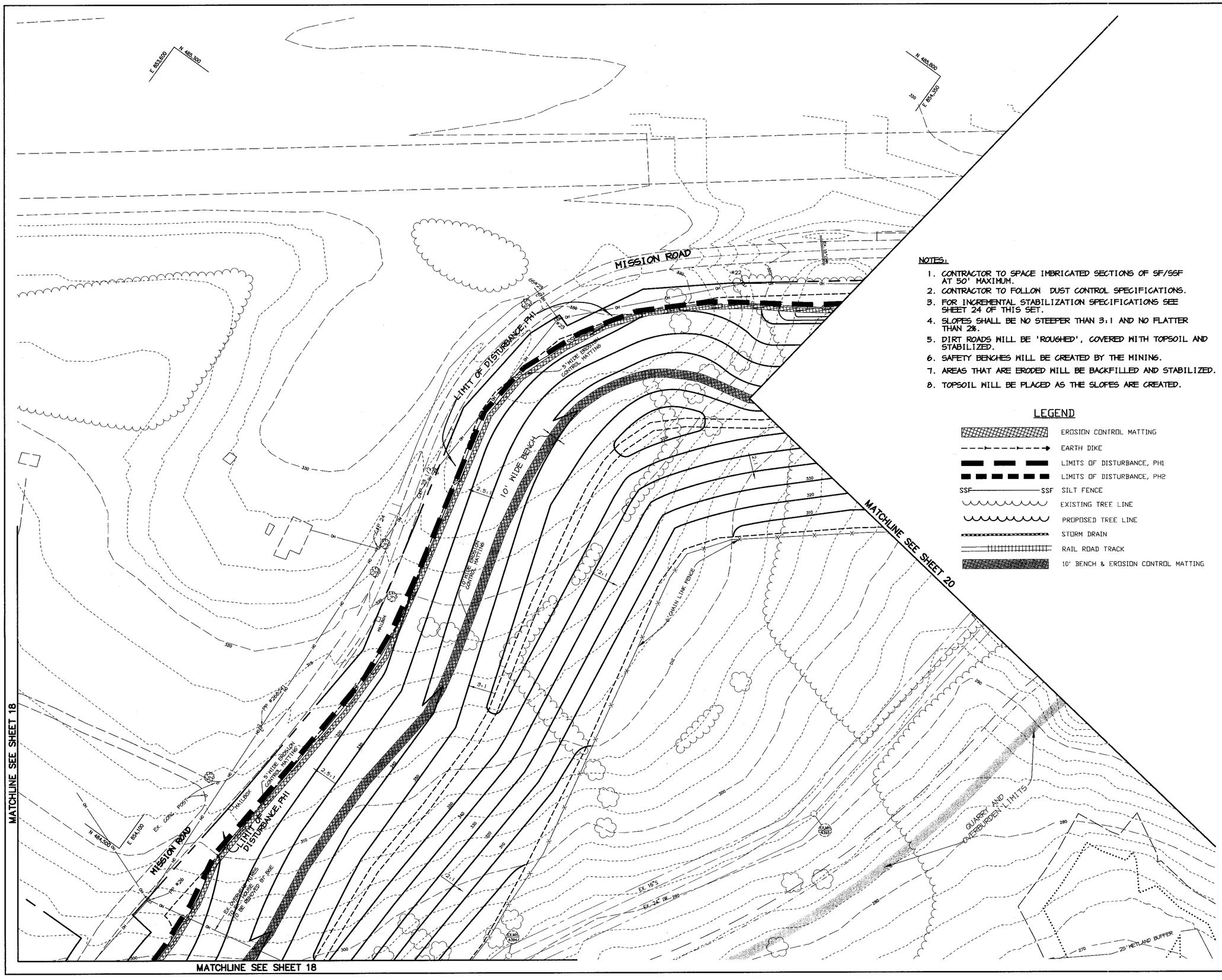
STATE OF MARYLAND CHRISTOPHER J. REID REGISTERED PROFESSIONAL ENGINEER No. 19949

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM8.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	18 OF 40

SDP-99-134

P:\project\99092\1-01\Engr\Plans\Sedim8.dwg, Layout1, 01/29/2004 12:39:50 PM, HP1050C, Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



NOTES:

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LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SSF——SSF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- 10' BENCH & EROSION CONTROL MATTING

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers — 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM9.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	19 OF 40

SDP-99-134

P:\project\990921-0\Engr\Plans\Sedim9.dwg, Layout1, 01/29/2004 12:40:27 PM, HP1050C, Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
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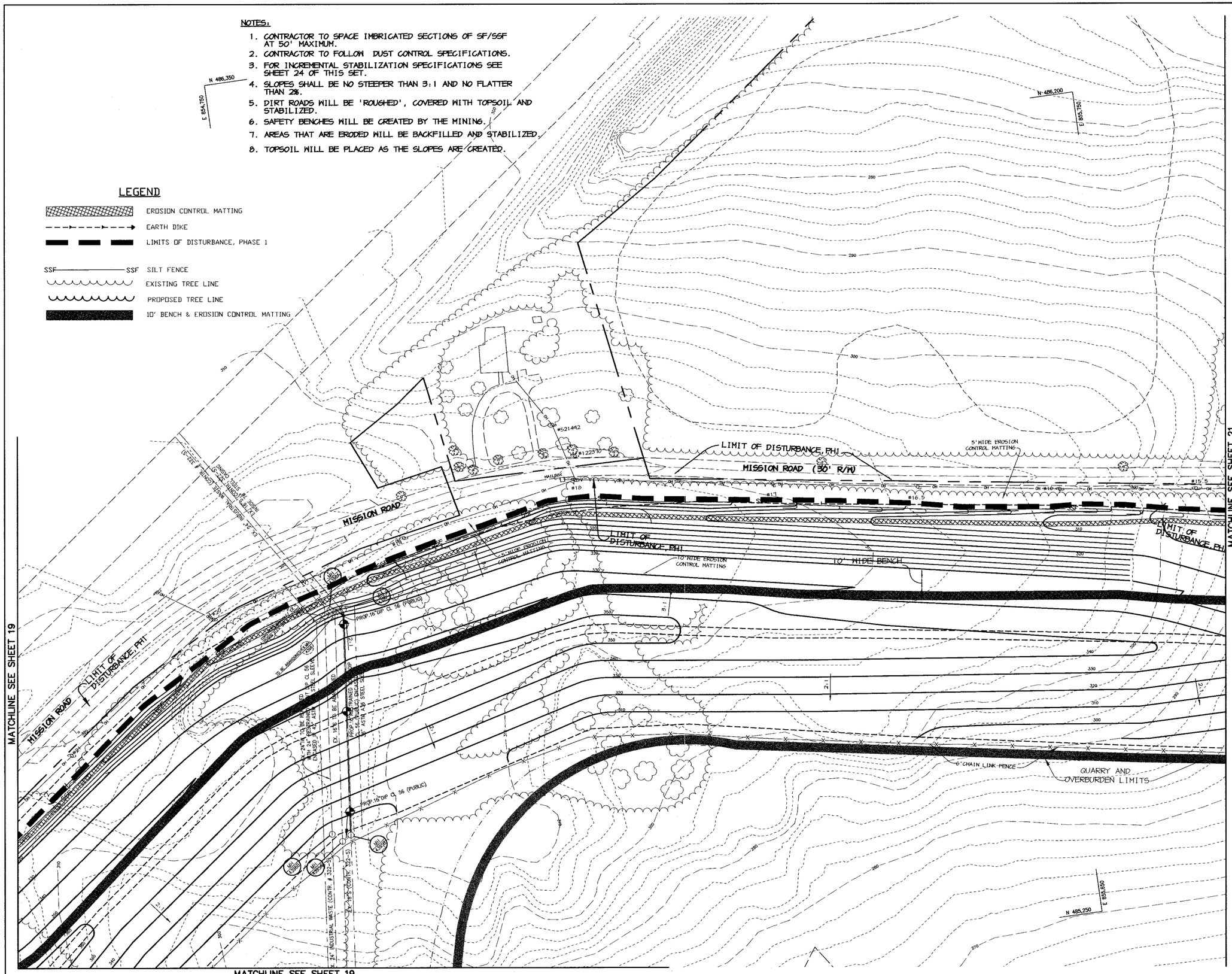
LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- LIMITS OF DISTURBANCE, PHASE 1
- SSF——SSF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- 10' BENCH & EROSION CONTROL MATTING



BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/US 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/4/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

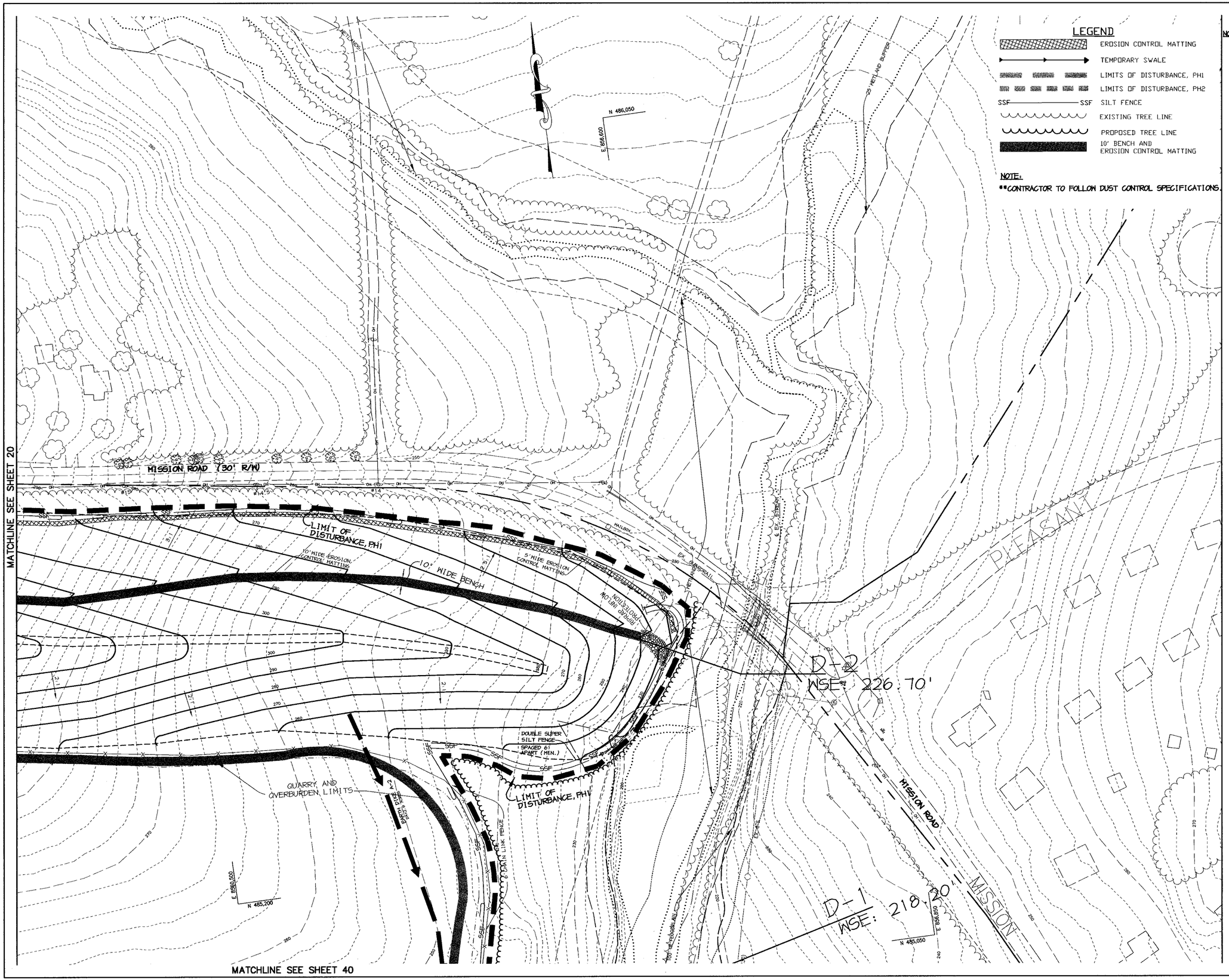
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM10.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	20 OF 40

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim10.dwg, Layout1, 01/29/2004 01:30:10 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EROSION CONTROL MATTING
- TEMPORARY SWALE
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SSF —— SSF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- 10' BENCH AND EROSION CONTROL MATTING

NOTE:

**CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.

NOTES:

1. CONTRACTOR TO SPACE INBRIGATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE 2/17/04
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT 2/12/04
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 3/15/04
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/20/04
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 3/11/04
DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
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LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND
CHRISTOPHER J. REID
No. 19949
REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.	
DRAWN BY : MAD	
CHECKED BY : C.J.R.	
PROJECT NO : 99092/SEDIMI.DWG	
DATE : JANUARY 29, 2004	
SCALE : 1" = 50'	
DRAWING NO. 21 OF 40	

SDP-99-134

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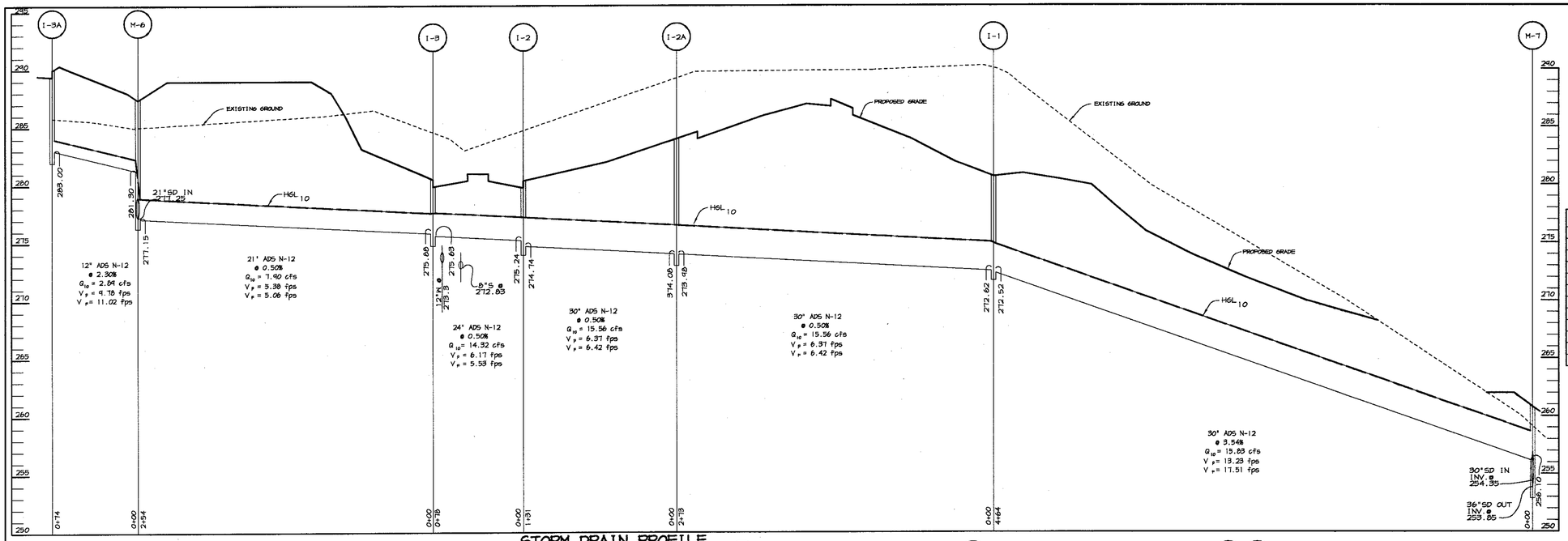
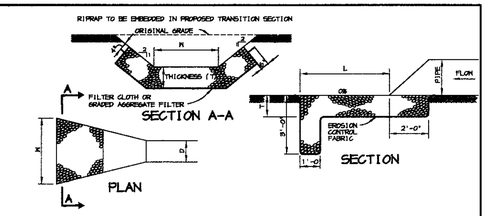


STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



RIPRAP OUTLET PROTECTION DETAIL

NO SCALE

STRUCTURE	MEDIAN STONE DIA.	SHA CLASS	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q_{10}	V_F	d_P
E-1	9.5"	I	16'	20'	14"	46.3	7.82	1.18'
EW-1	9.5"	I	118'	55'	14"	126.02	10.52	2.43'
HW-6	9.5"	I	22'	15'	14"			
EW-3	9.5"	I	36'	26.5'	14"	32.22	6.56	0.36'
HW-1	9.5"	I	35'	36'	14"	45.60	6.45	1.13'
HW-2	9.5"	I	25'	17'	14"	35.8	-	-
HW-3	18'	II	80'	95'	32"			
HW-4	18'	II	21'	20'	32"	101.4	-	-
EW-4	28'	III	65'	60'	14"	227.0	6.08	1.60'
MSHA E-1	9.5'	I	10'	12'	14"			

CONSTRUCTION SPECIFICATIONS

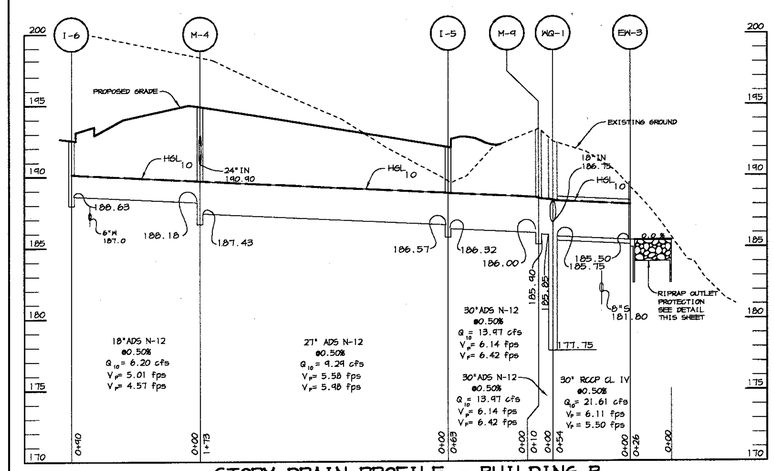
1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.

3. GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.

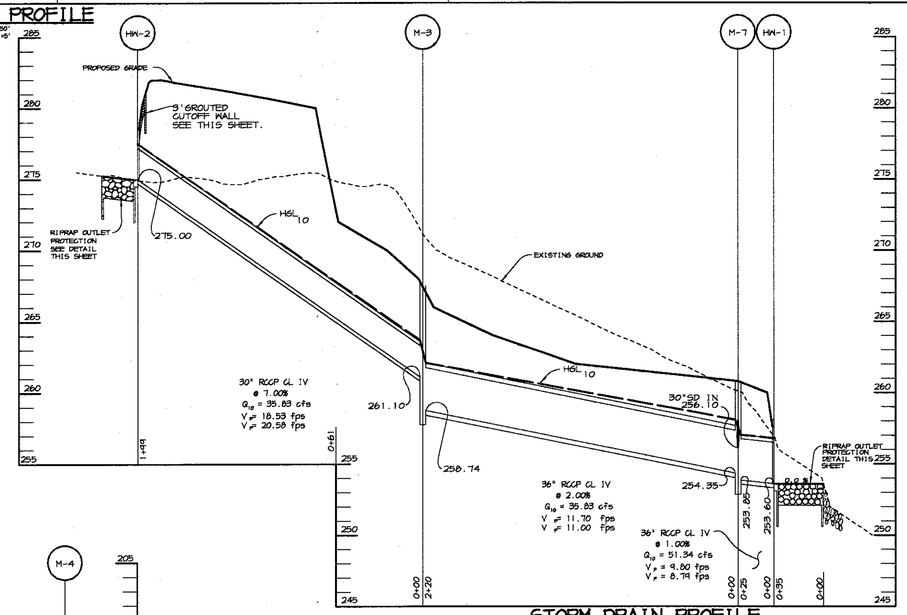
4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT MARKS.

5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.



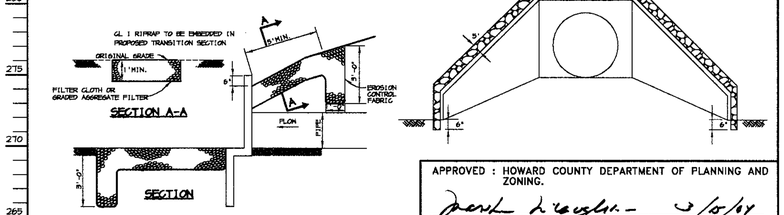
STORM DRAIN PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

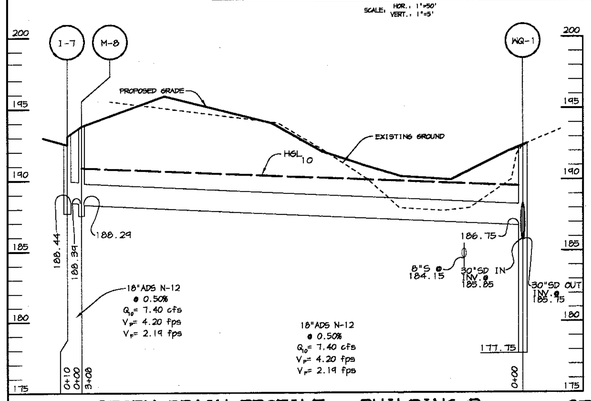
SCALE: HOR.: 1"=50' VERT.: 1"=5'



GROUTED CUTOFF WALL DETAIL

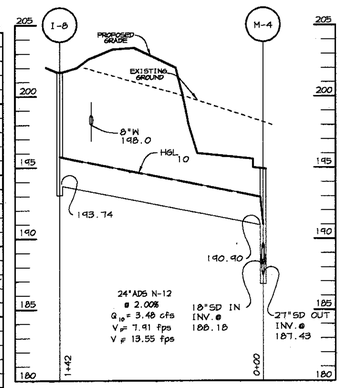
NO SCALE

NOTE: LOCATED UPSTREAM OF ENDWALLS. USED TO PREVENT HEAD CUTTING.



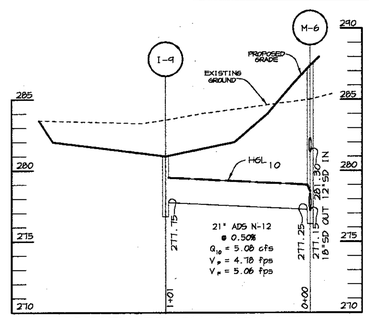
STORM DRAIN PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



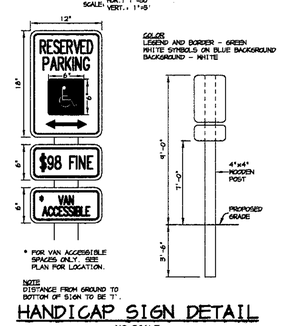
STORM DRAIN PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



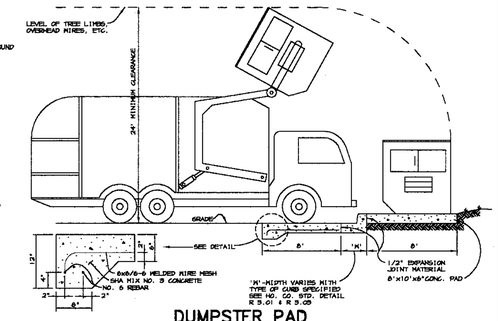
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



HANDICAP SIGN DETAIL

NO SCALE



DUMPSTER PAD

NO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/5/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
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PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3. TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES AND DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	22 OF 40

SDP-99-134

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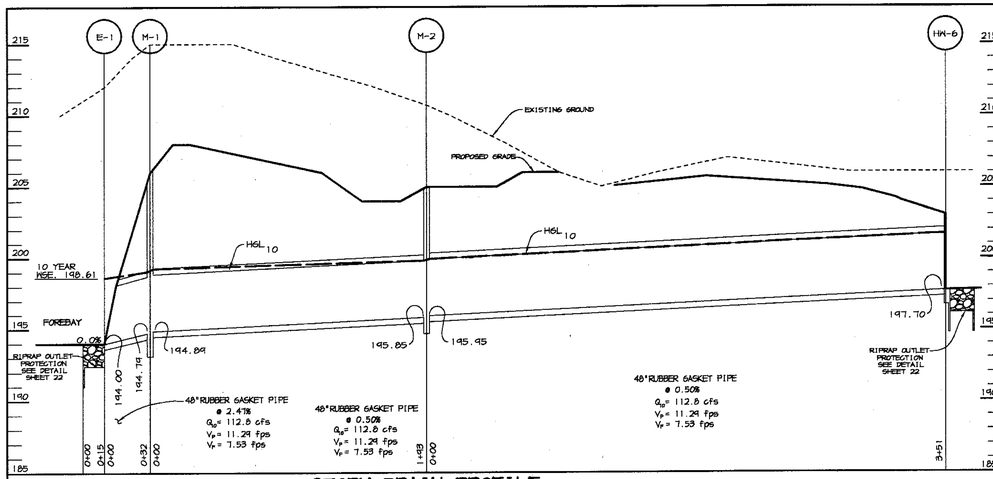
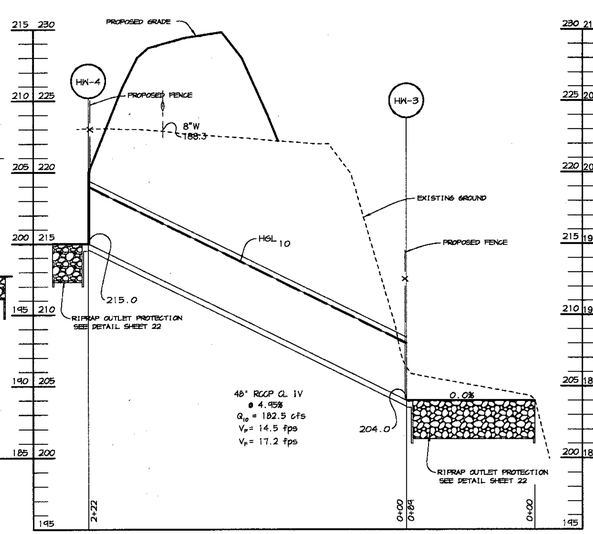


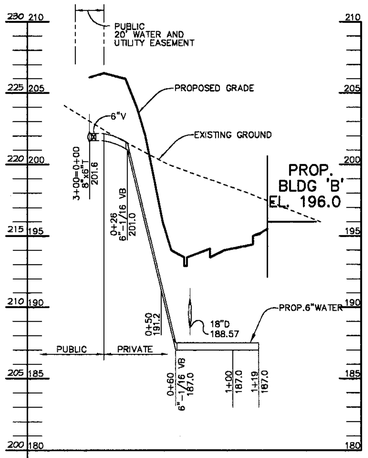
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



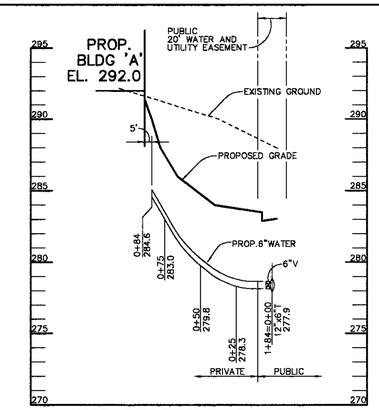
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



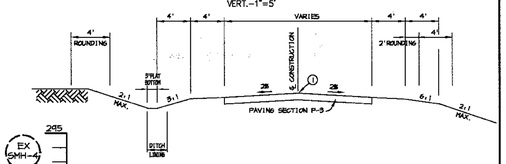
WHC PROFILE – BUILDING B

SCALE : HOR.-1"=50' VERT.-1"=5'



WHC PROFILE – BUILDING A

SCALE : HOR.-1"=50' VERT.-1"=5'

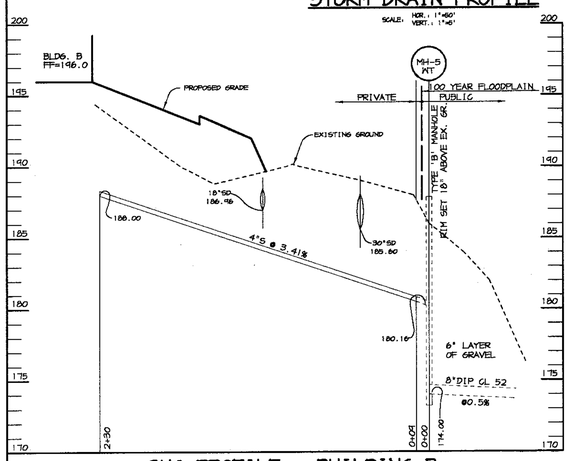


TYPICAL SECTION PRIVATE ROADS

① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.

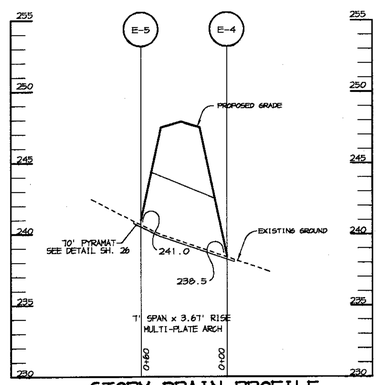
TYPICAL SECTION INTERNAL ACCESS ROAD

NO SCALE



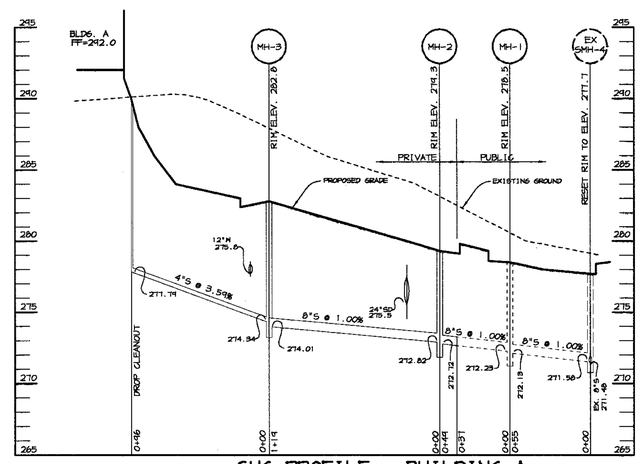
SHC PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'

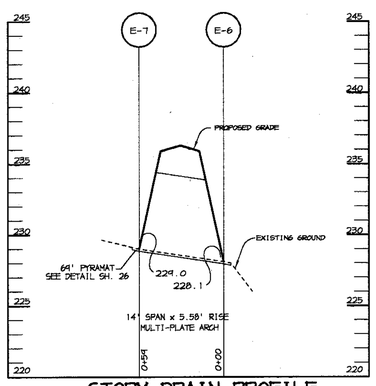


SHC PROFILE - BUILDING A

SCALE : HOR.-1"=50' VERT.-1"=5'

STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	K	N 480,138 E 855,378	272.62 (30")	272.52 (30")	280.73	HOCO STD. DETAIL SD 4.13
I-2	A-5	N 479,933 E 855,724	275.24 (24")	274.74 (30")	280.40	HOCO STD. DETAIL SD 4.40
I-2A	A-5	N 480,010 E 855,619	274.08 (30")	273.48 (30")	284.00	HOCO STD. DETAIL SD 4.40
I-3	A-5	N 479,874 E 855,679	275.88 (21")	275.63 (24")	280.50	HOCO STD. DETAIL SD 4.40
I-3A	S-COMBINATION	N 479,697 E 855,488	-	283.00 (12")	289.40	HOCO STD. DETAIL SD 4.32
HW-6	48" TYPE A HW	N 482,173 E 856,271	-	197.70 (48")	-	HOCO STD. DETAIL SD 5.11
I-5	MOD. DOUBLE-S COMB.	N 481,990 E 857,068	186.57 (27")	186.32 (30")	192.00	SEE DETAIL M-SD 423 SHEET 34
I-6	S-COMBINATION	N 481,875 E 856,881	-	188.73 (18")	192.60	HOCO STD. DETAIL SD 4.32
I-7	A-5	N 482,135 E 856,852	-	188.44 (18")	192.50	HOCO STD. DETAIL SD 4.40
I-8	DOUBLE-S	N 481,710 E 856,993	-	193.74 (24")	201.74	HOCO STD. DETAIL SD 4.23
I-9	DOUBLE-S	N 479,588 E 855,469	-	277.75 (21")	281.00	HOCO STD. DETAIL SD 4.23
M-1	6' BRICK MH	N 481,707 E 856,018	194.84	194.79	206.00	HOCO STD. DETAIL 6 5.03
M-2	6' BRICK MH	N 481,845 E 856,059	195.85	194.85	203.00	HOCO STD. DETAIL 6 5.03
M-3	5' PRECAST MH	N 480,530 E 855,065	261.10 (30")	258.74 (36")	267.10	HOCO STD. DETAIL 6 5.13
M-4	5' PRECAST MH	N 481,850 E 856,988	188.16 (18") 190.40 (24")	186.43 (27")	194.93	HOCO STD. DETAIL 6 5.13
E-5	METAL ARCH END	N 482,620 E 854,542	-	241.00	-	CONTECH SLOPE COLLAR
M-6	4' PRECAST MH	N 479,677 E 855,516	281.30 (12") 277.25 (21")	277.15 (21")	287.40	HOCO STD. DETAIL 6 5.12
M-7	6' PRECAST MH	N 480,542 E 855,280	256.10 (30") 254.35 (36")	253.85 (36")	260.80	HOCO STD. DETAIL 6 5.03
WQ-1	BAYSAVER	N 481,494 E 857,136	SEE SHEET 37			
HW-1	36"TYPE A HW	N 480,603 E 855,303	-	253.60 (36")	-	HOCO STD. DETAIL SD 5.11
HW-2	30"TYPE A HW	N 480,476 E 854,875	-	275.00 (30")	-	HOCO STD. DETAIL SD 5.11
HW-3	48"TYPE A HW	N 481,351 E 855,990	-	204.00	-	HOCO STD. DETAIL SD 5.11
HW-4	48"TYPE 'E'	N 481,152 E 855,896	-	215.00	-	HOCO STD. DETAIL SD 5.31
E-3	METAL ARCH END	N 482,584 E 856,422	-	185.50	-	CONTECH SLOPE COLLAR
E-1	48" CONC. END SEC.	N 481,682 E 856,038	-	144.00	-	HOCO STD. DETAIL SD 5.51
S-1	CONTROL STRUCTURE	N 481,987 E 856504	SEE DETAIL SHEET 26			
S-2	CONTROL STRUCTURE	N 482,818 E 856,546	SEE DETAIL SHEET 26			
EH-1	84" HW	N 482,057 E 856,546	-	186.50	-	SHA DETAIL MD-352.02
E-2	METAL ARCH END	N 482,557 E 856,538	-	184.50	-	CONTECH SLOPE COLLAR
EH-3	30"TYPE A HW	N 482,031 E 857,181	-	185.50	-	HOCO STD. DETAIL SD 5.11
EH-4	72" HW	N 482,661 E 856,603	-	184.00	-	SHA DETAIL MD-352.02
E-4	METAL ARCH END	N 482,673 E 854,619	-	230.50	-	CONTECH SLOPE COLLAR
E-6	METAL ARCH END	N 483,205 E 854,598	-	228.1	-	CONTECH SLOPE COLLAR
E-7	METAL ARCH END	N 483,246 E 854,559	-	229.00	-	CONTECH SLOPE COLLAR
M-8	4' PRECAST MH	N 482,135 E 856,862	188.34 (18")	188.24 (18")	193.80	HOCO STD. DETAIL 6 5.12
M-9	4' PRECAST MH	N 481,987 E 857,128	186.00 (30")	185.90 (30")	193.30	HOCO STD. DETAIL 6 5.12

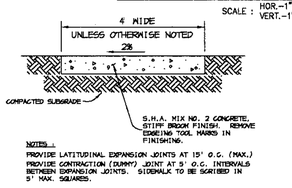


STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'

NOTES:

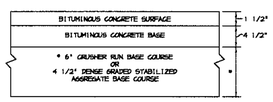
* LOCATION OF "S" & WQ FACILITY INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR "A" INLETS LOCATION IS GIVEN AT THROAT OPENING AT CENTER OF FACE OF CURB; FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE. TOP ELEVATION IS TOP OF CURB/GRATE/RIM.



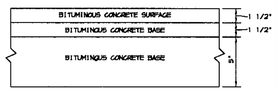
NOTES:
PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.) PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN 5' MAX. SQUARES.

SIDEWALK DETAIL

NO SCALE



(ALTERNATE)

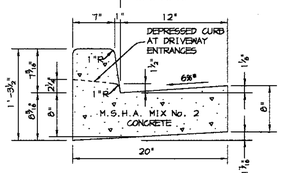


HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

P-3 PAVING

NO SCALE

PAVEMENT WIDTH INDICATED ON TYPICAL STREET SECTIONS TO BE MEASURED TO THIS POINT

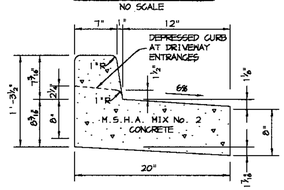


HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

STANDARD 7" COMBINATION CURB AND GUTTER

NO SCALE



REVERSE 7" COMBINATION CURB AND GUTTER

NO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3. TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES AND DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE2.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	23 OF 40

SDP-99-134

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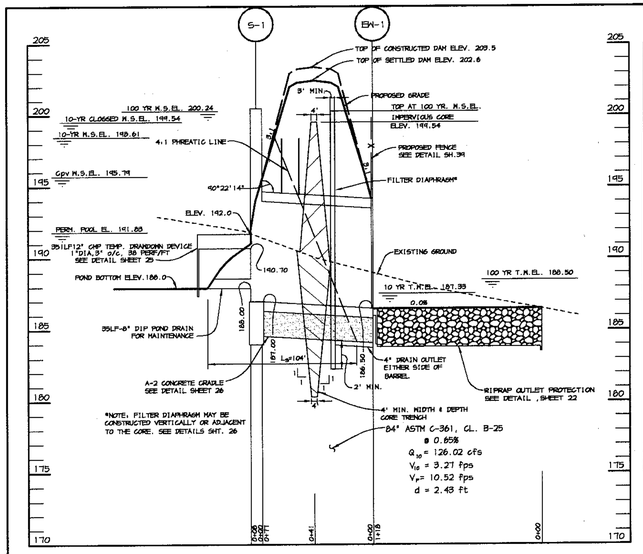
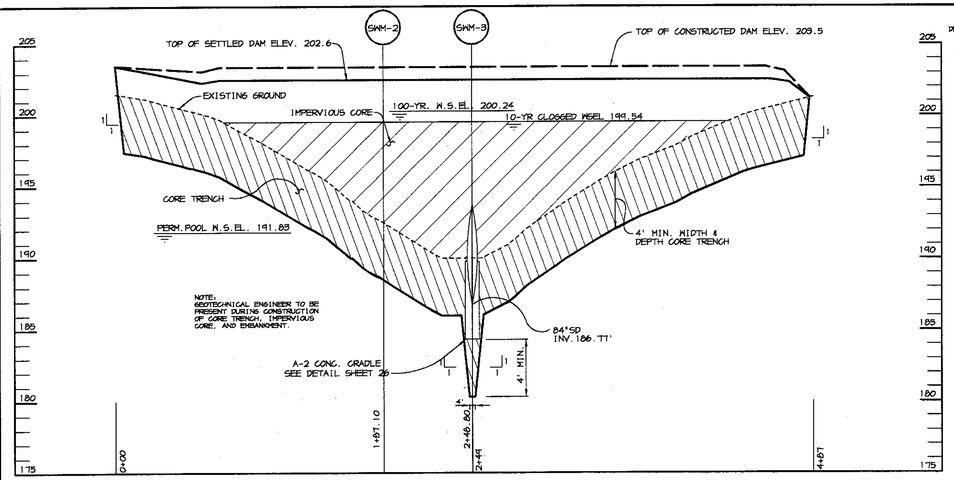


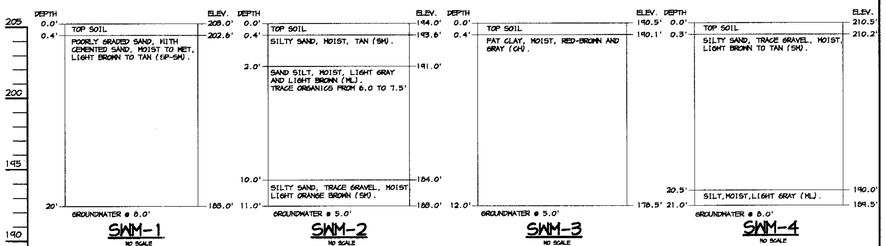
PROFILE THRU PRINCIPAL SPILLWAY - SWMF#1

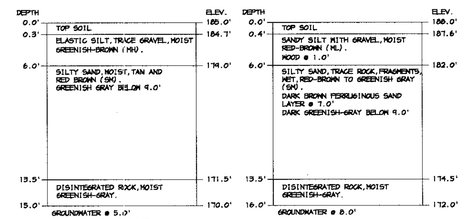
SCALE: HOR.: 1"=50' VERT.: 1"=5'

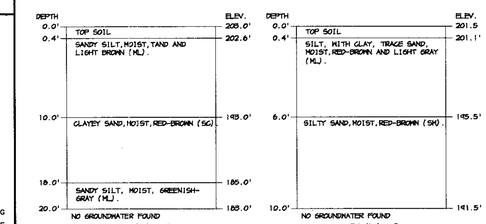


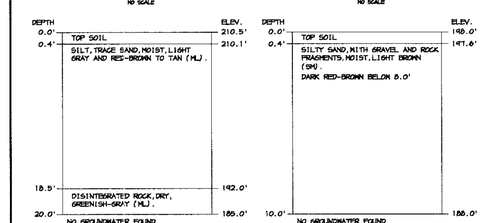
PROFILE ALONG ℄ OF EMBANKMENT - SWMF#1

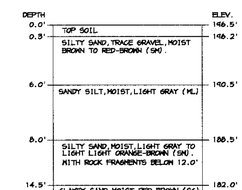
SCALE: HOR.: 1"=50' VERT.: 1"=5'

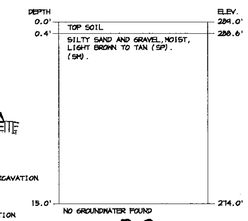












BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmitt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Chuck J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.742.1234

(DEVELOPER)
CHASE MINING LLC
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410.742.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE S.W.M. PROFILES, SEDIMENT & EROSION CONTROL NOTES & DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

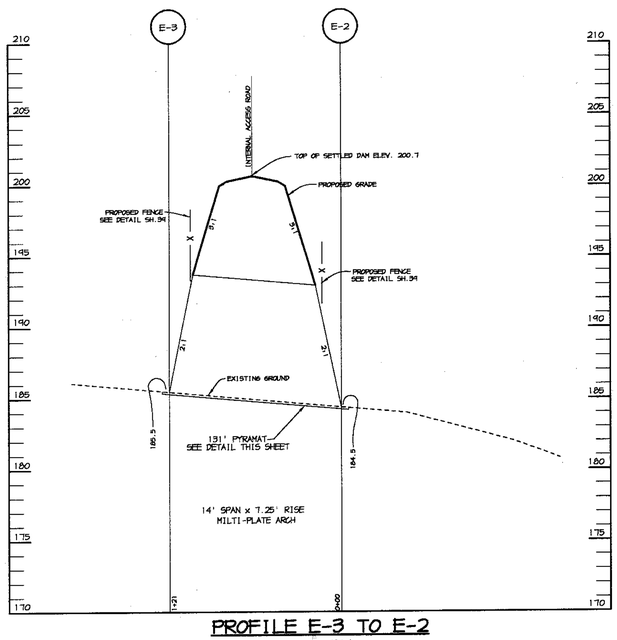
1.30.04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

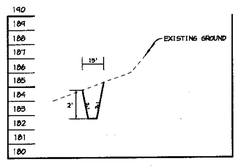
DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE3.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	24 OF 40

SDP-99-134



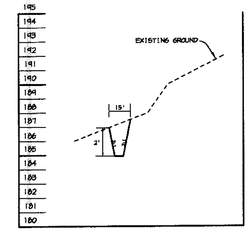
PROFILE E-3 TO E-2

SCALE: HOR.: 1"=50' VERT.: 1"=5'



CROSS SECTION X5 AT TEMP. CHANNEL DIVERSION.

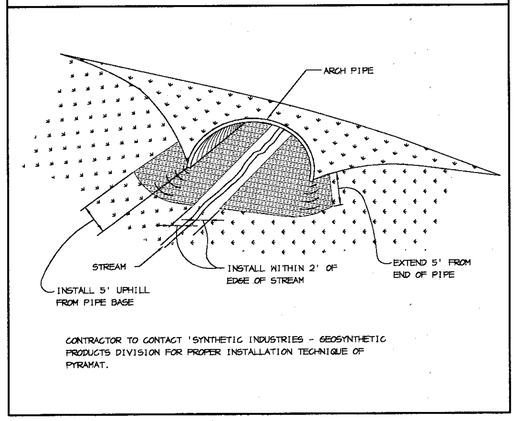
SCALE: HOR.: 1"=50' VERT.: 1"=5'



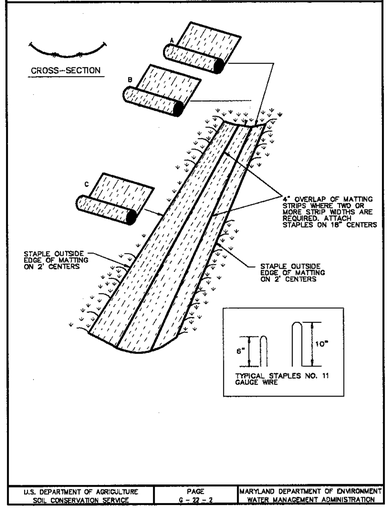
CROSS SECTION X52 AT TEMP. CHANNEL DIVERSION.

SCALE: HOR.: 1"=50' VERT.: 1"=5'

DETAIL - PERMANENT EROSION CONTROL AND REINFORCEMENT MATTING



DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

INCREMENTAL STABILIZATION OF EMBANKMENTS - FILL SLOPES

1. EMBANKMENTS SHALL BE CONSTRUCTED IN LIFTS AS PRESCRIBED ON THE PLANS.
2. SLOPES SHALL BE STABILIZED IMMEDIATELY WHEN THE VERTICAL HEIGHT OF THE MULTIPLE LIFTS REACHES 15', OR WHEN THE GRADING OPERATION CEASES PRESCRIBED IN THE PLANS.
3. AT THE END OF EACH DAY, TEMPORARY SWALES AND PIPE SLOPE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE.
4. CONSTRUCTION SEQUENCE: REFER TO FIGURE 5 (BELOW)
   a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SLOPE SILT FENCE ON THE LOW SIDE OF THE FILL AS SHOWN IN FIGURE 5, UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
   b. PLACE PHASE 1 EMBANKMENT, DRESS AND STABILIZE.
   c. PLACE PHASE 2 EMBANKMENT, DRESS AND STABILIZE.
   d. PLACE FINAL PHASE EMBANKMENT, DRESS AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THECOMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

INCREMENTAL STABILIZATION OF EMBANKMENTS - CUT SLOPES

1. ALL CUT SLOPES SHALL BE DRESSED, PREPARED AND MULCHED AS THE WORK PROGRESSES SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 15'.
2. CONSTRUCTION SEQUENCE: REFER TO FIGURE 4 (BELOW)
   a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONVEY RUNOFF FROM THE EXCAVATION.
   b. PERFORM PHASE 1 EXCAVATION, DRESS AND STABILIZE.
   c. PERFORM PHASE 2 EXCAVATION, DRESS AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
   d. PERFORM FINAL PHASE EXCAVATION, DRESS AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN, THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

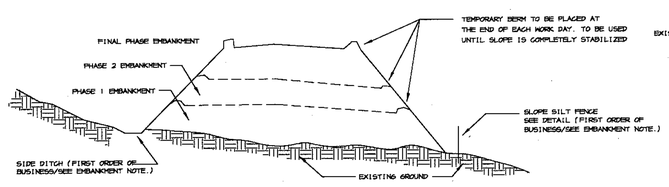


FIGURE 5 - INCREMENTAL STABILZATION - FILL

NO SCALE

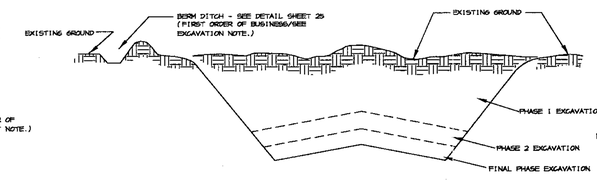


FIGURE 4 - INCREMENTAL STABILZATION - CUT

NO SCALE

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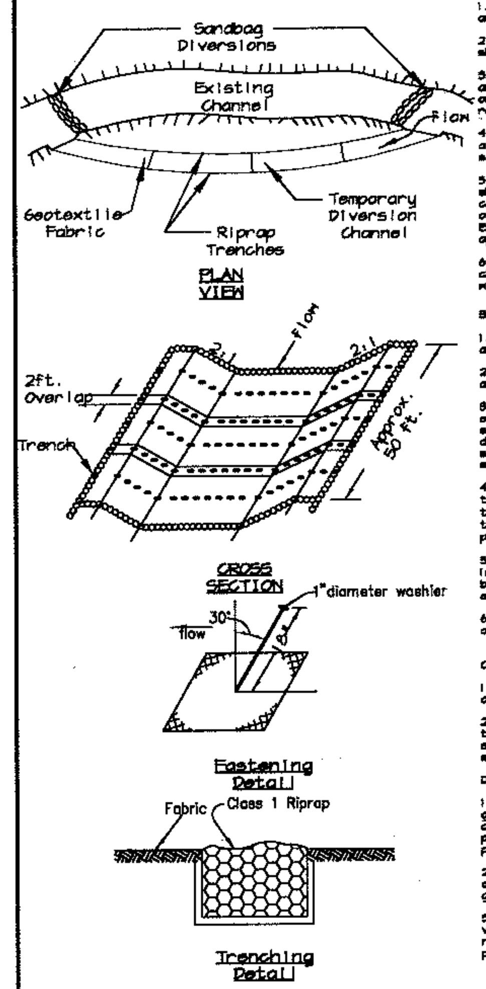


Waterway Construction: Open Channel Stream Diversion Sequence of Construction

A. Channel Excavation

1. All erosion and sediment control devices shall be installed as the first order of business.
2. All disturbance resulting from constuction of the channel shall be contained by appropriate sediment control measures.
3. Excavation of the channel shall begin at the downstream end and proceed upstream. All excavated materials shall be stockpiled outside of the floodplain and temporarily stabilized to prevent re-entry into the stream channel.
4. The process excavation and stabilization with fabric shall be a continous (uninterrupted) operation. All materials shall be on site prior to channel construction.
5. The downstream and upstream connection to the natural channel shall be constructed under dry conditions. The stream shall be contained by sandbags along the opposing bank during the process of cutting the diversion channel into the natural stream channel. Excavation and stabilization shall be a continous (uninterrupted) operation.
6. All debris (rocks, sticks, etc.) shall be removed and the channel surfaces made smooth so that the fabric will rest flush with the channel sides and bottom.

B. Stabilization with Geotextile Fabric

1. The fabric shall have a minimum width such that it is keyed in and anchored at the top of stream bank.
2. Fabric shall be placed so that it rests flush with the channel at all points of contact.
3. Fabric shall be placed such that one piece will line the entire channel. If this is not possible, fabric shall be placed so that transverse overlapping occurs in accordance with the detail. Longitudinal overlaps shall not be allowed. Upstream sections shall overlap downstream sections. Overlap width shall equal 2 feet minimum.
4. The fabric shall be keyed into 2x2 feet trenches located at the upstream edge and at 50 feet intervals (the overlap nearest to each 50 feet increment). The key-in shall be from top of channel to top of channel. Class I riprap (MPD5.1)shall be carefully placed into the trench (zero drop height).
5. The fabric sections shall be secured with holddown pins (L=18 inch minimum) and washer (diameter=1 inch minimum). Overlaps shall be pinned along transverse and longitudinal seams with spacing equal to 5 feet maximum.
6. Sediment from surrounding areas of disturbance shall not be allowed to enter the diversion channel.

C. Removal of Diversion

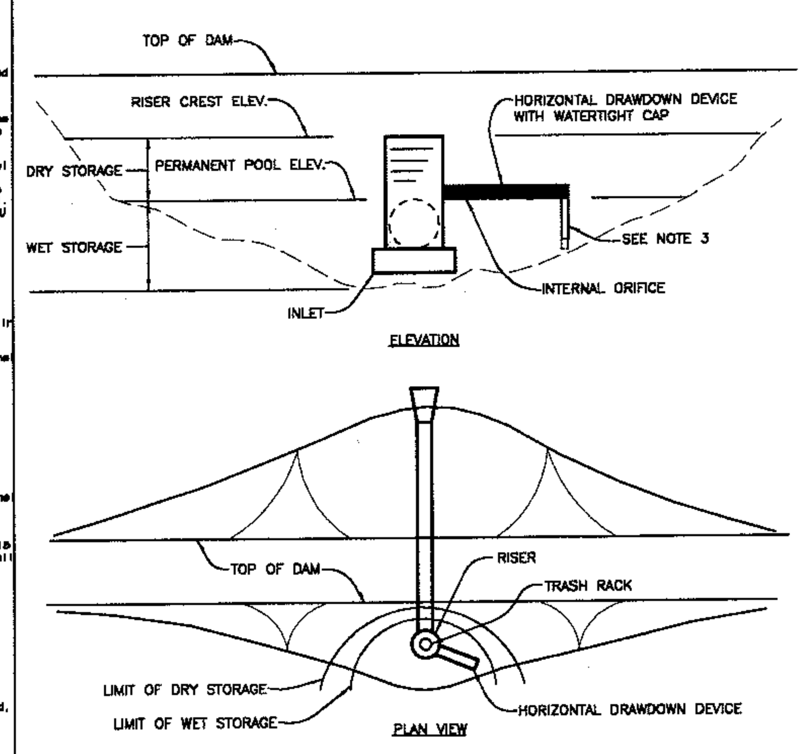
1. Water shall not be allowed through the natural stream until all construction is completed.
2. After diversion of the stream through the natural stream bed, the temporary diversion channel shall be backfilled and stabilized. Points of tie-in to the natural channel shall be stabilized with riprap in accordance with MPD5.1.

D. Alternate Designs

1. The above design may be modified to allow sewing of the geotextile fabric. Sewing of the geotextile fabric, rather than overlapping, would eliminate the requirement for transverse placement of the fabric. Either transverse or longitudinal placement should work equally well.
2. The spacing of the pins could be either larger or smaller depending on the anticipated velocities and thickness and type of geotextile fabric.
3. The entire bottom of the channel could be riprapped if high velocities were anticipated. When the area is riprapped, it is not required that the geotextile fabric underneath the riprap be pinned.

WATER RESOURCES ADMINISTRATION	Fabric-Based Channel Diversion	WPD 2.4

SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE



Construction Specifications

1. The total area of the perforation must be greater than 2 times the area of the internal orifice.
2. The perforated portion of the drawdown device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
3. Provide support of drawdown device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of drawdown device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 29	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 4 - PIPE SLOPE DRAIN

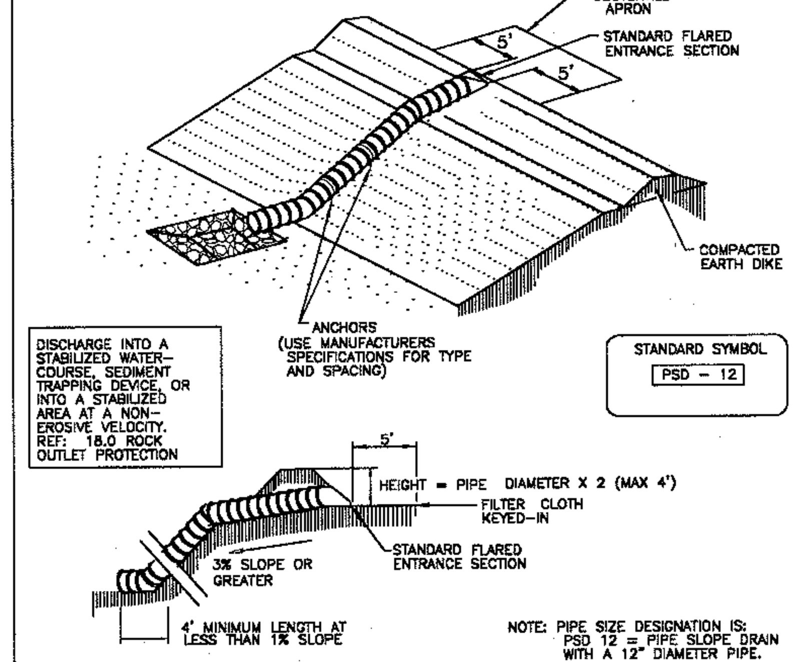


Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5
PSD-24 (2)	24	5.0

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 5 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

PIPE SLOPE DRAIN

Construction Specifications - Pipe Slope Drain

1. The Pipe Slope Drain (PSD) shall have a slope of 3 percent or steeper.
2. The top of the earth dike over the inlet pipe shall be at least 2 times the pipe diameter measured at the invert of the pipe.
3. Flexible tubing is preferred. However, corrugated metal pipe or equivalent PVC pipe can be used. All connections shall be watertight.
4. A flared end section shall be attached to the inlet end of pipe with a watertight connection. Filter cloth shall be placed under the inlet of the pipe slope drain and shall extend out 5' from the inlet. The filter cloth shall be "keyed in" on all sides.
5. The Pipe Slope Drain shall be securely anchored to the slope by staking at the grommets provided. Spacing for anchors shall be as provided by manufacturer's specification. In no case shall less than two (2) anchors be provided, equally spaced along the length of pipe. These details should be provided by pipe suppliers.
6. The soil around and under the pipe and end section shall be hand tamped in 4 inch lifts to the top of the earth dike.
7. All pipe connections shall be watertight.
8. Whenever possible where a PSD drains an unstabilized area, it shall outlet into a sediment trap or basin. If this is not possible then the slope drain will discharge into a stable conveyance that leads to a sediment trap or basin. When discharging into a trap or basin the PSD shall discharge at the same elevation as the wet pool elevation. The discharge from the PSD must be as far away from the sediment control outlet as possible.
9. When the drainage area is stabilized, the PSD shall discharge onto a stabilized area at a non-erosive velocity.
10. Inspection and any required maintenance shall be performed periodically and after each rain event.
11. The inlet must be kept open at all times.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 5 - 4A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

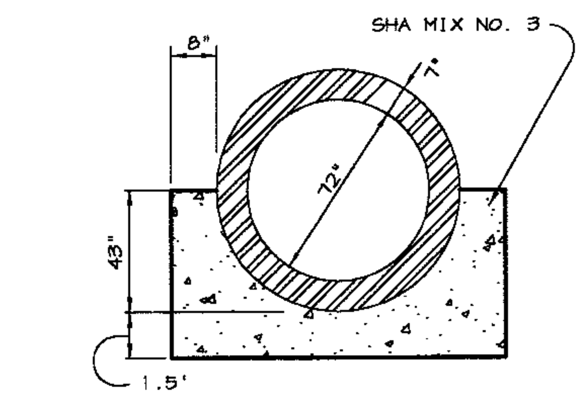
SEQUENCE OF CONSTRUCTION (BOTH AREAS WILL BE ACTIVE CONCURRENTLY)

AREA I - QUARRY AREA

1. Obtain a Grading Permit ~~(SP 04 06)~~, State Mining Permit (MP-02-SP-0599), Non-Tidal Wetland Permit (Tracking # 200262372), Dam Safety Permit (Tracking # 200262372), and other necessary permits prior to beginning construction. ~~Howard County Plan # SDP-99-134 must be signed and permitted before implementation of this plan. (1 week)~~
2. Clear and grub for and install silt fence, supersilt fence. (5 days)
3. Install stream diversion, SSF and install both single and twin 84" culvert crossing for access to quarry area. Contractor to use filter bags and sump pits for dewatering during construction of crossings.
4. Clear and grub for installation of SEC Basin #2, and stabilize construction entrances. (3 weeks)
5. Construct SEC basin #2. (3 weeks)
6. Clear and grub for diversion swales, earth berms. (2 weeks)
7. Construct diversion swales (beginning at basin) and earth berms. Fill stream channel only after diversion swales have been constructed. (2 weeks)
8. With permission of the MDE inspector, begin clearing grubbing and removal of overburden within quarry area. Contractor to follow dust control specifications. Construct berm along Mission Road using the overburden spoil. (1 year) Note that a 20-acre maximum of land shall be disturbed at any one time.
9. Install landscaping along completed earth berm. (4 weeks)
10. Refer to incremental stabilization specifications for berm and stockpile areas.

AREA II - OPERATION PLANTS, UTILITIES, ROADS

11. Clear and grub for SEC perimeter controls (silt fence, earth dikes, SEC basin #1). 2 weeks)
12. Construct perimeter controls and basin #1. Install pipe from M5-EW-5 in lengths that can be stabilized by the end of every day.
13. With permission of the MDE inspector, clear and grub and begin grading remainder of site. (3 months) Note that a 20-acre maximum of land shall be disturbed at any one time.
14. Begin construction of building and operation facilities. (6 months)
15. When subgrade has been reached, construct utilities & storm drains. (6 weeks)
16. Install paving. (4 weeks)
17. Complete building & operation facilities. (1 week)
18. With permission of MDE inspector, remove remaining SEC controls and stabilize area. (1 week)
19. Install landscaping, signs, and guard rails. (1 week)
20. With permission of MDE inspector, convert SCE basin into a permanent SWM wet pond. (2 weeks)

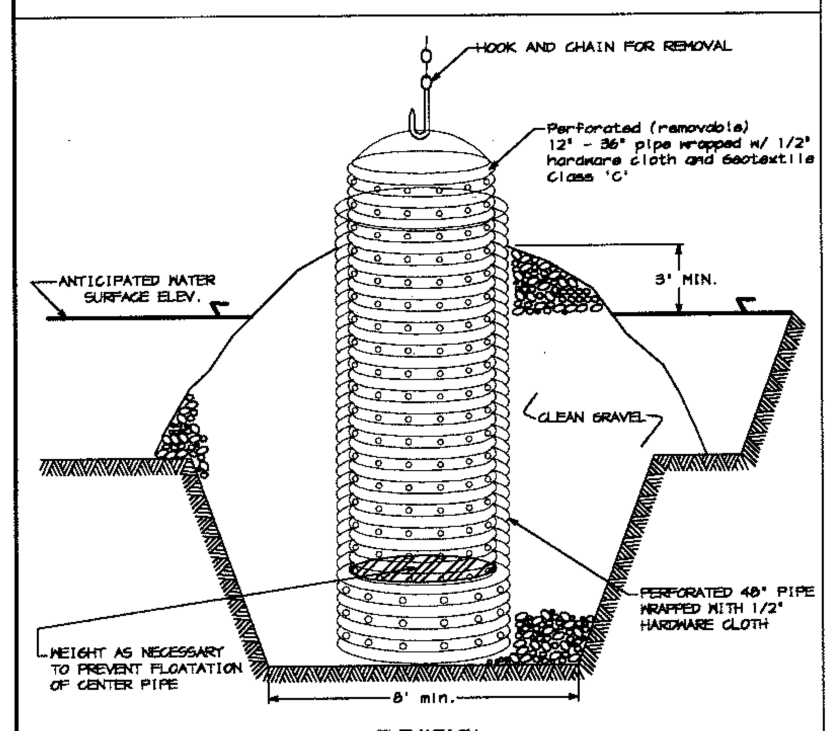


CLASS 'A' DAMS LESS THAN 50' HIGH

A-2 CONCRETE CRADLE BASIN #2

NO SCALE

DETAIL 20A - REMOVABLE PUMPING STATION



ELEVATION

Construction Specifications

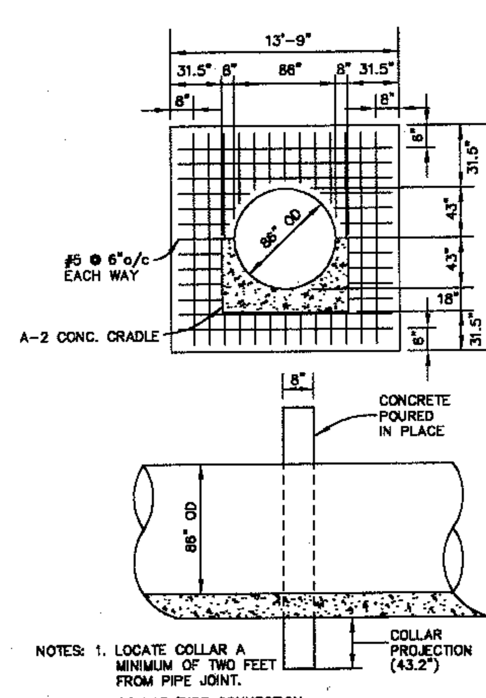
1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 12 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DRAWDOWN DEVICE TABLE

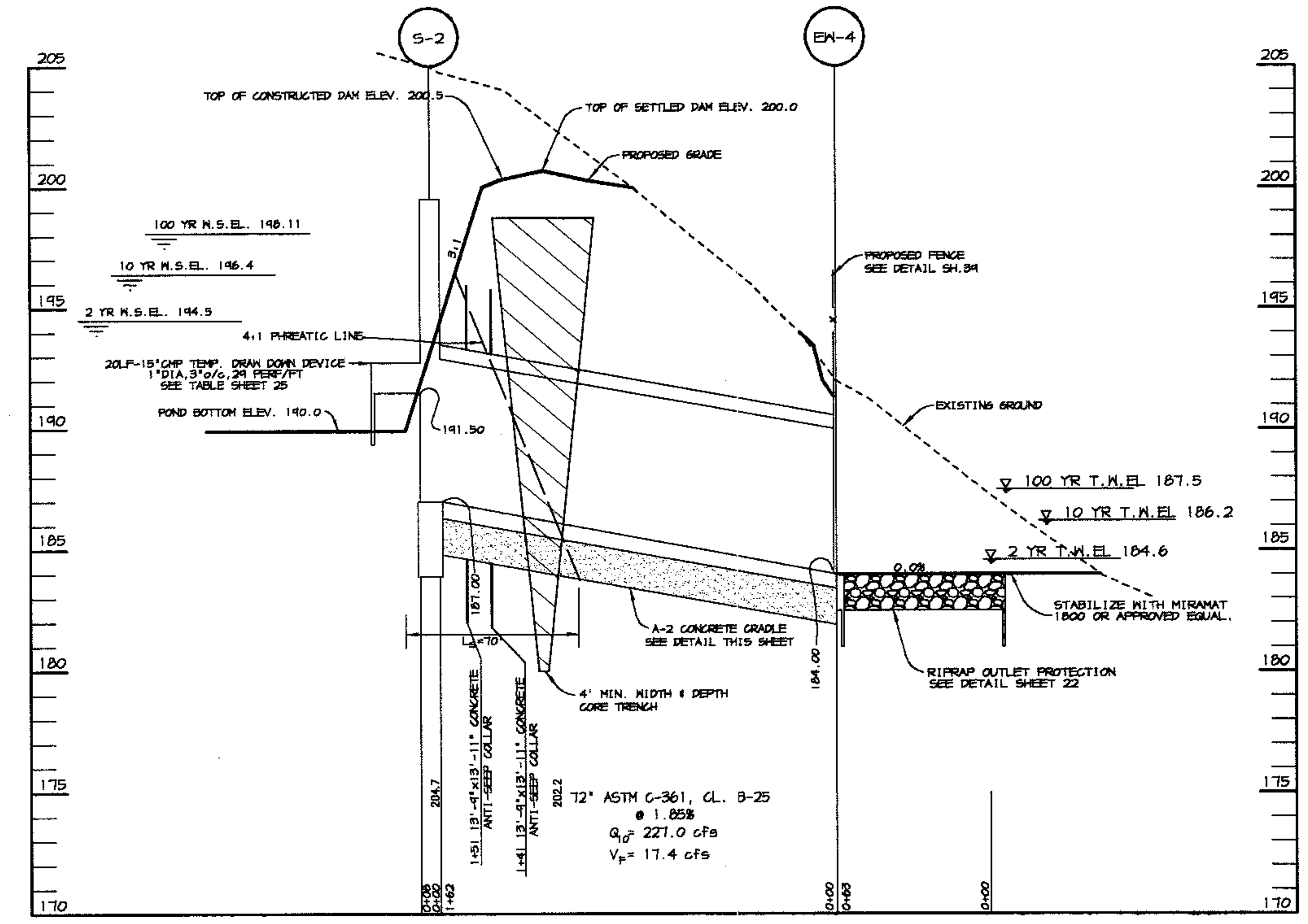
BASIN	SIZE	SLOPE	INVERT	*DETAIL
1	12" CMP	0.0 %	191.00	1"DIA.,38 PERF/FT 3"o/c SEE DET.THIS SH.
2	15" CMP	0.0 %	191.50	1"DIA.,29 PERF/FT 3"o/c SEE DET.THIS SH.

*1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
NOTE: FOR SEDIMENT CONTROL PHASE ONLY.



CONCRETE ANTI-SEEP COLLARS - BASIN #2

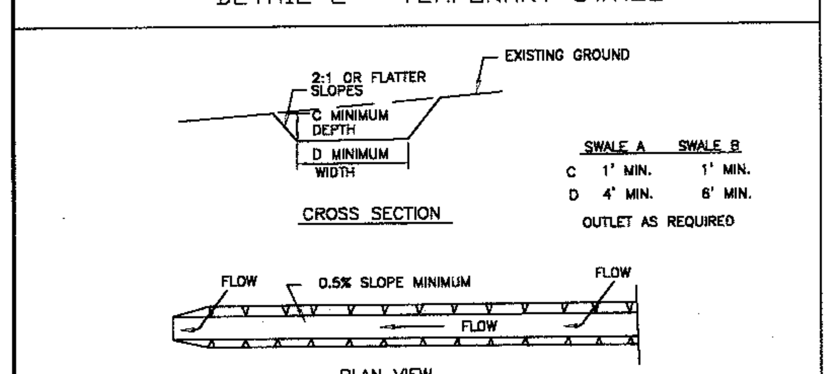
NO SCALE



PROFILE THRU PRINCIPLE SPILLWAY BASIN#2 / SETTLING BASIN

SCALE: HOR.: 1"=50' VERT.: 1"=5'

DETAIL 2 - TEMPORARY SWALE



	SWALE A	SWALE B
C	1' MIN.	1' MIN.
D	4' MIN.	6' MIN.

OUTLET AS REQUIRED

DRAINAGE AREA = 10 ac (MAX)
SLOPE = 10% (MAX)

STANDARD SYMBOL A - 2/B - 3

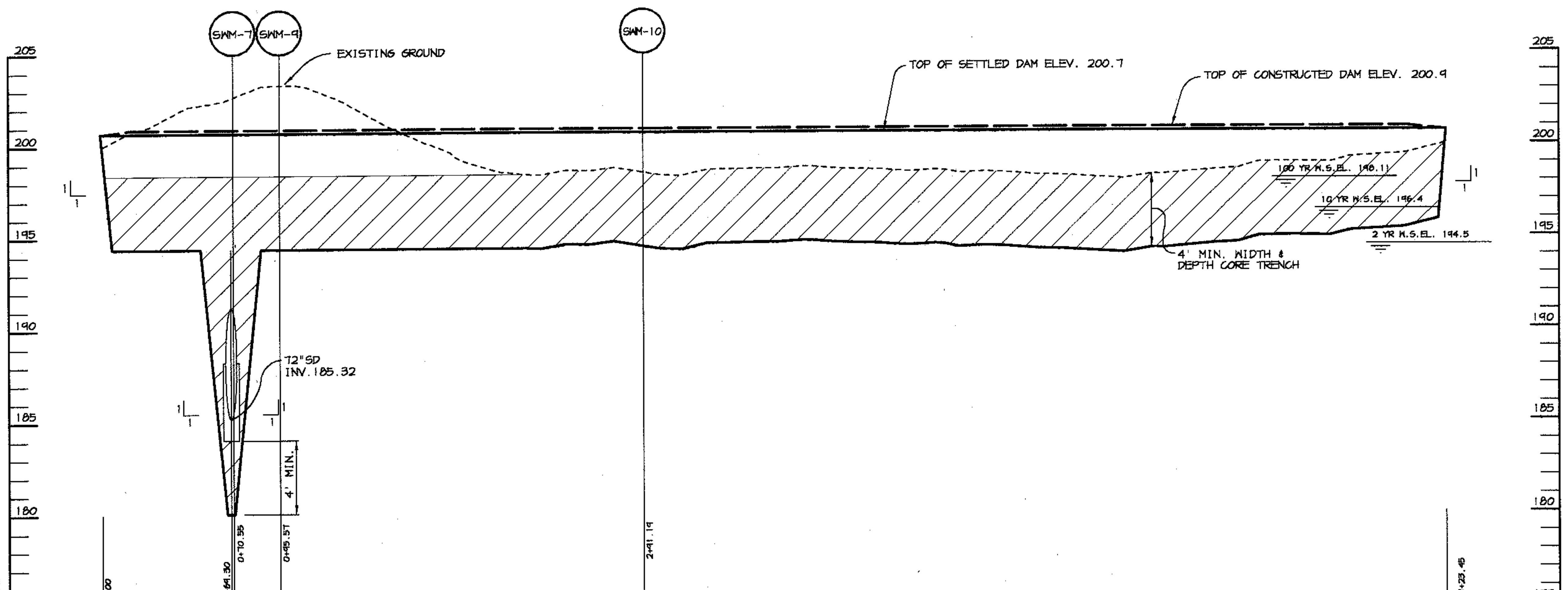
FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4"-7" stone or recycled concrete equivalent pressed into soil in a minimum 7" layer.

Construction Specifications

1. All temporary swales shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
5. The swale shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill, if necessary, shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the swale.
8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 2 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



PROFILE ALONG CL OF EMBANKMENT - BASIN#2 / SETTLING BASIN

SCALE: HOR.: 1"=50' VERT.: 1"=5'

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/CS 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

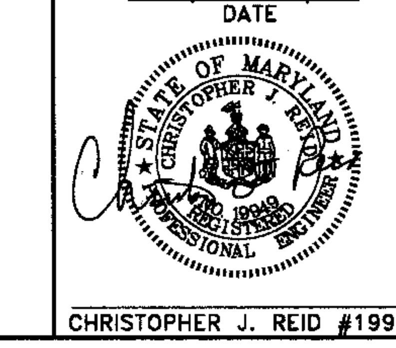
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **S.W.M. PROFILES, SEDIMENT & EROSION CONTROL DETAILS**

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE



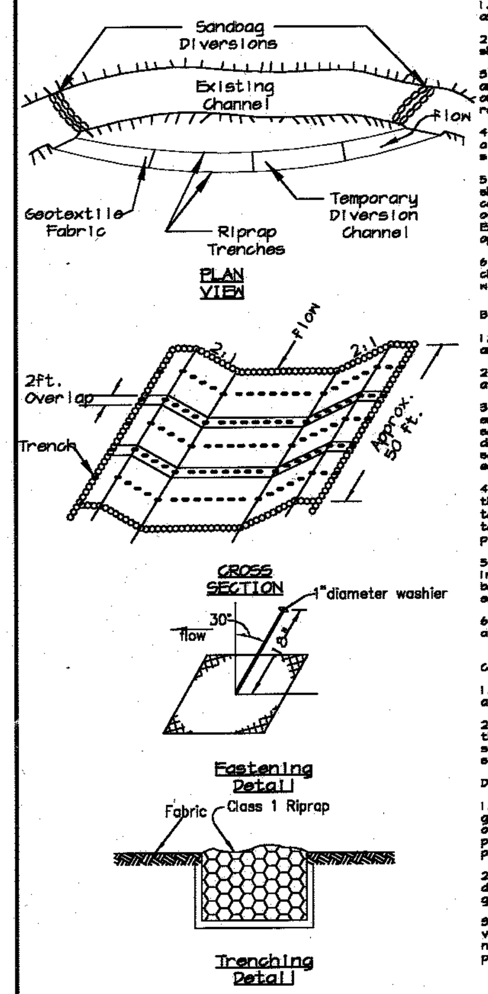
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE4.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	25 OF 40

SDP-99-134

P:\project\99092\1-0\Engr\Plans\PROFILE4.DWG, Model, 01/29/2004 11:10:39 AM, HP750C(36).pc3, User1308, 1:50

Waterway Construction: Open Channel Stream Diversion Sequence of Construction



A. Channel Excavation

1. All erosion and sediment control devices shall be installed as the first order of business.

2. All disturbance resulting from constuction of the channel shall be contained by appropriate sediment control measures.

3. Excavation of the channel shall begin at the downstream end and proceed upstream. All excavated materials shall be stockpiled outside of the floodplain and temporarily stabilized to prevent re-entry into the stream channel.

4. The process excavation and stabilization with fabric shall be a continous (uninterrupted) operation. All materials shall be on site prior to channel construction.

5. The downstream and upstream connection to the natural channel shall be constructed under dry conditions. The stream shall be contained by sandbags along the opposing bank during the process of cutting the diversion channel into the natural stream channel. Excavation and stabilization shall be a continous (uninterrupted) operation.

6. All debris (rocks, sticks, etc.) shall be removed and the channel surfaces made smooth so that the fabric will rest flush with the channel sides and bottom.

B. Stabilization with Geotextile Fabric

1. The fabric shall have a minimum width such that it is keyed in and anchored at the top of stream bank.

2. Fabric shall be placed so that it rests flush with the channel at all points of contact.

3. Fabric shall be placed such that one piece will line the entire channel. If this is not possible, fabric shall be placed so that transverse overlapping occurs in accordance with the detail. Longitudinal overlaps shall not be allowed. Upstream sections shall overlap downstream sections. Overlap width shall equal 2 feet minimum.

4. The fabric shall be keyed into 2x2 feet trenches located at the upstream edge and at 50 feet intervals (the overlap nearest to each 50 feet increment). The key-in shall be from top of channel to top of channel. Class I riprap (MPD9.1)shall be carefully placed into the trench (zero drop height).

5. The fabric sections shall be secured with holddown pins (L=18 inch minimum) and washer (diameter=1 inch minimum). Overlaps shall be pinned along transverse and longitudinal axes with spacing equal to 3 feet maximum.

6. Sediment from surrounding areas of disturbance shall not be allowed to enter the diversion channel.

C. Removal of Diversion

1. Water shall not be allowed through the natural stream until all construction is completed.

2. After diversion of the stream through the natural stream bed, the temporary diversion channel shall be backfilled and stabilized. Points of tie-in to the natural channel shall be stabilized with riprap in accordance with MPD9.1.

D. Alternate Designs

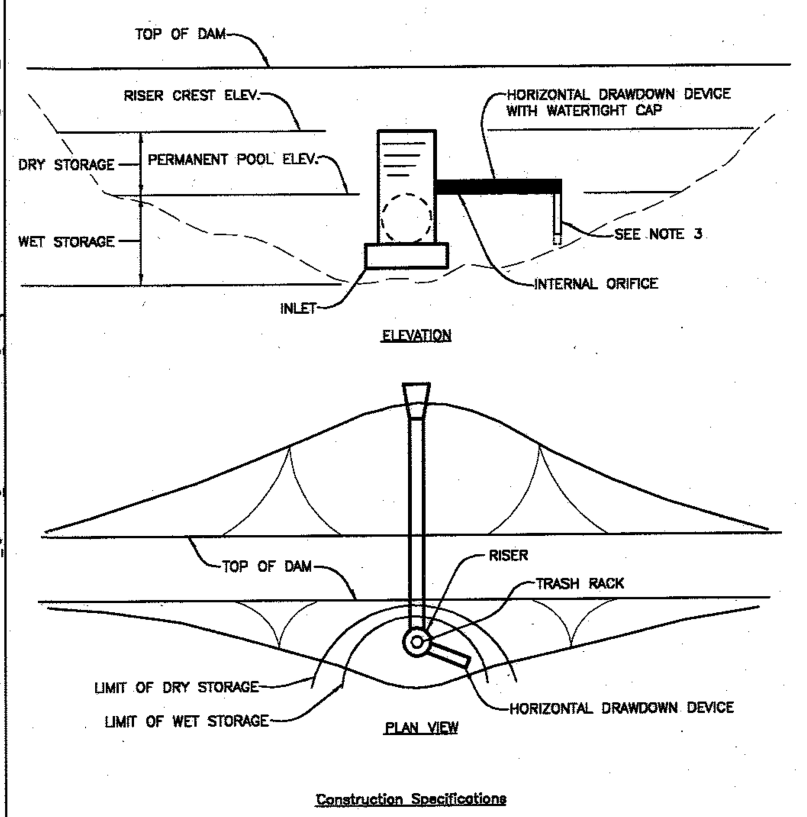
1. The above design may be modified to allow sewing of the geotextile fabric. Sewing of the geotextile fabric, rather than overlapping, would eliminate the requirement for transverse placement of the fabric. Either transverse or longitudinal placement should work equally well.

2. The spacing of the pins could be either larger or smaller depending on the anticipated velocities and thickness and type of geotextile fabric.

3. The entire bottom of the channel could be riprapped if high velocities were anticipated. When the area is riprapped, it is not required that the geotextile fabric underneath the riprap be pinned.

WATER RESOURCES ADMINISTRATION	Fabric-Based Channel Diversion	WPD 2.4

SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE



Construction Specifications

1. The total area of the perforation must be greater than 2 times the area of the internal orifice.

2. The perforated portion of the drawdown device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.

3. Provide support of drawdown device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of drawdown device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 29	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 4 - PIPE SLOPE DRAIN

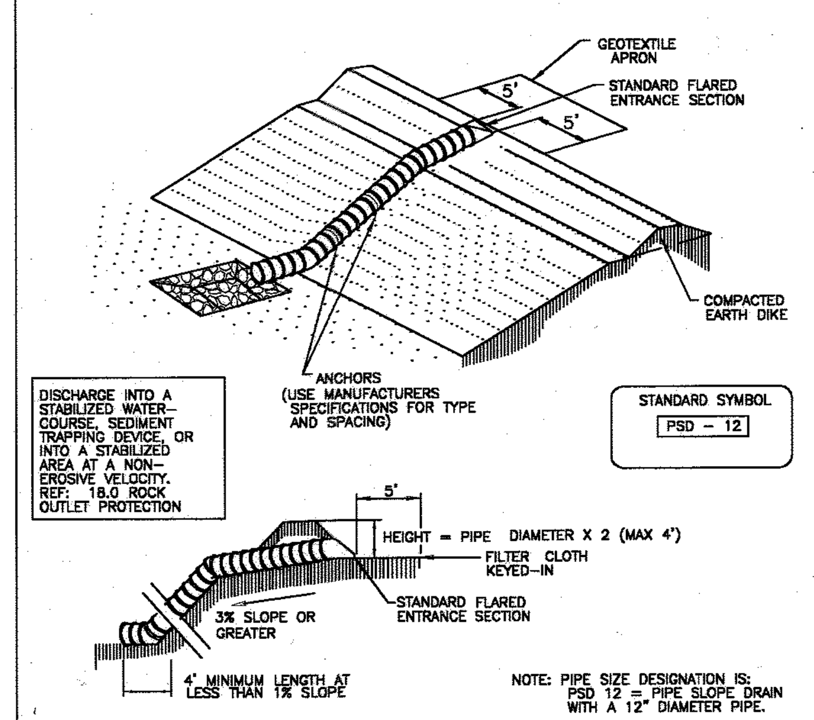


Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5
PSD-24 (2)	24	5.0

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 5 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION (BOTH AREAS WILL BE ACTIVE CONCURRENTLY)

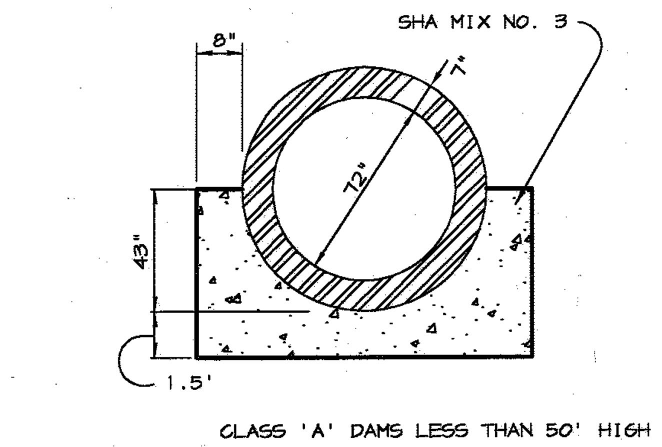
AREA I - QUARRY AREA

1. Obtain a Grading Permit ~~(GP 04 13)~~, State Mining Permit (MP-02-SP-0599), Non-Tidal Wetland Permit (Tracking # 200262372), Dam Safety Permit (Tracking # 200262372), and other necessary permits prior to beginning construction. ~~Howard County Plan # SDP-99-134 must be signed and permitted before implementation of this plan. (1 week)~~
2. Clear and grub for and install silt fence, supersilt fence. (5 days)
3. Install stream diversion, SSF and install crossings for access to quarry ⚠2 area. Contractor to use filter bags and sump pits for dewatering during construction of crossings.
4. Clear and grub for installation of SEC Basin #2, and stabilize construction entrances. (3 weeks)
5. Construct SEC basin #2. (3 weeks)
6. Clear and grub for diversion swales, earth berms. (2 weeks)
7. Construct diversion swales (beginning at basin) and earth berms. Fill stream channel only after diversion swales have been constructed. (2 weeks)
8. With permission of the MDE inspector, begin clearing grubbing and removal of overburden within quarry area. Contractor to follow dust control specifications. Construct berm along Mission Road using the overburden spoil. (1 year) Note that a 20-acre maximum of land shall be disturbed at any one time.
9. Install landscaping along completed earth berm. (4 weeks)
10. Refer to incremental stabilization specifications for berm and stockpile areas.

AREA II - OPERATION PLANTS, UTILITIES, ROADS

11. Clear and grub for SEC perimeter controls (silt fence, earth dikes, SEC basin #1). 2 weeks)
12. Construct perimeter controls and basin #1. Install pipe from M5-EW-5 in lengths that can be stabilized by the end of every day.
13. With permission of the MDE inspector, clear and grub and begin grading remainder of site. (3 months) Note that a 20-acre maximum of land shall be disturbed at any one time.
14. Begin construction of building and operation facilities. (6 months)
15. When subgrade has been reached, construct utilities & storm drains. (6 weeks)
16. Install paving. (4 weeks)
17. Complete building & operation facilities. (1 week)
18. With permission of MDE inspector, remove remaining SEC controls and stabilize area. (1 week)
19. Install landscaping, signs, and guard rails. (1 week)
20. With permission of MDE inspector, convert SCE basin into a permanent SWM wet pond. (2 weeks)

⚠2 NOTE: THE THREE STREAM CROSSINGS SHALL BE REMOVED AT THE COMPLETION OF MINING & STREAM RESTORATION COMPLETED BEFORE THE BOND AND PERMIT ARE RELEASED.



CLASS 'A' DAMS LESS THAN 50' HIGH

A-2 CONCRETE CRADLE BASIN #2

NO SCALE

07-22-16	⚠7	PLANT RELOCATION - CNA, INC.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/65 — 9/27/05
Jim Myers/65 — 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

9/27/05
2/17/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

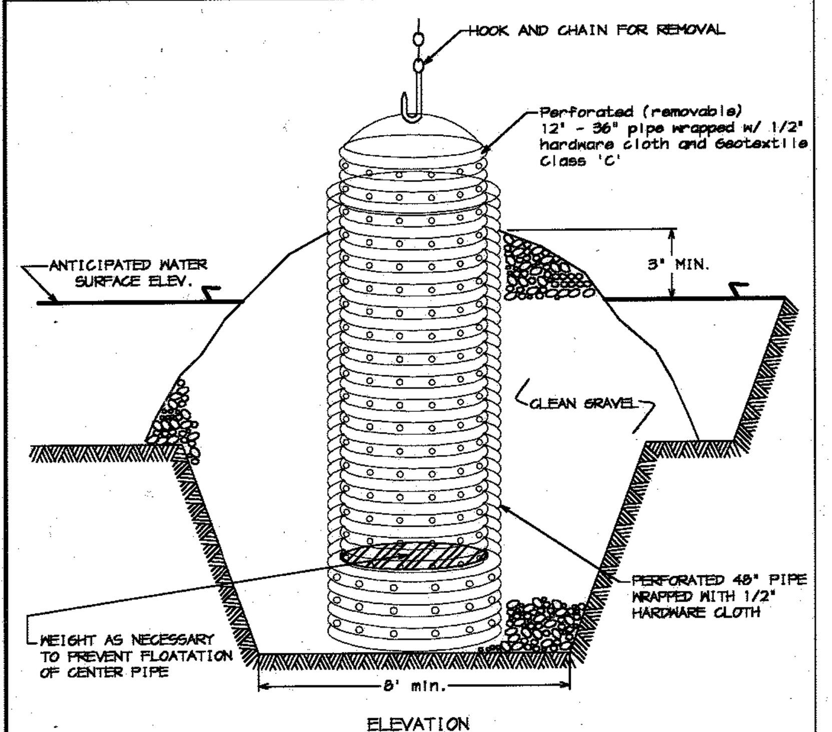
11/7/05
3/15/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

5/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — HB 10/6/05 — DATE

6-15-05	2	REV. SEQ. OF CONST., ADDED NOTE, CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.
DATE	NO.	REVISION

DETAIL 20A - REMOVABLE PUMPING STATION



Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.

2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.

3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.

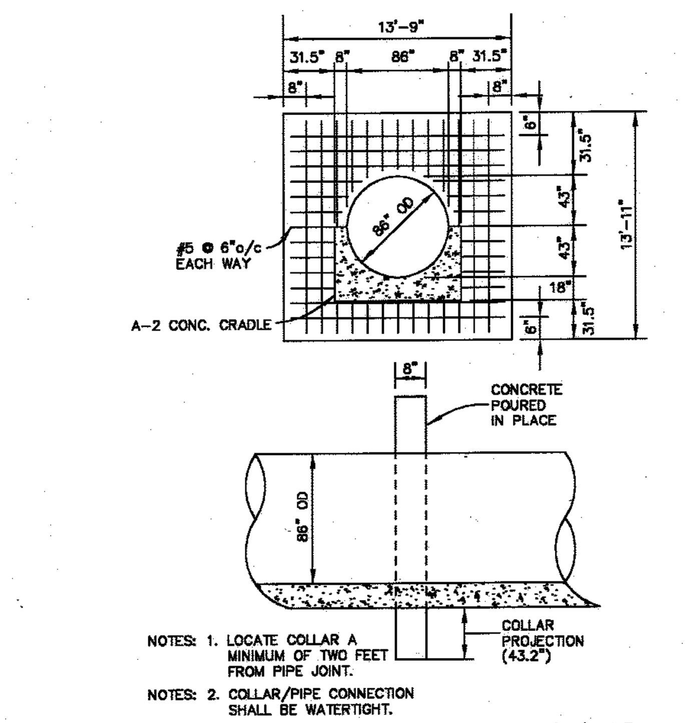
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 12 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DRAWDOWN DEVICE TABLE

BASIN	SIZE	SLOPE	INVERT	*DETAIL
1	12" CMP	0.0 %	191.00	1"DIA., 38 PERF/FT 3"o/c SEE DET. THIS SH.
2	15" CMP	0.0 %	191.50	1"DIA., 29 PERF/FT 3"o/c SEE DET. THIS SH.

*1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
NOTE: FOR SEDIMENT CONTROL PHASE ONLY.



CONCRETE ANTI-SEEP COLLARS - BASIN #2

NO SCALE

PIPE SLOPE DRAIN

Construction Specifications - Pipe Slope Drain

1. The Pipe Slope Drain (PSD) shall have a slope of 3 percent or steeper.

2. The top of the earth dike over the inlet pipe shall be at least 2 times the pipe diameter measured at the invert of the pipe.

3. Flexible tubing is preferred. However, corrugated metal pipe or equivalent PVC pipe can be used. All connections shall be watertight.

4. A flared end section shall be attached to the inlet end of pipe with a watertight connection. Filter cloth shall be placed under the inlet of the pipe slope drain and shall extend out 5' from the inlet. The filter cloth shall be "keyed in" on all sides.

5. The Pipe Slope Drain shall be securely anchored to the slope by staking at the grommets provided. Spacing for anchors shall be as provided by manufacturer's specification. In no case shall less than two (2) anchors be provided, equally spaced along the length of pipe. These details should be provided by pipe suppliers.

6. The soil around and under the pipe and end section shall be hand tamped in 4 inch lifts to the top of the earth dike.

7. All pipe connections shall be watertight.

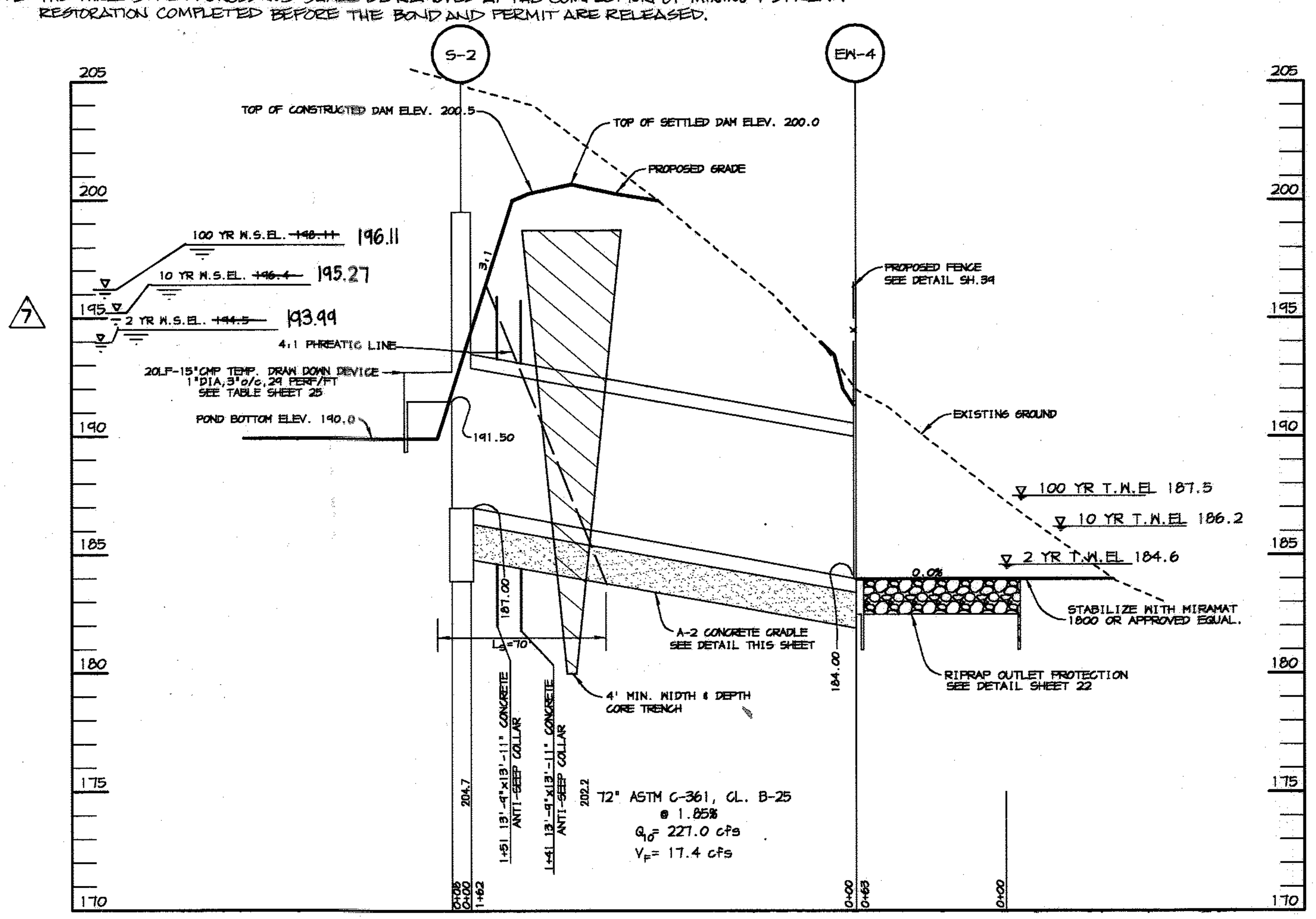
8. Whenever possible where a PSD drains an unstabilized area, it shall outlet into a sediment trap or basin. If this is not possible then the slope drain will discharge into a stable conveyence that leads to a sediment trap or basin. When discharging into a trap or basin the PSD shall discharge at the same elevation as the wet pool elevation. The discharge from the PSD must be as far away from the sediment control outlet as possible.

9. When the drainage area is stabilized, the PSD shall discharge onto a stabilized area at a non-erosive velocity.

10. Inspection and any required maintenance shall be performed periodically and after each rain event.

11. The inlet must be kept open at all times.

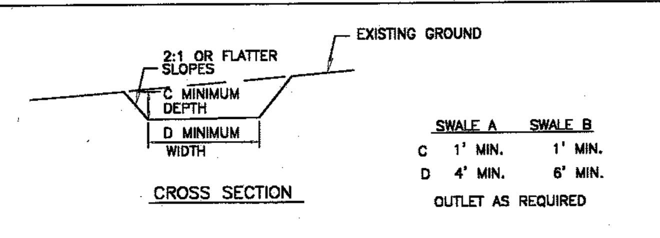
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 5 - 4A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



PROFILE THRU PRINCIPLE SPILLWAY BASIN#2 / SETTLING BASIN

SCALE: HOR.: 1"=50' VERT.: 1"=5'

DETAIL 2 - TEMPORARY SWALE



	SWALE A	SWALE B
C	1' MIN.	1' MIN.
D	4' MIN.	6' MIN.

OUTLET AS REQUIRED

DRAINAGE AREA = 10 ac (MAX)
SLOPE = 10% (MAX)

STANDARD SYMBOL A - 2 / B - 3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4"-7" stone or recycled concrete equivalent pressed into soil in a minimum 7" layer.

Construction Specifications

1. All temporary swales shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.

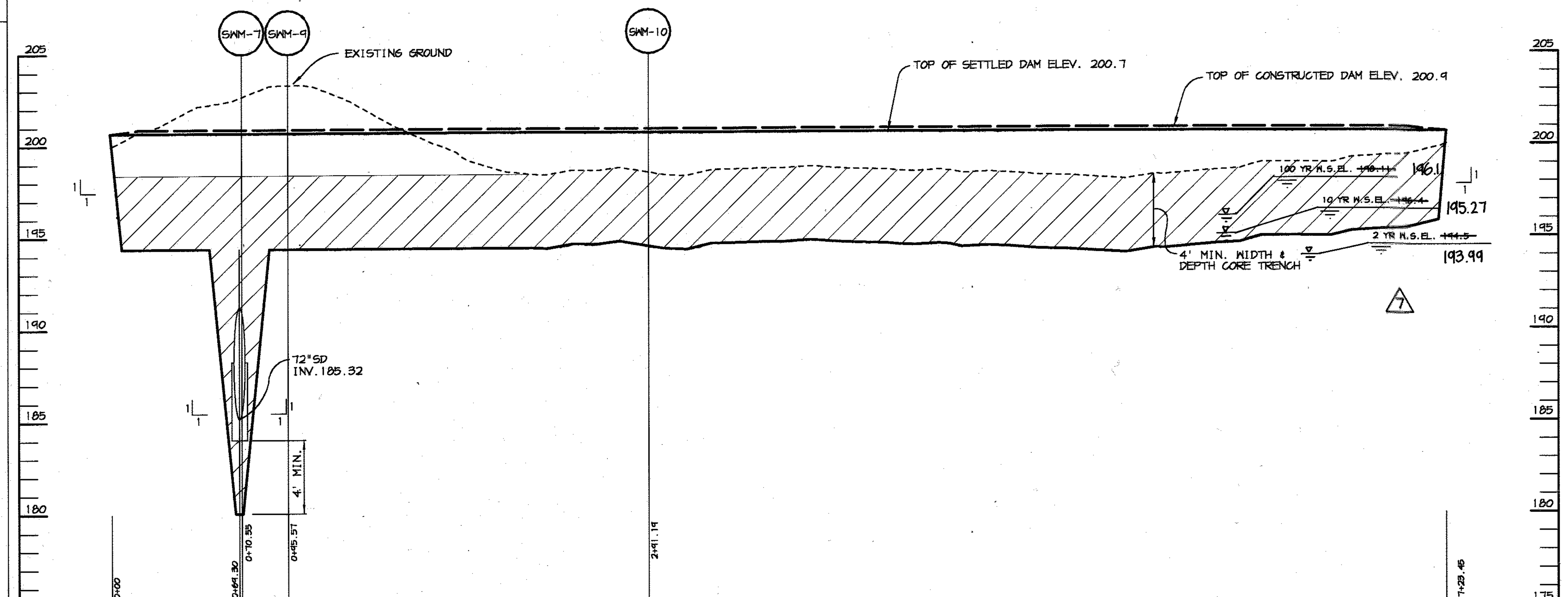
5. The swale shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

6. Fill, if necessary, shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the swale.

8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 2 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



PROFILE ALONG CL OF EMBANKMENT - BASIN#2 / SETTLING BASIN

SCALE: HOR.: 1"=50' VERT.: 1"=5'

FOR REVISION ⚠7 ONLY

CNA engineers, surveyors & landscape architects

Civil Engineers • Land Surveyors • Landscape Architects
Planners • Geotechnical Engineers • Environmental Engineers
215 Bynum Road
Forest Hill, Maryland 21050
Phone (410) 879-7200 • Fax (410) 838-1811
E-mail: cnamail@cna-engineers.com

DEVELOPER/OWNER:

(OWNER)	(DEVELOPER)
CHASE LIMITED PARTNERSHIP P.O. BOX 850 LAUREL, MD 20725 410.792.7234	CHASE MINING LLC P.O. BOX 850 LAUREL, MD 20725 410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

S.W.M. PROFILES, SEDIMENT & EROSION CONTROL DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY : MAD
CHECKED BY : C.J.R.
PROJECT NO : 99092/ PROFILE4.DWG
DATE : JANUARY 29, 2004
SCALE : AS SHOWN
DRAWING NO. 26 OF 51

SDP-99-134

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MD-378 STANDARDS AND SPECIFICATIONS

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cutoff Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall compacted with construction equipment, rollers, or hand tampers to assure maximum density and maximum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inched in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

PIPE CONDUITS

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

   Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

   Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to to the requirements of AASHTO Specifications M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts mat be used for connections. the pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coted as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at at least 24 mils in thickness.

3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

   All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 24" in diameter; flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandwiched between adjacent flanges; a 12 inch wide standard lap type band with 12 inch wide by 3/8 inch thick closed cell circular neoprene gasket; and a 12 inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe ends. A 24 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed with 12 inch on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

   Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to "Structure Backfill."

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

~~Reinforced Concrete Pipe~~ - All ~~of the following criteria shall apply for reinforced concrete pipe:~~

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the side of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this strandard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill."

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4 - 10 inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to Structure "Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

ROCK RIPRAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855) AND THE MDE MINING PERMIT INSPECTION DIVISION.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. 6.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR AND MDE. MINING PERMIT INSPECTIONS DIVISION.
7. SITE ANALYSIS:

TOTAL AREA OF SUBMISSION	327.75 ACRES
AREA DISTURBED	241.7 ACRES
AREA TO BE ROOFED OR PAVED	11 ACRES
AREA TO BE VEGETATIVELY STABILIZED	230.6 ACRES
TOTAL CUT	500000 CU. YARDS
TOTAL FILL	500000 CU. YARDS
SITE TO BALANCE ON SITE	

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE MDE INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
14. CUT AND FILL QUANTITIES PREPARED FOR THE SITE DEVELOPMENT PLAN AND PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR ~~DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.~~

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seedbed Preparation : Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments : Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).

Seeding : For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 through August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation : Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments : In lieu of soil test recommendations, use one of the following schedules :

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding : For the period March 1 through April 30 and from August 1 through October 15, seed with the following:

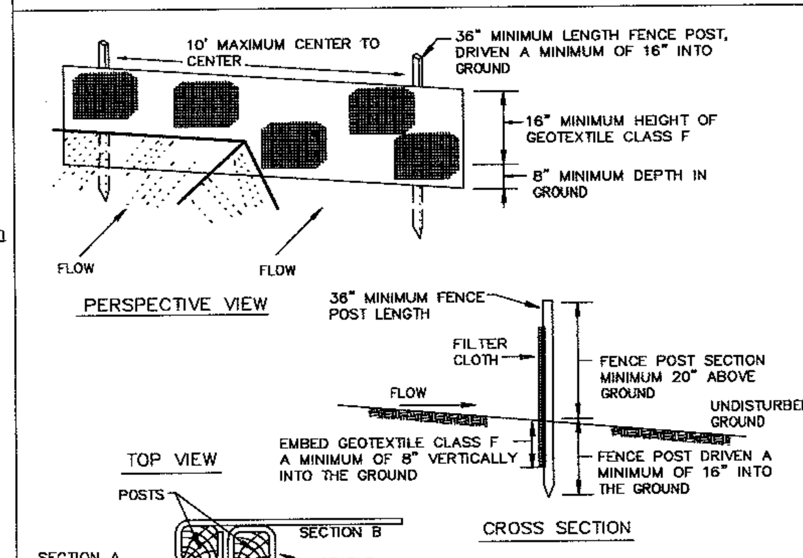
Grasses - 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Orchard Grass and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass;
Nurse Crop - 2.5 bushels per acre of Annual Rye.

For the period May 1 through July 31, seed with the following:

Grasses - 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Orchard Grass
Legumes - 20 lbs. per acre of Flatpea or 10 lbs. per acre of Birdfoot Trefoil
Nurse Crop - 2.5 bushels per acre of Annual Rye.
Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance : Inspect all seeded areas and make needed repairs, replacements and reseedings.

DETAIL 22 - SILT FENCE



STANDARD SYMBOL: —SF—

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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30.0 - DUST CONTROL

DEFINITION

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS

TEMPORARY METHODS

1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
5. BARRIERS - SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS

1. PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING - COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

REFERENCES

1. AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREDICTING SOIL LOSS.
2. AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION, USDA-ARS.

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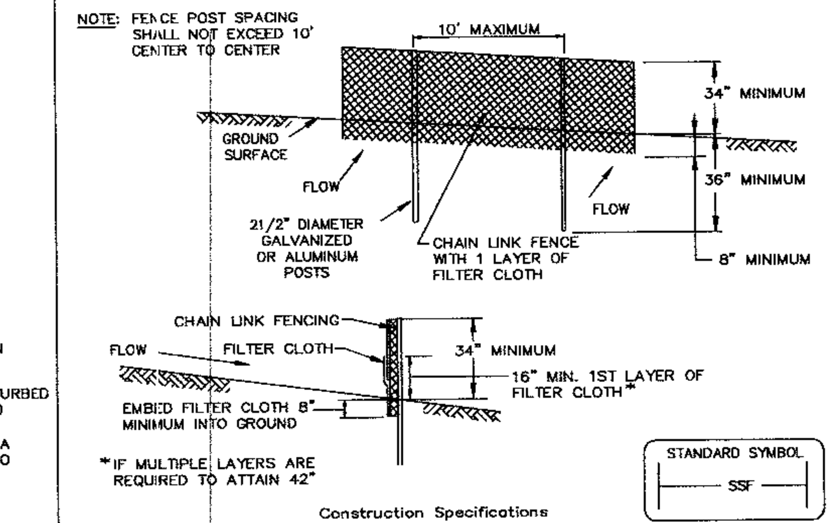
DETAIL 33 - SUPER SILT FENCE



STANDARD SYMBOL: —SSF—

Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft ²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

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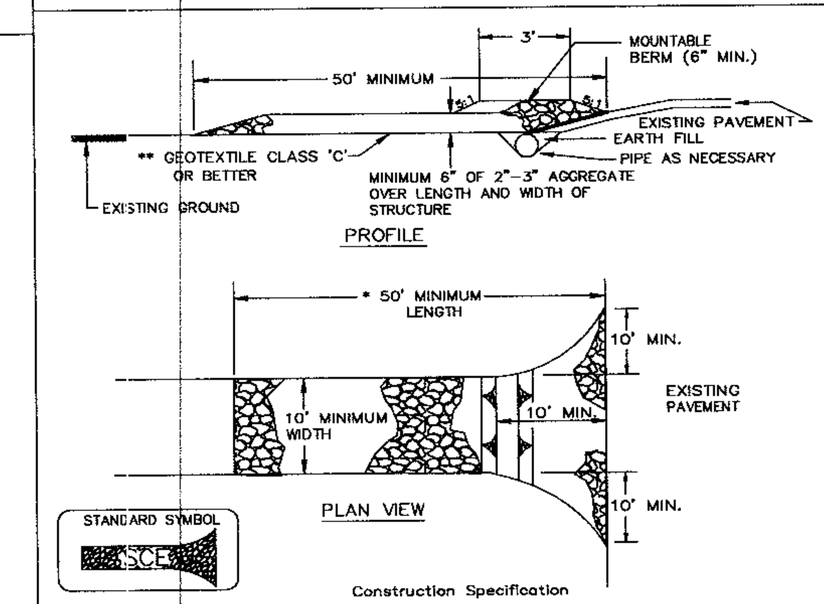
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

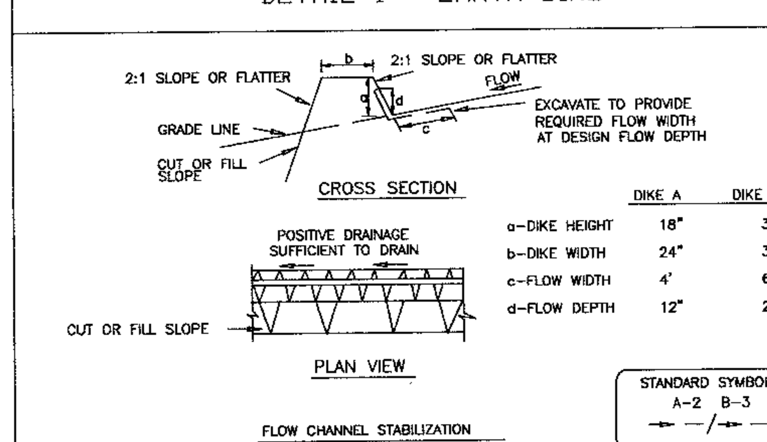
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F - 17 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 - EARTH DIKE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

STANDARD SYMBOL: A-2 B-3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.

5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

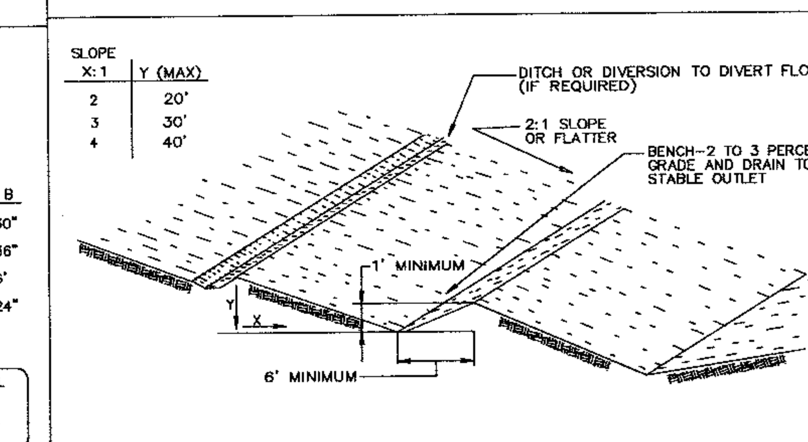
6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE A - 1 - 6 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 28 - BENCHED SLOPES



Construction Specifications

1. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.

2. All fill shall be placed and compacted in layers not to exceed 8" in thickness.

3. Except for approved landfills or nonstructural fills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fills.

4. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills. Fill shall not be placed on a frozen foundation.

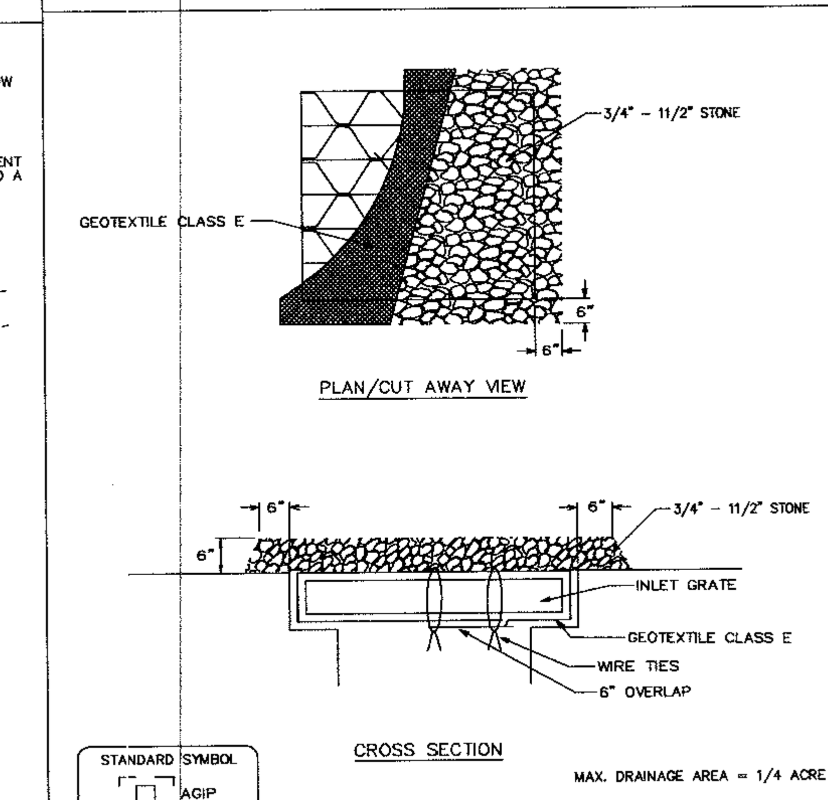
5. All benches shall be kept free of sediment during all phases of development.

6. Seeps or springs encountered during construction shall be handled in accordance with the Standard and Specification for Subsurface Drain or other approved methods.

7. All graded areas shall be permanently stabilized immediately following finished grading.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F - 19 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B - AT GRADE INLET PROTECTION



STANDARD SYMBOL: AGIP

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E - 16 - 5A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers / CS — 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[signature] — 2/17/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] — 3/15/04
DIRECTOR — DATE

[signature] — 2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

[signature] — 3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)	(DEVELOPER)
CHASE LIMITED PARTNERSHIP	CHASE MINING LLC
P.O. BOX 850	P.O. BOX 850
LAUREL, MD 20725	LAUREL, MD 20725
410.792.7234	410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SWM & SEDIMENT CONTROL NOTES & DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — NO. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY : MAD
CHECKED BY : C.J.R.
PROJECT NO : 99092/ SEDNOTES.DWG
DATE : JANUARY 29, 2004
SCALE : AS SHOWN
DRAWING NO. 27 OF 40

SDP-99-134

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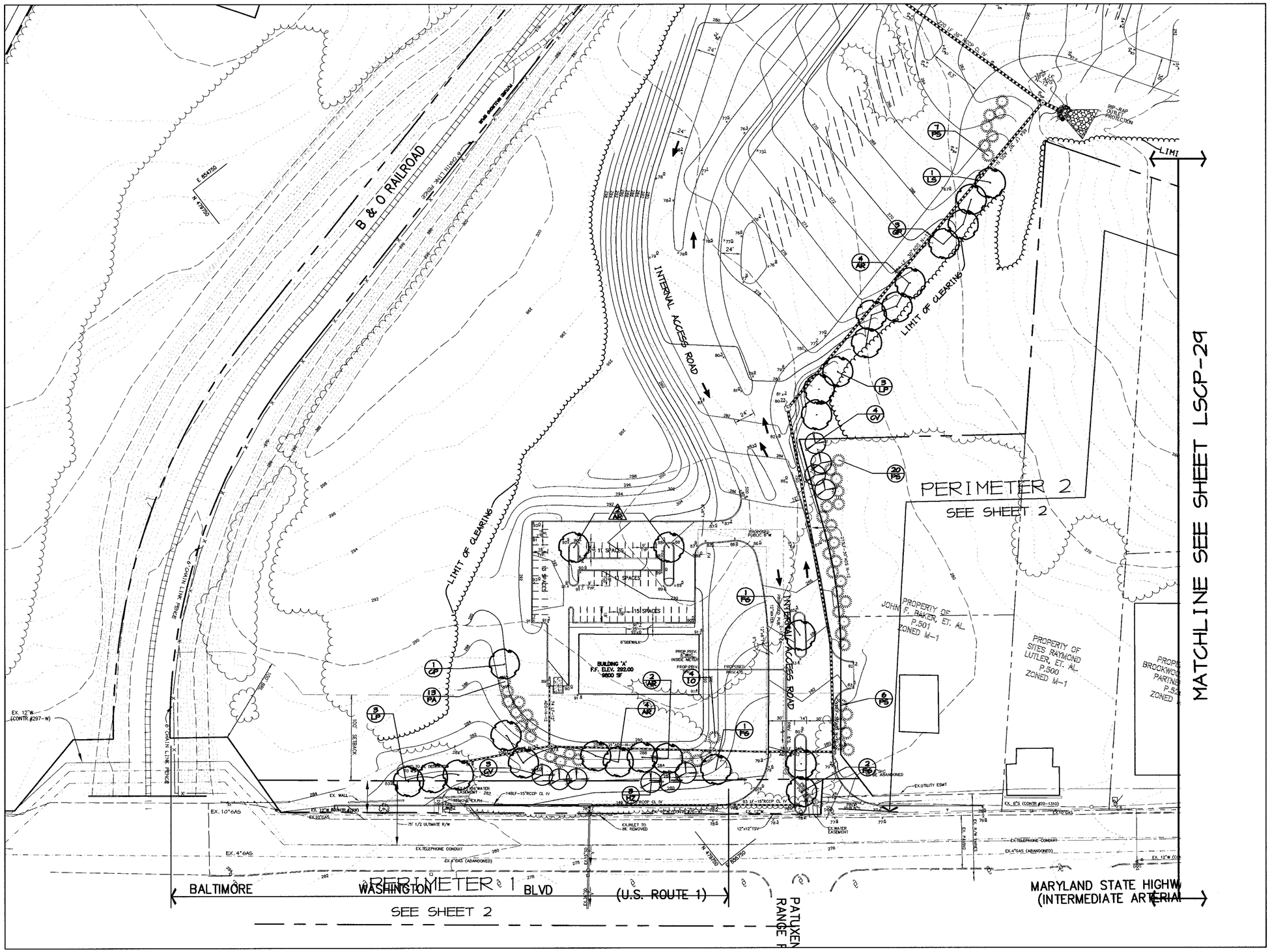

LEGEND

- EXISTING CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM (BENCH)
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 2/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
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T 410.997.8900
F 410.997.9282

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-28.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	28 OF 40

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

P:\project\990921-0\Engr\Plans\L-28.dwg, Layout1, 01/29/2004 11:21:53 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

LEGEND

- EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
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LAUREL, MD 20725
410.792.7234

(DEVELOPER)
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410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
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STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

Scott R. Wolford

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-29.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	29 OF 40

SDP-99-134

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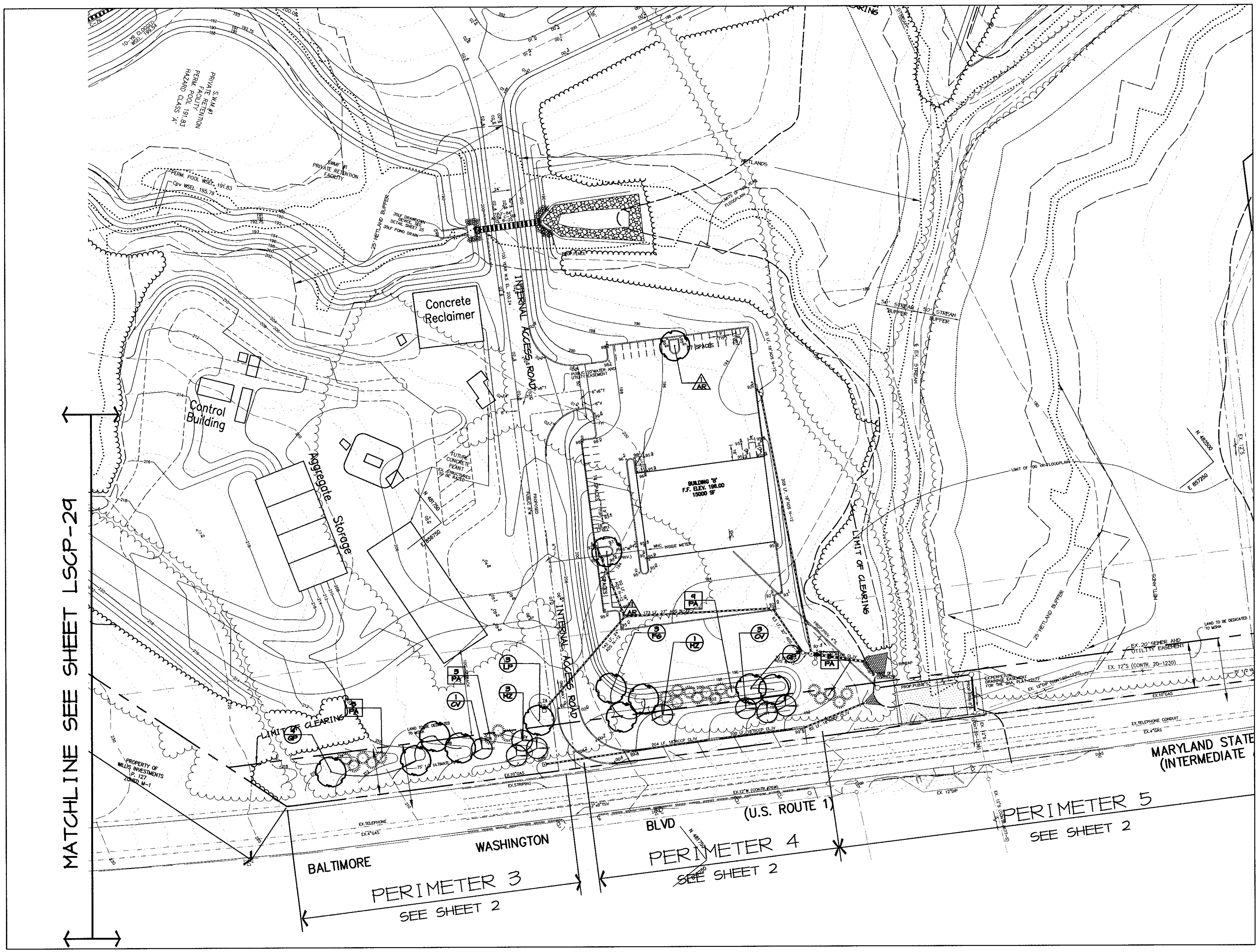

LEGEND

300	EXISTING CONTOURS
	EXISTING TREE LINE
	PROPOSED TREE LINE
	EXISTING ROAD
	EXISTING BOUNDARY LINE
	EXISTING BUILDING
	EXISTING STREAM
BENCH	APPROXIMATE LOCATION OF BENCH FOR BERM
	BERM RIDGE LINE
	EXISTING SOILS
	EASEMENT
	EXISTING FENCE
X / XX	PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
X / XX	PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
X / XX	PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
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T 410.997.8900
F 410.997.9282

STATE OF MARYLAND · SCOTT R. WOLFORD · REGISTERED LANDSCAPE ARCHITECT

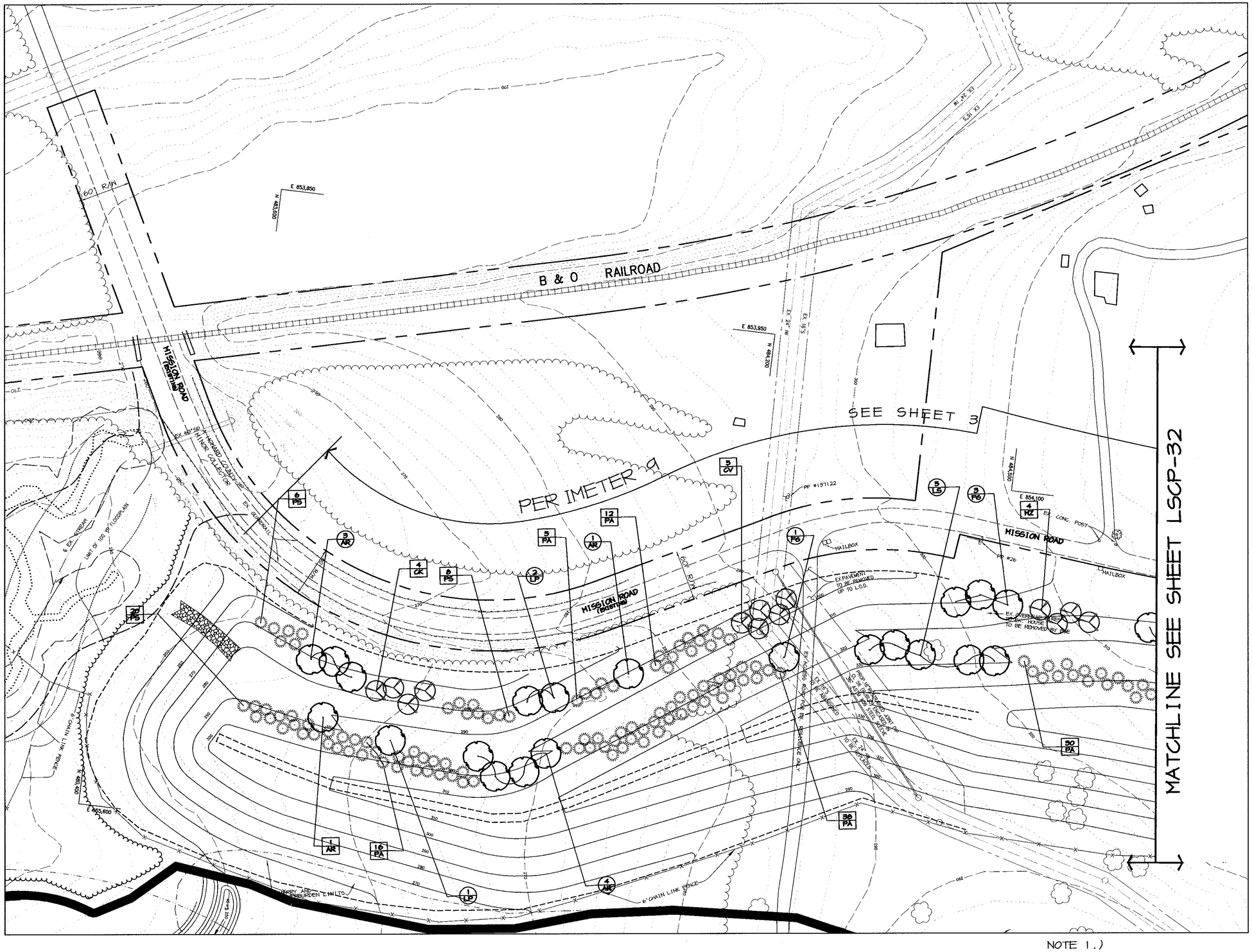
DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-30.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	30 OF 40

SDP-99-134

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

P:\project\99092\1-0\Engr\Plans\L-30.dwg, Layout1, 01/29/2004 11:23:05 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY
NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

LEGEND

- 300 — EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- X/XX — PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- X/XX — PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- X/XX — PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
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LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
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8818 Centre Park Drive
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F 410.997.9282

STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT — No. 1234

Scott R. Wolford

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-31.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	31 OF 40

SDP-99-134

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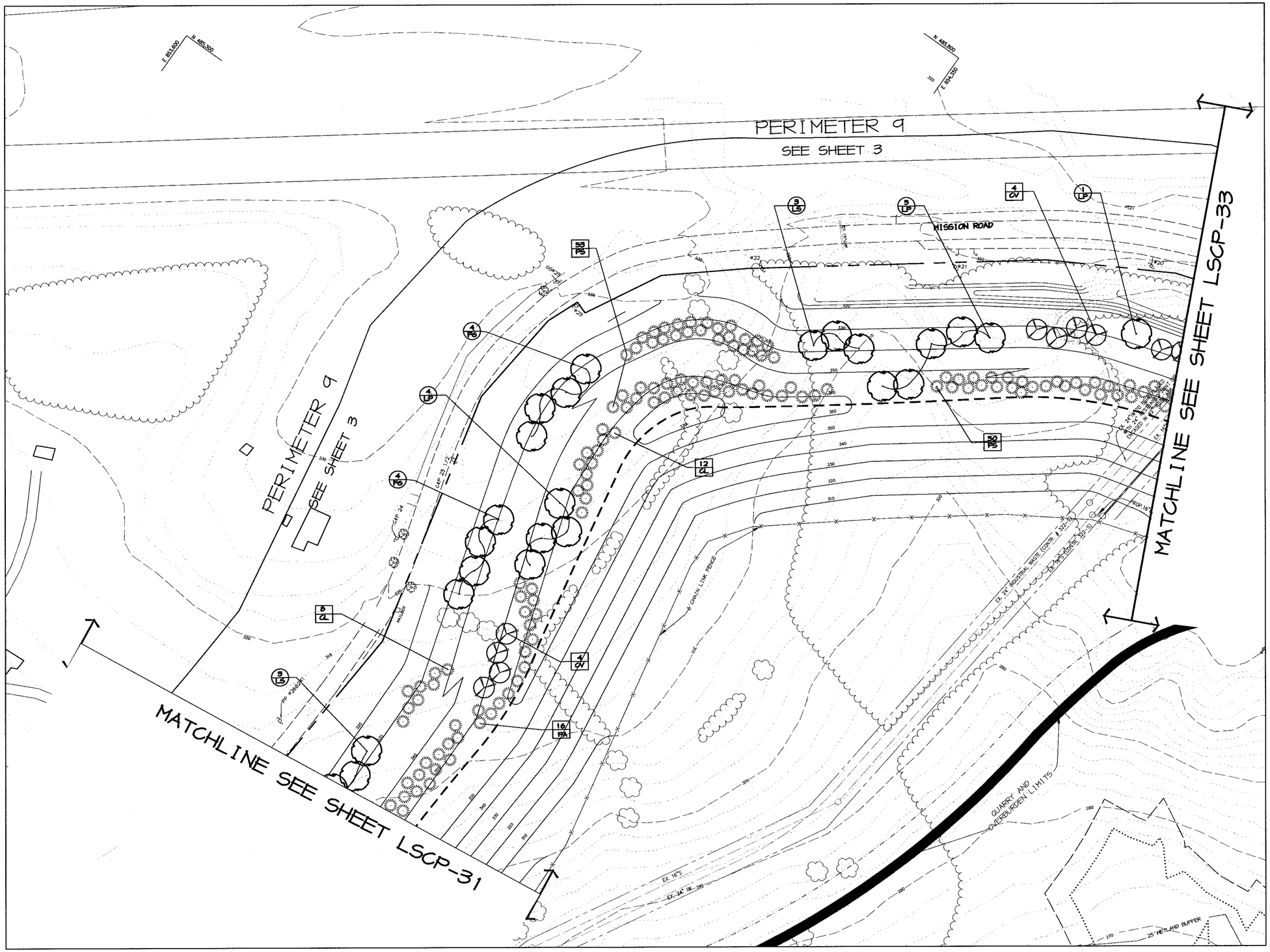

LEGEND

- EXISTING CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM (BENCH)
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 2/25/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 2/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
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STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

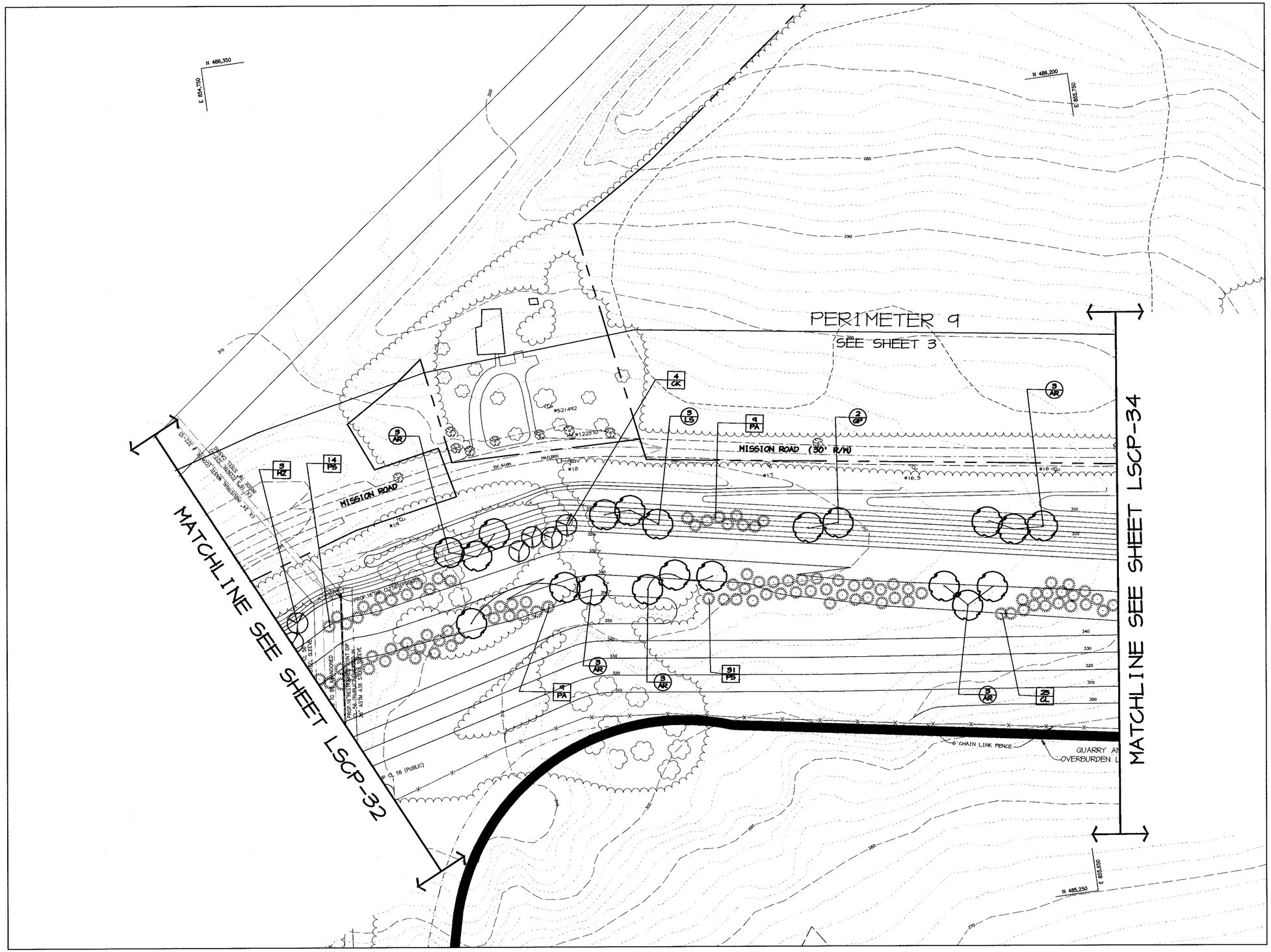
DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-32.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	32 OF 40

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

SDP-99-134

P:\project\990921-01\Engr\Plans\L-32.dwg, Layout1, 01/29/2004 11:32:24 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EXISTING CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM (BENCH)
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED (X/XX)
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED (X/XX)
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED (X/XX)

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/26/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
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Columbia, MD 21045
T 410.997.8900
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STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-33.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	33 OF 40

SDP-99-134

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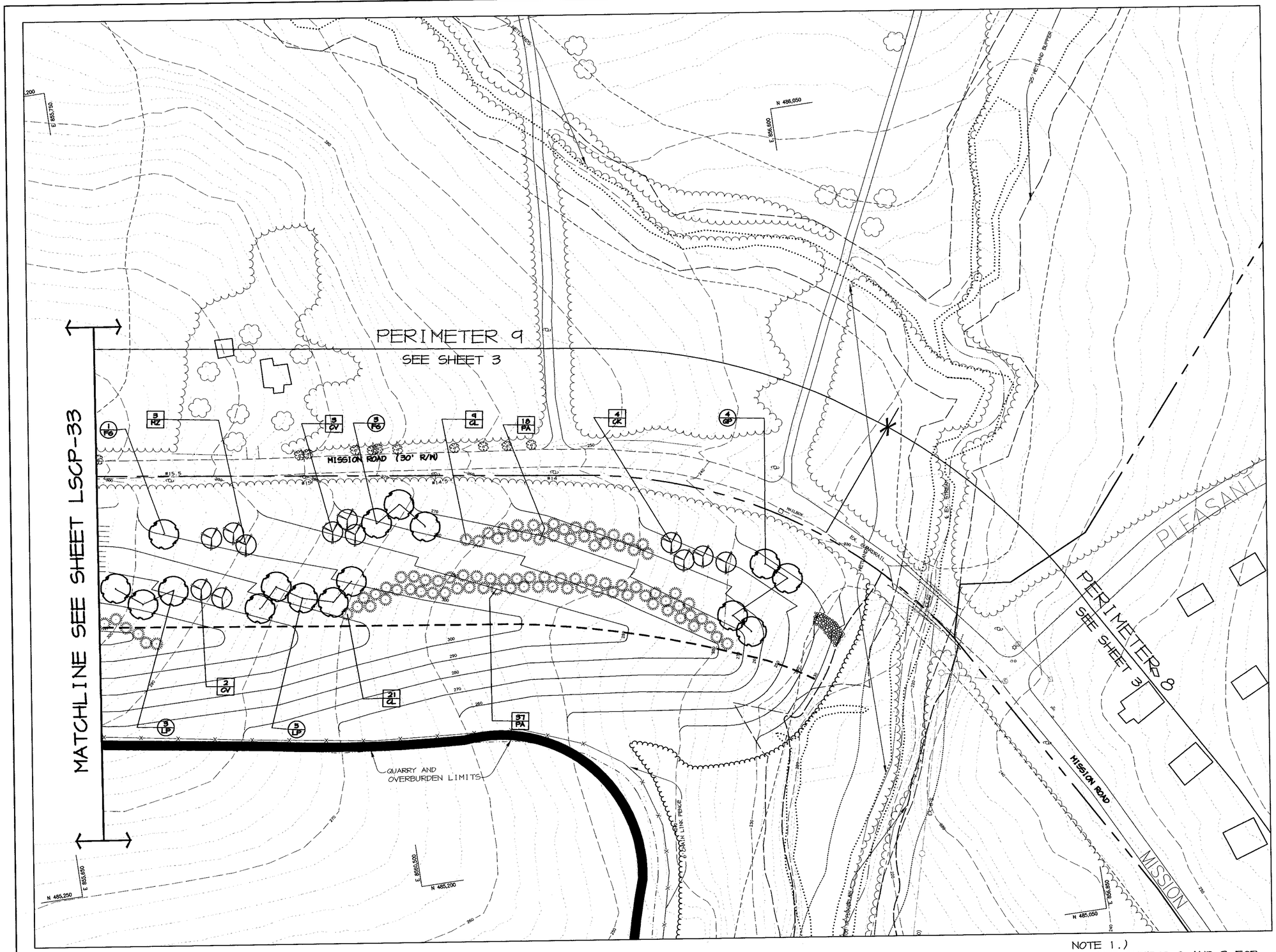

LEGEND

- EXISTING CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM (BENCH)
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
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(DEVELOPER)
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410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
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8818 Centre Park Drive
Columbia, MD 21045
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F 410.997.9282

STATE OF MARYLAND — SCOTT R. WOLF — No. 2000 — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-34.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	34 OF 40

SDP-99-134

P:\project\99092\1-0\Engr\Plans\L-34.dwg, Layout1, 01/29/2004 11:34:02 AM, HP7500C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

PLANTING SPECIFICATIONS

1. Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.
2. All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.
3. Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.
4. Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
5. Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
6. Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence at the drip line.
7. Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction.
8. Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.
9. Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.
10. All shrubs and groundcover areas shall be planted in continuous prepared planting beds mulched with composted hardwood mulch as detailed and specified except where noted on plans.
11. Positive drainage shall be maintained in planting beds (minimum 2 percent slope).
12. Planting mix shall be as follows: Deciduous Plants – Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs of standard fertilizer per cubic yard of planting mix. Evergreen Plants – two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.
13. Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated.
14. Mulch: Groundcover beds should be mulched with minimum 2 inches of shredded composted hardwood, or as specified on the details, whichever is greater.
15. All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.
16. This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.

HOWARD COUNTY REQUIRED & BONDED PLANT MATERIAL

KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	REMARKS
AR	41	Acer rubrum 'October Glory' October Glory Red Maple	2½"-3" Cal.	B & B	Full Crown Central Leader
LS	17	Liquidambar styraciflua American Sweetgum	2½"-3" Cal.	B & B	Full Crown Central Leader
QP	15	Quercus palustris Pin Oak	2½"-3" Cal.	B & B	Full Crown Central Leader
FG	23	Fagus grandifolia American Beech	2½"-3" Cal.	B & B	Full Crown Central Leader
LP	28	Plantanus x acerifolia 'Bloodgood' Bloodgood London Planetree	2½"-3" Cal.	B & B	Specimen
IO	4	Ilex opaca American Holly	6'-8' Ht.	B & B	Full Form Central Leader
PA	17	Picea abies Norway Spruce	6'-8' Ht.	B & B	Full Form Central Leader
PS	33	Pinus strobus White Pine	6'-8' Ht.	B & B	Sheared Full Form
CV	8	Creategus var 'Wintering' Wintering Hawthorn	1½"-2" Cal.	B & B	Specimen
MZ	6	Malus x 'Profusion' Profusion Crabapple	1½"-2" Cal.	B & B	Specimen

HOWARD COUNTY NON-REQUIRED & NON-BONDED PLANT MATERIAL

KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	REMARKS
AR	–	Acer rubrum 'October Glory' October Glory Red Maple	2½"-3" Cal.	B & B	Full Crown Central Leader
LS	–	Liquidambar styraciflua American Sweetgum	2½"-3" Cal.	B & B	Full Crown Central Leader
QP	–	Quercus palustris Pin Oak	2½"-3" Cal.	B & B	Full Crown Central Leader
FG	–	Fagus grandifolia American Beech	2½"-3" Cal.	B & B	Full Crown Central Leader
LP	–	Plantanus x acerifolia 'Bloodgood' Bloodgood London Planetree	2½"-3" Cal.	B & B	Full Crown Central Leader
CL	83	Cupressocyparis leyandii Leyland Cypress	6'-8' Ht.	B & B	Full Form Central Leader
PA	295	Picea abies Norway Spruce	6'-8' Ht.	B & B	Full Form Central Leader
PS	162	Pinus strobus White Pine	6'-8' Ht.	B & B	Sheared Full Form
CK	12	Cornus kousa Chinese Dogwood	1½"-2" Cal.	B & B	Specimen
CV	18	Creategus var. 'Wintering' Wintering Hawthorn	1½"-2" Cal.	B & B	Specimen
MZ	10	Malus x 'Profusion' Profusion Crabapple	1½"-2" Cal.	B & B	Specimen

PARKING LOT INTERNAL LANDSCAPING

PARKING LOT	1	2
NUMBER OF PARKING SPACES	50 SP.	45 SP.
NUMBER OF SHADE TREES/ISLANDS* REQUIRED (1/20 SPACES)	2	2
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	2 –	2 –
NUMBER OF ISLANDS REQUIRED	2	2
NUMBER OF ISLANDS PROVIDED	11	2

* 200 SF PLANTING AREA / ISLAND

PERIMETER LANDSCAPE EDGE

	ADJACENT TO PERIMETER PROPERTIES				ADJACENT TO ROADWAYS					
PERIMETER	2	6	7	10 **	1	3	4	5	8	9
LANDSCAPE TYPE	C	C	C	–	B	B	E	D	D	D
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	± 2,700'	± 950'	± 590'	–	± 675'	± 325'	± 280'	± 1,780'	± 1,700'	± 4,875'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES 1,975'	YES 950'	YES 590'	NO	NO	NO	NO	YES 1,780'	YES 1,700'	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	YES ± 325'	YES ± 280'	NO	NO	YES ± 4,875'
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	@1/40'= 18 @1/20'= 37 –	N/A ***	N/A ***	N/A	@1/50'= 14 @1/40'= 17 –	@1/50'= 7 N/A * –	@1/40'= 7 – N/A *	N/A ***	N/A ***	@1/60'= 81 N/A * –
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SMALL FLOWERING TREES SHRUBS	16 37 4 –	N/A ***	N/A ***	– – – –	11 17 6 –	5 *8 4 –	5 *14 4 *	– – – –	N/A ***	81 * 448 * 40 –

PERIMETER NOTES:

* BERMS MAY BE SUBSTITUTED FOR EVERGREEN TREES OR SHRUBS IN MEETING OTHER PERIMETER LANDSCAPE REQUIREMENTS. IN NO INSTANCES WILL BERMS BE SUBSTITUTED FOR REQUIRED SHADE TREE PLANTINGS. [PAGE 25 OF THE HOWARD COUNTY LANDSCAPE MANUAL] HOWEVER, WE ARE PROVIDING EVERGREEN TREES AND SHRUBS AS FOLLOWS:

PERIMETER 3:
IF BERM WERE NOT INSTALLED, (8) EVERGREEN TREES WOULD BE REQUIRED.

PERIMETER 4:
IF BERM WERE NOT INSTALLED, (70) SHRUBS OR 14 EVERGREEN TREES WOULD BE REQUIRED.

PERIMETER 9:
IF BERM WERE NOT INSTALLED, (488) EVERGREEN TREES WOULD BE REQUIRED.

** THE REGULATIONS DO NOT REQUIRE LANDSCAPED EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT.

*** "UP TO 100% OF THE PLANTING REQUIREMENT MAY BE MET BY PRESERVING EXISTING VEGETATION." (p.24 OF THE HOWARD COUNTY LANDSCAPE MANUAL)

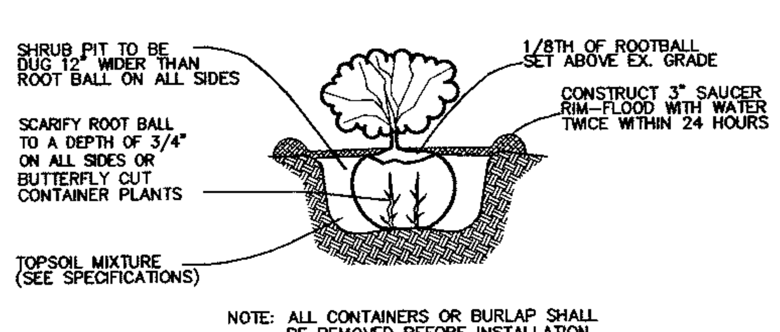
SUBSTITUTION NOTES:

PERIMETER 1:
(6) FLOWERING TREES WERE SUBSTITUTED FOR (3) SHADE TREES.

PERIMETER 2:
(4) FLOWERING TREES WERE SUBSTITUTED FOR (2) SHADE TREES.

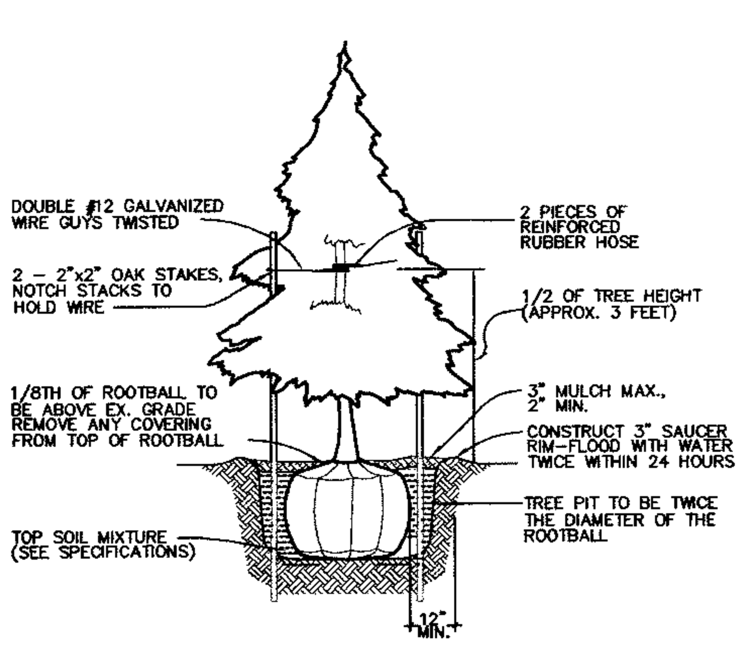
PERIMETER 3:
(4) FLOWERING TREES WERE SUBSTITUTED FOR (2) SHADE TREES.

PERIMETER 4:
(4) FLOWERING TREES WERE SUBSTITUTED FOR (2) SHADE TREES.

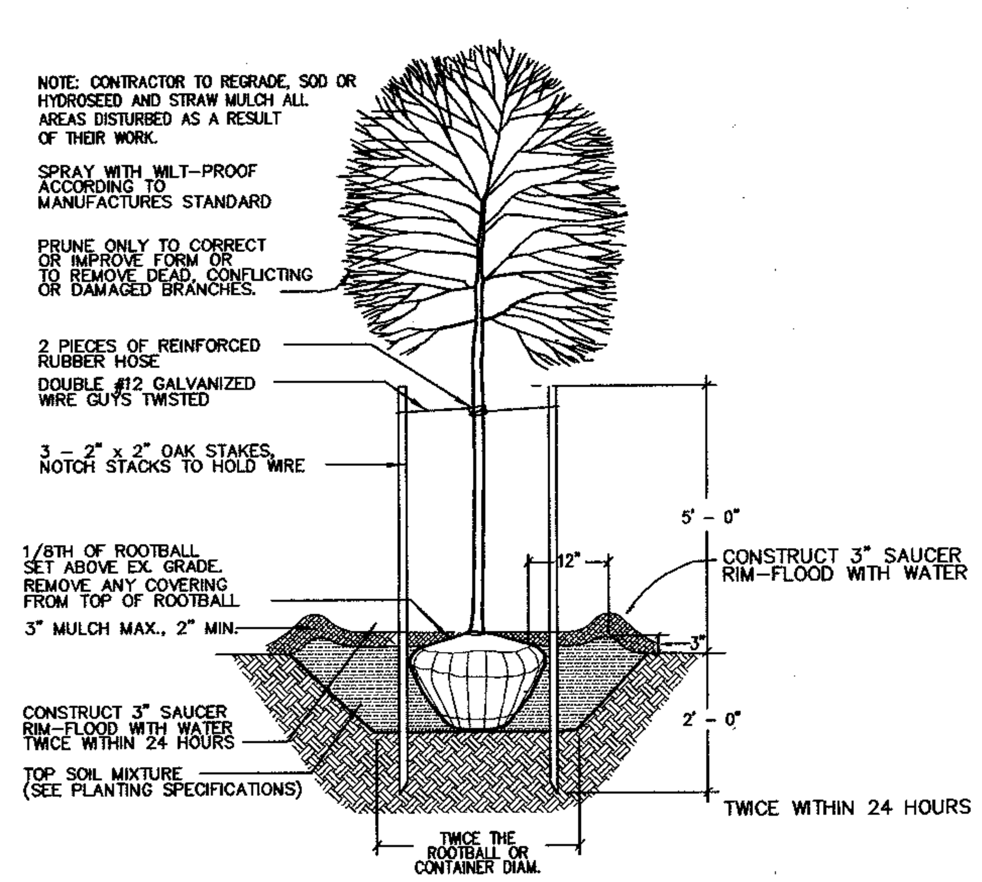


NOTE: ALL CONTAINERS OR BURLAP SHALL BE REMOVED BEFORE INSTALLATION.

SHRUB PLANTING DETAIL
NOT TO SCALE



EVERGREEN PLANTING DETAIL
NOT TO SCALE



B&B
TREE PLANTING DETAIL
NOT TO SCALE

GENERAL NOTES:

1. SEE SHEET 2 & 3 FOR OVERALL PERIMETER DISPLAY.
2. SEE SHEETS 28 THROUGH 34 FOR PLANTING PLANS.

NOTES:

1) "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE ALTERNATE COMPLIANCE WITH THE HOWARD COUNTY RESEARCH AND DEVELOPMENT.
2) "FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $ 47,400 .
3) THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
4) CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Timothy J. Schmidt — NAME
1-30-04 — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/25/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN
SPECIFICATIONS & DETAILS

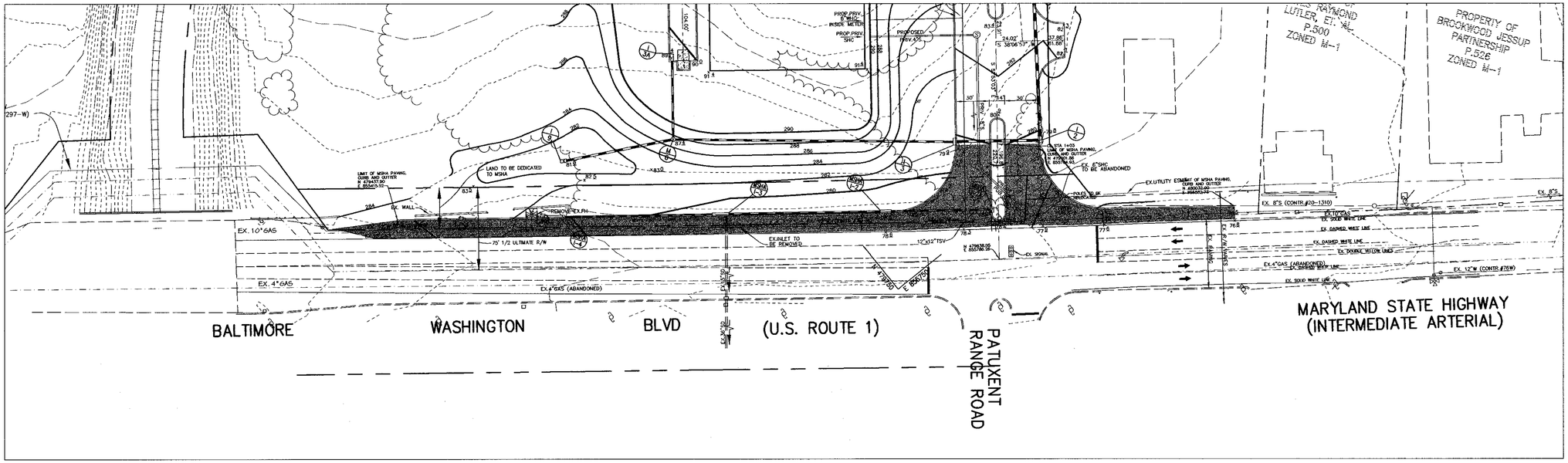
Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

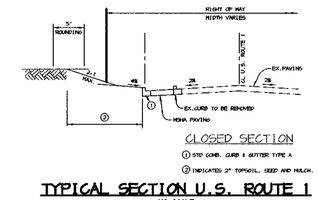
STATE OF MARYLAND · SCOTT R. WOLFORD · No. 737 REGISTERED · REGISTERED LANDSCAPE ARCHITECT
Scott R. Wolford

DESIGNED BY : D.T.D.
DRAWN BY : A.J.L.
CHECKED BY : D.T.D.
PROJECT NO : 99092/ L-35.DWG
DATE : JANUARY 29, 2004
SCALE : NO SCALE
DRAWING NO. 35 OF 40

SDP-99-134

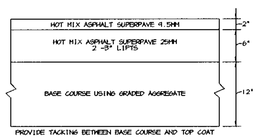
P:\project\99092\1-0\Engr\Plans\L-35.dwg, Model, 01/29/2004 11:34:42 AM, HP750C(36).pc3, User1308, 1:1





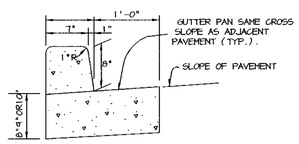
TYPICAL SECTION U.S. ROUTE 1

NO SCALE



M.S.H.A. PAVING SECTION

NO SCALE



M.S.H.A. TYPE 'A' CURB AND GUTTER

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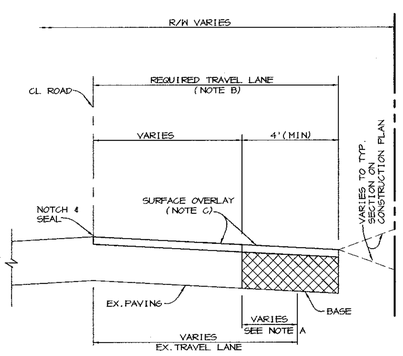


NOTE A - WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED CONTRACTOR SHALL REMOVE ENOUGH OF THE EXISTING ROAD BED TO PROVIDE A MINIMUM BASE WIDENING OF 4'.

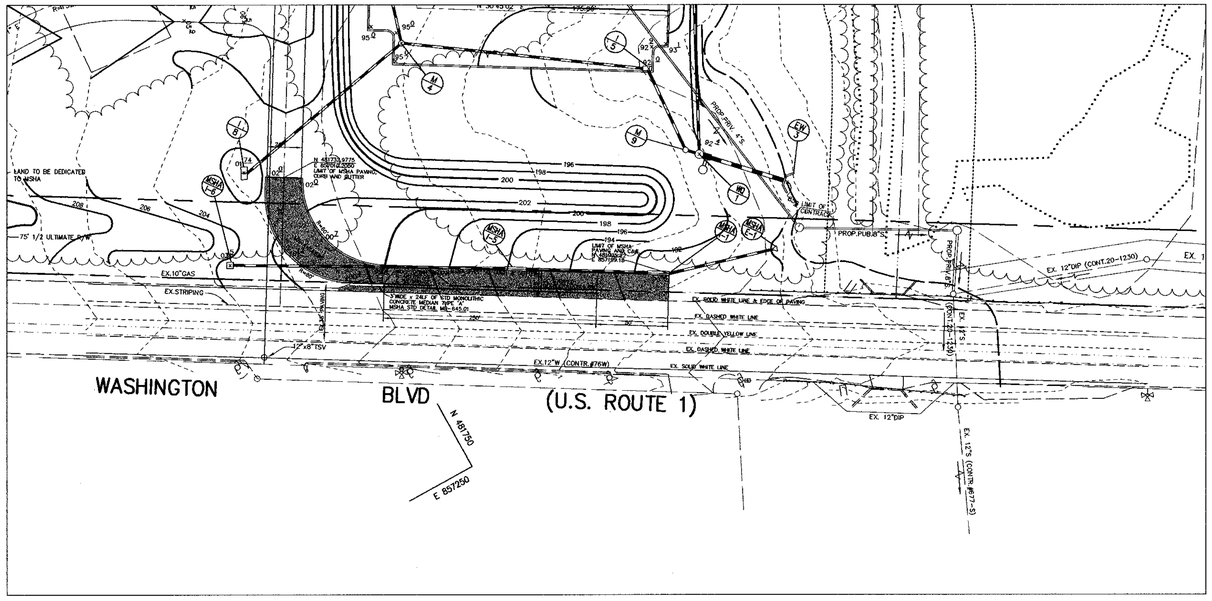
NOTE B - THE SURFACE OVERLAY SHALL BE CARRIED TO THE CL OF THE ROAD AND NOTCHED AND SEALED.

NOTE C - SURFACE OVERLAY COURSE TO BE EQUAL TO SURFACE COURSE OF TYPICAL PAVING SECTION OF SUBDIVISION.

NOTE D - CL OF ROAD TO BE MILLED AT DEPTH OF 1 1/2"×1' WIDE USING A MILLING MACHINE.

WIDENING STRIPS ALONG EXISTING ROADWAYS

NO SCALE



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 1/29/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 2/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

U.S. ROUTE 1 ROAD WIDENING PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

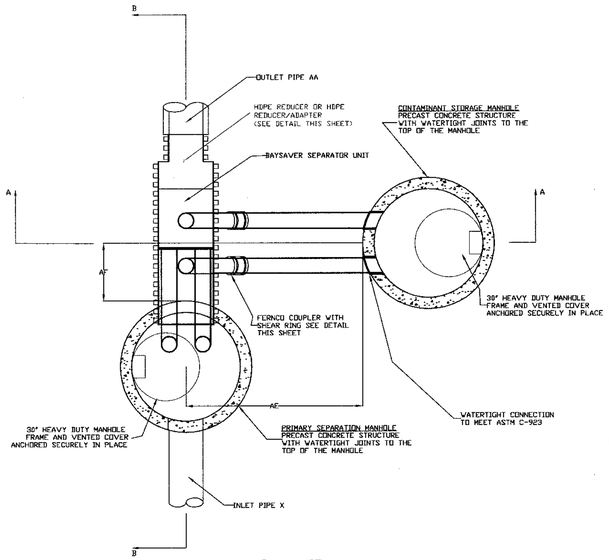
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

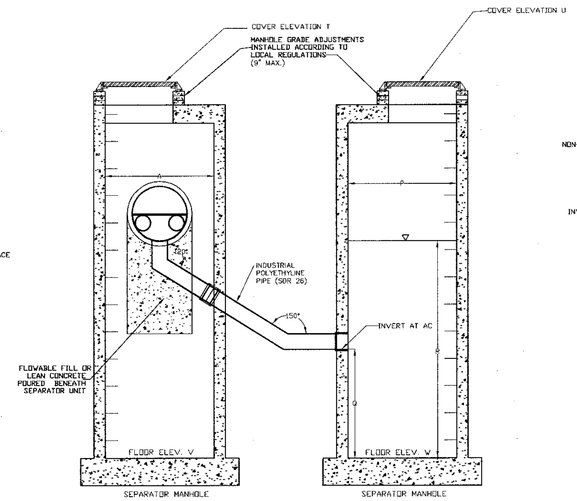
DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/STATE-1.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	36 OF 40

SDP-99-134

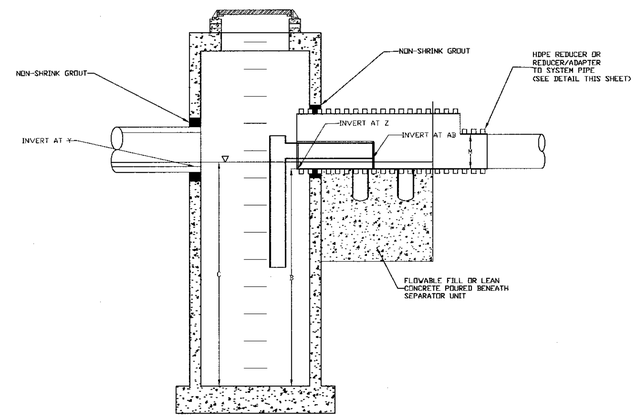
P:\project\990921-01\Engr\Plans\STATE-1.dwg, Layout1, 01/29/2004 12:18:51 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:50



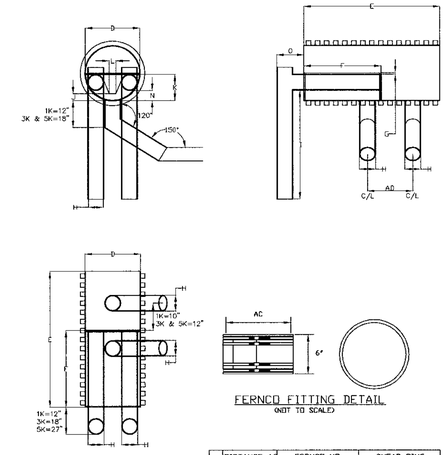
PLAN VIEW



SECTION AA



SECTION BB

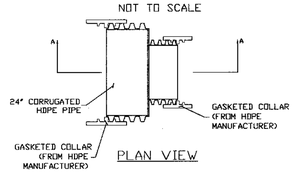


FERNCO FITTING DETAIL
(NOT TO SCALE)

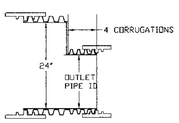
	DISTANCE AC	FERNCO NO.	SHEAR RING
1K	7.10"	1055-66	SR-27
3K	10.60"	1056-1010	SR-39
5K	12.73"	1004-1010	SR-44

HDPE-HDPE REDUCER DETAIL

FOR USE WITH HDPE OUTLET PIPES
NOT TO SCALE



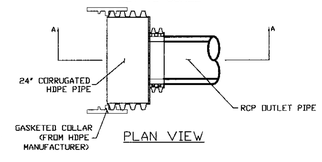
PLAN VIEW



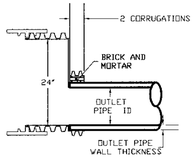
SECTION AA

REDUCER/ADAPTER DETAIL

FOR USE WITH OUTLET PIPES OTHER THAN HDPE
NOT TO SCALE



PLAN VIEW



SECTION AA

GENERAL CONSTRUCTION NOTES

1. ALL WORK MUST BE DONE WITH REGARD FOR THE SAFETY OF THE CONSTRUCTION CREW.

2. ALL WORK AND MATERIALS MUST COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS.

3. KNOW THE LOCATION AND DEPTH OF ANY UNDERGROUND UTILITIES BEFORE EXCAVATION BEGINS.

BAYSAVER MAINTENANCE

BAYSAVER SYSTEMS MUST BE INSPECTED AND MAINTAINED PERIODICALLY. INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EITHER MANHOLE EXCEEDS 2 FEET. MINIMUM INSPECTION IS REQUIRED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF BAYSAVER.

MAINTENANCE CONSISTS OF THE FOLLOWING:

A. CONTAMINANT STORAGE MANHOLE

1. REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.

2. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

B. PRIMARY SEPARATION MANHOLE

1. USING A SUBMERSIBLE PUMP, PUMP THE CLEAN WATER FROM THE CENTER OF THE MANHOLE DIRECTLY INTO THE EMPTY STORAGE MANHOLE UNTIL THE WATER LEVEL FALLS TO 1 FOOT ABOVE THE SEDIMENT LAYER.

2. REMOVE THE SETTLED SEDIMENT AND REMAINING WATER BY VACUUM TRUCK.

3. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

4. CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.

BAYSAVER INSTALLATION INSTRUCTIONS

1. EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYSAVER UNIT. INSTALL PRECAST DROP STRUCTURES ON SOLID GROUND AS VERIFIED BY A GEOTECHNICAL ENGINEER.

2. VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.

3. MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT, INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.

4. BACKFILL BASE SECTIONS OF MANHOLES TO INVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL, BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.

5. INSTALL BAYSAVER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT/STORM DRAIN JOINT COLLAR. CUT EXCESS LENGTH OFF CONNECTING PIPES INSIDE STORAGE MANHOLE.

6. BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.

7. INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.

8. INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

Project: CHASE QUARRY
Address: _____
Delivery Date: _____
Owner: _____
Contact: _____
Address: _____

Designer: RMA, INC.
Contact: CHRIS REID
Phone: (410) 997-8900
Fax: (410) 997-9282
Contractor: _____
Address: _____
Contact: _____
Phone: _____
Fax: _____

Separator Unit Model:
1K ☐
3K ☐
5K ■

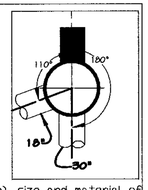
Circle system orientation above

Manhole Specifications:

Primary Manhole Diameter: 72 inches
Storage Manhole Diameter: 72 inches

Floor Elevations:
Primary Manhole 177.75
Storage Manhole 177.75

Primary Manhole Inverts:
Separator Unit 185.75 (30" OUT)
Inlet Pipe(s) _____
185.85 (30")
186.75 (18")



Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 192.40
Storage Manhole 192.40

WQ-1/WQ-1A

This order can be faxed to Bay Saver, Inc. at (301) 829-3747

SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR DUAL MANHOLE SEPARATORS

Stage (X = Approval Required)	Developer's/Engineer Approval		Inspector		Geotechnical Engineer	
	Initials	Date	Initials	Date	Initials	Date
1. Pre-Construction Meeting.	X		X		X	
2. Install Manholes and associated storm drainage: a. Obtain approval of subgrade from Geotechnical Engineer. (Subgrade to have a minimum of 95% compaction)					X	
b. Installation of precast base, lower tank and lower piping.	X		X			
c. Backfill and min. 95% compaction around lower tank and lower piping.					X	
d. Installation of precast middle section(s) with separator unit and remaining piping.	X		X			
e. Installation of precast top slab.	X		X			
f. Installation of adjustment rings and frame and cover.	X		X			
g. Installation of flowable fill or concrete backfill.					X	
3. Backfilling operation and compaction.					X	
4. Site is permanently stabilized. Sediment control measures removed and all sediment and debris removed from dual manhole separators.			X			
5. Final inspection.			X			

Baysaver Separator Unit	Baysaver Manhole Sizes (prim. x stor.)	Maximum Treatment (cfs)*1	Maximum Treatment (gpm)*1	Impervious Area (acres)
1K Baysaver Separator	48x48	2.4	1076	1.2
	48x50	2.4	1076	1.4
	48x72	2.4	1076	1.6
	60x60	2.4	1076	1.5
3K Baysaver Separator	60x60	7.2	3231	3.6
	60x72	7.2	3231	4.1
	60x84	7.2	3231	4.6
	72x72	7.2	3231	4.4
5K Baysaver Separator	72x72	11.1	4981	5.5
	72x84	11.1	4981	6.5
	72x96	11.1	4981	7.5
	96x96	11.1	4981	8.0

NOTE:

BAYSAVERS ARE TO BE INSTALLED WITH THE STORM DRAIN SYSTEM AND WILL FUNCTION AS SECONDARY SEDIMENT CONTROL DEVICES.

UPON COMPLETION OF SITE STABILIZATION, EACH BAYSAVER SYSTEM SHALL BE FLUSHED CLEAN & THE MANHOLES CLEANED OUT AND REFILLED WITH CLEAN WATER.

NOTE: DIMENSIONAL SHOP DRAWINGS ARE TO BE APPROVED BY THE DESIGN ENGINEER

BAYSAVER SYSTEM DIMENSIONS

	DESCRIPTION	1K SYSTEM	3K SYSTEM	5K SYSTEM
	SEPARATOR MANHOLE DIMENSIONS			
A	PRIMARY MANHOLE DIAMETER	48"	60"	72"
B	MANHOLE DEPTH BELOW OUTLET	8' - 0"	8' - 0"	8' - 0"
C	MINIMUM FLUID DEPTH	8' - 3"	8' - 4 1/2"	8' - 6"
	STANDARD SEPARATOR UNIT DIMENSIONS			
D	SEPARATOR UNIT ID	24"	36"	48"
E	SEPARATOR UNIT LENGTH	60"	78.2"	75.4"
F	BYPASS PLATE LENGTH	34"	45"	45"
G	WEIR/BYPASS PLATE THICKNESS	3/4"	3/4"	3/4"
H	ELBOW AND CONNECTING PIPE OD	7.125"	10.75"	12.75"
I	ELBOW LENGTH	48"	48"	48"
J	WEIR HEIGHT ABOVE INVERT	3"	4"	6"
K	BYPASS PLATE HEIGHT ABOVE INVERT	12"	18"	24"
L	WIDTH OF WEIR AT BASE	3"	4 1/2"	6"
M	OUTLET PIPE DIAMETER	M	M	M
N	ELBOW INVERT HEIGHT ABOVE UNIT INVERT	4 1/2"	7 1/2"	11"
O	ELBOW PIPE OVERHANG	12"	18"	24"
	STORAGE MANHOLE DIMENSIONS			
P	STORAGE MANHOLE DIAMETER	48"	60"	72"
Q	MANHOLE DEPTH BELOW INLET/OUTLET	48"	48"	48"
R	FLUID DEPTH	8' - 0"	8' - 0"	8' - 0"
S	TOTAL STORAGE VOLUME	200 CF	300 CF	450 CF
	SYSTEM DIMENSIONS AND ELEVATIONS			
T	SEPARATOR MANHOLE COVER ELEVATION	T	T	T
U	STORAGE MANHOLE COVER ELEVATION	U	U	U
V	SEPARATOR MANHOLE FLOOR ELEVATION	V	V	V
W	STORAGE MANHOLE FLOOR ELEVATION	W	W	W
X	INLET PIPE ID AND MATERIAL	X1 X2	X1 X2	X1 X2
Y	INLET PIPE INVERT	Y1 Y2	Y1 Y2	Y1 Y2
Z	SEPARATOR UNIT INVERT	Z	Z	Z
AA	OUTLET PIPE ID AND MATERIAL	AA	AA	AA
AB	ELBOW INVERT ELEVATION	AB	AB	AB
AC	CONNECTING PIPE INVERT ELEVATION	AC	AC	AC
AD	CONNECTION PIPE SPACING	20"	24"	24"
AE	STORAGE MANHOLE SIDE OFFSET	72 ± 6"	72 ± 6"	72 ± 6"
AF	STORAGE MANHOLE DOWNSTREAM OFFSET	23"	31"	25"

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 2/25/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

BAYSAVER DETAILS & NOTES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY :
CHECKED BY : C.J.R.
PROJECT NO : 99092/BAYSAVER.DWG
DATE : JANUARY 29, 2004
SCALE : AS SHOWN
DRAWING NO. 37 OF 40

SDP-99-134

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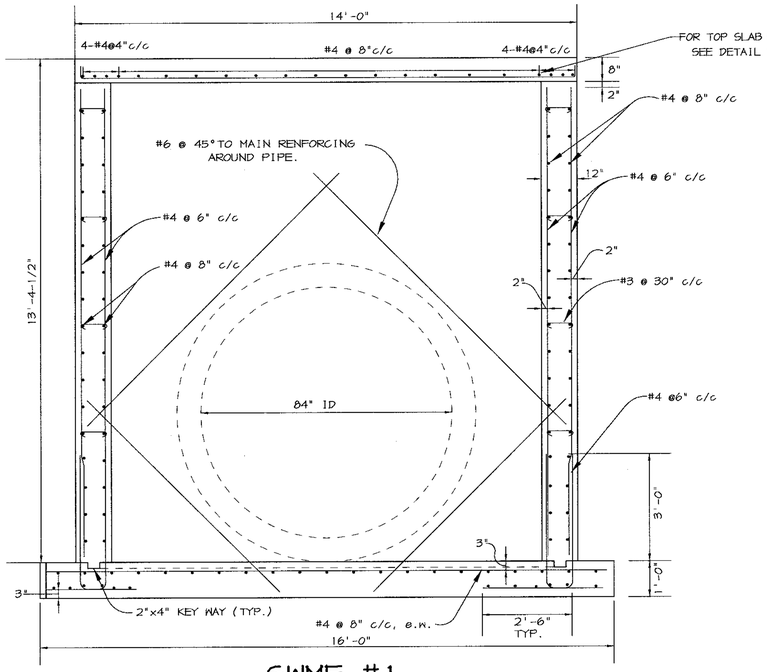
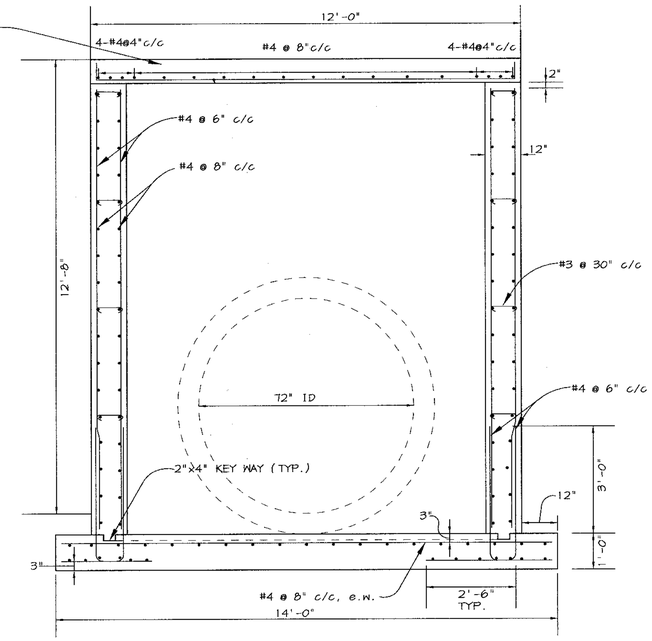
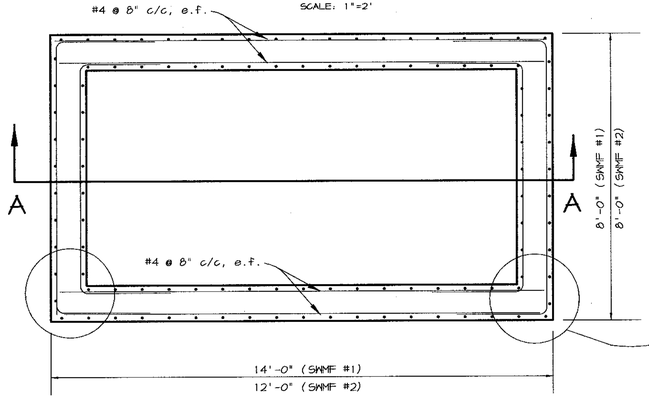


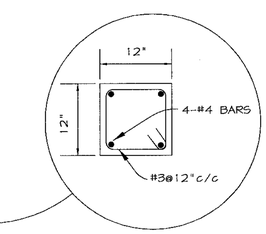
SWMF #1
SECTION A-A
SCALE: 1"=2'



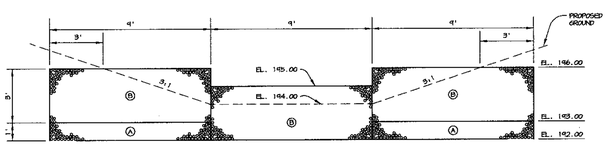
BASIN #2
SECTION A-A
SCALE: 1"=2'



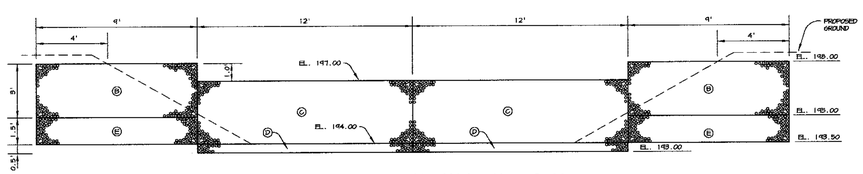
SWMF #1 & BASIN #2 PLAN VIEW
N.T.S.



DETAIL SLAB SUPPORT
N.T.S.



BASIN 2 GABION WALL SECTION
SCALE: 1"=4'



POND 1 GABION WALL SECTION
SCALE: 1"=4'

GABION FOREBAY NOTES

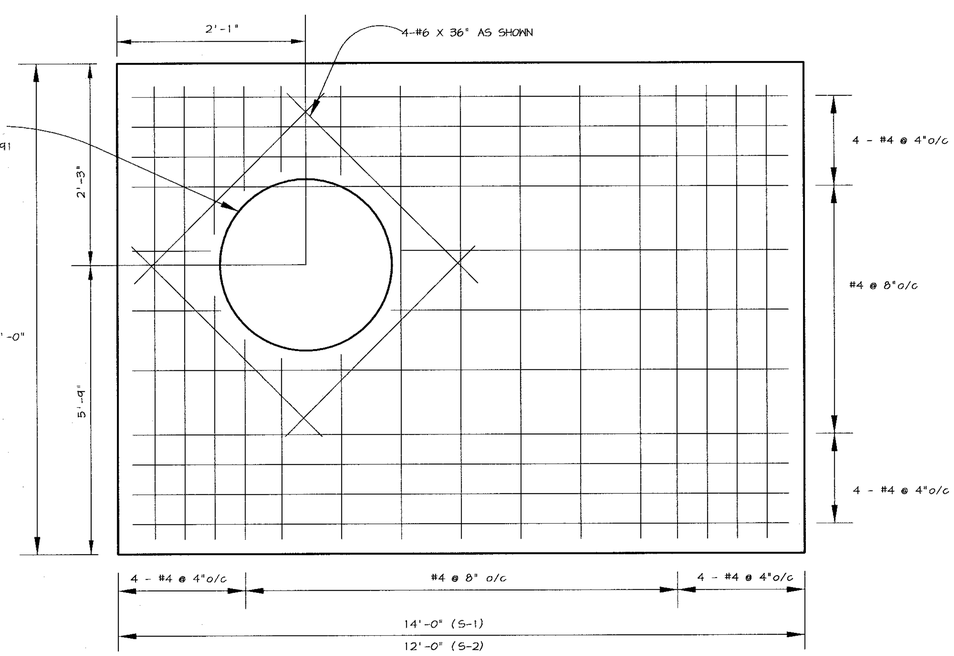
1. Geotextile Class C shall be installed under all gabion baskets.
2. The stone used to fill the gabion baskets shall be 4" – 7".
3. Gabions shall be installed in accordance with manufacturers recommendations.
4. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.
5. Gabions to be PVC coated.
6. Gabions to be fastened together.
7. Compact forebay embankment to MD 378 Standards using GC, SC, CH and/or CL soils.
8. Contractor shall place 10 mil. (min.) vinyl sheeting along upstream buried face of gabions w/4' overlap and buried 12" into adjacent soil.

GABION SCHEDULE BASIN 2

LETTER DESIGNATION	NO. OF GABIONS	GABION DIMENSIONS
A	2	9'x3'x1'
B	3	9'x3'x3'

GABION SCHEDULE POND 1

LETTER DESIGNATION	NO. OF GABIONS	GABION DIMENSIONS
B	2	9'x3'x3'
C	2	12'x3'x3'
D	2	12'x3'x1'
E	2	9'x3'x1.5'



TOP SLAB – S-1 & S-2
NOT TO SCALE

NOTES:

1. CONCRETE SHALL BE MSHA MIX NO. 3 (fc = 3,500 psi)
2. ALL CONSTRUCTION TO MEET HO.CO.STANDARD SPECIFICATIONS.
3. REINFORCEMENT TO BE DEFORMED BAR AND MEET ASTM A-615, GRADE 60.
4. ALL REINFORCEMENT TO HAVE 2"MINIMUM COVER EXCEPT AS SHOWN ON DRAWING.
5. ALL SPLICES NOT SHOWN SHALL BE LAPPED AS PER BAR LAP CHARTS.
6. ALL HORIZONTAL REINFORCING TO BE CONTINUOUS AT ALL CORNERS.

TOP SLAB NOTES:

1. TOP SLAB TO BE SEPARATE FROM RISER STRUCTURE FASTENED TO RISER STRUCTURE.
2. REFER TO HOWARD COUNTY STD. G-5.52 FOR MANHOLE FRAME & COVER.
3. CONCRETE TO BE MIX NO. 3
4. SLAB REINFORCING SHALL HAVE 2" MINIMUM COVER.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid 1-30-04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 3/07/04 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/20/04 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 3/11/04 DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

REINFORCEMENT DETAILS & PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ RNFR-DET.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	38 OF 40

SDP-99-134

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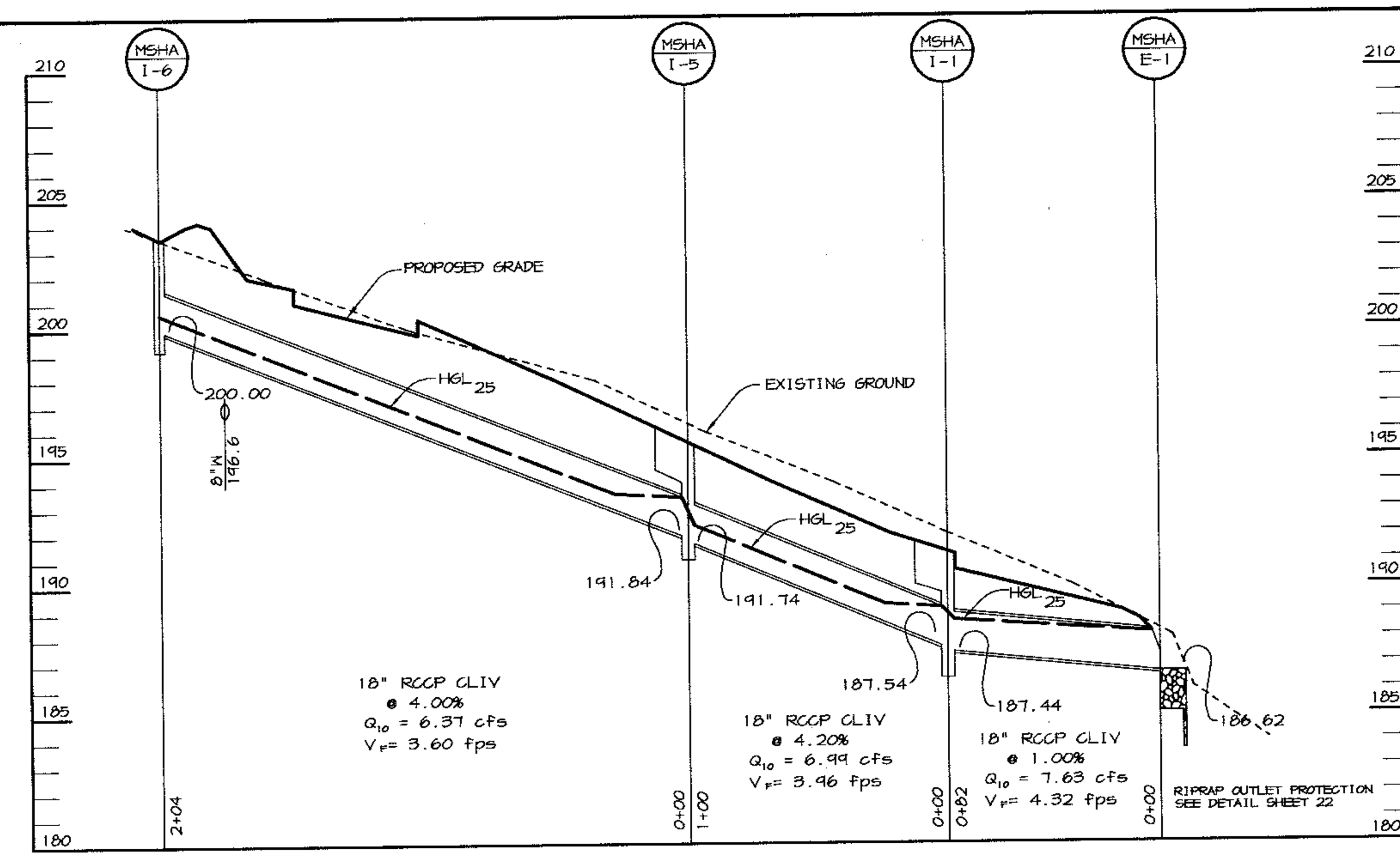
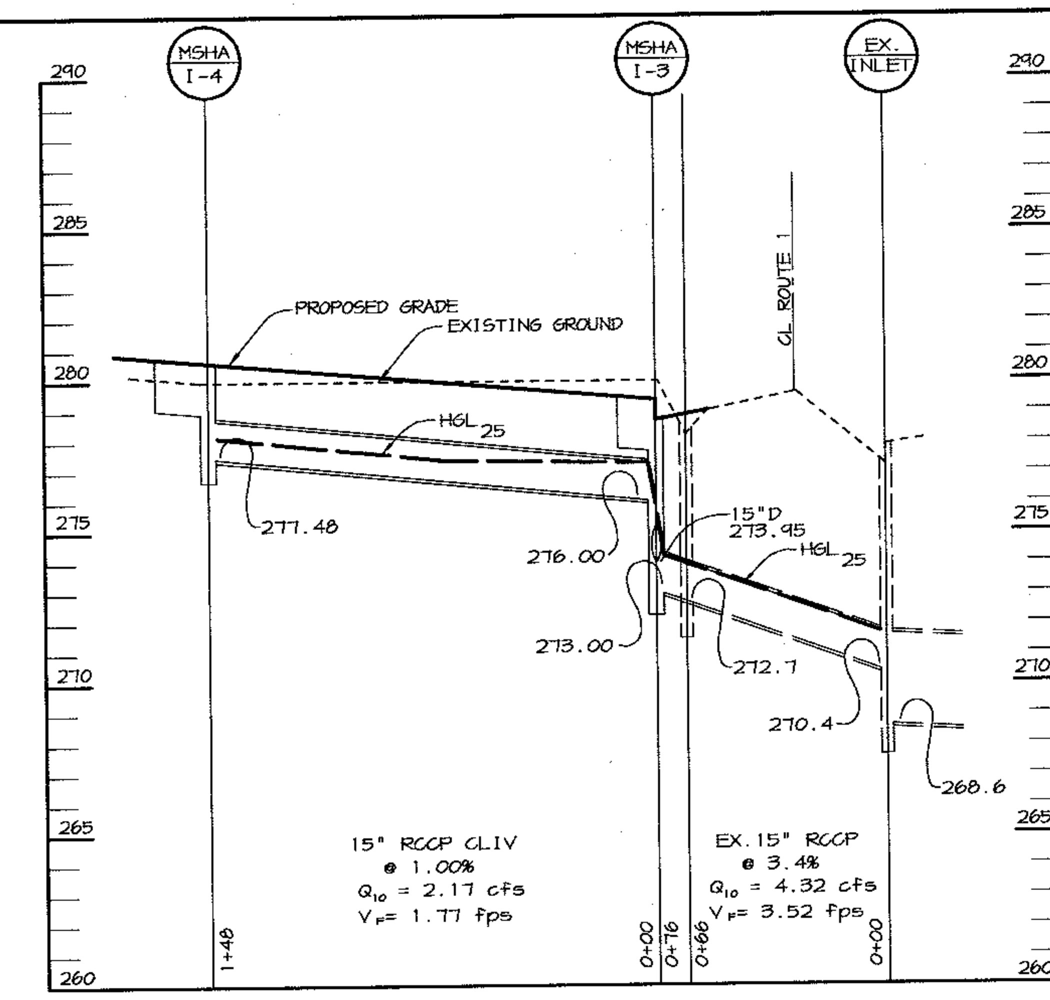


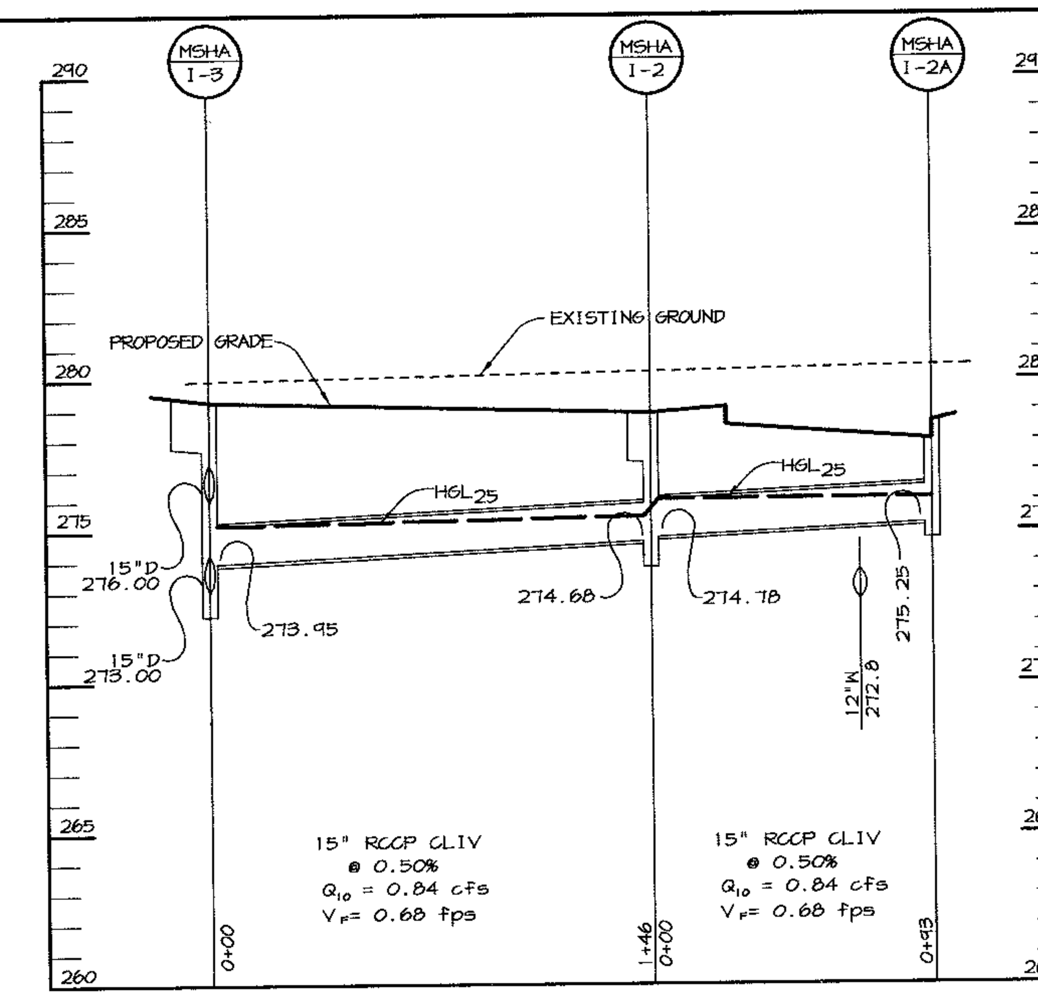
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



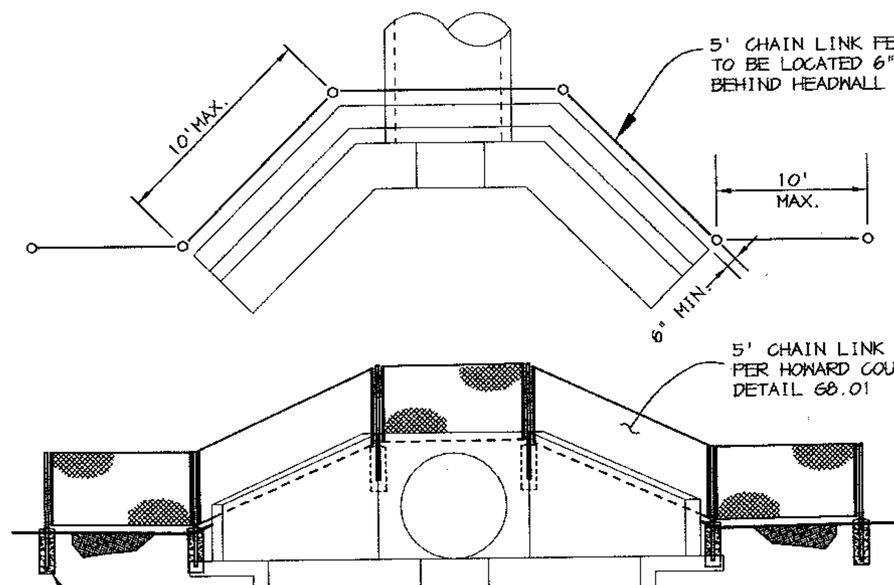
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



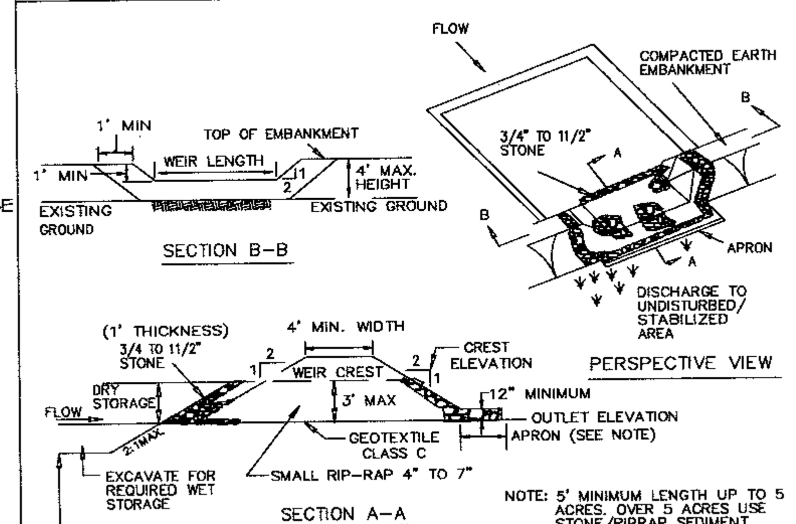
DETAIL HEADWALL WITH FENCE

SCALE: 1" = 10'

STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION		INV. IN	INV. OUT	TOP		REMARKS
MSHA I-1	CO615	N 481921.20 E 857192.00	N 481935.31 E 857200.40	187.54	187.44	191.66	191.02	MSHA STD DETAIL MD-374.31
MSHA I-2	CO610	N 479780.64 E 855686.09	N 479788.51 E 855642.26	274.78	274.68	279.00		MSHA STD DETAIL MD-374.31
MSHA I-2A	CO65	N 479861.62 E 855744.88	N 479858.54 E 855748.81	-	275.25	278.70		MSHA STD DETAIL MD-374.31
MSHA I-3	CO615	N 479661.32 E 855592.47	N 479673.12 E 855601.73	276.00 273.95	273.00	279.40		MSHA STD DETAIL MD-374.31
MSHA I-4	CO620	N 479540.48 E 855497.63	N 479557.28 E 855510.85	-	277.48	280.90		MSHA STD DETAIL MD-374.31
MSHA I-5	CO615	N 481835.57 E 857141.06	N 481849.68 E 857144.45	191.84	191.74	196.10	195.37	MSHA STD DETAIL MD-374.31
MSHA I-6	WR	N 481670 E 857045		-	200.00	203.5		MSHA STD DETAIL MD-374.23
MSHA E-1	18" RCCP	N 482009 E 857220		-	186.62	-		MSHA STD DETAIL MD-368.01

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

3. All cut and fill slopes shall be 2:1 or flatter.

4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of 3/4" to 11/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.

5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 10	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimentation Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½" in diameter.

ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

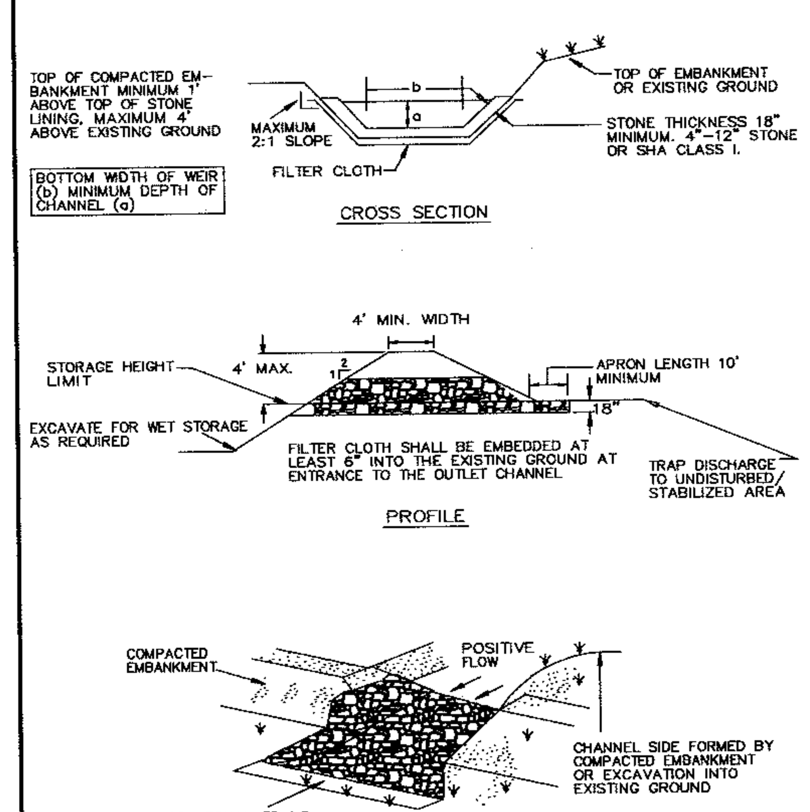
b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

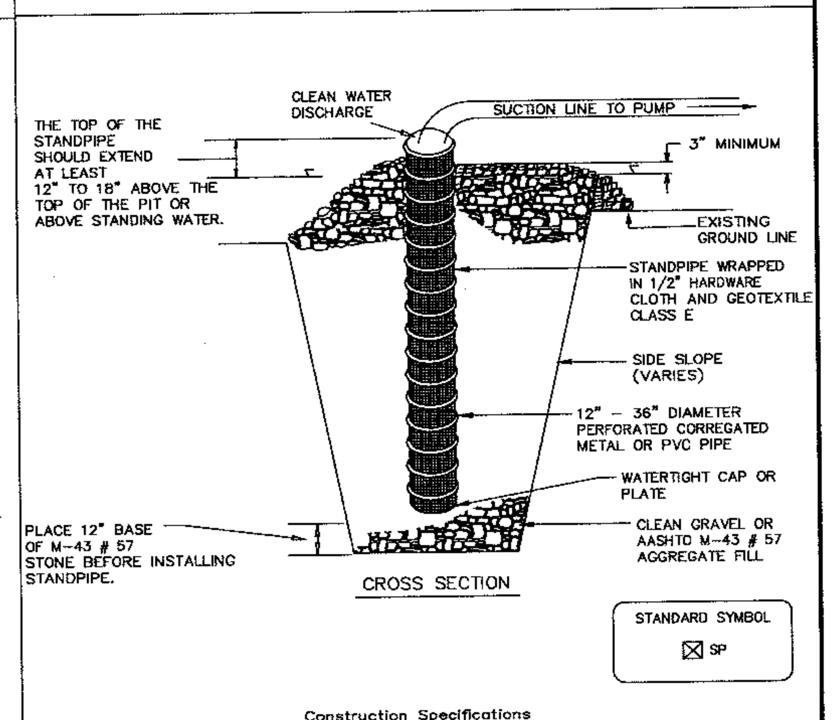
DETAIL 10 - RIP-RAP OUTLET SEDIMENT TRAP - ST III



NOTE: MAXIMUM DRAINAGE AREA= 10 ac.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 13	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20B - SUMP PIT



Construction Specifications

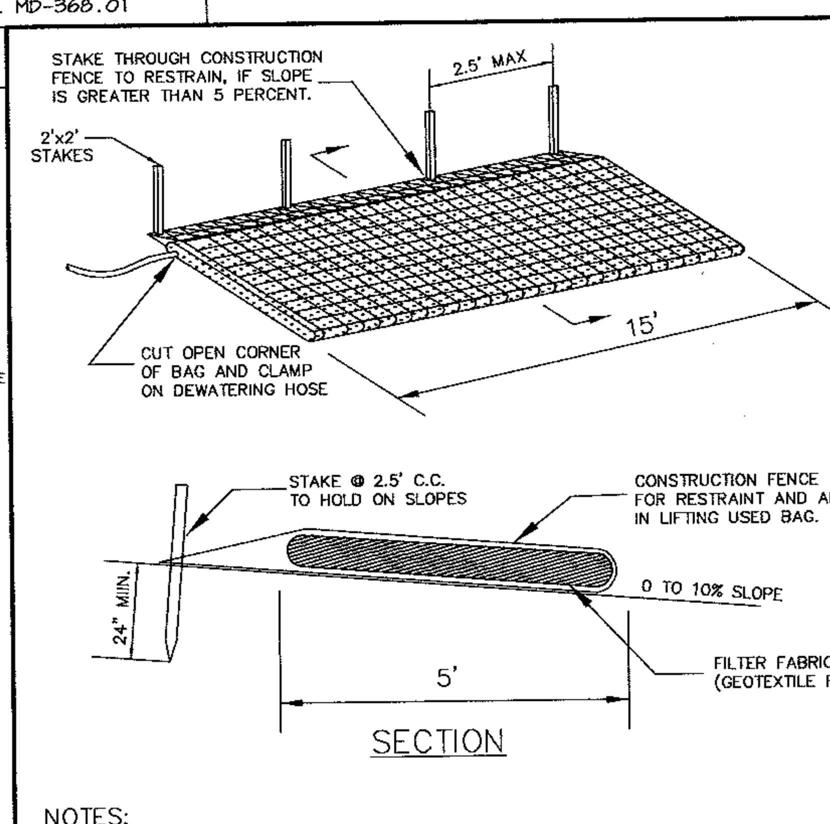
1. Pit dimensions are variable, with the minimum diameter being 2 times the standpipe diameter.

2. The standpipe should be constructed by perforating a 12" to 24" diameter corrugated or PVC pipe. Then wrapping with 1/2" hardware cloth and Geotextile Class E. The perforations shall be 1/2" x 6" slits or 1" diameter holes.

3. A base of filter material consisting of clean gravel or #57 stone should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with the same filter material.

4. The standpipe should extend 12" to 18" above the lip of the pit or the riser crest elevation (basin dewatering only) and the filter material should extend 3" minimum above the anticipated standing water elevation.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 13 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



NOTES:

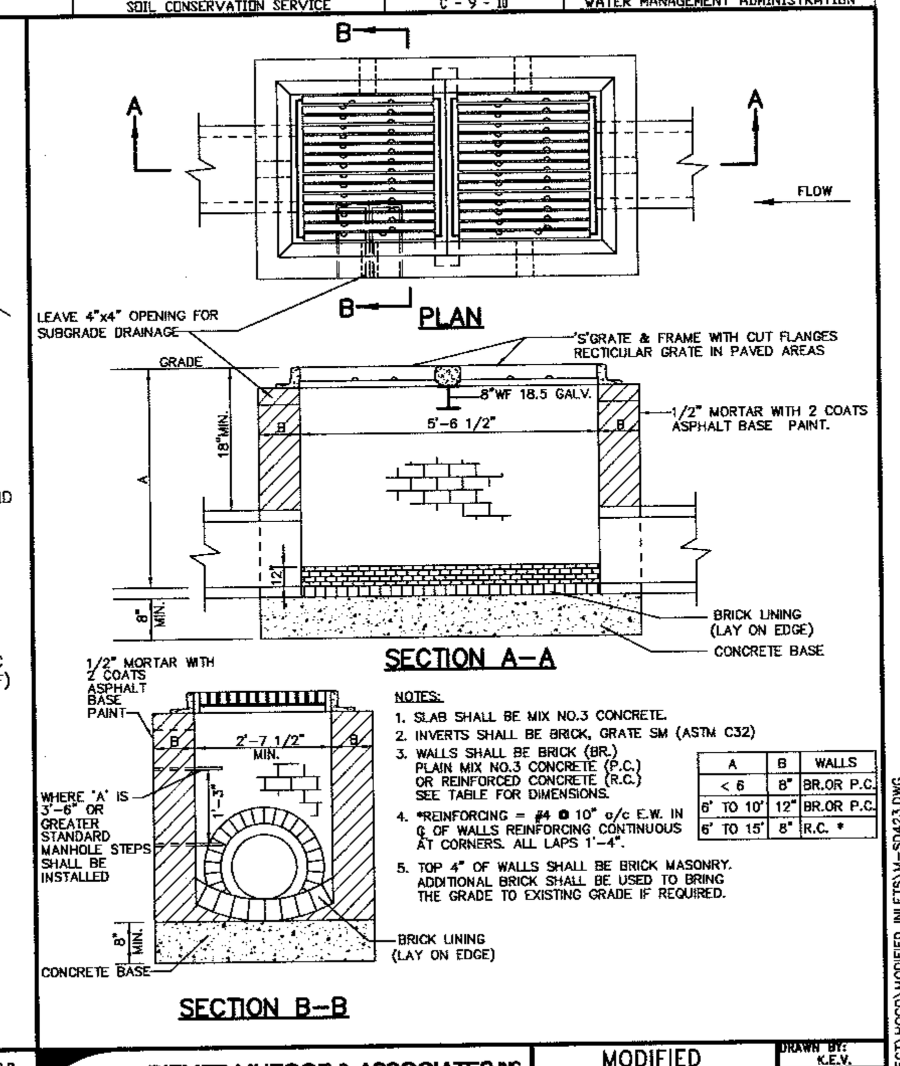
1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREA.
2. WIDTH AND LENGTH SHALL BE AS SHOWN.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
6. FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: MSMT 509
FLOW RATE	0.3 GAL/FT²/MINUTE (MAX.)	TEST: MSMT 322
FILTER EFFICIENCY	75% (MIN.)	TEST: MSMT 322

FILTER BAG (FB)

TEMPORARY EROSION CONTROL MEASURE

DRAWN BY: K.C.B.	CHECKED BY:	SCALE: NONE	FB



NOTES:

1. SLAB SHALL BE MIX NO.3 CONCRETE.
2. INVERTS SHALL BE BRICK, GRATE SM (ASTM C32)
3. WALLS SHALL BE BRICK (BR.) PLAIN MIX NO.3 CONCRETE (P.C.) OR REINFORCED CONCRETE (R.C.) SEE TABLE FOR DIMENSIONS.
4. *REINFORCING = #4 @ 10" o/c E.W. IN ¢ OF WALLS REINFORCING CONTINUOUS AT CORNERS. ALL LAPS 1'-4".
5. TOP 4" OF WALLS SHALL BE BRICK MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRADE TO EXISTING GRADE IF REQUIRED.

A	B	WALLS
< 6	8"	BR.OR P.C.
6' TO 10'	12"	BR.OR P.C.
6' TO 15'	8"	R.C. *

RIEMER MUEGGE & ASSOCIATES INC

ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING

8818 Centre Park Drive, Columbia, MD 21045

tel 410.997.8900 fax 410.997.9282

MODIFIED DOUBLE TYPE 'S INLET

5/25/2000

DRAWN BY: K.E.V.	CHECKED BY: C.J.R.	SCALE: NONE	M-SD423

F:\PROJECT\HOCO\MODIFIED INLETS\M-SD423.DWG

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04

DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

1.30.04

ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

2/17/04

NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04

DIRECTOR DATE

2/20/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)	(DEVELOPER)
CHASE LIMITED PARTNERSHIP	CHASE MINING LLC
P.O. BOX 850	P.O. BOX 850
LAUREL, MD 20725	LAUREL, MD 20725
410.792.7234	410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43 PARCEL 234 & P.O. 235, BLOCK 19 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates,pc

Engineers. Surveyors. Planners. Landscape Architects.

PHR+A

8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04

DATE

STATE OF MARYLAND CHRISTOPHER J. REID NO. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE6.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	39 OF 40

SDP-99-134

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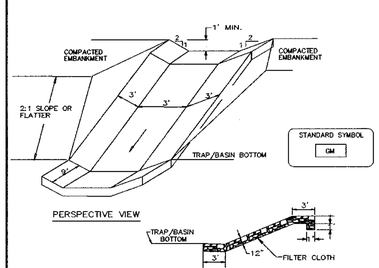
DETAIL 6 – GABION INFLOW PROTECTION

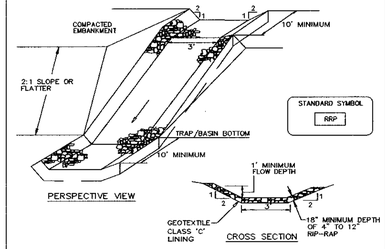


Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
2. Geotextile Class C shall be installed under all gabion baskets.
3. The stone used to fill the gabion baskets shall be 4" – 7".
4. Gabions shall be installed in accordance with manufacturers recommendations.
5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 8 – 7 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5 – RIP-RAP INFLOW PROTECTION



Construction Specifications

1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip- rap to a depth of 18".
2. Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
3. Entrance and exit sections shall be installed as shown on the detail section.
4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
5. Gabion Inflow Protection may be used in lieu of Rip-rap inflow Protection.
6. Rip-rap should blend into existing ground.
7. Rip-rap inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 8 – 6 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 7 – STONE CHECK DAM

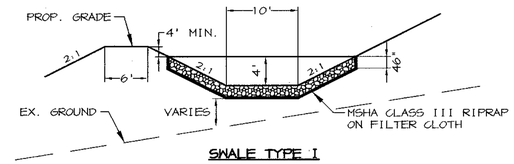
STANDARD STONE CHECK DAM DESIGN

SLOPE	SPACING
2% or less	80'
2.1% to 4%	40'
4.1% to 7%	25'
7.1% to 10%	15'
over 10%	use lined waterway design

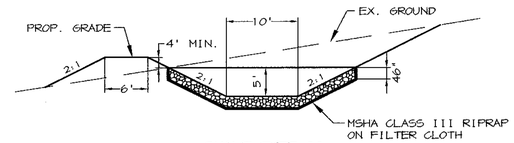
Construction Specifications

1. Swales and ditches shall be prepared in accordance with the construction specifications described in Section A–2, Standards and Specifications for Temporary Swale.
2. The check dam shall be constructed of 4"–7" stone. The stone shall be placed so that it completely covers the width of the channel and keyed into the channel banks.
3. The top of the check dam shall be constructed so the the center is approximately 6" lower than the outer edges, forming a weir that water can flow across.
4. The maximum height of the check dam at the center shall not exced 2".
5. The upstream sideof the check dam shall be lined with approximately 1" of 3/4" to 11/2" crushed aggregate.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 8 – 8 – 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



SWALE TYPE I



SWALE TYPE II

NOTES:

1. COMPACT ALL FILL TO MD 378 STANDARDS.
2. REMOVE AND SALVAGE TOPSOIL PRIOR TO PLACING ANY FILL.

TYPICAL SECTION THRU
EARTH DIKE AND
TEMPORARY SWALE
TO SEDIMENT BASIN 2

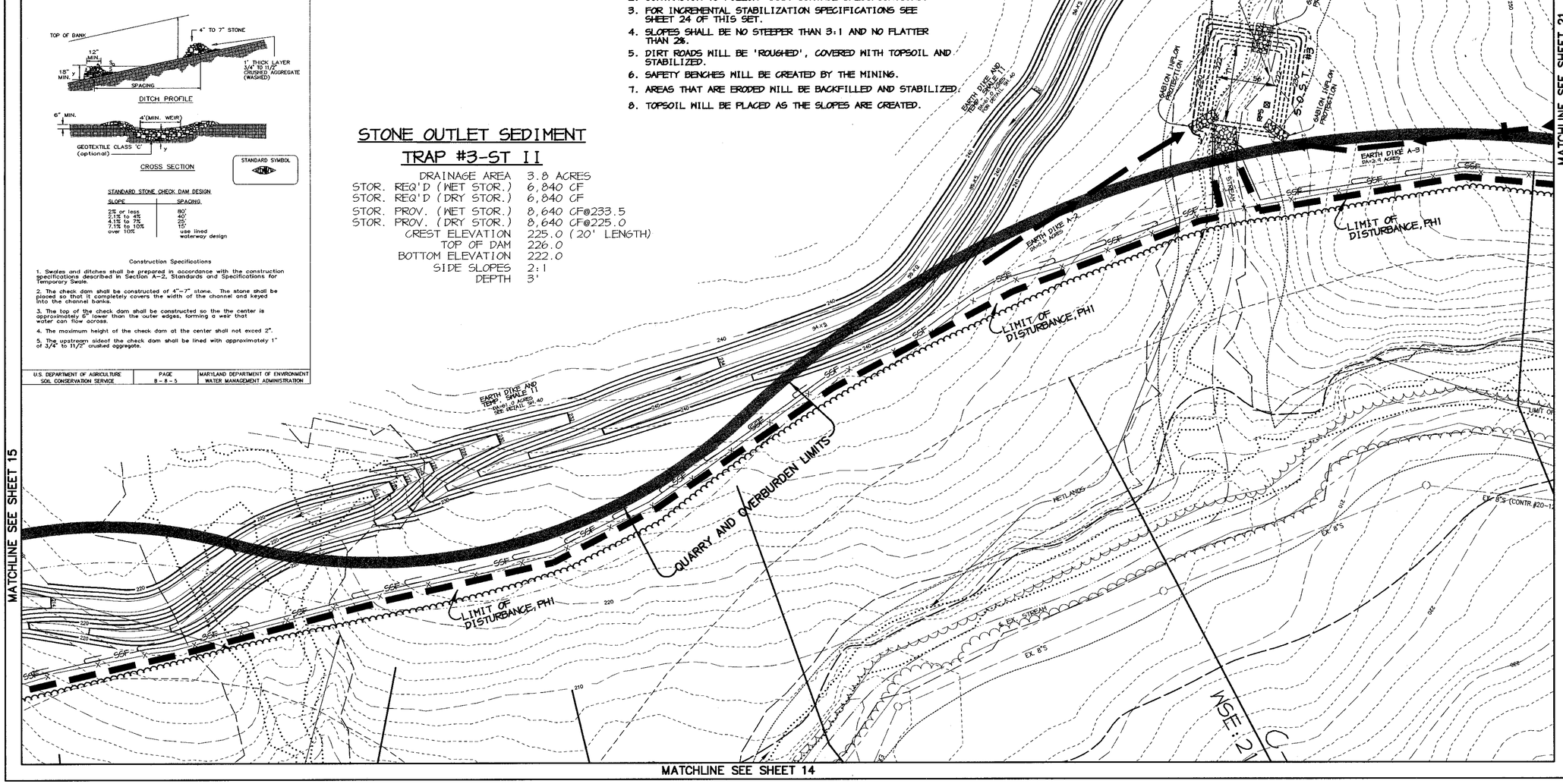
NO SCALE

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

STONE OUTLET SEDIMENT
TRAP #3-ST II

DRAINAGE AREA	3.8 ACRES
STOR. REQ'D (WET STOR.)	6,840 CF
STOR. REQ'D (DRY STOR.)	6,840 CF
STOR. PROV. (WET STOR.)	8,640 CF@233.5
STOR. PROV. (DRY STOR.)	8,640 CF@225.0
CREST ELEVATION	225.0 (20' LENGTH)
TOP OF DAM	226.0
BOTTOM ELEVATION	222.0
SIDE SLOPES	2:1
DEPTH	3'



LEGEND

- TEMPORARY SWALE
- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE, PHI
- LIMITS OF DISTURBANCE, PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmitt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers — 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

0/15/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 14
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP AND DETAILS

Patton Harris Rust & Associates, pc
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8818 Centre Park Drive
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T 410.997.8900
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1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIMI2.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	40 OF 40

SDP-99-134

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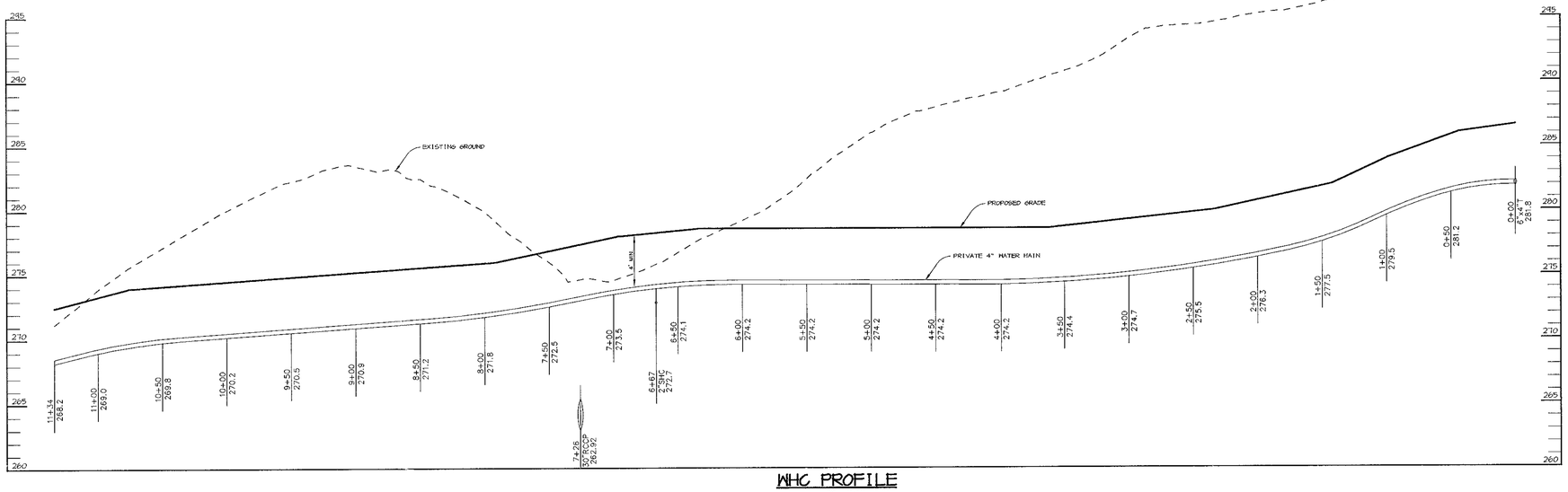
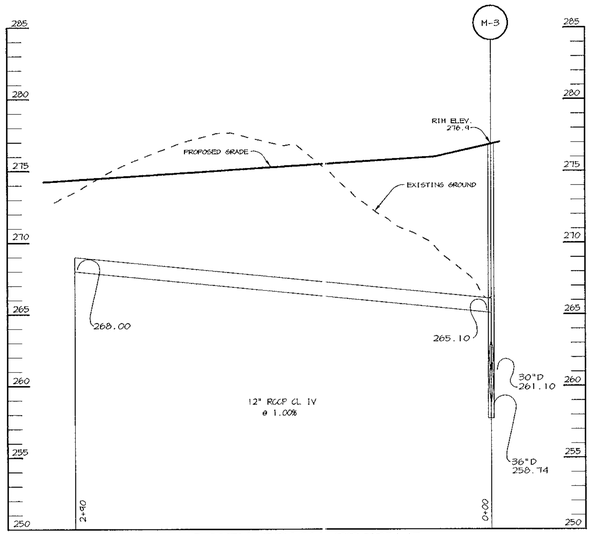


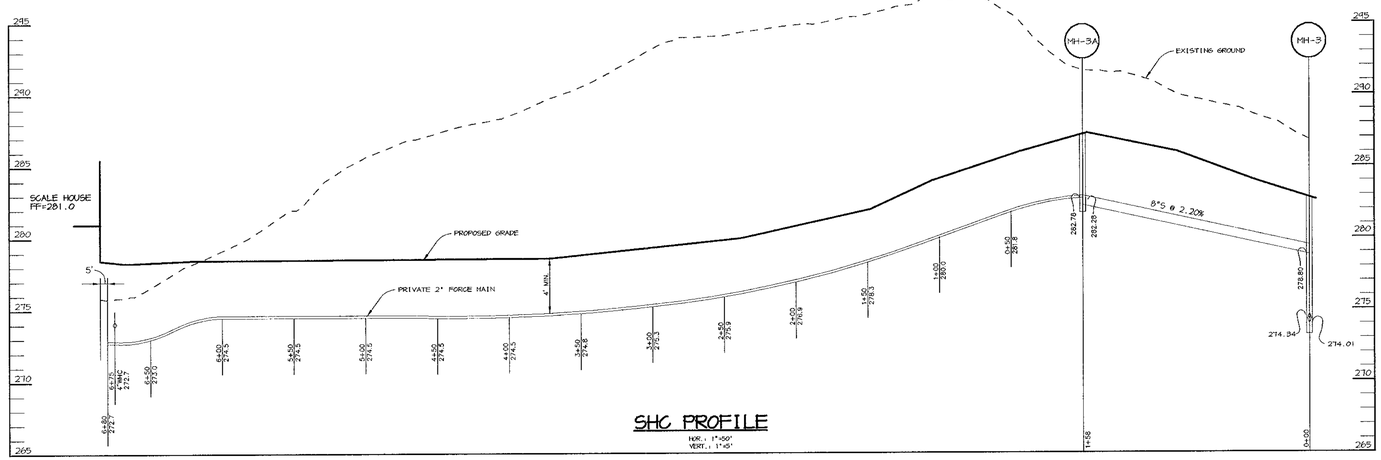
WHC PROFILE

HOR.: 1"=50'
VERT.: 1"=5'



STORM DRAIN PROFILE

HOR.: 1" 50'
SCALE VERT.: 1 =5'



SHC PROFILE

HOR.: 1"=50'
VERT.: 1"=5'

Pyramat® Erosion Matrix

Earthscoring Solutions

Installation Guidelines

Site Preparation

- Grade and compact area of installation.
- Prepare seedbed by loosening 50-75 mm (2"-3") of topsoil above final grade.
- Incorporate amendments such as lime and fertilizer into soil.
- Remove all rocks, clods, vegetation or other obstructions so that the installed Pyramat® will have direct contact with soil surface.
- Do not mulch areas where mat is to be placed.

Seeding

- Apply seed to the soil surface before installing Pyramat or after installation for enhanced performance prior to soil filling (preferable).
- When seeding prior to Pyramat installation, all check slots and other areas disturbed must also be reseeded.
- When soil filling, seed Pyramat and entire disturbed area after installation, prior to filling mat with soil.
- Contact your local U.S. Natural Resource Conservation Service (NRCS) Plant Materials Specialist or other resource for seed recommendations.

PYRAMAT® Placement: Banks and Slopes

- Extend Pyramat 60-90 cm (2'-3') over crest of slope and excavate a 30 x 15 cm (12" x 6") terminal anchor trench (Figure 4 on page 3).
- Anchor Pyramat in trench on 30 cm (1') spacings, backfill and compact soil.
- Unroll Pyramat down slope.
- Overlap adjacent rolls at least 75 mm (3") and anchor every 45 cm (18")
- Lay Pyramat loose to maintain direct contact with soil. (Do not pull Pyramat taut, this may allow bridging of soil surface.)
- Secure Pyramat to ground surface using U-shaped wire staples (preferred), geotextile pins or wooden stakes. (See ground anchoring devices on page 3.)
- Refer to anchor pattern guide on page 3 for appropriate number and pattern of anchors.

PYRAMAT® Placement: Channels

- Excavate an initial anchor trench 30 cm (12") deep and 15 cm (6") wide across the channel at the lowest end of the project area (Figure 1).
- Excavate intermittent check slots 15 cm (6") deep and 15 cm (6") wide across the channel at 9.1 m (30') intervals along the channel (Figure 2).
- Cut longitudinal channel anchor slots 10 cm (4") deep and 10 cm (4") wide along both sides of the installation to bury edges of Pyramat® (Figure 3). Wherever possible, extend mat 60-90 cm (2'-3') above crest of channel side slopes.

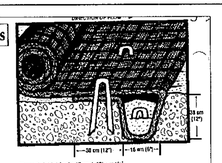


Figure 1: Initial Anchor Trench (Channels)

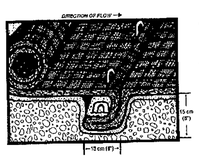


Figure 2: Intermittent Check Slot (Channels)

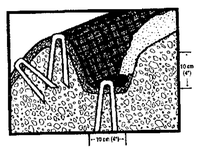


Figure 3: Longitudinal Anchor Trench (Channels)

- Beginning at the center of downstream end of the channel, place the end of the first roll in the anchor trench and secure with fastening devices at 30 cm (1') intervals (Figure 1).
- In same manner, position adjacent rolls in anchor trench, overlapping the preceding roll a minimum of 75 mm (3").
- Again, secure at 30 cm (1') intervals, backfill and compact soil.
- Unroll Pyramat over the compacted trench. Stop at next check slot or terminal anchor trench.
- Unroll adjacent rolls upstream in order to maintain a 75 mm (3") overlap and anchoring every 45 cm (18").
- Fold and secure all Pyramat rolls snugly into intermittent check slots. Lay Pyramat in the bottom and fold back against itself. Anchor through both layers of mat at 30 cm (1') intervals thus backfill and compact soil (Figure 2). Continue rolling Pyramat upstream over the compacted slot to the next check slot or terminal anchor trench.
- In low velocity channels (< 2.5 m/sec) excavated in cohesive soils, an alternate method may be used: place two rows of anchors on 15 cm (6") centers at 9.1 m (30') intervals in lieu of excavated check slots.
- Overlap side rolls a minimum of 10 cm (3") with upstream Pyramat on top. Begin all new rolls in a check slot. Anchor overlapped area by placing two rows of anchors, 30 cm (1') apart on 30 cm (1') intervals.
- Place outer edge of Pyramat on previously excavated longitudinal slots, anchor using prescribed staple pattern, backfill and compact soil (Figure 3).

- Anchor, backfill and compact upstream end of Pyramat® in a 30 x 15 cm (12" x 6") terminal trench (Figure 4).
- Secure Pyramat to ground surface using U-shaped wire staples (preferred), geotextile pins or wooden stakes (See ground anchoring devices below.)
- Refer to anchor pattern guide below for appropriate number and pattern of anchors.
- Seed and fill Pyramat with soil for enhanced performance.
- When using Pyramat with a geotextile underneath, always seed after installing mat, then fill with soil.

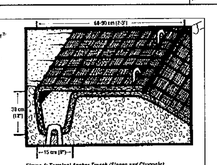


Figure 4: Terminal Anchor Trench (Slopes and Channels)

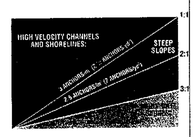
Ground Anchoring Devices

U-shaped wire staples, metal geotextile pins, triangular wooden, or plastic stakes can be used to anchor Pyramat to the ground surface. Wire staples should be a minimum of a 3 mm (8 gauge). Metal pins should be at least 4.7 mm (3/16") diameter steel with a 38 mm (1 1/2") steel washer at the head of the pin. Wire staples and metal pins should be driven flush to the soil surface. Wooden stakes should be 25 x 38 mm (1" x 1 1/2") triangular wooden survey stakes. Approximately 50 mm (2") of wood stake should remain above the soil surface. All anchors should be between 20-45 cm (8"-18") long and have sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils. Heavier metal stakes may be required in rocky soils.

Anchor Pattern Guide

Five colored areas in the adjacent diagram provide anchor recommendations based on slope gradient and/or anticipated flow conditions. When the correct number of anchors has been determined, refer to the four illustrations below to establish anchor pattern. All overlaps should be anchored at a 45 cm (18") frequency.

Increased anchoring may be required depending upon site conditions. Soil filling immediately after installation will decrease the recommended anchoring rate to the next lower pattern. Example: Soil filling of matting in high velocity channels will reduce anchor pattern to 2 ½ /m² (2 anchors/m²).



1.2 ANCHORS/m² (1 ANCHOR/yd²) | 1.8 ANCHORS/m² (1½ ANCHORS/yd²) | 2.5 ANCHORS/m² (2 ANCHORS/yd²) | 3 ANCHORS/m² (2½ ANCHORS/yd²)

Soil Filling

- Pyramat® was designed to be filled with soil after installation. This maximizes performance of the product.
- After seeding, spread and lightly rake 12-19 mm (½"-¾") of fine topsoil into the Pyramat and completely fill the voids. Use backrake of rake or other fine tool to ensure a smooth soil-filled surface.
- Pyramat will withstand lightweight, rubber-tired construction equipment. Use tracked equipment or sharp turns should be made on the mat.
- Avoid any traffic over Pyramat if very loose or wet soil conditions exist.
- Use shovels, rakes or brooms for fine grading and finishing.
- Smooth soil fill in order to just expose the top of matrix. Do not place excessive soil above the mat.
- Broadcast additional seed and mulch above the soil-filled Pyramat, if desired.
- If possible, water as necessary to enhance growth.
- CONSULT MANUFACTURER'S TECHNICAL REPRESENTATIVE OR LOCAL DISTRIBUTOR FOR INSTALLATION ASSISTANCE, PARTICULARLY IF UNIQUE CONDITIONS APPLY (I.E. FINE SANDY SOILS, INFERTILE ENVIRONMENTS).

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 12/6/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 12/6/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 12/7/04

DATE	NO.	REVISION
11-11-04	1	ADDITIONAL SHEET PER REDLINE APPROVAL

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

11-11-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE7.DWG
DATE :	NOVEMBER 11, 2004
SCALE :	AS SHOWN
DRAWING NO.	41 OF 41

SDP-99-134

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SITE DEVELOPMENT PLAN
CHASE QUARRY
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET INDEX

NO	DESCRIPTION	NO	DESCRIPTION
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14	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	34	LANDSCAPE PLAN
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17	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	37	BAYSAVER DETAILS & NOTES
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19	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	39	PROFILES AND DETAILS
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		41	PROFILES

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.

3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AY LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

4. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.

5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.

6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY W.R.A., INC. DATED APRIL, 1985.

7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 48D6 AND 48AB WERE USED FOR THIS PROJECT.

8. WATER IS PUBLIC. CONTRACT NO. 44-3778-D

9. SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATUXENT CONTRACT NO. 20-1230 & 20-1310

10. THE STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED VIA GRASS CHANNEL CREDIT FOR RECHARGE VOLUME AND A WET POND FOR WATER QUALITY AND CHANNEL PROTECTION VOLUMES. MANAGEMENT OF THE 10-YEAR AND 100-YEAR STORM EVENTS ARE NOT REQUIRED. THE FACILITIES WILL BE PRIVATELY MAINTAINED.

11. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.

12. THE 100-YEAR FLOODPLAIN IS DELINEATED FOR THIS PROJECT USING THE HOWARD COUNTY DORSEY RUN STUDY.

13. WETLANDS ARE SHOWN PER DELINEATION BY VIKA, INC., OCT 1997.

14. A CHAPTER 5 TRAFFIC STUDY HAS BEEN PREPARED BY GOROVE/SLADE ASSOCIATES, INC., DATED APRIL 1999.

15. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.

16. A GEOTECHNICAL CORE STUDY HAS BEEN PREPARED BY BOART LONGYEAR DRILLING CO. IN 1995.

17. THE BOUNDARY FOR THIS PROJECT IS SHOWN PER "BOUNDARY SURVEY THE CHASE PROPERTY" BY WHITMAN REQUART & ASSOC. DATED APRIL 1985.

18. SUBJECT PROPERTY ZONED M-1 & MXD-3 PER 10-18-93 COMPREHENSIVE ZONING PLAN.

19. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.

20. SEE DEPARTMENT OF PLANNING AND ZONING FILE NOs BA 95-58E, WP-00-34 AND GP-04-11.

21. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

22. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

23. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.

24. ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.

25. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.

26. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.

27. PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.

28. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.

29. THE PAVEMENT DETAILS SHOWN FOR THIS SITE REFLECT THE HOWARD COUNTY STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE.

30. THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS FOR FOREST CONSERVATION UNDER SECTION 16.1202.b.1.ix OF THE SUBDIVISION REGULATIONS. A RECLAMATION PLAN WILL BE ENACTED AFTER CESSATION OF THE QUARRY ACTIVITIES, IN CONJUNCTION WITH MDE PERMIT NO.(S). , APPROVED ON

31. SEDIMENT CONTROL PLAN FOR THIS PROJECT IS VALID FOR A PERIOD OF TWO YEARS AFTER HSCD SIGNATURES, AND MUST BE RESUBMITTED BEFORE EXPIRATION FOR ASSESSMENT AND APPROVAL.

32. WP-00-34 A WAIVER PETITION REQUEST TO WAIVE SECTIONS 16.115 AND 16.116(a) WAS APPROVED ON APRIL 10, 2000 SUBJECT TO THE FOLLOWING CONDITIONS:
1. THIS WAIVER APPROVAL APPLIES ONLY TO THE PROPOSED AREAS OF ENVIRONMENTAL DISTURBANCES IDENTIFIED AS "AREAS #1-6" (WETLAND AND STREAM DISTURBANCES) AND"FLOODPLAIN AREAS #1-3" (FLOODPLAIN AND STREAM DISTURBANCES) AS SHOWN ON THE WAIVER PETITION EXHIBIT RECEIVED BY THE DEPARTMENT OF PLANNING AND ZONING ON 2/24/2000.
2.THE PETITIONER MUST OBTAIN APPROVAL OF THE SITE DEVELOPMENT PLAN (SDP-99-134) PRIOR TO ISSUANCE OF ANY PERMITS FOR CONSTRUCTION OR GRADING ON SITE.
3. ALL GRADING AND CLEARING WITHIN THE FLOODPLAINS, WETLANDS, WETLAND BUFFERS, AND STREAM BUFFERS SHALL BE MINIMIZED AND SHALL COMPLY WITH THE APPROVED GRADING AND SEDIMENT EROSION CONTROL PLAN SHEETS, WHICH ARE TO BE PART OF SDP-99-134. STABILIZATION SHALL BE INITIATED IMMEDIATELY FOLLOWING THE GRADING AND CLEARING.
4.THE PETITIONER SHALL OBTAIN ALL APPLICABLE PERMITS FROM THE MARYLAND DEPARTMENT OF ENVIRONMENT AND.OR THE DEPARTMENT OF NATURAL RESOURCES, PRIOR TO COMMENCEMENT OF ANY DISTURBANCE TO THE ENVIRONMENT AREAS ON SITE.

33. NO QUARRY OR MINING SHALL OCCUR UNDER THIS PLAN. THIS PLAN IS FOR THE CONSTRUCTION OF OPERATION AREA AND REMOVAL OF OVERBURDEN ONLY.

34. A WETLANDS PERMIT HAS BEEN APPLIED FOR UNDER TRACKING NUMBER 200262372.

35. THE WHITE FAMILY CEMETARY HAS BEEN RELOCATED FROM THE SITE PER STATE OF MARYLAND GUIDELINES.

The Decision and Order for BOA Case No. BA95-58E has the following approval conditions:

1. The special exception shall apply only to the proposed stone, sand, gravel, clay and fill-dirt quarry and accessory asphalt and concrete plant uses as described in the petition, and as depicted on the special exception plan for Chase Limited Partnership submitted on September 22, 1995, consisting of an Existing Zoning and Utilities Plan, Land Use Plan, Operations Plan, Reclamation Plan, and Reclamation Cross Sections ("Special Exception Plan") as amended by this Decision and Order, and not to any other activities, uses, or structures on the subject property.

2. Areas on the site which are regraded during the Reclamation Plan phase shall be covered with suitable soil to sustain growth, then vegetatively stabilized using a perennial cover species as recommended by the County Soil Conservation District.

3. Upon the abandonment of excavation operations on the site or on any portion of the site, all access roads shall be suitably barricaded to prevent the passage of vehicles either into or out of the abandoned area, except such access as needed for vehicles engaged in rehabilitation work, until the plan for rehabilitation has been completed and other uses necessitating access have commenced on the property.

4. The Petitioner shall submit detailed engineering studies setting forth the estimated cost of the accepted plan for rehabilitation for the approval of the Board of Appeals prior to the final approval of the site development plan for the use. These studies shall be subject to periodic review by the Board of Appeals every five years beginning with final approval of the site development plan. A bond shall be provided, or adequate collateral shall be kept in escrow, drawing interest to the benefit of the Petitioner, to cover the approved estimated cost of the accepted plan for rehabilitation. Said bond or escrow shall be established in a manner acceptable to the Board and the County prior to the approval of the site development plan for the use and reviewed every five years thereafter. Said bond or escrow shall not be released unless it is determined that the Petitioner has achieved successful completion of the rehabilitation program.

5. Prior to the approval of the site development plan for the use, the Petitioner shall warrant and shall provide documentation that all persons having an interest of record in said land shall cause to be recorded among the land records of the County:

(a) A description of the area included within the special exception area, (b) The application number (BOA Case No. 95-58E) and the date of this Decision and Order, (c) A statement indicating that use of the land will be in accordance with the site development plan submitted for approval and the Special Exception Plan, including the Reclamation Plan as approved herein, and (d) A declaration binding their heirs and assigns to utilize the land in accordance with said site development plan and the Special Exception Plan, including the Reclamation Plan until excavation processing or filling operations cease and rehabilitation of the land is completed.

6. Prior to the approval of the site development plan for the use, the Petitioner shall enter into an agreement with the County which provides that, if the quarry is cited as operating in violation of any of the provisions or conditions of the special exception including failure to comply with the approved Reclamation Plan, in such a way as to require corrective action, the Petitioner shall cause the corrective action to be taken. The agreement shall also stipulate that if the Petitioner fails to take the necessary corrective action within 30 days or written notice from the County to do so, the required bonds or collateral noted above will be forfeited and the County may cause corrective actions to be commenced. The agreement shall also provide that the Petitioner shall agree to pay any costs for corrective action which exceed the bond or collateral amount.

7. Any exterior lighting shall be shielded and directed so that it does not illuminate residential properties, does not shine directly onto any adjacent properties, and does not produce glare which would cause a hazard for motor vehicle operators in the vicinity of the site.

8. Public water will be provided on site as required by the Department of Fire and Rescue Services.

9. The Petitioner shall make a good faith effort working with the community and CSX Railroad to construct a security fence along the western boundary to prevent access to the stockpile area.

10. Prior to the commencement of quarry operations, the Petitioner shall donate approximately 7 acres of land on Mission Road, as shown on the land Use Plan, to the Ridgely's Run Community Association for use as a community center. The Petitioner will construct on the 7 acres, at its own expense, (i) a community center building of approximately 5,000 square feet with parking , (ii) an exterior all-purpose basketball court, (iii) two tennis courts with nets and fencing, and (iv) grading for a little league baseball diamond and provide a little league baseball backstop. Construction will begin prior to commencement of quarry operations, and the Petitioner will diligently pursue completion of construction.

11.During each year of quarry operation, the Petitioner shall donate to the Ridgely's Run Community Association five cents (5\U+203A) per ton of marketable stone produce shipped from the project operations, with a minimum donation of $50,000.00 per year to be used for the programs of the community center for the betterment and welfare of the community.

12. The Petitioner will warrant that existing wells will not be affected by quarry operations. Tests will be done prior to development and subsequent well monitoring will occur with a sampling program by an independent environmental consultant.

13. The Petitioner shall establish and implement procedures for the investigation and reporting of vibration and damages attributable to the quarry operations on all homes within 1,000 feet of the quarry excavation area and the 12 Heritage Woods homes identified in the Petitioner's testimony.

14. The Petitioner will fill the existing quarry at the back of Pine Road using overburden from the new quarry and other material.

15. Structures shall not exceed a height of 65 feet; stockpiles shall not exceed a height of 60 feet; and berms shall not exceed a height of 40 feet.

16. Trees removed for construction of berms shall be replaced by adequate landscaping, reforestation, and seeding or sodding of the berms.

17. Dust emissions will be controlled and maintained within the confines of the site in accordance with applicable State regulations.

18. Blasting will occur no more than 10 seconds per month. No blasting will occur between the hours of 6:00 p.m. and 7:30 a.m. on any day.

19. The Petitioner shall provide adequate security to control unauthorized entry to the site along the entire perimeter, including security personnel on duty on the site 24 hours each day. The quarry will be fenced with a durable galvanized fence 6' high, located not less than 20 feet from the edge of excavation. The County shall have the right to enter and repair or maintain such fence whenever the property owner shall fail to do so. The property owner shall be liable to the County for the cost of the repairs or maintenance.

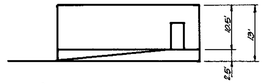
20. The Petitioner shall prohibit trucks from using Mission Road to enter or leave the quarry operation.

21. The northern entrance to the site shall be restricted to right-turns only from southbound Route 1, and a deceleration lane shall be installed. An acceleration lane shall be installed for southbound traffic exiting the southern entrance at Patuxent Range Drive.

22. The posted speed limit on U.S. Route 1 between Route 175 and Route 32 shall be reduced to no more than 40 miles per hour. (MSHA will not grant approval)

23. The special exception granted herein shall be subject to renewal five years from the date ofapproval of the final site development plan for the project, and every five year thereafter, in accordance with Section 131.H.2 of the Zoning Regulations; except that the special exception shall terminate without right of renewal 25 years from the date on which all necessary excavation permits for the project have been obtained.

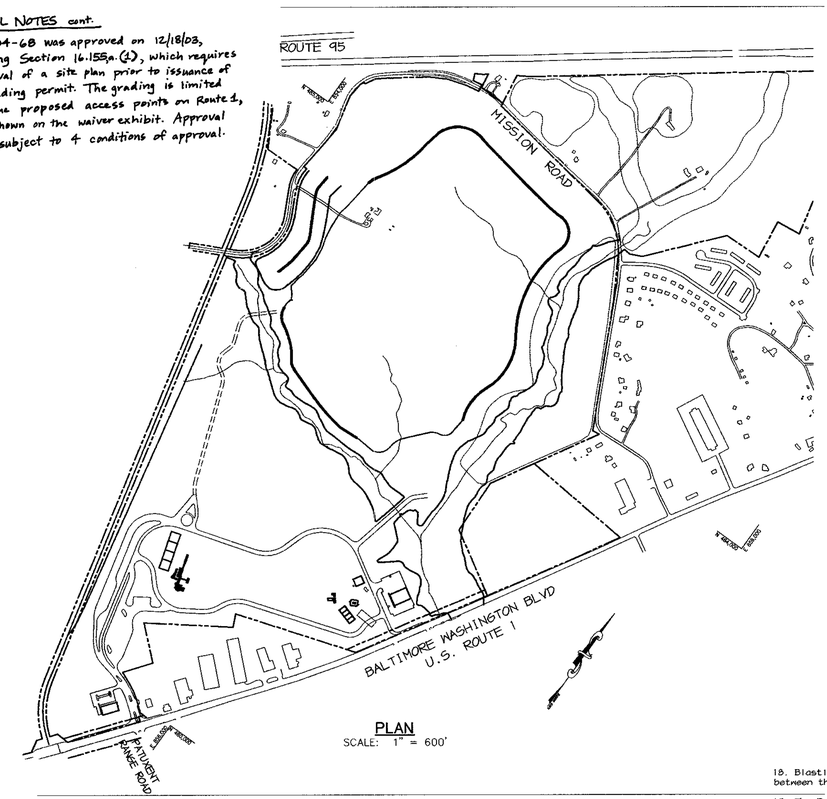
24. The Petitioner shall comply with all applicable Federal, State, and County laws and regulations.



SCALE HOUSE ELEVATION
NO SCALE

GENERAL NOTES cont.

36. WP-04-68 was approved on 12/18/03, waiving Section 16.155a.(2), which requires approval of a site plan prior to issuance of a grading permit. The grading is limited to the proposed access points on Route 1, as shown on the waiver exhibit. Approval was subject to 4 conditions of approval.



PLAN
SCALE: 1" = 600'

BENCH MARKS

HO.CO.SURVEY CONTROL STATION: 436A
N 541,748.136 E 1,369,162.220
ELEVATION: 134.51'

HO.CO.SURVEY CONTROL STATION: 436B
N 544,118.628 E 1,370,553.547
ELEVATION: 112.49'

SITE ANALYSIS

TOTAL SITE AREA	536.1 ACRES
AREA OF SUBMISSION (SPECIAL EXCEPTION AREA)	327.75 ACRES
LIMIT OF DISTURBANCE FOR DEVELOPED AREA	61.7 ACRES
CURRENT ZONING	M-1 & MXD-3
PROPOSED USE	QUARRY w/ ASSOCIATED USES
EXISTING USE	VACANT LAND / RESIDENCE
PROPOSED BUILDINGS	
BUILDING A - OFFICE	7,800 S.F.
BUILDING B - MAINTENANCE AND STORAGE	15,000 S.F.
PARKING REQUIREMENTS	
OFFICE BUILDING A	26 SPACES
MAINTENANCE BUILDING B	18 SPACES
PARKING PROVIDED	
OFFICE BUILDING A	50 SPACES (INCL 2 H.C.)
MAINTENANCE BUILDING B	34 SPACES (INCL 1 H.C.)
BUILDING COVERAGE	22,800 S.F. (0.52 AC.)=(0.1% OF SITE)
DPZ REFERENCES	BA 95-58E & WP-00-34, WP-04-68 SP-04-11

SETBACK SUMMARY

1. 100' LANDSCAPE BUFFER AROUND SPECIAL EXCEPTION BOUNDARY.

2. 300' SETBACK FROM SPECIAL EXCEPTION BOUNDARY FOR QUARRY USE. THIS DOES NOT APPLY TO THE OFFICE BUILDING AND MAINTENENACE SHOP.

3. 1000' SETBACK FROM US RTE 1 CRUSHING, SCREENING AND STOCKPILES.

4. 100' SETBACK FROM ANY PROPERTY LINE FOR THE 6' FENCE AROUND THE QUARRY PIT. FENCE SHALL BE A MINIMUM 20' FROM THE EXCAVATION LINE FOR THE PIT.

5. 100' SETBACK FROM ROUTE 1 FOR THE SEDIMENT POND.

6. HEIGHT LIMITS: SEE CONDITION OF APPROVAL #15 FOR BA95-58E.

7. 100' SETBACK FROM ROUTE 1 FOR OFFICE BUILDING, MAINTENANCE BUILDING AND PARKING LOTS.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY RETENTION PONDS #1 & 3

ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.

3. Debris and litter shall be removed during regular mowing operations and as needed. 4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.

2. Sediment should be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY DETENTION POND #2 ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, and maintenance access shall be mowed as needed.

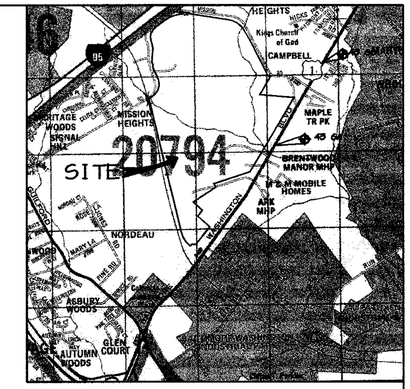
3. Debris and litter shall be removed during regular mowing operations and as needed.

4. Visible signs of erosion in the pond as well as riprap or gabion outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

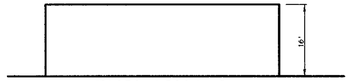
1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.

2. Sediment should be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

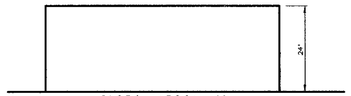


VICINITY MAP

SCALE: 1" = 2000'
COPYRIGHT: ADC 'THE MAP PEOPLE'
PERMITTED USE NO. 20844285



BUILDING A
NOT TO SCALE



BUILDING B
NOT TO SCALE

APPROVED : FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

COUNTY HEALTH OFFICER DATE

ADDRESS CHART

BUILDING	STREET ADDRESS
A	8420 WASHINGTON BLVD
B	8418 WASHINGTON BLVD

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
1-9-08	1	ADDED BUILDING ELEV., REV. SHEET INDEX

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

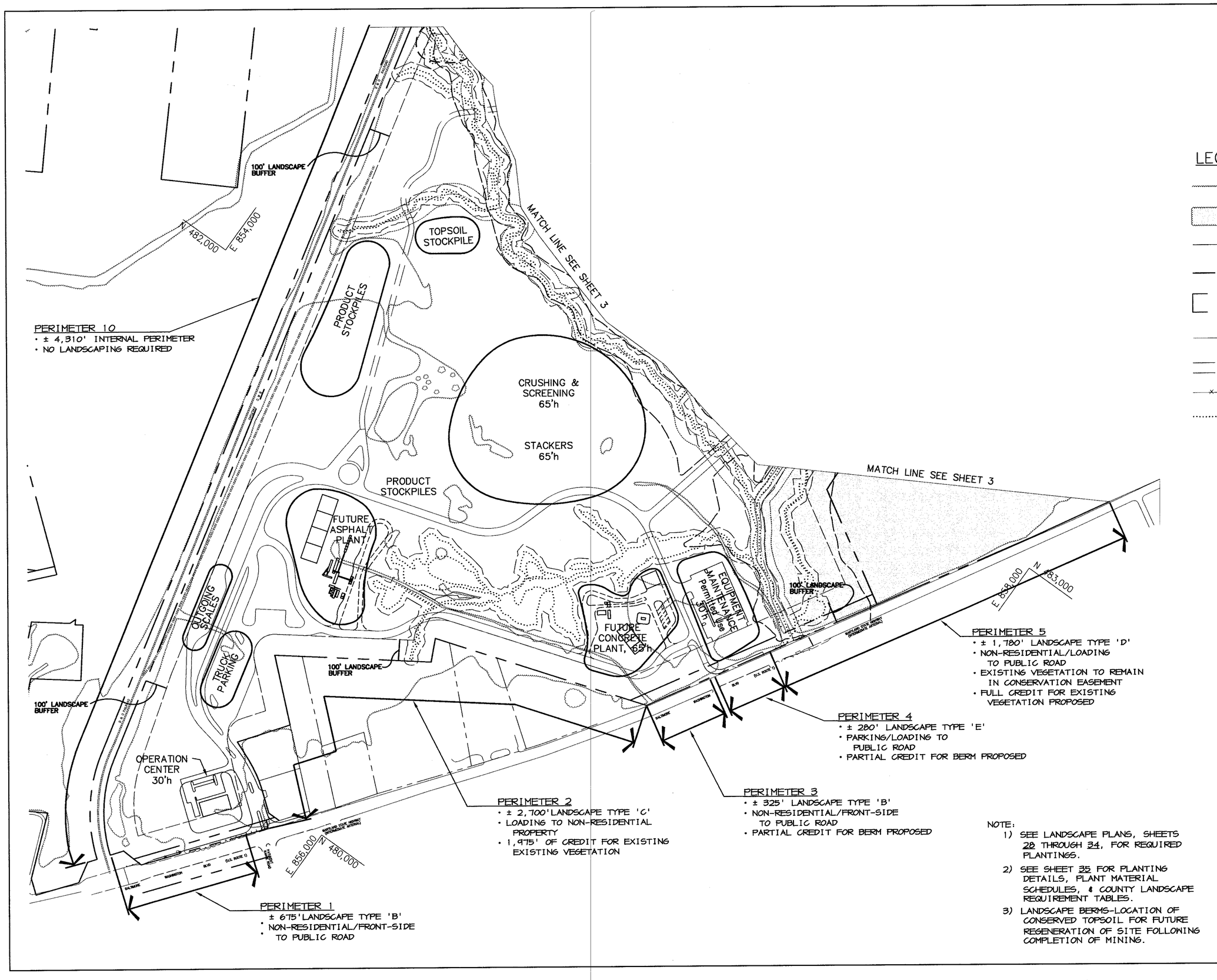
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ COVER.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	1 OF 41

SUBDIVISION NAME – CHASE QUARRY			SECT./AREA –	PARCEL – 234 & P.O.235	
PLAT # –	BLOCK #	ZONE	TAX MAP NO	ELECT. DIST	CENSUS TR.
–	19	M-1 & MXD-3	43	6th	6069.01
WATER CODE – B02			SEWER CODE – 4200000		

SDP-99-134

P:\projects\99092\1-0\Engr\Plans\COVER.DWG, Layout1, 01/29/2004 10:54:18 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:100



LEGEND

- EXISTING TREE LINE
- CONSERVATION EASEMENT
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- EASEMENT
- EXISTING FENCE
- EXISTING WETLANDS

NOTE:

1) SEE LANDSCAPE PLANS, SHEETS 28 THROUGH 34, FOR REQUIRED PLANTINGS.
2) SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, & COUNTY LANDSCAPE REQUIREMENT TABLES.
3) LANDSCAPE BERMS-LOCATION OF CONSERVED TOPSOIL FOR FUTURE REGENERATION OF SITE FOLLOWING COMPLETION OF MINING.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-9-09	1	CHANGED SHEET NUMBER.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3. TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL LOCATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE

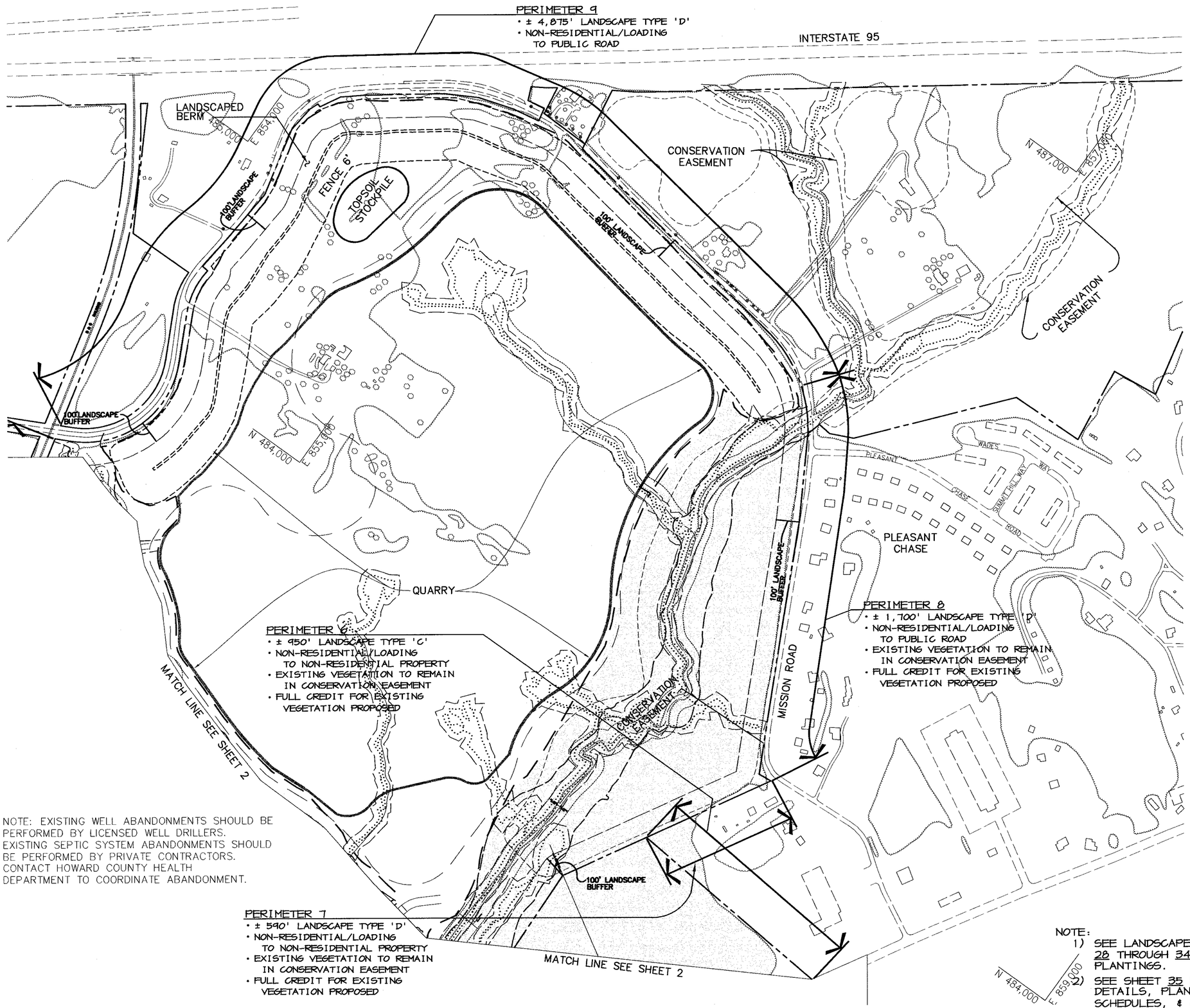
STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

Scott R. Wolford

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ OVER2.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 200'
DRAWING NO.	2 OF 41

SDP-99-134

P:\project\9909221-01\Eng\Plans\Over2.dwg, Layout1, 01/29/2004 10:55:22 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



NOTE: EXISTING WELL ABANDONMENTS SHOULD BE PERFORMED BY LICENSED WELL DRILLERS. EXISTING SEPTIC SYSTEM ABANDONMENTS SHOULD BE PERFORMED BY PRIVATE CONTRACTORS. CONTACT HOWARD COUNTY HEALTH DEPARTMENT TO COORDINATE ABANDONMENT.

NOTE:
1) SEE LANDSCAPE PLANS, SHEETS 28 THROUGH 34, FOR REQUIRED PLANTINGS.
2) SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, & COUNTY LANDSCAPE REQUIREMENT TABLES.

LEGEND

- EXISTING TREE LINE
- CONSERVATION EASEMENT
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EASEMENT
- EXISTING FENCE
- EXISTING WETLANDS
- QUARRY LIMITS

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NUMBER

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL LOCATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE

STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT — NO. 7-1-03

Scott R. Wolford

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ OVER3.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 200'
DRAWING NO.	3 OF 41

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Over3.dwg, Layout1, 01/29/2004 10:57:27 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 5

MATCHLINE SEE SHEET 6

B & O RAILROAD

INTERNAL ACCESS ROAD

LIMIT OF CLEARING

PROPERTY OF BLVD LIMITED PARTNERSHIP P.629 ZONED M-1

PROPERTY OF JOHN F. BAKER, ET. AL P.501 ZONED M-1

PROPERTY OF SITES RAYMOND LUTLER, ET. AL P.500 ZONED M-1

PROPERTY OF BROOKWOOD JESSUP PARTNERSHIP P.526 ZONED M-1

BUILDING "A" F.F. ELEV. 202.00 9800 SF

MARYLAND STATE HIGHWAY (INTERMEDIATE ARTERIAL)

PATUXENT RANGE ROAD

(U.S. ROUTE 1)

BLVD

WASHINGTON

BALTIMORE

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING
- MSHA PAVING

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-6-06	1	REV. ACCESS ROAD & GRADING

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 880
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 880
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SDP-4.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	4 OF 41

SDP-99-134

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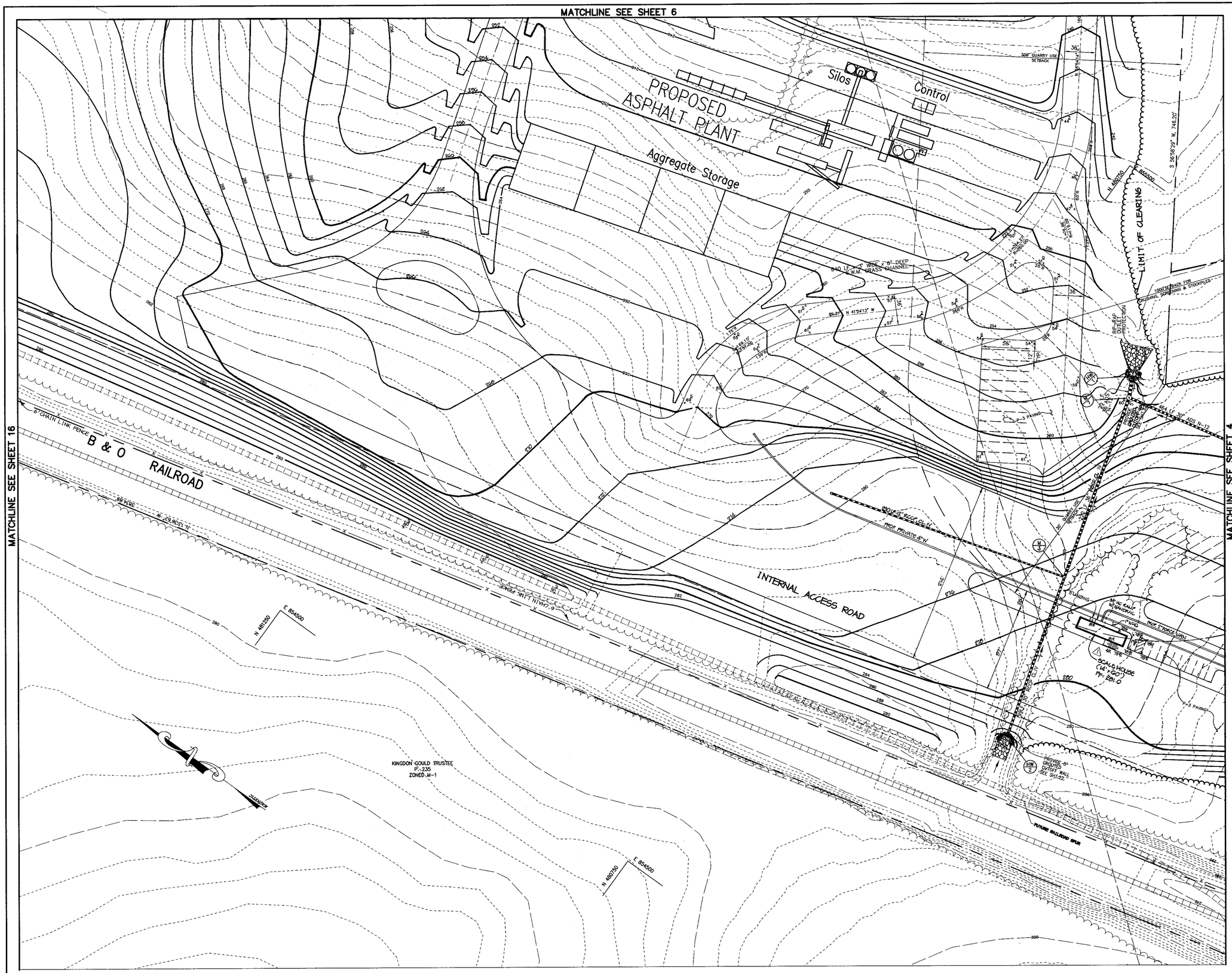
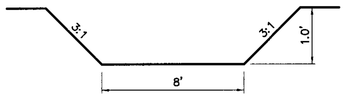
MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 16

MATCHLINE SEE SHEET 4





TYPICAL SECTION
S.W.M. GRASS CHANNEL

NO SCALE

NOTE: USE 4"-7" STONE PRESSED INTO THE SOIL A MINIMUM OF 7" WHERE SPECIFIED ON THE PLAN VIEW; OTHERWISE USE EROSION CONTROL MATTING.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING
- STONE CHECK DAM

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-8-05	1	REV. ACCESS ROAD & GRADING AND ADDED SCALE HOUSE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

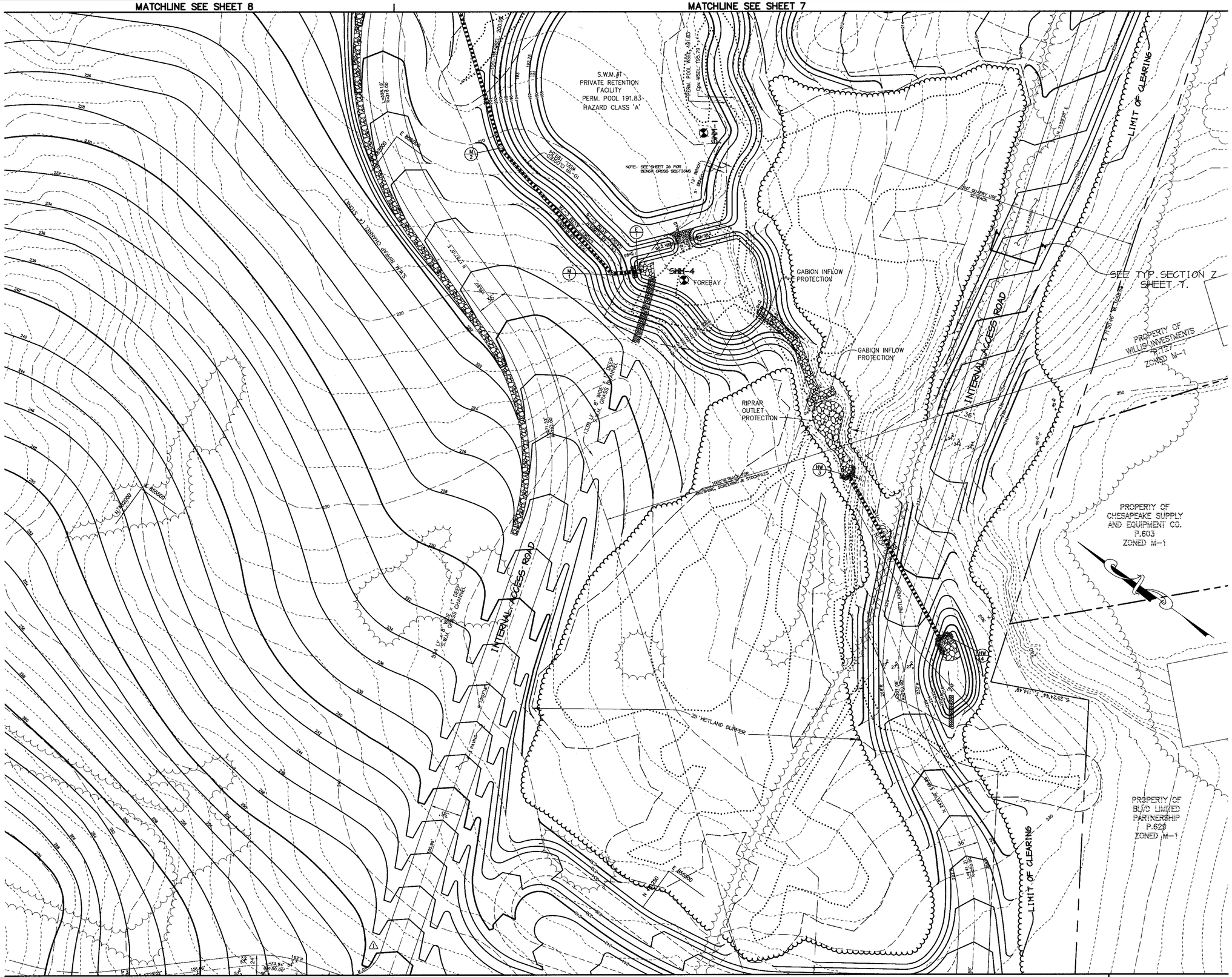
DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SDP-5.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	5 OF 41

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sdp-5.dwg, Layout1, 01/29/2004 12:24:46 PM, HP1050C, Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 7



MATCHLINE SEE SHEET 5

MATCHLINE SEE SHEET 4

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
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- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING
- STONE CHECK DAM

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	REVISED GRADING & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SDP6.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	6 OF 41

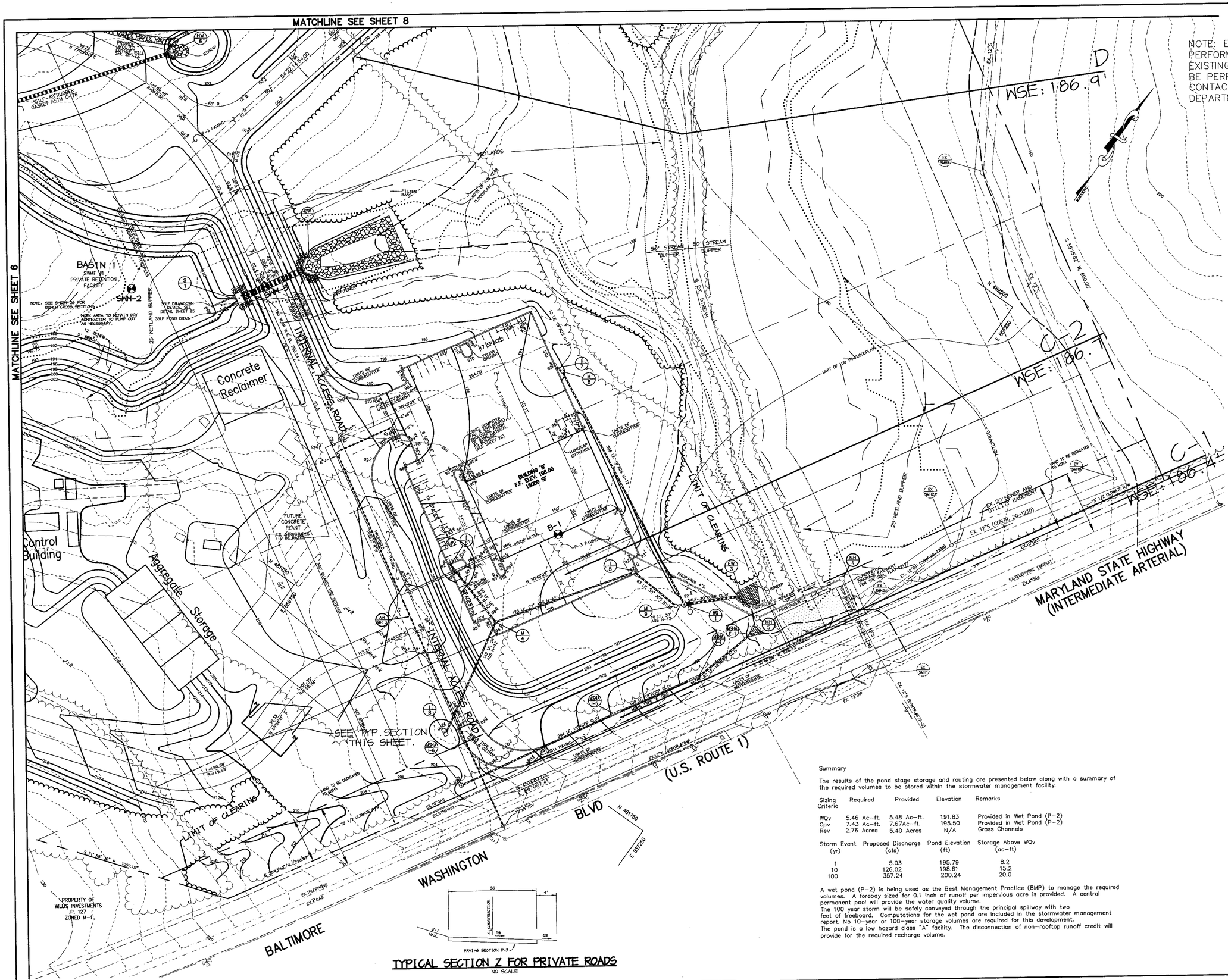
SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sdp-6.dwg, Layout1, 01/29/2004 12:25:22 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 6

NOTE: EXISTING WELL ABANDONMENTS SHOULD BE PERFORMED BY LICENSED WELL DRILLERS. EXISTING SEPTIC SYSTEM ABANDONMENTS SHOULD BE PERFORMED BY PRIVATE CONTRACTORS. CONTACT HOWARD COUNTY HEALTH DEPARTMENT TO COORDINATE ABANDONMENT.



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
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- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING
- MSHA PAVING

TYPICAL SECTION Z FOR PRIVATE ROADS

NO SCALE

Summary

The results of the pond stage storage and routing are presented below along with a summary of the required volumes to be stored within the stormwater management facility.

Sizing Criteria	Required	Provided	Elevation	Remarks
WQv	5.46 Ac-ft.	5.48 Ac-ft.	191.83	Provided in Wet Pond (P-2)
Cpv	7.43 Ac-ft.	7.67Ac-ft.	195.50	Provided in Wet Pond (P-2)
Rev	2.76 Acres	5.40 Acres	N/A	Grass Channels

Storm Event (yr)	Proposed Discharge (cfs)	Pond Elevation (ft)	Storage Above WQv (ac-ft)
1	5.03	195.79	8.2
10	126.02	198.61	15.2
100	357.24	200.24	20.0

A wet pond (P-2) is being used as the Best Management Practice (BMP) to manage the required volumes. A forebay sized for 0.1 inch of runoff per impervious acre is provided. A central permanent pool will provide the water quality volume.
The 100 year storm will be safely conveyed through the principal spillway with two feet of freeboard. Computations for the wet pond are included in the stormwater management report. No 10-year or 100-year storage volumes are required for this development.
The pond is a low hazard class "A" facility. The disconnection of non-rooftop runoff credit will provide for the required recharge volume.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND
CHRISTOPHER J. REID
No. 19949
PROFESSIONAL ENGINEER

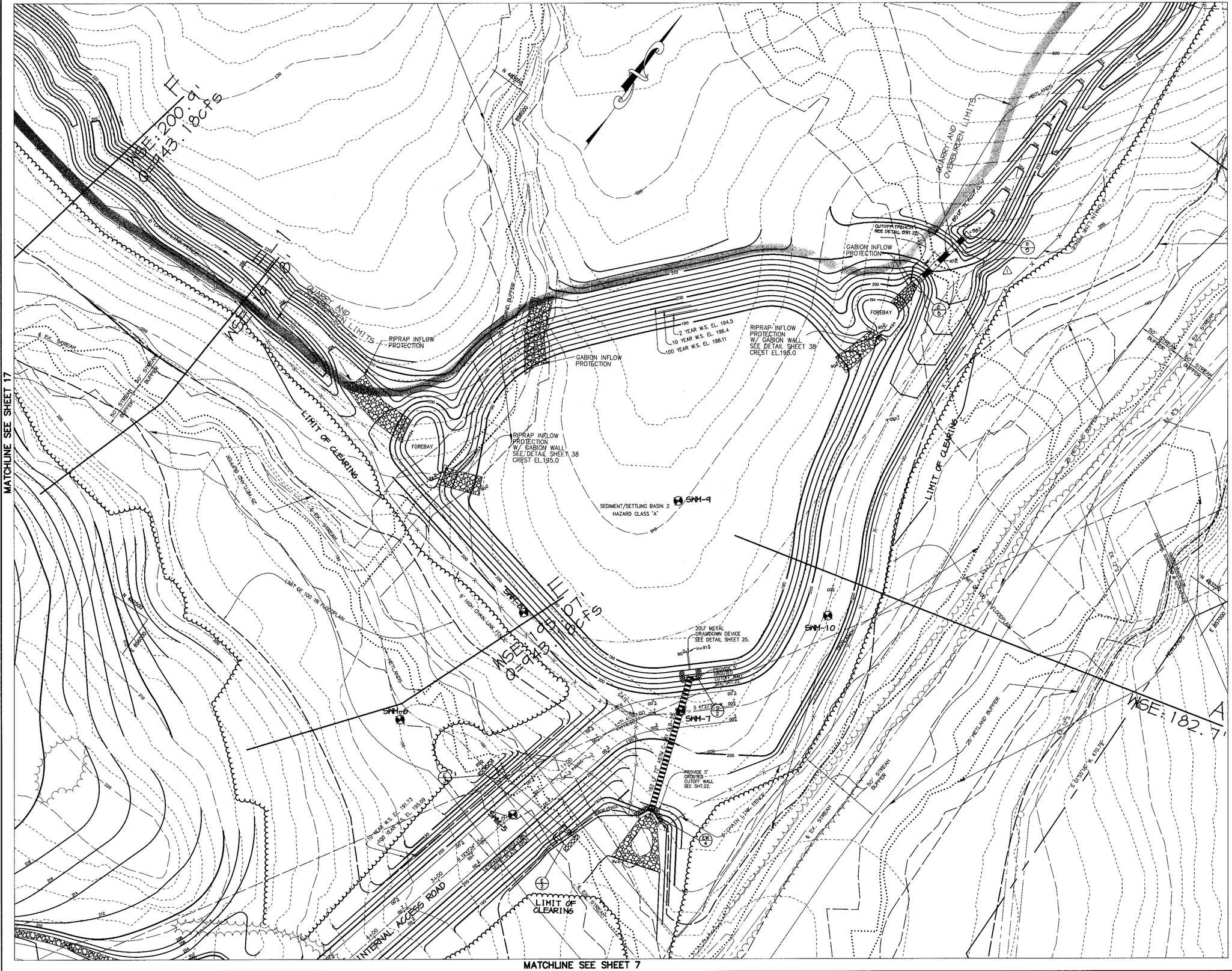
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SDP-7.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	7 OF 41

SDP-99-134

P:\project\990921-01\Engr\Plans\Sdp-7.dwg, Layout1, 01/29/2004 12:25:54 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 17



MATCHLINE SEE SHEET 7

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING

PRIVATELY OWNED AND MAINTAINED SEDIMENT/SETTLING BASIN 2- DESIGN SUMMARY

DESIGN STORM (YR.)	ALLOWABLE RELEASE (C.F.S.)	POND & STUDY POINT #2 FACILITY DISCHARGE (C.F.S.)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME (AC. FT.)
2	56.5	23.7	194.5	10.0
10	190.9	123.8	196.4	16.9
100	372.3	276.7	198.1	23.1

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO & REV. GRADING

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

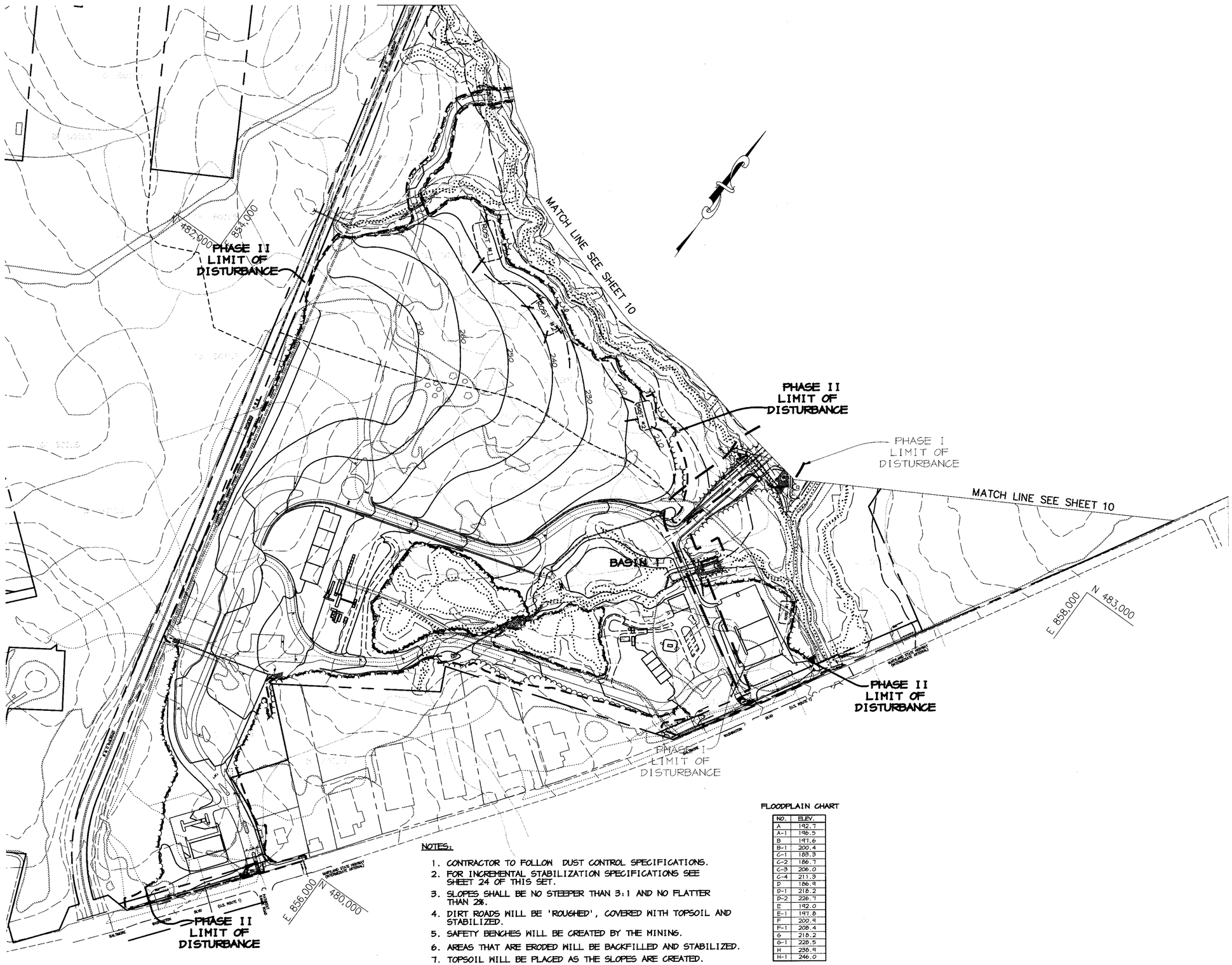
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SDP8.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	8 OF 41

SDP-99-134

P:\project\99092\1-01Engr\Plans\SDP-8.DWG, Layout1, 01/29/2004 12:27:18 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EXISTING CONTOURS (300)
- PROPOSED CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EXISTING SOILS
- EASEMENT
- PROPOSED FENCE
- DRAINAGE AREA DIVIDE TO INLETS
- LIMIT OF DISTURBANCE, PHASE I
- LIMIT OF DISTURBANCE, PHASE II
- EROSION CONTROL MATTING
- SILT FENCE (SF)
- SUPER SILT FENCE (SSF)
- RIP RAP OUTLET PROTECTION
- GABION INFLOW PROTECTION
- EARTH DIKE
- TEMPORARY SWALE
- WET BUFFER LIMITS
- REMOVABLE PUMPING STATION (RPS)
- 100-YR FLOODPLAIN LIMITS
- 50'STREAM BUFFER
- EXISTING STREAM

NOTES:

1. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
2. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
3. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
4. DIRT ROADS WILL BE 'ROUSHED', COVERED WITH TOPSOIL AND STABILIZED.
5. SAFETY BENCHES WILL BE CREATED BY THE MINING.
6. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
7. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

FLOODPLAIN CHART

NO.	ELEV.
A	142.7
A-1	146.5
B	141.6
B-1	200.4
C-1	183.3
C-2	186.7
C-3	206.0
C-4	211.3
D	186.9
D-1	218.2
D-2	226.7
E	192.0
E-1	197.8
F	200.9
F-1	208.4
G	218.2
G-1	228.5
H	238.9
H-1	246.0

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 2/25/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL EROSION & SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

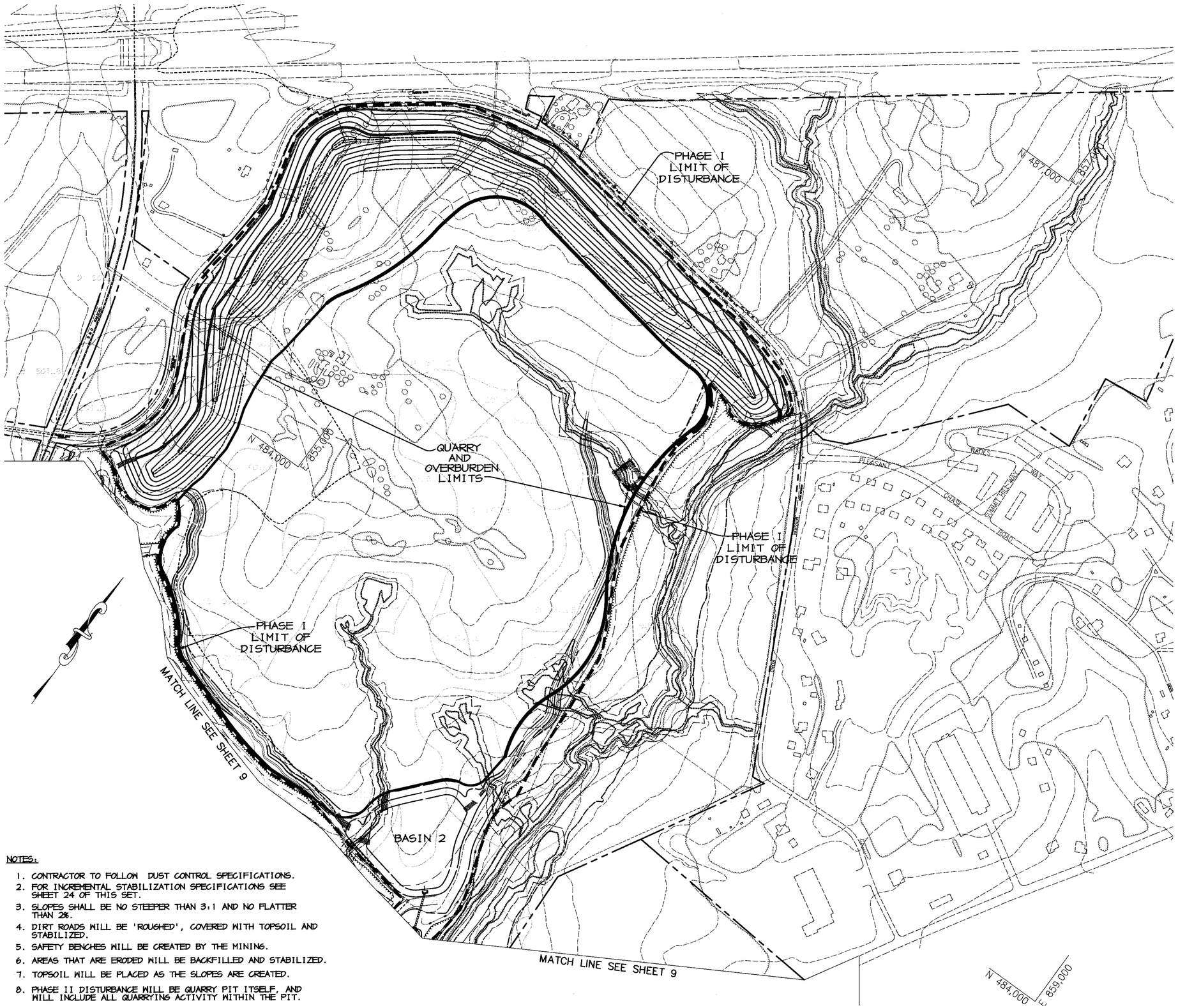
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	
CHECKED BY :	C.J.R.
PROJECT NO :	99092/OVER9.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 200'
DRAWING NO.	9 OF 41

SDP-99-134

P:\project\99092\1-0\Engin\Plans\OVER9.dwg, Layout1, 01/29/2004 12:27:48 PM, HP1050C, Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EXISTING CONTOURS (300)
- PROPOSED CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
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- LIMIT OF DISTURBANCE, PHASE I
- EROSION CONTROL MATTING
- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- RIP RAP OUTLET PROTECTION
- GABION INFLOW PROTECTION
- EARTH DIKE
- TEMPORARY SWALE
- LIMIT OF 100-YR FLOODPLAIN
- RPS — REMOVABLE PUMPING STATION
- 10' BENCH ALONG LANDSCAPE BERM
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM

NOTES:

1. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
2. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
3. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
4. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
5. SAFETY BENCHES WILL BE CREATED BY THE MINING.
6. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
7. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.
8. PHASE II DISTURBANCE WILL BE QUARRY PIT ITSELF, AND WILL INCLUDE ALL QUARRYING ACTIVITY WITHIN THE PIT.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 2/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL EROSION & SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

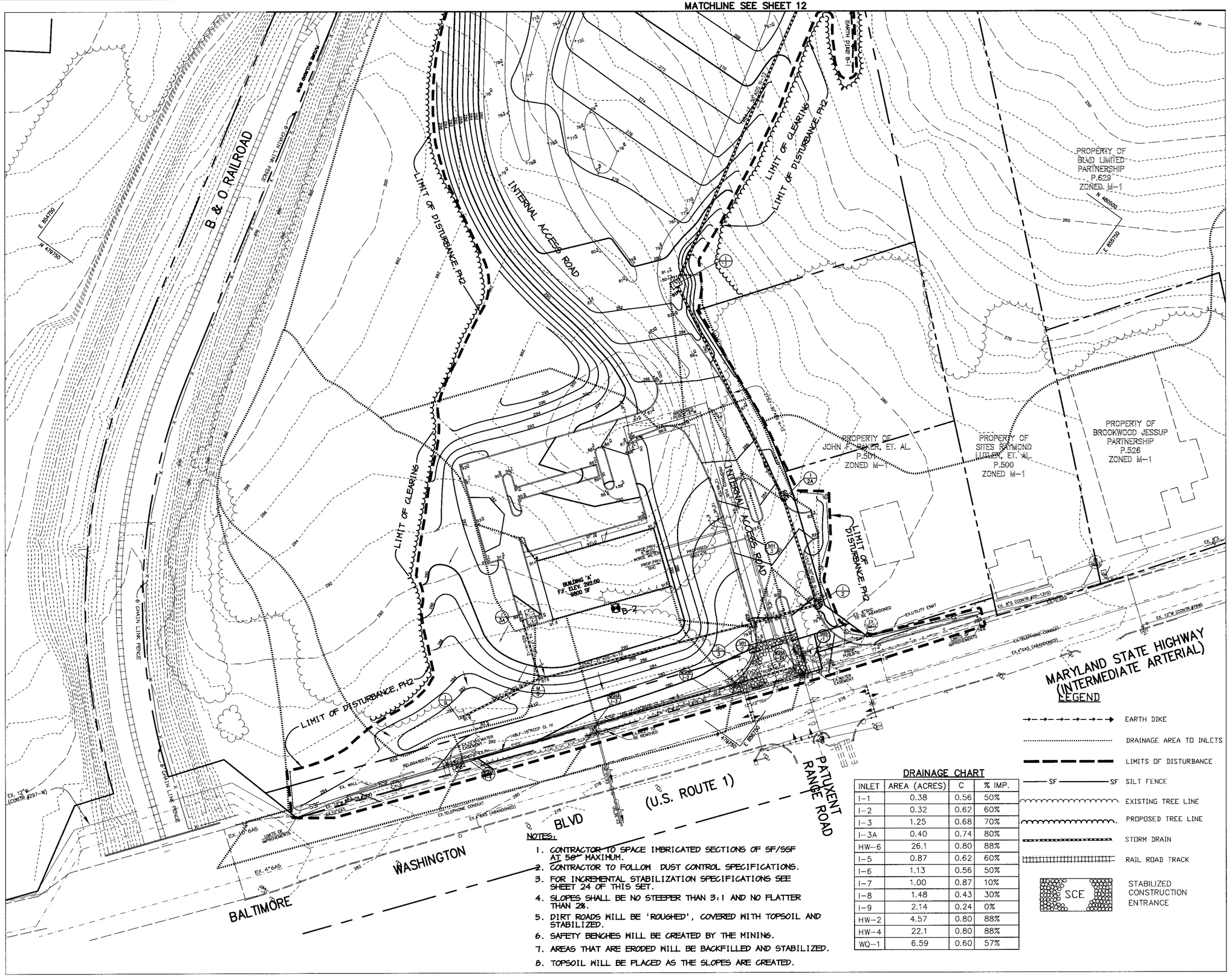
CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.	
DRAWN BY :	
CHECKED BY : C.J.R.	
PROJECT NO : 99092/OVER10.DWG	
DATE : JANUARY 29, 2004	
SCALE : 1" = 200'	
DRAWING NO. 10 OF 41	

SDP-99-134

P:\project\99092\1-0\Engr\Plans\OVER10.dwg, Layout1, 01/29/2004 12:28:26 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 12



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

DRAINAGE CHART

INLET	AREA (ACRES)	C	% IMP.
I-1	0.38	0.56	50%
I-2	0.32	0.62	60%
I-3	1.25	0.68	70%
I-3A	0.40	0.74	80%
HW-6	26.1	0.80	88%
I-5	0.87	0.62	60%
I-6	1.13	0.56	50%
I-7	1.00	0.87	10%
I-8	1.48	0.43	30%
I-9	2.14	0.24	0%
HW-2	4.57	0.80	88%
HW-4	22.1	0.80	88%
WQ-1	6.59	0.60	57%

LEGEND

- EARTH DIKE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- SCE STABILIZED CONSTRUCTION ENTRANCE

MAGNETIC

⚠ NOTE: THIS PLAN IS FOR SEDIMENT CONTROL AND DRAINAGE AREA INFORMATION ONLY. SEE SHEET 4 FOR GRADING.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1-30-04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
1-6-05	1	ADDED NOTE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — NO. 19949 — PROFESSIONAL ENGINEER

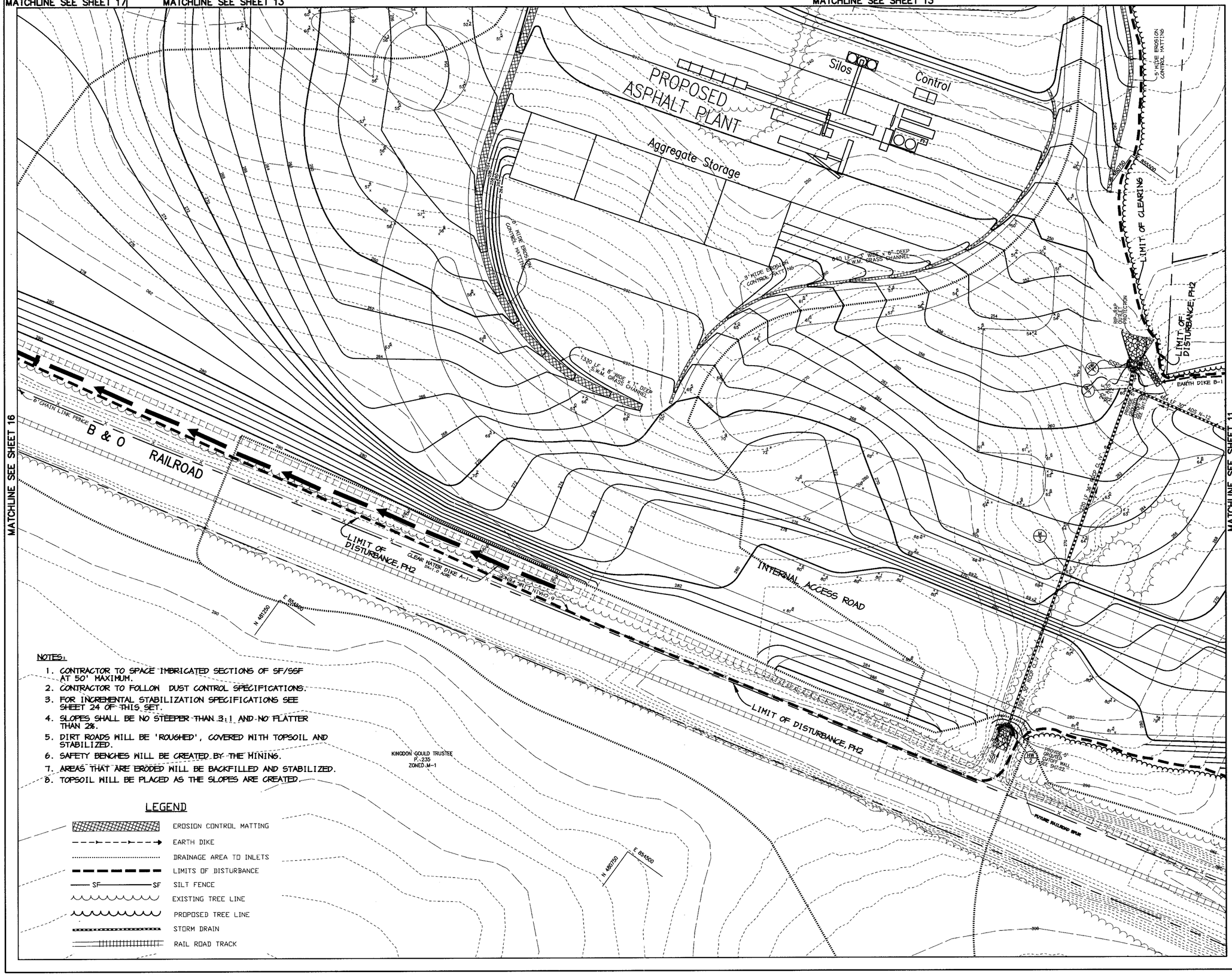
CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY : MAD
CHECKED BY : C.J.R.
PROJECT NO : 99092/SEDIMI.DWG
DATE : JANUARY 29, 2004
SCALE : 1" = 50'
DRAWING NO. 11 OF 41

SDP-99-134

P:\project\990921-01\Engr\Plans\Sedim1.dwg, Layout1, 01/29/2004 12:32:18 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 17 | MATCHLINE SEE SHEET 13 | MATCHLINE SEE SHEET 13



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

NOTE: THIS PLAN IS FOR SEDIMENT CONTROL AND DRAINAGE AREA INFORMATION ONLY. SEE SHEET 5 FOR GRADING.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — 2/12/04
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 2/12/04
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 3/15/04
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 2/20/04
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 3/11/04
DATE

DATE	NO.	REVISION
1-6-05	1	ADDED NOTE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

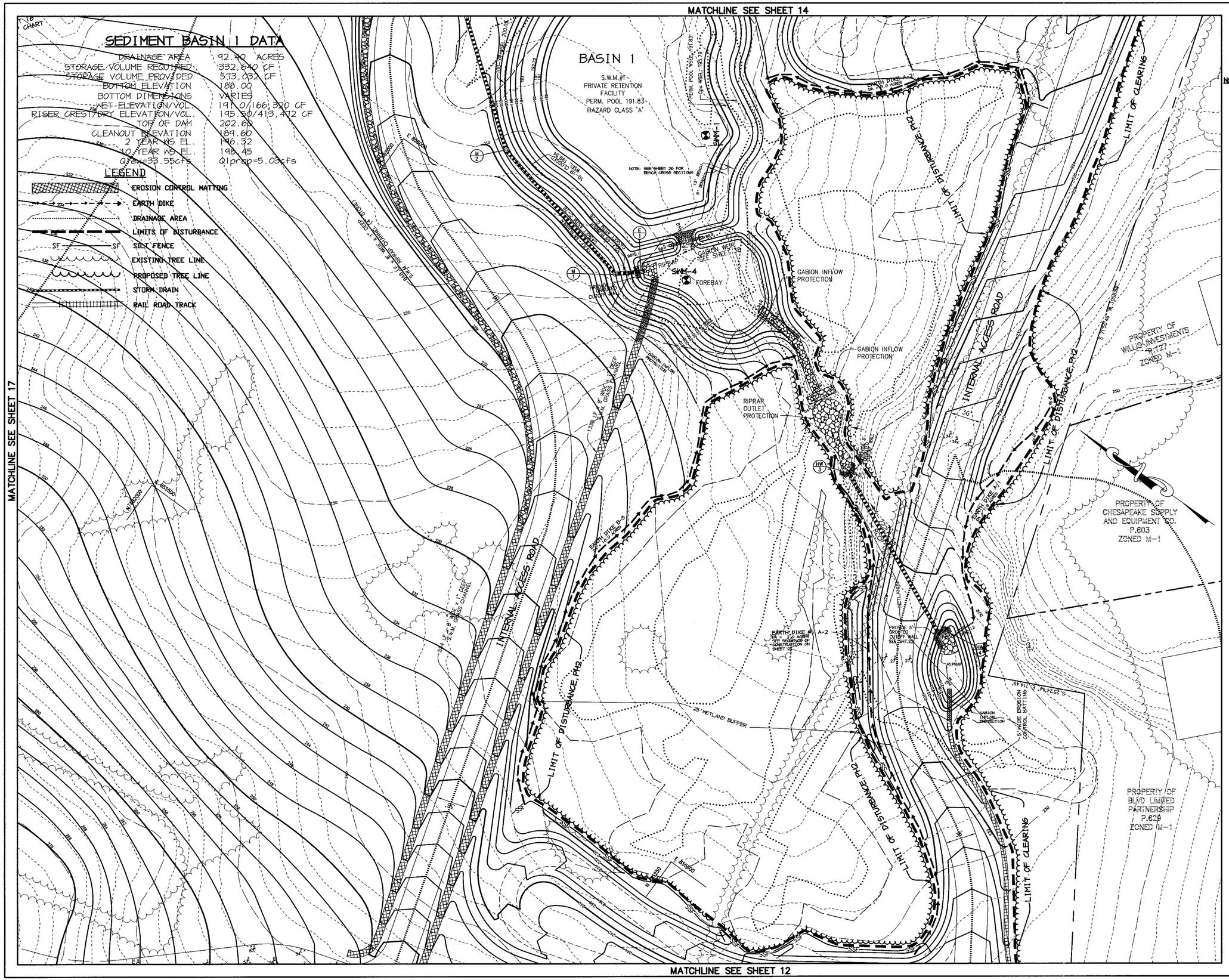
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM2.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	12 OF 41

SDP-99-134

P:\project\99092\1-0\Eng\Plans\Sedim2.dwg, Layout1, 01/29/2004 12:32:57 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 14



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christ J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/NRCS 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

2/25/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

2/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
1-9-05	1	REV. GRADING & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

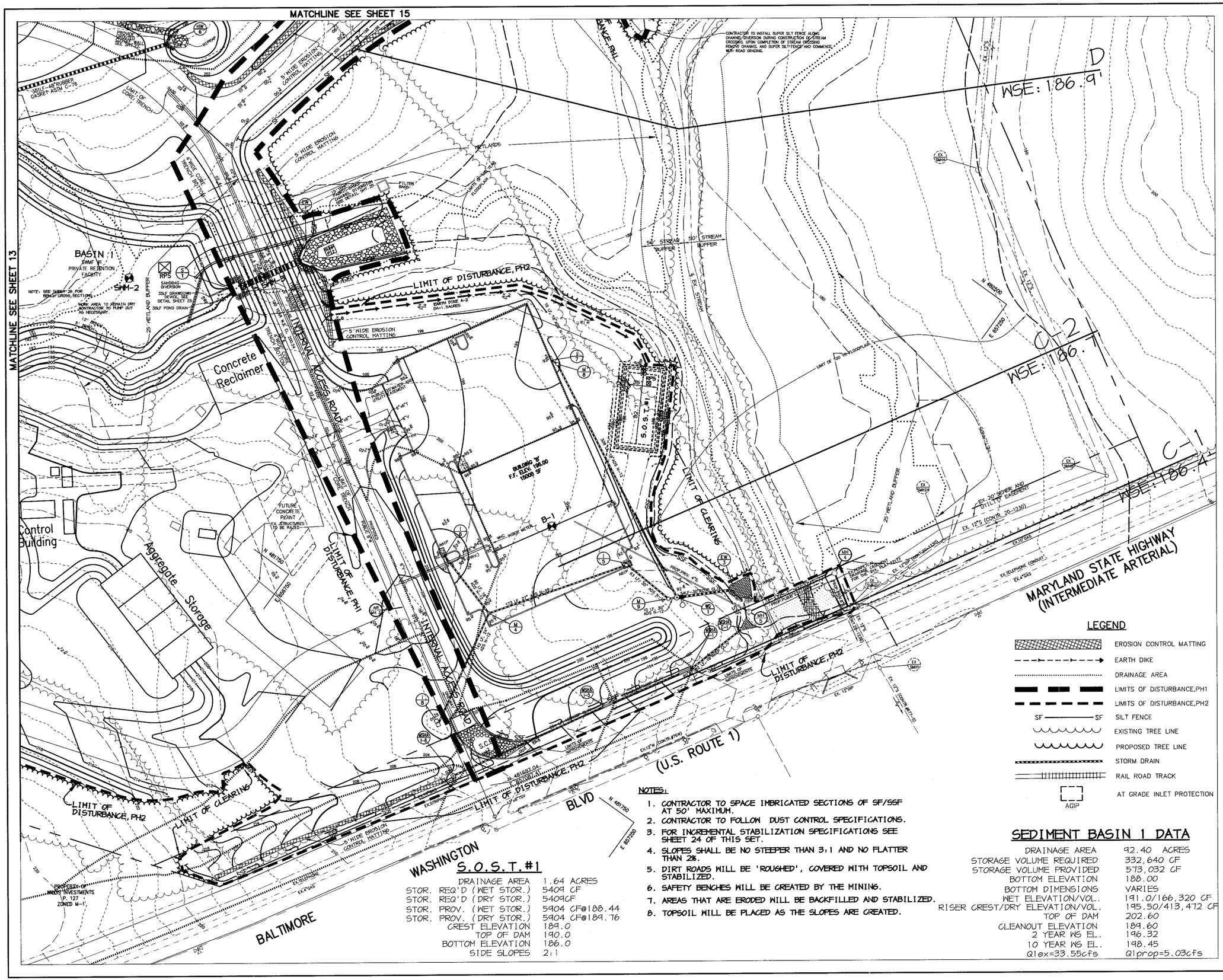
STATE OF MARYLAND CHRISTOPHER J. REID NO. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM3.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	13 OF 41

SDP-99-134

P:\project\99092\1 0\Engr\Plans\Sedim3.dwg, Layout1, 01/29/2004 12:39:33 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- AGIP AT GRADE INLET PROTECTION

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
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7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

S.O.S.T. #1

DRAINAGE AREA	1.64 ACRES
STOR. REQ'D (WET STOR.)	5409 CF
STOR. REQ'D (DRY STOR.)	5409CF
STOR. PROV. (WET STOR.)	5904 CF@188.44
STOR. PROV. (DRY STOR.)	5904 CF@189.76
CREST ELEVATION	189.0
TOP OF DAM	190.0
BOTTOM ELEVATION	186.0
SIDE SLOPES	2:1

SEDIMENT BASIN 1 DATA

DRAINAGE AREA	92.40 ACRES
STORAGE VOLUME REQUIRED	332,640 CF
STORAGE VOLUME PROVIDED	573,032 CF
BOTTOM ELEVATION	188.00
BOTTOM DIMENSIONS	VARIES
WET ELEVATION/VOL.	191.0/166,320 CF
RISER CREST/DRY ELEVATION/VOL.	195.50/413,472 CF
TOP OF DAM	202.60
CLEANOUT ELEVATION	189.60
2 YEAR WS EL.	196.32
10 YEAR WS EL.	198.45
Qlex=33.55cfs	Qlprop=5.03cfs

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid 1-30-04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
1-6-06	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM4.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	14 OF 41

SDP-99-134

P:\project\990921-01Engr\Plans\Sedim4.dwg, Layout1, 01/29/2004 12:34:10 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
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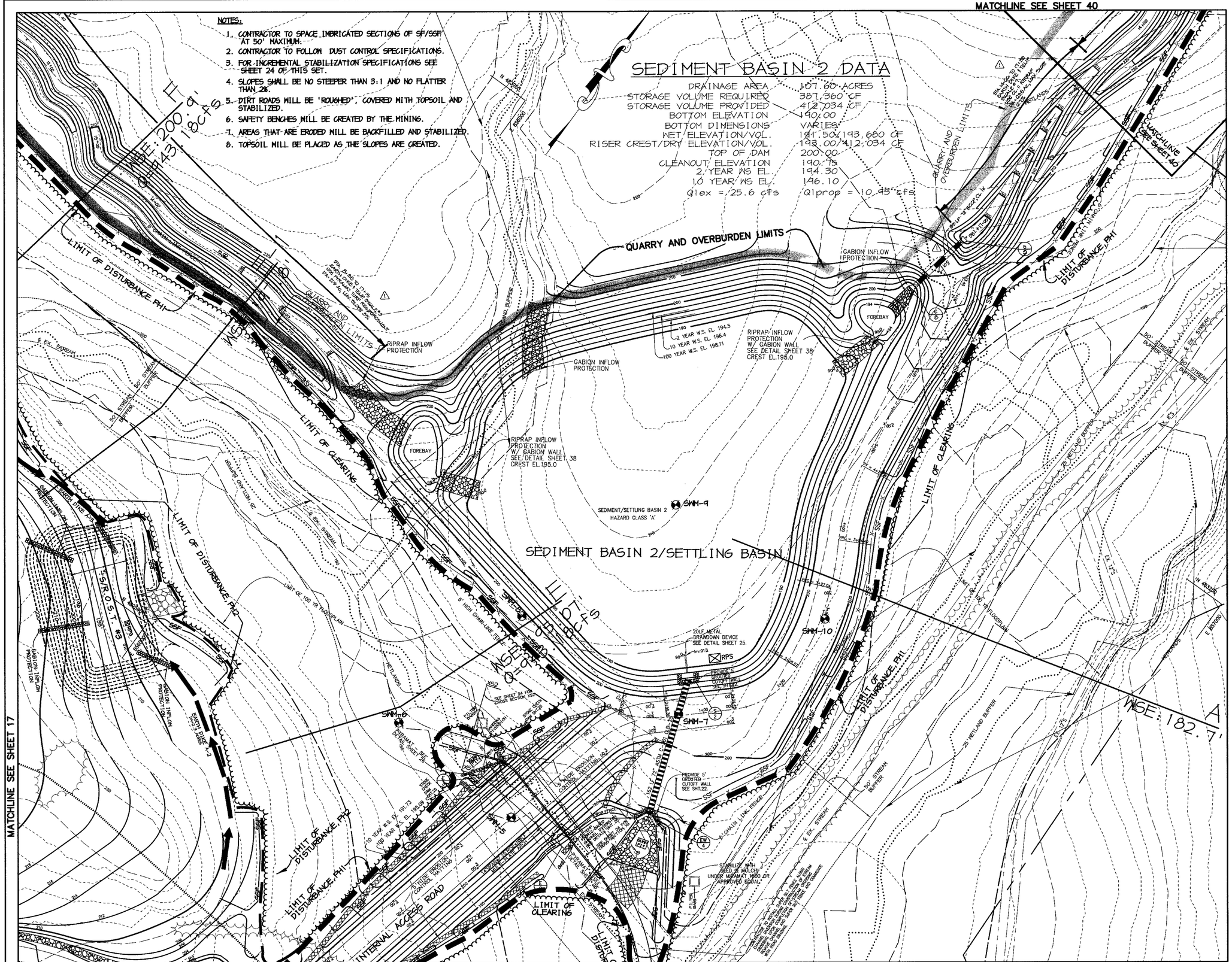
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

SEDIMENT BASIN 2 DATA

DRAINAGE AREA	107.60 ACRES
STORAGE VOLUME REQUIRED	387,360 CF
STORAGE VOLUME PROVIDED	412,034 CF
BOTTOM ELEVATION	190.00
BOTTOM DIMENSIONS	VARIES
WET ELEVATION/VOL.	191.50/193,680 CF
RISER CREST/DRY ELEVATION/VOL.	193.00/412,034 CF
TOP OF DAM	200.00
CLEANOUT ELEVATION	190.75
2 YEAR WS EL.	194.30
10 YEAR WS EL.	196.10
Q1ex = 25.6 cfs	Q1prop = 10.45 cfs



LEGEND

- TEMPORARY SWALE
- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- PYRAMAT REINFORCED MATTING

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmitt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid — 1-30-04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers /GS. — 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 2/12/04 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Marsha S. Wright — 2/25/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION
1-6-05	1	REVISED EARTH DIKE & SWALE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

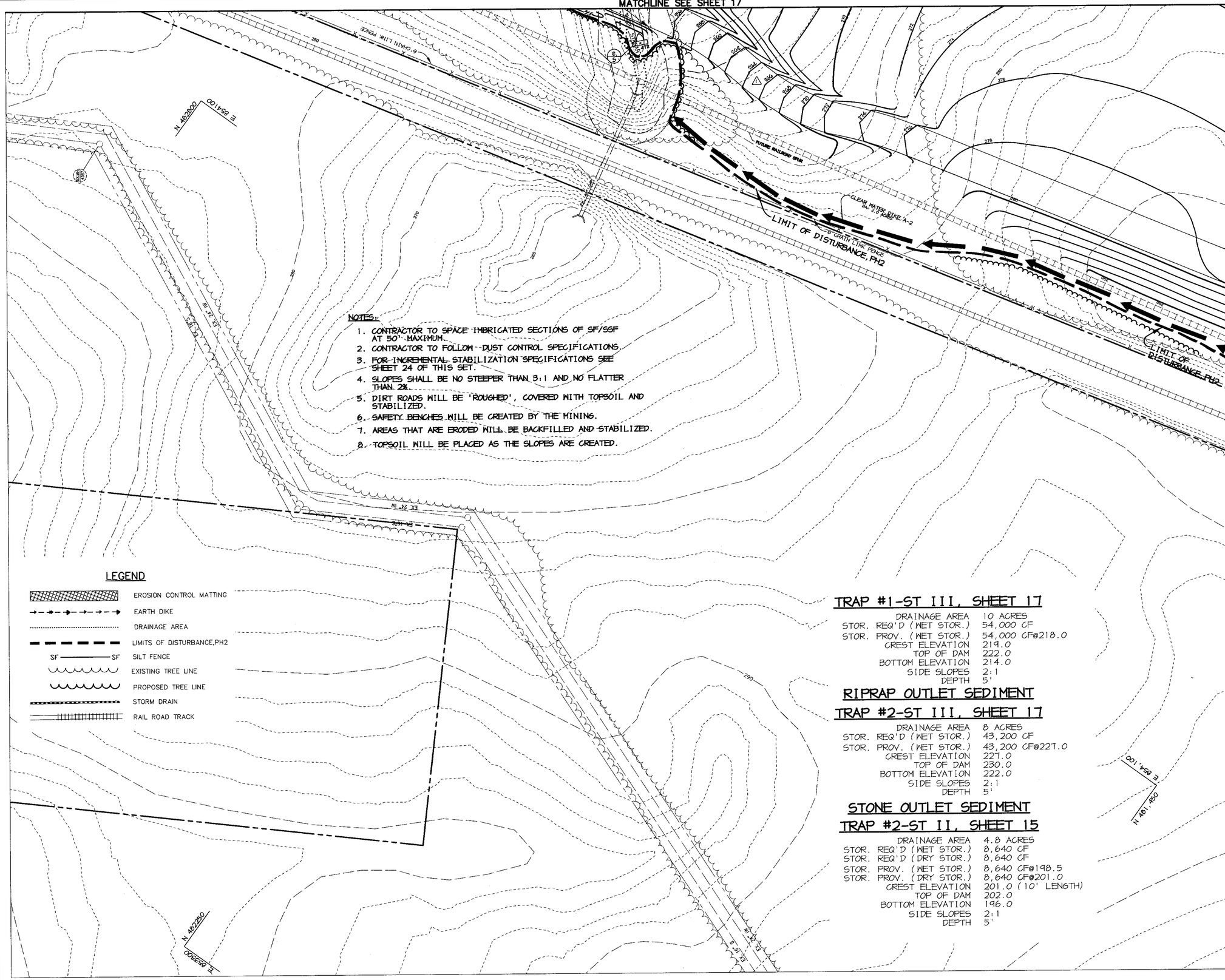
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM5.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	15 OF 41

SDP-99-134

P:\project\990921-01\Engr\Plans\Sedim5.dwg, Layout1, 01/29/2004 12:34:42 PM, HP1050C, Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 17



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE,PH2
- SF —— SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

TRAP #1-ST III, SHEET 17

DRAINAGE AREA	10 ACRES
STOR. REQ'D (WET STOR.)	54,000 CF
STOR. PROV. (WET STOR.)	54,000 CF@218.0
CREST ELEVATION	219.0
TOP OF DAM	222.0
BOTTOM ELEVATION	214.0
SIDE SLOPES	2:1
DEPTH	5'

RIPRAP OUTLET SEDIMENT TRAP #2-ST III, SHEET 17

DRAINAGE AREA	8 ACRES
STOR. REQ'D (WET STOR.)	43,200 CF
STOR. PROV. (WET STOR.)	43,200 CF@227.0
CREST ELEVATION	227.0
TOP OF DAM	230.0
BOTTOM ELEVATION	222.0
SIDE SLOPES	2:1
DEPTH	5'

STONE OUTLET SEDIMENT TRAP #2-ST II, SHEET 15

DRAINAGE AREA	4.8 ACRES
STOR. REQ'D (WET STOR.)	8,640 CF
STOR. REQ'D (DRY STOR.)	8,640 CF
STOR. PROV. (WET STOR.)	8,640 CF@198.5
STOR. PROV. (DRY STOR.)	8,640 CF@201.0
CREST ELEVATION	201.0 (10' LENGTH)
TOP OF DAM	202.0
BOTTOM ELEVATION	196.0
SIDE SLOPES	2:1
DEPTH	5'

MAGNETIC

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers /CS 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/26/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
1-6-05	1	REVISED GRADING & ACCESS ROAD

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIMG.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	16 OF 41

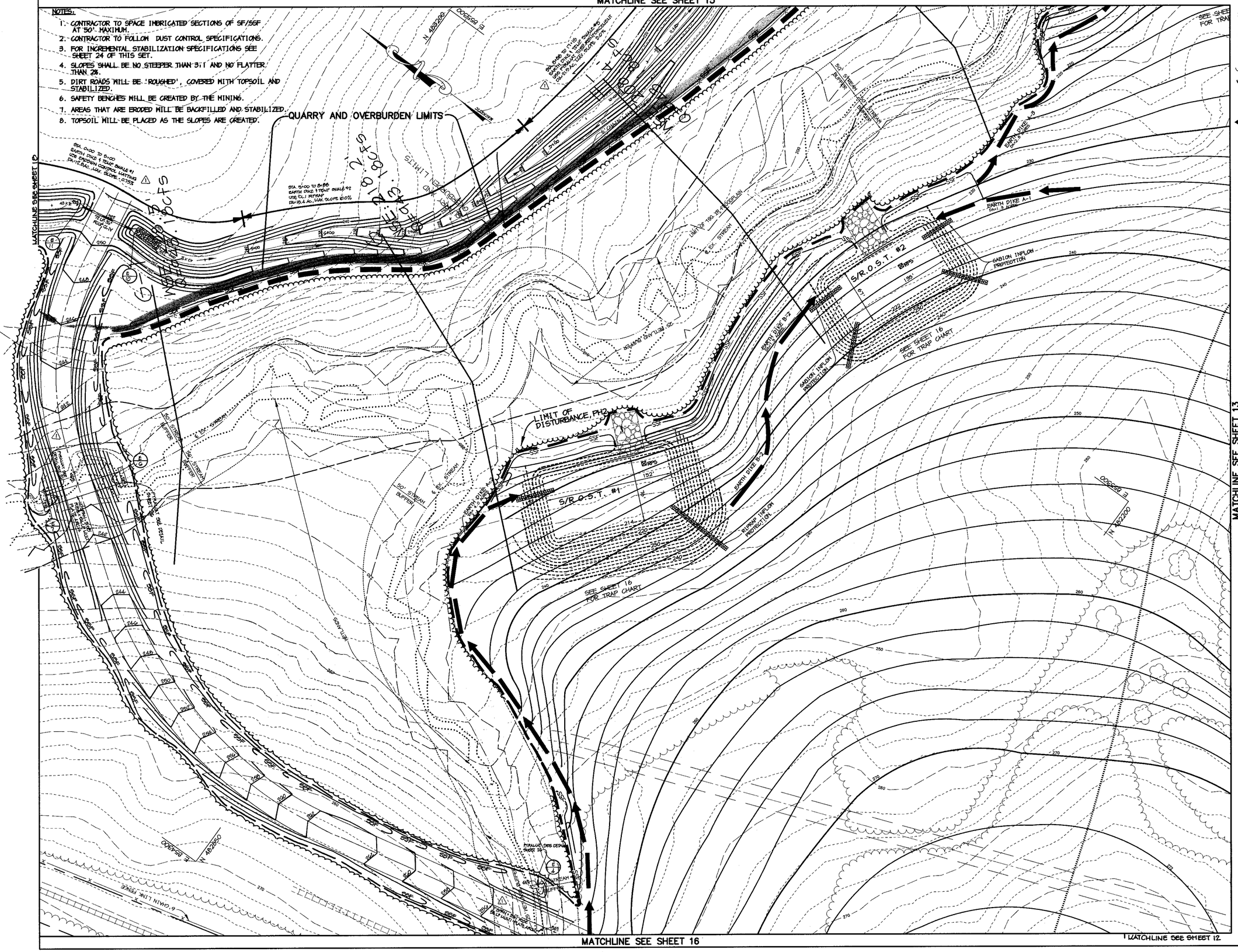
SDP-99-134

P:\project\99092\1-01Engr\Plans\sedimg.dwg, Layout1, 01/29/2004 12:37:45 PM, HP1050C_Mylar pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 15

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.



MATCHLINE SEE SHEET 16

MATCHLINE SEE SHEET 13

LEGEND

- TEMPORARY SWALE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- EARTH DIKE
- PYRAMAT REINFORCED MATTING

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — 2/2/04 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 2/2/04 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 3/15/04 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3/20/04 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 3/11/04 DATE

DATE	NO.	REVISION
1-6-05	1	REVISED EARTH DIKE, SWALE & ACCESS ROAD

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

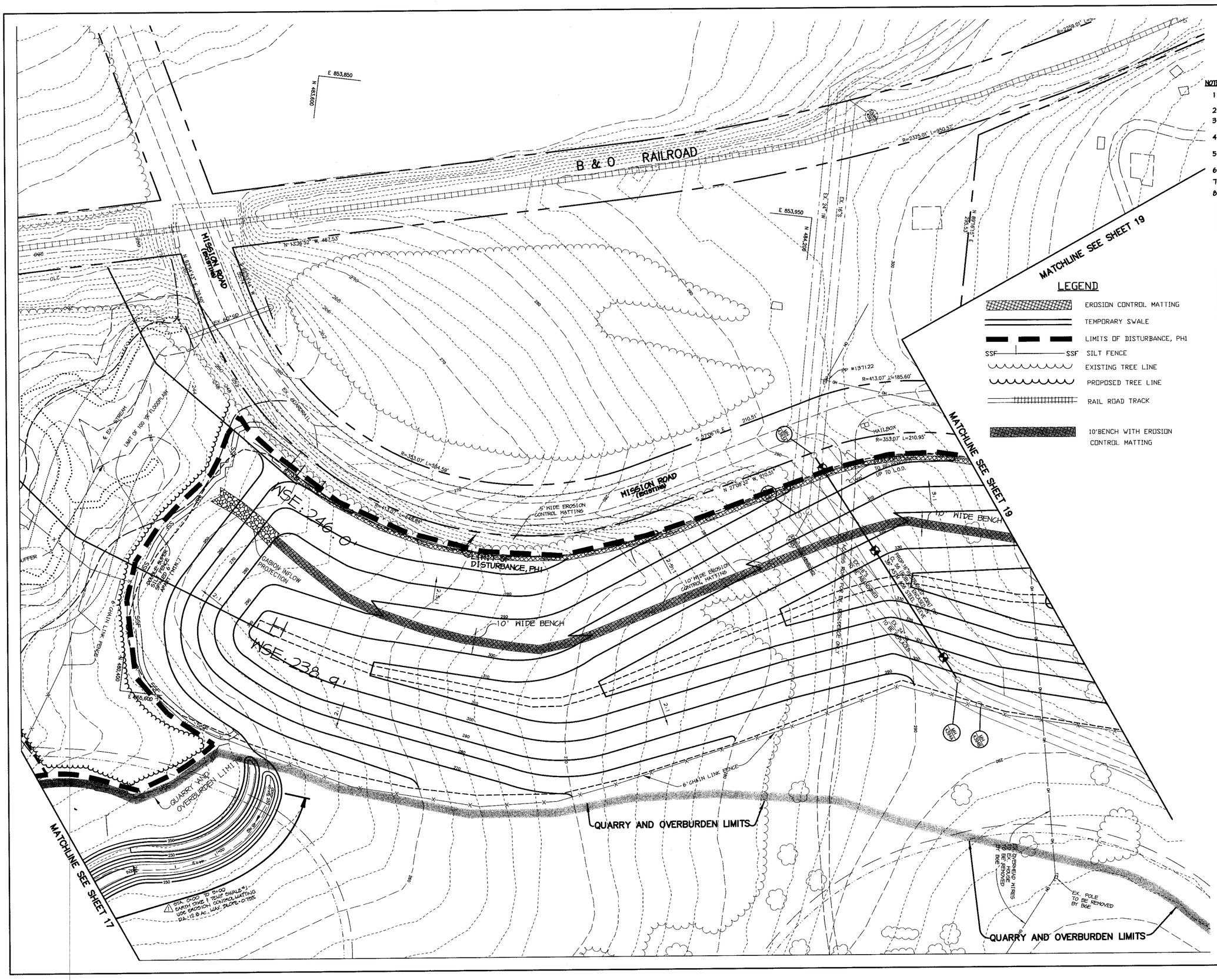
STATE OF MARYLAND — CHRISTOPHER J. REID — NO. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM7.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	17 OF 41

SDP-99-134

P:\project\990921-01\Eng\Plans\sedim7.dwg, Layout1, 01/29/2004 12:38:24 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/CB — 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 2/12/04 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 3/15/04 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 2/20/04 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 3/11/04 DATE

DATE	NO.	REVISION
1-6-05	1	REV. EARTH DIKE & SWALE & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

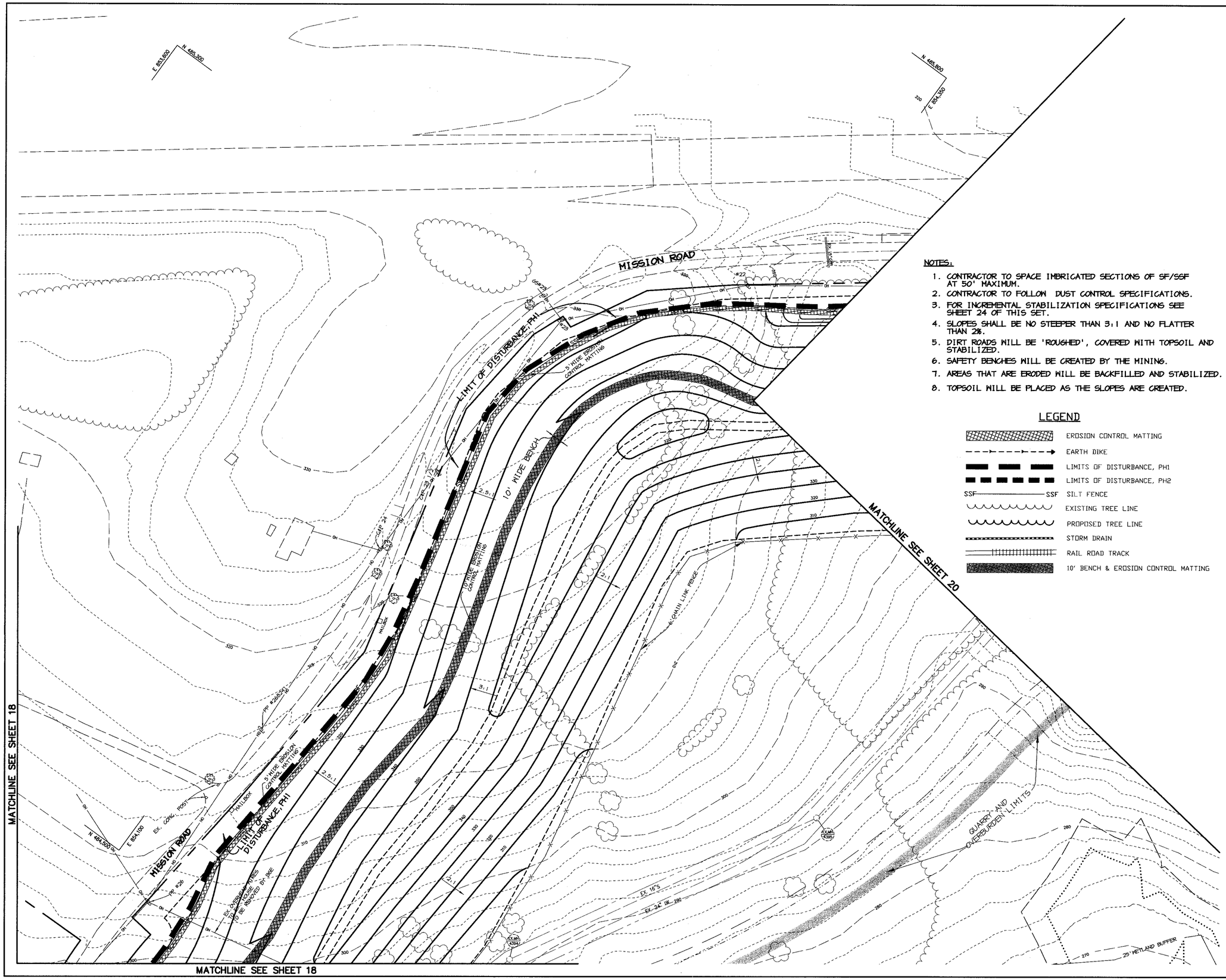
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM8.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	18 OF 41

SDP-99-134

P:\project\99092\1.0\Engr\Plans\Sedim8.dwg, Layout1, 01/29/2004 12:39:50 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
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8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SSF — SSF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- 10' BENCH & EROSION CONTROL MATTING

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — 2/17/04
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 2/17/04
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 3/15/04
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 2/20/04
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 3/11/04
DATE

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM5.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	19 OF 41

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim5.dwg, Layout1, 01/29/2004 12:40:27 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
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3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
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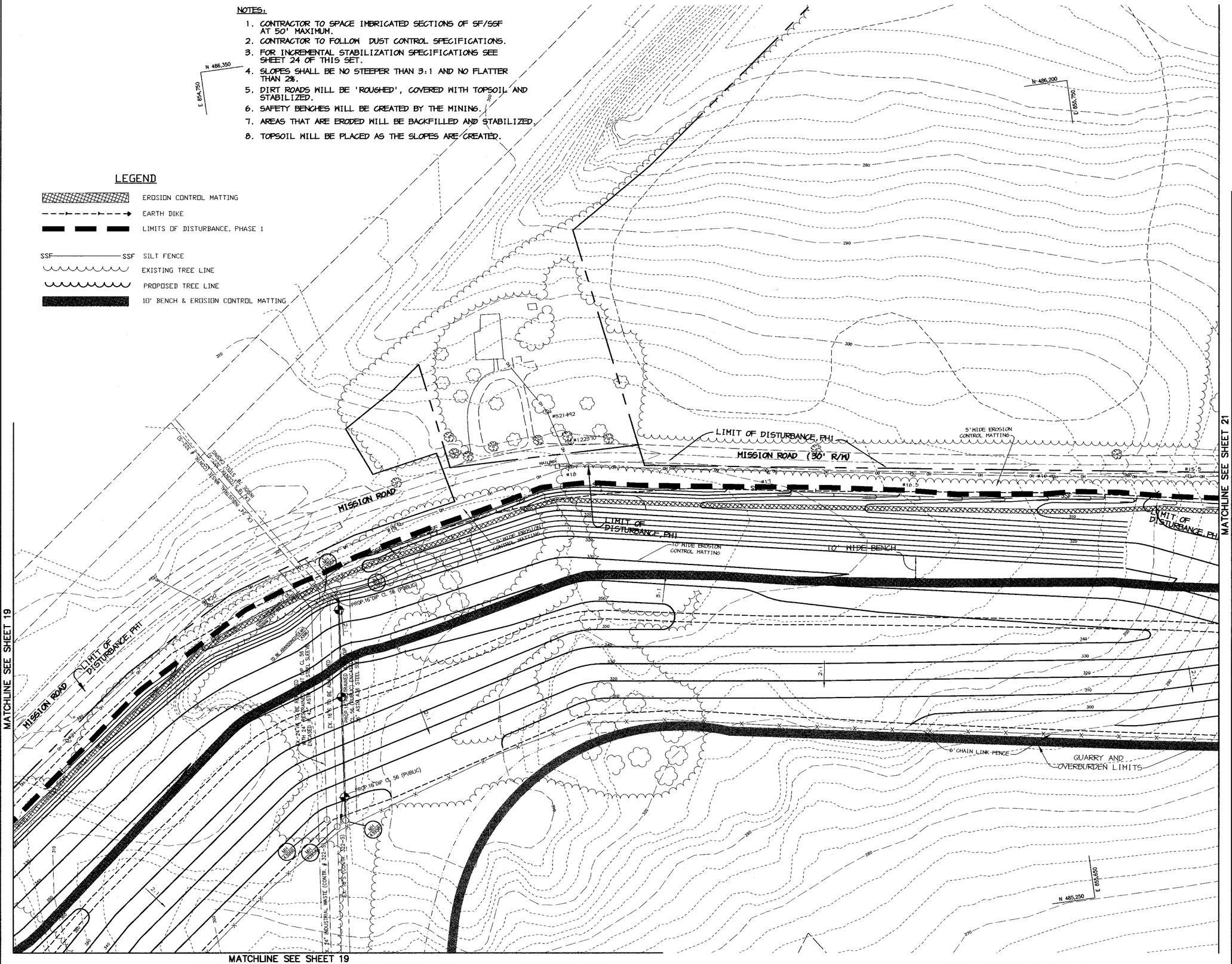
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- LIMITS OF DISTURBANCE, PHASE 1
- SSF — SSF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- 10' BENCH & EROSION CONTROL MATTING



BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers — 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

3/4/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3. TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

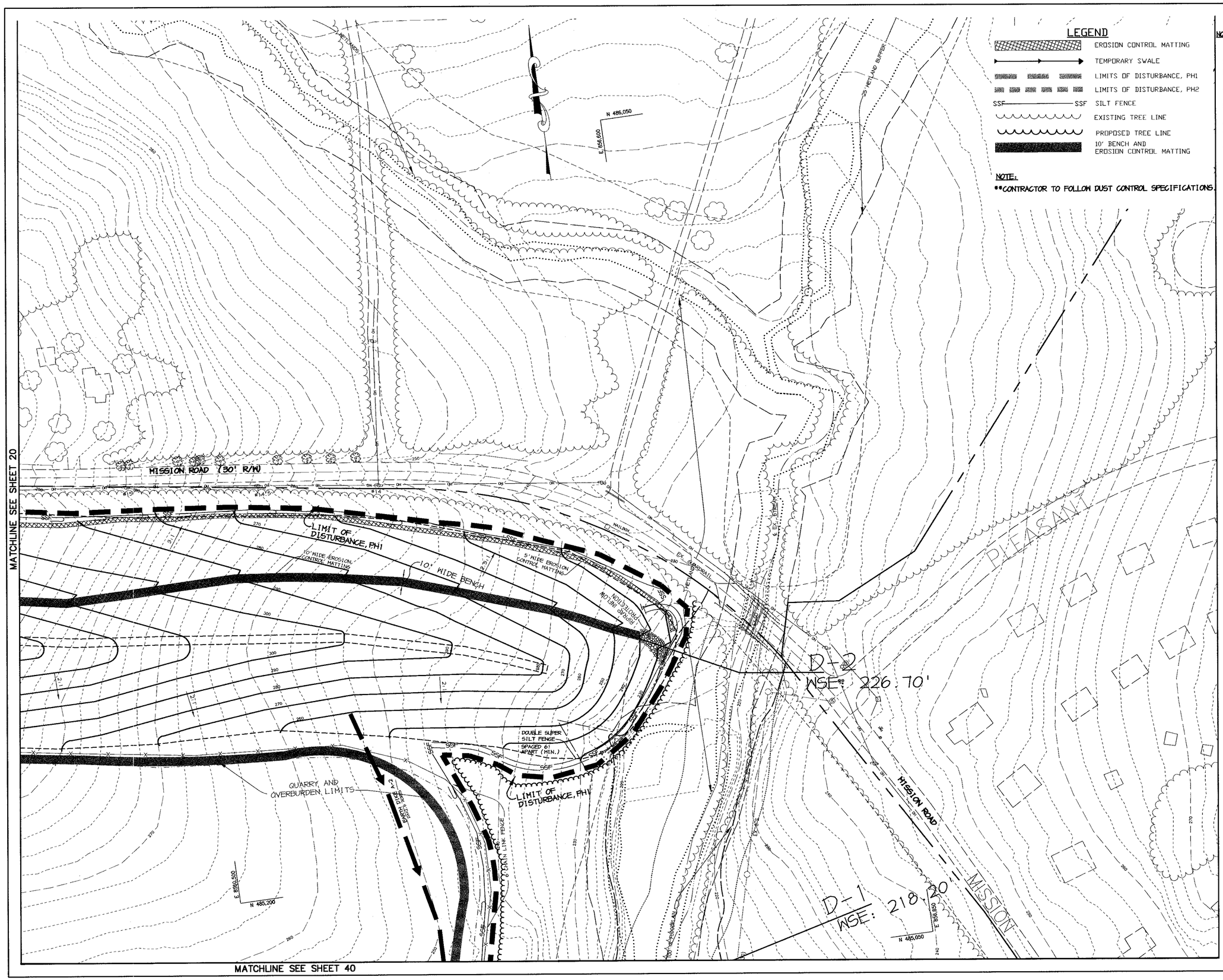
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM10.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	20 OF 41

SDP-99-134

P:\project\99092\1-01\Eng\Plans\Sedim10.dwg, Layout1, 01/29/2004 01:30:10 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EROSION CONTROL MATTING
- TEMPORARY SWALE
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SSF——SSF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- 10' BENCH AND EROSION CONTROL MATTING

NOTE:
**CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.

NOTES:

1. CONTRACTOR TO SPACE INDICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE 2/12/04
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT 2/12/04
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 3/25/04
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/20/04
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 3/11/04
DATE

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7284

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7284

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

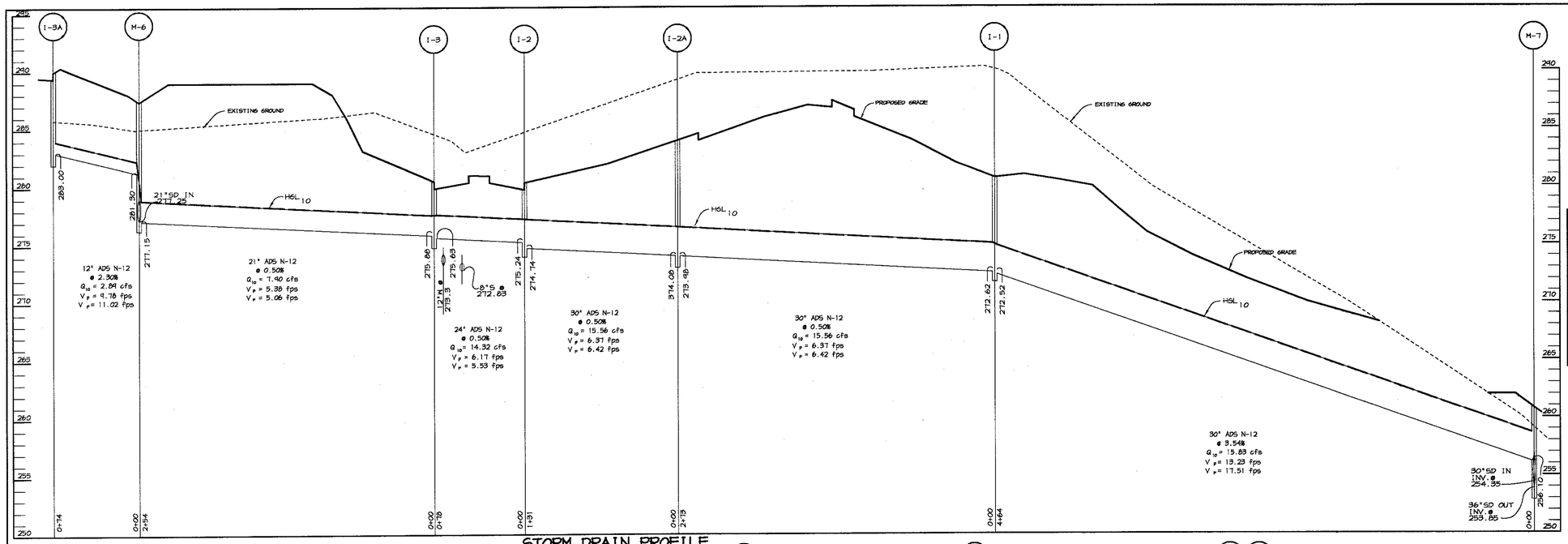
STATE OF MARYLAND
CHRISTOPHER J. REID
No. 19949
REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIMI1.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	21 OF 41

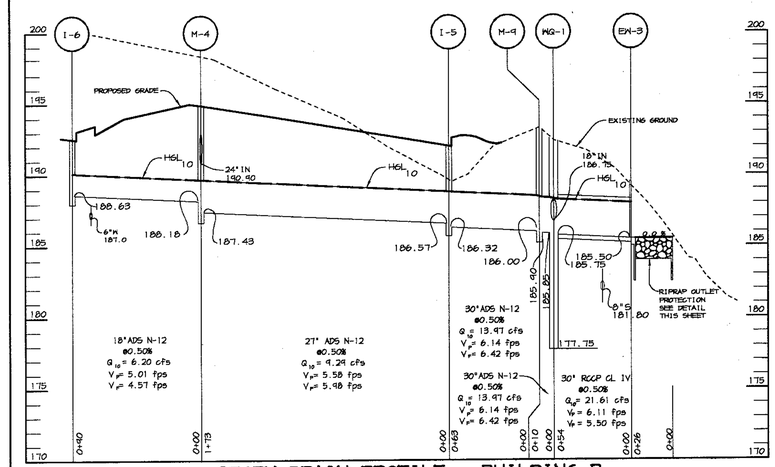
SDP-99-134

P:\projects\990921-01\Engr\Plans\Sedimi11.dwg, Layout1, 01/29/2004 12:56:40 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



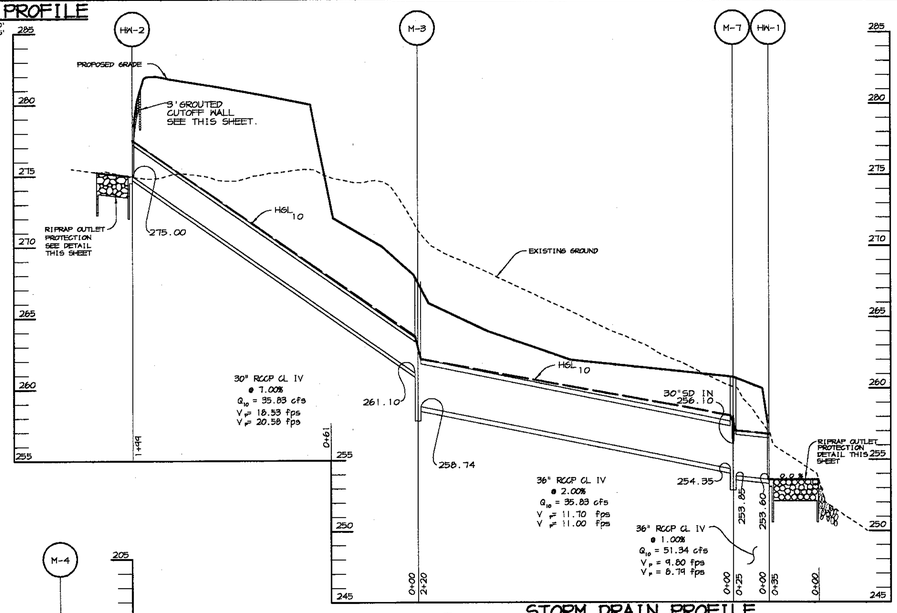
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



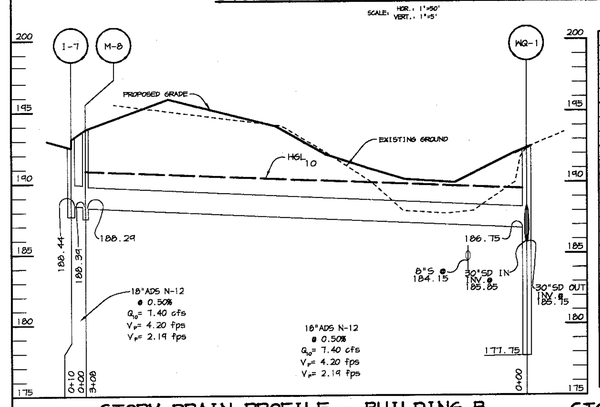
STORM DRAIN PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



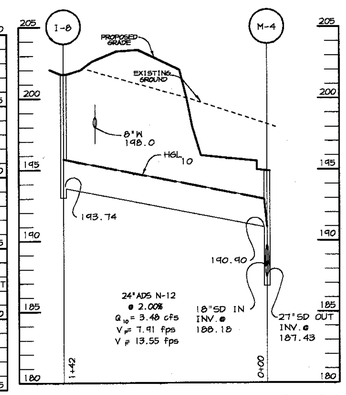
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



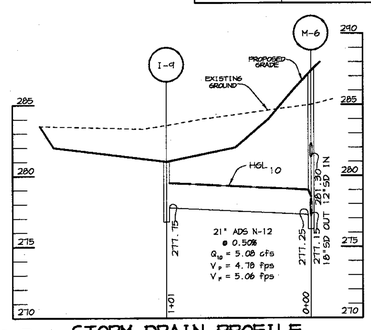
STORM DRAIN PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



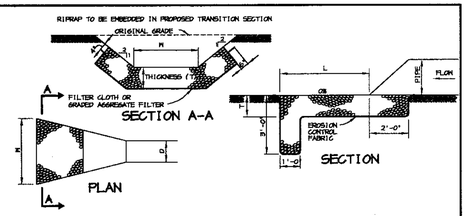
STORM DRAIN PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



RIPRAP OUTLET PROTECTION DETAIL

NO SCALE

STRUCTURE	MEDIAN STONE DIA.	MHA CLASS	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q_{10}	V_p	d_p
E-1	4.5"	I	16'	20'	14"	48.3	7.82	1.18'
EX-1	4.5"	I	118'	55'	14"	126.02	10.52	2.49'
HW-6	4.5"	I	22'	15'	14"			
EX-3	4.5"	I	26'	26.5'	14"	52.22	6.56	0.36'
HW-1	4.5"	I	35'	35'	14"	49.60	8.45	1.15'
HW-2	4.5"	I	25'	17'	14"	35.8	-	-
HW-3	16"	II	80'	35'	32"			
HW-4	16"	II	27'	20'	32"	101.4	-	-
E-8	8.5"	I	14'	12'	15"	400.0	-	-
EX-4	25"	III	63'	60'	14"	227.0	8.03	1.60'
E-10	9.5"	I	40'	14'	10"	82.0	11.0	2.8'
MGAA E-1	4.5"	I	16'	12'	14"			

CONSTRUCTION SPECIFICATIONS

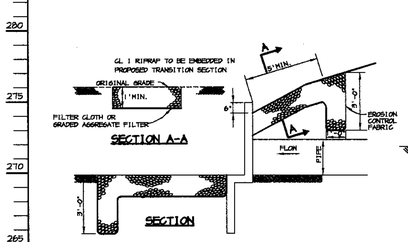
1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL..

2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.

3. GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.

4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC.HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.

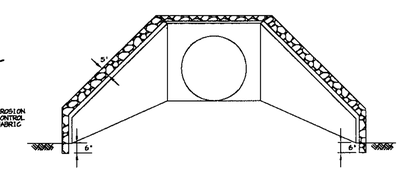
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND.IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.



GROUTED CUTOFF WALL DETAIL

NO SCALE

NOTE: LOCATED UPSTREAM OF ENDWALLS. USED TO PREVENT HEAD CUTTING.



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
1-0-05	1	REV. RIPRAP DETAIL & SHEET NO.

DEVELOPER/OWNER:

(OWNER) CHASE LIMITED PARTNERSHIP P.O. BOX 850 LAUREL, MD 20725 410.792.7234

(DEVELOPER) CHASE MINING LLC P.O. BOX 850 LAUREL, MD 20725 410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3. TAX MAP No. 43 PARCEL 234 & P.O. 235, BLOCK 19 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

PROFILES AND DETAILS

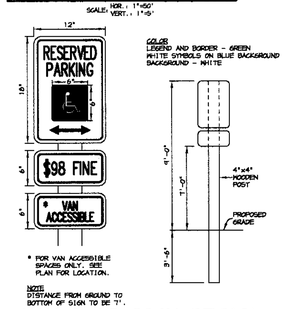
Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04 DATE

CHRISTOPHER J. REID #19949

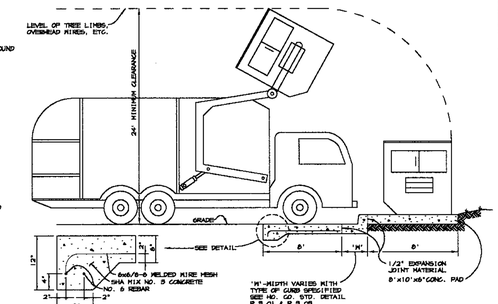
DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	22 OF 41

SDP-99-134



HANDICAP SIGN DETAIL

NO SCALE



DUMPSTER PAD

NO SCALE

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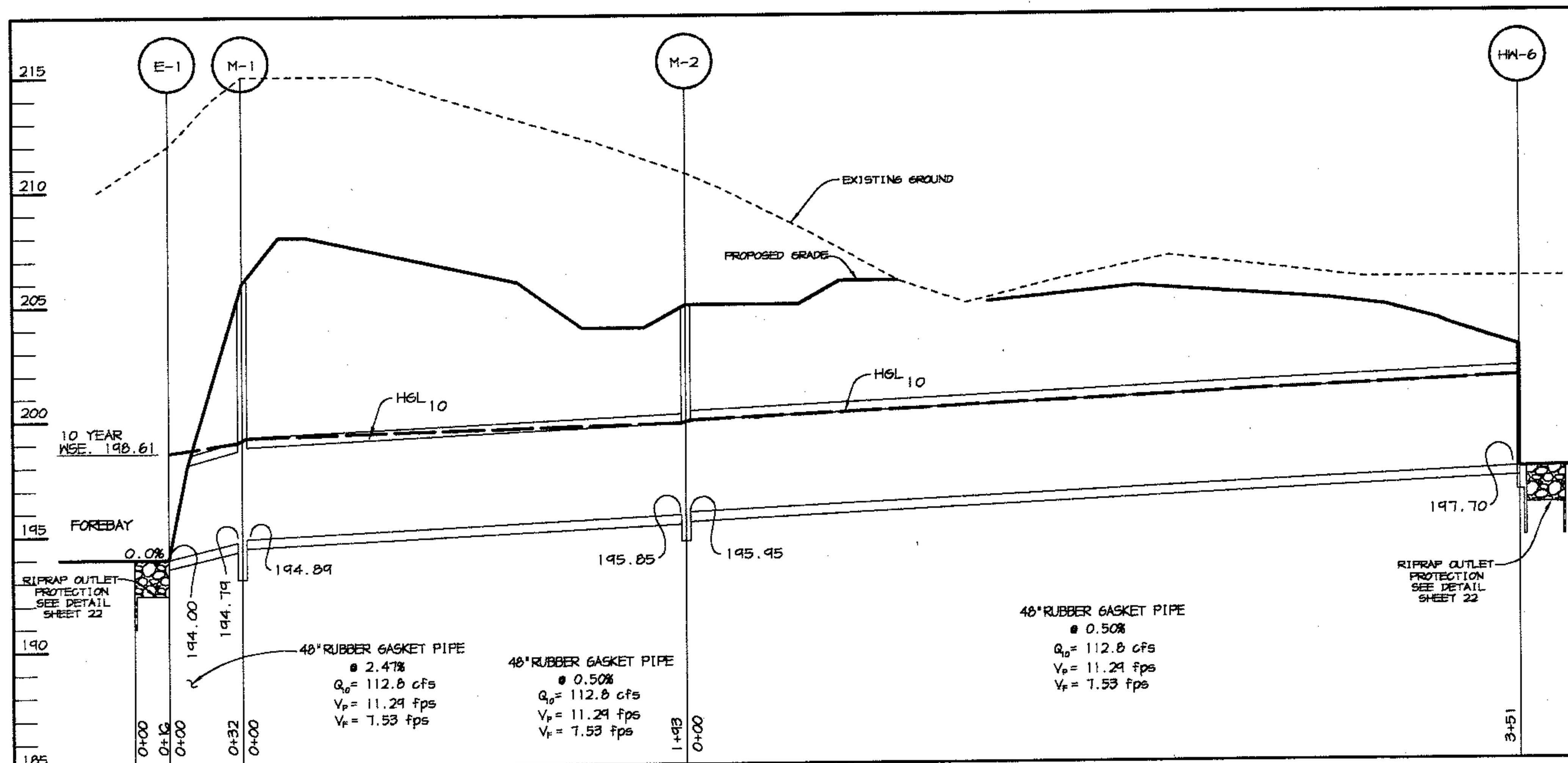
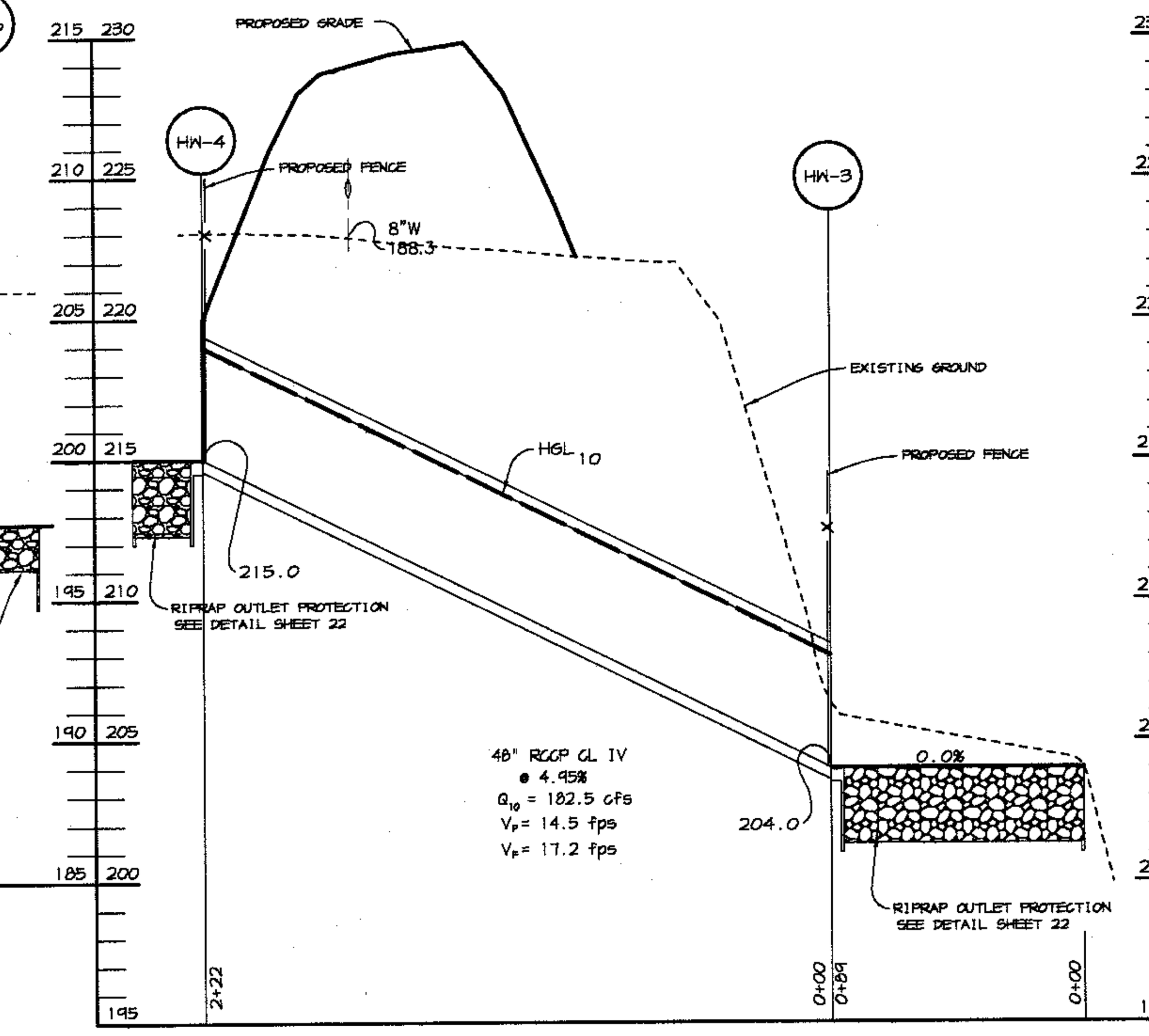


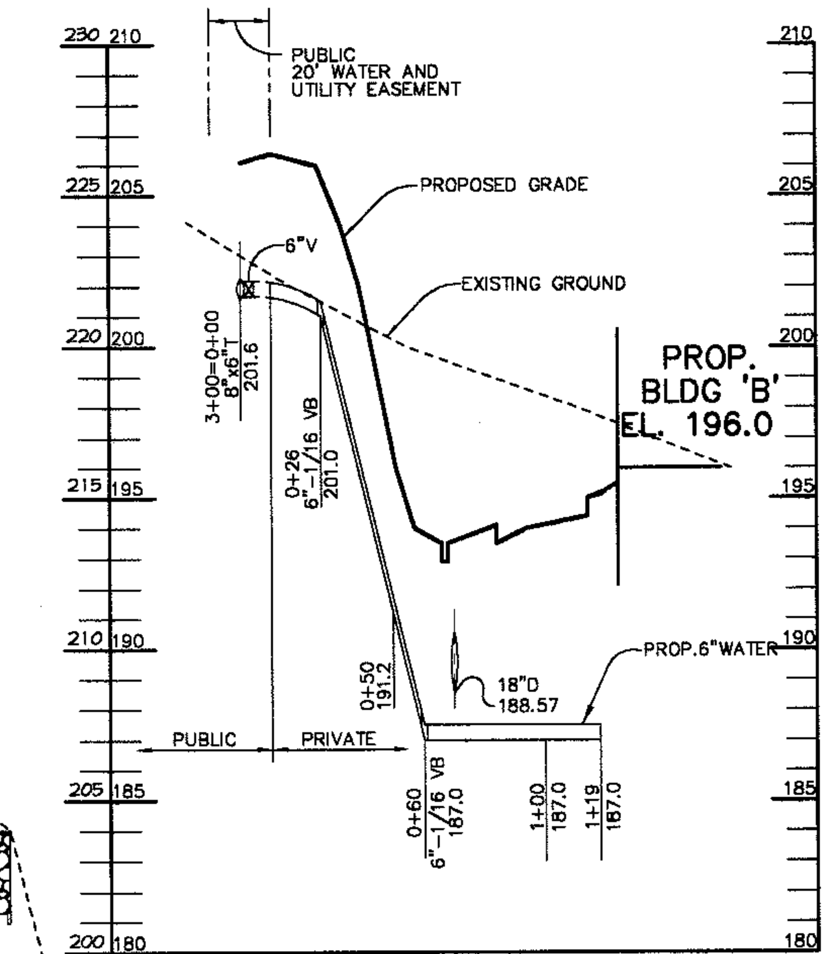
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



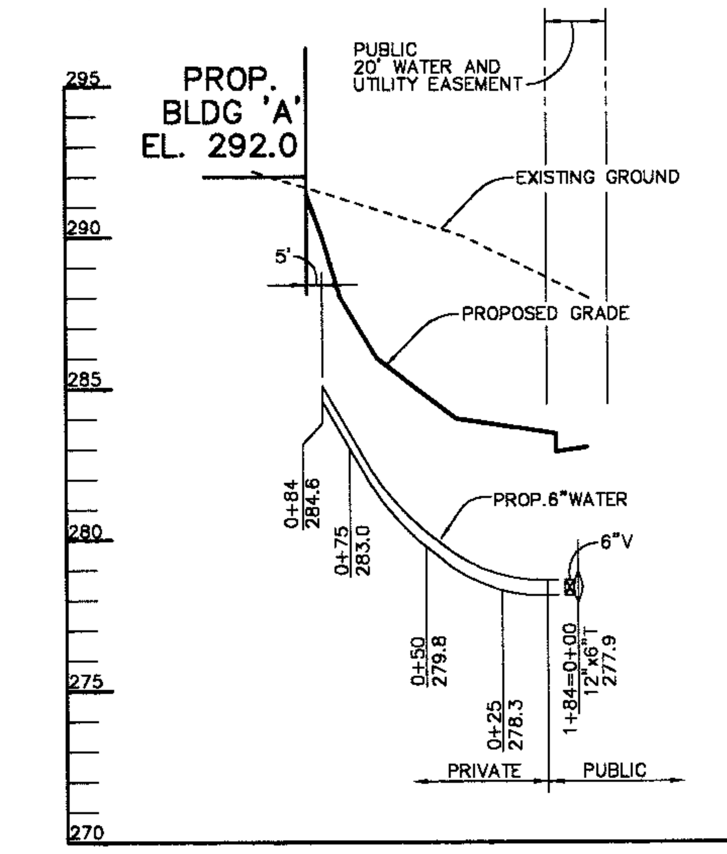
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



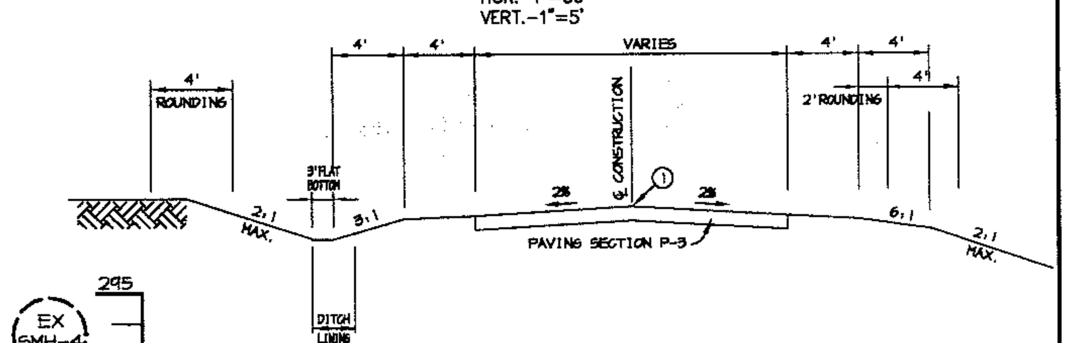
WHC PROFILE – BUILDING B

SCALE : HOR.-1"=50' VERT.-1"=5'



WHC PROFILE – BUILDING A

SCALE : HOR.-1"=50' VERT.-1"=5'

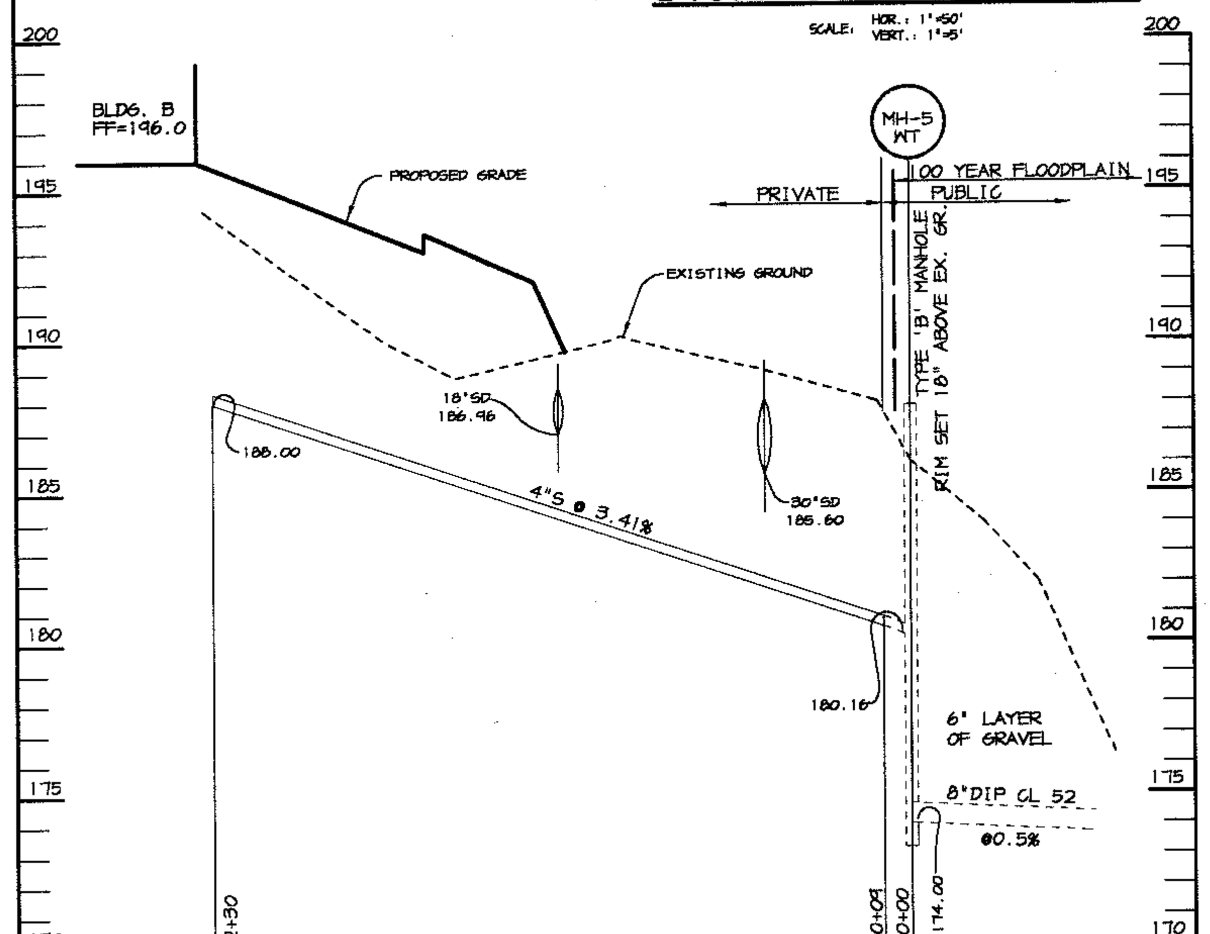


TYPICAL SECTION PRIVATE ROADS

① PROFILE GRADE LINE (PGL). SEE DESIGN MANUAL.

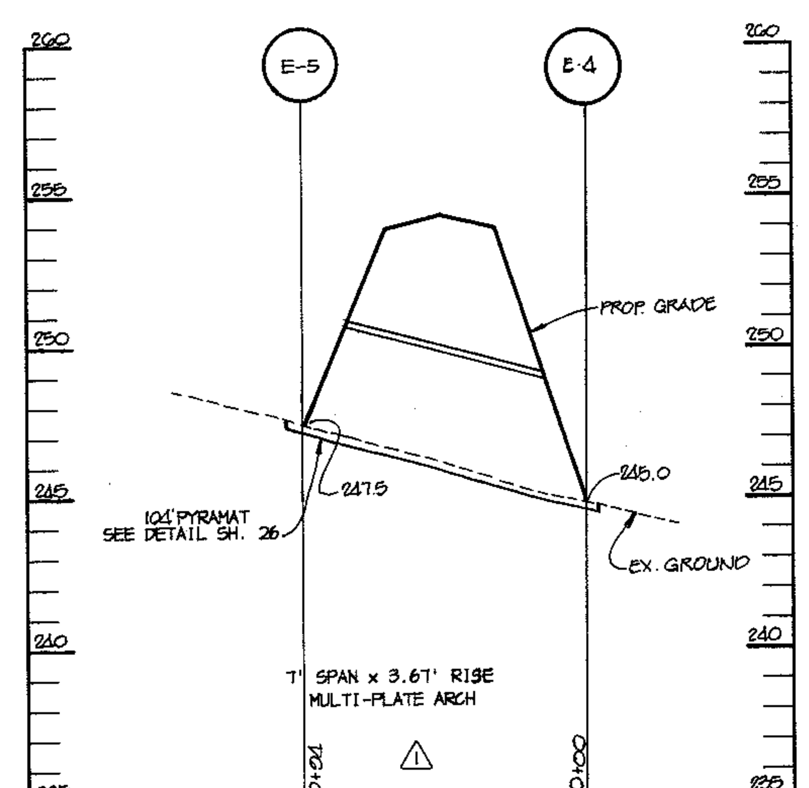
TYPICAL SECTION INTERNAL ACCESS ROAD

NO SCALE



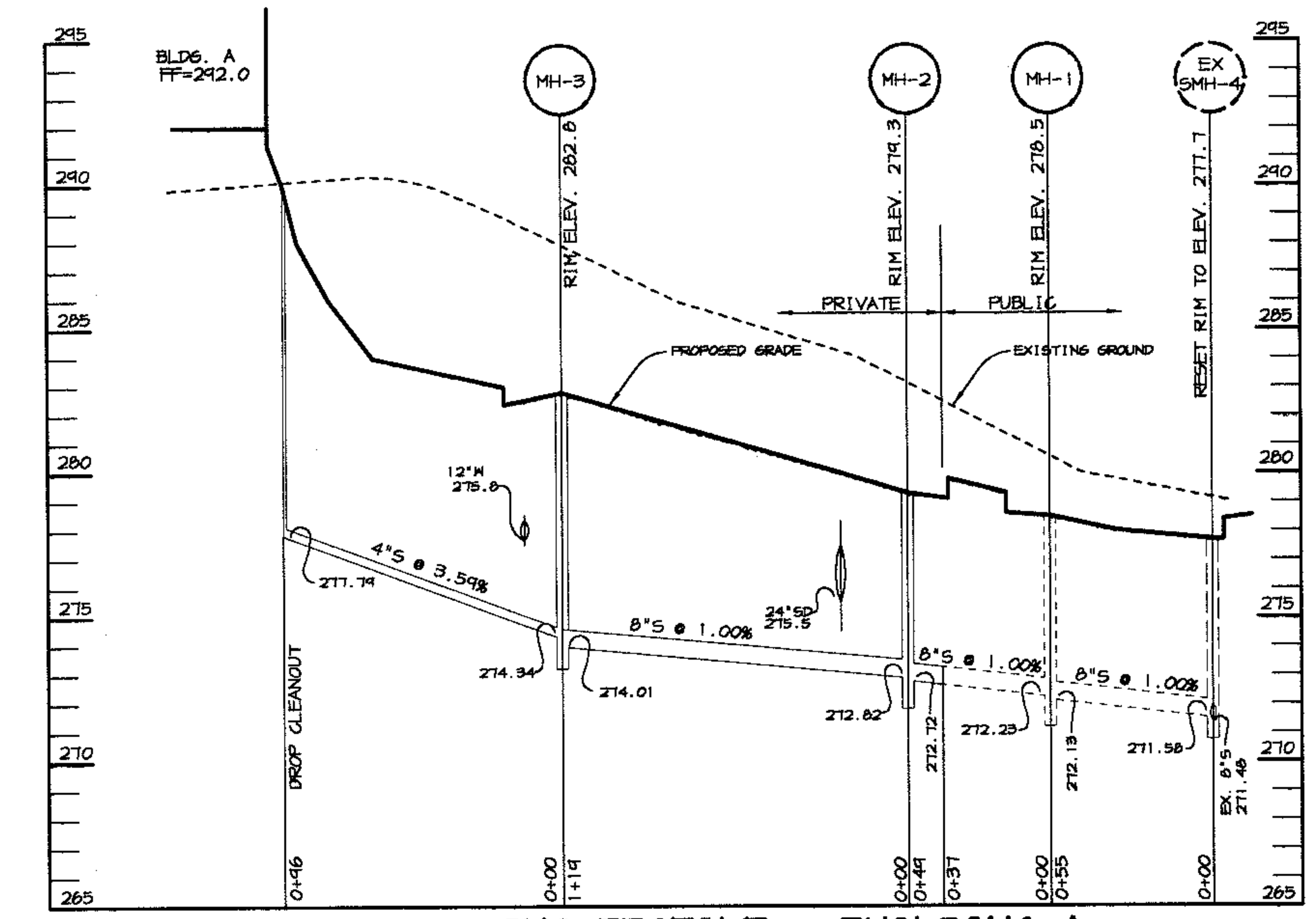
SHC PROFILE – BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



SHC PROFILE – BUILDING A

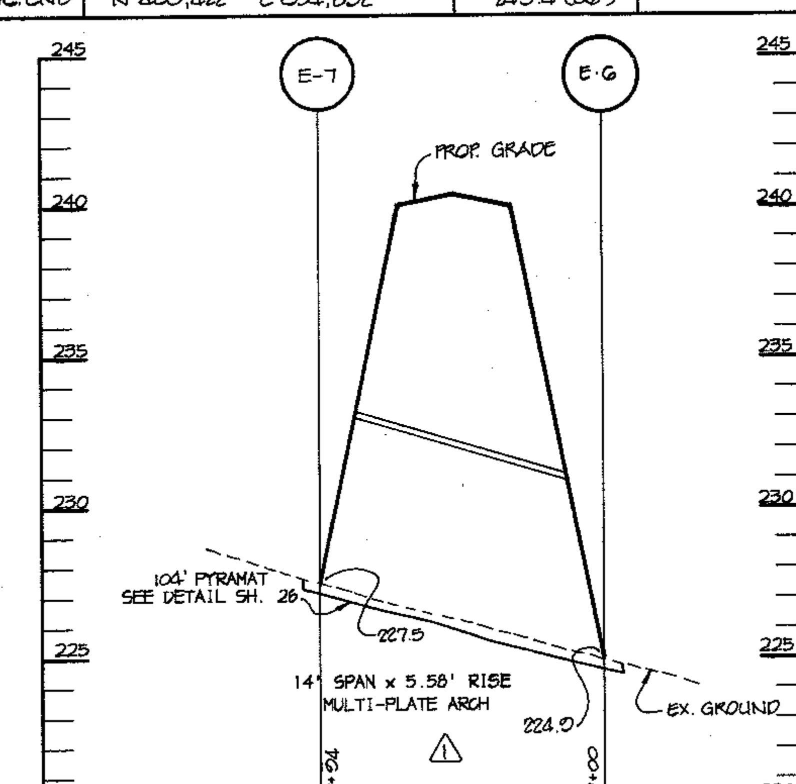
SCALE : HOR.-1"=50' VERT.-1"=5'

STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	K	N 480,138 E 855,378	272.62 (30")	272.52 (30")	280.73	HOCO STD. DETAIL SD 4.13
I-2	A-5	N 479,933 E 855,724	275.24 (24")	274.74 (30")	280.40	HOCO STD. DETAIL SD 4.40
I-2A	A-5	N 480,010 E 855,619	274.08 (30")	273.98 (30")	284.00	HOCO STD. DETAIL SD 4.40
I-3	A-5	N 479,874 E 855,679	275.88 (21")	275.63 (24")	280.50	HOCO STD. DETAIL SD 4.40
I-3A	S-COMBINATION	N 479,697 E 855,488	-	283.00 (12")	289.40	HOCO STD. DETAIL SD 4.32
HW-6	48" TYPE A HW	N 482,173 E 856,271	-	197.70 (48")	-	HOCO STD. DETAIL SD 5.11
I-5	MOD. DOUBLE-S COMB.	N 481,990 E 857,068	186.57 (27")	186.32 (30")	192.00	SEE DETAIL M-SD 423 SHEET 39
I-6	S-COMBINATION	N 481,875 E 856,881	-	188.73 (18")	192.60	HOCO STD. DETAIL SD 4.32
I-7	A-5	N 482,135 E 856,852	-	188.44 (18")	192.50	HOCO STD. DETAIL SD 4.40
I-8	DOUBLE-S	N 481,710 E 856,993	-	193.74 (24")	201.74	HOCO STD. DETAIL SD 4.23
I-9	DOUBLE-S	N 479,588 E 855,469	-	277.75 (21")	281.00	HOCO STD. DETAIL SD 4.23
M-1	6'BRICK MH	N 481,707 E 856,018	194.89	194.79	206.00	HOCO STD. DETAIL G 5.03
M-2	6'BRICK MH	N 481,895 E 856,059	195.95	194.85	203.00	HOCO STD. DETAIL G 5.03
⚠ M-3	5' PRECAST MH	N 480,530 E 855,065	262.10 (12") 261.10 (30")	258.74 (36")	276.0	HOCO STD. DETAIL G 5.13
M-4	5' PRECAST MH	N 481,850 E 856,968	188.18 (18") 190.90 (24")	186.43 (27")	194.93	HOCO STD. DETAIL G 5.13
⚠ E-5	METAL ARCH END	N 482,420 E 854,450	-	247.50	-	CONTECH SLOPE COLLAR
M-6	4' PRECAST MH	N 479,677 E 855,516	281.30 (12") 277.25 (21")	277.15 (21")	287.40	HOCO STD. DETAIL G 5.12
M-7	6' PRECAST MH	N 480,592 E 855,280	256.10 (30") 254.35 (36")	253.85 (36")	260.80	HOCO STD. DETAIL G 5.03
WQ-1	BAYSAVER	N 481,994 E 857,136	SEE SHEET 37			
HW-1	36"TYPE A HW	N 480,603 E 855,303	-	253.60 (36")	-	HOCO STD. DETAIL SD 5.11
HW-2	30"TYPE A HW	N 480,476 E 854,875	-	275.00 (30")	-	HOCO STD. DETAIL SD 5.11
HW-3	48"TYPE A HW	N 481,351 E 855,990	-	204.00	-	HOCO STD. DETAIL SD 5.11
HW-4	48"TYPE 'E'	N 481,152 E 855,896	-	215.00	-	HOCO STD. DETAIL SD 5.31
E-3	METAL ARCH END	N 482,589 E 856,422	-	185.50	-	CONTECH SLOPE COLLAR
E-1	48" CONC. END SEC.	N 481,682 E 856,038	-	194.00	-	HOCO STD. DETAIL SD 5.51
S-1	CONTROL STRUCTURE	N 481,987 E 856504	SEE DETAIL SHEET 26			
S-2	CONTROL STRUCTURE	N 482,818 E 856,546	SEE DETAIL SHEET 26			
EW-1	84" HW	N 482,057 E 856,546	-	186.50	-	SHA DETAIL MD-352.02
E-2	METAL ARCH END	N 482,557 E 856,538	-	184.50	-	CONTECH SLOPE COLLAR
EW-3	30"TYPE A HW	N 482,037 E 857,181	-	185.50	-	HOCO STD. DETAIL SD 5.11
EW-4	72" HW	N 482,661 E 856,603	-	184.00	-	SHA DETAIL MD-352.02
⚠ E-4	METAL ARCH END	N 482,408 E 854,513	-	245.0	-	CONTECH SLOPE COLLAR
⚠ E-6	METAL ARCH END	N 483,191 E 854,616	-	224.0	-	CONTECH SLOPE COLLAR
⚠ E-7	METAL ARCH END	N 483,247 E 854,540	-	227.5	-	CONTECH SLOPE COLLAR
M-8	4' PRECAST MH	N 482,135 E 856,862	188.39 (18")	188.29 (18")	193.80	HOCO STD. DETAIL G 5.12
M-9	4' PRECAST MH	N 481,987 E 857,129	186.00 (30")	185.90 (30")	193.30	HOCO STD. DETAIL G 5.12

⚠

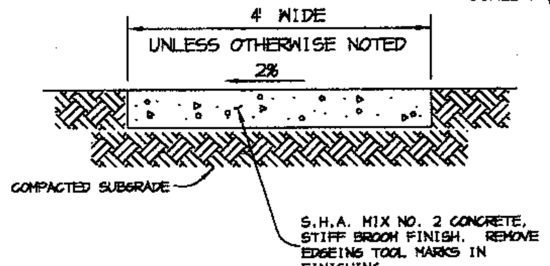
STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	REMARKS
E-8	72" CONC. END	N 483,342 E 856,424	-	198.7 (72")	HO.CO. STD. DETAIL SD-5.51
E-9	72" CONC. END	N 483,406 E 856,505	198.2 (72")	-	HO.CO. STD. DETAIL SD 5.51
E-10	36" CONC. END	N 483,352 E 854,868	-	242.7 (36")	HO.CO. STD. DETAIL SD 5.51
E-11	36" CONC. END	N 483,422 E 854,852	243.4 (36")	-	HO.CO. STD. DETAIL SD 5.51



STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'

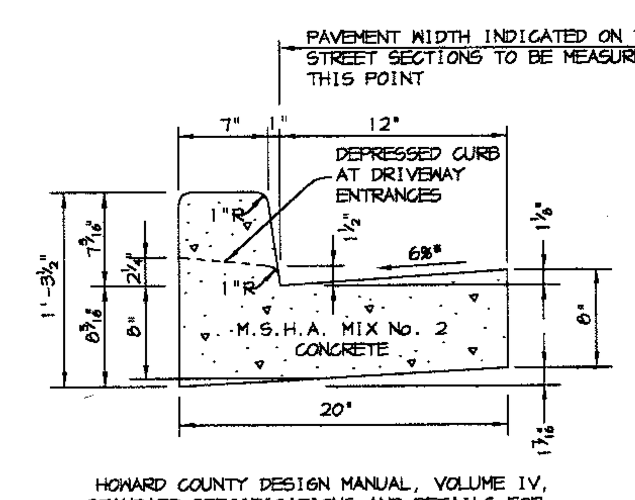
NOTES: * LOCATION OF "S" & WQ FACILITY INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR "A" INLETS LOCATION IS GIVEN AT THROAT OPENING AT CENTER OF FACE OF CURB; FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE. TOP ELEVATION IS TOP OF CURB/GRATE/RIM.



NOTES :
PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.) PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN 5' MAX. SQUARES.

SIDEWALK DETAIL

NO SCALE

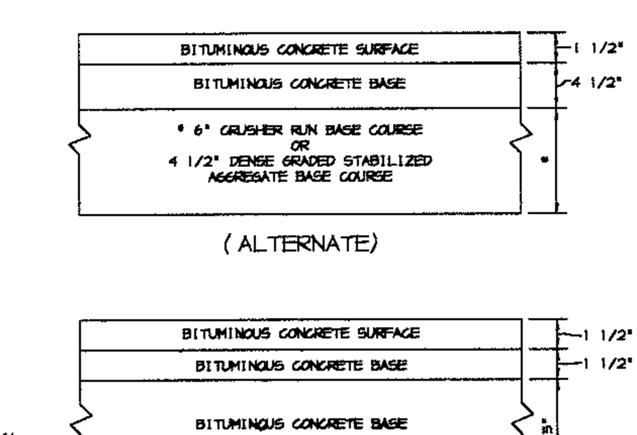


HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

STANDARD 7" COMBINATION CURB AND GUTTER

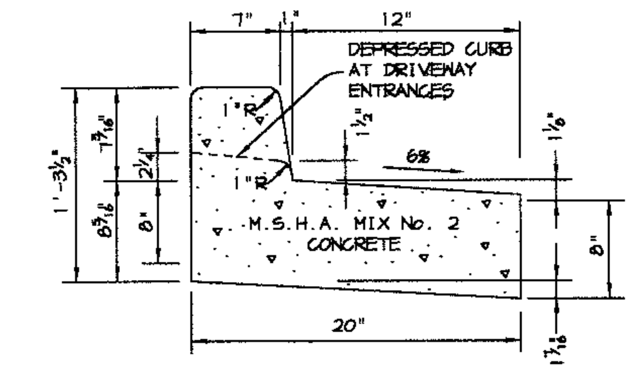
NO SCALE



HOWARD COUNTY DESIGN MANUAL VOLUME IV-STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

P-3 PAVING

NO SCALE



REVERSE 7" COMBINATION CURB AND GUTTER

NO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1.6.05	⚠	REV. STRUCTURE SCHEDULE & PROFILES

DEVELOPER/OWNER:

(OWNER) CHASE LIMITED PARTNERSHIP P.O. BOX 850 LAUREL, MD 20725 410.792.7234

(DEVELOPER) CHASE MINING LLC P.O. BOX 850 LAUREL, MD 20725 410.792.7234

PROJECT

CHASE QUARRY

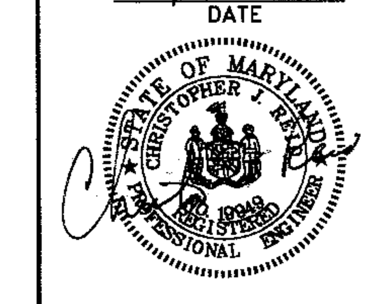
AREA ZONED M-1 & MXD-3, TAX MAP No. 43 PARCEL 234 & P.O. 235, BLOCK 19 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

PROFILES AND DETAILS

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE



CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE2.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	23 OF 41

SDP-99-134

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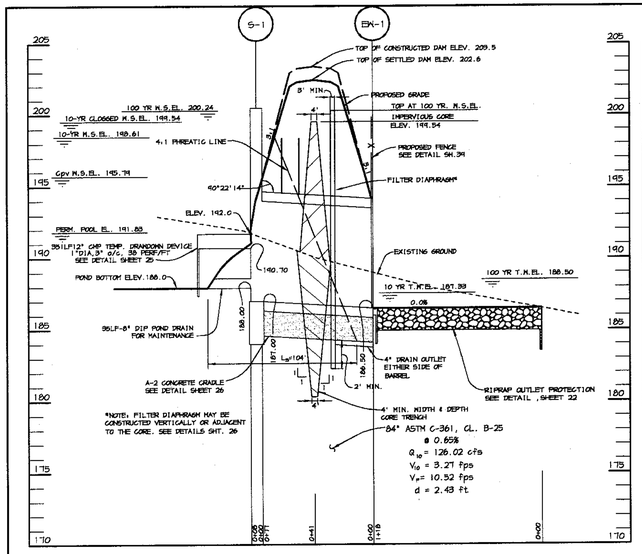
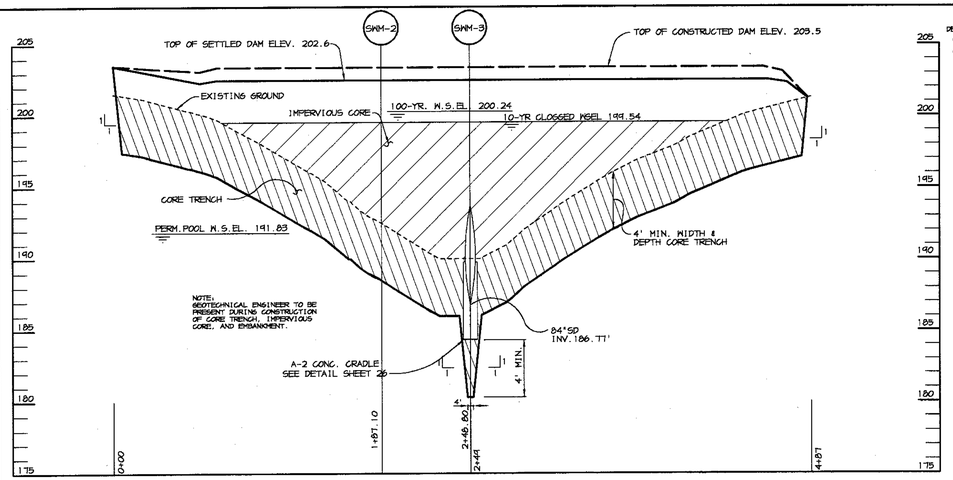


PROFILE THRU PRINCIPAL SPILLWAY - SWMF#1

SCALE: HOR.: 1"=50' VERT.: 1"=5'



PROFILE ALONG ℄ OF EMBANKMENT - SWMF#1

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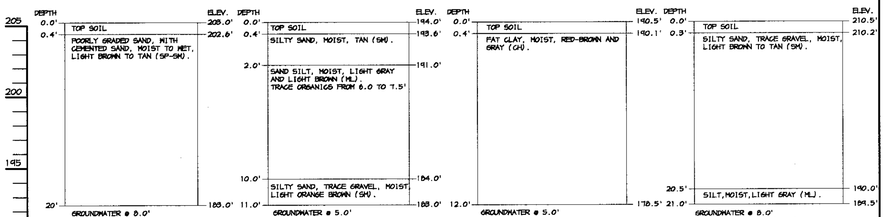

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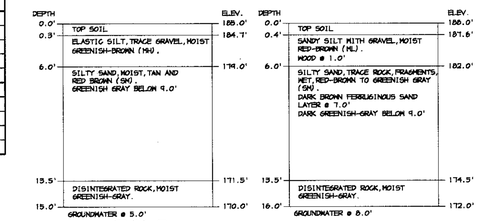
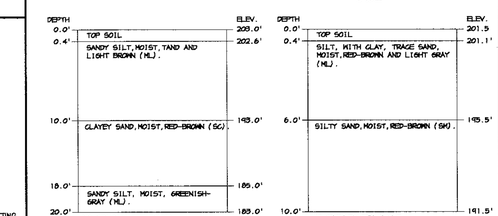


SWM-5 NO SCALE | SWM-6 NO SCALE



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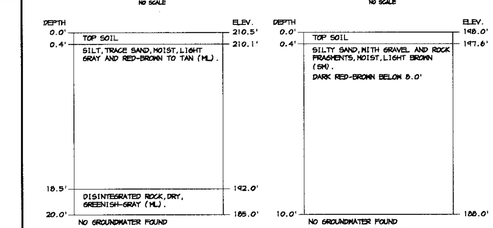

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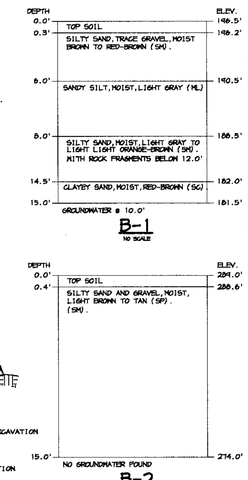
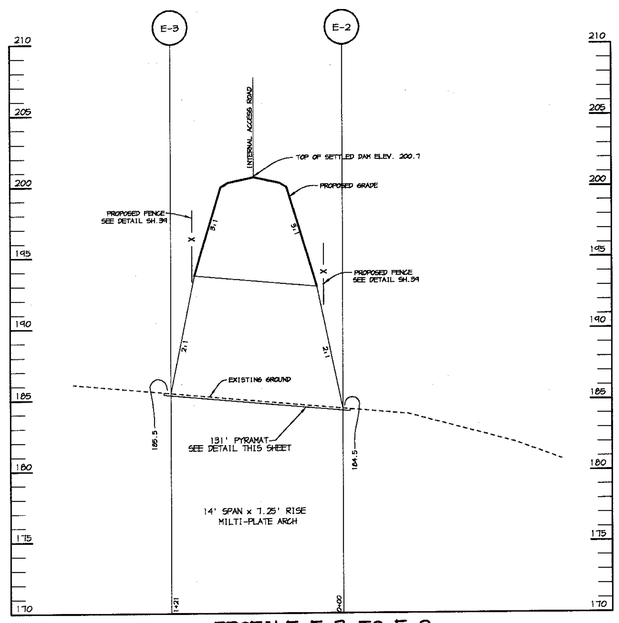


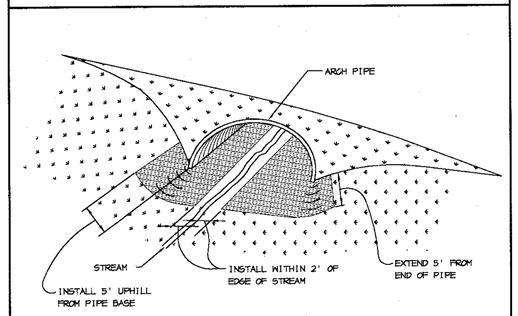
B-1 NO SCALE | B-2 NO SCALE



PROFILE E-3 TO E-2

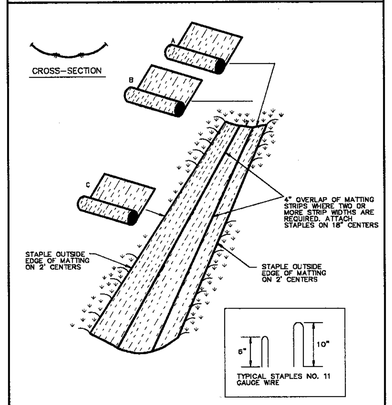
SCALE: HOR.: 1"=50' VERT.: 1"=5'

DETAIL - PERMANENT EROSION CONTROL AND REINFORCEMENT MATTING



CONTRACTOR TO CONTACT 'SYNTHETIC INDUSTRIES - GEOSYNTHETIC PRODUCTS DIVISION FOR PROPER INSTALLATION TECHNIQUE OF PYRAMAT.

DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

INCREMENTAL STABILIZATION OF EMBANKMENTS - FILL SLOPES

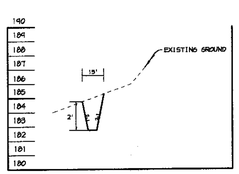
1. EMBANKMENTS SHALL BE CONSTRUCTED IN LIFTS AS PRESCRIBED ON THE PLANS.
2. SLOPES SHALL BE STABILIZED IMMEDIATELY WHEN THE VERTICAL HEIGHT OF THE MULTIPLE LIFTS REACHES 15', OR WHEN THE GRADING OPERATION CEASES PRESCRIBED IN THE PLANS.
3. AT THE END OF EACH DAY, TEMPORARY SWALES AND PIPE SLOPE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE.
4. CONSTRUCTION SEQUENCE: REFER TO FIGURE 5 (BELOW)
   a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SLOPE SILT FENCE ON THE LOW SIDE OF THE FILL AS SHOWN IN FIGURE 5, UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
   b. PLACE PHASE 1 EMBANKMENT, DRESS AND STABILIZE.
   c. PLACE PHASE 2 EMBANKMENT, DRESS AND STABILIZE.
   d. PLACE FINAL PHASE EMBANKMENT, DRESS AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THECOMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

INCREMENTAL STABILIZATION OF EMBANKMENTS - CUT SLOPES

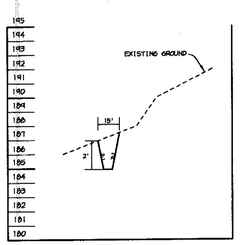
1. ALL CUT SLOPES SHALL BE DRESSED, PREPARED AND MULCHED AS THE WORK PROGRESSES SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 15'.
2. CONSTRUCTION SEQUENCE: REFER TO FIGURE 4 (BELOW)
   a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONVEY RUNOFF FROM THE EXCAVATION.
   b. PERFORM PHASE 1 EXCAVATION, DRESS AND STABILIZE.
   c. PERFORM PHASE 2 EXCAVATION, DRESS AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
   d. PERFORM FINAL PHASE EXCAVATION, DRESS AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN, THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.



CROSS SECTION XS AT TEMP. CHANNEL DIVERSION.

SCALE: HOR.: 1"=50' VERT.: 1"=5'



CROSS SECTION XS2 AT TEMP. CHANNEL DIVERSION.

SCALE: HOR.: 1"=50' VERT.: 1"=5'

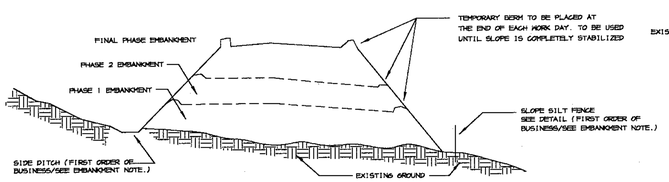


FIGURE 5 - INCREMENTAL STABILZATION - FILL

NO SCALE

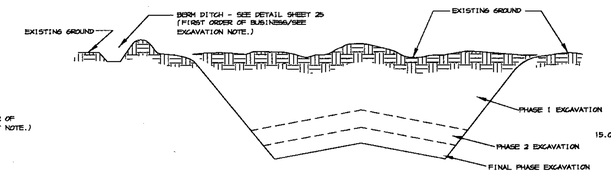


FIGURE 4 - INCREMENTAL STABILZATION - CUT

NO SCALE

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christ J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/1/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
1-6-05	1	REV. RIPRAP AT EW-1 & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE S.W.M. PROFILES, SEDIMENT & EROSION CONTROL NOTES & DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
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Columbia, MD 21045
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F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE3.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	24 OF 41

SDP-99-134

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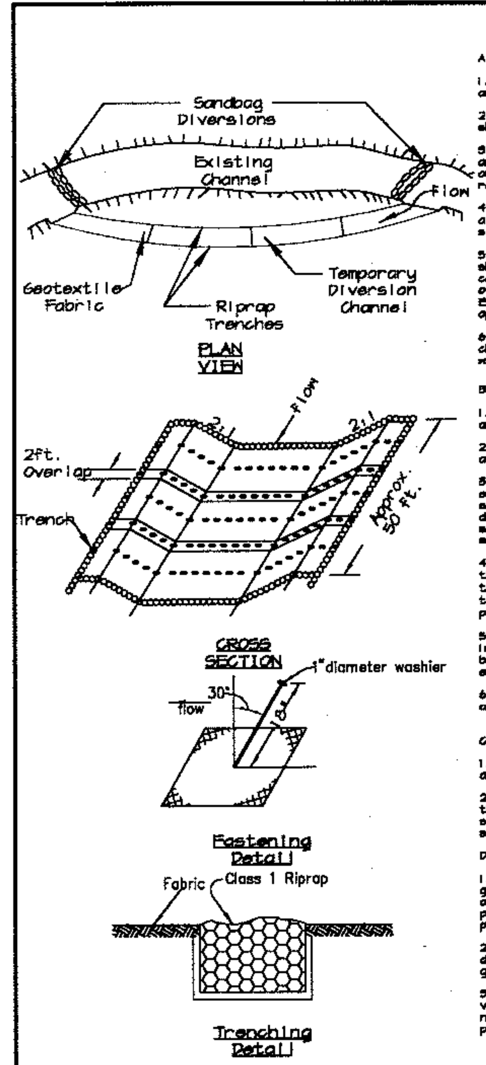


Waterway Construction: Open Channel Stream Diversion Sequence of Construction

A. Channel Excavation

1. All erosion and sediment control devices shall be installed as the first order of business.

2. All disturbance resulting from construction of the channel shall be contained by appropriate sediment control measures.

3. Excavation of the channel shall begin at the downstream and and proceed upstream. All excavated materials shall be stockpiled outside of the floodplain and temporarily stabilized to prevent re-entry into the stream channel.

4. The process excavation and stabilization with fabric shall be a continous (uninterrupted) operation. All materials shall be on site prior to channel construction.

5. The downstream and upstream connection to the natural channel shall be constructed under dry conditions. The stream shall be contained by sandbags along the opposing bank during the process of cutting the diversion channel into the natural stream channel. Excavation and stabilization shall be a continous (uninterrupted) operation.

6. All debris (rocks, sticks, etc.) shall be removed and the channel surfaces made smooth so that the fabric will rest flush with the channel sides and bottom.

B. Stabilization with Geotextile Fabric

1. The fabric shall have a minimum width such that it is keyed in and anchored at the top of stream bank.

2. Fabric shall be placed so that it rests flush with the channel at all points of contact.

3. Fabric shall be placed such that one piece will line the entire channel. If this is not possible, fabric shall be placed so that transverse overlapping occurs in accordance with the detail. Longitudinal overlaps shall not be allowed. Upstream sections shall overlap downstream sections. Overlap width shall equal 2 feet minimum.

4. The fabric shall be keyed into 2x2 feet trenches located at the upstream edge and at 50 feet intervals (the overlap nearest to each 50 feet increment). The key-in shall be from top of channel to top of channel. Class I riprap (WPD8.1)shall be carefully placed into the trench (zero drop height).

5. The fabric sections shall be secured with holddown pins (L=18 inch minimum) and washer (diameter=1 inch minimum). Overlaps shall be pinned along transverse and longitudinal axes with spacing equal to 3 feet maximum.

6. Sediment from surrounding areas of disturbance shall not be allowed to enter the diversion channel.

C. Removal of Diversion

1. Water shall not be allowed through the natural stream until all construction is completed.

2. After diversion of the stream through the natural stream bed, the temporary diversion channel shall be backfilled and stabilized. Points of tie-in to the natural channel shall be stabilized with riprap in accordance with WPD8.1.

D. Alternate Designs

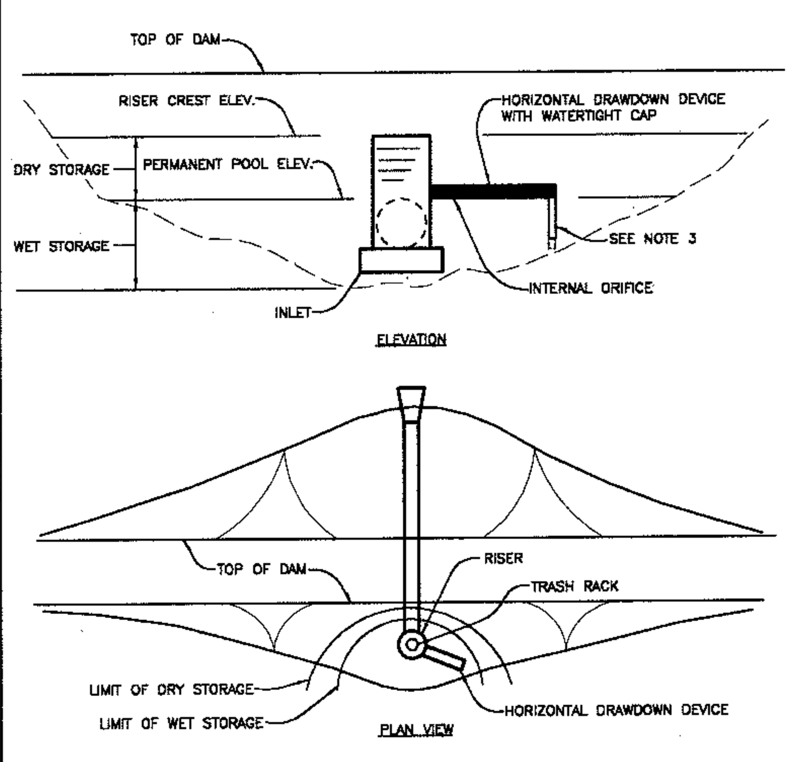
1. The above design may be modified to allow sewing of the geotextile fabric. Sewing of the geotextile fabric, rather than overlapping, would eliminate the requirement for transverse placement of the fabric. Either transverse or longitudinal placement should work equally well.

2. The spacing of the pins could be either larger or smaller depending on the anticipated velocities and thickness and type of geotextile fabric.

3. The entire bottom of the channel could be riprapped if high velocities were anticipated. When the area is riprapped, it is not required that the geotextile fabric underneath the riprap be pinned.

WATER RESOURCES ADMINISTRATION	Fabric-Based Channel Diversion	WPD 2.4

SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE



Construction Specifications

1. The total area of the perforation must be greater than 2 times the area of the internal orifice.

2. The perforated portion of the drawdown device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.

3. Provide support of drawdown device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of drawdown device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

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DETAIL 4 - PIPE SLOPE DRAIN

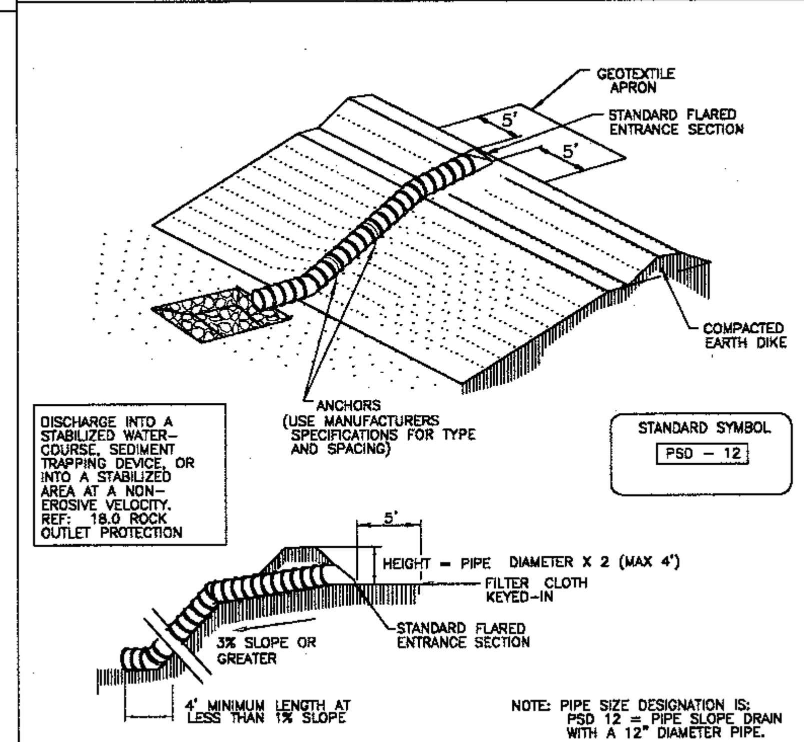

Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5
PSD-24 (2)	24	5.0

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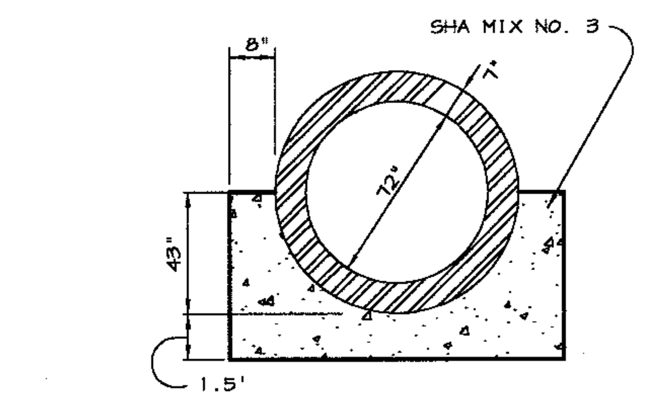
SEQUENCE OF CONSTRUCTION (BOTH AREAS WILL BE ACTIVE CONCURRENTLY)

AREA I - QUARRY AREA

1. Obtain a Grading Permit ~~(GR 04 18)~~, State Mining Permit (MP-02-SP-0599), Non-Tidal Wetland Permit (Tracking # 200262372), Dam Safety Permit (Tracking # 200262372), and other necessary permits prior to beginning construction. ~~Howard County Plan # SDP 99-134 must be signed and permitted before implementation of this plan. (1 week)~~
2. Clear and grub for and install silt fence, supersilt fence. (5 days)
3. Install stream diversion, SSF and install both single and twin 84" culvert crossing for access to quarry area. Contractor to use filter bags and sump pits for dewatering during construction of crossings.
4. Clear and grub for installation of SEC Basin #2, and stabilize construction entrances. (3 weeks)
5. Construct SEC basin #2. (3 weeks)
6. Clear and grub for diversion swales, earth berms. (2 weeks)
7. Construct diversion swales (beginning at basin) and earth berms. Fill stream channel only after diversion swales have been constructed. (2 weeks)
8. With permission of the MDE inspector, begin clearing grubbing and removal of overburden within quarry area. Contractor to follow dust control specifications. Construct berm along Mission Road using the overburden spoil. (1 year) Note that a 20-acre maximum of land shall be disturbed at any one time.
9. Install landscaping along completed earth berm. (4 weeks)
10. Refer to incremental stabilization specifications for berm and stockpile areas.

AREA II - OPERATION PLANTS, UTILITIES, ROADS

11. Clear and grub for SEC perimeter controls (silt fence, earth dikes, SEC basin #1). 2 weeks)
12. Construct perimeter controls and basin #1. Install pipe from M5-EW-5 in lengths that can be stabilized by the end of every day.
13. With permission of the MDE inspector, clear and grub and begin grading remainder of site. (3 months) Note that a 20-acre maximum of land shall be disturbed at any one time.
14. Begin construction of building and operation facilities. (6 months)
15. When subgrade has been reached, construct utilities & storm drains. (6 weeks)
16. Install paving. (4 weeks)
17. Complete building & operation facilities. (1 week)
18. With permission of MDE inspector, remove remaining SEC controls and stabilize area. (1 week)
19. Install landscaping, signs, and guard rails. (1 week)
20. With permission of MDE inspector, convert SCE basin into a permanent SWM wet pond. (2 weeks)

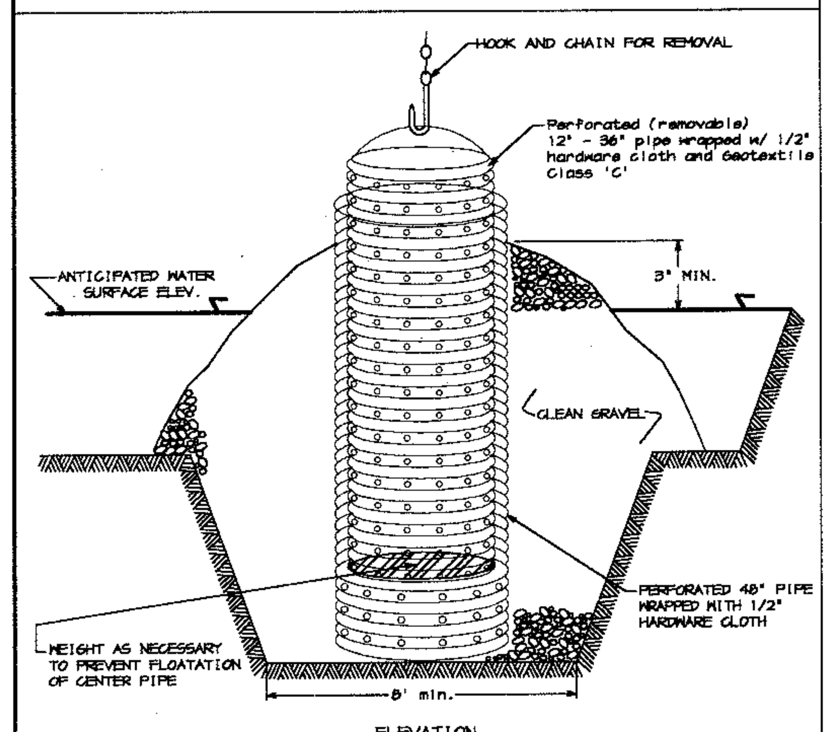


CLASS 'A' DAMS LESS THAN 50' HIGH

A-2 CONCRETE CRADLE BASIN #2

NO SCALE

DETAIL 20A - REMOVABLE PUMPING STATION



ELEVATION

Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.

2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.

3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.

4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

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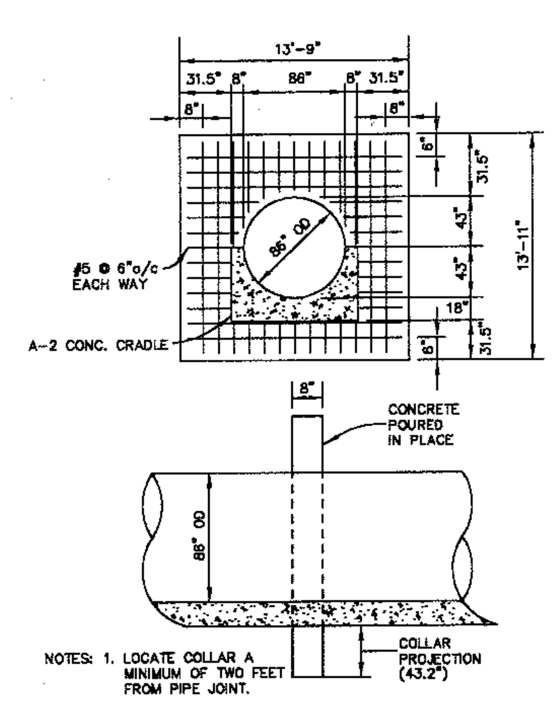
DRAWDOWN DEVICE TABLE

BASIN	SIZE	SLOPE	INVERT	*DETAIL
1	12" CMP	0.0 %	191.00	1"DIA.,38 PERF/FT 3"o/c SEE DET. THIS SH.
2	15" CMP	0.0 %	191.50	1"DIA.,29 PERF/FT 3"o/c SEE DET. THIS SH.

*1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
NOTE: FOR SEDIMENT CONTROL PHASE ONLY.



CONCRETE ANTI-SEEP COLLARS - BASIN #2

NO SCALE

PIPE SLOPE DRAIN

Construction Specifications - Pipe Slope Drain

1. The Pipe Slope Drain (PSD) shall have a slope of 3 percent or steeper.

2. The top of the earth dike over the inlet pipe shall be at least 2 times the pipe diameter measured at the invert of the pipe.

3. Flexible tubing is preferred. However, corrugated metal pipe or equivalent PVC pipe can be used. All connections shall be watertight.

4. A flared end section shall be attached to the inlet end of pipe with a watertight connection. Filter cloth shall be placed under the inlet of the pipe slope drain and shall extend out 5' from the inlet. The filter cloth shall be "keyed in" on all sides.

5. The Pipe Slope Drain shall be securely anchored to the slope by staking at the grommets provided. Spacing for anchors shall be as provided by manufacturer's specification. In no case shall less than two (2) anchors be provided, equally spaced along the length of pipe. These details should be provided by pipe suppliers.

6. The soil around and under the pipe and end section shall be hand tamped in 4 inch lifts to the top of the earth dike.

7. All pipe connections shall be watertight.

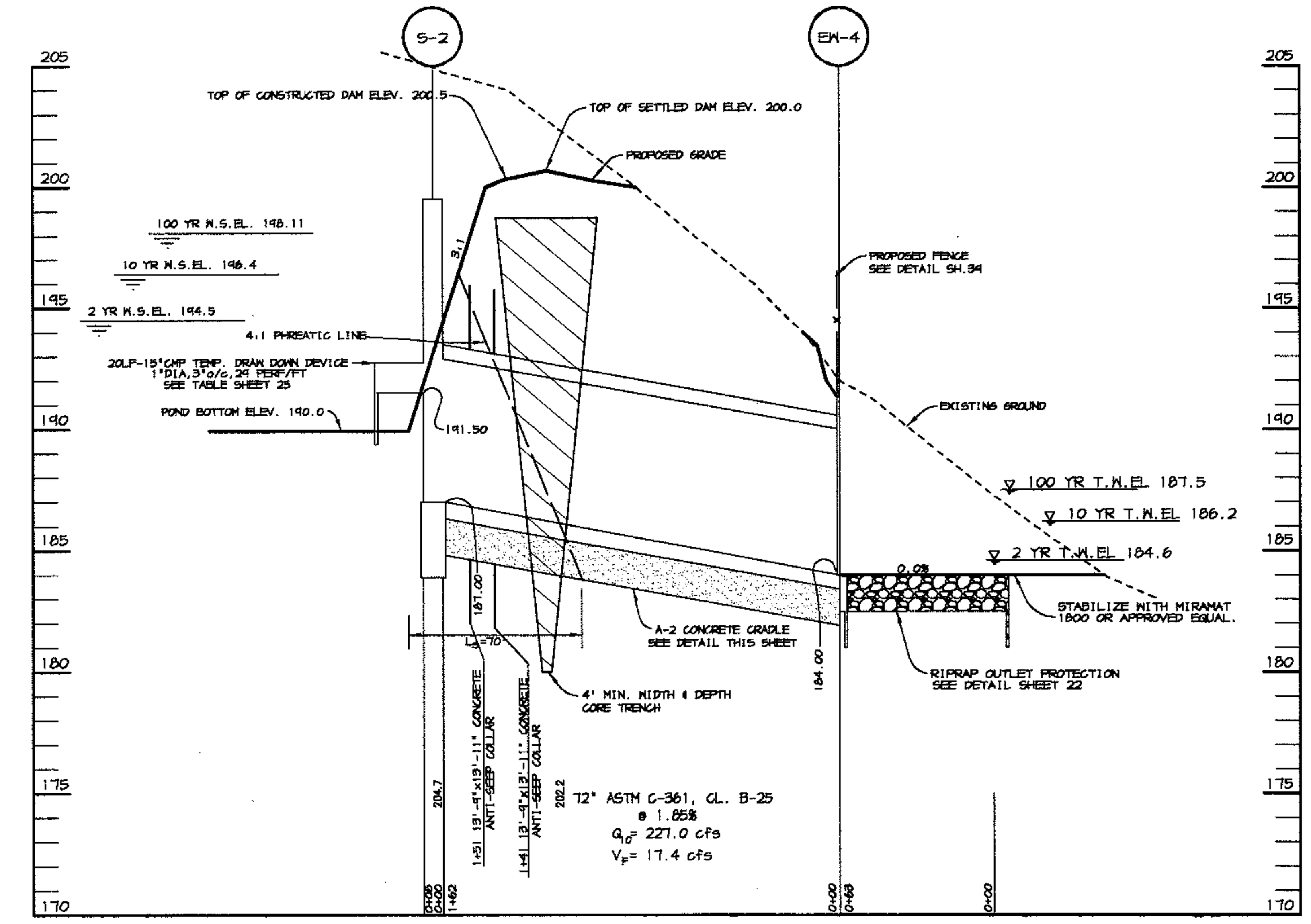
8. Whenever possible where a PSD drains an unstabilized area, it shall outlet into a sediment trap or basin. If this is not possible then the slope drain will discharge into a stable conveyance that leads to a sediment trap or basin. When discharging into a trap or basin the PSD shall discharge at the same elevation as the wet pool elevation. The discharge from the PSD must be as far away from the sediment control outlet as possible.

9. When the drainage area is stabilized, the PSD shall discharge onto a stabilized area at a non-erosive velocity.

10. Inspection and any required maintenance shall be performed periodically and after each rain event.

11. The inlet must be kept open at all times.

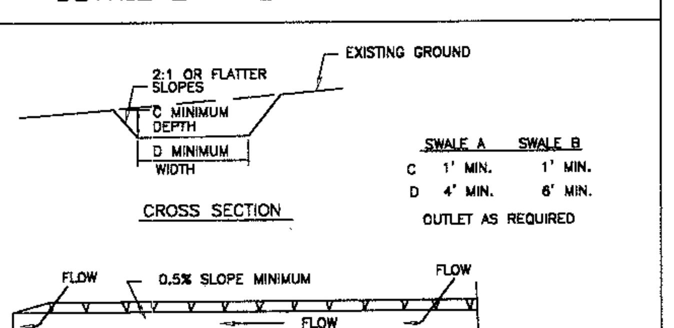
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 5 - 4A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



PROFILE THRU PRINCIPLE SPILLWAY BASIN#2 / SETTLING BASIN

SCALE: HOR.: 1"=50' VERT.: 1"=5'

DETAIL 2 - TEMPORARY SWALE



DRAINAGE AREA = 10 ac (MAX)
SLOPE = 10% (MAX)

STANDARD SYMBOL A - 2/ B - 3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4"-7" stone or recycled concrete equivalent pressed into soil in a minimum 7" layer.

Construction Specifications

1. All temporary swales shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.

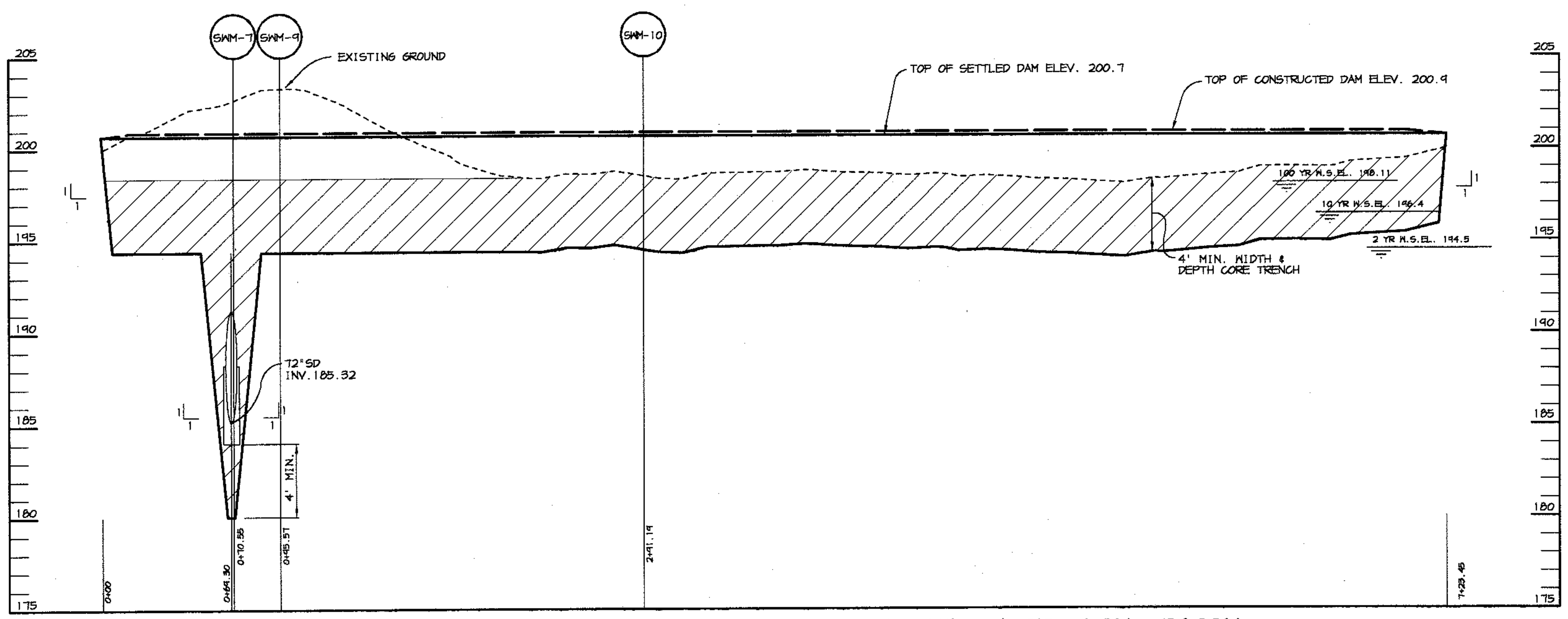
5. The swale shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

6. Fill, if necessary, shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the swale.

8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 2 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



PROFILE ALONG CL OF EMBANKMENT - BASIN#2 / SETTLING BASIN

SCALE: HOR.: 1"=50' VERT.: 1"=5'

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/cos 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER) CHASE LIMITED PARTNERSHIP P.O. BOX 850 LAUREL, MD 20725 410.792.7234

(DEVELOPER) CHASE MINING LLC P.O. BOX 850 LAUREL, MD 20725 410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43 PARCEL 234 & P.O. 235, BLOCK 19 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

S.W.M. PROFILES, SEDIMENT & EROSION CONTROL DETAILS

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

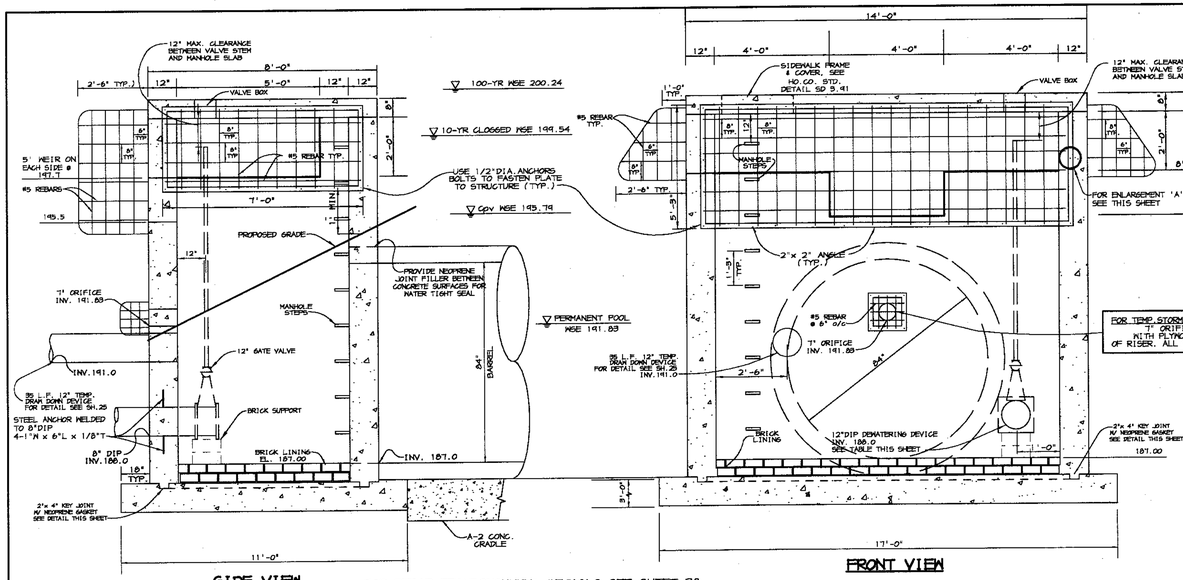
1.30.04
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY : MAD
CHECKED BY : C.J.R.
PROJECT NO : 99092/ PROFILE4.DWG
DATE : JANUARY 29, 2004
SCALE : AS SHOWN
DRAWING NO. 25 OF 41

SDP-99-134

P:\project\99092\1-0\Engr\Plans\PROFILE4.DWG, Model, 01/29/2004 11:10:39 AM, HP750C(36).pc3, User1308, 1:50



SIDE VIEW

FOR TEMP. STORMWATER MANAGEMENT ONLY. "T" ORIFICE TO BE BLOCKED WITH PLYWOOD BOLTED TO INSIDE OF RISER. ALL SEALS TO BE WATER TIGHT.

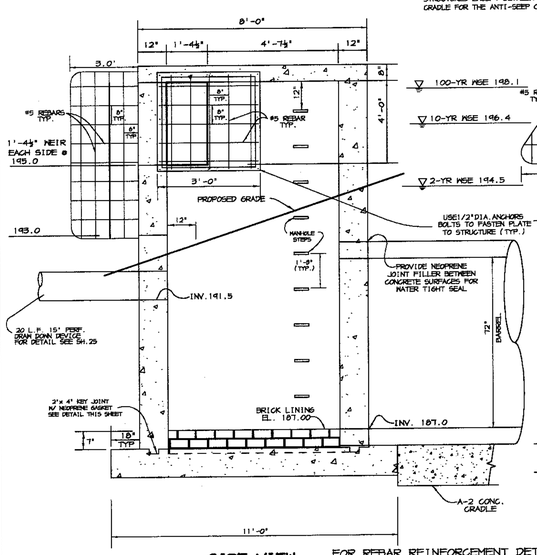
FRONT VIEW

FOR REBAR REINFORCEMENT DETAILS SEE SHEET 38

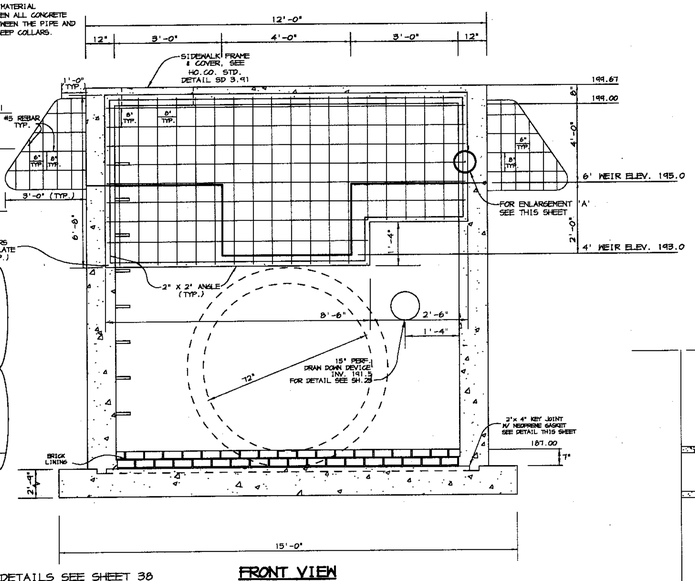
S-1 DETAIL - SWMF #1

SCALE: NTS

NOTE. ASPHALT JOINT FILLER MATERIAL IS TO BE PLACED BETWEEN ALL CONCRETE STRUCTURES EXCEPT BETWEEN THE PIPE AND CRADLE FOR THE ANTI-SEEP COLLARS.



SIDE VIEW



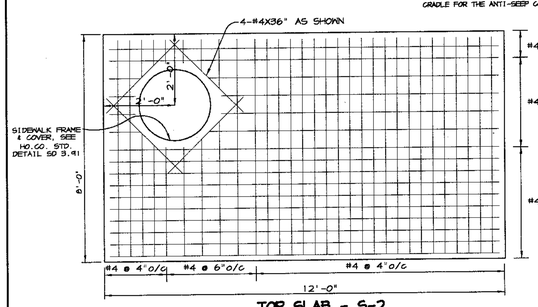
FRONT VIEW

FOR REBAR REINFORCEMENT DETAILS SEE SHEET 38

S-2 DETAIL - BASIN #2

SCALE: NTS

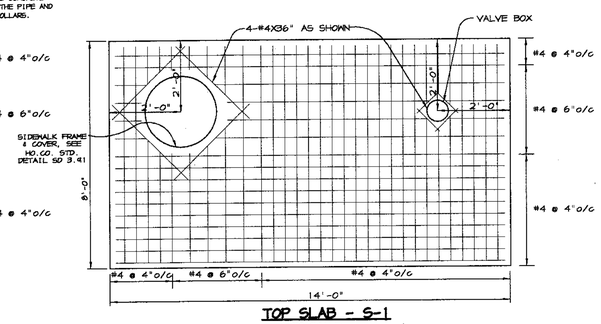
NOTE: ASPHALT JOINT FILLER MATERIAL IS TO BE PLACED BETWEEN ALL CONCRETE STRUCTURES EXCEPT BETWEEN THE PIPE AND CRADLE FOR THE ANTI-SEEP COLLARS.



TOP SLAB - S-2

NO SCALE

NOTES: 1. SLAB REINFORCING 1" CLEAR FROM BOTTOM AND 2" CLEAR FROM SIDES.
2. MIX NO. 2 CONCRETE.



TOP SLAB - S-1

NO SCALE

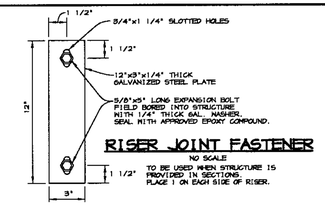
NOTES: 1. SLAB REINFORCING 1" CLEAR FROM BOTTOM AND 2" CLEAR FROM SIDES.
2. MIX NO. 2 CONCRETE.

RISER STRUCTURE NOTES FOR S-1 & S-2:

1. RISER TO BE CAST IN PLACE. SHOP DRAWINGS FOR THIS CONCRETE STRUCTURE SHALL MEET THE MINIMUM ASTM REQUIREMENTS FOR CAST IN PLACE STRUCTURES. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
2. SEE SHEET 38 FOR REINFORCEMENT DETAILS.
3. CONCRETE SHALL BE MSHA MIX NO. 3 (f'c=3,500 psi MINIMUM)
4. WHEN POND IS CONVERTED INTO A PERMANENT FACILITY, THE DRAINDOWN DEVICE HOLE SHALL BE REMOVED.
5. REFER TO HOWARD COUNTY STD. 6-5.21 FOR MANHOLE STEP DETAILS.
6. RISER JOINTS SHALL BE WATERTIGHT USING NEOPRENE GASKETS.
7. A TWO FOOT STUB OF THE RCP SHALL BE PRECAST WITH RISER. ALL PIPE CONNECTIONS SHALL PROVIDE RUBBER GASKET FOR WATERTIGHTNESS.
8. RISER SHALL BE PLACED ON A FIRMLY COMPACTED SUBGRADE AND SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.
9. A 8" OPEN LEFT GATE VALVE (AWWA C-153, CL. 350) SHALL BE CONNECTED TO THE RISER WALL WITH ALL-THREADED ROD AND A FLANGE JOINT. PROVIDE A STEM EXTENSION ON THE GATE VALVE AND FIRMLY SECURE TO RISER WALL WITH BRACKET(S). PROVIDE A STANDARD VALE BOX AND COVER IN THE TOP SLAB DIRECTLY OVERTOP THE GATE VALVE.

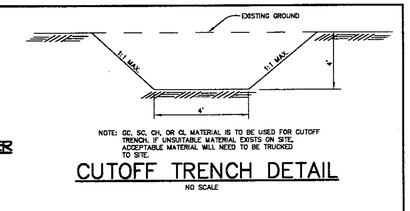
REMOVABLE TRASH RACK NOTES:

1. STEEL TO CONFORM TO ASTM A-36. #5 BARS TO BE SMOOTH. SEE DETAIL FOR SPACING.
2. ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
3. ALL BENDS TO BE 2" RADIUS. 2" x 2" ANGLE IRON AND 1/2" DIAMETER ANCHOR BOLTS TO BE USED FOR TRASH RACK FRAME.
4. GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT BATTLESHIP GRAY.



RISER JOINT FASTENER

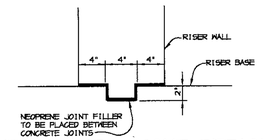
NO SCALE



NOTE: GC, SC, CH, OR CL MATERIAL IS TO BE USED FOR CUTOFF TRENCH. IF UNSUITABLE MATERIAL EXISTS ON SITE, ACCEPTABLE MATERIAL WILL NEED TO BE TRUCKED TO SITE.

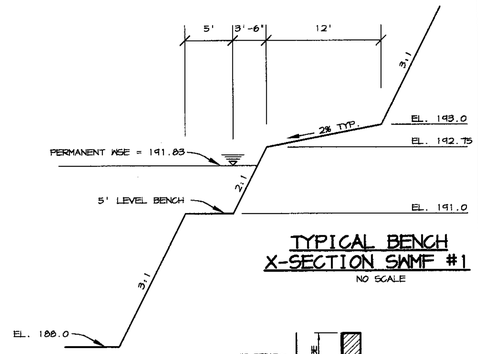
CUTOFF TRENCH DETAIL

NO SCALE



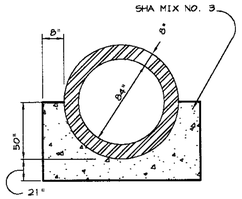
TYPICAL KEY JOINT DETAIL

NO SCALE



TYPICAL BENCH X-SECTION SWMF #1

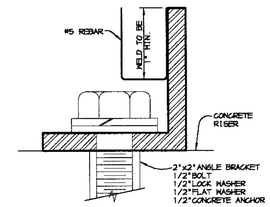
NO SCALE



CLASS 'A' DAMS LESS THAN 50' HIGH

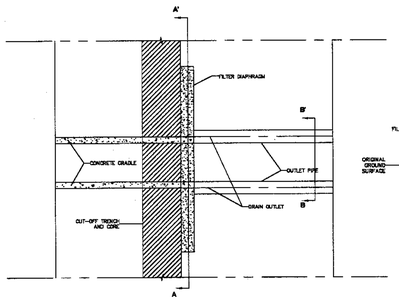
A-2 CONCRETE CRADLE SWMF#1

NO SCALE



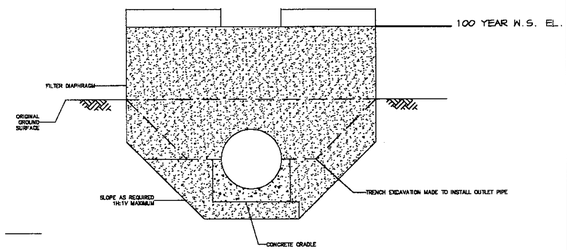
ENLARGEMENT A

NO SCALE



FILTER DIAPHRAGM PLAN VIEW

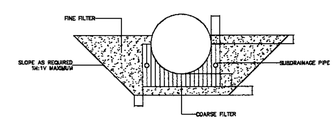
NOT TO SCALE



FILTER DIAPHRAGM SECTION A-A

NOT TO SCALE

NOTES:
1.) Filter Diaphragm should consist of material meeting the requirements of ASTM C-33 concrete sand.
2.) The Filter Diaphragm should be placed against undisturbed natural soils or structural fill.
3.) See PLAN VIEW for Section location.



FILTER DIAPHRAGM SECTION B-B

NOT TO SCALE

NOTES:
1.) Fine filter should consist of material meeting the requirements of ASTM C-33 concrete sand.
2.) Coarse filter should consist of material meeting the requirements of ASTM C-33 No. 7 stone.
3.) Subdrainage pipe should be 4-inch diameter slotted corrugated polyethylene tubing per ASTM F-405 with a minimum 1/8-inch slot width for at at least the lower 120 degree sector.
4.) All material should be placed against undisturbed natural soils or structural fill.
5.) See PLAN VIEW for section location.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers — 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SWM PROFILES AND DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SWM-DET.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	26 OF 41

SDP-99-134

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MD-378 STANDARDS AND SPECIFICATIONS

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cutoff Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall compacted with construction equipment, rollers, or hand tampers to assure maximum density and maximum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inched in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

PIPE CONDUITS

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

   Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

   Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to to the requirements of AASHTO Specifications M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts mat be used for connections. the pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coted as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at at least 24 mils in thickness.

3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

   All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 24" in diameter; flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandwiched between adjacent flanges; a 12 inch wide standard lap type band with 12 inch wide by 3/8 inch thick closed cell circular neoprene gasket; and a 12 inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe ends. A 24 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed with 12 inch on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

   Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to "Structure Backfill."

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

~~Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:~~

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the side of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this strandard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill."

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4 - 10 inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to Structure "Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

ROCK RIPRAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855) AND THE MDE MINING PERMIT INSPECTION DIVISION.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. I, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR AND MDE. MINING PERMIT INSPECTIONS DIVISION.
7. SITE ANALYSIS:

TOTAL AREA OF SUBMISSION	327.75 ACRES
AREA DISTURBED	241.7 ACRES
AREA TO BE ROOFED OR PAVED	11 ACRES
AREA TO BE VEGETATIVELY STABILIZED	230.6 ACRES
TOTAL CUT	500000 CU. YARDS
TOTAL FILL	500000 CU. YARDS
SITE TO BALANCE ON SITE	

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE MDE INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
14. CUT AND FILL QUANTITIES PREPARED FOR THE SITE DEVELOPMENT PLAN AND PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR ~~DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.~~

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seedbed Preparation : Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments : Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).

Seeding : For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 through August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation : Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments : In lieu of soil test recommendations, use one of the following schedules :

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding : For the period March 1 through April 30 and from August 1 through October 15, seed with the following:

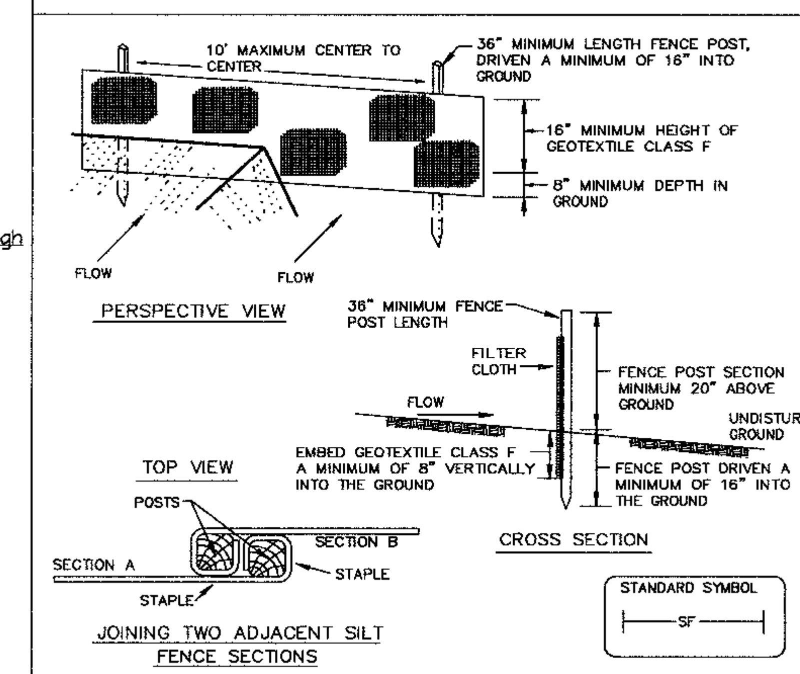
Grasses - 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Orchard Grass and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass;
Nurse Crop - 2.5 bushels per acre of Annual Rye.

For the period May 1 through July 31, seed with the following:

Grasses - 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Orchard Grass
Legumes - 20 lbs. per acre of Flatpea or 10 lbs. per acre of Birdfoot Trefoil
Nurse Crop - 2.5 bushels per acre of Annual Rye.
Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance : Inspect all seeded areas and make needed repairs, replacements and reseedings.

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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30.0 - DUST CONTROL

DEFINITION

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS

TEMPORARY METHODS

1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
5. BARRIERS - SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS

1. PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING - COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

REFERENCES

1. AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREDICTING SOIL LOSS.
2. AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION, USDA-ARS.

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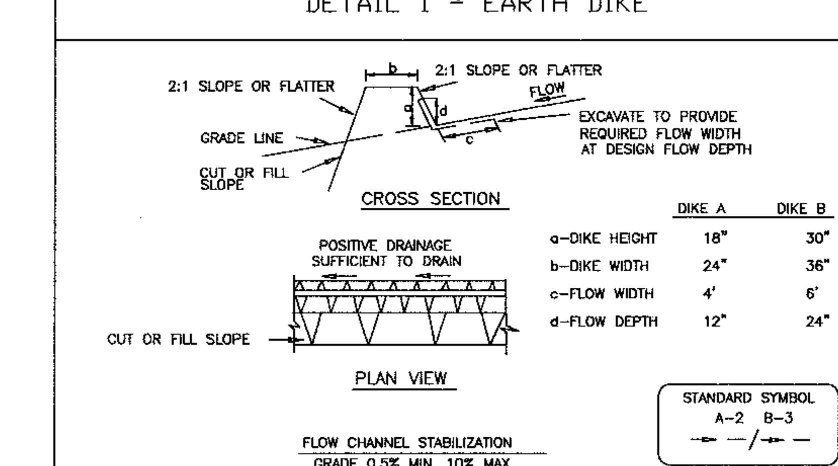
DETAIL 1 - EARTH DIKE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

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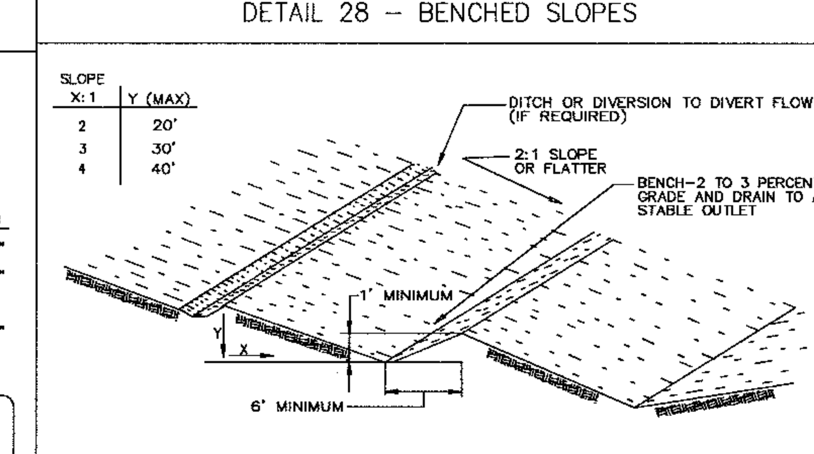
DETAIL 28 - BENCHED SLOPES

SLOPE X:1	Y (MAX)
2	20'
3	30'
4	40'



Construction Specifications

1. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.
2. All fill shall be placed and compacted in layers not to exceed 8" in thickness.
3. Except for approved landfills or nonstructural fills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fills.
4. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills. Fill shall not be placed on a frozen foundation.
5. All benches shall be kept free of sediment during all phases of development.
6. Seeps or springs encountered during construction shall be handled in accordance with the Standard and Specification for Subsurface Drain or other approved methods.
7. All graded areas shall be permanently stabilized immediately following finished grading.

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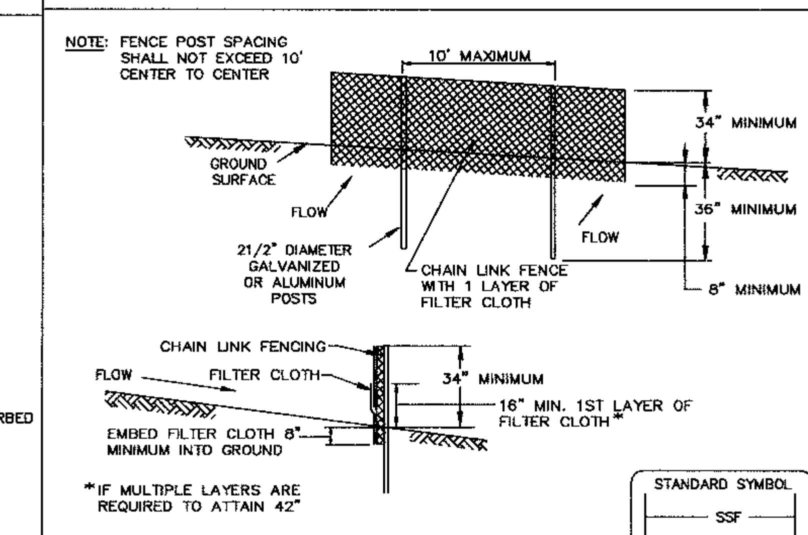
DETAIL 33 - SUPER SILT FENCE

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER



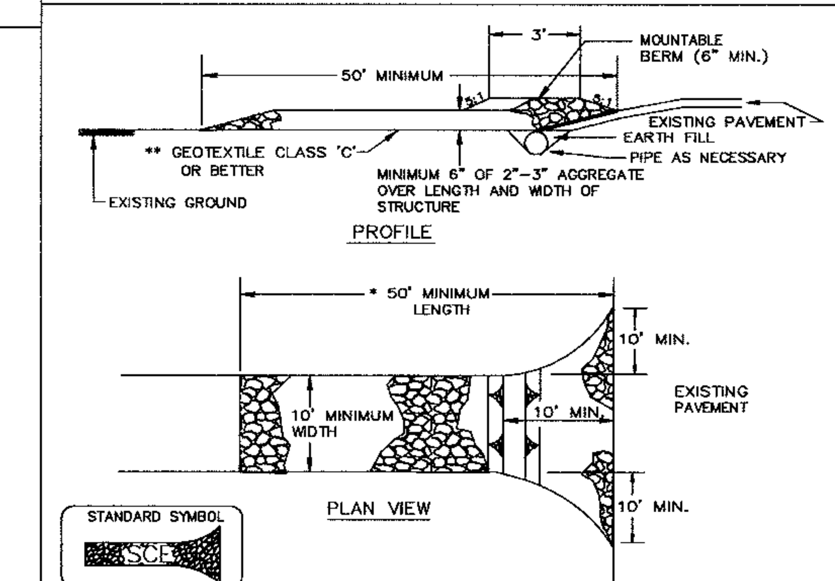
Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft ²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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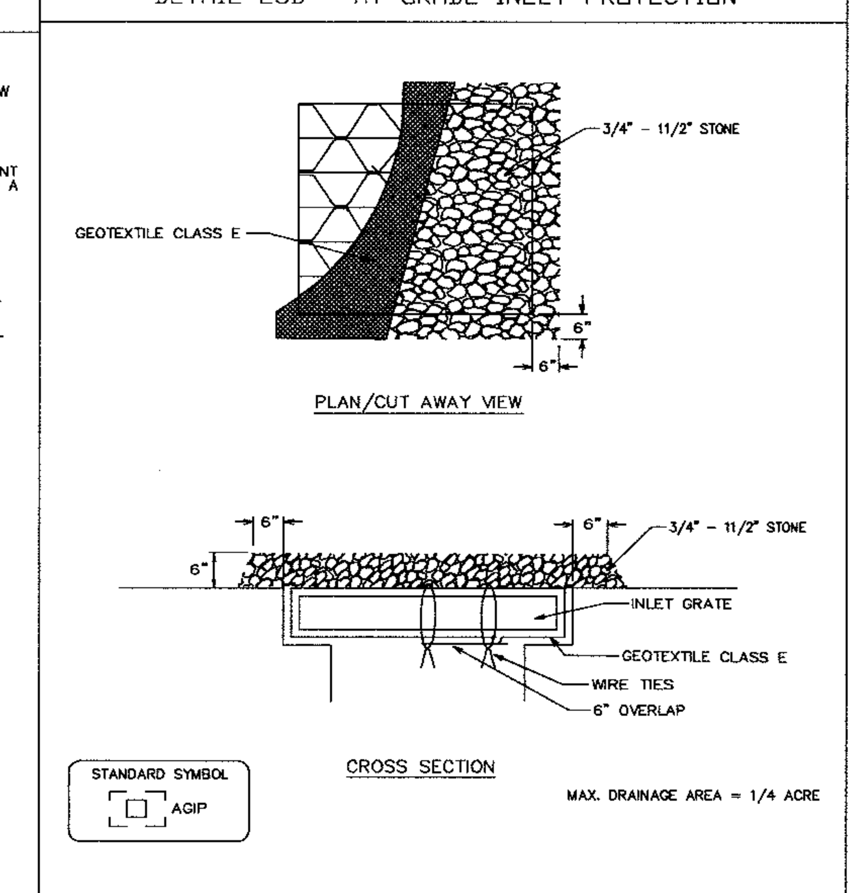
DETAIL 23B - AT GRADE INLET PROTECTION



Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

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BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers / CS — 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[signature] — 2/17/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] — 3/15/04
DIRECTOR — DATE

[signature] — 2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Hamilton — 3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)	(DEVELOPER)
CHASE LIMITED PARTNERSHIP	CHASE MINING LLC
P.O. BOX 850	P.O. BOX 850
LAUREL, MD 20725	LAUREL, MD 20725
410.792.7234	410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SWM & SEDIMENT CONTROL NOTES & DETAILS

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — NO. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDNOTES.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	27 OF 41

SDP-99-134

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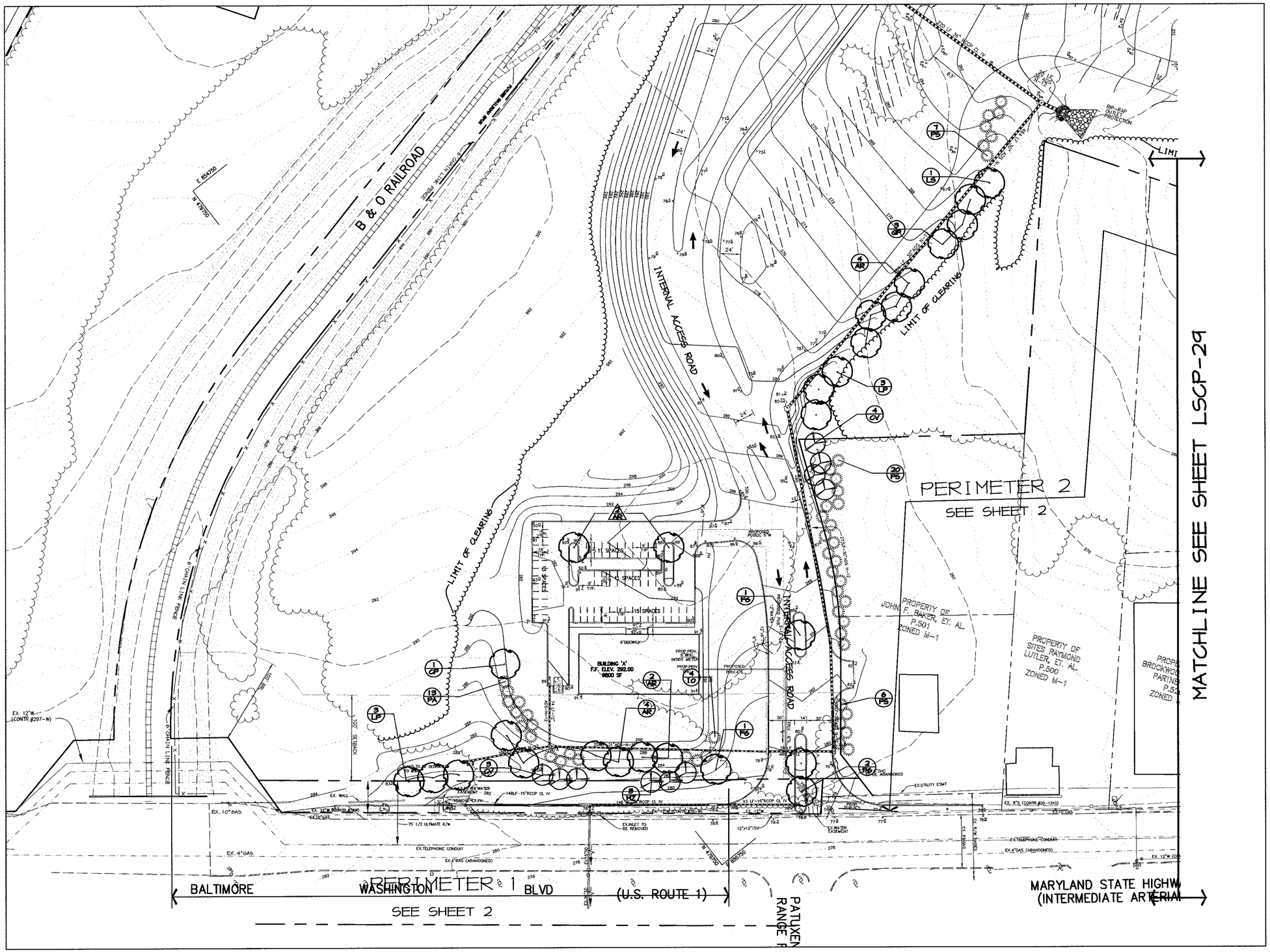

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY
NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

LEGEND

- EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 2/10/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
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PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
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T 410.997.8900
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STATE OF MARYLAND — SCOTT R. WOLFSON — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-28.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	28 OF 41

SDP-99-134

P:\project\99092\1-0\Eng\Plans\L-28.dwg, Layout1, 01/29/2004 11:21:53 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

LEGEND

- 300 — EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- XX — PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- XX — PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- XX — PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY
NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	2/15/04 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	2/20/04 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	2/11/04 DATE

DATE	NO.	REVISION
1-6-09	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

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LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

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STATE OF MARYLAND — SCOTT R. VIOLA — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-29.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	29 OF 41

SDP-99-134

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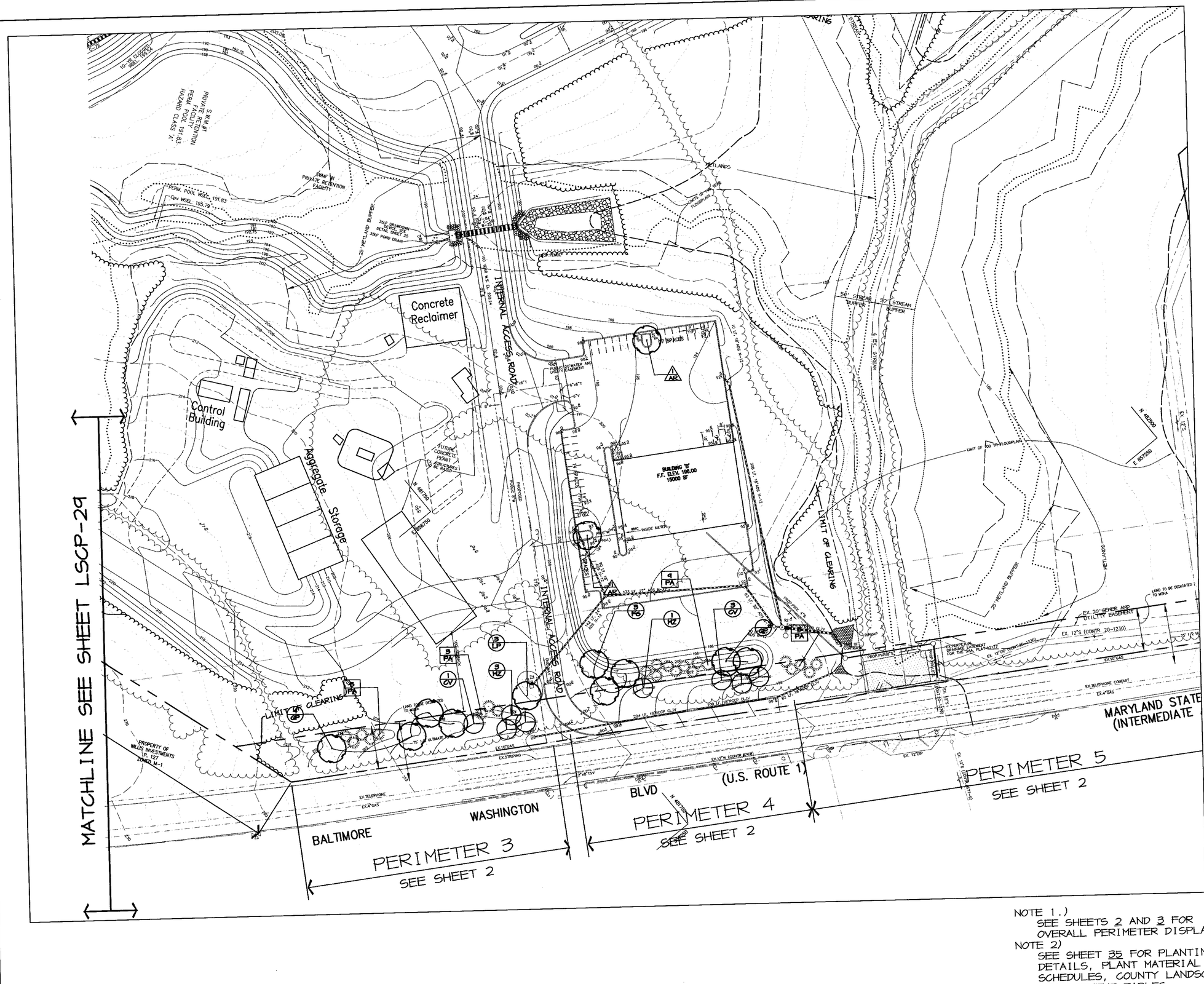

LEGEND

- EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

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PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
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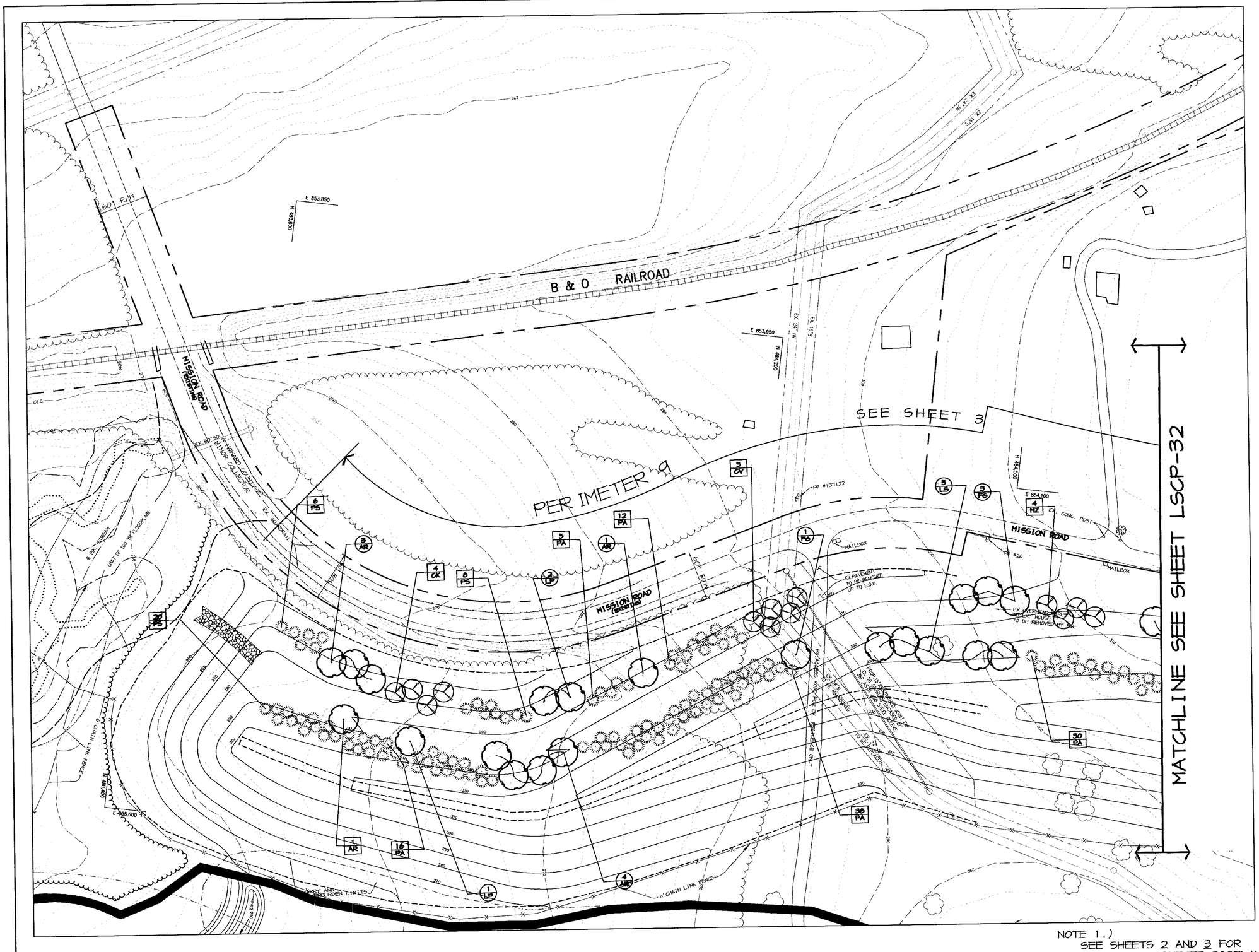
STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

Scott R. Wolford

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-30.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	30 OF 41

SDP-99-134

P:\project\99092\1-0\Engr\Plans\L-30.dwg, Layout1, 01/29/2004 11:23:05 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- 300 — EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- X/XX — PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- X/XX — PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- X/XX — PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-9-09	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

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PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

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STATE OF MARYLAND — SCOTT R. WOLOCZ — REGISTERED LANDSCAPE ARCHITECT

Scott R. Wolocz

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-31.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	31 OF 41

SDP-99-134

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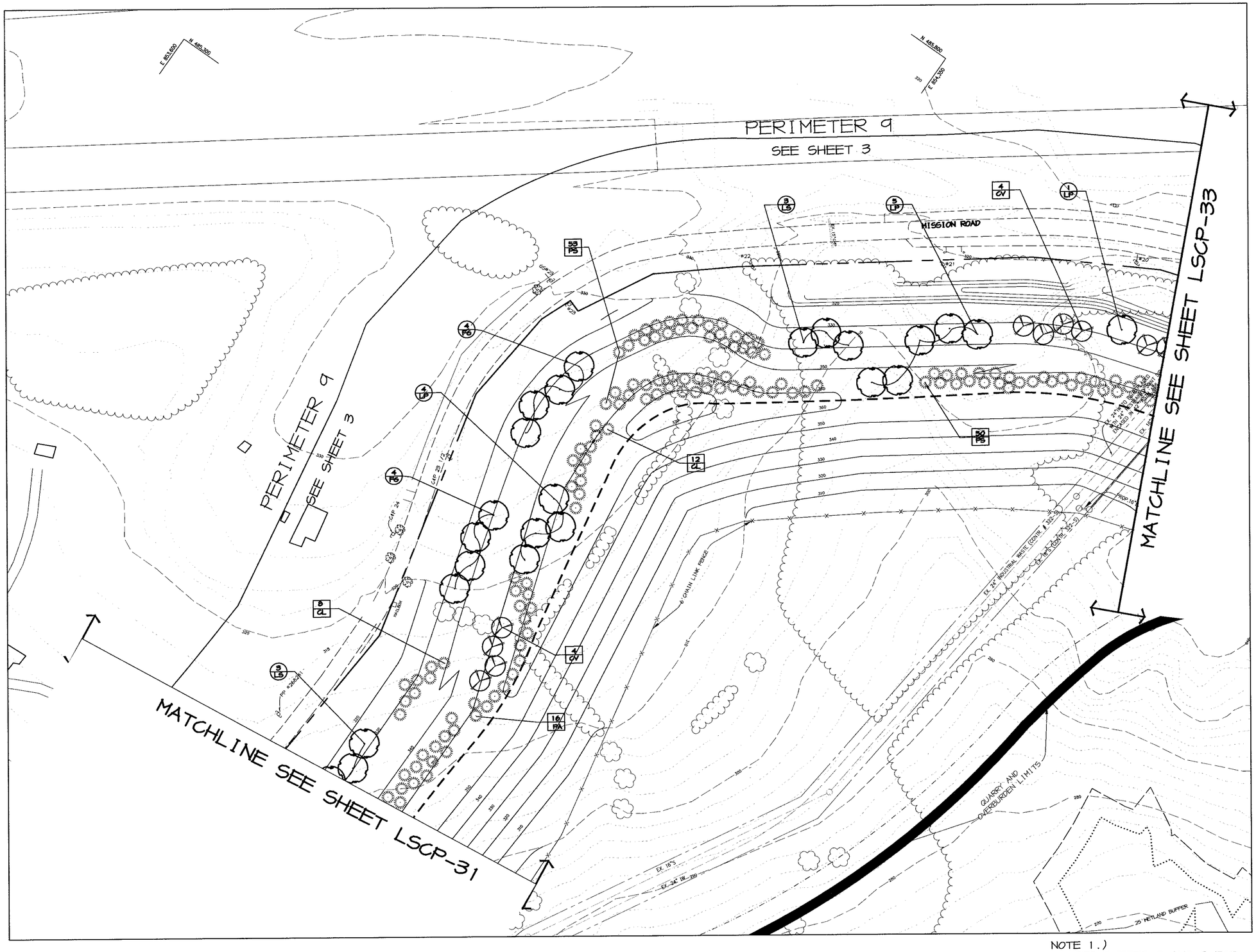

LEGEND

- EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

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PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

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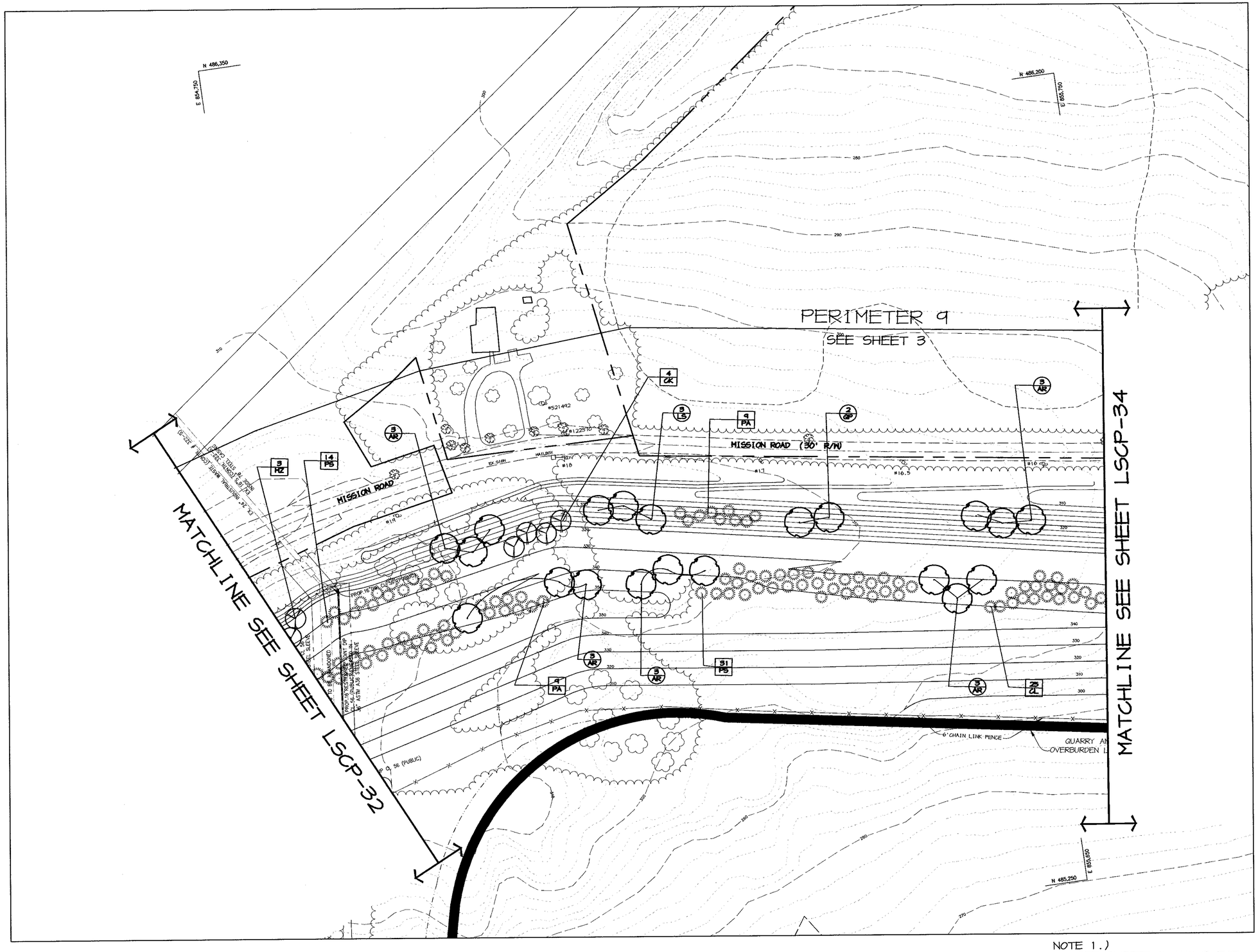
STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

Scott R. Wolford

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-32.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	32 OF 41

SDP-99-134

P:\project\99092\1-0\Engr\Plans\L-32.dwg, Layout1, 01/29/2004 11:32:24 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- 300 — EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- X/XX — PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- X/XX — PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- X/XX — PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
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410.792.7234

(DEVELOPER)
CHASE MINING LLC
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410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
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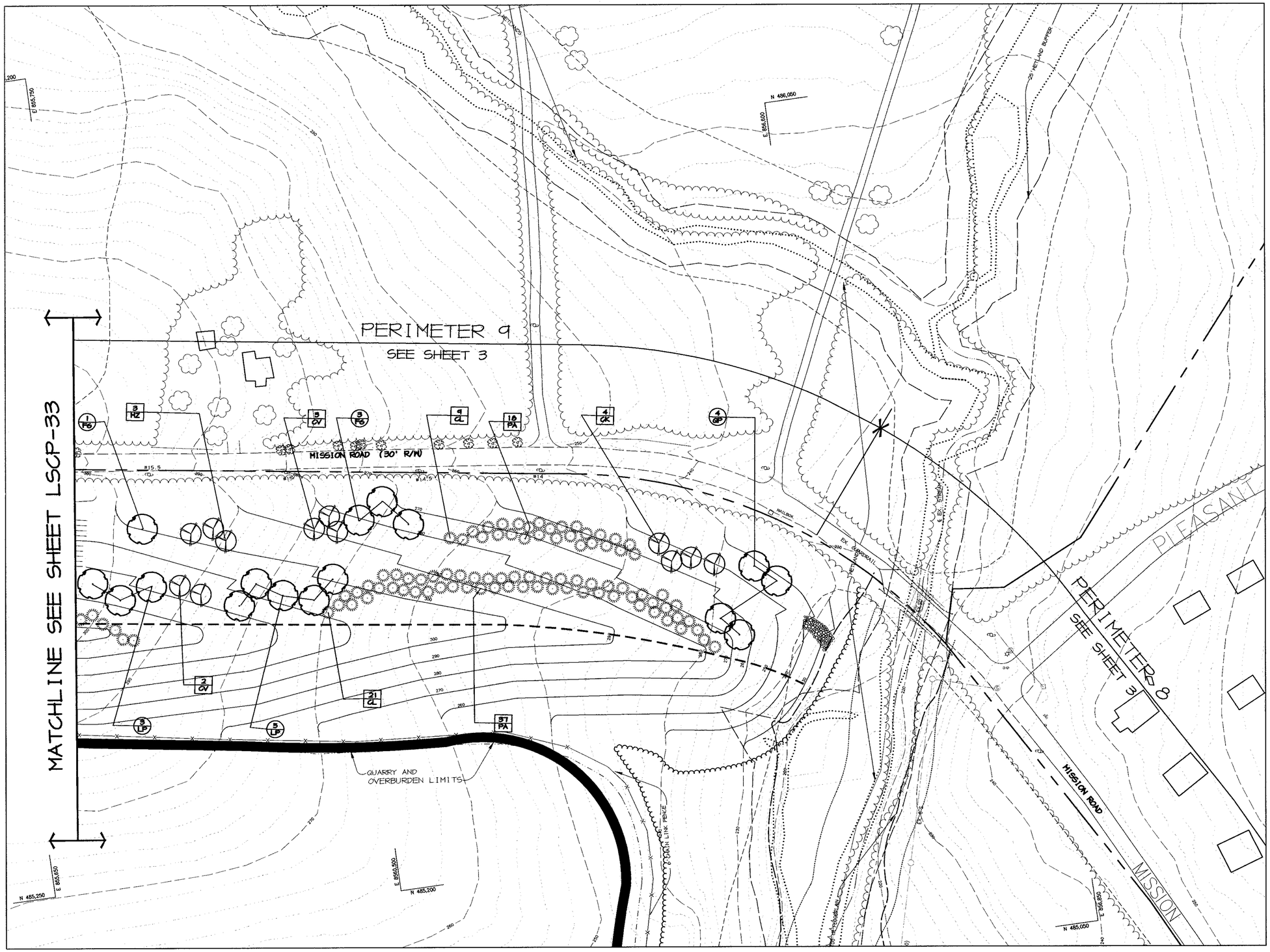
STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

Scott R. Wolford

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-33.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	33 OF 41

SDP-99-134

P:\project\99092\1-01Engr\Plans\L-33.dwg, Layout1, 01/29/2004 11:33:22 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EXISTING CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM (BENCH)
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 2/18/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

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PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3. TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
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STATE OF MARYLAND — SCOTT R. WOOTEN — No. 3000 — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-34.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	34 OF 41

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

SDP-99-134

P:\projects\99092\1-01\Engr\Plans\L-34.dwg, Layout1, 01/29/2004 11:34:02 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

PLANTING SPECIFICATIONS

1. Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

2. All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.

3. Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

4. Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

5. Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

6. Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence at the drip line.

7. Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction.

8. Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.

9. Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.

10. All shrubs and groundcover areas shall be planted in continuous prepared planting beds mulched with composted hardwood mulch as detailed and specified except where noted on plans.

11. Positive drainage shall be maintained in planting beds (minimum 2 percent slope).

12. Planting mix shall be as follows: Deciduous Plants – Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs of standard fertilizer per cubic yard of planting mix. Evergreen Plants – two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

13. Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated.

14. Mulch: Groundcover beds should be mulched with minimum 2 inches of shredded composted hardwood, or as specified on the details, whichever is greater.

15. All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

16. This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.

HOWARD COUNTY REQUIRED & BONDED PLANT MATERIAL

KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	REMARKS
AR	41	Acer rubrum 'October Glory' October Glory Red Maple	2½"-3" Cal.	B & B	Full Crown Central Leader
LS	17	Liquidambar styraciflua American Sweetgum	2½"-3" Cal.	B & B	Full Crown Central Leader
QP	15	Quercus palustris Pin Oak	2½"-3" Cal.	B & B	Full Crown Central Leader
FG	23	Fagus grandifolia American Beech	2½"-3" Cal.	B & B	Full Crown Central Leader
LP	28	Plantanus x acerifolia 'Bloodgood' Bloodgood London Planetree	2½"-3" Cal.	B & B	Specimen
IO	4	Ilex opaca American Holly	6'-8' Ht.	B & B	Full Form Central Leader
PA	17	Picea abies Norway Spruce	6'-8' Ht.	B & B	Full Form Central Leader
PS	33	Pinus strobus White Pine	6'-8' Ht.	B & B	Sheared Full Form
CV	8	Creategus var 'Wintering' Wintering Hawthorn	1½"-2" Cal.	B & B	Specimen
MZ	6	Malus x 'Profusion' Profusion Crabapple	1½"-2" Cal.	B & B	Specimen

HOWARD COUNTY NON-REQUIRED & NON-BONDED PLANT MATERIAL

KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	REMARKS
AR	–	Acer rubrum 'October Glory' October Glory Red Maple	2½"-3" Cal.	B & B	Full Crown Central Leader
LS	–	Liquidambar styraciflua American Sweetgum	2½"-3" Cal.	B & B	Full Crown Central Leader
QP	–	Quercus palustris Pin Oak	2½"-3" Cal.	B & B	Full Crown Central Leader
FG	–	Fagus grandifolia American Beech	2½"-3" Cal.	B & B	Full Crown Central Leader
LP	–	Plantanus x acerifolia 'Bloodgood' Bloodgood London Planetree	2½"-3" Cal.	B & B	Full Crown Central Leader
CL	83	Cupressocyparis leyandii Leyland Cypress	6'-8' Ht.	B & B	Full Form Central Leader
PA	295	Picea abies Norway Spruce	6'-8' Ht.	B & B	Full Form Central Leader
PS	162	Pinus strobus White Pine	6'-8' Ht.	B & B	Sheared Full Form
CK	12	Cornus kousa Chinese Dogwood	1½"-2" Cal.	B & B	Specimen
CV	18	Creategus var. 'Wintering' Wintering Hawthorn	1½"-2" Cal.	B & B	Specimen
MZ	10	Malus x 'Profusion' Profusion Crabapple	1½"-2" Cal.	B & B	Specimen

PARKING LOT INTERNAL LANDSCAPING

PARKING LOT	1	2
NUMBER OF PARKING SPACES	50 SP.	45 SP.
NUMBER OF SHADE TREES/ISLANDS* REQUIRED (1/20 SPACES)	2	2
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	2 –	2 –
NUMBER OF ISLANDS REQUIRED	2	2
NUMBER OF ISLANDS PROVIDED	11	2

* 200 SF PLANTING AREA / ISLAND

PERIMETER LANDSCAPE EDGE

	ADJACENT TO PERIMETER PROPERTIES				ADJACENT TO ROADWAYS					
PERIMETER	2	6	7	10 **	1	3	4	5	8	9
LANDSCAPE TYPE	C	C	C	–	B	B	E	D	D	D
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	± 2,700'	± 950'	± 590'	–	± 675'	± 325'	± 280'	± 1,780'	± 1,700'	± 4,875'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES 1,975'	YES 950'	YES 590'	NO	NO	NO	NO	YES 1,780'	YES 1,700'	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	YES ± 325'	YES ± 280'	NO	NO	YES ± 4,875'
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	@1/40'= 18 @1/20'= 37 –	N/A ***	N/A ***	N/A	@1/50'= 14 @1/40'= 17 –	@1/50'= 7 N/A * –	@1/40'= 7 – N/A *	N/A ***	N/A ***	@1/60'= 81 N/A * –
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SMALL FLOWERING TREES SHRUBS	16 37 4 –	N/A ***	N/A ***	– – – –	11 17 6 –	5 *8 4 –	5 *14 4 *	– – – –	N/A ***	81 * 448 * 40 –

PERIMETER NOTES:

* BERMS MAY BE SUBSTITUTED FOR EVERGREEN TREES OR SHRUBS IN MEETING OTHER PERIMETER LANDSCAPE REQUIREMENTS. IN NO INSTANCES WILL BERMS BE SUBSTITUTED FOR REQUIRED SHADE TREE PLANTINGS. [PAGE 25 OF THE HOWARD COUNTY LANDSCAPE MANUAL] HOWEVER, WE ARE PROVIDING EVERGREEN TREES AND SHRUBS AS FOLLOWS:

PERIMETER 3:
IF BERM WERE NOT INSTALLED, (8) EVERGREEN TREES WOULD BE REQUIRED.

PERIMETER 4:
IF BERM WERE NOT INSTALLED, (70) SHRUBS OR 14 EVERGREEN TREES WOULD BE REQUIRED.

PERIMETER 9:
IF BERM WERE NOT INSTALLED, (488) EVERGREEN TREES WOULD BE REQUIRED.

** THE REGULATIONS DO NOT REQUIRE LANDSCAPED EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT.

*** "UP TO 100% OF THE PLANTING REQUIREMENT MAY BE MET BY PRESERVING EXISTING VEGETATION." (p.24 OF THE HOWARD COUNTY LANDSCAPE MANUAL)

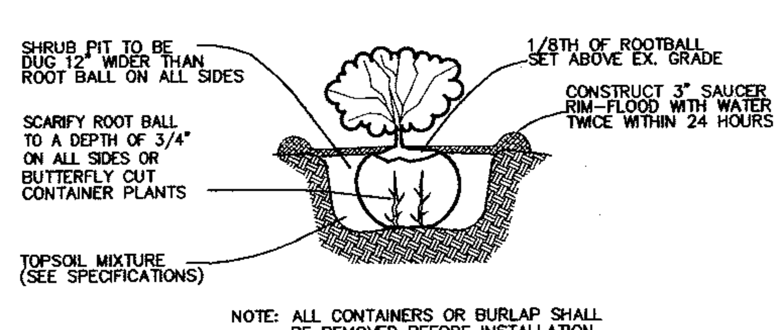
SUBSTITUTION NOTES:

PERIMETER 1:
(6) FLOWERING TREES WERE SUBSTITUTED FOR (3) SHADE TREES.

PERIMETER 2:
(4) FLOWERING TREES WERE SUBSTITUTED FOR (2) SHADE TREES.

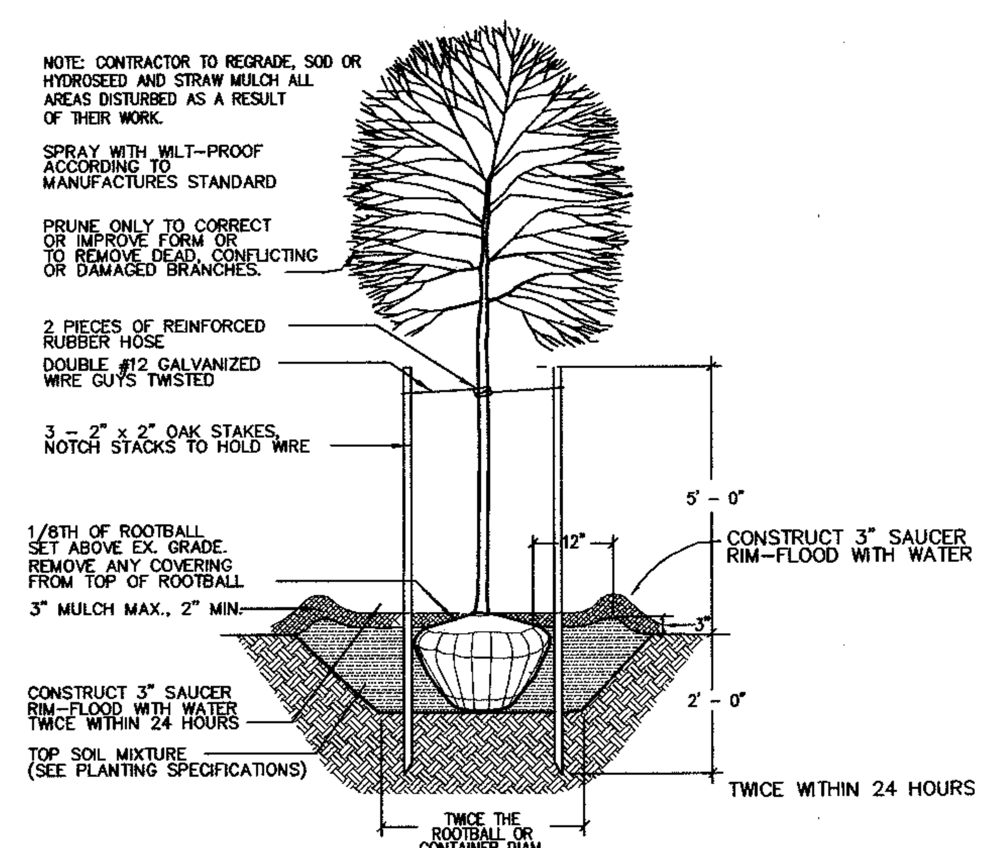
PERIMETER 3:
(4) FLOWERING TREES WERE SUBSTITUTED FOR (2) SHADE TREES.

PERIMETER 4:
(4) FLOWERING TREES WERE SUBSTITUTED FOR (2) SHADE TREES.

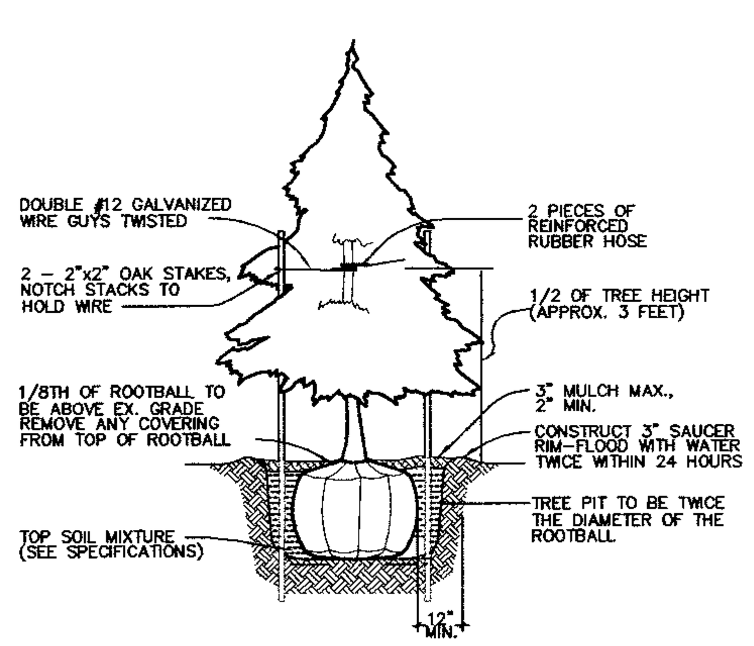


NOTE: ALL CONTAINERS OR BURLAP SHALL BE REMOVED BEFORE INSTALLATION.

SHRUB PLANTING DETAIL
NOT TO SCALE



B&B TREE PLANTING DETAIL
NOT TO SCALE



EVERGREEN PLANTING DETAIL
NOT TO SCALE

GENERAL NOTES:

1. SEE SHEET 2 & 3 FOR OVERALL PERIMETER DISPLAY.
2. SEE SHEETS 28 THROUGH 34 FOR PLANTING PLANS.

NOTES:

1) "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE ALTERNATE COMPLIANCE WITH THE HOWARD COUNTY RESEARCH AND DEVELOPMENT.

2) "FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $ 47,400 .

3) THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.

4) CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Timothy J. Schmidt — NAME
1-30-04 — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] DIRECTOR — 3/15/04 DATE

[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION — 2/20/04 DATE

[signature] CHIEF, DIVISION OF LAND DEVELOPMENT — 3/11/04 DATE

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN SPECIFICATIONS & DETAILS

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHRA
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

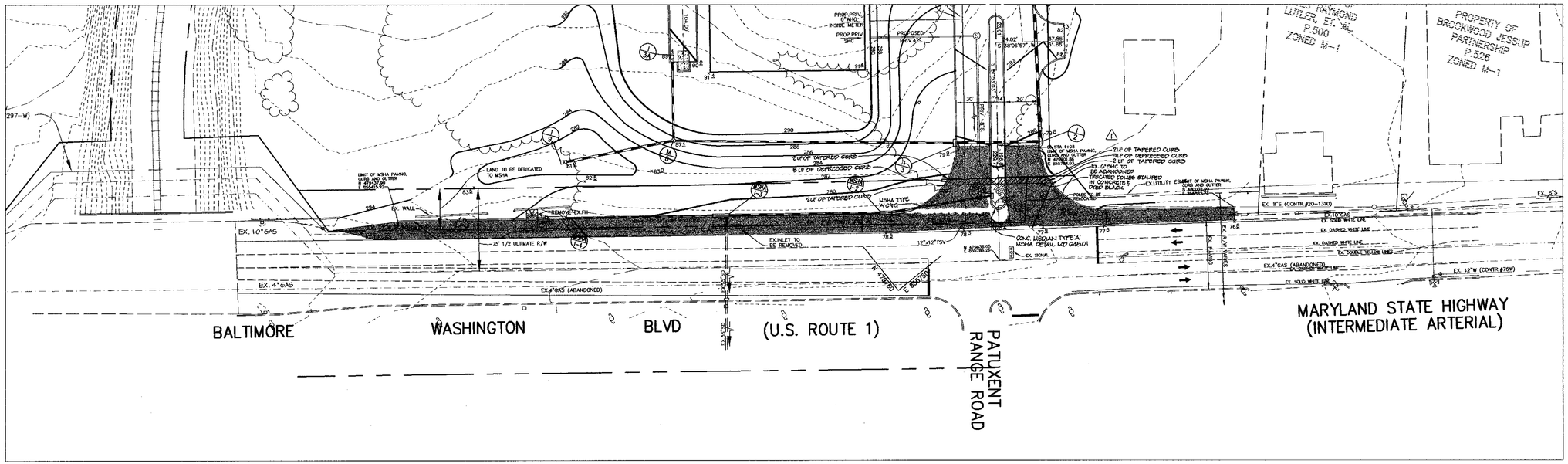
STATE OF MARYLAND · SCOTT R. WOLFORD · No. 797 REGISTERED · REGISTERED LANDSCAPE ARCHITECT

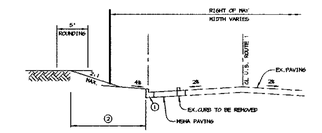
Scott R. Wolford

DESIGNED BY : D.T.D.
DRAWN BY : A.J.L.
CHECKED BY : D.T.D.
PROJECT NO : 99092/ L-35.DWG
DATE : JANUARY 29, 2004
SCALE : NO SCALE
DRAWING NO. 35 OF 41

SDP-99-134

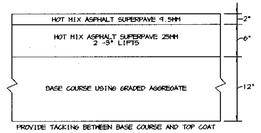
P:\project\99092\1-0\Engr\Plans\L-35.dwg, Model, 01/29/2004 11:34:42 AM, HP750C(36).pc3, User1308, 1:1





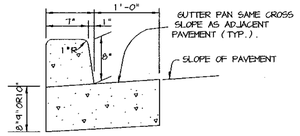
TYPICAL SECTION U.S. ROUTE 1

NO SCALE



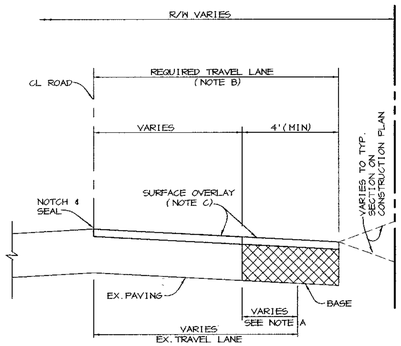
M.S.H.A. PAVING SECTION

NO SCALE



M.S.H.A. TYPE 'A' CURB AND GUTTER

NO SCALE



NOTE A - WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED CONTRACTOR SHALL REMOVE ENOUGH OF THE EXISTING ROAD BED TO PROVIDE A MINIMUM BASE WIDENING OF 4'.

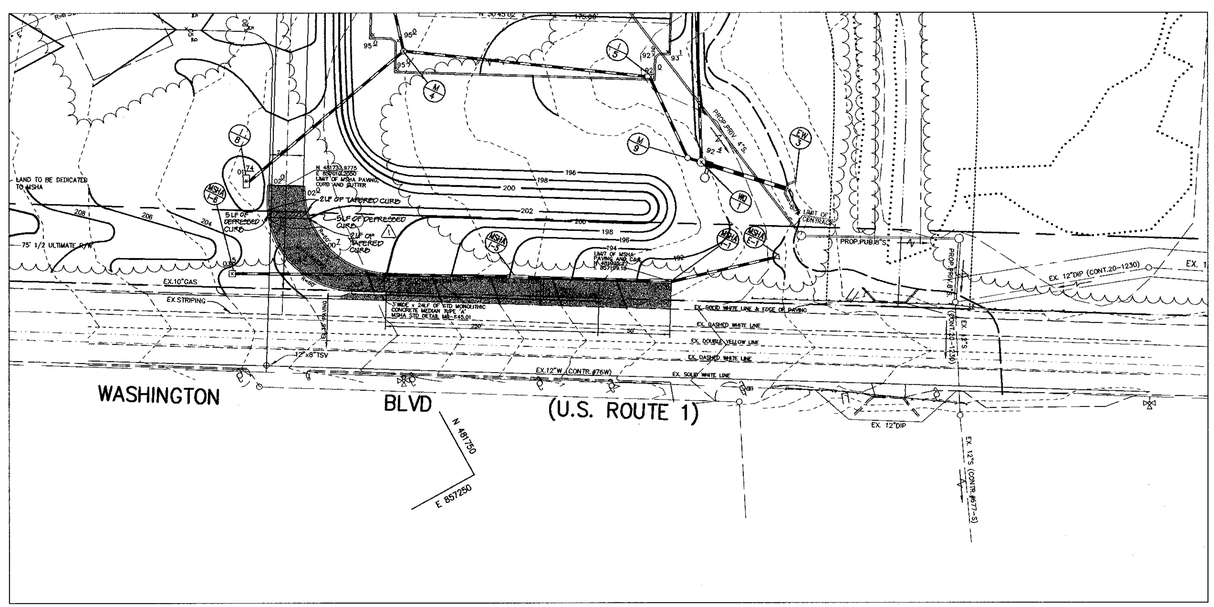
NOTE B - THE SURFACE OVERLAY SHALL BE CARRIED TO THE CL OF THE ROAD AND NOTCHED AND SEALED.

NOTE C - SURFACE OVERLAY COURSE TO BE EQUAL TO SURFACE COURSE OF TYPICAL PAVING SECTION OF SUBDIVISION.

NOTE D - CL OF ROAD TO BE MILLED AT DEPTH OF 1 1/2"x1'WIDE USING A MILLING MACHINE.

WIDENING STRIPS ALONG EXISTING ROADWAYS

NO SCALE



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
1-9-05	1	ADDED HC ACCESS ACROSS ENTRANCES

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

U.S. ROUTE 1 ROAD WIDENING PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ STATE-1.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	36 OF 41

SDP-99-134

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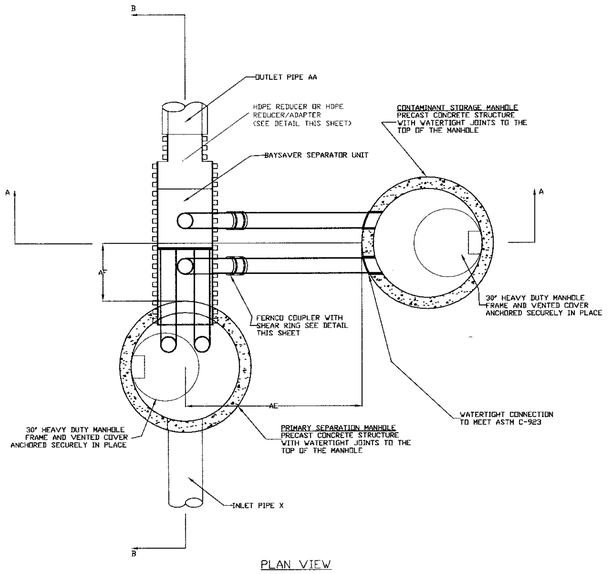
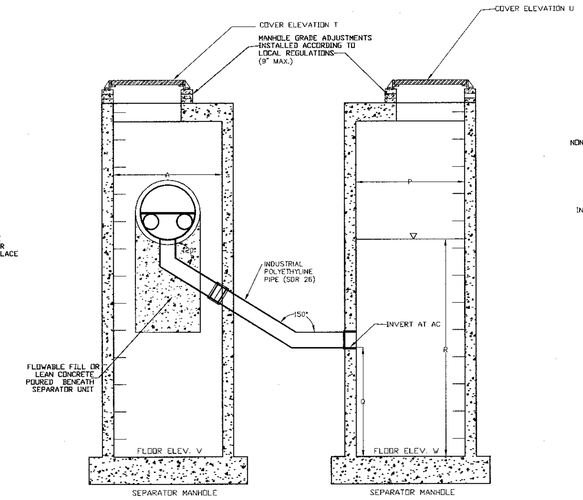
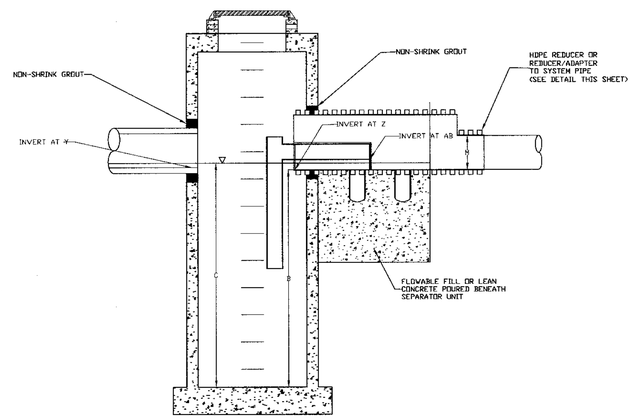


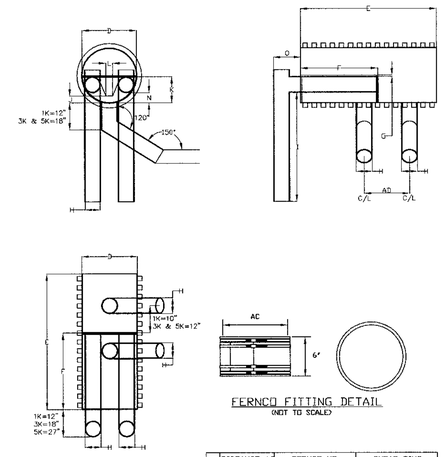
PLAN VIEW



SECTION AA



SECTION BB

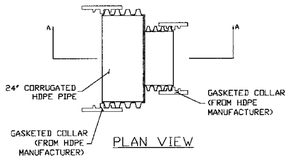


FERNCO FITTING DETAIL
(NOT TO SCALE)

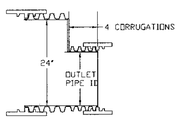
	DISTANCE AC	FERNCO NO.	SHEAR RING
1K	7.10"	1055-66	SR-27
3K	10.60"	1056-1010	SR-39
5K	12.73"	1004-1010	SR-44

HDPE-HDPE REDUCER DETAIL

FOR USE WITH HDPE OUTLET PIPES
NOT TO SCALE



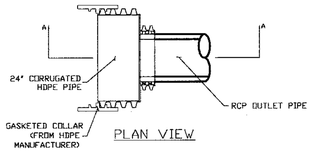
PLAN VIEW



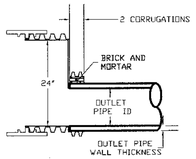
SECTION AA

REDUCER/ADAPTER DETAIL

FOR USE WITH OUTLET PIPES OTHER THAN HDPE
NOT TO SCALE



PLAN VIEW



SECTION AA

GENERAL CONSTRUCTION NOTES

1. ALL WORK MUST BE DONE WITH REGARD FOR THE SAFETY OF THE CONSTRUCTION CREW.

2. ALL WORK AND MATERIALS MUST COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS.

3. KNOW THE LOCATION AND DEPTH OF ANY UNDERGROUND UTILITIES BEFORE EXCAVATION BEGINS.

BAYSAVER MAINTENANCE

BAYSAVER SYSTEMS MUST BE INSPECTED AND MAINTAINED PERIODICALLY. INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EITHER MANHOLE EXCEEDS 2 FEET. MINIMUM INSPECTION IS REQUIRED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF BAYSAVER.

MAINTENANCE CONSISTS OF THE FOLLOWING:

A. CONTAMINANT STORAGE MANHOLE

1. REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.

2. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

B. PRIMARY SEPARATION MANHOLE

1. USING A SUBMERSIBLE PUMP, PUMP THE CLEAN WATER FROM THE CENTER OF THE MANHOLE DIRECTLY INTO THE EMPTY STORAGE MANHOLE UNTIL THE WATER LEVEL FALLS TO 1 FOOT ABOVE THE SEDIMENT LAYER.

2. REMOVE THE SETTLED SEDIMENT AND REMAINING WATER BY VACUUM TRUCK.

3. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

4. CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.

BAYSAVER INSTALLATION INSTRUCTIONS

1. EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYSAVER UNIT. INSTALL PRECAST DROP STRUCTURES ON SOLID GROUND AS VERIFIED BY A GEOTECHNICAL ENGINEER.

2. VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.

3. MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT, INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.

4. BACKFILL BASE SECTIONS OF MANHOLES TO INVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL, BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.

5. INSTALL BAYSAVER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT/STORM DRAIN JOINT COLLAR. CUT EXCESS LENGTH OFF CONNECTING PIPES INSIDE STORAGE MANHOLE.

6. BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.

7. INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.

8. INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

Project: CHASE QUARRY
Address: _____
Delivery Date: _____
Owner: _____
Contact: _____
Address: _____

Designer: RMA, INC.
Contact: CHRIS REID
Phone: (410) 997-8900
Fax: (410) 997-9282
Contractor: _____
Address: _____
Contact: _____
Phone: _____
Fax: _____

Separator Unit Model:
1K ☐
3K ☐
5K ■

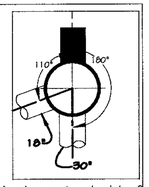
Circle system orientation above

Manhole Specifications:

Primary Manhole Diameter: 72 inches
Storage Manhole Diameter: 72 inches

Floor Elevations:
Primary Manhole 177.75
Storage Manhole 177.75

Primary Manhole Inverts:
Separator Unit 185.75 (30" OUT)
Inlet Pipe(s) 185.85 (30")
186.75 (18")



Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 192.40
Storage Manhole 192.40

WQ-1/WQ-1A

This order can be faxed to Bay Saver, Inc. at (301) 829-3747

SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR DUAL MANHOLE SEPARATORS

Stage (X = Approval Required)	Developer's/Engineer Approval		Inspector		Geotechnical Engineer	
	Initials	Date	Initials	Date	Initials	Date
1. Pre-Construction Meeting.	X		X		X	
2. Install Manholes and associated storm drainage: a. Obtain approval of subgrade from Geotechnical Engineer. (Subgrade to have a minimum of 95% compaction)					X	
b. Installation of precast base, lower tank and lower piping.	X		X			
c. Backfill and min. 95% compaction around lower tank and lower piping.					X	
d. Installation of precast middle section(s) with separator unit and remaining piping.	X		X			
e. Installation of precast top slab.	X		X			
f. Installation of adjustment rings and frame and cover.	X		X			
g. Installation of flowable fill or concrete backfill.					X	
3. Backfilling operation and compaction.					X	
4. Site is permanently stabilized. Sediment control measures removed and all sediment and debris removed from dual manhole separators.			X			
5. Final inspection.			X			

Baysaver Separator Unit	Baysaver Manhole Sizes (prim. x stor.)	Maximum Treatment (cfs)*1	Maximum Treatment (gpm)*1	Impervious Area (acres)
1K Baysaver Separator	48x48	2.4	1076	1.2
	48x50	2.4	1076	1.4
	48x72	2.4	1076	1.6
	60x60	2.4	1076	1.5
3K Baysaver Separator	60x60	7.2	3231	3.6
	60x72	7.2	3231	4.1
	60x84	7.2	3231	4.6
	72x72	7.2	3231	4.4
5K Baysaver Separator	72x72	11.1	4981	5.5
	72x84	11.1	4981	6.5
	72x96	11.1	4981	7.5
	96x96	11.1	4981	8.0

NOTE:

BAYSAVERS ARE TO BE INSTALLED WITH THE STORM DRAIN SYSTEM AND WILL FUNCTION AS SECONDARY SEDIMENT CONTROL DEVICES.

UPON COMPLETION OF SITE STABILIZATION, EACH BAYSAVER SYSTEM SHALL BE FLUSHED CLEAN & THE MANHOLES CLEANED OUT AND REFILLED WITH CLEAN WATER.

NOTE: DIMENSIONAL SHOP DRAWINGS ARE TO BE APPROVED BY THE DESIGN ENGINEER

BAYSAVER SYSTEM DIMENSIONS

	DESCRIPTION	1K SYSTEM	3K SYSTEM	5K SYSTEM
	SEPARATOR MANHOLE DIMENSIONS			
A	PRIMARY MANHOLE DIAMETER	48"	60"	72"
B	MANHOLE DEPTH BELOW OUTLET	8' - 0"	8' - 0"	8' - 0"
C	MINIMUM FLUID DEPTH	8' - 3"	8' - 4 1/2"	8' - 6"
	STANDARD SEPARATOR UNIT DIMENSIONS			
D	SEPARATOR UNIT ID	24"	36"	48"
E	SEPARATOR UNIT LENGTH	60"	78.2"	75.4"
F	BYPASS PLATE LENGTH	34"	45"	45"
G	WEIR/BYPASS PLATE THICKNESS	3/4"	3/4"	3/4"
H	ELBOW AND CONNECTING PIPE OD	7.125"	10.75"	12.75"
I	ELBOW LENGTH	48"	48"	48"
J	WEIR HEIGHT ABOVE INVERT	3"	4"	6"
K	BYPASS PLATE HEIGHT ABOVE INVERT	12"	18"	24"
L	WIDTH OF WEIR AT BASE	3"	4 1/2"	6"
M	OUTLET PIPE DIAMETER	M	M	M
N	ELBOW INVERT HEIGHT ABOVE UNIT INVERT	4 1/2"	7 1/2"	11"
O	ELBOW PIPE OVERHANG	12"	18"	24"
	STORAGE MANHOLE DIMENSIONS			
P	STORAGE MANHOLE DIAMETER	48"	60"	72"
Q	MANHOLE DEPTH BELOW INLET/OUTLET	48"	48"	48"
R	FLUID DEPTH	8' - 0"	8' - 0"	8' - 0"
S	TOTAL STORAGE VOLUME	200 CF	300 CF	450 CF
	SYSTEM DIMENSIONS AND ELEVATIONS			
T	SEPARATOR MANHOLE COVER ELEVATION	T	T	T
U	STORAGE MANHOLE COVER ELEVATION	U	U	U
V	SEPARATOR MANHOLE FLOOR ELEVATION	V	V	V
W	STORAGE MANHOLE FLOOR ELEVATION	W	W	W
X	INLET PIPE ID AND MATERIAL	X1 X2	X1 X2	X1 X2
Y	INLET PIPE INVERT	Y1 Y2	Y1 Y2	Y1 Y2
Z	SEPARATOR UNIT INVERT	Z	Z	Z
AA	OUTLET PIPE ID AND MATERIAL	AA	AA	AA
AB	ELBOW INVERT ELEVATION	AB	AB	AB
AC	CONNECTING PIPE INVERT ELEVATION	AC	AC	AC
AD	CONNECTION PIPE SPACING	20"	24"	24"
AE	STORAGE MANHOLE SIDE OFFSET	72 ± 6"	72 ± 6"	72 ± 6"
AF	STORAGE MANHOLE DOWNSTREAM OFFSET	23"	31"	25"

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 2/25/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/11/04

DATE	NO.	REVISION
1-9-06	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
BAYSAVER DETAILS & NOTES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY :
CHECKED BY : C.J.R.
PROJECT NO : 99092/BAYSAVER.DWG
DATE : JANUARY 29, 2004
SCALE : AS SHOWN
DRAWING NO. 37 OF 41

SDP-99-134

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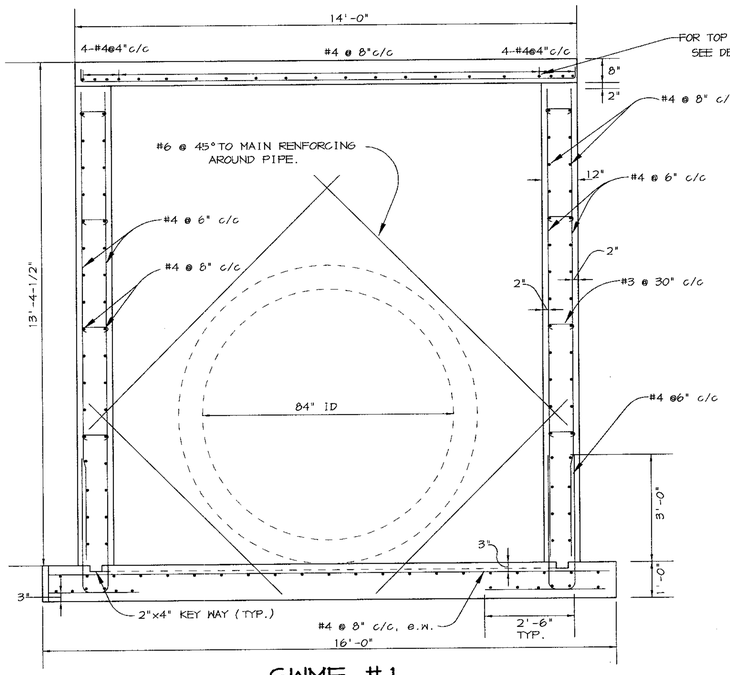
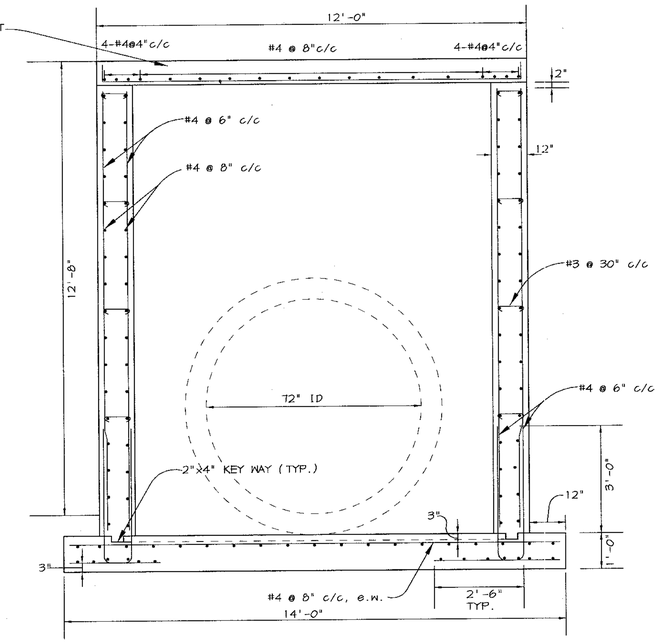
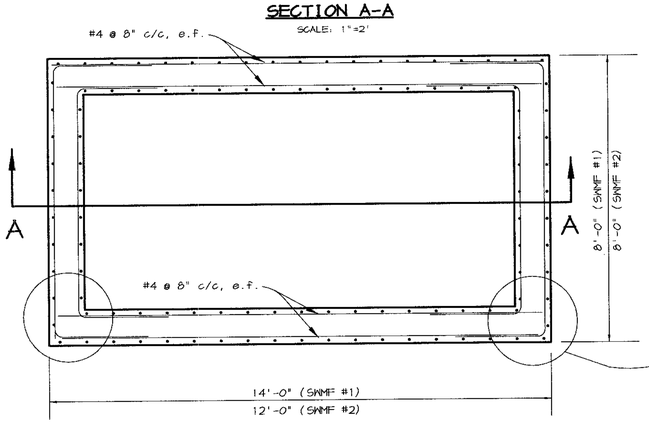


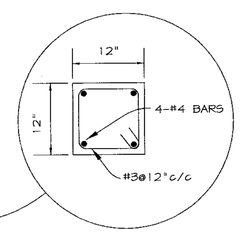
SWMF #1
SECTION A-A
SCALE: 1"=2'



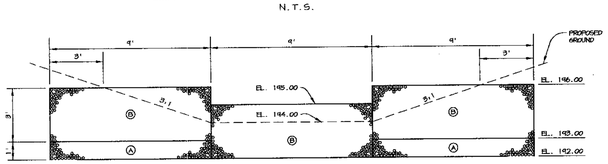
BASIN #2
SECTION A-A
SCALE: 1"=2'



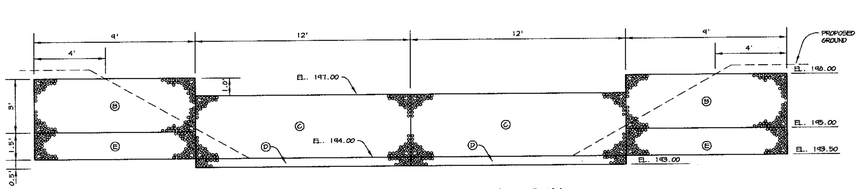
SWMF #1 & BASIN #2 PLAN VIEW
N.T.S.



DETAIL SLAB SUPPORT
N.T.S.



BASIN 2 GABION WALL SECTION
SCALE: 1"=4'



POND 1 GABION WALL SECTION
SCALE: 1"=4'

GABION FOREBAY NOTES

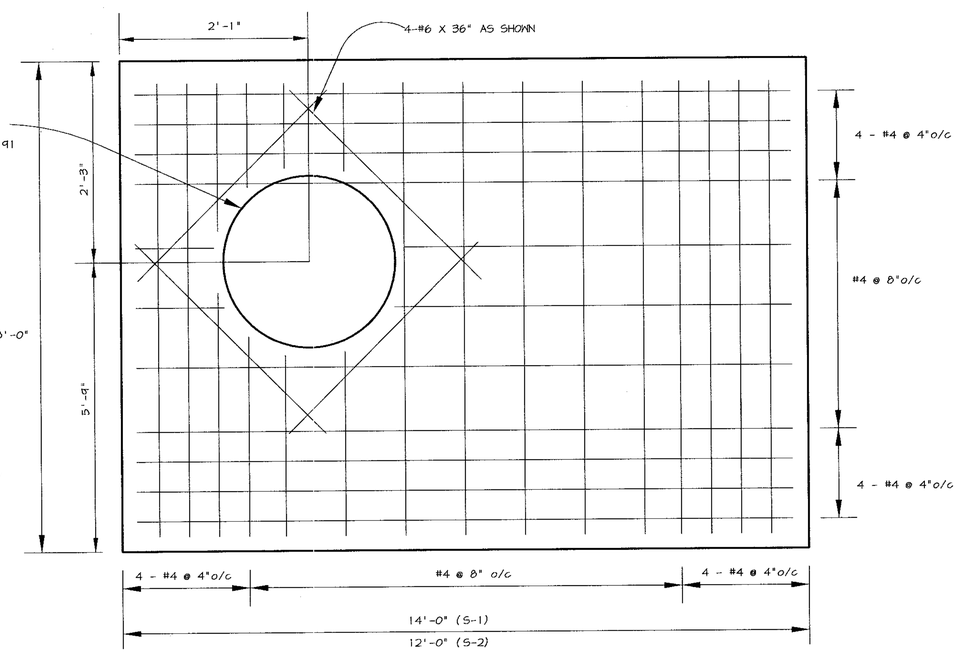
1. Geotextile Class C shall be installed under all gabion baskets.
2. The stone used to fill the gabion baskets shall be 4" – 7".
3. Gabions shall be installed in accordance with manufacturers recommendations.
4. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.
5. Gabions to be PVC coated.
6. Gabions to be fastened together.
7. Compact forebay embankment to MD 378 Standards using GC, SC, CH and/or CL soils.
8. Contractor shall place 10 mil. (min.) vinyl sheeting along upstream buried face of gabions w/4' overlap and buried 12" into adjacent soil.

GABION SCHEDULE BASIN 2

LETTER DESIGNATION	NO. OF GABIONS	GABION DIMENSIONS
A	2	4'x3'x1'
B	3	4'x3'x3'

GABION SCHEDULE POND 1

LETTER DESIGNATION	NO. OF GABIONS	GABION DIMENSIONS
B	2	4'x3'x3'
C	2	12'x3'x3'
D	2	12'x3'x1'
E	2	4'x3'x1.5'



TOP SLAB – S-1 & S-2
NOT TO SCALE

NOTES:

1. CONCRETE SHALL BE MSHA MIX NO. 3 (fc = 3,500 psi)
2. ALL CONSTRUCTION TO MEET HO.CO.STANDARD SPECIFICATIONS.
3. REINFORCEMENT TO BE DEFORMED BAR AND MEET ASTM A-615, GRADE 60.
4. ALL REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS SHOWN ON DRAWING.
5. ALL SPLICES NOT SHOWN SHALL BE LAPPED AS PER BAR LAP CHARTS.
6. ALL HORIZONTAL REINFORCING TO BE CONTINUOUS AT ALL CORNERS.

TOP SLAB NOTES:

1. TOP SLAB TO BE SEPARATE FROM RISER STRUCTURE FASTENED TO RISER STRUCTURE.
2. REFER TO HOWARD COUNTY STD. G-5.52 FOR MANHOLE FRAME & COVER.
3. CONCRETE TO BE MIX NO. 3
4. SLAB REINFORCING SHALL HAVE 2" MINIMUM COVER.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid — 1-30-04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/10/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
REINFORCEMENT DETAILS & PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/RNFR-DET.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	38 OF 41

SDP-99-134

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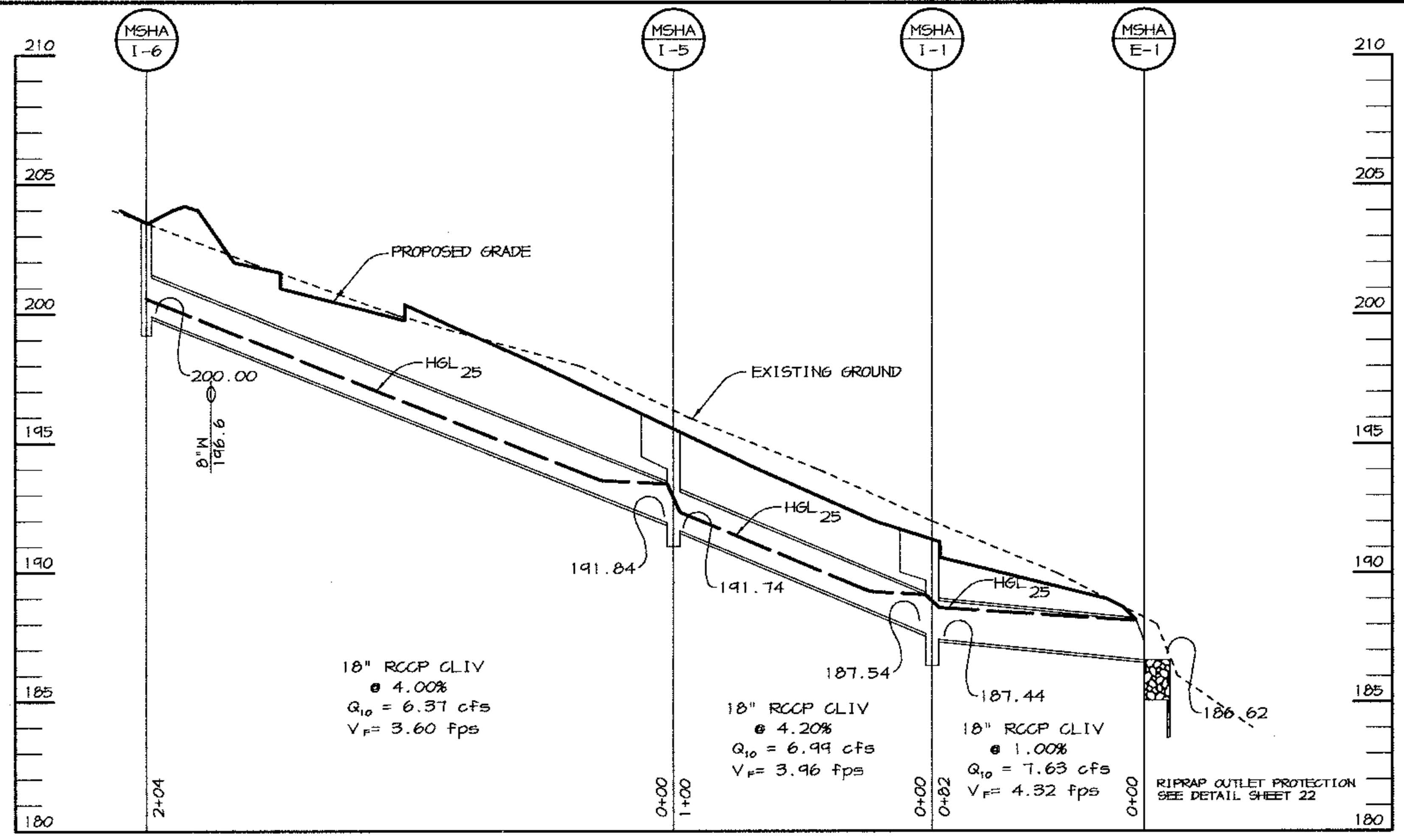
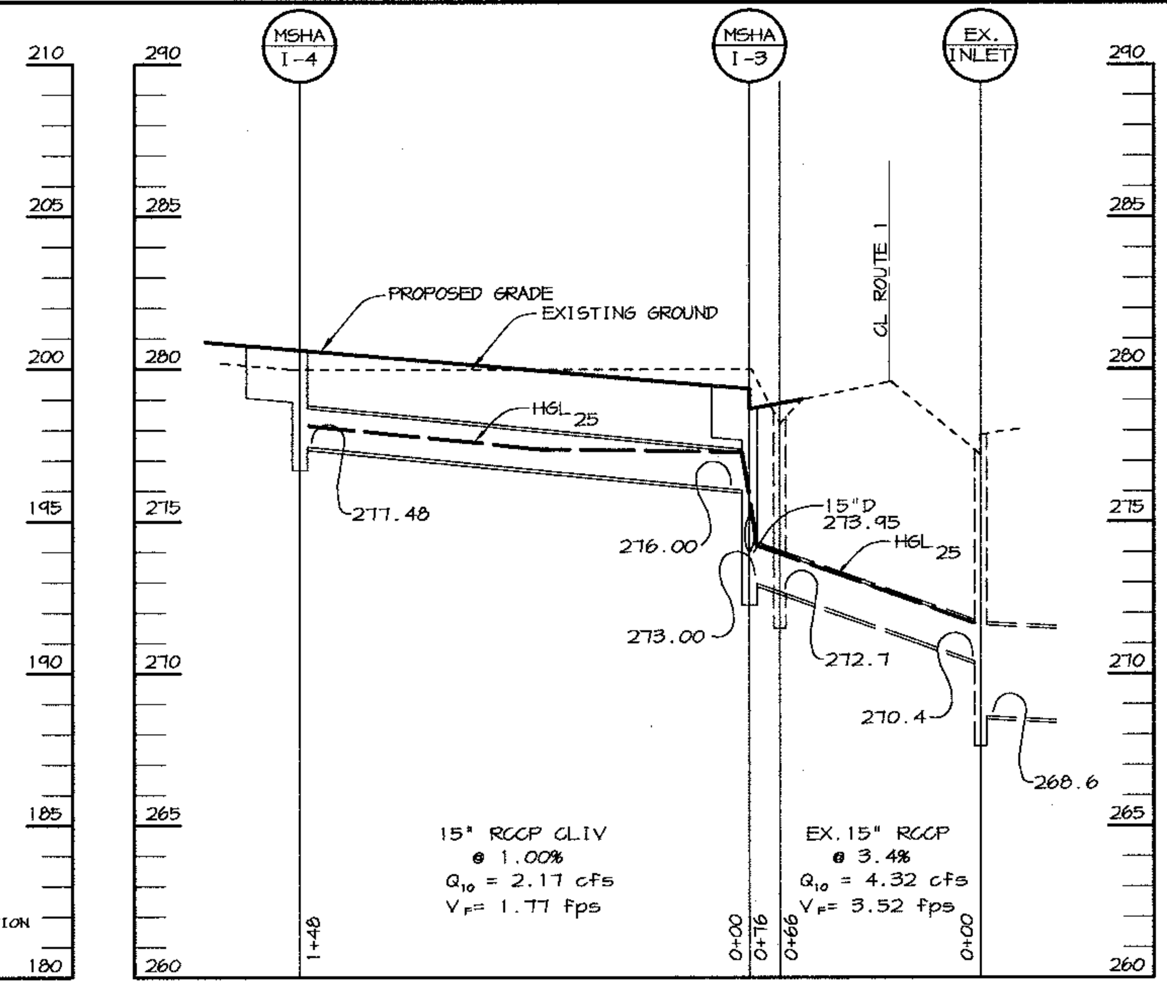


STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

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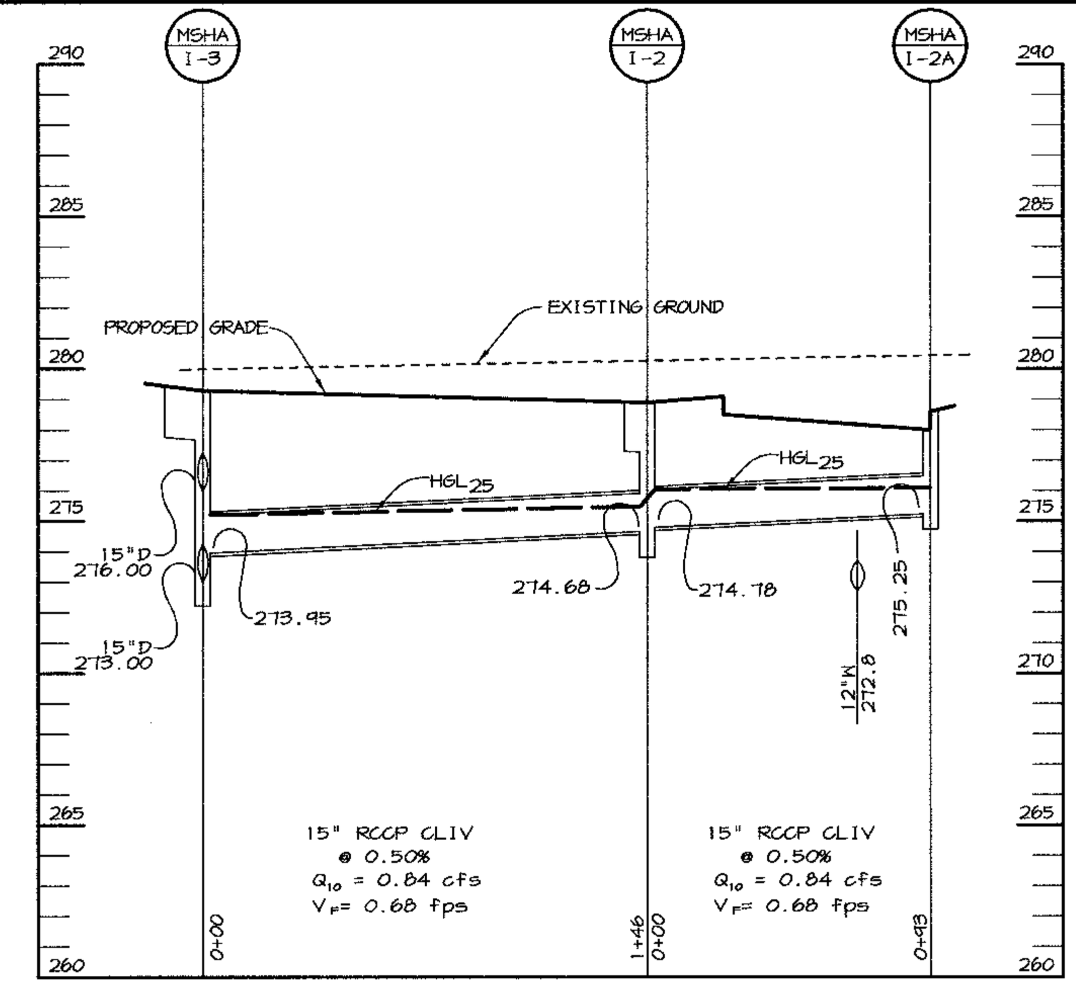
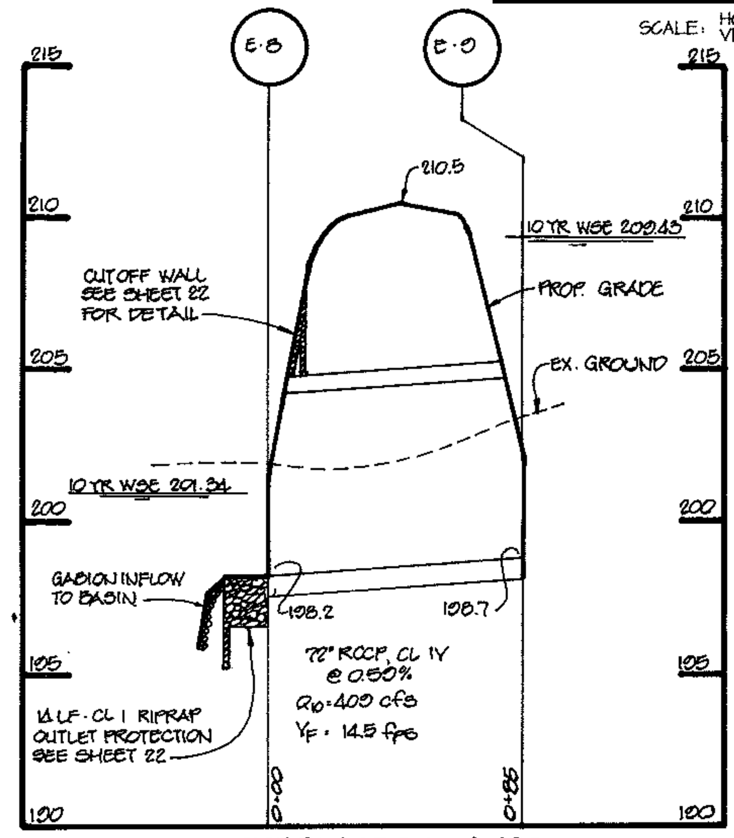


STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

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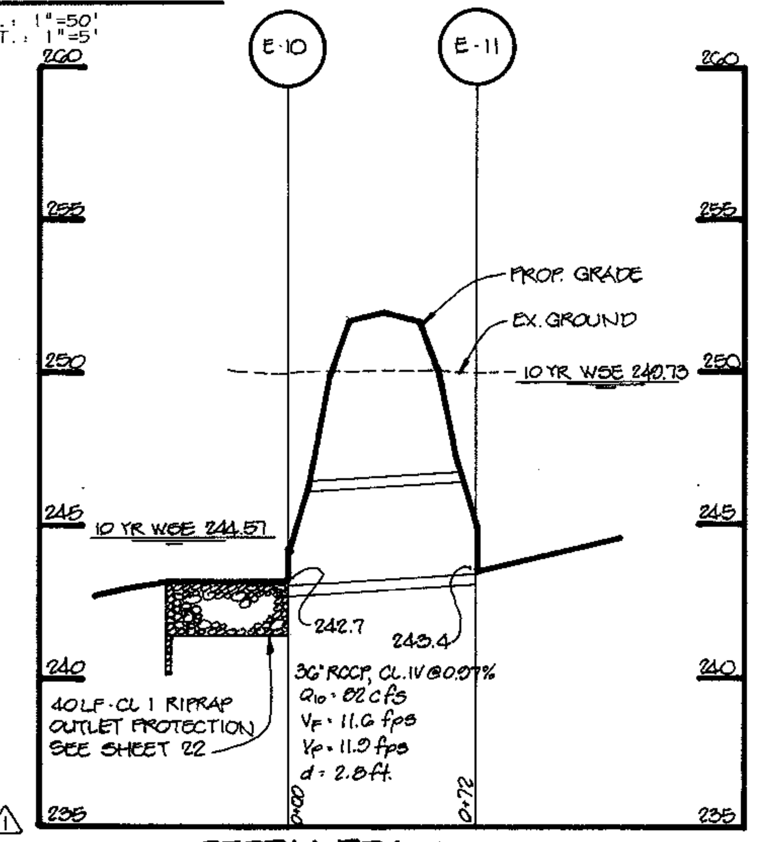
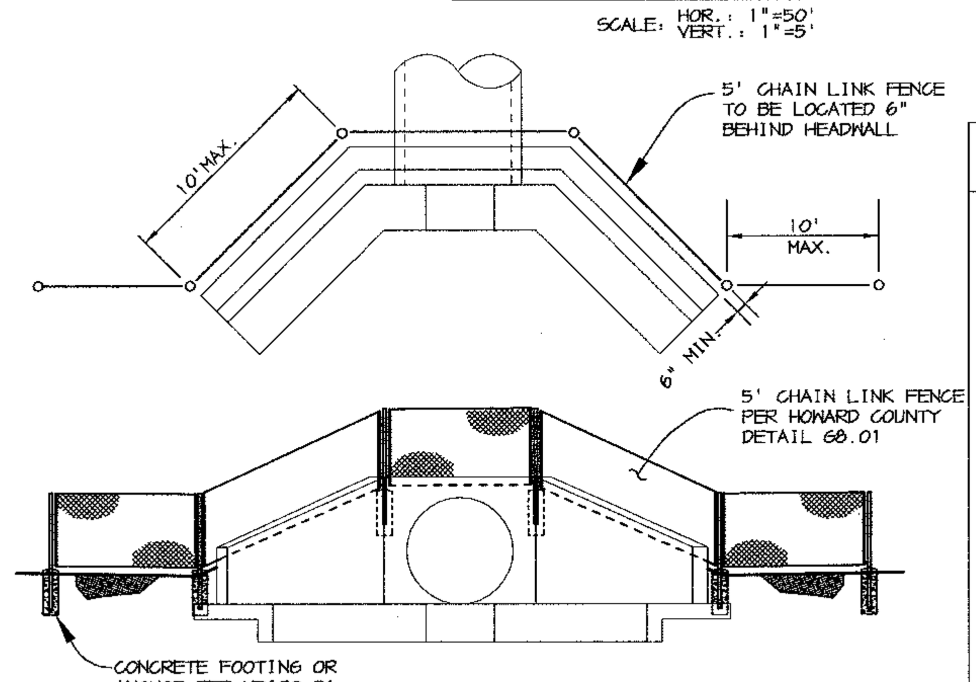


STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



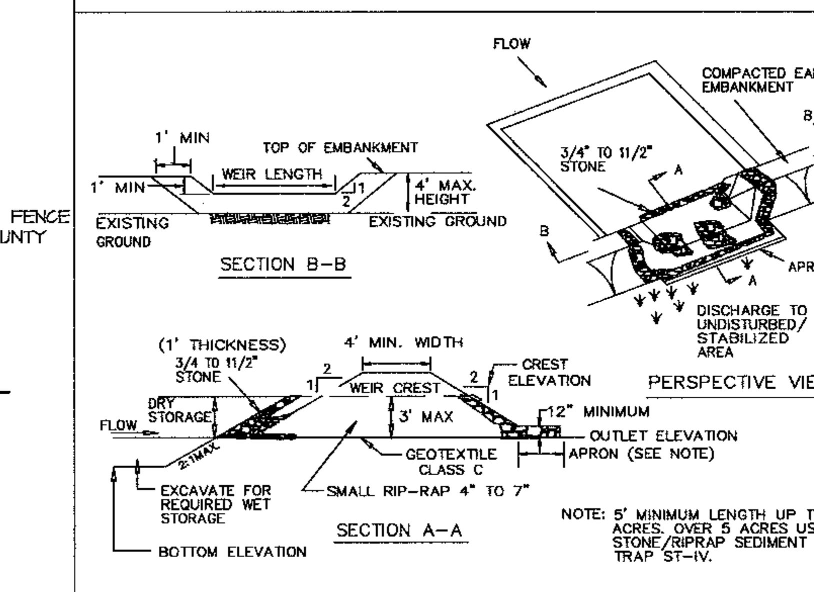
DETAIL HEADWALL WITH FENCE

SCALE: 1" = 10'

STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION		INV. IN	INV. OUT	TOP		REMARKS
MSHA I-1	CO615	N 481921.20 E 857192.00	N 481935.31 E 857200.40	187.54	187.44	191.66	191.02	MSHA STD DETAIL MD-374.31
MSHA I-2	CO610	N 479780.64 E 855686.09	N 479788.51 E 855692.26	274.78	274.68	279.00		MSHA STD DETAIL MD-374.31
MSHA I-2A	CO65	N 479861.62 E 855744.88	N 479858.54 E 855748.81	-	275.25	278.70		MSHA STD DETAIL MD-374.31
MSHA I-3	CO615	N 479661.32 E 855592.47	N 479673.12 E 855601.73	276.00 273.95	273.00	279.40		MSHA STD DETAIL MD-374.31
MSHA I-4	CO620	N 479540.43 E 855497.63	N 479557.28 E 855510.85	-	277.48	280.90		MSHA STD DETAIL MD-374.31
MSHA I-5	CO615	N 481835.57 E 857141.06	N 481849.68 E 857149.45	191.84	191.74	196.10	195.37	MSHA STD DETAIL MD-374.31
MSHA I-6	WR	N 481670 E 857045		-	200.00	203.5		MSHA STD DETAIL MD-374.23
MSHA E-1	18" RCCP	N 482009 E 857220		-	186.62	-		MSHA STD DETAIL MD-368.01

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

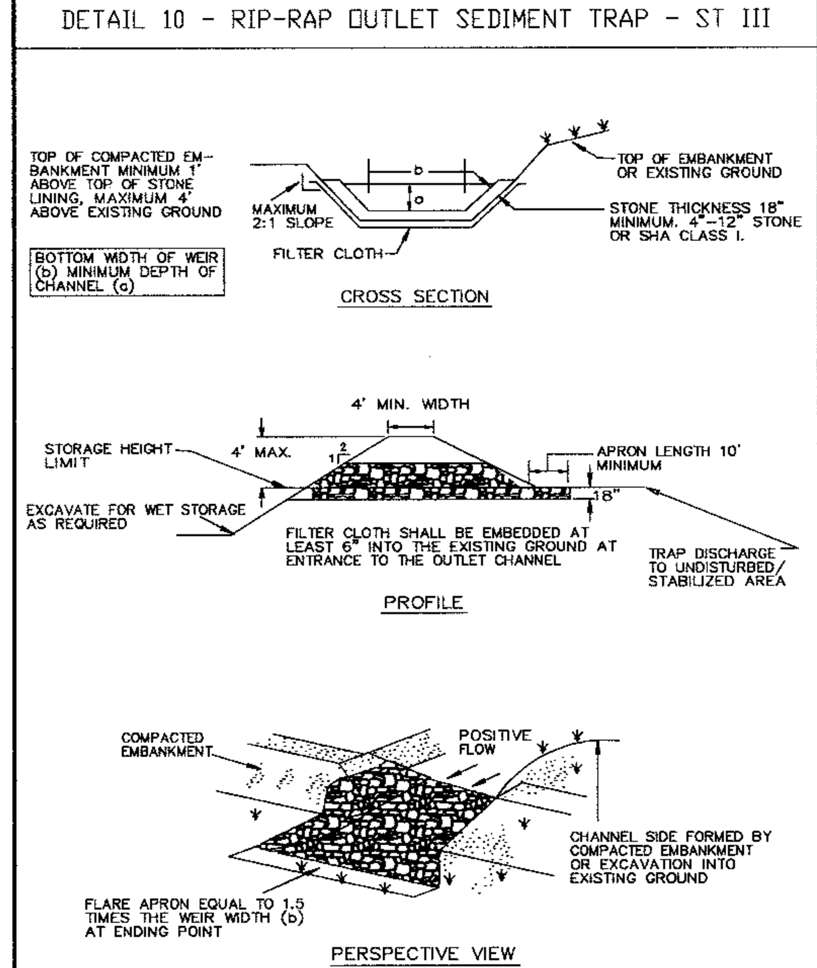
3. All cut and fill slopes shall be 2:1 or flatter.

4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of 3/4" to 11/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.

5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 10	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

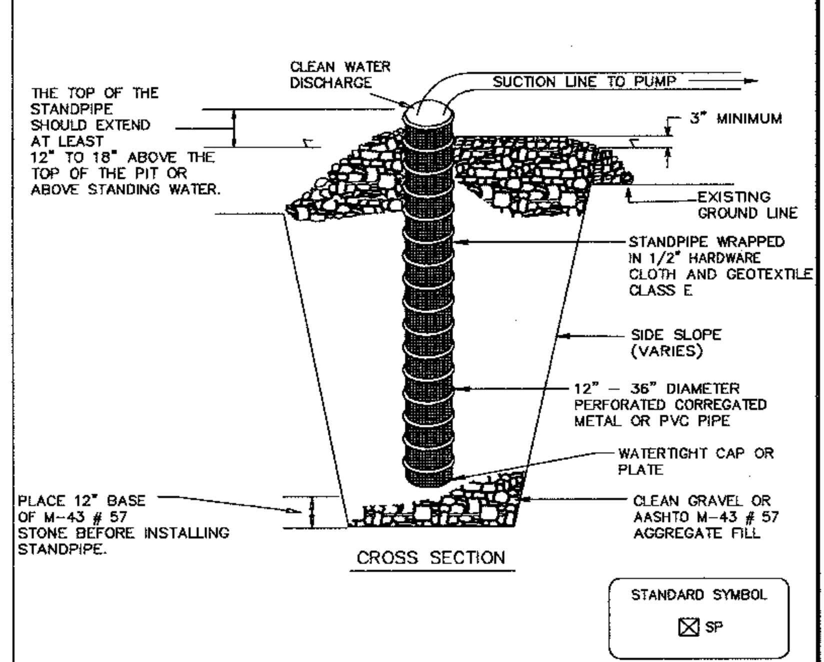
DETAIL 10 - RIP-RAP OUTLET SEDIMENT TRAP - ST III



NOTE: MAXIMUM DRAINAGE AREA= 10 ac.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 13	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20B — SUMP PIT



STANDARD SYMBOL

⊠ SP

Construction Specifications

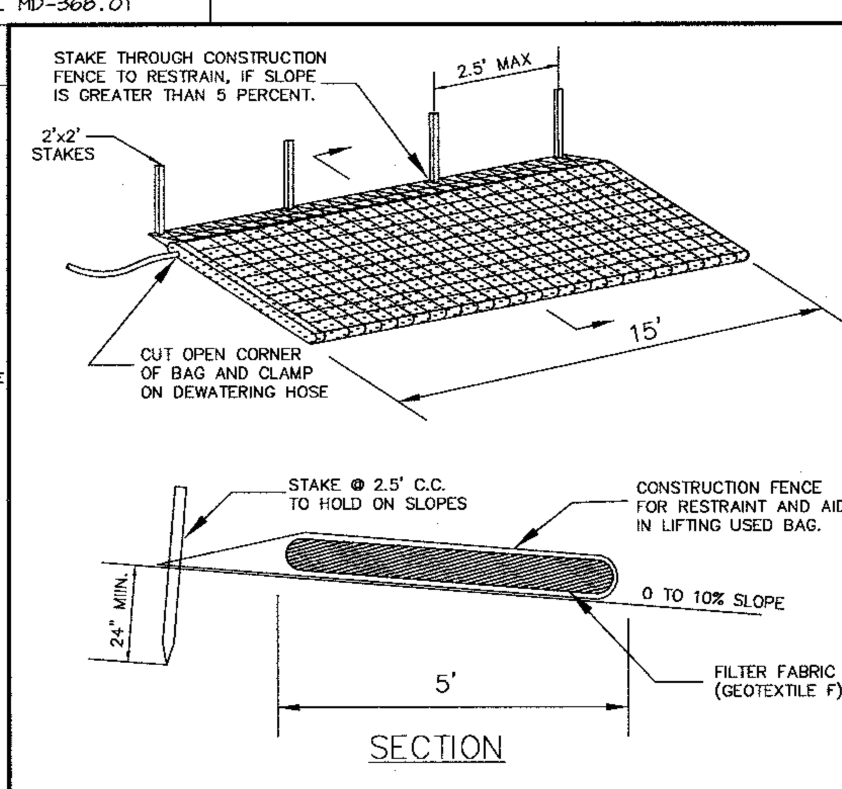
1. Pit dimensions are variable, with the minimum diameter being 2 times the standpipe diameter.

2. The standpipe should be constructed by perforating a 12" to 24" diameter corrugated or PVC pipe. Then wrapping with 1/2" hardware cloth and Geotextile Class E. The perforations shall be 1/2" x 6" slits or 1" diameter holes.

3. A base of filter material consisting of clean gravel or #57 stone should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with the same filter material.

4. The standpipe should extend 12" to 18" above the lip of the pit or the riser crest elevation (basin dewatering only) and the filter material should extend 3" minimum above the anticipated standing water elevation.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 13 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



NOTES;

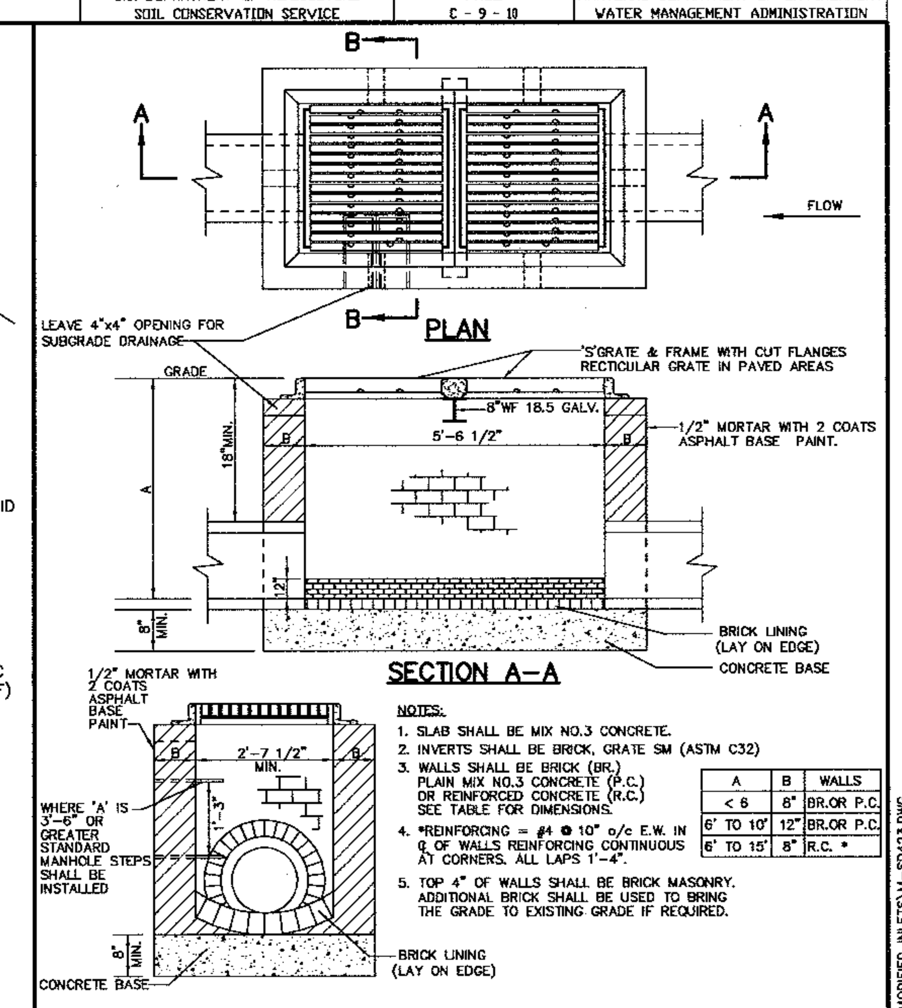
1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREA.
2. WIDTH AND LENGTH SHALL BE AS SHOWN.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
6. FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F;

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: MSMT 509
FLOW RATE	0.3 GAL/FT²/MINUTE (MAX.)	TEST: MSMT 322
FILTER EFFICIENCY	75% (MIN.)	TEST: MSMT 322

FILTER BAG (FB)

TEMPORARY EROSION CONTROL MEASURE

DRAWN BY: K.C.B. CHECKED BY: SCALE: NONE FB



NOTES:

1. SLAB SHALL BE MIX NO.3 CONCRETE.
2. INVERTS SHALL BE BRICK, GRATE SM (ASTM C32)
3. WALLS SHALL BE BRICK (BR.) PLAIN MIX NO.3 CONCRETE (P.C.) OR REINFORCED CONCRETE (R.C.) SEE TABLE FOR DIMENSIONS.
4. *REINFORCING = #4 @ 10" o/c E.W. IN ℄ OF WALLS REINFORCING CONTINUOUS AT CORNERS. ALL LAPS 1'-4".
5. TOP 4" OF WALLS SHALL BE BRICK MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRADE TO EXISTING GRADE IF REQUIRED.

A	B	WALLS
< 6	8"	BR.OR P.C.
6' TO 10'	12"	BR.OR P.C.
6' TO 15'	8"	R.C. *

F:\PROJECT\HOCO\MODIFIED INLETS\M-SD423.DWG

RIEMER MUEGGE & ASSOCIATES INC

ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING

8818 Centre Park Drive, Columbia, MD 21045

tel 410.997.8900 fax 410.997.9282

MODIFIED DOUBLE TYPE 'S INLET

5/25/2000

DRAWN BY: K.E.V. CHECKED BY: C.J.R. SCALE: NONE M-SD423

21.0 STANDARD AND SPECIFICATIONS
FOR
TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimentation Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½" in diameter.

ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

I. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04

DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04

ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

2/17/04

NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04

DIRECTOR DATE

2/20/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
1-6-05	1	ADDED STORM DRAIN PROFILES E-8 THRU E-11

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

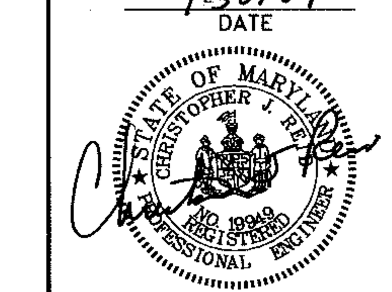
AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE



CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY : MAD
CHECKED BY : C.J.R.
PROJECT NO : 99092/ PROFILE6.DWG
DATE : JANUARY 29, 2004
SCALE : AS SHOWN
DRAWING NO. 39 OF 41

SDP-99-134

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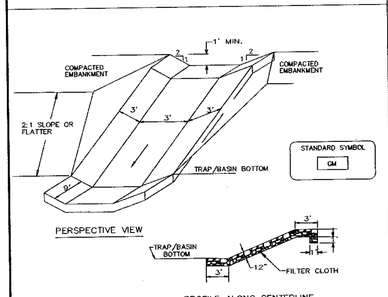
DETAIL 6 – GABION INFLOW PROTECTION

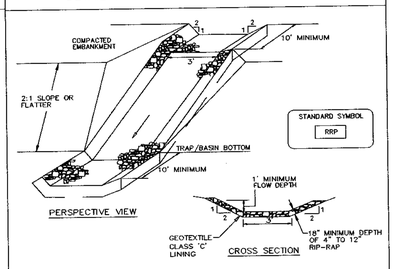


Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
2. Geotextile Class C shall be installed under all gabion baskets.
3. The stone used to fill the gabion baskets shall be 4" – 7".
4. Gabions shall be installed in accordance with manufacturers recommendations.
5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B – 7 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5 – RIP-RAP INFLOW PROTECTION

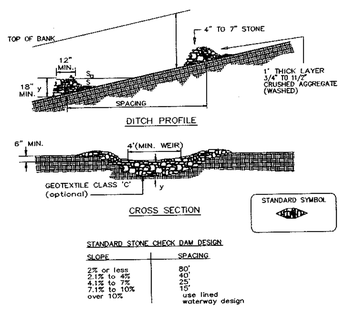


Construction Specifications

1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip- rap to a depth of 18".
2. Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
3. Entrance and exit sections shall be installed as shown on the detail section.
4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
5. Gabion Inflow Protection may be used in lieu of Rip-rap inflow Protection.
6. Rip-rap should blend into existing ground.
7. Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B – 6 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 7 – STONE CHECK DAM



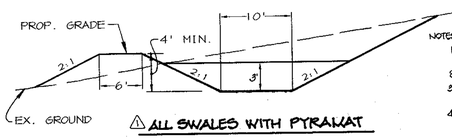
STANDARD STONE CHECK DAM DESIGN

SLOPE	SPACING
2% or less	80'
2.1% to 4%	40'
4.1% to 7%	25'
7.1% to 10%	15'
over 10%	use lined waterway design

Construction Specifications

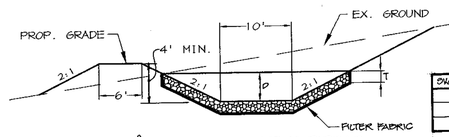
1. Swales and ditches shall be prepared in accordance with the construction specifications described in Section A-2, Standards and Specifications for Temporary Swale.
2. The check dam shall be constructed of 4"–7" stone. The stone shall be placed so that it completely covers the width of the channel and keyed into the channel banks.
3. The top of the check dam shall be constructed so the the center is approximately 6" lower than the outer edges, forming a weir that water can flow across.
4. The maximum height of the check dam at the center shall not exced 2".
5. The upstream sideof the check dam shall be lined with approximately 1" of 3/4" to 11/2" crushed aggregate.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B – 8 – 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



⚠ ALL SWALES WITH PYRAMAT

NOTES:
1. USE 3- 8.5' WIDE STANDARD ROLL SIZE OVERLAP ADJACENT ROLLS AT LEAST 3' AND ANCHOR EVERY 10'.
2. LAY PYRAMAT LOOSE, DO NOT PULL TAUT.
3. APPLY SEED AFTER PYRAMAT INSTALLATION PRIOR TO SOIL FILLING.
4. AFTER SEEDING, SPREAD AND LIGHTLY RAKE 1/2" TOPSOIL INTO THE PYRAMAT AND COMPLETELY FILL THE VOIDS.
5. SEE MANUFACTURERS INSTALLATION GUIDELINES FOR MORE DETAILS.



SWALE #	D	T
2	1.5'	10"
5	2.7'	10"
7	2.5'	32"

⚠ SWALE WITH MSHA RIPRAP

NOTES:
1. COMPACT ALL FILL TO MD 378 STANDARDS.
2. REMOVE AND SALVAGE TOPSOIL PRIOR TO PLACING ANY FILL.

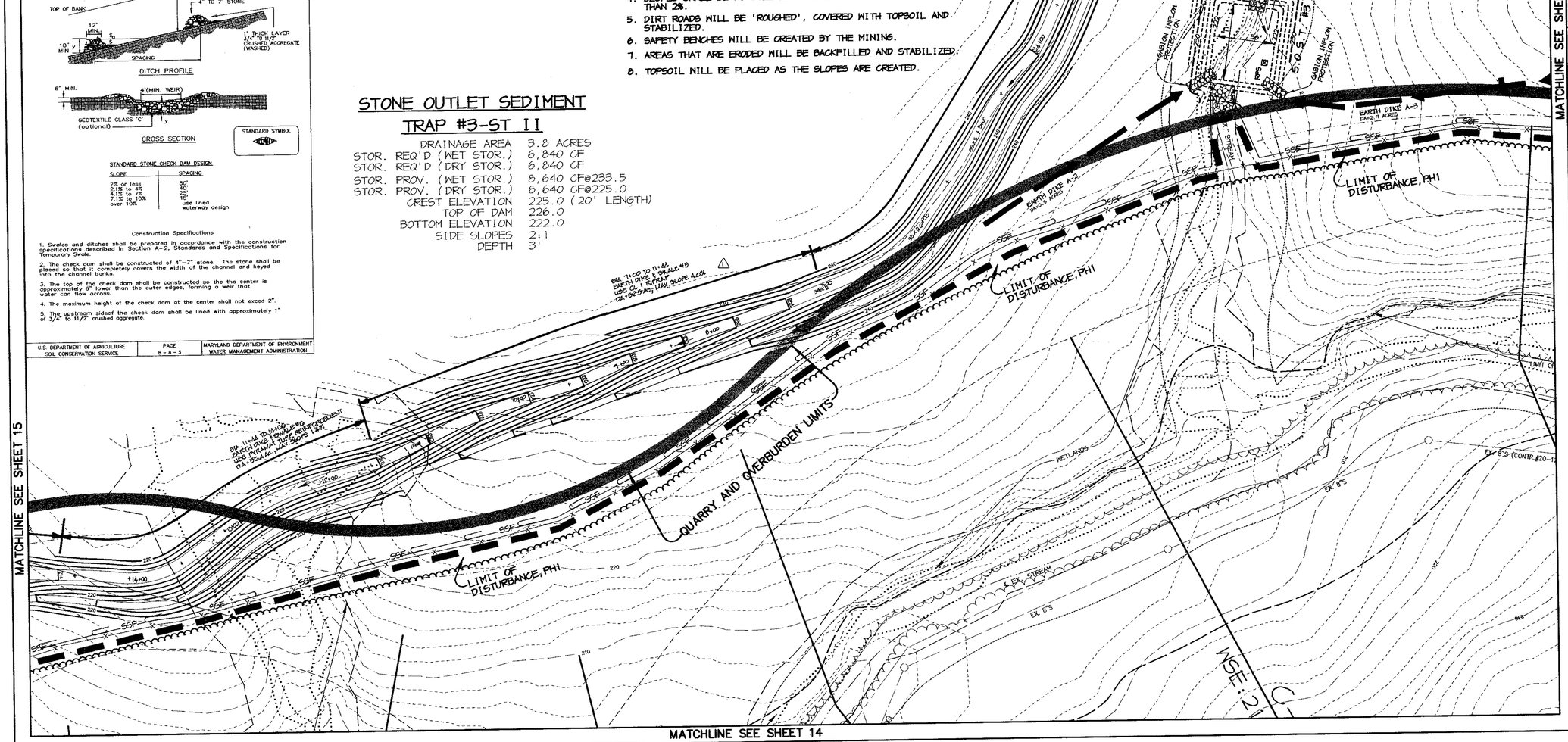
TYPICAL SECTION THRU EARTH DIKE AND TEMPORARY SWALE TO SEDIMENT BASIN 2

NO SCALE

NOTES:
1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

STONE OUTLET SEDIMENT TRAP #3-ST II

DRAINAGE AREA	3.8 ACRES
STOR. REQ'D (WET STOR.)	6,840 CF
STOR. REQ'D (DRY STOR.)	6,840 CF
STOR. PROV. (WET STOR.)	8,640 CF@233.5
STOR. PROV. (DRY STOR.)	8,640 CF@225.0
CREST ELEVATION	225.0 (20' LENGTH)
TOP OF DAM	226.0
BOTTOM ELEVATION	222.0
SIDE SLOPES	2:1
DEPTH	3'



LEGEND

- TEMPORARY SWALE
- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/CB 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
1.0.00	1	REVISED EARTH DIKE & SWALE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP AND DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282
PHR+A

1.30.04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIMI2.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	40 OF 41

SDP-99-134

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SITE DEVELOPMENT PLAN
CHASE QUARRY
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET INDEX

NO	DESCRIPTION	NO	DESCRIPTION
1	TITLE SHEET	21	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP
2	OVERALL LOCATION PLAN	22	PROFILES AND DETAILS
3	OVERALL LOCATION PLAN	23	PROFILES AND DETAILS
4	SITE DEVELOPMENT PLAN	24	SWM PROFILES, SEDIMENT & EROSION CONTROL NOTES & DETAILS
5	SITE DEVELOPMENT PLAN	25	SWM PROFILES, SEDIMENT & EROSION CONTROL DETAILS
6	SITE DEVELOPMENT PLAN	26	SWM PROFILES & DETAILS
7	SITE DEVELOPMENT PLAN	27	SWM AND SEDIMENT CONTROL NOTES & DETAILS
8	SITE DEVELOPMENT PLAN	28	LANDSCAPE PLAN
9	OVERALL GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	29	LANDSCAPE PLAN
10	OVERALL GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	30	LANDSCAPE PLAN
11	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	31	LANDSCAPE PLAN
12	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	32	LANDSCAPE PLAN
13	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	33	LANDSCAPE PLAN
14	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	34	LANDSCAPE PLAN
15	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	35	LANDSCAPE PLAN SPECIFICATIONS AND DETAILS
16	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	36	U.S. ROUTE 1 ROAD WIDENING PLAN
17	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	37	BAYSAVER DETAILS & NOTES
18	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	38	REINFORCEMENT DETAILS AND PROFILES
19	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	39	PROFILES AND DETAILS
20	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	40	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP AND DETAILS
		41	PROFILES

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.

3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AY LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

4. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.

5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.

6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY W.R.A., INC. DATED APRIL, 1985.

7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 48D6 AND 48AB WERE USED FOR THIS PROJECT.

8. WATER IS PUBLIC. CONTRACT NO. 44-3778-D

9. SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATUXENT CONTRACT NO. 20-1230 & 20-1310

10. THE STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED VIA GRASS CHANNEL CREDIT FOR RECHARGE VOLUME AND A WET POND FOR WATER QUALITY AND CHANNEL PROTECTION VOLUMES. MANAGEMENT OF THE 10-YEAR AND 100-YEAR STORM EVENTS ARE NOT REQUIRED. THE FACILITIES WILL BE PRIVATELY MAINTAINED.

11. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.

12. THE 100-YEAR FLOODPLAIN IS DELINEATED FOR THIS PROJECT USING THE HOWARD COUNTY DORSEY RUN STUDY.

13. WETLANDS ARE SHOWN PER DELINEATION BY VIKA, INC., OCT 1997.

14. A CHAPTER 5 TRAFFIC STUDY HAS BEEN PREPARED BY GOROVE/SLADE ASSOCIATES, INC., DATED APRIL 1999.

15. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.

16. A GEOTECHNICAL CORE STUDY HAS BEEN PREPARED BY BOART LONGYEAR DRILLING CO. IN 1995.

17. THE BOUNDARY FOR THIS PROJECT IS SHOWN PER "BOUNDARY SURVEY THE CHASE PROPERTY" BY WHITMAN REQUART & ASSOC. DATED APRIL 1985.

18. SUBJECT PROPERTY ZONED M-1 & MXD-3 PER 10-18-93 COMPREHENSIVE ZONING PLAN.

19. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.

20. SEE DEPARTMENT OF PLANNING AND ZONING FILE NOs BA 95-58E, WP-00-34 AND GP-04-11.

21. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

22. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

23. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.

24. ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.

25. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.

26. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.

27. PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.

28. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.

29. THE PAVEMENT DETAILS SHOWN FOR THIS SITE REFLECT THE HOWARD COUNTY STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE.

30. THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS FOR FOREST CONSERVATION UNDER SECTION 16.1202.b.1.ix OF THE SUBDIVISION REGULATIONS. A RECLAMATION PLAN WILL BE ENACTED AFTER CESSATION OF THE QUARRY ACTIVITIES, IN CONJUNCTION WITH MDE PERMIT NO.(S). , APPROVED ON

31. SEDIMENT CONTROL PLAN FOR THIS PROJECT IS VALID FOR A PERIOD OF TWO YEARS AFTER HSCD SIGNATURES, AND MUST BE RESUBMITTED BEFORE EXPIRATION FOR ASSESSMENT AND APPROVAL.

32. WP-00-34 A WAIVER PETITION REQUEST TO WAIVE SECTIONS 16.115 AND 16.116(a) WAS APPROVED ON APRIL 10, 2000 SUBJECT TO THE FOLLOWING CONDITIONS:
1. THIS WAIVER APPROVAL APPLIES ONLY TO THE PROPOSED AREAS OF ENVIRONMENTAL DISTURBANCES IDENTIFIED AS "AREAS #1-6" (WETLAND AND STREAM DISTURBANCES) AND"FLOODPLAIN AREAS #1-3" (FLOODPLAIN AND STREAM DISTURBANCES) AS SHOWN ON THE WAIVER PETITION EXHIBIT RECEIVED BY THE DEPARTMENT OF PLANNING AND ZONING ON 2/24/2000.
2.THE PETITIONER MUST OBTAIN APPROVAL OF THE SITE DEVELOPMENT PLAN (SDP-99-134) PRIOR TO ISSUANCE OF ANY PERMITS FOR CONSTRUCTION OR GRADING ON SITE.
3. ALL GRADING AND CLEARING WITHIN THE FLOODPLAINS, WETLANDS, WETLAND BUFFERS, AND STREAM BUFFERS SHALL BE MINIMIZED AND SHALL COMPLY WITH THE APPROVED GRADING AND SEDIMENT EROSION CONTROL PLAN SHEETS, WHICH ARE TO BE PART OF SDP-99-134. STABILIZATION SHALL BE INITIATED IMMEDIATELY FOLLOWING THE GRADING AND CLEARING.
4.THE PETITIONER SHALL OBTAIN ALL APPLICABLE PERMITS FROM THE MARYLAND DEPARTMENT OF ENVIRONMENT AND.OR THE DEPARTMENT OF NATURAL RESOURCES, PRIOR TO COMMENCEMENT OF ANY DISTURBANCE TO THE ENVIRONMENT AREAS ON SITE.

33. NO QUARRY OR MINING SHALL OCCUR UNDER THIS PLAN. THIS PLAN IS FOR THE CONSTRUCTION OF OPERATION AREA AND REMOVAL OF OVERBURDEN ONLY.

34. A WETLANDS PERMIT HAS BEEN APPLIED FOR UNDER TRACKING NUMBER 200262372.

35. THE WHITE FAMILY CEMETARY HAS BEEN RELOCATED FROM THE SITE PER STATE OF MARYLAND GUIDELINES.

The Decision and Order for BOA Case No. BA95-58E has the following approval conditions:

1. The special exception shall apply only to the proposed stone, sand, gravel, clay and fill-dirt quarry and accessory asphalt and concrete plant uses as described in the petition, and as depicted on the special exception plan for Chase Limited Partnership submitted on September 22, 1995, consisting of an Existing Zoning and Utilities Plan, Land Use Plan, Operations Plan, Reclamation Plan, and Reclamation Cross Sections ("Special Exception Plan") as amended by this Decision and Order, and not to any other activities, uses, or structures on the subject property.

2. Areas on the site which are regraded during the Reclamation Plan phase shall be covered with suitable soil to sustain growth, then vegetatively stabilized using a perennial cover species as recommended by the County Soil Conservation District.

3. Upon the abandonment of excavation operations on the site or on any portion of the site, all access roads shall be suitably barricaded to prevent the passage of vehicles either into or out of the abandoned area, except such access as needed for vehicles engaged in rehabilitation work, until the plan for rehabilitation has been completed and other uses necessitating access have commenced on the property.

4. The Petitioner shall submit detailed engineering studies setting forth the estimated cost of the accepted plan for rehabilitation for the approval of the Board of Appeals prior to the final approval of the site development plan for the use. These studies shall be subject to periodic review by the Board of Appeals every five years beginning with final approval of the site development plan. A bond shall be provided, or adequate collateral shall be kept in escrow, drawing interest to the benefit of the Petitioner, to cover the approved estimated cost of the accepted plan for rehabilitation. Said bond or escrow shall be established in a manner acceptable to the Board and the County prior to the approval of the site development plan for the use and reviewed every five years thereafter. Said bond or escrow shall not be released unless it is determined that the Petitioner has achieved successful completion of the rehabilitation program.

5. Prior to the approval of the site development plan for the use, the Petitioner shall warrant and shall provide documentation that all persons having an interest of record in said land shall cause to be recorded among the land records of the County:

(a) A description of the area included within the special exception area, (b) The application number (BOA Case No. 95-58E) and the date of this Decision and Order, (c) A statement indicating that use of the land will be in accordance with the site development plan submitted for approval and the Special Exception Plan, including the Reclamation Plan as approved herein, and (d) A declaration binding their heirs and assigns to utilize the land in accordance with said site development plan and the Special Exception Plan, including the Reclamation Plan until excavation processing or filling operations cease and rehabilitation of the land is completed.

6. Prior to the approval of the site development plan for the use, the Petitioner shall enter into an agreement with the County which provides that, if the quarry is cited as operating in violation of any of the provisions or conditions of the special exception including failure to comply with the approved Reclamation Plan, in such a way as to require corrective action, the Petitioner shall cause the corrective action to be taken. The agreement shall also stipulate that if the Petitioner fails to take the necessary corrective action within 30 days or written notice from the County to do so, the required bonds or collateral noted above will be forfeited and the County may cause corrective actions to be commenced. The agreement shall also provide that the Petitioner shall agree to pay any costs for corrective action which exceed the bond or collateral amount.

7. Any exterior lighting shall be shielded and directed so that it does not illuminate residential properties, does not shine directly onto any adjacent properties, and does not produce glare which would cause a hazard for motor vehicle operators in the vicinity of the site.

8. Public water will be provided on site as required by the Department of Fire and Rescue Services.

9. The Petitioner shall make a good faith effort working with the community and CSX Railroad to construct a security fence along the western boundary to prevent access to the stockpile area.

10. Prior to the commencement of quarry operations, the Petitioner shall donate approximately 7 acres of land on Mission Road, as shown on the Land Use Plan, to the Ridgely's Run Community Association for use as a community center. The Petitioner will construct on the 7 acres, at its own expense, (i) a community center building of approximately 5,000 quare feet with parking , (ii) an exterior all-purpose basketball court, (iii) two tennis courts with nets and fencing, and (iv) grading for a little league baseball diamond and provide a little league baseball backstop. Construction will begin prior to commencement of quarry operations, and the Petitioner will diligently pursue completion of construction.

11.During each year of quarry operation, the Petitioner shall donate to the Ridgely's Run Community Association five cents (5¢\U+20BA) per ton of marketable stone produce shipped from the project operations, with a minimum donation of $50,000.00 per year to be used for the programs of the community center for the betterment and welfare of the community.

12. The Petitioner will warrant that existing wells will not be affected by quarry operations. Tests will be done prior to development and subsequent well monitoring will occur with a sampling program by an independent environmental consultant.

13. The Petitioner shall establish and implement procedures for the investigation and reporting of vibration and damages attributable to the quarry operations on all homes within 1,000 feet of the quarry excavation area and the 12 Heritage Woods homes identified in the Petitioner's testimony.

14. The Petitioner will fill the existing quarry at the back of Pine Road using overburden from the new quarry and other material.

15. Structures shall not exceed a height of 65 feet; stockpiles shall not exceed a height of 60 feet; and berms shall not exceed a height of 40 feet.

16. Trees removed for construction of berms shall be replaced by adequate landscaping, reforestation, and seeding or sodding of the berms.

17. Dust emissions will be controlled and maintained within the confines of the site in accordance with applicable State regulations.

18. Blasting will occur no more than 10 seconds per month. No blasting will occur between the hours of 6:00 p.m. and 7:30 a.m. on any day.

19. The Petitioner shall provide adequate security to control unauthorized entry to the site along the entire perimeter, including security personnel on duty on the site 24 hours each day. The quarry will be fenced with a durable galvanized fence 6' high, located not less than 20 feet from the edge of excavation. The County shall have the right to enter and repair or maintain such fence whenever the property owner shall fail to do so. The property owner shall be liable to the County for the cost of the repairs or maintenance.

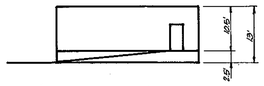
20. The Petitioner shall prohibit trucks from using Mission Road to enter or leave the quarry operation.

21. The northern entrance to the site shall be restricted to right-turns only from southbound Route 1, and a deceleration lane shall be installed. An acceleration lane shall be installed for southbound traffic exiting the southern entrance at Patuxent Range Drive.

22. The posted speed limit on U.S. Route 1 between Route 175 and Route 32 shall be reduced to no more than 40 miles per hour. (MSHA will not grant approval)

23. The special exception granted herein shall be subject to renewal five years from the date ofapproval of the final site development plan for the project, and every five year thereafter, in accordance with Section 131.H.2 of the Zoning Regulations; except that the special exception shall terminate without right of renewal 25 years from the date on which all necessary excavation permits for the project have been obtained.

24. The Petitioner shall comply with all applicable Federal, State, and County laws and regulations.



SCALE HOUSE ELEVATION
NO SCALE

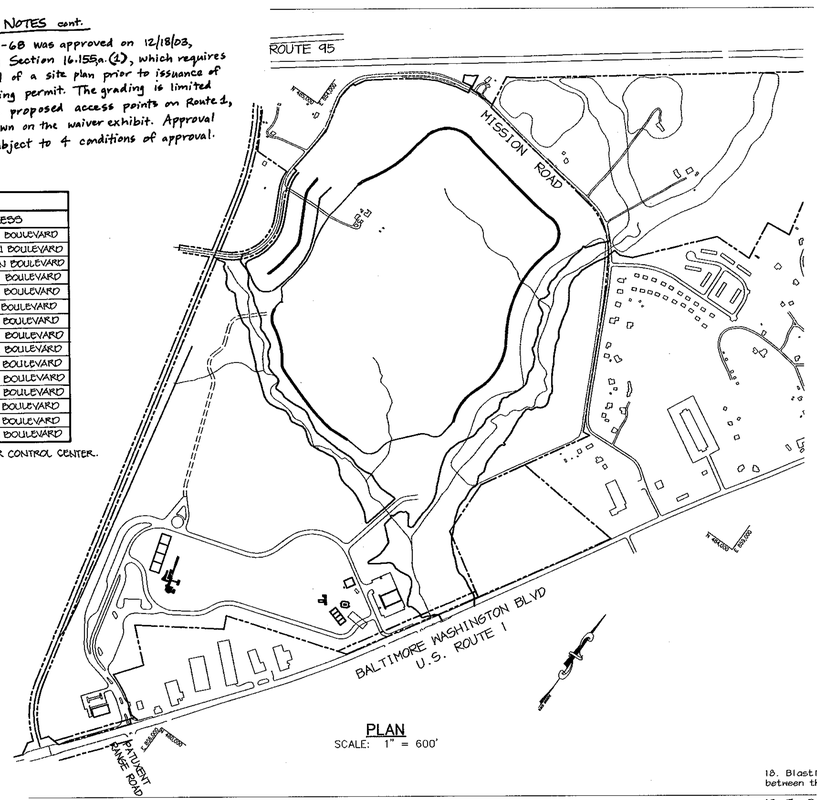
GENERAL NOTES cont.

36. WP-04-68 was approved on 12/18/03, waiving Section 16.155a.(2), which requires approval of a site plan prior to issuance of a grading permit. The grading is limited to the proposed access points on Route 1, as shown on the waiver exhibit. Approval was subject to 4 conditions of approval.

ADDRESS CHART

BUILDING	STREET ADDRESS
STATION 1	8424 WASHINGTON BOULEVARD
STATION 2	8426 WASHINGTON BOULEVARD
STATION 3	8428 WASHINGTON BOULEVARD
STATION 4	8430 WASHINGTON BOULEVARD
STATION 5	8432 WASHINGTON BOULEVARD
STATION 6	8434 WASHINGTON BOULEVARD
STATION 7	8436 WASHINGTON BOULEVARD
STATION 8	8438 WASHINGTON BOULEVARD
STATION 9	8440 WASHINGTON BOULEVARD
STATION 10	8442 WASHINGTON BOULEVARD
STATION 11	8444 WASHINGTON BOULEVARD
STATION 12	8446 WASHINGTON BOULEVARD
MCC #1	8418 WASHINGTON BOULEVARD
MCC #2	8480 WASHINGTON BOULEVARD
LAB	8452 WASHINGTON BOULEVARD

NOTE: MCC STANDS FOR MOTOR CONTROL CENTER.



PLAN
SCALE: 1" = 600'

BENCH MARKS

HO.CO.SURVEY CONTROL STATION: 436A
N 541,740.136 E 1,369,162.220
ELEVATION: 134.51'

HO.CO.SURVEY CONTROL STATION: 436B
N 544,118.628 E 1,370,553.547
ELEVATION: 112.99'

SITE ANALYSIS

TOTAL SITE AREA	536.1 ACRES
AREA OF SUBMISSION (SPECIAL EXCEPTION AREA)	327.75 ACRES
LIMIT OF DISTURBANCE FOR DEVELOPED AREA	61.7 ACRES
CURRENT ZONING	M-1 & MXD-3
PROPOSED USE	QUARRY w/ ASSOCIATED USES
EXISTING USE	VACANT LAND / RESIDENCE
PROPOSED BUILDINGS	
BUILDING A - OFFICE	7,800 S.F.
BUILDING B - MAINTENANCE AND STORAGE	15,000 S.F.
PARKING REQUIREMENTS	
OFFICE BUILDING A	26 SPACES
MAINTENANCE BUILDING B	18 SPACES
PARKING PROVIDED	
OFFICE BUILDING A	50 SPACES (INCL 2 H.C.)
MAINTENANCE BUILDING B	34 SPACES (INCL 1 H.C.)
BUILDING COVERAGE	22,800 S.F. (0.52 AC.)=(0.1% OF SITE)
DPZ REFERENCES	BA 95-58E & WP-00-34, WP-04-68 SP-04-11

SETBACK SUMMARY

1. 100' LANDSCAPE BUFFER AROUND SPECIAL EXCEPTION BOUNDARY.

2. 300' SETBACK FROM SPECIAL EXCEPTION BOUNDARY FOR QUARRY USE. THIS DOES NOT APPLY TO THE OFFICE BUILDING AND MAINTENANCE SHOP.

3. 1000' SETBACK FROM US RTE 1 CRUSHING, SCREENING AND STOCKPILES.

4. 100' SETBACK FROM ANY PROPERTY LINE FOR THE 6' FENCE AROUND THE QUARRY PIT. FENCE SHALL BE A MINIMUM 20' FROM THE EXCAVATION LINE FOR THE PIT.

5. 100' SETBACK FROM ROUTE 1 FOR THE SEDIMENT POND.

6. HEIGHT LIMITS: SEE CONDITION OF APPROVAL #15 FOR BA95-58E.

7. 100' SETBACK FROM ROUTE 1 FOR OFFICE BUILDING, MAINTENANCE BUILDING AND PARKING LOTS.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY RETENTION PONDS #1 & 3

ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.

3. Debris and litter shall be removed during regular mowing operations and as needed. 4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.

2. Sediment should be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY RETENTION POND #2 ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, and maintenance access shall be mowed as needed.

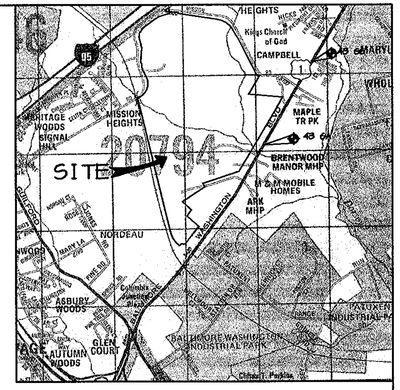
3. Debris and litter shall be removed during regular mowing operations and as needed.

4. Visible signs of erosion in the pond as well as riprap or gabion outlet area shall be repaired as soon as it is noticed.

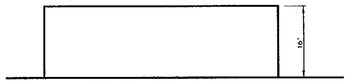
NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.

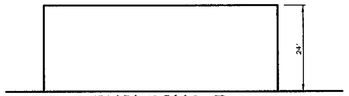
2. Sediment should be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.



VICINITY MAP
SCALE: 1" = 2000'
COPYRIGHT: ADC 'THE MAP PEOPLE'
PERMITTED USE NO. 20894205



BUILDING A
NOT TO SCALE



BUILDING B
NOT TO SCALE

APPROVED : FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

COUNTY HEALTH OFFICER DATE

ADDRESS CHART

BUILDING	STREET ADDRESS
A	8420 WASHINGTON BLVD
B	8418 WASHINGTON BLVD
SCALE HOUSE	8422 WASHINGTON BLVD

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/11/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
2-17-09	2	ADDED ADDRESS INFORMATION FOR PLANT
1-9-08	1	ADDED BUILDING ELEV., REV. SHEET INDEX

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

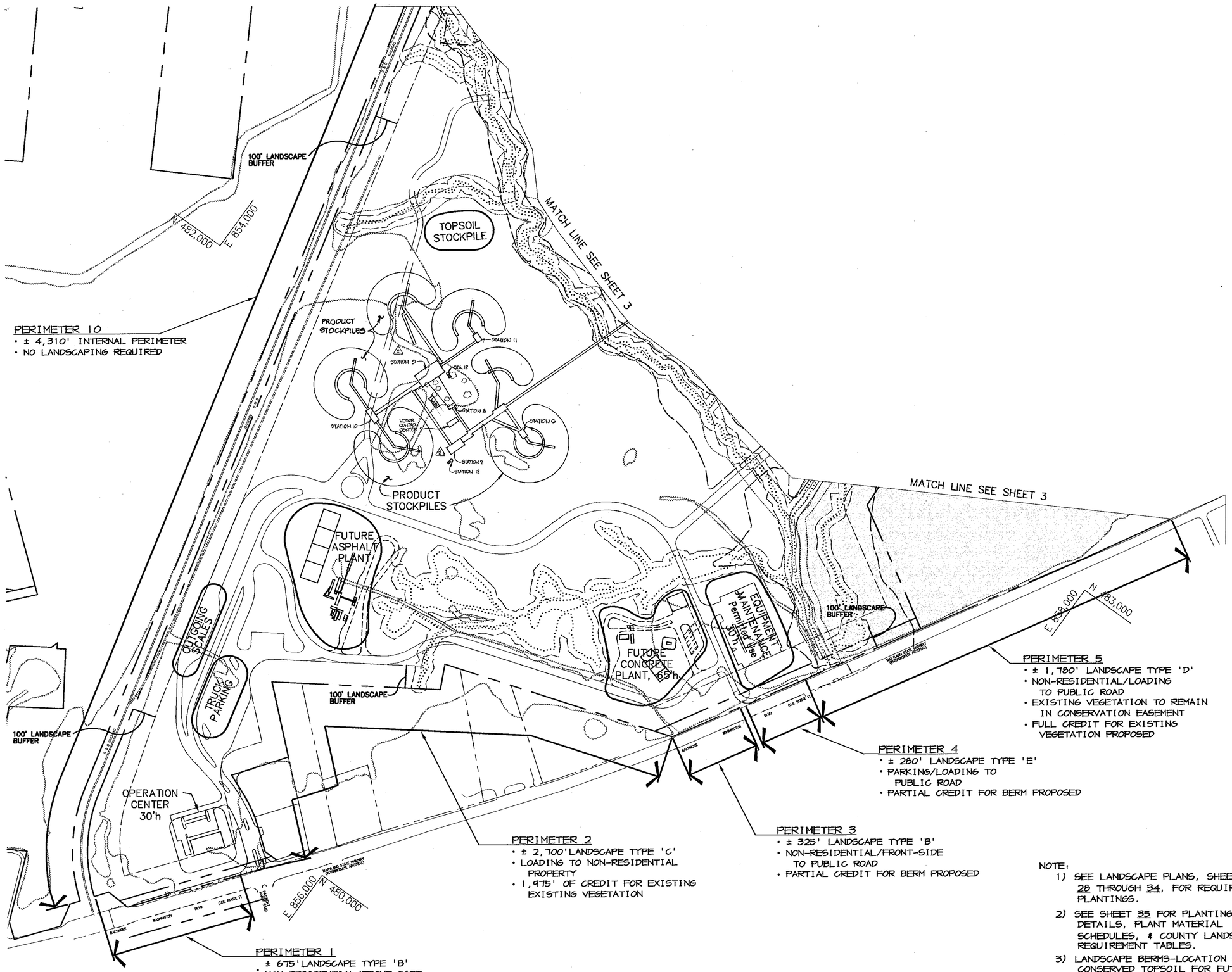
CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY : MAD
CHECKED BY : C.J.R.
PROJECT NO : 99092/ COVER.DWG
DATE : JANUARY 29, 2004
SCALE : AS SHOWN
DRAWING NO. 1 OF 41

SUBDIVISION NAME – CHASE QUARRY			SECT./AREA –	PARCEL – 234 & P.O.235	
PLAT # –	BLOCK #	ZONE	TAX MAP NO	ELECT. DIST	CENSUS TR.
–	19	M-1 & MXD-3	43	6th	6069.01
WATER CODE – B02			SEWER CODE – 4200000		

SDP-99-134

P:\projects\99092\1-01\Engr\Plans\COVER.DWG, Layout1, 01/29/2004 10:54:18 AM, HP7500C(36).pc3, Arch D - 24 x 36 in, (landscape), 1:100



LEGEND

- EXISTING TREE LINE
- CONSERVATION EASEMENT
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- EASEMENT
- EXISTING FENCE
- EXISTING WETLANDS

NOTE:

1) SEE LANDSCAPE PLANS, SHEETS 28 THROUGH 34, FOR REQUIRED PLANTINGS.
2) SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, & COUNTY LANDSCAPE REQUIREMENT TABLES.
3) LANDSCAPE BERMS-LOCATION OF CONSERVED TOPSOIL FOR FUTURE REGENERATION OF SITE FOLLOWING COMPLETION OF MINING.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
2-21-03	2	ADDED LAYOUT FOR PLANT
1-9-03	1	CHANGED SHEET NUMBER.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL LOCATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE

STATE OF MARYLAND — SCOTT A. TOLLEY — No. 29818 — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ OVER2.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 200'
DRAWING NO.	2 OF 41

SDP-99-134

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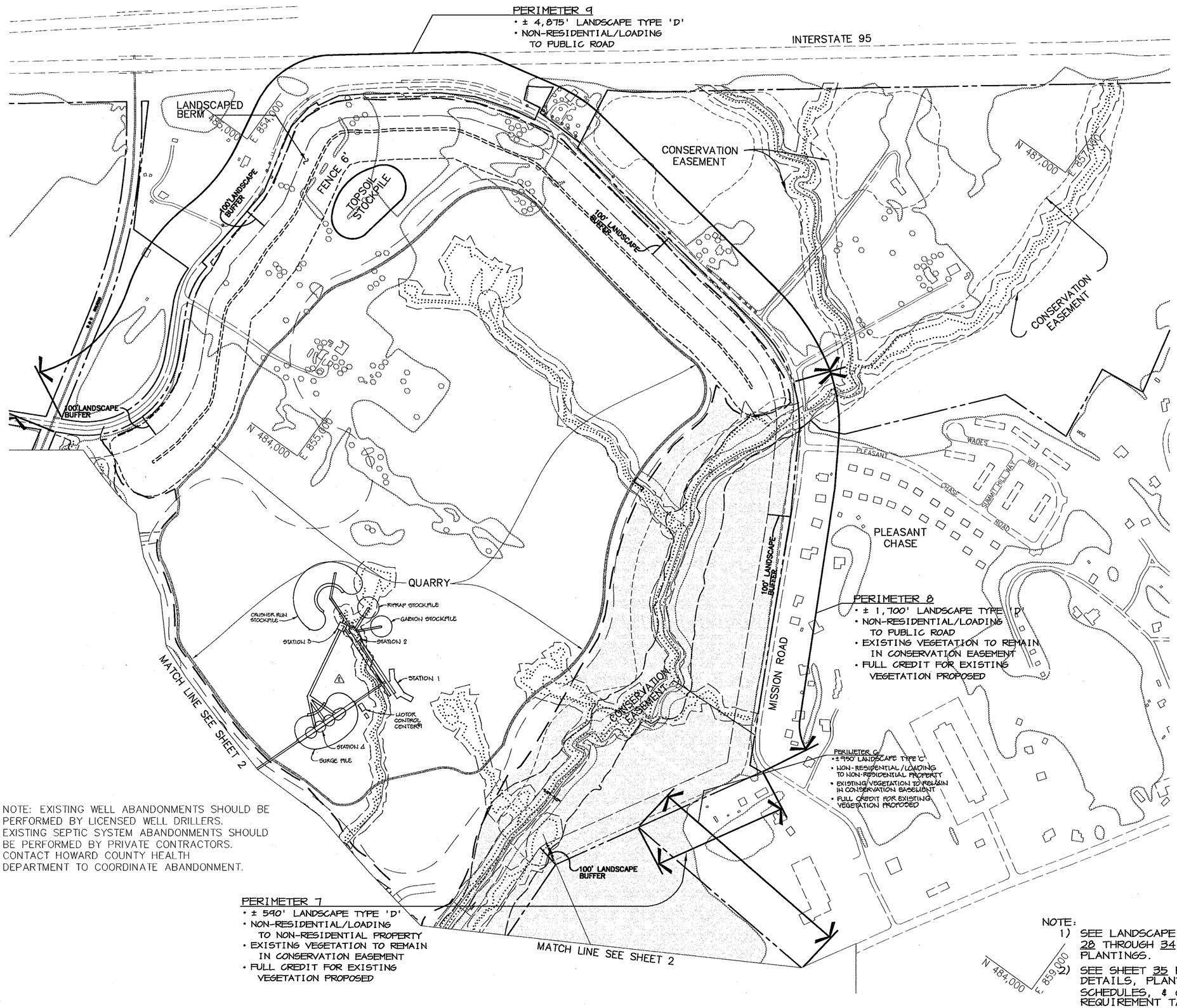

NOTE: EXISTING WELL ABANDONMENTS SHOULD BE PERFORMED BY LICENSED WELL DRILLERS. EXISTING SEPTIC SYSTEM ABANDONMENTS SHOULD BE PERFORMED BY PRIVATE CONTRACTORS. CONTACT HOWARD COUNTY HEALTH DEPARTMENT TO COORDINATE ABANDONMENT.

NOTE:
1) SEE LANDSCAPE PLANS, SHEETS 28 THROUGH 34, FOR REQUIRED PLANTINGS.
2) SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, & COUNTY LANDSCAPE REQUIREMENT TABLES.

LEGEND

- EXISTING TREE LINE
- CONSERVATION EASEMENT
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EASEMENT
- EXISTING FENCE
- EXISTING WETLANDS
- QUARRY LIMITS

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
2-21-05	2	ADDED PLANT LAYOUT
1-6-05	1	CHANGED SHEET NUMBER

DEVELOPER/OWNER:

(OWNER) CHASE LIMITED PARTNERSHIP, P.O. BOX 850, LAUREL, MD 20725, 410.792.7234

(DEVELOPER) CHASE MINING LLC, P.O. BOX 850, LAUREL, MD 20725, 410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL LOCATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE

STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ OVER3.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 200'
DRAWING NO.	3 OF 41

SDP-99-134

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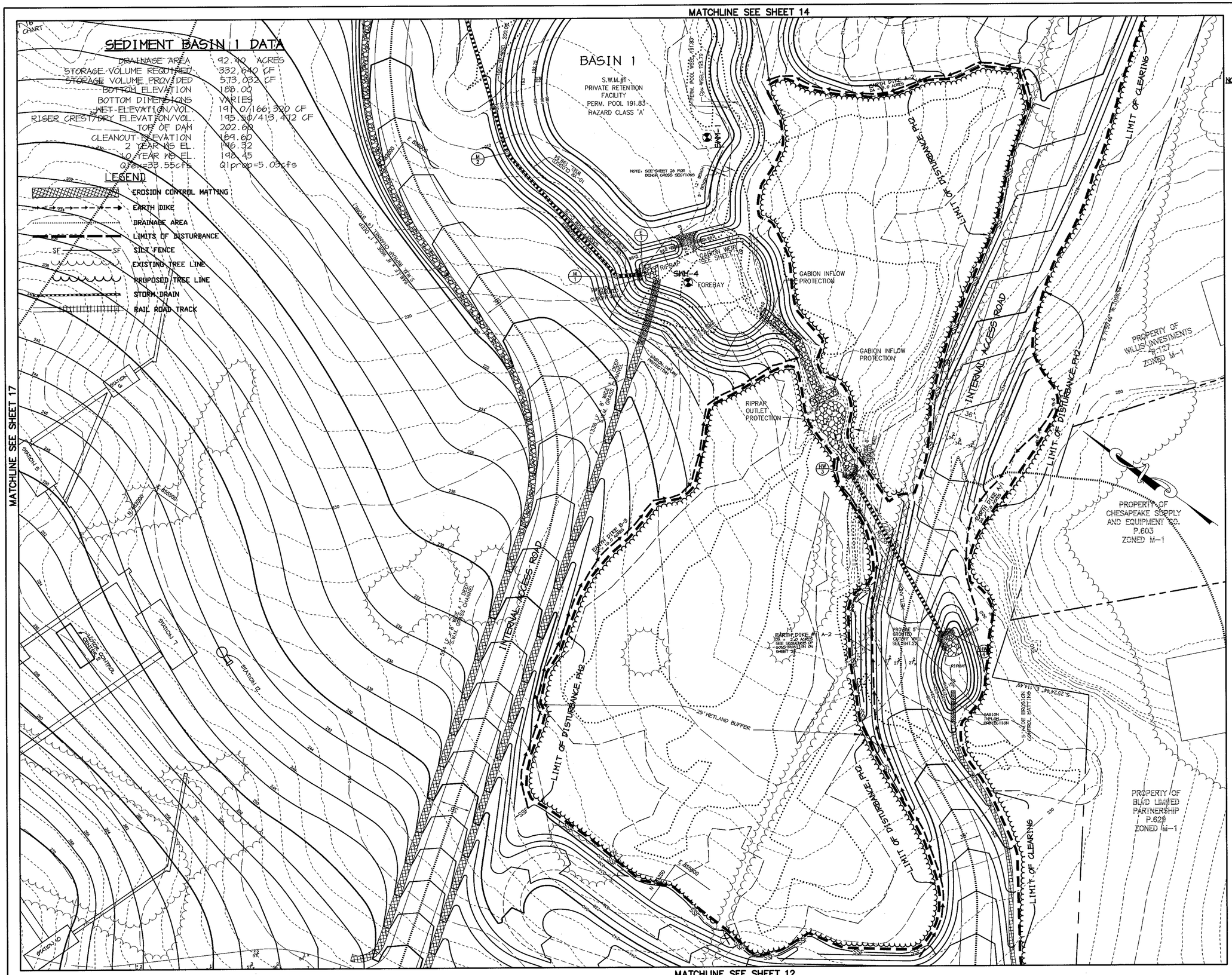
MATCHLINE SEE SHEET 14



NOTES:

1. CONTRACTOR TO SPACE INDRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Charles J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/cas. 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
2-21-05	2	ADDED PLANT LAYOUT
1-6-05	1	REV. GRADING & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

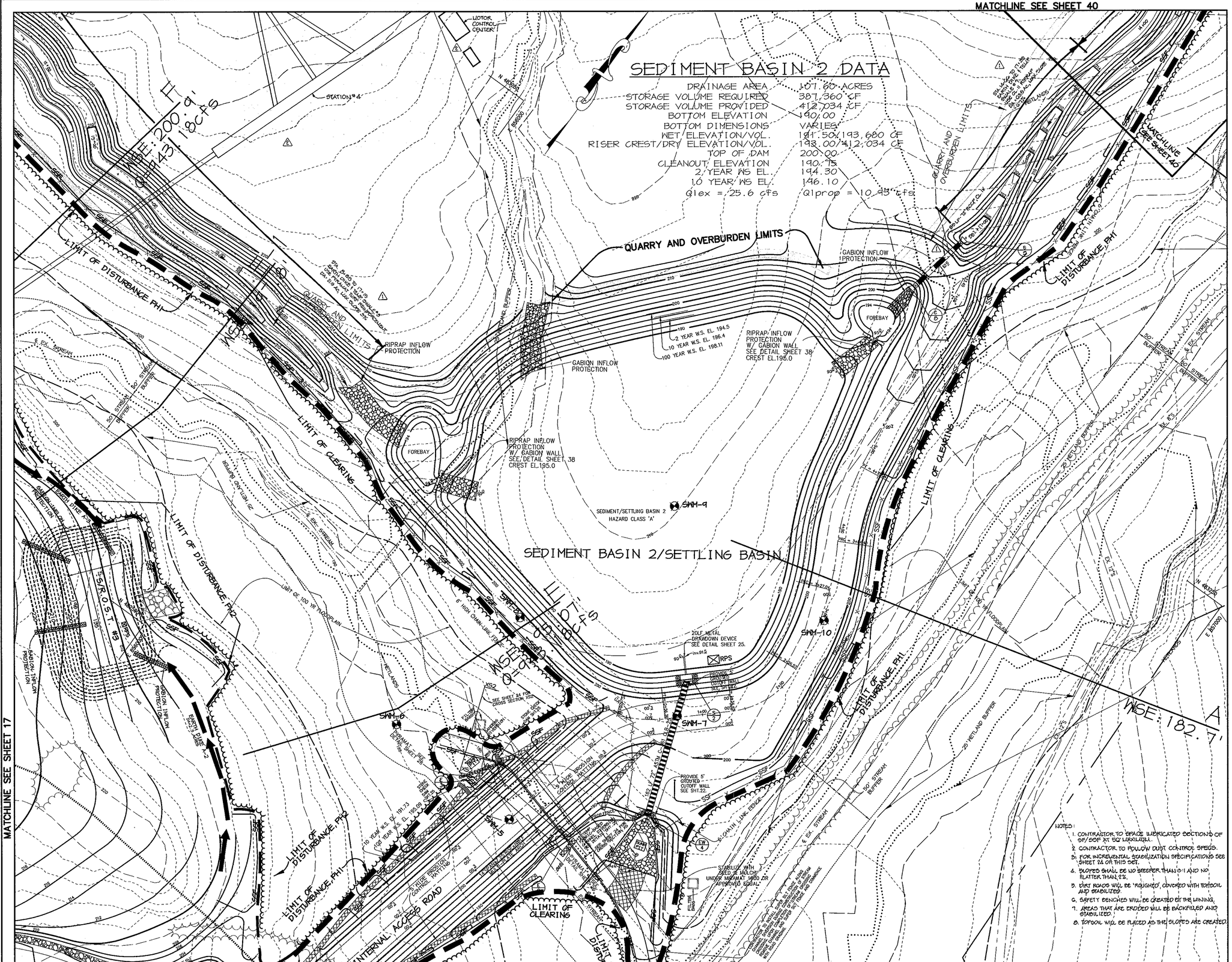
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM3.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	13 OF 41

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim3.dwg, Layout1, 01/29/2004 12:33:33 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 40



MATCHLINE SEE SHEET 17

MATCHLINE SEE SHEET 14

LEGEND

- TEMPORARY SWALE
- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- PYRAMAT REINFORCED MATTING

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers /GS. 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

2/25/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
2-21-06	4	ADDED CRUSHER PLANT LAYOUT
1-6-05	1	REVISED EARTH DIKE & SWALE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM5.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	15 OF 41

SDP-99-134

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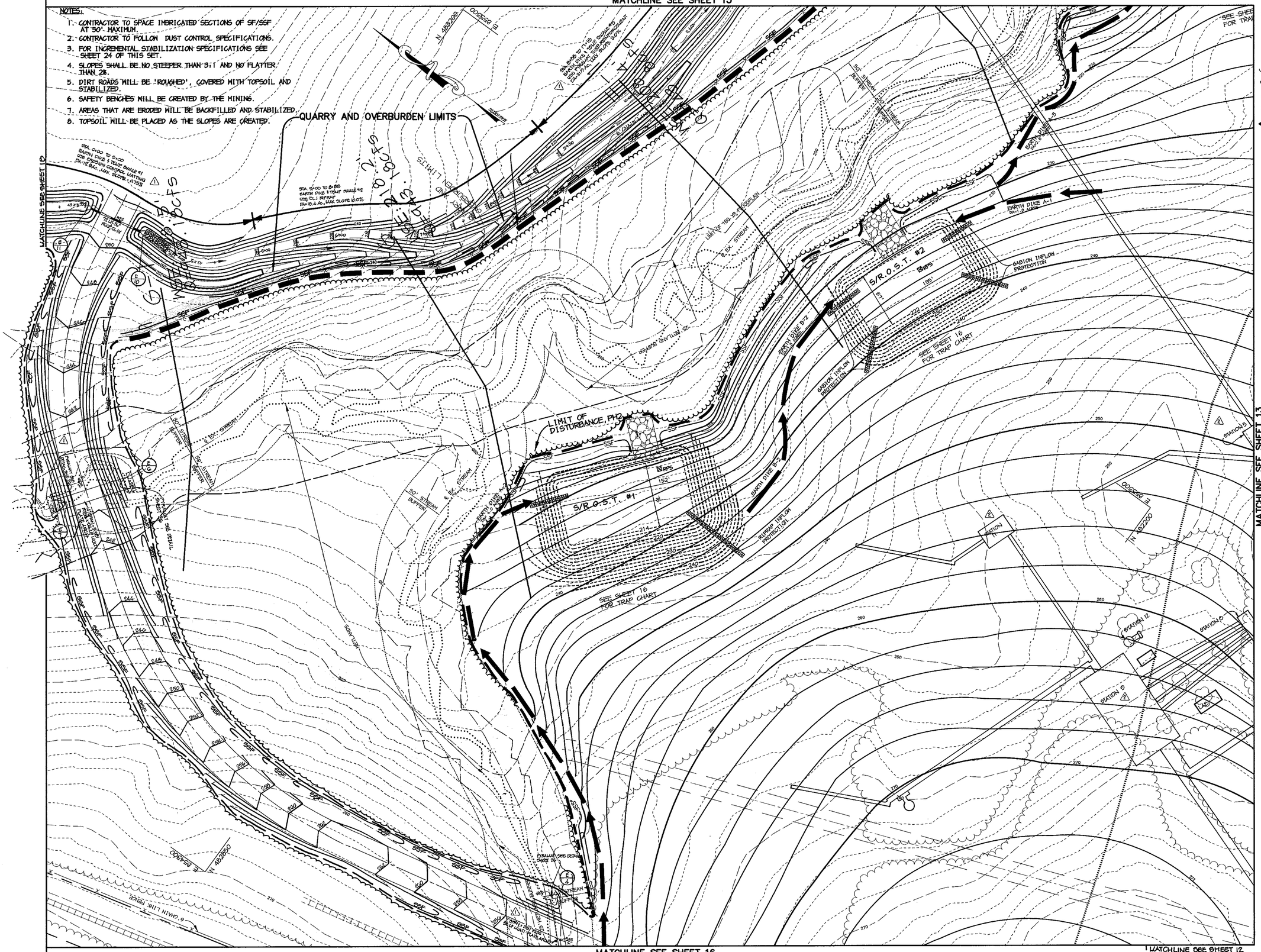
MATCHLINE SEE SHEET 15

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.



LEGEND

- TEMPORARY SWALE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- EARTH DIKE
- PYRAMAT REINFORCED MATTING

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — 2/2/04
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 2/2/04
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 3/15/04
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 2/20/04
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 3/11/04
DATE

DATE	NO.	REVISION
2-21-05	2	ADDED PLANT LAYOUT
1-6-05	1	REVISED EARTH DIKE, SWALE & ACCESS ROAD

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

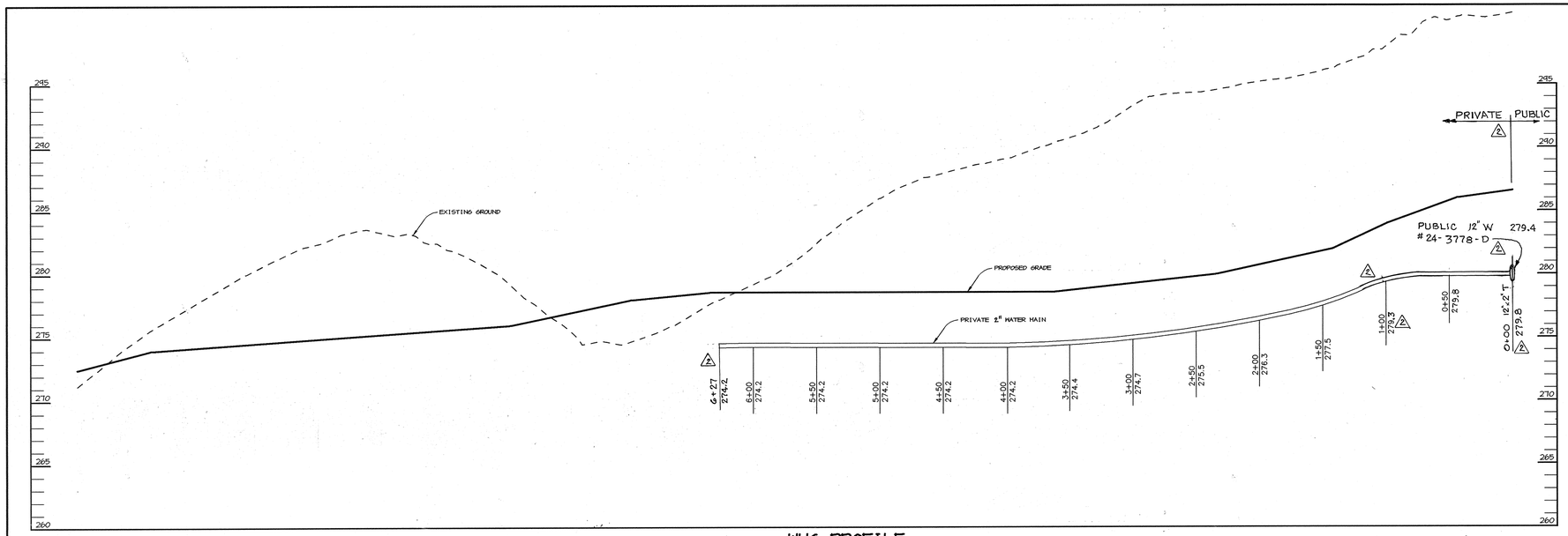
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM7.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	17 OF 41

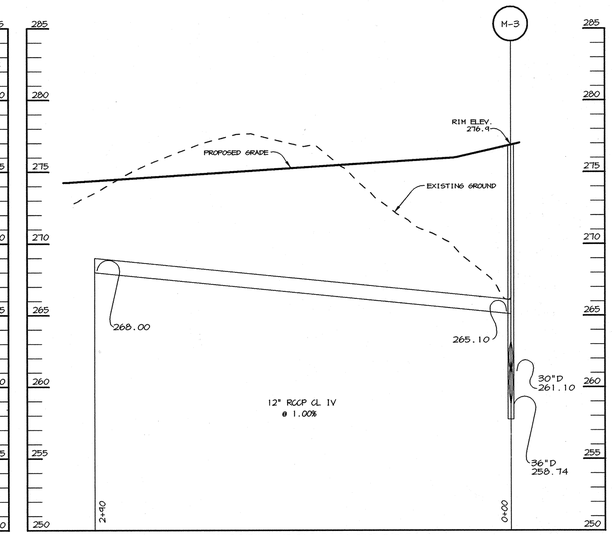
SDP-99-134

P:\project\990921-0\Engr\Plans\sedim7.dwg, Layout1, 01/29/2004 12:38:24 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



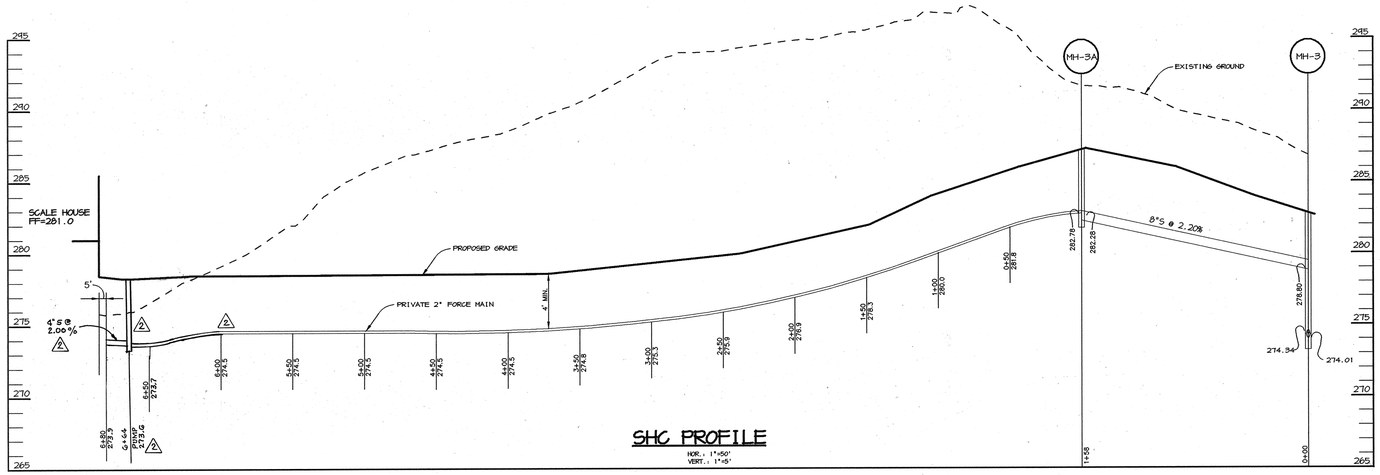
WHC PROFILE

HOR.: 1"=50'
VERT.: 1"=5'



STORM DRAIN PROFILE

SCALE HOR.: 1"=50'
VERT.: 1"=5'



SHC PROFILE

HOR.: 1"=50'
VERT.: 1"=5'

Pyramat® Erosion Matrix Installation Guidelines

Earthscoping Solutions

Site Preparation

- Grade and compact area of installation.
- Prepare seedbed by loosening 50-75 mm (2"-3") of topsoil above final grade.
- Incorporate amendments such as lime and fertilizer into soil.
- Remove all rocks, clods, vegetation or other obstructions so that the installed Pyramat® will have direct contact with soil surface.
- Do not mulch areas where mat is to be placed.

Seeding

- Apply seed to the soil surface before installing Pyramat or after installation for enhanced performance prior to soil filling (preferable).
- When seeding prior to Pyramat installation, all check slots and other areas disturbed must also be reseeded.
- When soil filling, seed Pyramat and entire disturbed area after installation, prior to filling mat with soil.
- Contact your local U.S. Natural Resource Conservation Service (NRCS) Plant Materials Specialist or other resource for seed recommendations.

PYRAMAT® Placement: Banks and Slopes

- Extend Pyramat 60-90 cm (2'-3') over crest of slope and excavate a 30 x 15 cm (12" x 6") terminal anchor trench (Figure 4 on page 3).
- Anchor Pyramat in trench on 30 cm (1') spacings, backfill and compact soil.
- Unroll Pyramat down slope.
- Overlap adjacent rolls at least 75 mm (3") and anchor every 45 cm (18").
- Lay Pyramat loose to maintain direct contact with soil. (Do not pull Pyramat tsut. This may allow bridging of soil surface.)
- Secure Pyramat to ground surface using U-shaped wire staples (preferred), geotextile pins or wooden stakes. (See ground anchoring devices on page 3.)
- Refer to anchor pattern guide on page 3 for appropriate number and pattern of anchors.

PYRAMAT® Placement: Channels

- Excavate an initial anchor trench 30 cm (12") deep and 15 cm (6") wide across the channel at the lower end of the project area (Figure 1).
- Excavate intermittent check slots 15 cm (6") deep and 15 cm (6") wide across the channel at 9.1 m (30') intervals along the channel (Figure 2).
- Cut longitudinal channel anchor slots 10 cm (4") deep and 10 cm (4") wide along both sides of the installation to bury edges of Pyramat® (Figure 3). Whenever possible, extend mat 60-90 cm (2'-3') above crest of channel side slopes.

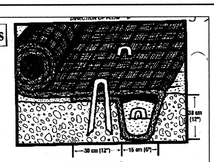


Figure 1: Initial Anchor Trench (Channels)

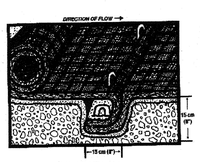


Figure 2: Intermittent Check Slot (Channels)

- Beginning at the center of downstream end of the channel, place the end of the first roll in the anchor trench and secure with fastening devices at 30 cm (1') intervals (Figure 1).
- In same manner, position adjacent rolls in anchor trench, overlapping the preceding roll a minimum of 75 mm (3").
- Again, secure at 30 cm (1') intervals, backfill and compact soil.
- Unroll Pyramat over the compacted trench. Stop at next check slot or terminal anchor trench.
- Unroll adjacent rolls upstream in order to maintain a 75 mm (3") overlap and anchoring every 45 cm (18").
- Fold and secure at Pyramat rolls snugly into intermittent check slots. Lay Pyramat in the bottom and fold back against itself. Anchor through both layers of mat at 30 cm (1') intervals then backfill and compact soil (Figure 2). Continue rolling Pyramat upstream over the compacted slot to the next check slot or terminal anchor trench.
- In low velocity channels (< 2.5 m/sec) excavated in cohesive soils, an alternate method may be used: place two rows of anchors on 15 cm (6") centers at 9.1 m (30') intervals in lieu of excavated check slots.
- Overlap roll ends a minimum of 30 cm (1') with upstream Pyramat on top. Begin all new rolls in a check slot. Anchor overlapped area by placing two rows of anchors. 30 cm (1') apart on 30 cm (1') intervals.
- Place outer edge of Pyramat in previously excavated longitudinal slots, anchor using prescribed staple pattern, backfill and compact soil (Figure 3).

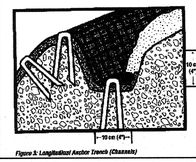


Figure 3: Longitudinal Anchor Trench (Channels)

- Anchor, backfill and compact upstream end of Pyramat® in a 30 x 15 cm (12" x 6") terminal trench (Figure 4).
- Secure Pyramat to ground surface using U-shaped wire staples (preferred), geotextile pins or wooden stakes. (See ground anchoring devices below.)
- Refer to anchor pattern guide below for appropriate number and pattern of anchors.
- Seed and fill Pyramat with soil for enhanced performance.
- When using Pyramat with a geotextile underneath, always seed after installing mat, then fill with soil.

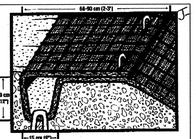


Figure 4: Terminal Anchor Trench (Slopes and Channels)

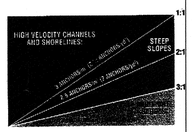
Ground Anchoring Devices

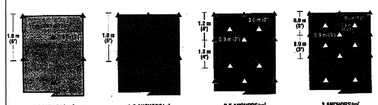
U-shaped wire staples, metal geotextile pins, triangular wooden or plastic stakes can be used to anchor Pyramat to the ground surface. Wire staples should be a minimum of 4.3 mm (8 gauge). Metal pins should be at least 4.7 mm (3/16") diameter steel with a 38 mm (1 1/2") steel washer at the head of the pin. Wire staples and metal pins should be driven flush to the soil surface. Wooden stakes should be 25 x 38 mm (1" x 1 1/2") triangular wooden survey stakes. Approximately 50 mm (2") of wood staking should remain above the soil surface. All anchors should be between 20-45 cm (8"-18") long and have sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils. Heavier metal stakes may be required in rocky soils.

Anchor Pattern Guide

The colored areas in the adjacent diagram provide anchor recommendations based on slope gradient and/or anticipated flow conditions. When the correct number of anchors has been determined, refer to the four illustrations below to establish anchor pattern. All overlaps should be anchored at a 45 cm (18") frequency.

Increased anchoring may be required depending upon site conditions. Soil filling immediately after installation will decrease the recommended anchoring rate to the next lowest pattern. Example: Soil filling of matting in high velocity channels will reduce anchor pattern to 2 1/yd² (2 anchors/yd²).





Soil Filling

- Pyramat® is designed to be filled with soil after installation. This maximizes performance of the product.
- After seeding, spread and lightly rake 12-19 mm (1/2"-3/4") of fine topsoil into the Pyramat and completely fill the voids. Use backside of rake or other flat tool to ensure a smooth soil-filled surface.
- Pyramat will withstand lightweight, rubber-tired construction equipment. No tracked equipment or sharp turns should be made on the mat.
- Avoid any traffic over Pyramat if very loose or wet soil conditions exist.
- Use shovels, rakes or brooms for fine grading and finishing.
- Smooth soil fill in order to just expose the top of matrix. Do not place excessive soil above the mat.
- Broadcast additional seed and mulch above the soil-filled Pyramat, if desired.
- If possible, water as necessary to enhance growth.
- CONSULT MANUFACTURER'S TECHNICAL REPRESENTATIVE OR LOCAL DISTRIBUTOR FOR INSTALLATION ASSISTANCE, PARTICULARLY IF UNIQUE CONDITIONS APPLY (I.E. FINE SANDY SOILS, INFERTILE ENVIRONMENTS).

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 12/6/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 12/6/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 12/7/04

DATE	NO.	REVISION
5-26-05	2	REV. WHC PROFILE & SHC PROFILE
11-11-04	1	ADDITIONAL SHEET PER REDLINE APPROVAL

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
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410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

11-11-04
DATE

STATE OF MARYLAND
CHRISTOPHER J. REID
No. 19949
PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE7.DWG
DATE :	NOVEMBER 11, 2004
SCALE :	AS SHOWN
DRAWING NO.	41 OF 41

SDP-99-134

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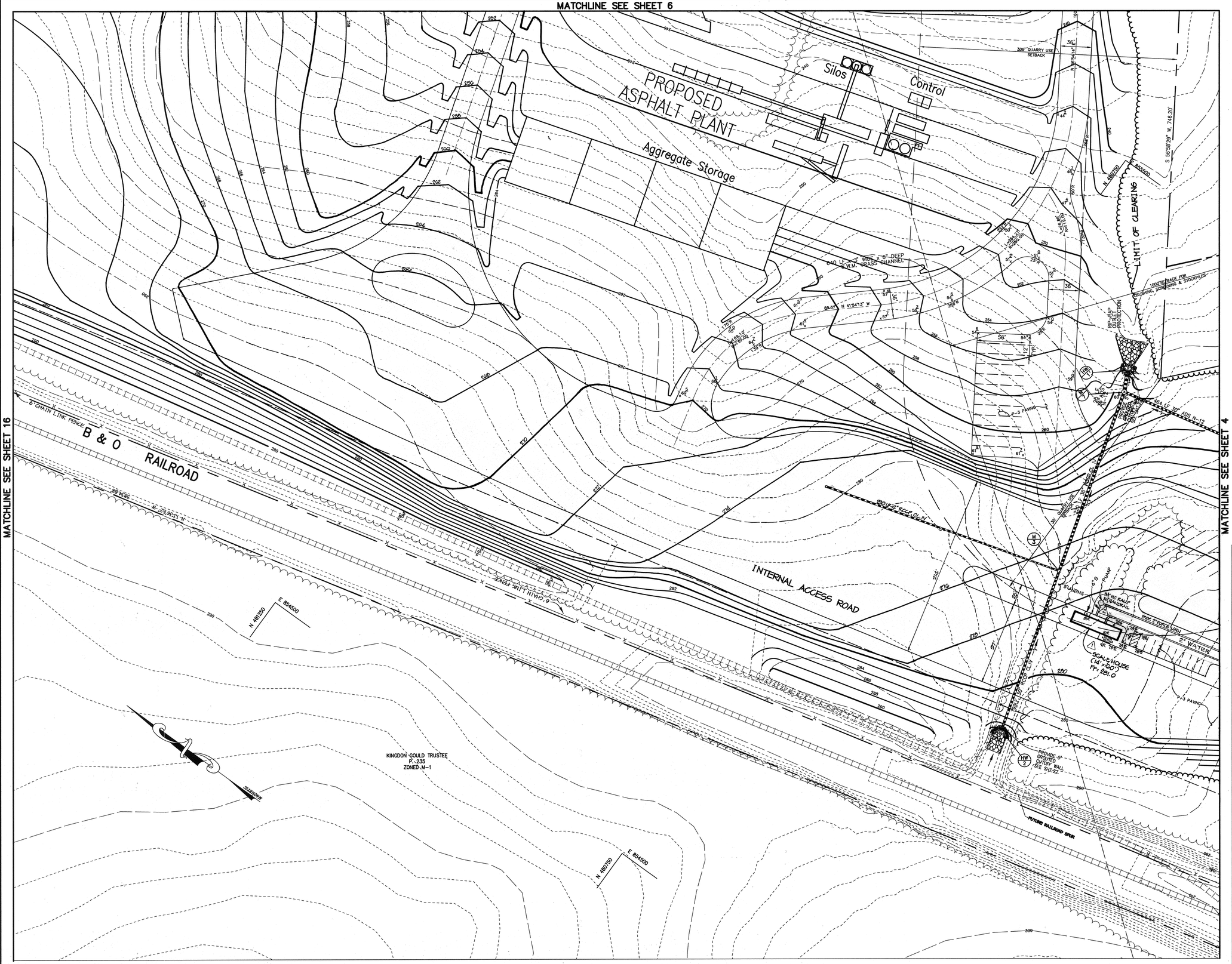
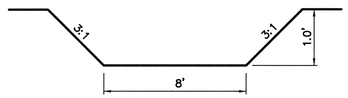
MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 16

MATCHLINE SEE SHEET 4





TYPICAL SECTION
S.W.M. GRASS CHANNEL

NO SCALE

NOTE: USE 4"–7" STONE PRESSED INTO THE SOIL A MINIMUM OF 7" WHERE SPECIFIED ON THE PLAN VIEW; OTHERWISE USE EROSION CONTROL MATTING.

LEGEND

- 300 — EXISTING CONTOURS
- 300 — PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100–YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P–3 PAVING
- STONE CHECK DAM

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
5·26·05	2	REV. WATER AND SEWER TO SCALE HOUSE
1·9·05	1	REV. ACCESS ROAD & GRADING AND ADDED SCALE HOUSE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
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410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1·30·04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SDP-5.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	5 OF 41

SDP–99–134

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MATCHLINE SEE SHEET 5

MATCHLINE SEE SHEET 6

B. & O. RAILROAD

INTERNAL ACCESS ROAD

LIMIT OF CLEARING

PROPERTY OF BLVD LIMITED PARTNERSHIP P.628 ZONED M-1

PROPERTY OF JOHN F. BAKER, ET. AL P.501 ZONED M-1

PROPERTY OF SITES RAYMOND LUTLER, ET. AL P.500 ZONED M-1

PROPERTY OF BROOKWOOD JESSUP PARTNERSHIP P.526 ZONED M-1

BUILDING 'A' F.F. ELEV. 292.00 9600 SF

MARYLAND STATE HIGHWAY (INTERMEDIATE ARTERIAL)

PATUXENT RANGE ROAD

(U.S. ROUTE 1)

BLVD

WASHINGTON

BALTIMORE

LEGEND

300	EXISTING CONTOURS
300	PROPOSED CONTOURS
	EXISTING TREE LINE
	PROPOSED TREE LINE
	EXISTING ROAD
	EXISTING BOUNDARY LINE
	EXISTING BUILDING
	EXISTING WETLANDS
	APPROXIMATE LOCATION OF BENCH FOR BERM
	EASEMENT
	PROPOSED FENCE
	RIP RAP OUTLET PROTECTION
	LIMIT OF 100-YR FLOODPLAIN
	10' BENCH
	50'STREAM BUFFER
	WETLAND BUFFER LIMITS
	EXISTING STREAM
	P-3 PAVING
	MSHA PAVING

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 2/11/04

DATE	NO.	REVISION
5-26-05	3	REV. WATER & SEWER, WATER ESMT. & ADDED WATER METER
1-6-05	1	REV. ACCESS ROAD & GRADING

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND
CHRISTOPHER J. REID
NO. 19949
REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SDP-4.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	4 OF 41

SDP-99-134

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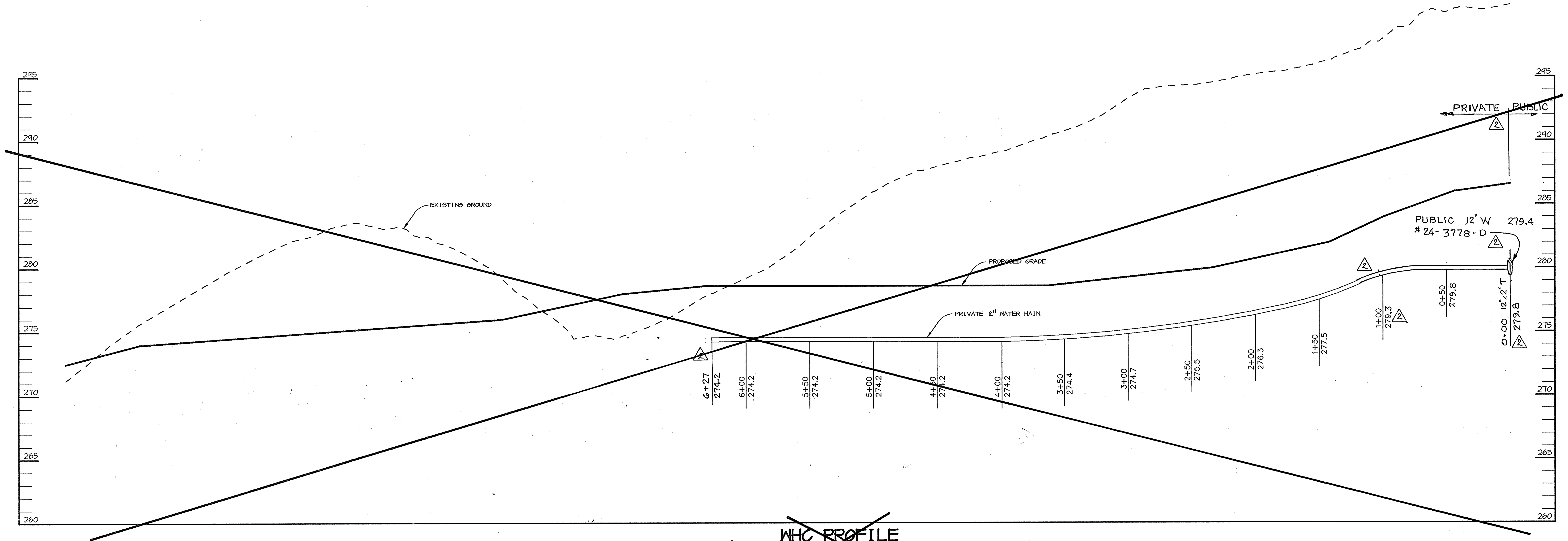
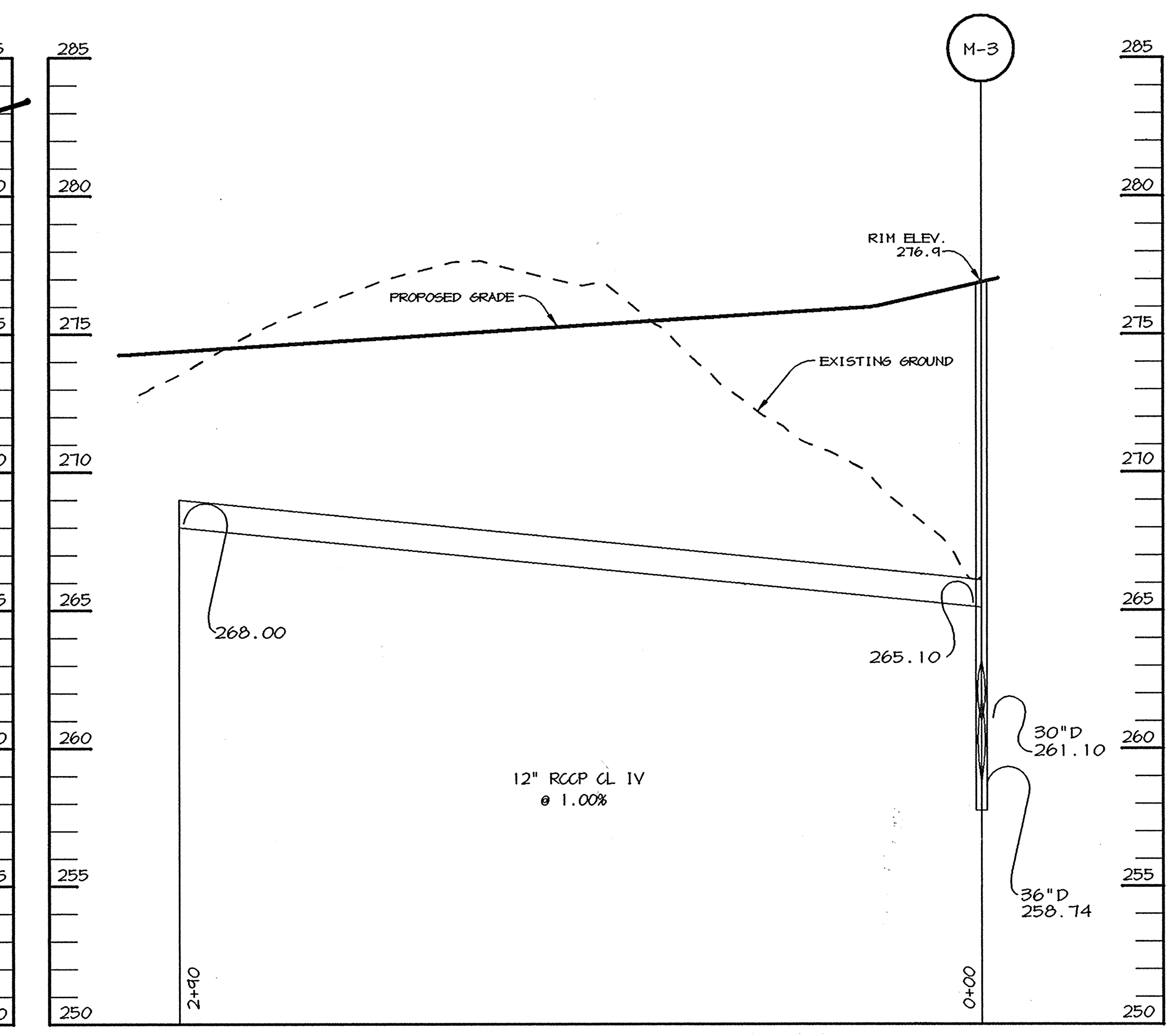
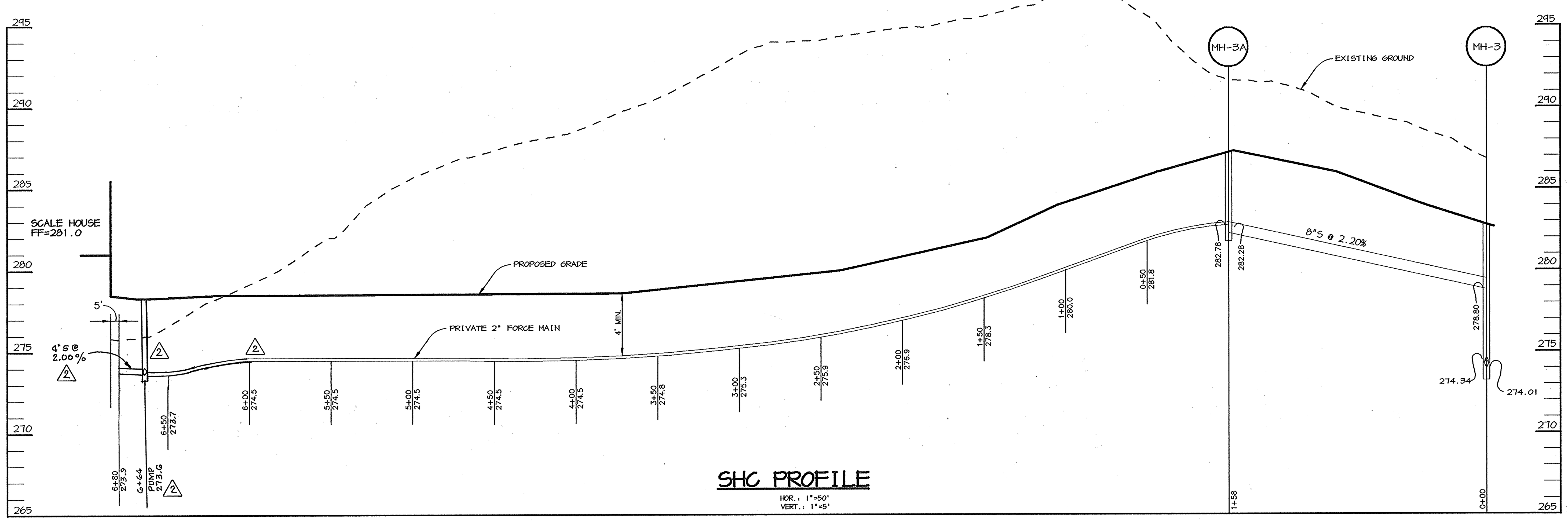


WHC PROFILE
HOR.: 1"=50'
VERT.: 1"=5'



STORM DRAIN PROFILE
SCALE: HOR.: 1"=50'
VERT.: 1"=5'



SHC PROFILE
HOR.: 1"=50'
VERT.: 1"=5'

Pyramat® Erosion Matrix

Earthstopping Solutions.

Installation Guidelines

Site Preparation

- Grade and compact area of installation.
- Prepare seedbed by loosening 50-75 mm (2"-3") of topsoil above final grade.
- Incorporate amendments such as lime and fertilizer into soil.
- Remove all rocks, clods, vegetation or other obstructions so that the installed Pyramat® will have direct contact with soil surface.
- Do not mulch areas where mat is to be placed.

Seeding

- Apply seed to the soil surface before installing Pyramat or after installation for enhanced performance prior to soil filling (preferable).
- When seeding prior to Pyramat installation, all check slots and other areas disturbed must also be reseeded.
- When soil filling, seed Pyramat and entire disturbed area after installation, prior to filling mat with soil.
- Contact your local U.S. Natural Resource Conservation Service (NRCS) Plant Materials Specialist or other resource for seed recommendations.

PYRAMAT® Placement: Banks and Slopes

- Extend Pyramat 60-90 cm (2'-3') over crest of slope and excavate a 30 x 15 cm (12" x 6") terminal anchor trench (Figure 4 on page 3).
- Anchor Pyramat in trench on 30 cm (1') spacings, backfill and compact soil.
- Unroll Pyramat down slope.
- Overlap adjacent rolls at least 75 mm (3") and anchor every 45 cm (18").
- Lay Pyramat loose to maintain direct contact with soil. (Do not pull Pyramat taut. This may allow bridging of soil surface.)
- Secure Pyramat to ground surface using U-shaped wire staples (preferred), geotextile pins or wooden stakes. (See ground anchoring devices on page 3.)
- Refer to anchor pattern guide on page 3 for appropriate number and pattern of anchors.

PYRAMAT® Placement: Channels

- Excavate an initial anchor trench 30 cm (12") deep and 15 cm (6") wide across the channel at the lower end of the project area (Figure 1).
- Excavate intermittent check slots 15 cm (6") deep and 15 cm (6") wide across the channel at 9.1 m (30') intervals along the channel (Figure 2).
- Cut longitudinal channel anchor slots 10 cm (4") deep and 10 cm (4") wide along both sides of the installation to bury edges of Pyramat® (Figure 3). Whenever possible, extend mat 60-90 cm (2'-3') above crest of channel side slopes.

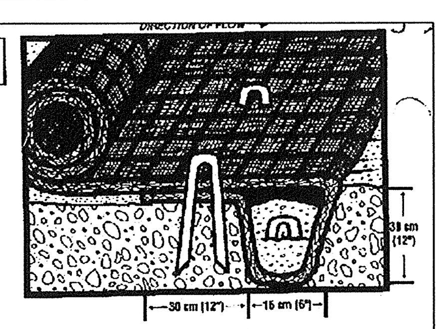


Figure 1: Initial Anchor Trench (Channels)

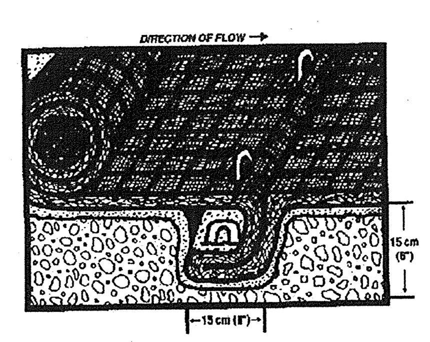


Figure 2: Intermittent Check Slot (Channels)

- Beginning at the center of downstream end of the channel, place the end of the first roll in the anchor trench and secure with fastening devices at 30 cm (1') intervals (Figure 1).
- In same manner, position adjacent rolls in anchor trench, overlapping the preceding roll a minimum of 75 mm (3").
- Again, secure at 30 cm (1') intervals, backfill and compact soil.
- Unroll Pyramat over the compacted trench. Stop at next check slot or terminal anchor trench.
- Unroll adjacent rolls upstream in order to maintain a 75 mm (3") overlap and anchoring every 45 cm (18").
- Fold and secure all Pyramat rolls snugly into intermittent check slots. Lay Pyramat in the bottom and fold back against itself. Anchor through both layers of mat at 30 cm (1') intervals then backfill and compact soil (Figure 2). Continue rolling Pyramat upstream over the compacted slot to the next check slot or terminal anchor trench.
- In low velocity channels (< 2.5 m/sec) excavated in cohesive soils, an alternate method may be used: place two rows of anchors on 15 cm (6") centers at 9.1 m (30') intervals in lieu of excavated check slots.
- Overlap roll ends a minimum of 30 cm (1') with upstream Pyramat on top. Begin all new rolls in a check slot. Anchor overlapped area by placing two rows of anchors, 30 cm (1') apart on 30 cm (1') intervals.
- Place outer edge of Pyramat in previously excavated longitudinal slots, anchor using prescribed staple pattern, backfill and compact soil (Figure 3).

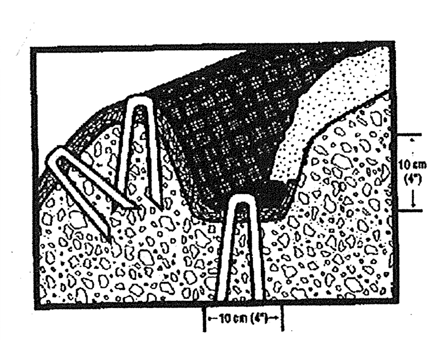


Figure 3: Longitudinal Anchor Trench (Channels)

- Anchor, backfill and compact upstream end of Pyramat® in a 30 x 15 cm (12" x 6") terminal trench (Figure 4).
- Secure Pyramat to ground surface using U-shaped wire staples (preferred), geotextile pins or wooden stakes. (See ground anchoring devices below.)
- Refer to anchor pattern guide below for appropriate number and pattern of anchors.
- Seed and fill Pyramat with soil for enhanced performance.
- When using Pyramat with a geotextile underneath, always seed after installing mat, then fill with soil.

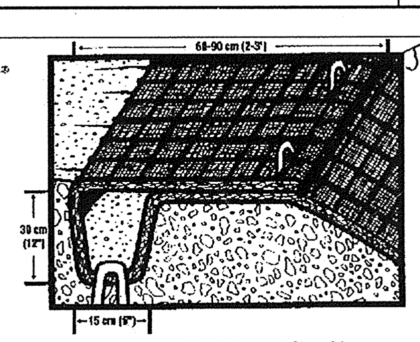


Figure 4: Terminal Anchor Trench (Slopes and Channels)

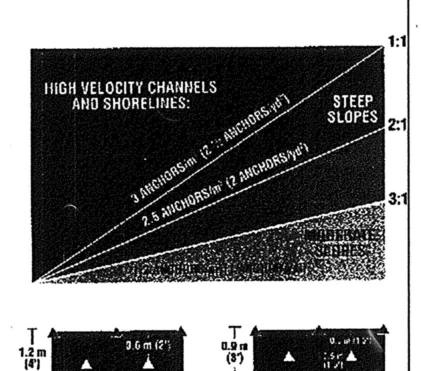
Ground Anchoring Devices

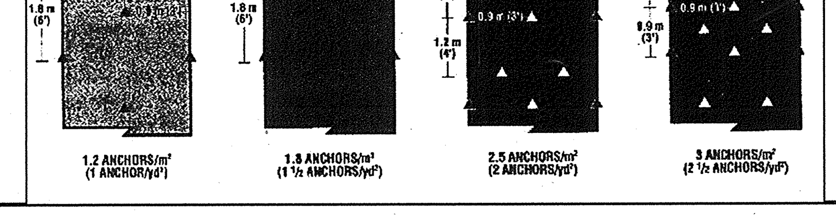
U-shaped wire staples, metal geotextile pins, triangular wooden or plastic stakes can be used to anchor Pyramat to the ground surface. Wire staples should be a minimum of 4.3 mm (8 gauge). Metal pins should be at least 4.7 mm (3/16") diameter steel with a 38 mm (1 1/2") steel washer at the head of the pin. Wire staples and metal pins should be driven flush to the soil surface. Wooden stakes should be 75 x 38 mm (3" x 1 1/2") triangular wooden survey stakes. Approximately 50 mm (2") of wood staking should remain above the soil surface. All anchors should be between 20-45 cm (8"-18") long and have sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils. Heavier metal stakes may be required in rocky soils.

Anchor Pattern Guide

The colored areas in the adjacent diagram provide anchor recommendations based on slope gradient and/or anticipated flow conditions. When the correct number of anchors has been determined, refer to the four illustrations below to establish anchor pattern. All overlaps should be anchored at a 45 cm (18") frequency.

Increased anchoring may be required depending upon site conditions. Soil filling immediately after installation will decrease the recommended anchoring rate to the next lowest pattern. Example: Soil filling of matting in high velocity channels will reduce anchor pattern to 2 1/2/m² (2 anchors/yd²).





Soil Filling

- Pyramat® is designed to be filled with soil after installation. This maximizes performace of the product.
- After seeding, spread and lightly rake 12-19 mm (1/2"-3/4") of fine topsoil into the Pyramat and completely fill the voids. Use backside of rake or other flat tool to ensure a smooth soil-filled surface.
- Pyramat will withstand lightweight rubber-tired construction equipment. No tracked equipment or sharp turns should be made on the mat.
- Avoid any traffic over Pyramat if very loose or wet soil conditions exist.
- Use shovels, rakes or brooms for fine grading and finishing.
- Smooth soil fill in order to just expose the top of matrix. Do not place excessive soil above the mat.
- Broadcast additional seed and mulch above the soil-filled Pyramat, if desired.
- If possible, water as necessary to enhance growth.
- CONSULT MANUFACTURER'S TECHNICAL REPRESENTATIVE OR LOCAL DISTRIBUTOR FOR INSTALLATION ASSISTANCE, PARTICULARLY IF UNIQUE CONDITIONS APPLY (I.E. FINE SANDY SOILS, INFERTILE ENVIRONMENTS).

DATE	NO.	REVISION
6-28-05	3	REMOVED WATER PROFILE, CHANGED SHEET NO.
5-26-05	2	REV. WHC PROFILE & SHC PROFILE
11-11-04	1	ADDITIONAL SHEET PER REDLINE APPROVAL

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] 12/8/04
DIRECTOR — DATE

[signature] 12/6/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

[signature] 12/7/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

11·11·04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — NO. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY : MAD
CHECKED BY : C.J.R.
PROJECT NO : 99092/PROFILE7.DWG
DATE : NOVEMBER 11, 2004
SCALE : AS SHOWN
DRAWING NO. 42 OF 51

SDP-99-134

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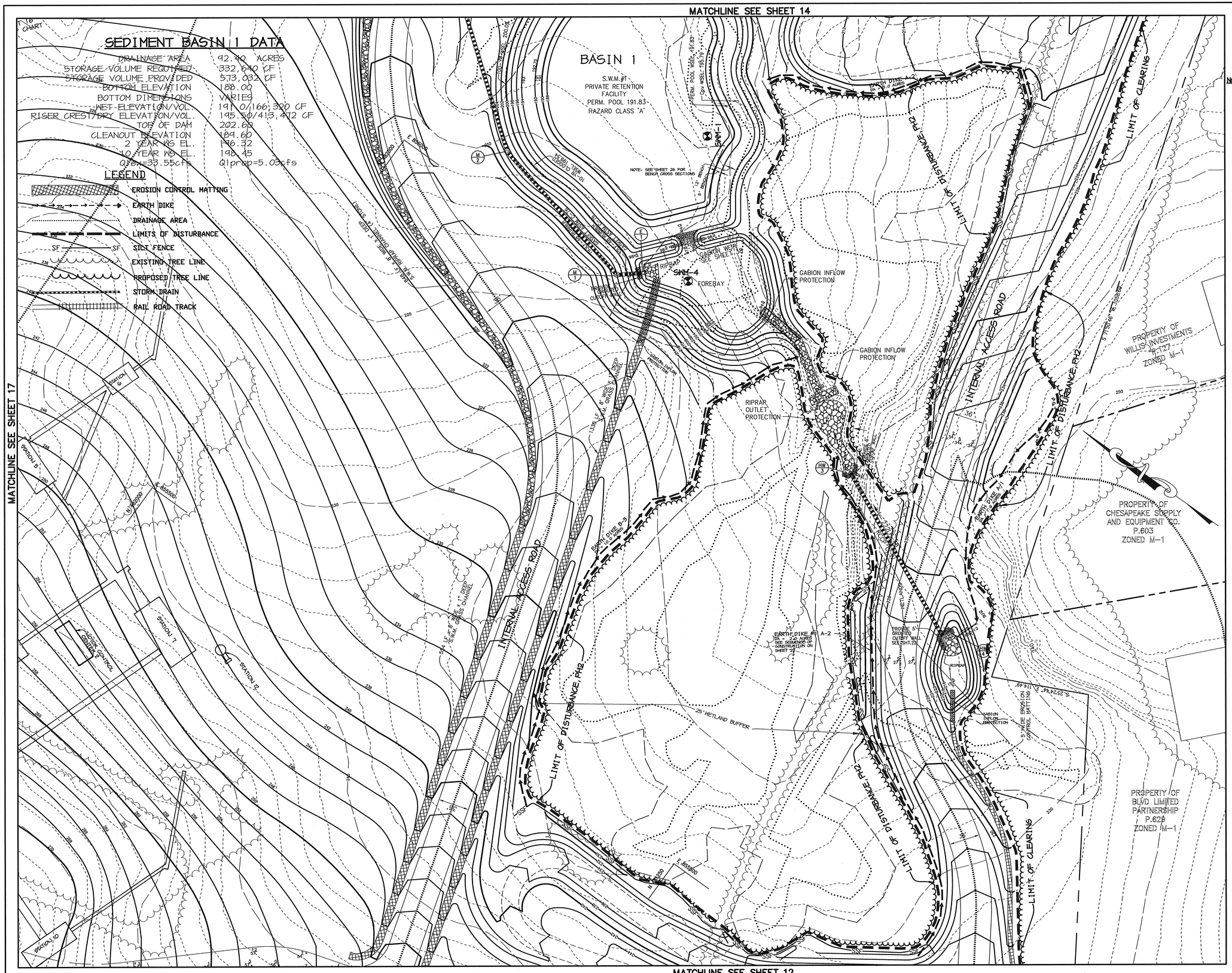
MATCHLINE SEE SHEET 14



MATCHLINE SEE SHEET 17

MATCHLINE SEE SHEET 12

NOTE: THIS PLAN IS FOR SEDIMENT CONTROL AND DRAINAGE AREA INFORMATION ONLY. SEE SHEET 6 FOR GRADING.

6-15-05 | 2 | ADDED NOTE, CHANGED SHEET NO.

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Charles J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers for 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

2/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
2-21-05	2	ADDED PLANT LAYOUT
1-6-05	1	REV. GRADING & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM3.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	14 OF 51

SDP-99-134

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MATCHLINE SEE SHEET 5

MATCHLINE SEE SHEET 6

B & O RAILROAD

INTERNAL ACCESS ROAD

LIMIT OF CLEARING

PROPERTY OF BLUD LIMITED PARTNERSHIP P.629 ZONED M-1

PROPERTY OF JOHN F. BAKER, ET. AL. P.501 ZONED M-1

PROPERTY OF SIES RAYMOND LUTLER, ET. AL. P.500 ZONED M-1

PROPERTY OF BROOKWOOD JESSUP PARTNERSHIP P.526 ZONED M-1

BUILDING 'A' F.F. ELEV. 292.00 9900 SF

MARYLAND STATE HIGHWAY (INTERMEDIATE ARTERIAL)

PATUXENT RANGE ROAD

(U.S. ROUTE 1)

BALTIMORE WASHINGTON BLVD

LEGEND

300	EXISTING CONTOURS
300	PROPOSED CONTOURS
	EXISTING TREE LINE
	PROPOSED TREE LINE
	EXISTING ROAD
	EXISTING BOUNDARY LINE
	EXISTING BUILDING
	EXISTING WETLANDS
	APPROXIMATE LOCATION OF BENCH FOR BERM
	EASEMENT
	PROPOSED FENCE
	RIP RAP OUTLET PROTECTION
	LIMIT OF 100-YR FLOODPLAIN
	10' BENCH
	50'STREAM BUFFER
	WETLAND BUFFER LIMITS
	EXISTING STREAM
	P-3 PAVING
	MSHA PAVING

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
5-22-03	2	REV. WATER & SEWER, WATER ESMT & ADDED WATER METER
1-6-03	1	REV. ACCESS ROAD & GRADING

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID NO. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SDP-4.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	4 OF 51

DATE	NO.	REVISION
6-15-05	3	ADDED EXIT. SIGN, ADDED STATIONS TO 2" WATER.

SDP-99-134

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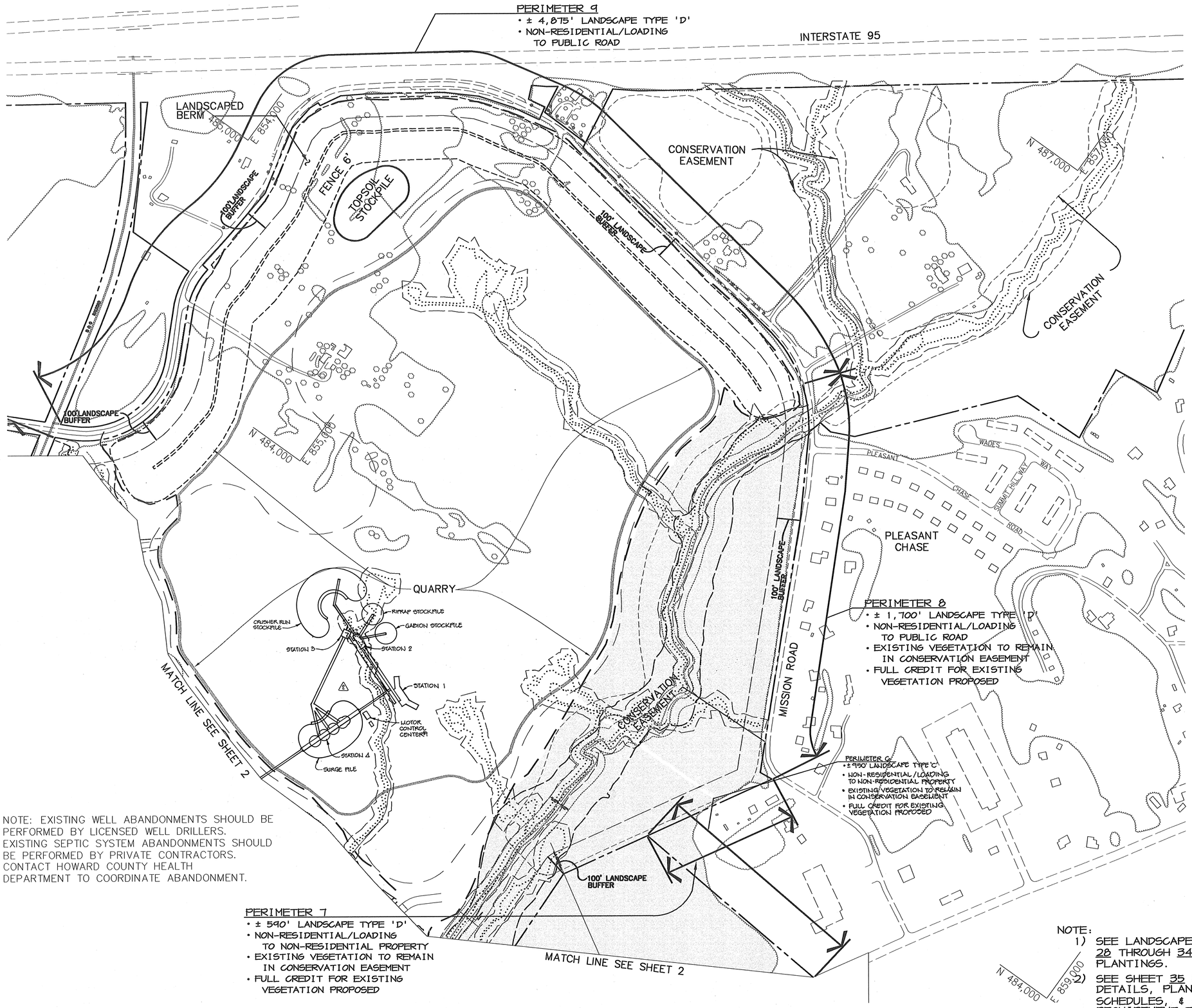

NOTE: EXISTING WELL ABANDONMENTS SHOULD BE PERFORMED BY LICENSED WELL DRILLERS. EXISTING SEPTIC SYSTEM ABANDONMENTS SHOULD BE PERFORMED BY PRIVATE CONTRACTORS. CONTACT HOWARD COUNTY HEALTH DEPARTMENT TO COORDINATE ABANDONMENT.

NOTE:
1) SEE LANDSCAPE PLANS, SHEETS 28 THROUGH 34, FOR REQUIRED PLANTINGS.
2) SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, & COUNTY LANDSCAPE REQUIREMENT TABLES.

LEGEND

- EXISTING TREE LINE
- CONSERVATION EASEMENT
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EASEMENT
- EXISTING FENCE
- EXISTING WETLANDS
- QUARRY LIMITS

DATE	NO.	REVISION
6-15-05	3	CHANGED SHEET NUMBER.
2-21-03	2	ADDED PLANT LAYOUT
1-9-03	1	CHANGED SHEET NUMBER.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL LOCATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE

STATE OF MARYLAND — SCOTT A. HARRIS — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/OVER3.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 200'
DRAWING NO.	3 OF 51

SDP-99-134

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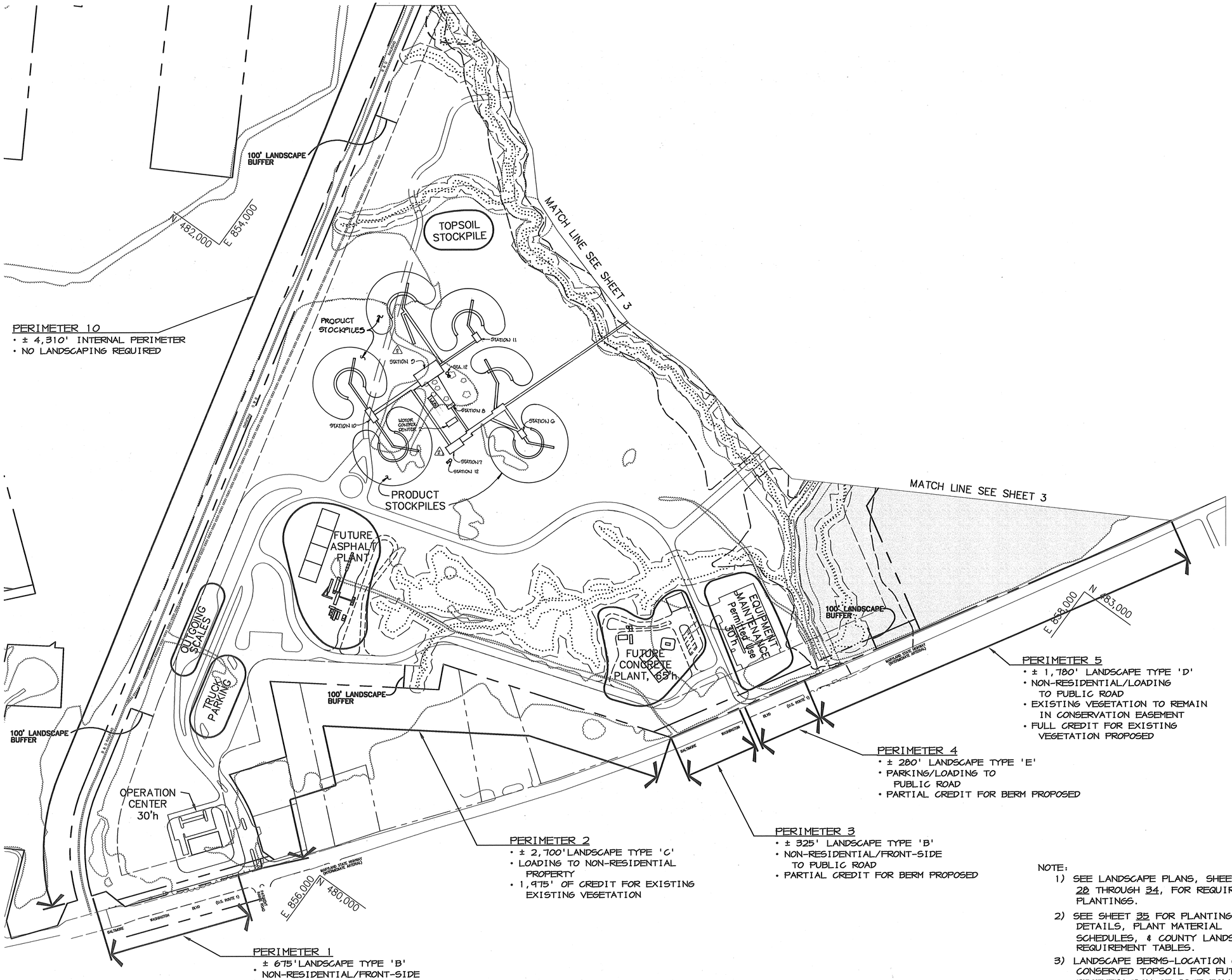

PERIMETER 10
- ± 4,310' INTERNAL PERIMETER
- NO LANDSCAPING REQUIRED

PERIMETER 1
- ± 675' LANDSCAPE TYPE 'B'
- NON-RESIDENTIAL/FRONT-SIDE TO PUBLIC ROAD

PERIMETER 2
- ± 2,700' LANDSCAPE TYPE 'C'
- LOADING TO NON-RESIDENTIAL PROPERTY
- 1,975' OF CREDIT FOR EXISTING EXISTING VEGETATION

PERIMETER 3
- ± 325' LANDSCAPE TYPE 'B'
- NON-RESIDENTIAL/FRONT-SIDE TO PUBLIC ROAD
- PARTIAL CREDIT FOR BERM PROPOSED

PERIMETER 4
- ± 280' LANDSCAPE TYPE 'E'
- PARKING/LOADING TO PUBLIC ROAD
- PARTIAL CREDIT FOR BERM PROPOSED

PERIMETER 5
- ± 1,780' LANDSCAPE TYPE 'D'
- NON-RESIDENTIAL/LOADING TO PUBLIC ROAD
- EXISTING VEGETATION TO REMAIN IN CONSERVATION EASEMENT
- FULL CREDIT FOR EXISTING VEGETATION PROPOSED

NOTE:
1) SEE LANDSCAPE PLANS, SHEETS 28 THROUGH 34, FOR REQUIRED PLANTINGS.
2) SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, & COUNTY LANDSCAPE REQUIREMENT TABLES.
3) LANDSCAPE BERMS-LOCATION OF CONSERVED TOPSOIL FOR FUTURE REGENERATION OF SITE FOLLOWING COMPLETION OF MINING.

LEGEND

- EXISTING TREE LINE
- CONSERVATION EASEMENT
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- EASEMENT
- EXISTING FENCE
- EXISTING WETLANDS

DATE	NO.	REVISION
6-15-05	3	CHANGED SHEET NUMBER
2-21-05	2	ADDED LAYOUT FOR PLANT
1-9-05	1	CHANGED SHEET NUMBER

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DEVELOPER/OWNER:

(OWNER)
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LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
OVERALL LOCATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ OVER2.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 200'
DRAWING NO.	2 OF 51

SDP-99-134

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SITE DEVELOPMENT PLAN
CHASE QUARRY
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET INDEX

NO	DESCRIPTION	NO	DESCRIPTION
1	TITLE SHEET	22	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP
2	OVERALL LOCATION PLAN	23	PROFILES AND DETAILS
3	OVERALL LOCATION PLAN	24	PROFILES AND DETAILS
4	SITE DEVELOPMENT PLAN	25	SWM PROFILES, SEDIMENT & EROSION CONTROL NOTES & DETAILS
5	SITE DEVELOPMENT PLAN	26	SWM PROFILES, SEDIMENT & EROSION CONTROL DETAILS
6	SITE DEVELOPMENT PLAN	27	SWM PROFILES & DETAILS
7	SITE DEVELOPMENT PLAN	28	SWM AND SEDIMENT CONTROL NOTES & DETAILS
8	SITE DEVELOPMENT PLAN	29	LANDSCAPE PLAN
3 9	~~SITE DEVELOPMENT PLAN~~	30	LANDSCAPE PLAN
10	OVERALL GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	31	LANDSCAPE PLAN
3 11	~~OVERALL GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP~~	32	LANDSCAPE PLAN
12	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	33	LANDSCAPE PLAN
13	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	34	LANDSCAPE PLAN
14	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	35	LANDSCAPE PLAN
15	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	36	LANDSCAPE PLAN SPECIFICATIONS AND DETAILS
16	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	37	U.S. ROUTE 1 ROAD WIDENING PLAN
17	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	38	BAYSAVER DETAILS & NOTES
18	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	39	REINFORCEMENT DETAILS AND PROFILES
19	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	40	PROFILES AND DETAILS
20	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP	41	GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP AND DETAILS
3 21	~~GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP~~ 1	42	PROFILES

SHEET INDEX (CONT.) 3

NO	DESCRIPTION	NO	DESCRIPTION
43	CULVERT A PLAN AND PROFILES	48	PROFILES
44	CULVERT B PLAN AND PROFILES	49	PROFILES
45	CULVERT C PLAN AND PROFILES	50	PROFILES
46	PROFILES	51	PROFILES
47	PROFILES		

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.

3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AY LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

4. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.

5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.

6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY W.R.A., INC. DATED APRIL, 1985.

7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 48D6 AND 48AB WERE USED FOR THIS PROJECT.

8. WATER IS PUBLIC. CONTRACT NO. 44-3778-D

9. SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATUXENT CONTRACT NO. 20-1230 & 20-1310

10. THE STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED VIA GRASS CHANNEL CREDIT FOR RECHARGE VOLUME AND A WET POND FOR WATER QUALITY AND CHANNEL PROTECTION VOLUMES. MANAGEMENT OF THE 10-YEAR AND 100-YEAR STORM EVENTS ARE NOT REQUIRED. THE FACILITIES WILL BE PRIVATELY MAINTAINED.

11. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.

12. THE 100-YEAR FLOODPLAIN IS DELINEATED FOR THIS PROJECT USING THE HOWARD COUNTY DORSEY RUN STUDY.

13. WETLANDS ARE SHOWN PER DELINEATION BY VIKA, INC., OCT 1997.

14. A CHAPTER 5 TRAFFIC STUDY HAS BEEN PREPARED BY GOROVE/SLADE ASSOCIATES, INC., DATED APRIL 1999.

15. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.

16. A GEOTECHNICAL CORE STUDY HAS BEEN PREPARED BY BOART LONGYEAR DRILLING CO. IN 1995.

17. THE BOUNDARY FOR THIS PROJECT IS SHOWN PER "BOUNDARY SURVEY THE CHASE PROPERTY" BY WHITMAN REQUART & ASSOC. DATED APRIL 1985.

18. SUBJECT PROPERTY ZONED M-1 & MXD-3 PER 10-18-93 COMPREHENSIVE ZONING PLAN.

19. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.

20. SEE DEPARTMENT OF PLANNING AND ZONING FILE NOs BA 95-58E, WP-00-34, ~~SP-04-11~~ AND WP-04-68

21. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

22. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

23. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.

24. ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.

25. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.

26. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.

27. PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.

28. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.

29. THE PAVEMENT DETAILS SHOWN FOR THIS SITE REFLECT THE HOWARD COUNTY STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE.

30. THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS FOR FOREST CONSERVATION UNDER SECTION 16.1202.b.1.ix OF THE SUBDIVISION REGULATIONS. A RECLAMATION PLAN WILL BE ENACTED AFTER CESSATION OF THE QUARRY ACTIVITIES, IN CONJUNCTION WITH MDE PERMIT NO.(S). 02-SP-0999 , APPROVED ON DECEMBER 22, 2003.

31. SEDIMENT CONTROL PLAN FOR THIS PROJECT IS VALID FOR A PERIOD OF TWO YEARS AFTER HSCD SIGNATURES, AND MUST BE RESUBMITTED BEFORE EXPIRATION FOR ASSESSMENT AND APPROVAL.

32. WP-00-34 A WAIVER PETITION REQUEST TO WAIVE SECTIONS 16.115 AND 16.116(a) WAS APPROVED ON APRIL 10, 2000 SUBJECT TO THE FOLLOWING CONDITIONS:
1. THIS WAIVER APPROVAL APPLIES ONLY TO THE PROPOSED AREAS OF ENVIRONMENTAL DISTURBANCES IDENTIFIED AS "AREAS #1-6" (WETLAND AND STREAM DISTURBANCES) AND"FLOODPLAIN AREAS #1-3" (FLOODPLAIN AND STREAM DISTURBANCES) AS SHOWN ON THE WAIVER PETITION EXHIBIT RECEIVED BY THE DEPARTMENT OF PLANNING AND ZONING ON 2/24/2000.
2.THE PETITIONER MUST OBTAIN APPROVAL OF THE SITE DEVELOPMENT PLAN (SDP-99-134) PRIOR TO ISSUANCE OF ANY PERMITS FOR CONSTRUCTION OR GRADING ON SITE.
3. ALL GRADING AND CLEARING WITHIN THE FLOODPLAINS, WETLANDS, WETLAND BUFFERS, AND STREAM BUFFERS SHALL BE MINIMIZED AND SHALL COMPLY WITH THE APPROVED GRADING AND SEDIMENT EROSION CONTROL PLAN SHEETS, WHICH ARE TO BE PART OF SDP-99-134. STABILIZATION SHALL BE INITIATED IMMEDIATELY FOLLOWING THE GRADING AND CLEARING.
4.THE PETITIONER SHALL OBTAIN ALL APPLICABLE PERMITS FROM THE MARYLAND DEPARTMENT OF ENVIRONMENT AND.OR THE DEPARTMENT OF NATURAL RESOURCES, PRIOR TO COMMENCEMENT OF ANY DISTURBANCE TO THE ENVIRONMENT AREAS ON SITE.

33. NO QUARRY OR MINING SHALL OCCUR UNDER THIS PLAN. THIS PLAN IS FOR THE CONSTRUCTION OF OPERATION AREA AND REMOVAL OF OVERBURDEN ONLY.

34. A WETLANDS PERMIT HAS BEEN APPLIED FOR UNDER TRACKING NUMBER 200262372.

35. THE WHITE FAMILY CEMETARY HAS BEEN RELOCATED FROM THE SITE PER STATE OF MARYLAND GUIDELINES.

The Decision and Order for BOA Case No. BA95-58E has the following approval conditions:

1. The special exception shall apply only to the proposed stone, sand, gravel, clay and fill-dirt quarry and accessory asphalt and concrete plant uses as described in the petition, and as depicted on the special exception plan for Chase Limited Partnership submitted on September 22, 1995, consisting of an Existing Zoning and Utilities Plan, Land Use Plan, Operations Plan, Reclamation Plan, and Reclamation Cross Sections ("Special Exception Plan") as amended by this Decision and Order, and not to any other activities, uses, or structures on the subject property.

2. Areas on the site which are regraded during the Reclamation Plan phase shall be covered with suitable soil to sustain growth, then vegetatively stabilized using a perennial cover species as recommended by the County Soil Conservation District.

3. Upon the abandonment of excavation operations on the site or on any portion of the site, all access roads shall be suitably barricaded to prevent the passage of vehicles either into or out of the abandoned area, except such access as needed for vehicles engaged in rehabilitation work, until the plan for rehabilitation has been completed and other uses necessitating access have commenced on the property.

4. The Petitioner shall submit detailed engineering studies setting forth the estimated cost of the accepted plan for rehabilitation for the approval of the Board of Appeals prior to the final approval of the site development plan for the use. These studies shall be subject to periodic review by the Board of Appeals every five years beginning with final approval of the site development plan. A bond shall be provided, or adequate collateral shall be kept in escrow, drawing interest to the benefit of the Petitioner, to cover the approved estimated cost of the accepted plan for rehabilitation. Said bond or escrow shall be established in a manner acceptable to the Board and the County prior to the approval of the site development plan for the use and reviewed every five years thereafter. Said bond or escrow shall not be released unless it is determined that the Petitioner has achieved successful completion of the rehabilitation program.

5. Prior to the approval of the site development plan for the use, the Petitioner shall warrant and shall provide documentation that all persons having an interest of record in said land shall cause to be recorded among the land records of the County:

(a) A description of the area included within the special exception area, (b) The application number (BOA Case No. 95-58E) and the date of this Decision and Order, (c) A statement indicating that use of the land will be in accordance with the site development plan submitted for approval and the Special Exception Plan, including the Reclamation Plan as approved herein, and (d) A declaration binding their heirs and assigns to utilize the land in accordance with said site development plan and the Special Exception Plan, including the Reclamation Plan until excavation processing or filling operations cease and rehabilitation of the land is completed.

6. Prior to the approval of the site development plan for the use, the Petitioner shall enter into an agreement with the County which provides that, if the quarry is cited as operating in violation of any of the provisions or conditions of the special exception including failure to comply with the approved Reclamation Plan, in such a way as to require corrective action, the Petitioner shall cause the corrective action to be taken. The agreement shall also stipulate that if the Petitioner fails to take the necessary corrective action within 30 days or written notice from the County to do so, the required bonds or collateral noted above will be forfeited and the County may cause corrective actions to be commenced. The agreement shall also provide that the Petitioner shall agree to pay any costs for corrective action which exceed the bond or collateral amount.

7. Any exterior lighting shall be shielded and directed so that it does not illuminate residential properties, does not shine directly onto any adjacent properties, and does not produce glare which would cause a hazard for motor vehicle operators in the vicinity of the site.

8. Public water will be provided on site as required by the Department of Fire and Rescue Services.

9. The Petitioner shall make a good faith effort working with the community and CSX Railroad to construct a security fence along the western boundary to prevent access to the stockpile area.

10. Prior to the commencement of quarry operations, the Petitioner shall donate approximately 7 acres of land on Mission Road, as shown on the land Use Plan, to the Ridgely's Run Community Association for use as a community center. The Petitioner will construct on the 7 acres, at its own expense, (i) a community center building of approximately 5,000 quare feet with parking , (ii) an exterior all-purpose basketball court, (iii) two tennis courts with nets and fencing, and (iv) grading for a little league baseball diamond and provide a little league baseball backstop. Construction will begin prior to commencement of quarry operations, and the Petitioner will diligently pursue completion of construction.

11.During each year of quarry operation, the Petitioner shall donate to the Ridgely's Run Community Association five cents (5\1/203A) per ton of marketable stone produce shipped from the project operations, with a minimum donation of $50,000.00 per year to be used for the programs of the community center for the betterment and welfare of the community.

12. The Petitioner will warrant that existing wells will not be affected by quarry operations. Tests will be done prior to development and subsequent well monitoring will occur with a sampling program by an independent environmental consultant.

13. The Petitioner shall establish and implement procedures for the investigation and reporting of vibration and damages attributable to the quarry operations on all homes within 1,000 feet of the quarry excavation area and the 12 Heritage Woods homes identified in the Petitioner's testimony.

14. The Petitioner will fill the existing quarry at the back of Pine Road using overburden from the new quarry and other material.

15. Structures shall not exceed a height of 65 feet; stockpiles shall not exceed a height of 60 feet; and berms shall not exceed a height of 40 feet.

16. Trees removed for construction of berms shall be replaced by adequate landscaping, reforestation, and seeding or sodding of the berms.

17. Dust emissions will be controlled and maintained within the confines of the site in accordance with applicable State regulations.

18. Blasting will occur no more than 10 seconds per month. No blasting will occur between the hours of 6:00 p.m. and 7:30 a.m. on any day.

19. The Petitioner shall provide adequate security to control unauthorized entry to the site along the entire perimeter, including security personnel on duty on the site 24 hours each day. The quarry will be fenced with a durable galvanized fence 6' high, located not less than 20 feet from the edge of excavation. The County shall have the right to enter and repair or maintain such fence whenever the property owner shall fail to do so. The property owner shall be liable to the County for the cost of the repairs or maintenance.

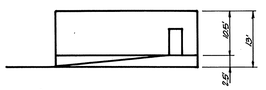
20. The Petitioner shall prohibit trucks from using Mission Road to enter or leave the quarry operation.

21. The northern entrance to the site shall be restricted to right-turns only from southbound Route 1, and a deceleration lane shall be installed. An acceleration lane shall be installed for southbound traffic exiting the southern entrance at Patuxent Range Drive.

22. The posted speed limit on U.S. Route 1 between Route 175 and Route 32 shall be reduced to no more than 40 miles per hour. (MSHA will not grant approval)

23. The special exception granted herein shall be subject to renewal five years from the date ofapproval of the final site development plan for the project, and every five year thereafter, in accordance with Section 131.H.2 of the Zoning Regulations; except that the special exception shall terminate without right of renewal 25 years from the date on which all necessary excavation permits for the project have been obtained.

24. The Petitioner shall comply with all applicable Federal, State, and County laws and regulations.



1 SCALE HOUSE ELEVATION
NO SCALE

GENERAL NOTES cont.

36. WP-04-68 was approved on 12/18/03, waiving Section 16.155a.(1), which requires approval of a site plan prior to issuance of a grading permit. The grading is limited to the proposed access points on Route 1, as shown on the waiver exhibit. Approval was subject to 4 conditions of approval.

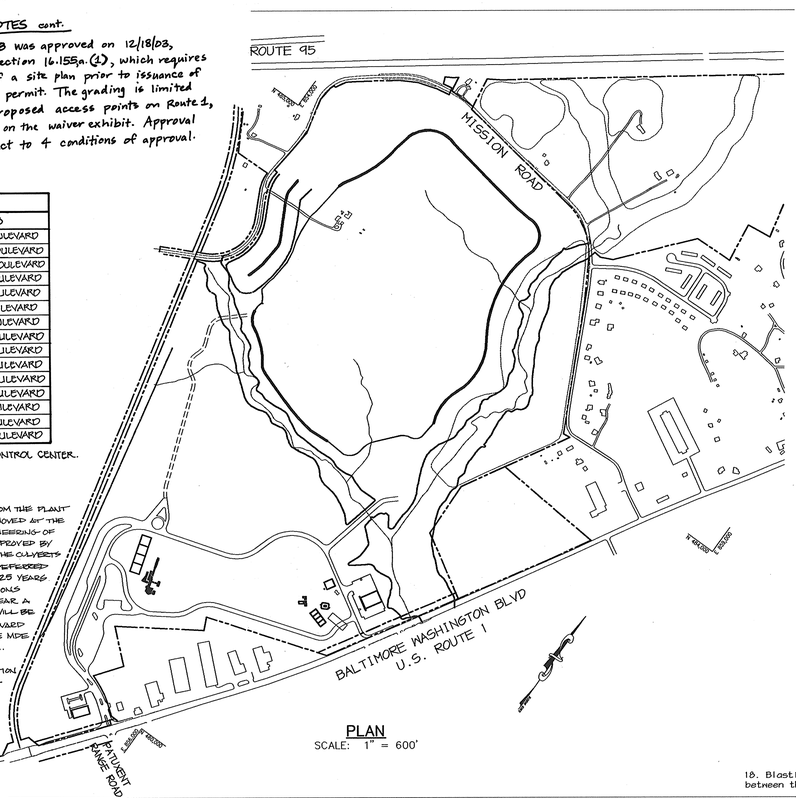
1 ADDRESS CHART

BUILDING	STREET ADDRESS
STATION 1	8424 WASHINGTON BOULEVARD
STATION 2	8426 WASHINGTON BOULEVARD
STATION 3	8428 WASHINGTON BOULEVARD
STATION 4	8430 WASHINGTON BOULEVARD
STATION 5	8432 WASHINGTON BOULEVARD
STATION 6	8434 WASHINGTON BOULEVARD
STATION 7	8436 WASHINGTON BOULEVARD
STATION 8	8438 WASHINGTON BOULEVARD
STATION 9	8440 WASHINGTON BOULEVARD
STATION 10	8442 WASHINGTON BOULEVARD
STATION 11	8444 WASHINGTON BOULEVARD
STATION 12	8446 WASHINGTON BOULEVARD
UCC #1	8448 WASHINGTON BOULEVARD
UCC #2	8450 WASHINGTON BOULEVARD
LAB	8452 WASHINGTON BOULEVARD

NOTE: UCC STANDS FOR MOTOR CONTROL CENTER.

GENERAL NOTES (cont.)

9 37. THE THREE STREAM CROSSINGS FROM THE PLANT AREA TO THE QUARRY AREA WILL BE REMOVED AT THE COMPLETION OF MINING. THE BEGINNINGS AND ENDINGS OF THE STREAMS WILL BE DESIGNED AND APPROVED BY THE APPROPRIATE AGENCIES BEFORE THE CULVERTS ARE REMOVED. THE DESIGN IS BEING DEFERRED BECAUSE THE MINING WILL LAST FOR 25 YEARS AND THE SITE AND UPSTREAM CONDITIONS WILL CHANGE IN THE INTERIM. EACH YEAR, A COPY OF THE ANNUAL MINING REPORT WILL BE SENT TO THE COEPS OF ENGINEERS, HOWARD SOILS CONSERVATION DISTRICT, AND THE MDE NONTIDAL WETLANDS PERMIT SECTION. THIS WILL BE DONE SO THAT THESE AGENCIES MAY TRACK THE RECLAMATION FOR THE 25 YEARS. THE FINAL RECLAMATION REPORT WILL ENSURE THE STREAM RESTORATION IS COMPLETED BEFORE THE BOND AND PERMIT ARE RELEASED.



PLAN
SCALE: 1" = 600'

BENCH MARKS

HO.CO.SURVEY CONTROL STATION: 436A
N 541,748.136 E 1,364,162.220
ELEVATION: 134.51'

HO.CO.SURVEY CONTROL STATION: 436B
N 544,118.628 E 1,370,553.547
ELEVATION: 112.99'

SITE ANALYSIS

TOTAL SITE AREA	536.1 ACRES
AREA OF SUBMISSION (SPECIAL EXCEPTION AREA)	327.75 ACRES
LIMIT OF DISTURBANCE FOR DEVELOPED AREA	61.7 ACRES
CURRENT ZONING	M-1 & MXD-3
PROPOSED USE	QUARRY w/ ASSOCIATED USES
EXISTING USE	VACANT LAND / RESIDENCE
PROPOSED BUILDINGS	
BUILDING A - OFFICE	7,800 S.F.
BUILDING B - MAINTENANCE AND STORAGE	15,000 S.F.
PARKING REQUIREMENTS	
OFFICE BUILDING A	26 SPACES
MAINTENANCE BUILDING B	18 SPACES
PARKING PROVIDED	
OFFICE BUILDING A	50 SPACES (INCL 2 H.C.)
MAINTENANCE BUILDING B	34 SPACES (INCL 1 H.C.)
BUILDING COVERAGE	22,800 S.F. (0.52 AC.)=(0.1% OF SITE)
DPZ REFERENCES	BA 95-58E & WP-00-34, WP-04-68 SP-04-11

SETBACK SUMMARY

1. 100' LANDSCAPE BUFFER AROUND SPECIAL EXCEPTION BOUNDARY.

2. 300' SETBACK FROM SPECIAL EXCEPTION BOUNDARY FOR QUARRY USE. THIS DOES NOT APPLY TO THE OFFICE BUILDING AND MAINTENANCE SHOP.

3. 1000' SETBACK FROM US RTE 1 CRUSHING, SCREENING AND STOCKPILES.

4. 100' SETBACK FROM ANY PROPERTY LINE FOR THE 6' FENCE AROUND THE QUARRY PIT. FENCE SHALL BE A MINIMUM 20' FROM THE EXCAVATION LINE FOR THE PIT.

5. 100' SETBACK FROM ROUTE 1 FOR THE SEDIMENT POND.

6. HEIGHT LIMITS: SEE CONDITION OF APPROVAL #15 FOR BA95-58E.

7. 100' SETBACK FROM ROUTE 1 FOR OFFICE BUILDING, MAINTENANCE BUILDING AND PARKING LOTS.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY RETENTION PONDS #1 & 3

ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be moved as needed.

3. Debris and litter shall be removed during regular moving operations and as needed. 4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.

2. Sediment should be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

1 OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY DETENTION POND #2 ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, and maintenance access shall be mowed as needed.

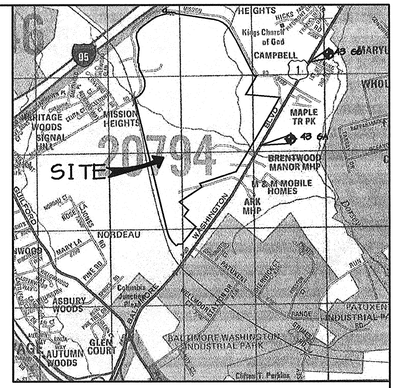
3. Debris and litter shall be removed during regular mowing operations and as needed.

4. Visible signs of erosion in the pond as well as riprap or gabion outlet area shall be repaired as soon as it is noticed.

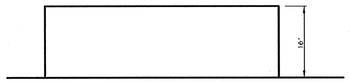
NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.

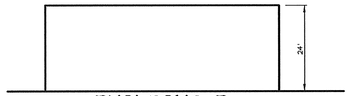
2. Sediment should be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.



VICINITY MAP
SCALE: 1" = 2000'
COPYRIGHT: ADC 'THE MAP PEOPLE'
PERMITTED USE NO. 20804285



BUILDING A
NOT TO SCALE



BUILDING B
NOT TO SCALE

DATE	NO.	REVISION
6-15-05	3	REV. SHEET INDEX, REV. GEN. NOTES, ADDED GEN. NOTE #37

APPROVED : FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

COUNTY HEALTH OFFICER — DATE

ADDRESS CHART

BUILDING	STREET ADDRESS
A	8420 WASHINGTON BLVD
B	8418 WASHINGTON BLVD
SCALE HOUSE	8422 WASHINGTON BLVD

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/18/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
2-17-05	2	ADDED ADDRESS INFORMATION FOR PLANT
1-6-05	1	ADDED BUILDING ELEV., REV. SHEET INDEX

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.742.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.742.1234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

CHRISTOPHER J. REID #19949

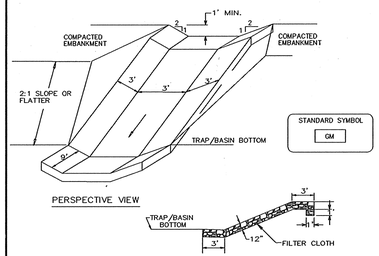
DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/COVER.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	1 OF 51

SUBDIVISION NAME — CHASE QUARRY			SECT./AREA —	PARCEL — 234 & P.O.235	
PLAT # —	BLOCK # 19	ZONE M-1 & MXD-3	TAX MAP NO 43	ELECT. DIST 6th	CENSUS TR. 6069.01
WATER CODE — B02			SEWER CODE — 4200000		

SDP-99-134

P:\projects\99092\1-0\Engr\Plans\COVER.DWG, Layout1, 01/29/2004 10:54:16 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:100

DETAIL 6 – GABION INFLOW PROTECTION

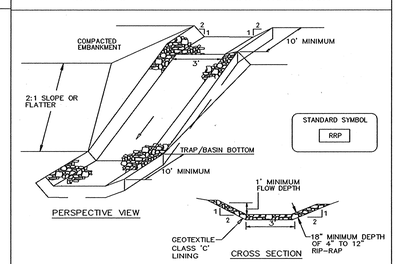


Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
2. Geotextile Class C shall be installed under all gabion baskets.
3. The stone used to fill the gabion baskets shall be 4" – 7".
4. Gabions shall be installed in accordance with manufacturers recommendations.
5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 8 – 7 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5 – RIP–RAP INFLOW PROTECTION



Construction Specifications

1. Rip–rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip– rap to a depth of 18".
2. Filter cloth shall be installed under all rip–rap. Filter cloth shall be Geotextile Class C.
3. Entrance and exit sections shall be installed as shown on the detail section.
4. Rip–rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
5. Gabion Inflow Protection may be used in lieu of Rip–rap Inflow Protection.
6. Rip–rap should blend into existing ground.
7. Rip–rap Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 8 – 6 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 7 – STONE CHECK DAM

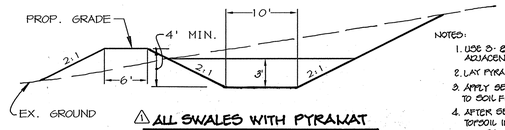
STANDARD STONE CHECK DAM DESIGN

SLOPE	SPACING
2% or less	80'
2.1% to 4%	40'
4.1% to 7%	25'
7.1% to 10%	15'
over 10%	use lined waterway design

Construction Specifications

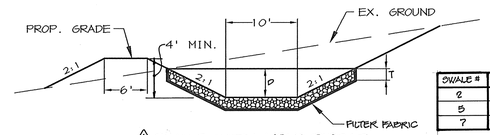
1. Swales and ditches shall be prepared in accordance with the construction specifications described in Section A–2, Standards and Specifications for Temporary Swale.
2. The check dam shall be constructed of 4"–7" stone. The stone shall be placed so that it completely covers the width of the channel and keyed into the channel banks.
3. The top of the check dam shall be constructed so the the center is approximately 6" lower than the outer edges, forming a weir that water can flow across.
4. The maximum height of the check dam at the center shall not exced 2".
5. The upstream sideof the check dam shall be lined with approximately 1" of 3/4" to 11/2" crushed aggregate.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 8 – 8 – 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



⚠ ALL SWALES WITH PYRAMAT

NOTES:
1. USE 3- 8.5' WIDE STANDARD ROLL SIZE. OVERLAP ADJACENT ROLLS AT LEAST 3' AND ANCHOR EVERY 10'.
2. LAY PYRAMAT LOOSE, DO NOT PULL TAUT.
3. APPLY SEED AFTER PYRAMAT INSTALLATION PRIOR TO SOIL FILLING.
4. AFTER SEEDING, SPREAD AND LIGHTLY RAKE 1/2" TOPSOIL INTO THE PYRAMAT AND COMPLETELY FILL THE VOIDS.
5. SEE MANUFACTURERS INSTALLATION GUIDELINES FOR MORE DETAILS.



SWALE #	D	T
2	1.5'	10"
5	2.7'	10"
7	2.5'	32"

⚠ SWALE WITH MSHA RIPRAP

NOTES:
1. COMPACT ALL FILL TO MD 378 STANDARDS.
2. REMOVE AND SALVAGE TOPSOIL PRIOR TO PLACING ANY FILL.

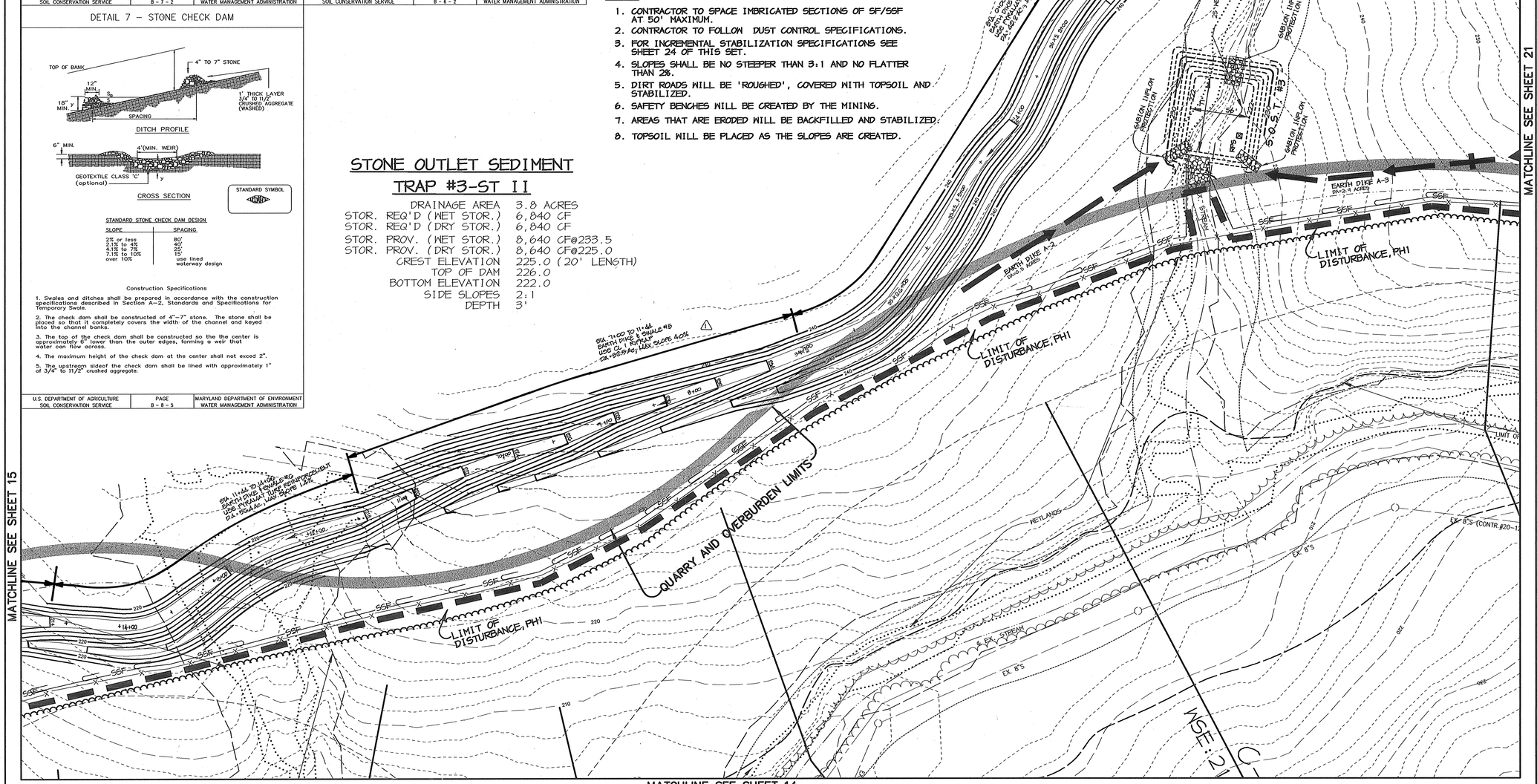
TYPICAL SECTION THRU EARTH DIKE AND TEMPORARY SWALE TO SEDIMENT BASIN 2

NO SCALE

NOTES:
1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

STONE OUTLET SEDIMENT TRAP #3-ST II

DRAINAGE AREA	3.8 ACRES
STOR. REQ'D (WET STOR.)	6,840 CF
STOR. REQ'D (DRY STOR.)	6,840 CF
STOR. PROV. (WET STOR.)	8,640 CF@233.5
STOR. PROV. (DRY STOR.)	8,640 CF@225.0
CREST ELEVATION	225.0 (20' LENGTH)
TOP OF DAM	226.0
BOTTOM ELEVATION	222.0
SIDE SLOPES	2:1
DEPTH	3'



LEGEND

- TEMPORARY SWALE
- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SF —— SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1.30.04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/CB 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Marsha S. McLaughlin 2/25/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-6-06	1	REVISED EARTH DIKE & SWALE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP AND DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

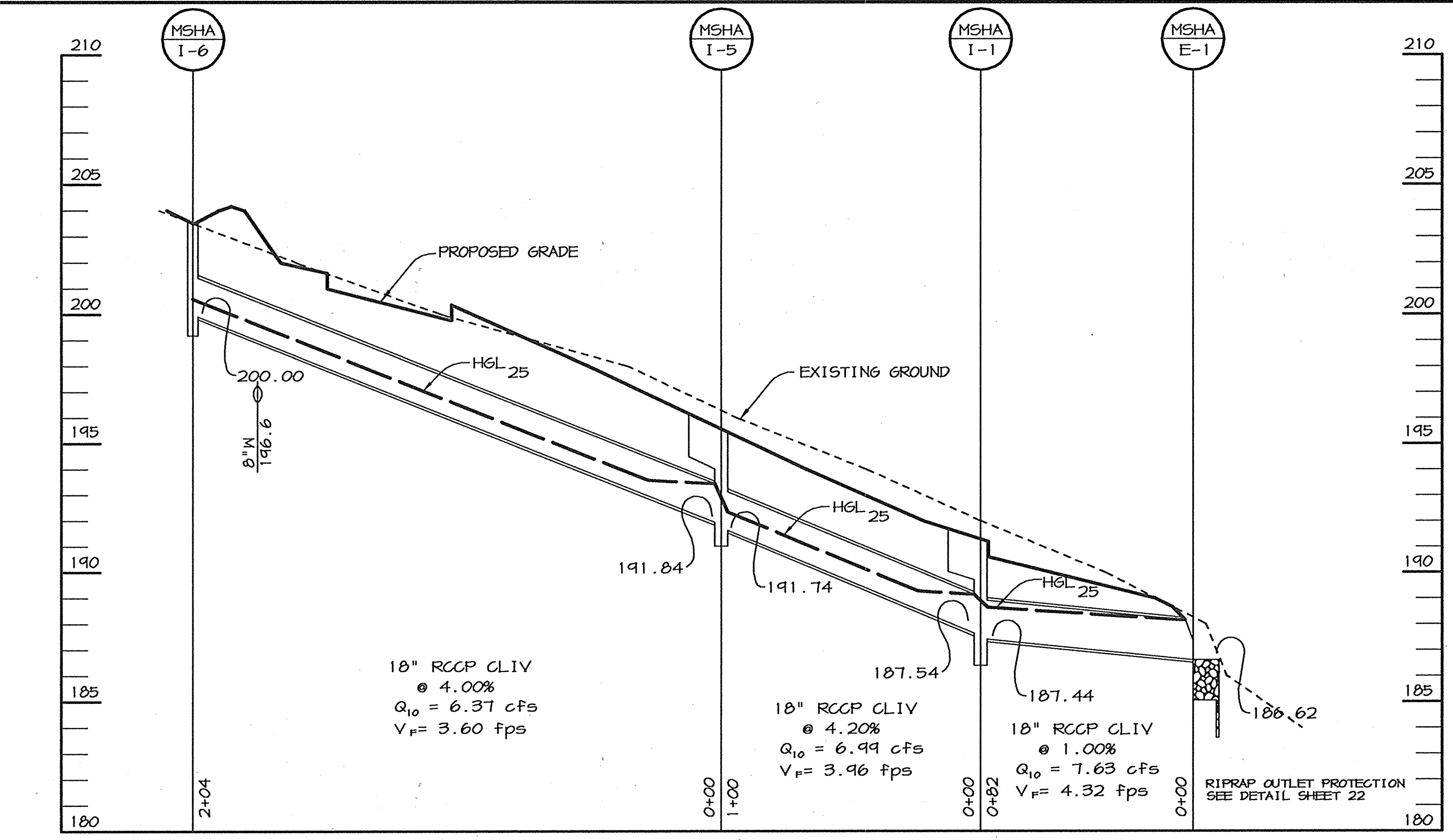
STATE OF MARYLAND CHRISTOPHER J. REID 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM12.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	41 OF 81

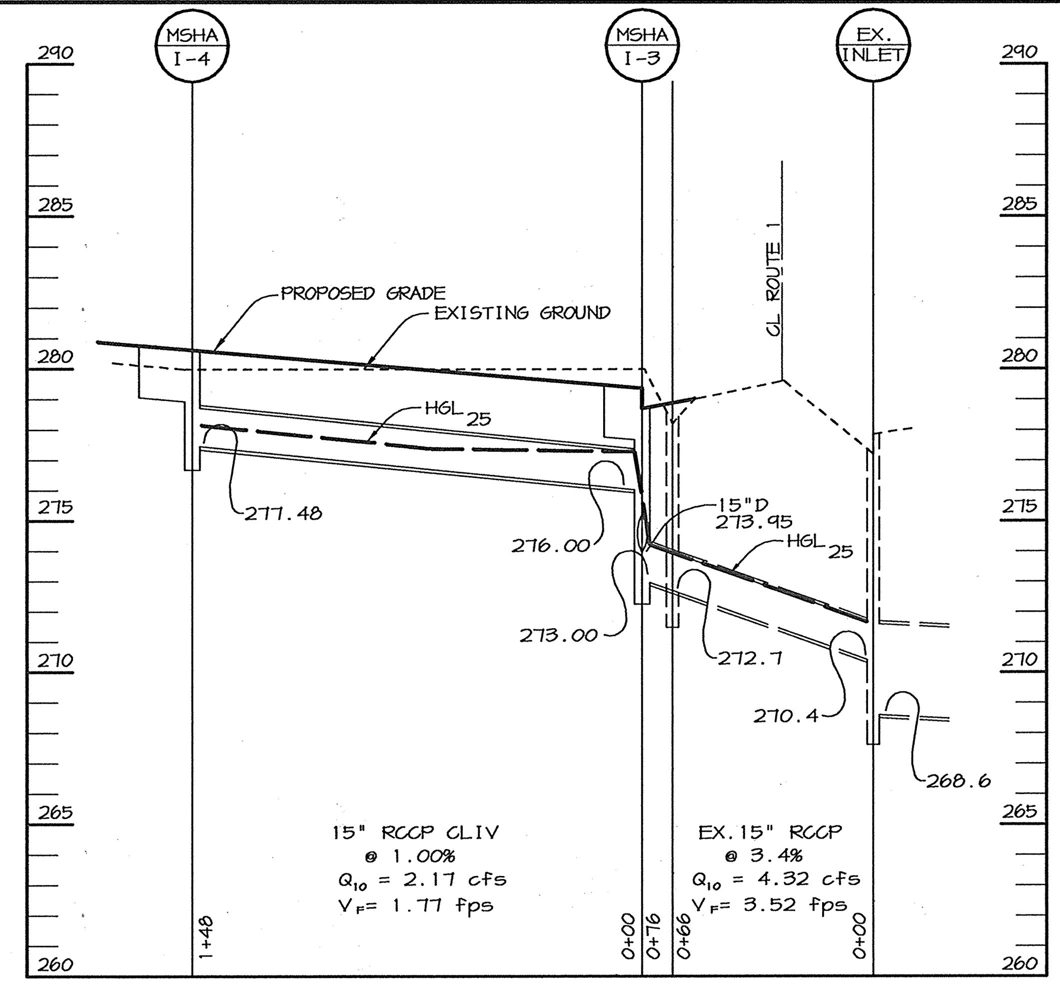
SDP–99–134

P:\project\9909921\0\Engr\Plans\Sedim12.dwg, Layout1, 01/29/2004 12:56:02 PM, HP7550C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

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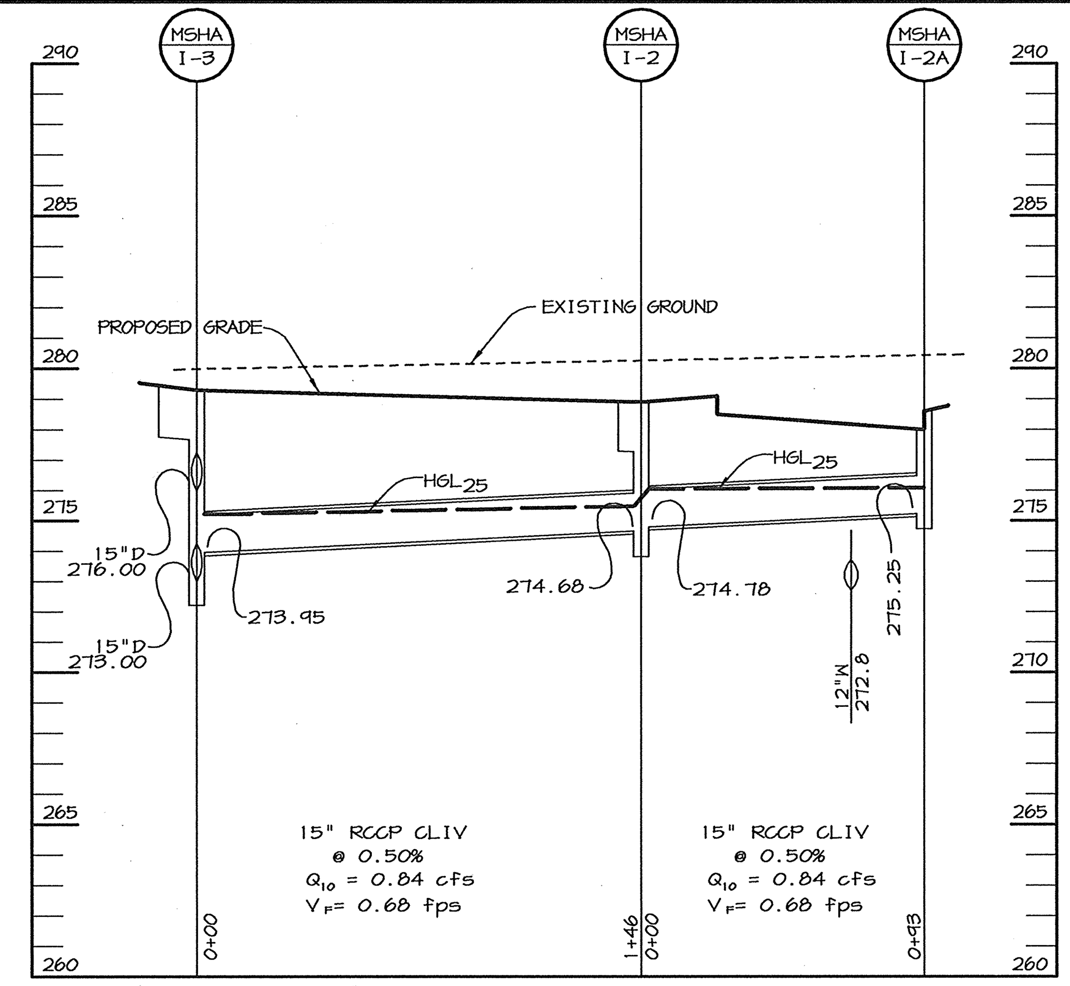

STORM DRAIN PROFILE

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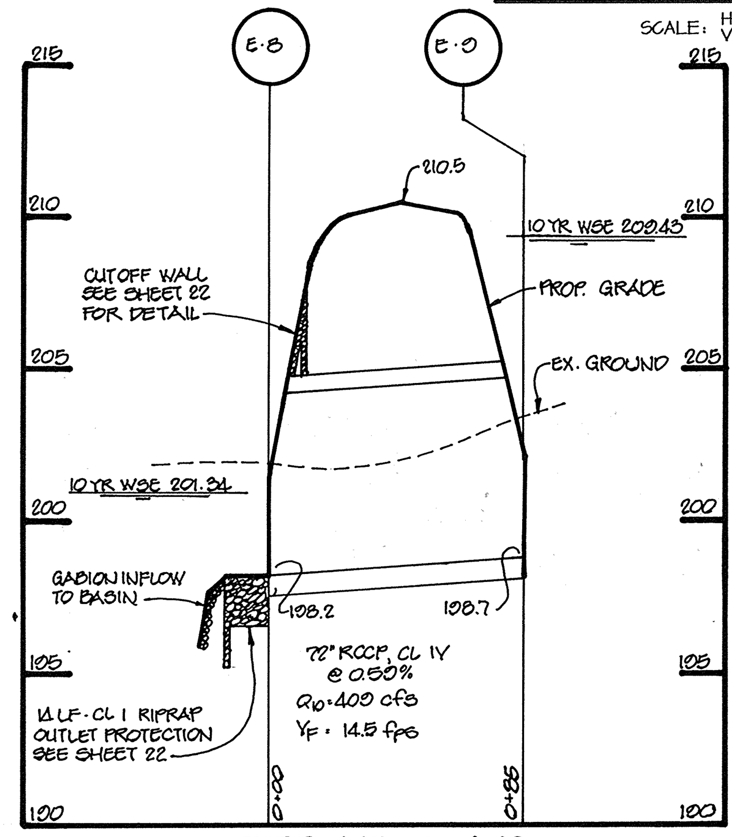
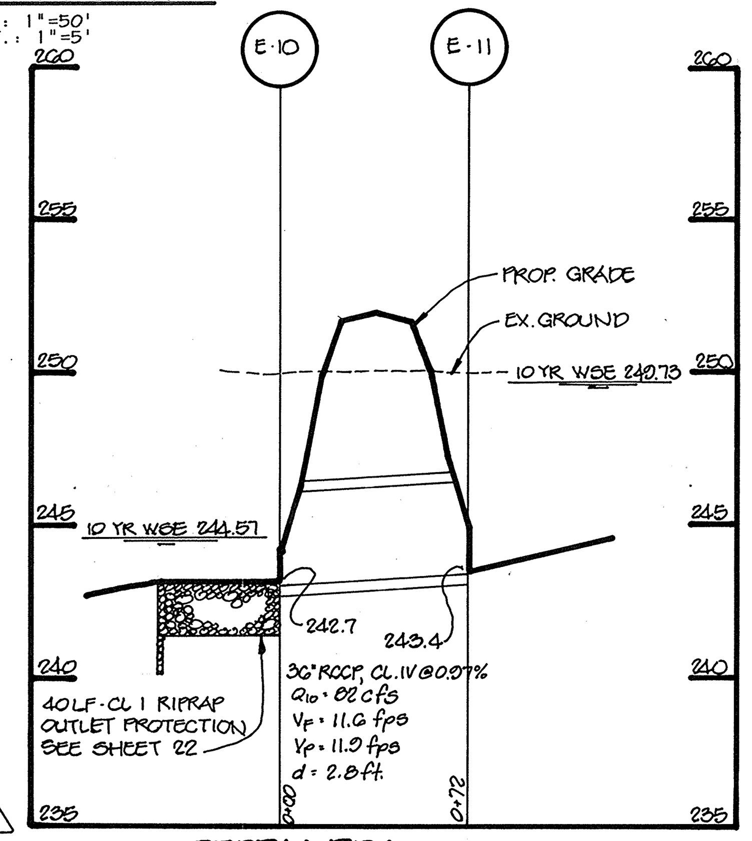


STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'

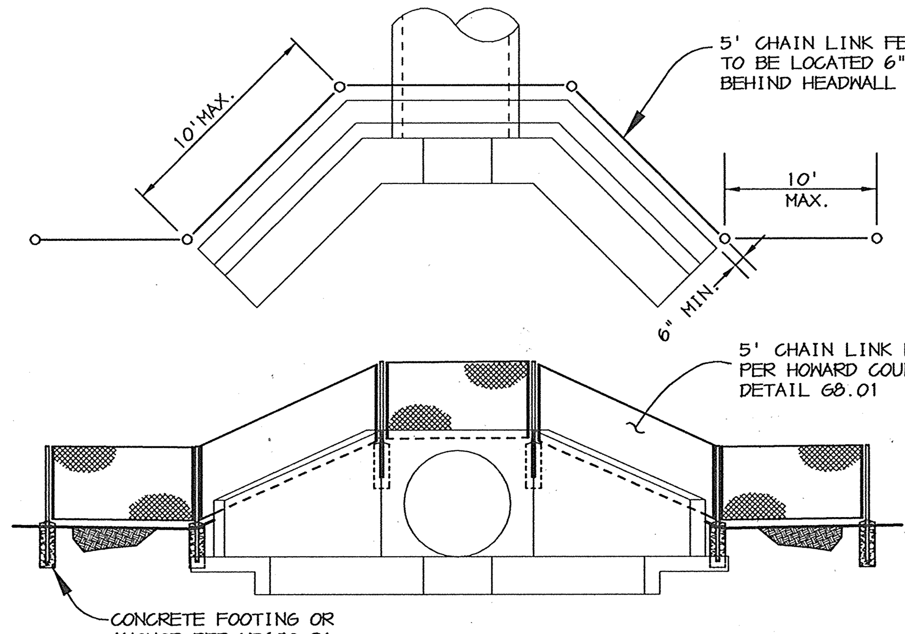


STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'

STRUCTURE SCHEDULE

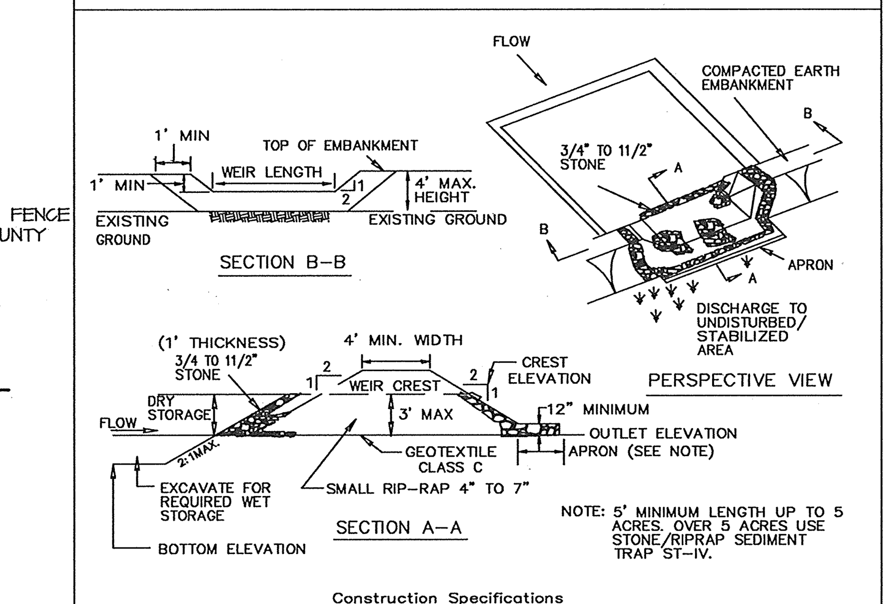
STRUCTURE	TYPE	LOCATION		INV. IN	INV. OUT	TOP		REMARKS
MSHA I-1	COG15	N 481921.20 E 857192.00	N 481935.31 E 857200.40	187.54	187.44	191.66	191.02	MSHA STD DETAIL MD-374.31
MSHA I-2	COG10	N 479780.64 E 855686.09	N 479788.51 E 855692.26	274.78	274.68	279.00		MSHA STD DETAIL MD-374.31
MSHA I-2A	COG5	N 479861.62 E 855744.88	N 479858.54 E 855748.81	-	275.25	278.70		MSHA STD DETAIL MD-374.31
MSHA I-3	COG15	N 479661.32 E 855592.47	N 479673.12 E 855601.73	276.00 273.95	273.00	279.40		MSHA STD DETAIL MD-374.31
MSHA I-4	COG20	N 479540.43 E 855497.63	N 479557.28 E 855510.85	-	277.48	280.90		MSHA STD DETAIL MD-374.31
MSHA I-5	COG15	N 481835.57 E 857141.06	N 481849.68 E 857149.45	191.84	191.74	196.10	195.37	MSHA STD DETAIL MD-374.31
MSHA I-6	WR	N 481670 E 857045		-	200.00	203.5		MSHA STD DETAIL MD-374.23
MSHA E-1	18" RCCP	N 482009 E 857220		-	186.62	-		MSHA STD DETAIL MD-368.01



DETAIL HEADWALL WITH FENCE

SCALE: 1" = 10'

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

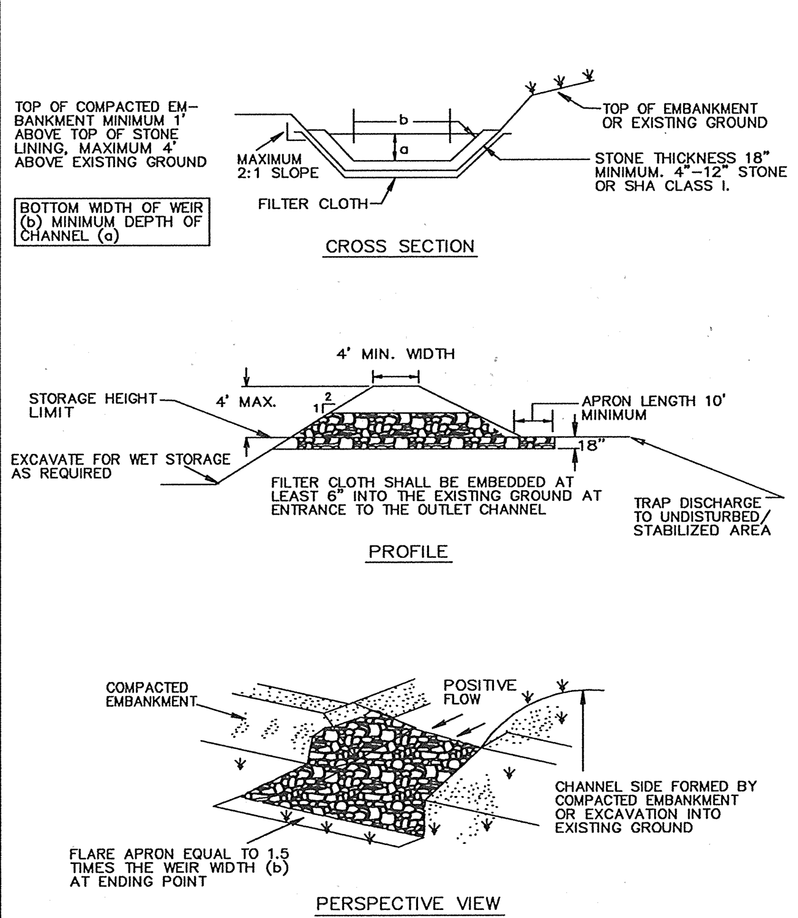
3. All cut and fill slopes shall be 2:1 or flatter.

4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of 3/4" to 11/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.

5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 10	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

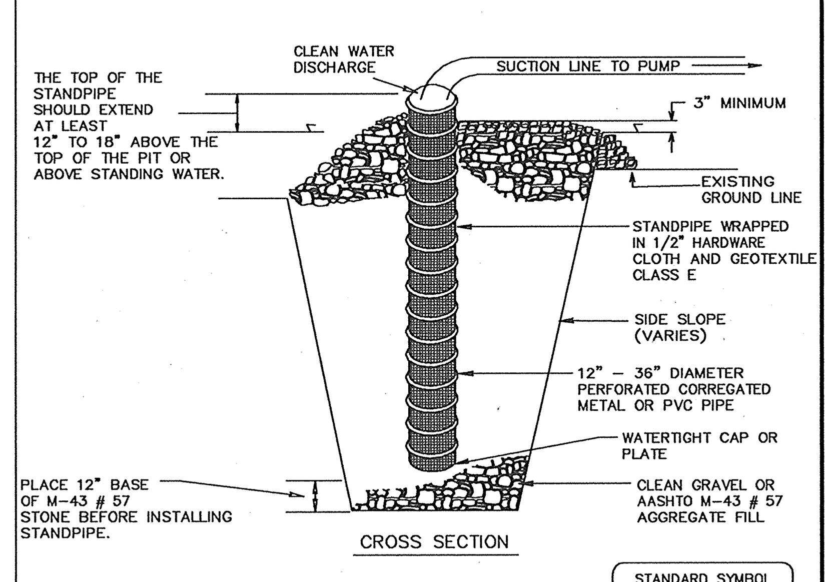
DETAIL 10 - RIP-RAP OUTLET SEDIMENT TRAP - ST III



NOTE: MAXIMUM DRAINAGE AREA= 10 ac.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 13	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20B - SUMP PIT



Construction Specifications

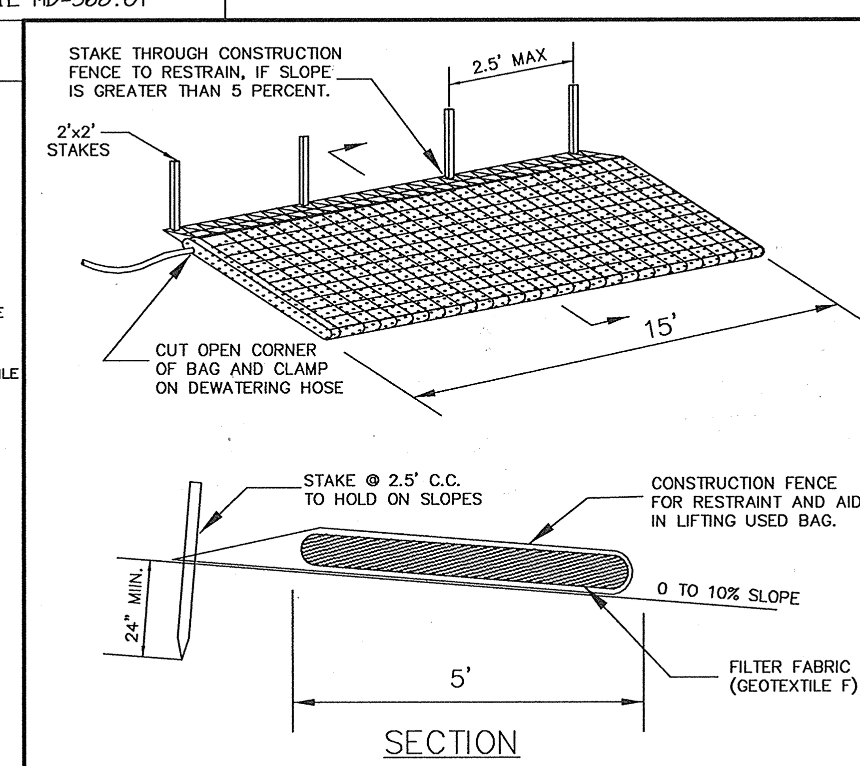
1. Pit dimensions are variable, with the minimum diameter being 2 times the standpipe diameter.

2. The standpipe should be constructed by perforating a 12" to 24" diameter corrugated or PVC pipe. Then wrapping with 1/2" hardware cloth and Geotextile Class E. The perforations shall be 1/2" x 6" slits or 1" diameter holes.

3. A base of filter material consisting of clean gravel or #57 stone should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with the same filter material.

4. The standpipe should extend 12" to 18" above the lip of the pit or the riser crest elevation (basin dewatering only) and the filter material should extend 3" minimum above the anticipated standing water elevation.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 13 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



NOTES;

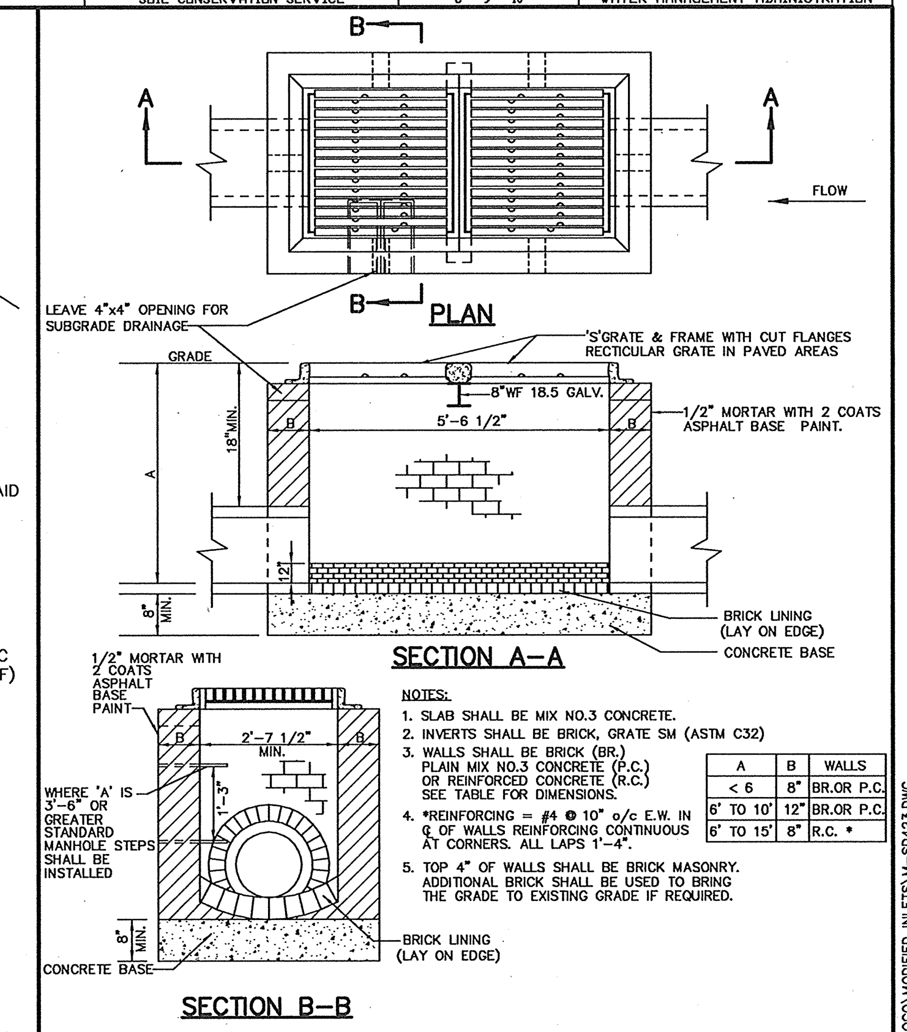
1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREA.
2. WIDTH AND LENGTH SHALL BE AS SHOWN.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
6. FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F;

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: MSMT 509
FLOW RATE	0.3 GAL/FT²/MINUTE (MAX.)	TEST: MSMT 322
FILTER EFFICIENCY	75% (MIN.)	TEST: MSMT 322

FILTER BAG (FB)

TEMPORARY EROSION CONTROL MEASURE

DRAWN BY: K.C.B. CHECKED BY: SCALE: NONE FB



NOTES:

1. SLAB SHALL BE MIX NO.3 CONCRETE.
2. INVERTS SHALL BE BRICK, GRATE SM (ASTM C32)
3. WALLS SHALL BE BRICK (BR.) PLAIN MIX NO.3 CONCRETE (P.C.) OR REINFORCED CONCRETE (R.C.) SEE TABLE FOR DIMENSIONS.
4. *REINFORCING = #4 @ 10" o/c E.W. IN ℄ OF WALLS REINFORCING CONTINUOUS AT CORNERS. ALL LAPS 1'-4".
5. TOP 4" OF WALLS SHALL BE BRICK MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRADE TO EXISTING GRADE IF REQUIRED.

A	B	WALLS
< 6	8"	BR.OR P.C.
6' TO 10'	12"	BR.OR P.C.
6' TO 15'	8"	R.C. *

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

MODIFIED DOUBLE TYPE 'S INLET 5/25/2000

DRAWN BY: K.E.V. CHECKED BY: C.J.R. SCALE: NONE M-SD423

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21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimentation Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsol shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½" in diameter.

ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:

I. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

I. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.

II. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

II. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

III. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

I. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers / cs. 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT HB DATE

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-6-05	1	ADDED STORM DRAIN PROFILES E-8 THRU E-11

DEVELOPER/OWNER:

(OWNER)	(DEVELOPER)
CHASE LIMITED PARTNERSHIP	CHASE MINING LLC
P.O. BOX 850	P.O. BOX 850
LAUREL, MD 20725	LAUREL, MD 20725
410.792.7234	410.792.7234

PROJECT

CHASE QUARRY

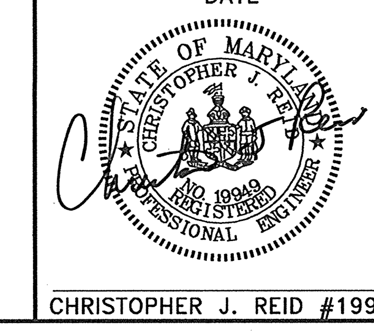
AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE



CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE6.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	40 OF 51

SDP-99-134

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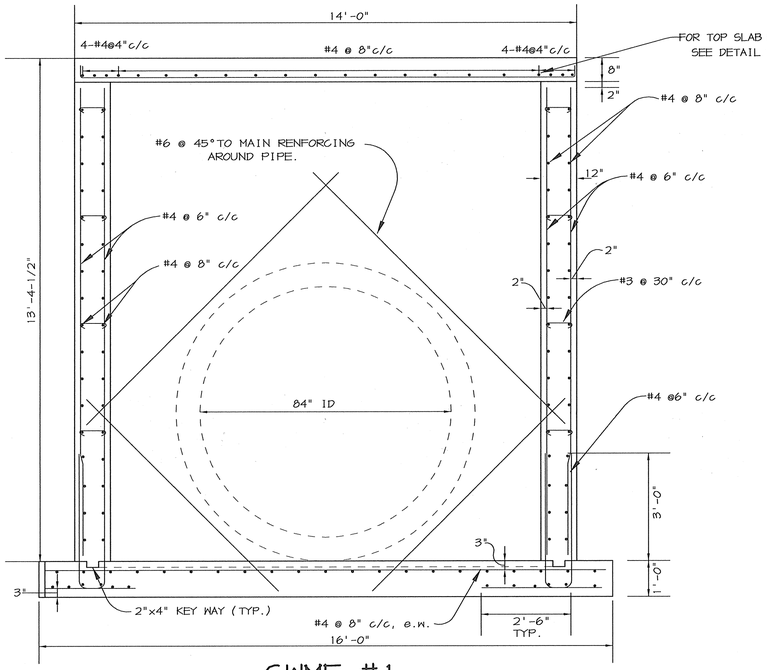
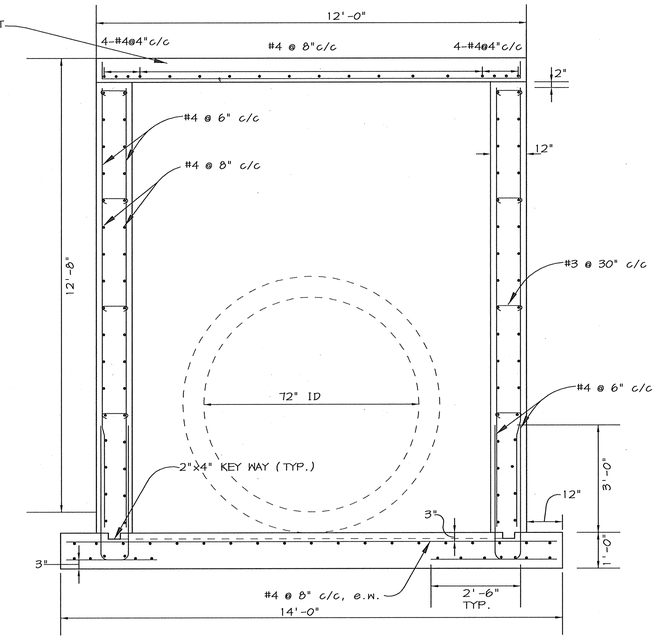
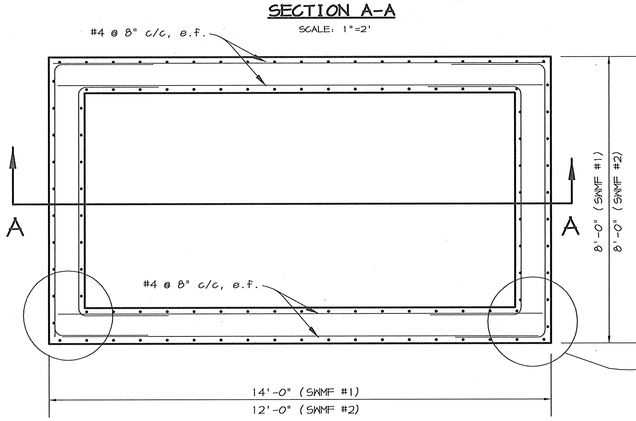


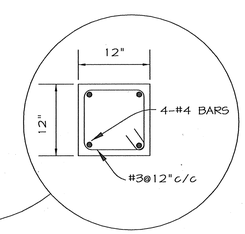
SWMF #1
SECTION A-A
SCALE: 1"=2'



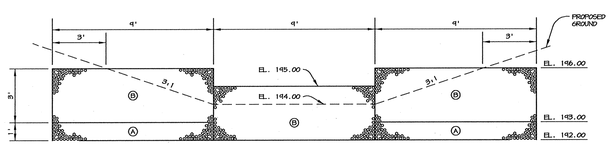
BASIN #2
SECTION A-A
SCALE: 1"=2'



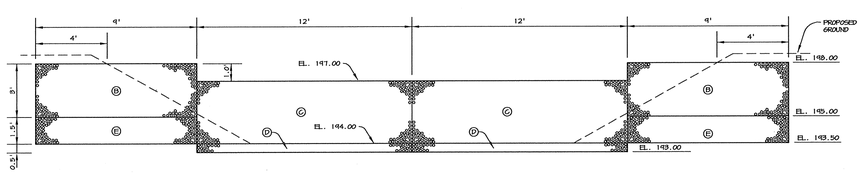
SWMF #1 & BASIN #2 PLAN VIEW
N.T.S.



DETAIL SLAB SUPPORT
N.T.S.



BASIN 2 GABION WALL SECTION
SCALE: 1"=4'



POND 1 GABION WALL SECTION
SCALE: 1"=4'

GABION FOREBAY NOTES

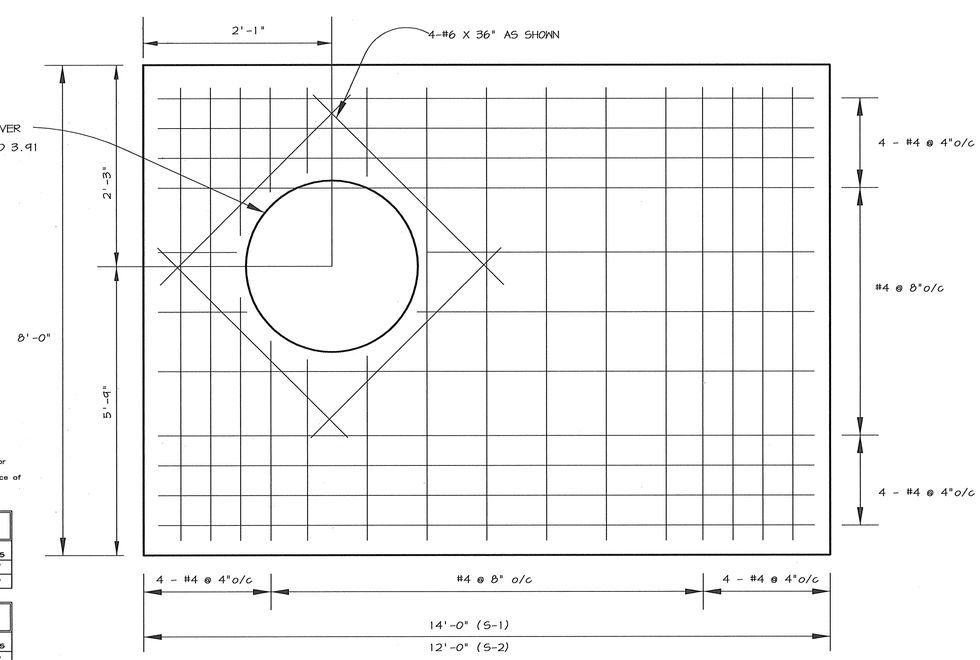
1. Geotextile Class C shall be installed under all gabion baskets.
2. The stone used to fill the gabion baskets shall be 4" – 7".
3. Gabions shall be installed in accordance with manufacturers recommendations.
4. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.
5. Gabions to be PVC coated.
6. Gabions to be fastened together.
7. Compact forebay embankment to MD 378 Standards using GC, SC, CH and/or CL soils.
8. Contractor shall place 10 mil. (min.) vinyl sheeting along upstream buried face of gabions w/4" overlap and buried 12" into adjacent soil.

GABION SCHEDULE BASIN 2

LETTER DESIGNATION	NO. OF GABIONS	GABION DIMENSIONS
A	2	4'x3'x1'
B	3	4'x3'x3'

GABION SCHEDULE POND 1

LETTER DESIGNATION	NO. OF GABIONS	GABION DIMENSIONS
B	2	4'x3'x3'
C	2	12'x3'x3'
D	2	12'x3'x1'
E	2	4'x3'x1.5'



TOP SLAB - S-1 & S-2
NOT TO SCALE

NOTES:

1. CONCRETE SHALL BE MSHA MIX NO. 3 (fc = 3,500 psi)
2. ALL CONSTRUCTION TO MEET HO.CO.STANDARD SPECIFICATIONS.
3. REINFORCEMENT TO BE DEFORMED BAR AND MEET ASTM A-615, GRADE 60.
4. ALL REINFORCEMENT TO HAVE 2"MINIMUM COVER EXCEPT AS SHOWN ON DRAWING.
5. ALL SPLICES NOT SHOWN SHALL BE LAPPED AS PER BAR LAP CHARTS.
6. ALL HORIZONTAL REINFORCING TO BE CONTINUOUS AT ALL CORNERS.

TOP SLAB NOTES:

1. TOP SLAB TO BE SEPARATE FROM RISER STRUCTURE FASTENED TO RISER STRUCTURE.
2. REFER TO HOWARD COUNTY STD. G-5.52 FOR MANHOLE FRAME & COVER.
3. CONCRETE TO BE MIX NO. 3
4. SLAB REINFORCING SHALL HAVE 2" MINIMUM COVER.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Charles J Reid 1-30-04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 3/5/04 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/20/04 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 3/11/04 DATE

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
REINFORCEMENT DETAILS & PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ RNFR-DET.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	39 OF 51

SDP-99-134

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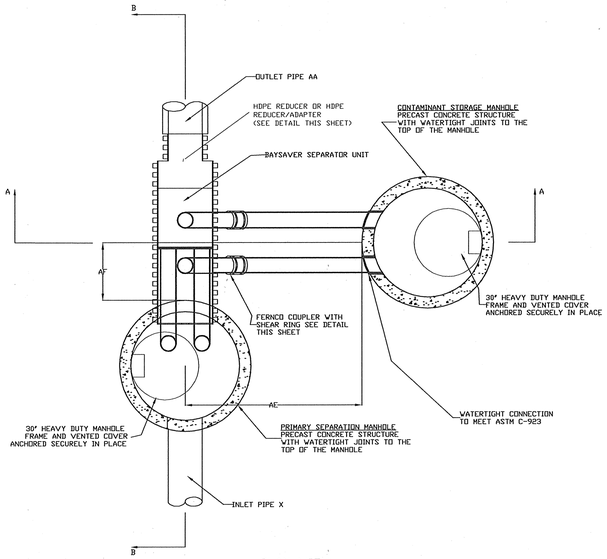
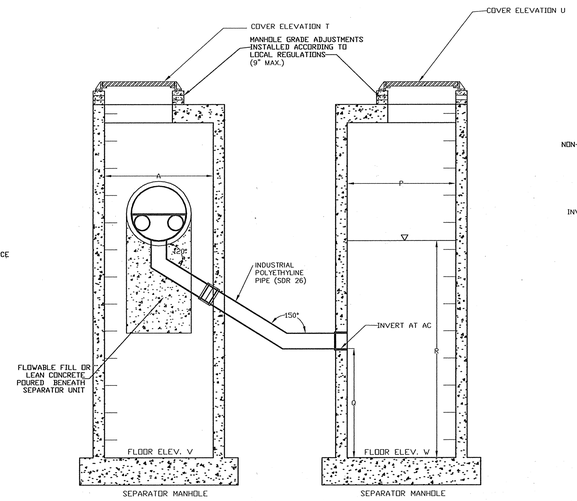
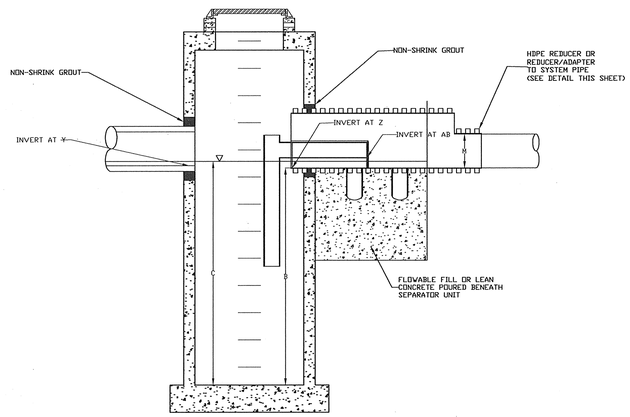


PLAN VIEW



SECTION AA



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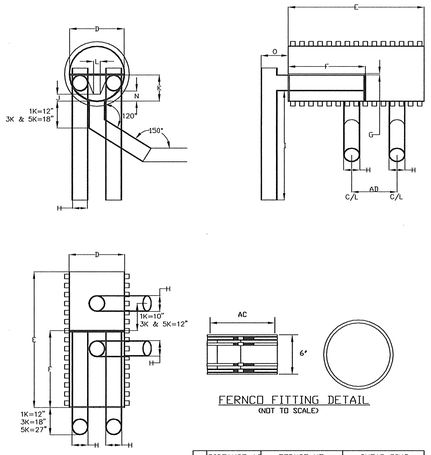
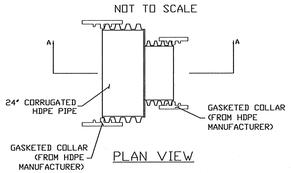


FERNCO FITTING DETAIL
(NOT TO SCALE)

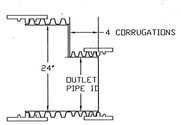
	DISTANCE AC	FERNCO NO.	SHEAR RING
1K	7.10"	1055-66	SR-27
3K	10.60"	1056-1010	SR-39
5K	12.73"	1004-1010	SR-44

HDPE-HDPE REDUCER DETAIL

FOR USE WITH HDPE OUTLET PIPES
NOT TO SCALE



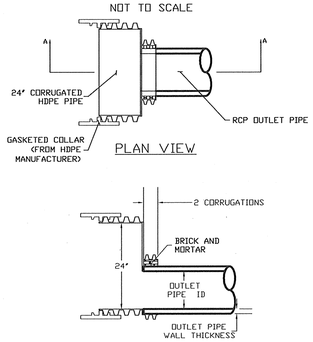
PLAN VIEW



SECTION AA

REDUCER/ADAPTER DETAIL

FOR USE WITH OUTLET PIPES OTHER THAN HDPE
NOT TO SCALE



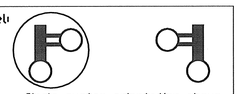
PLAN VIEW

SECTION AA

Project: CHASE QUARRY
Address:
Delivery Date:
Designer: RMA, INC.
Contact: CHRIS REID
Phone: (410) 997-8900
Fax: (410) 997-9282

Owner: -
Contact: -
Address: -
Contractor:
Address:
Contact:
Phone:
Fax:

Separator Unit Model:
1K ☐
3K ☐
5K ■



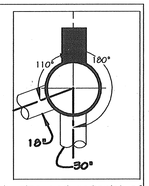
Circle system orientation above

Manhole Specifications:

Primary Manhole Diameter: 72 inches
Storage Manhole Diameter: 72 inches

Floor Elevations:
Primary Manhole 177.75
Storage Manhole 177.75

Primary Manhole Inverts:
Separator Unit 185.75 (30" OUT)
Inlet Pipe(s) 185.85 (30")
186.75 (18")



Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 192.40
Storage Manhole 192.40

WQ-1/WQ-1A

This order can be faxed to Bay Saver, Inc. at (301) 829-3747

SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR DUAL MANHOLE SEPARATORS

Stage (X = Approval Required)	Developer's/Engineer Approval		Inspector		Geotechnical Engineer	
	Initials	Date	Initials	Date	Initials	Date
1. Pre-Construction Meeting.	X		X		X	
2. Install Manholes and associated storm drainage: a. Obtain approval of subgrade from Geotechnical Engineer. (Subgrade to have a minimum of 95% compaction)					X	
b. Installation of precast base, lower tank and lower piping.	X		X			
c. Backfill and min. 95% compaction around lower tank and lower piping.					X	
d. Installation of precast middle section(s) with separator unit and remaining piping.	X		X			
e. Installation of precast top slab.	X		X			
f. Installation of adjustment rings and frame and cover.	X		X			
g. Installation of flowable fill or concrete backfill.					X	
3. Backfilling operation and compaction.					X	
4. Site is permanently stabilized. Sediment control measures removed and all sediment and debris removed from dual manhole separators.			X			
5. Final inspection.			X			

Baysaver Separator Unit	Baysaver Manhole Sizes (prim. x stor.)	Maximum Treatment (cfs)*1	Maximum Treatment (gpm)*1	Impervious Area (acres)
1K Baysaver Separator	48x48	2.4	1076	1.2
	48x50	2.4	1076	1.4
	48x72	2.4	1076	1.6
	60x60	2.4	1076	1.5
3K Baysaver Separator	60x60	7.2	3231	3.6
	60x72	7.2	3231	4.1
	60x84	7.2	3231	4.6
	72x72	7.2	3231	4.4
5K Baysaver Separator	72x72	11.1	4981	5.5
	72x84	11.1	4981	6.5
	72x96	11.1	4981	7.5
	96x96	11.1	4981	8.0

NOTE:

BAYSAVERS ARE TO BE INSTALLED WITH THE STORM DRAIN SYSTEM AND WILL FUNCTION AS SECONDARY SEDIMENT CONTROL DEVICES.

UPON COMPLETION OF SITE STABILIZATION, EACH BAYSAVER SYSTEM SHALL BE FLUSHED CLEAN & THE MANHOLES CLEANED OUT AND REFILLED WITH CLEAN WATER.

NOTE: DIMENSIONAL SHOP DRAWINGS ARE TO BE APPROVED BY THE DESIGN ENGINEER

GENERAL CONSTRUCTION NOTES

1. ALL WORK MUST BE DONE WITH REGARD FOR THE SAFETY OF THE CONSTRUCTION CREW.

2. ALL WORK AND MATERIALS MUST COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS.

3. KNOW THE LOCATION AND DEPTH OF ANY UNDERGROUND UTILITIES BEFORE EXCAVATION BEGINS.

BAYSAVER MAINTENANCE

BAYSAVER SYSTEMS MUST BE INSPECTED AND MAINTAINED PERIODICALLY. INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EITHER MANHOLE EXCEEDS 2 FEET. MINIMUM INSPECTION IS REQUIRED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF BAYSAVER.

MAINTENANCE CONSISTS OF THE FOLLOWING:

A. CONTAMINANT STORAGE MANHOLE

1. REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.

2. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

B. PRIMARY SEPARATION MANHOLE

1. USING A SUBMERSIBLE PUMP, PUMP THE CLEAN WATER FROM THE CENTER OF THE MANHOLE DIRECTLY INTO THE EMPTY STORAGE MANHOLE UNTIL THE WATER LEVEL FALLS TO 1 FOOT ABOVE THE SEDIMENT LAYER.

2. REMOVE THE SETTLED SEDIMENT AND REMAINING WATER BY VACUUM TRUCK.

3. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

4. CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.

BAYSAVER INSTALLATION INSTRUCTIONS

1. EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYSAVER UNIT. INSTALL PRECAST DROP STRUCTURES ON SOLID GROUND AS VERIFIED BY A GEOTECHNICAL ENGINEER.

2. VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.

3. MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT, INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.

4. BACKFILL BASE SECTIONS OF MANHOLES TO INVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL, BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.

5. INSTALL BAYSAVER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT/STORM DRAIN JOINT COLLAR. CUT EXCESS LENGTH OFF CONNECTING PIPES INSIDE STORAGE MANHOLE.

6. BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.

7. INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.

8. INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

BAYSAVER SYSTEM DIMENSIONS

	DESCRIPTION	1K SYSTEM	3K SYSTEM	5K SYSTEM
	SEPARATOR MANHOLE DIMENSIONS			
A	PRIMARY MANHOLE DIAMETER	48"	60"	72"
B	MANHOLE DEPTH BELOW OUTLET	8' - 0"	8' - 0"	8' - 0"
C	MINIMUM FLUID DEPTH	8' - 3"	8' - 4 1/2"	8' - 6"
	STANDARD SEPARATOR UNIT DIMENSIONS			
D	SEPARATOR UNIT ID	24"	36"	48"
E	SEPARATOR UNIT LENGTH	60"	78.2"	75.4"
F	BYPASS PLATE LENGTH	34"	45"	45"
G	WEIR/BYPASS PLATE THICKNESS	3/4"	3/4"	3/4"
H	ELBOW AND CONNECTING PIPE OD	7.125"	10.75"	12.75"
I	ELBOW LENGTH	48"	48"	48"
J	WEIR HEIGHT ABOVE INVERT	3"	4"	6"
K	BYPASS PLATE HEIGHT ABOVE INVERT	12"	18"	24"
L	WIDTH OF WEIR AT BASE	3"	4 1/2"	6"
M	OUTLET PIPE DIAMETER	M	M	M
N	ELBOW INVERT HEIGHT ABOVE UNIT INVERT	4 1/2"	7 1/2"	11"
O	ELBOW PIPE OVERHANG	12"	18"	24"
	STORAGE MANHOLE DIMENSIONS			
P	STORAGE MANHOLE DIAMETER	48"	60"	72"
Q	MANHOLE DEPTH BELOW INLET/OUTLET	48"	48"	48"
R	FLUID DEPTH	8' - 0"	8' - 0"	8' - 0"
S	TOTAL STORAGE VOLUME	200 CF	300 CF	450 CF
	SYSTEM DIMENSIONS AND ELEVATIONS			
T	SEPARATOR MANHOLE COVER ELEVATION	T	T	T
U	STORAGE MANHOLE COVER ELEVATION	U	U	U
V	SEPARATOR MANHOLE FLOOR ELEVATION	V	V	V
W	STORAGE MANHOLE FLOOR ELEVATION	W	W	W
X	INLET PIPE ID AND MATERIAL	X1 X2	X1 X2	X1 X2
Y	INLET PIPE INVERT	Y1 Y2	Y1 Y2	Y1 Y2
Z	SEPARATOR UNIT INVERT	Z	Z	Z
AA	OUTLET PIPE ID AND MATERIAL	AA	AA	AA
AB	ELBOW INVERT ELEVATION	AB	AB	AB
AC	CONNECTING PIPE INVERT ELEVATION	AC	AC	AC
AD	CONNECTION PIPE SPACING	20"	24"	24"
AE	STORAGE MANHOLE SIDE OFFSET	72 ± 6"	72 ± 6"	72 ± 6"
AF	STORAGE MANHOLE DOWNSTREAM OFFSET	23"	31"	25"

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-9-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

BAYSAVER DETAILS & NOTES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY :
CHECKED BY : C.J.R.
PROJECT NO : 99092/BAYSAVER.DWG
DATE : JANUARY 29, 2004
SCALE : AS SHOWN
DRAWING NO. 38 OF 51

SDP-99-134

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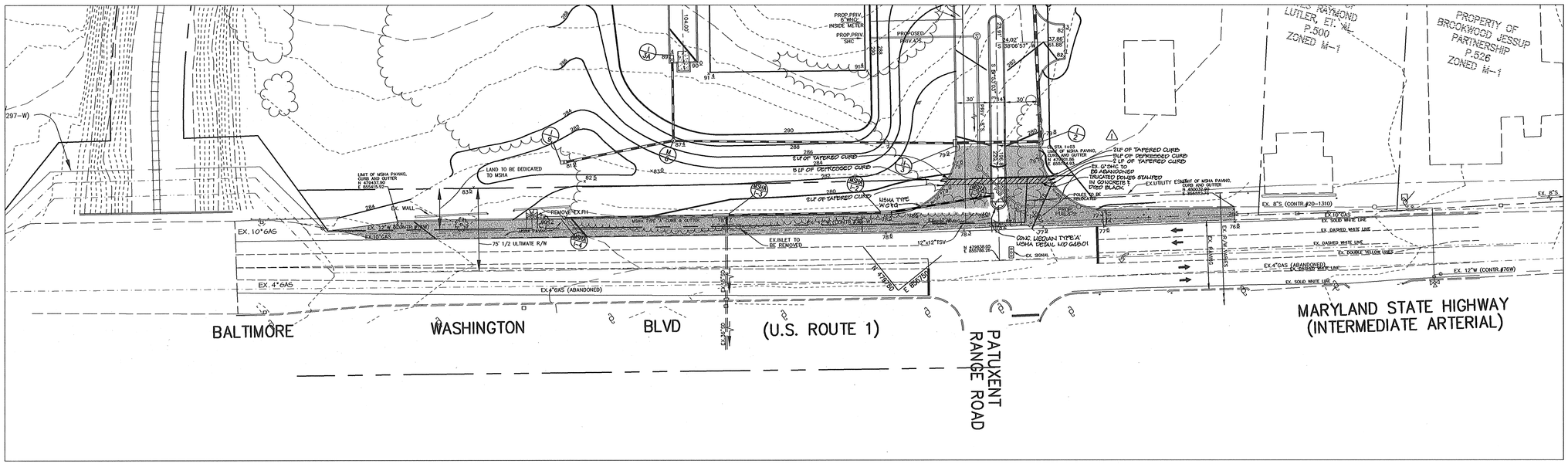
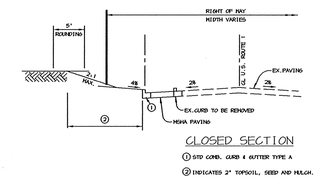




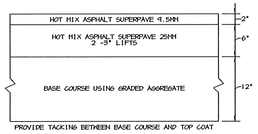
GLOSED SECTION

① STD CONC. CURB & GUTTER TYPE A

② INDICATES 2" TOPSOIL, SEED AND MULCH.

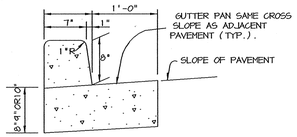
TYPICAL SECTION U.S. ROUTE 1

NO SCALE



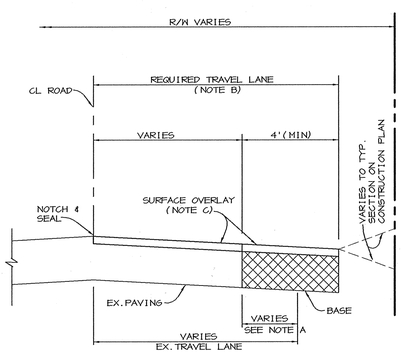
M.S.H.A. PAVING SECTION

NO SCALE



M.S.H.A. TYPE 'A' CURB AND GUTTER

NO SCALE



NOTE A - WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED CONTRACTOR SHALL REMOVE ENOUGH OF THE EXISTING ROAD BED TO PROVIDE A MINIMUM BASE WIDENING OF 4'.

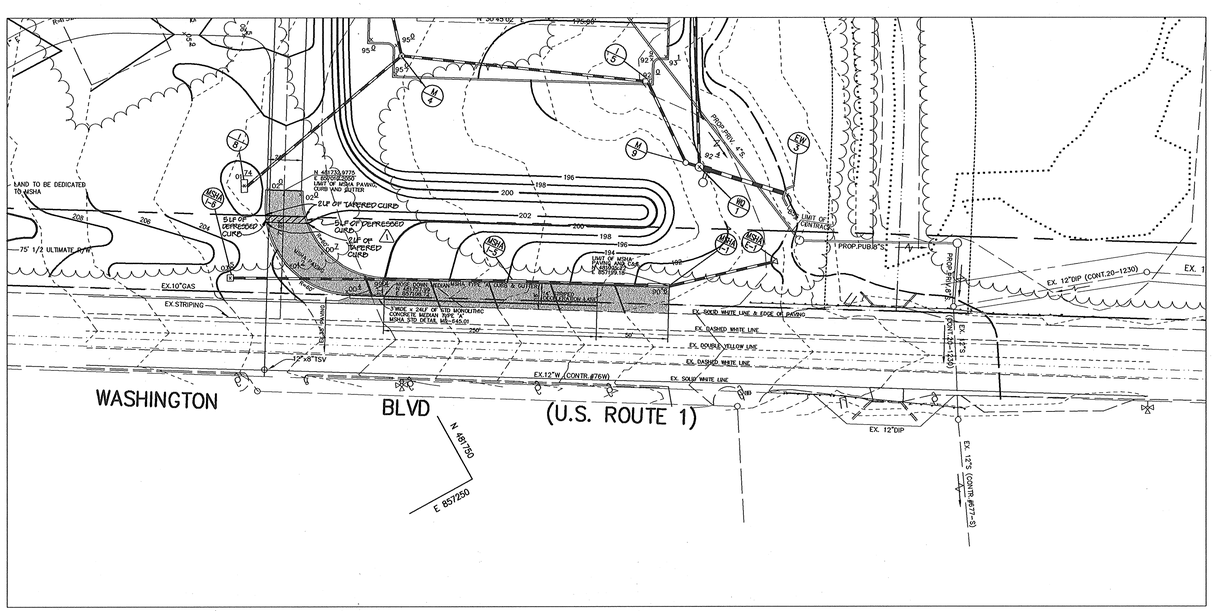
NOTE B - THE SURFACE OVERLAY SHALL BE CARRIED TO THE CL OF THE ROAD AND NOTCHED AND SEALED.

NOTE C - SURFACE OVERLAY COURSE TO BE EQUAL TO SURFACE COURSE OF TYPICAL PAVING SECTION OF SUBDIVISION.

NOTE D - CL OF ROAD TO BE MILLED AT DEPTH OF 1 1/2"x1'WIDE USING A MILLING MACHINE.

WIDENING STRIPS ALONG EXISTING ROADWAYS

NO SCALE



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-9-05	1	ADDED HC ACCESS ACROSS ENTRANCES

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

U.S. ROUTE 1 ROAD WIDENING PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — NO. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ STATE-1.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	37 OF 51

SDP-99-134

P:\project\9909211-0\Engr\Plans\STATE-1.dwg, Layout1, 01/29/2004 12:18:51 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:50

PLANTING SPECIFICATIONS

1. Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

2. All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed–in plants or plants from cold storage will be accepted.

3. Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore–Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

4. Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

5. Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

6. Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence at the drip line.

7. Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction.

8. Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.

9. Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.

10. All shrubs and groundcover areas shall be planted in continuous prepared planting beds mulched with composted hardwood mulch as detailed and specified except where noted on plans.

11. Positive drainage shall be maintained in planting beds (minimum 2 percent slope).

12. Planting mix shall be as follows: Deciduous Plants – Two parts topsoil, one part well–rotted cow or horse manure. Add 3 lbs of standard fertilizer per cubic yard of planting mix. Evergreen Plants – two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

13. Weed Control: Incorporate a pre–emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated.

14. Mulch: Groundcover beds should be mulched with minimum 2 inches of shredded composted hardwood, or as specified on the details, whichever is greater.

15. All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

16. This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.

HOWARD COUNTY REQUIRED & BONDED PLANT MATERIAL

KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	REMARKS
AR	41	Acer rubrum 'October Glory' October Glory Red Maple	2½"-3" Cal.	B & B	Full Crown Central Leader
LS	17	Liquidambar styraciflua American Sweetgum	2½"-3" Cal.	B & B	Full Crown Central Leader
QP	15	Quercus palustris Pin Oak	2½"-3" Cal.	B & B	Full Crown Central Leader
FG	23	Fagus grandifolia American Beech	2½"-3" Cal.	B & B	Full Crown Central Leader
LP	28	Plantanus x acerifolia 'Bloodgood' Bloodgood London Planetree	2½"-3" Cal.	B & B	Specimen
IO	4	Ilex opaca American Holly	6'-8' Ht.	B & B	Full Form Central Leader
PA	17	Picea abies Norway Spruce	6'-8' Ht.	B & B	Full Form Central Leader
PS	33	Pinus strobus White Pine	6'-8' Ht.	B & B	Sheared Full Form
CV	8	Creategus var 'Wintering' Wintering Hawthorn	1½"-2" Cal.	B & B	Specimen
MZ	6	Malus x 'Profusion' Profusion Crabapple	1½"-2" Cal.	B & B	Specimen

HOWARD COUNTY NON-REQUIRED & NON-BONDED PLANT MATERIAL

KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	REMARKS
AR	–	Acer rubrum 'October Glory' October Glory Red Maple	2½"-3" Cal.	B & B	Full Crown Central Leader
LS	–	Liquidambar styraciflua American Sweetgum	2½"-3" Cal.	B & B	Full Crown Central Leader
QP	–	Quercus palustris Pin Oak	2½"-3" Cal.	B & B	Full Crown Central Leader
FG	–	Fagus grandifolia American Beech	2½"-3" Cal.	B & B	Full Crown Central Leader
LP	–	Plantanus x acerifolia 'Bloodgood' Bloodgood London Planetree	2½"-3" Cal.	B & B	Full Crown Central Leader
CL	83	Cupressocyparis leyandii Leyland Cypress	6'-8' Ht.	B & B	Full Form Central Leader
PA	295	Picea abies Norway Spruce	6'-8' Ht.	B & B	Full Form Central Leader
PS	162	Pinus strobus White Pine	6'-8' Ht.	B & B	Sheared Full Form
CK	12	Cornus kousa Chinese Dogwood	1½"-2" Cal.	B & B	Specimen
CV	18	Creategus var. 'Wintering' Wintering Hawthorn	1½"-2" Cal.	B & B	Specimen
MZ	10	Malus x 'Profusion' Profusion Crabapple	1½"-2" Cal.	B & B	Specimen

PARKING LOT INTERNAL LANDSCAPING

PARKING LOT	1	2
NUMBER OF PARKING SPACES	50 SP.	45 SP.
NUMBER OF SHADE TREES/ISLANDS* REQUIRED (1/20 SPACES)	2	2
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	2 –	2 –
NUMBER OF ISLANDS REQUIRED	2	2
NUMBER OF ISLANDS PROVIDED	11	2

* 200 SF PLANTING AREA / ISLAND

PERIMETER LANDSCAPE EDGE

	ADJACENT TO PERIMETER PROPERTIES				ADJACENT TO ROADWAYS					
PERIMETER	2	6	7	10 **	1	3	4	5	8	9
LANDSCAPE TYPE	C	C	C	–	B	B	E	D	D	D
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	± 2,700'	± 950'	± 590'	–	± 675'	± 325'	± 280'	± 1,780'	± 1,700'	± 4,875'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES 1,975'	YES 950'	YES 590'	NO	NO	NO	NO	YES 1,780'	YES 1,700'	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	YES ± 325'	YES ± 280'	NO	NO	YES ± 4,875'
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	@1/40'= 18 @1/20'= 37 –	N/A ***	N/A ***	N/A	@1/50'= 14 @1/40'= 17 –	@1/50'= 7 N/A * –	@1/40'= 7 – N/A *	N/A ***	N/A ***	@1/60'= 81 N/A * –
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SMALL FLOWERING TREES SHRUBS	16 37 4 –	N/A ***	N/A ***	– – – –	11 17 6 –	5 *8 4 –	5 *14 4 *	– – – –	N/A ***	81 * 448 * 40 –

PERIMETER NOTES:

* BERMS MAY BE SUBSTITUTED FOR EVERGREEN TREES OR SHRUBS IN MEETING OTHER PERIMETER LANDSCAPE REQUIREMENTS. IN NO INSTANCES WILL BERMS BE SUBSTITUTED FOR REQUIRED SHADE TREE PLANTINGS. [PAGE 25 OF THE HOWARD COUNTY LANDSCAPE MANUAL] HOWEVER, WE ARE PROVIDING EVERGREEN TREES AND SHRUBS AS FOLLOWS:

PERIMETER 3:
IF BERM WERE NOT INSTALLED, (8) EVERGREEN TREES WOULD BE REQUIRED.

PERIMETER 4:
IF BERM WERE NOT INSTALLED, (70) SHRUBS OR 14 EVERGREEN TREES WOULD BE REQUIRED.

PERIMETER 9:
IF BERM WERE NOT INSTALLED, (488) EVERGREEN TREES WOULD BE REQUIRED.

** THE REGULATIONS DO NOT REQUIRE LANDSCAPED EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT.

*** "UP TO 100% OF THE PLANTING REQUIREMENT MAY BE MET BY PRESERVING EXISTING VEGETATION." (p.24 OF THE HOWARD COUNTY LANDSCAPE MANUAL)

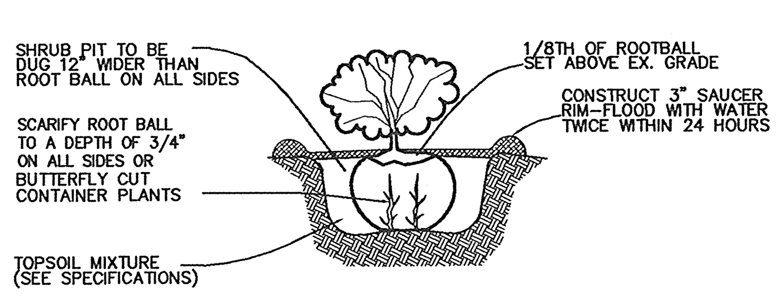
SUBSTITUTION NOTES:

PERIMETER 1:
(6) FLOWERING TREES WERE SUBSTITUTED FOR (3) SHADE TREES.

PERIMETER 2:
(4) FLOWERING TREES WERE SUBSTITUTED FOR (2) SHADE TREES.

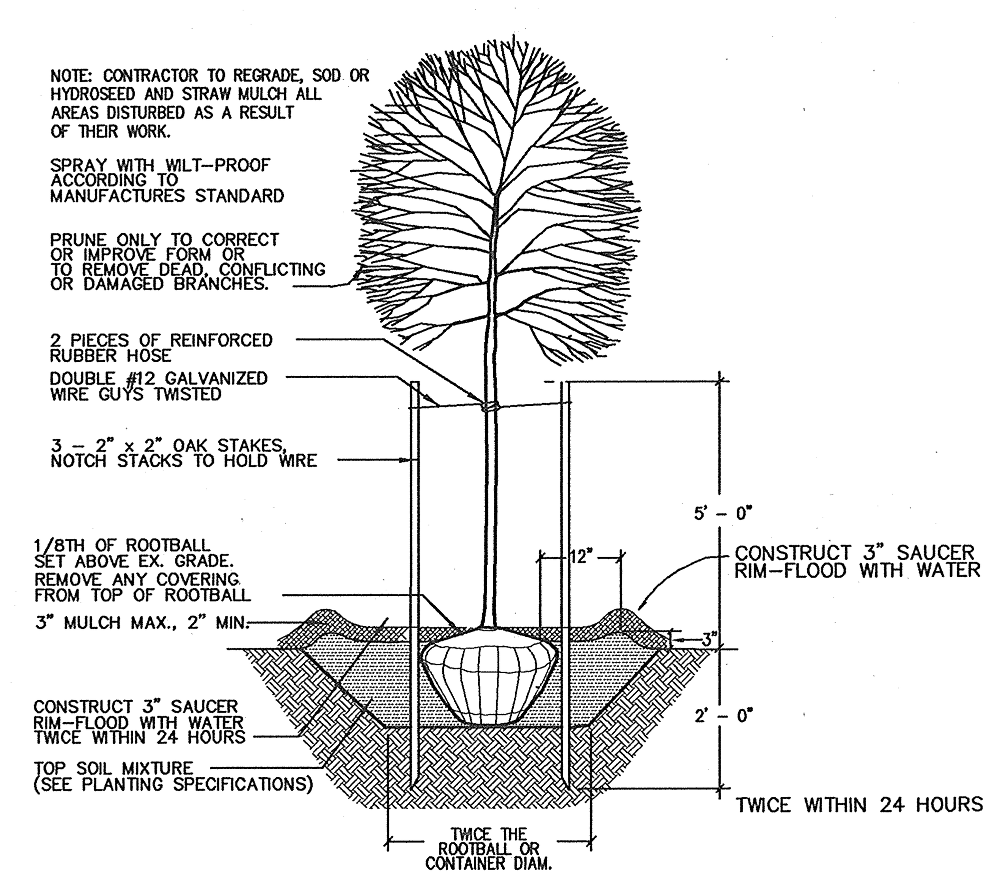
PERIMETER 3:
(4) FLOWERING TREES WERE SUBSTITUTED FOR (2) SHADE TREES.

PERIMETER 4:
(4) FLOWERING TREES WERE SUBSTITUTED FOR (2) SHADE TREES.

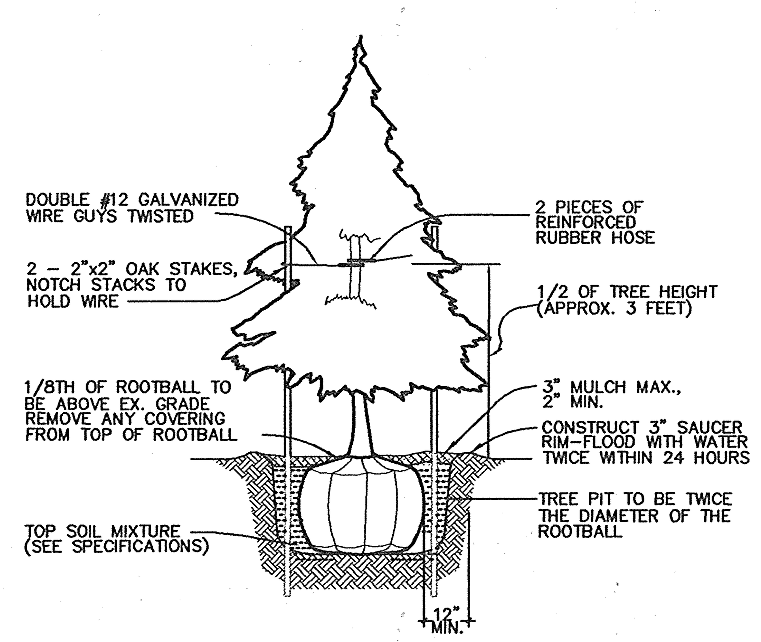


NOTE: ALL CONTAINERS OR BURLAP SHALL BE REMOVED BEFORE INSTALLATION.

SHRUB PLANTING DETAIL
NOT TO SCALE



B&B
TREE PLANTING DETAIL
NOT TO SCALE



EVERGREEN PLANTING DETAIL
NOT TO SCALE

GENERAL NOTES:

1. SEE SHEET 2 & 3 FOR OVERALL PERIMETER DISPLAY.
2. SEE SHEETS 28 THROUGH 34 FOR PLANTING PLANS.

NOTES:

1) "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE ALTERNATE COMPLIANCE WITH THE HOWARD COUNTY RESEARCH AND DEVELOPMENT.

2) "FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $ 47,400 .

3) THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.

4) CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Timothy J. Schmidt
NAME

1-30-04
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] 3/15/04
DIRECTOR DATE

[signature] 2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton HB 3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN
SPECIFICATIONS & DETAILS

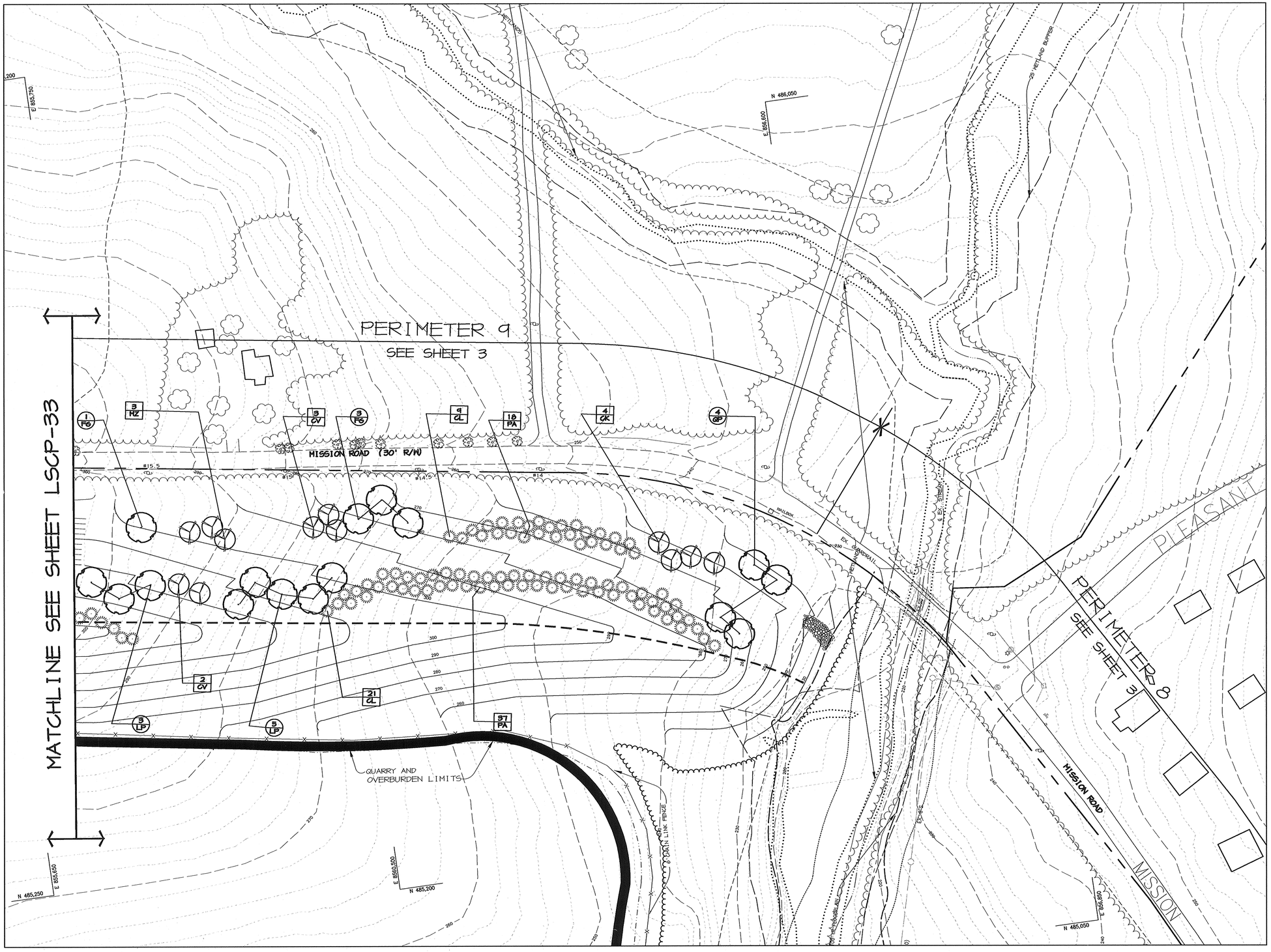
Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

STATE OF MARYLAND SCOTT R. WOLFORD No. 737 REGISTERED LANDSCAPE ARCHITECT
Scott R. Wolford

DESIGNED BY : D.T.D.
DRAWN BY : A.J.L.
CHECKED BY : D.T.D.
PROJECT NO : 99092/ L-35.DWG
DATE : JANUARY 29, 2004
SCALE : NO SCALE
DRAWING NO. 36 OF 51

SDP-99-134

P:\project\99092\1-0\Engr\Plans\L-35.dwg, Model, 01/29/2004 11:34:42 AM, HP750C(36).pc3, User1308, 1:1



LEGEND

- EXISTING CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM (BENCH)
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED (X/XX)
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED (X/XX)
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED (X/XX)

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

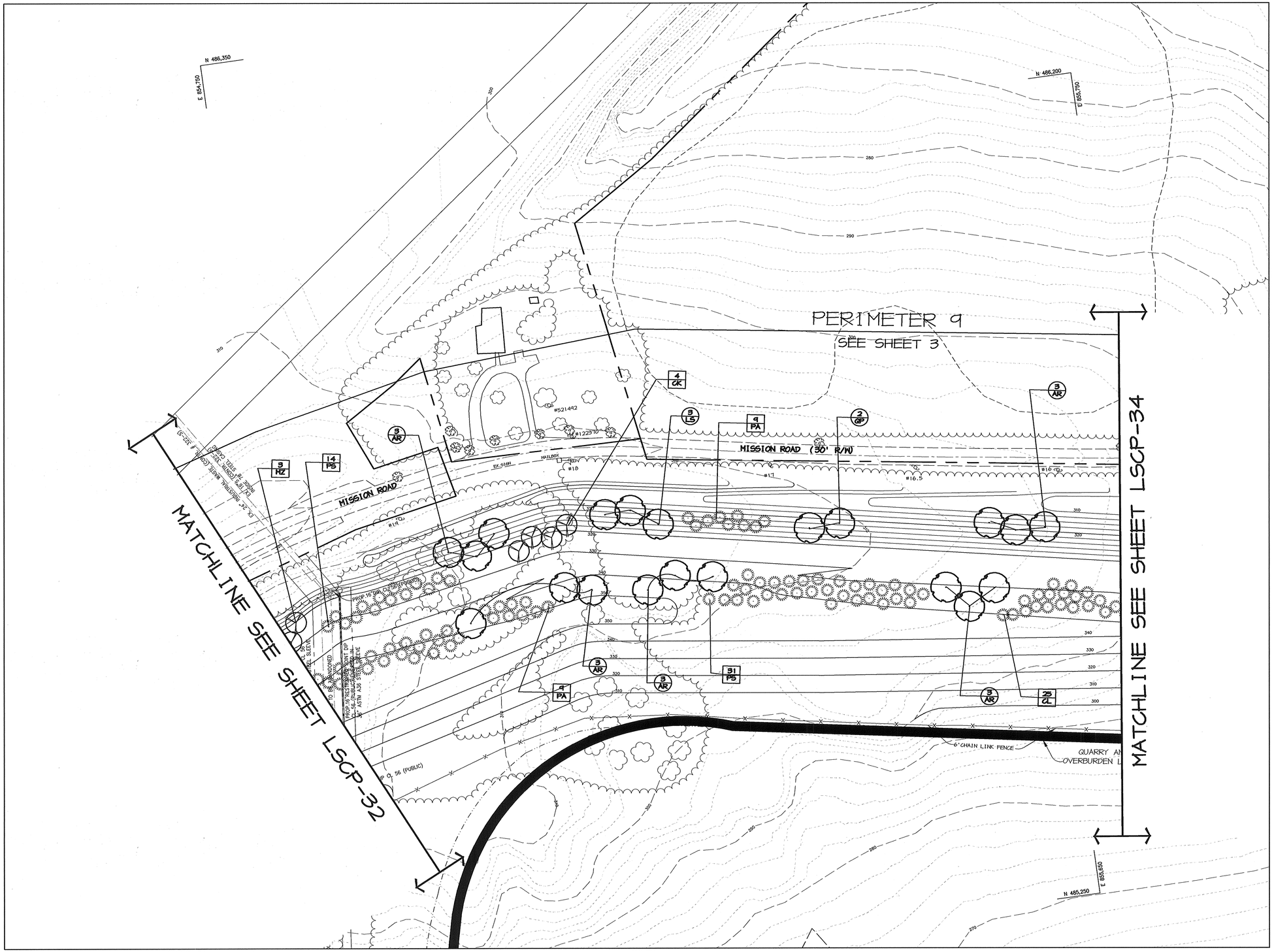
DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-34.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	35 OF 51

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

SDP-99-134

P:\project\99092\1-0\Engr\Plans\L-34.dwg, Layout1, 01/29/2004 11:34:02 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EXISTING CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM (BENCH)
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED (X/XX)
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED (X/XX)
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED (X/XX)

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/26/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-9-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 250
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 250
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

STATE OF MARYLAND — SCOTT R. WOLFORD — No. 2121 — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-33.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	34 OF 51

SDP-99-134

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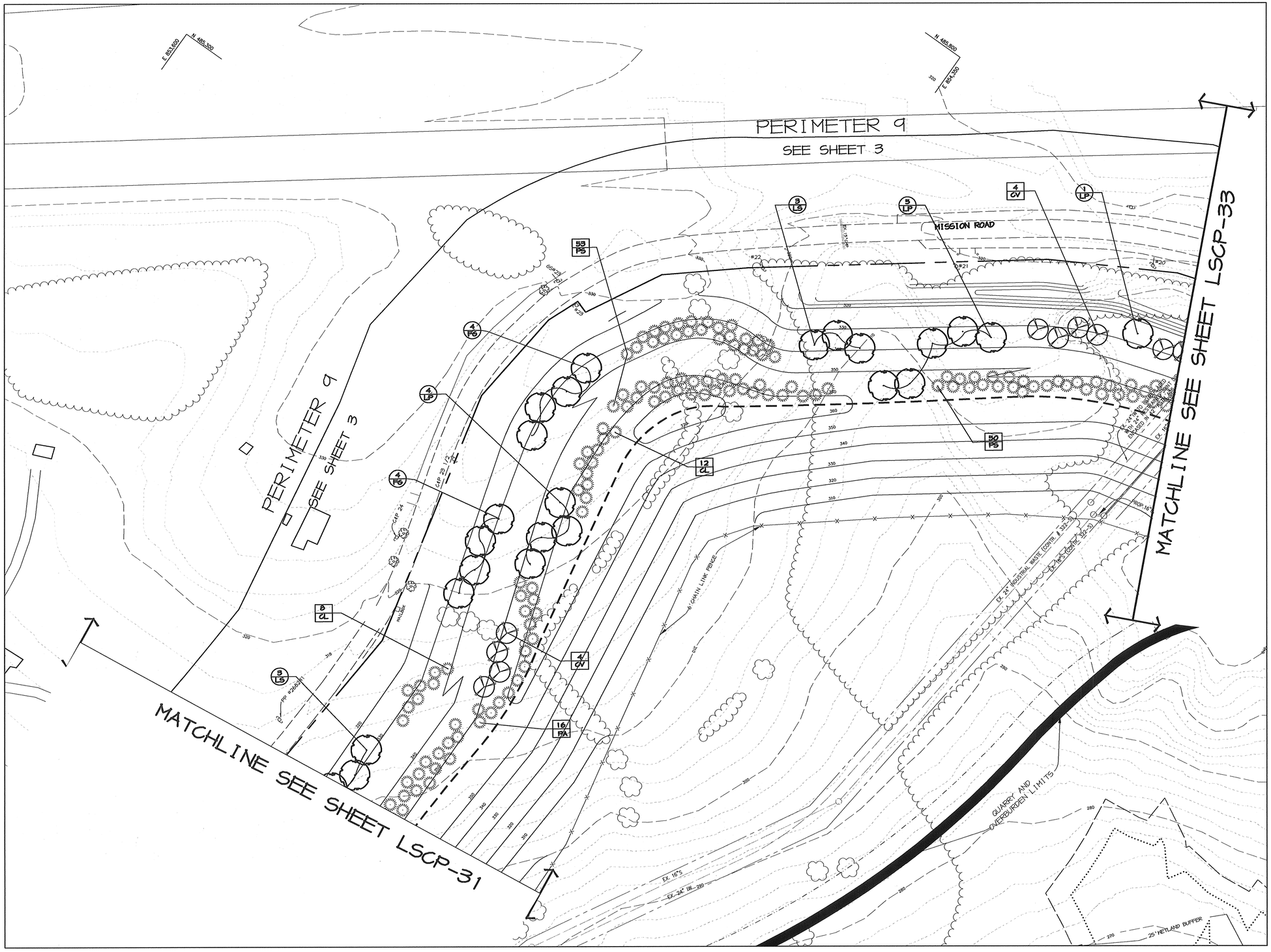

LEGEND

- 300 — EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- X/XX — PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- X/XX — PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- X/XX — PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-32.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	33 OF 51

SDP-99-134

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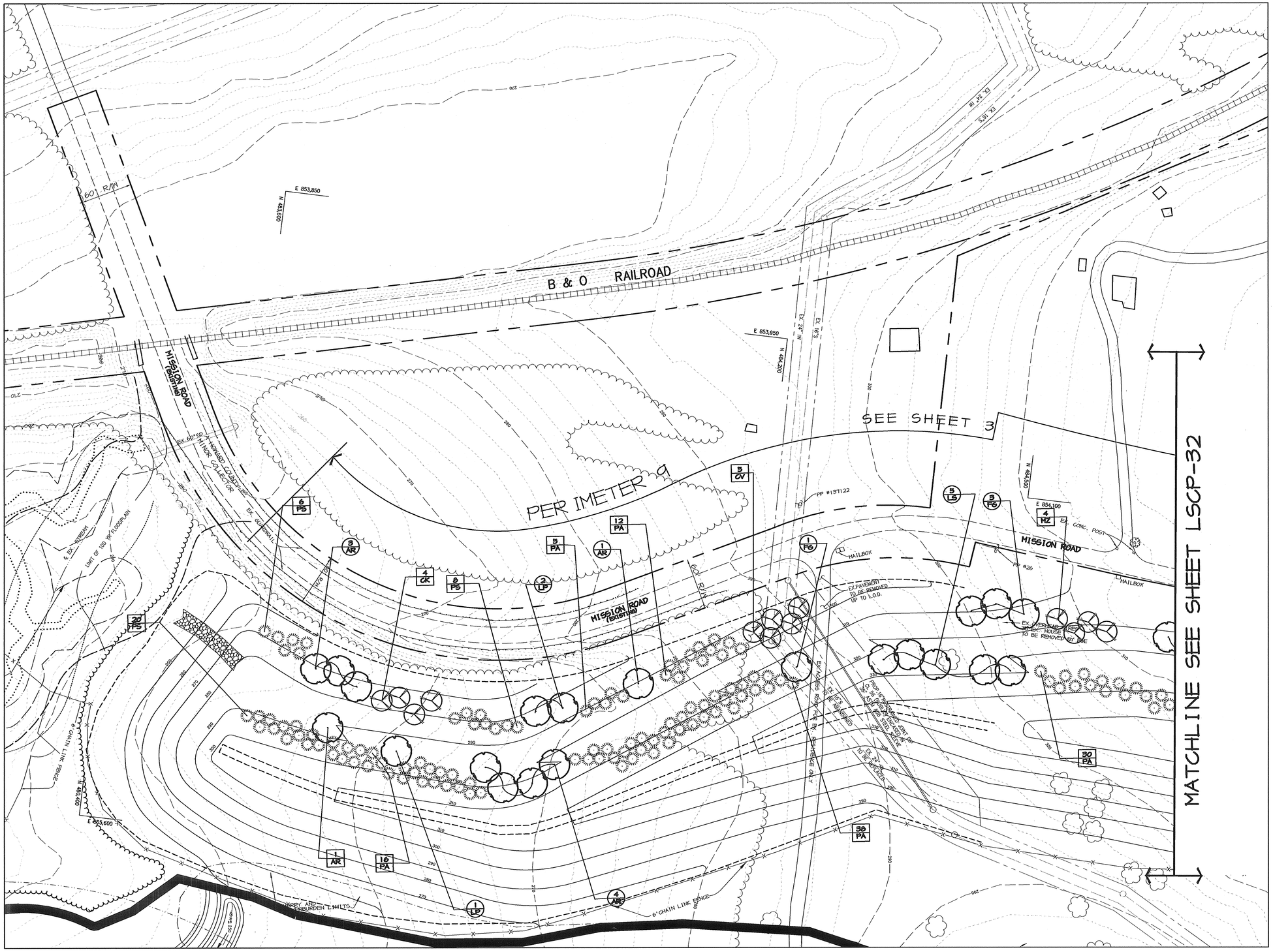

LEGEND

- EXISTING CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM (BENCH)
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED (X/XX)
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED (X/XX)
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED (X/XX)

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-28-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/L-31.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	32 OF 51

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

SDP-99-134

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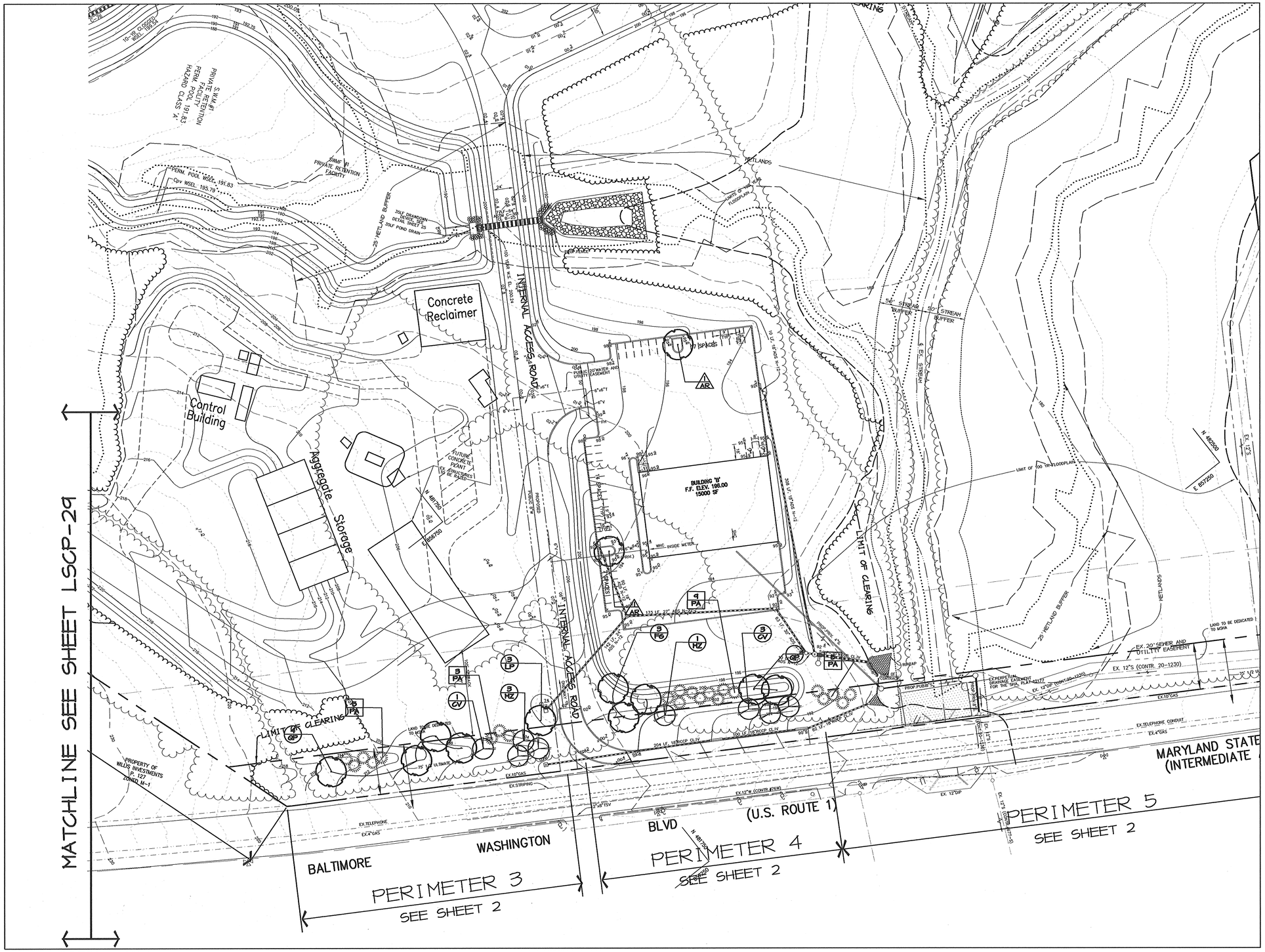

LEGEND

- EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-9-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

STATE OF MARYLAND
SCOTT R. WOLFORD
No. 3-1-2004
REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-30.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	31 OF 51

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

SDP-99-134

P:\project\990921-01\Engr\Plans\L-30.dwg, Layout1, 01/29/2004 11:23:05 AM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

LEGEND

- EXISTING CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- BENCH — APPROXIMATE LOCATION OF BENCH FOR BERM
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- X/XX — PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED
- X/XX — PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED
- X/XX — PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 2/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 2/11/04

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
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LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
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STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-29.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	30 OF 51

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

SDP-99-134

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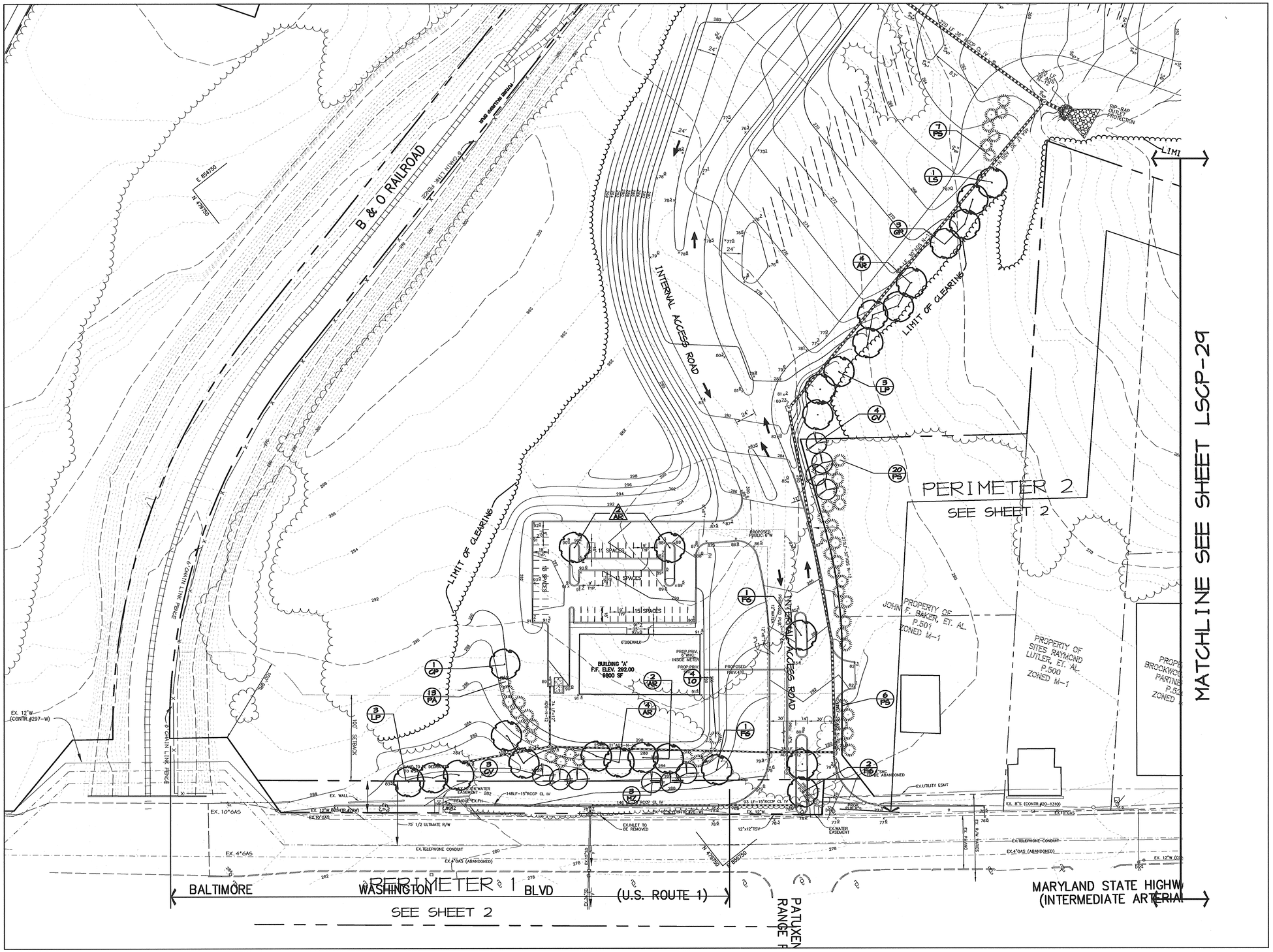

LEGEND

- EXISTING CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING STREAM
- APPROXIMATE LOCATION OF BENCH FOR BERM (BENCH)
- BERM RIDGE LINE
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- PERIMETER PLANTING NOT REQUIRED BY HOWARD COUNTY & NOT BONDED (X/XX)
- PERIMETER PLANTING REQUIRED BY HOWARD COUNTY & BONDED (X/XX)
- PARKING LOT PLANT MATERIAL REQUIRED BY HOWARD COUNTY & BONDED (X/XX)

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
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410.742.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.742.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
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STATE OF MARYLAND — SCOTT R. WOLFORD — REGISTERED LANDSCAPE ARCHITECT

DESIGNED BY :	D.T.D.
DRAWN BY :	A.J.L.
CHECKED BY :	D.T.D.
PROJECT NO :	99092/ L-28.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" =50'
DRAWING NO.	29 OF 51

NOTE 1.)
SEE SHEETS 2 AND 3 FOR OVERALL PERIMETER DISPLAY

NOTE 2)
SEE SHEET 35 FOR PLANTING DETAILS, PLANT MATERIAL SCHEDULES, COUNTY LANDSCAPE REQUIREMENT TABLES.

SDP-99-134

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MD-378 STANDARDS AND SPECIFICATIONS

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cutoff Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall compacted with construction equipment, rollers, or hand tampers to assure maximum density and maximum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inched in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

PIPE CONDUITS

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

   Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

   Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to to the requirements of AASHTO Specifications M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts mat be used for connections. the pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coted as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at at least 24 mils in thickness.

3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

   All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 24" in diameter; flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandwiched between adjacent flanges; a 12 inch wide standard lap type band with 12 inch wide by 3/8 inch thick closed cell circular neoprene gasket; and a 12 inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe ends. A 24 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed with 12 inch on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

   Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to "Structure Backfill."

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the side of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill."

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4 - 10 inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to Structure "Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

ROCK RIPRAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855) AND THE MDE MINING PERMIT INSPECTION DIVISION.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. 6.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR AND MDE MINING PERMIT INSPECTIONS DIVISION.
7. SITE ANALYSIS:

TOTAL AREA OF SUBMISSION	327.75 ACRES
AREA DISTURBED	241.7 ACRES
AREA TO BE ROOFED OR PAVED	11 ACRES
AREA TO BE VEGETATIVELY STABILIZED	230.6 ACRES
TOTAL CUT	500000 CU. YARDS
TOTAL FILL	500000 CU. YARDS
SITE TO BALANCE ON SITE	

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE MDE INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
14. CUT AND FILL QUANTITIES PREPARED FOR THE SITE DEVELOPMENT PLAN AND PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seedbed Preparation : Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments : Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).

Seeding : For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 through August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation : Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments : In lieu of soil test recommendations, use one of the following schedules :

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding : For the period March 1 through April 30 and from August 1 through October 15, seed with the following:

Grasses - 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Orchard Grass and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass;
Nurse Crop - 2.5 bushels per acre of Annual Rye.

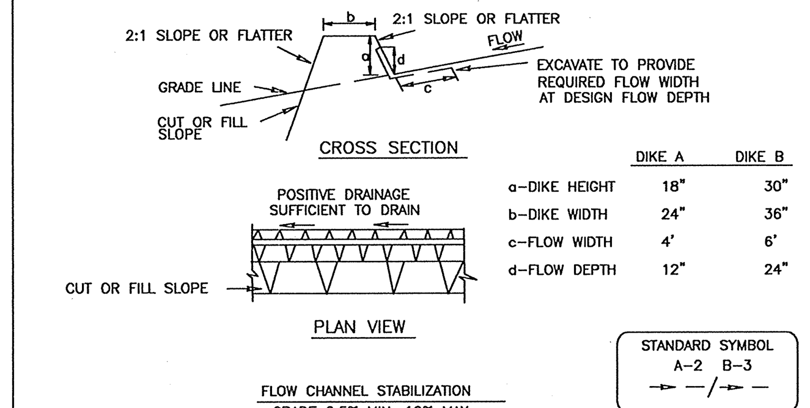
For the period May 1 through July 31, seed with the following:

Grasses - 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Orchard Grass
Legumes - 20 lbs. per acre of Flatpea or 10 lbs. per acre of Birdfoot Trefoil
Nurse Crop - 2.5 bushels per acre of Annual Rye.

Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance : Inspect all seeded areas and make needed repairs, replacements and reseedings.

DETAIL 1 - EARTH DIKE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

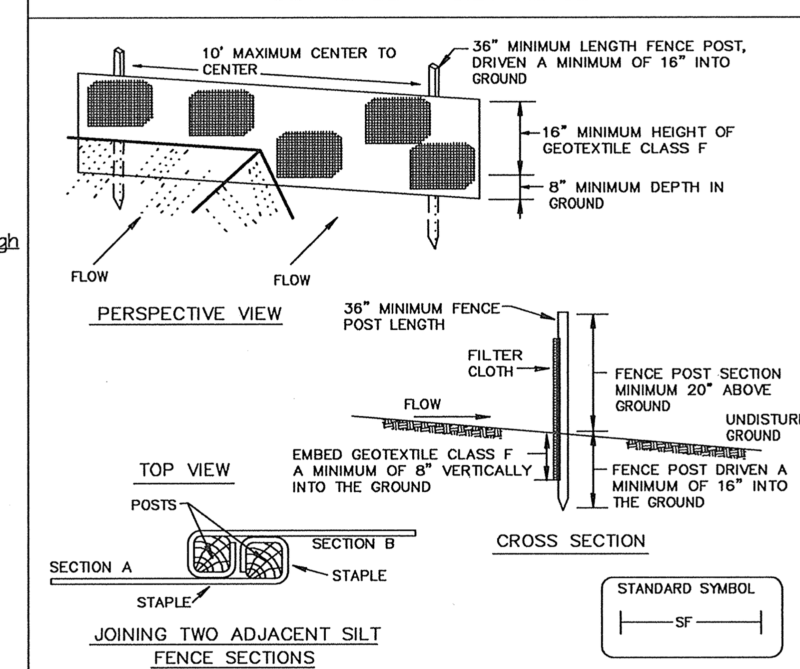
1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 1 - 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

30.0 - DUST CONTROL

DEFINITION

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS

TEMPORARY METHODS

1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
5. BARRIERS - SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS

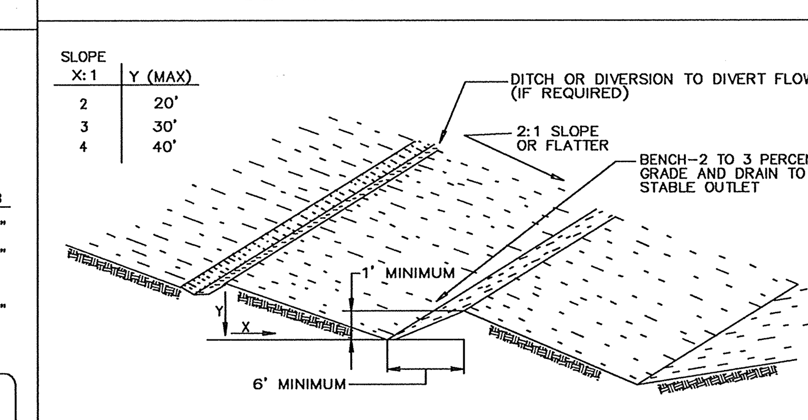
1. PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING - COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

REFERENCES

1. AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREDICTING SOIL LOSS.
2. AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION, USDA-ARS.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 30 - 1	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 28 - BENCHED SLOPES

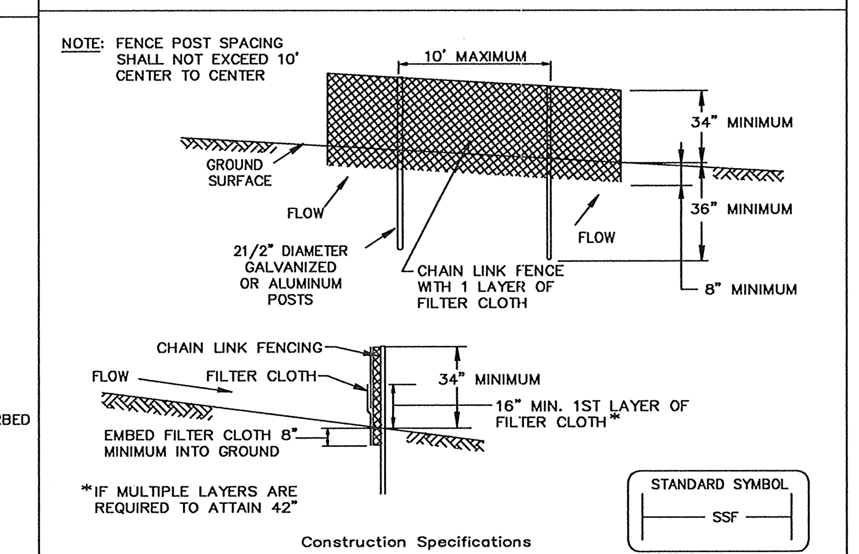


Construction Specifications

1. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.
2. All fill shall be placed and compacted in layers not to exceed 8" in thickness.
3. Except for approved landfills or nonstructural fills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fills.
4. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills. Fill shall not be placed on a frozen foundation.
5. All benches shall be kept free of sediment during all phases of development.
6. Seeps or springs encountered during construction shall be handled in accordance with the Standard and Specification for Subsurface Drain or other approved methods.
7. All graded areas shall be permanently stabilized immediately following finished grading.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 19 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE



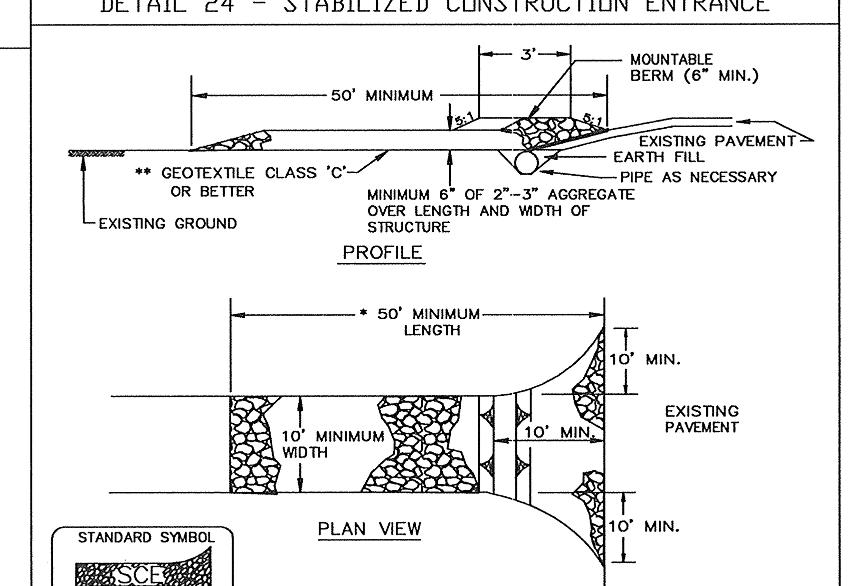
Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft ²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

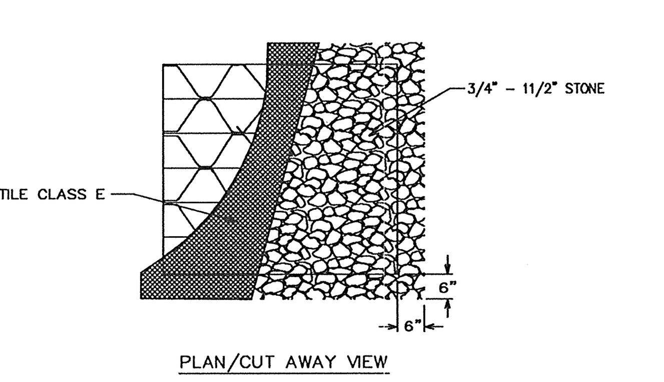


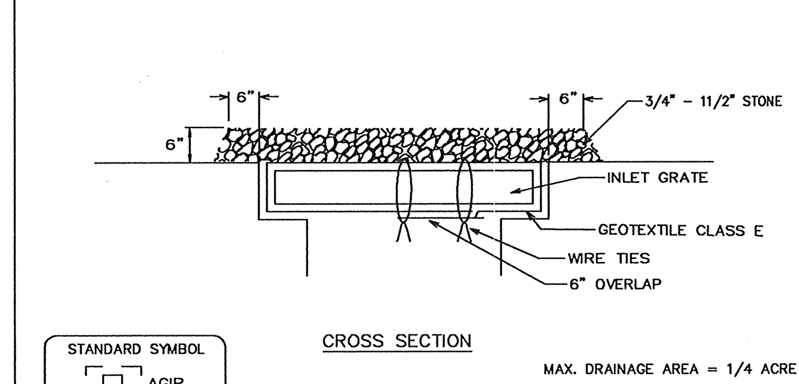
Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B - AT GRADE INLET PROTECTION





Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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] — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

[signature] — 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[signature] — 2/17/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] — 3/15/04
DIRECTOR — DATE

[signature] — 2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

[signature] — 3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

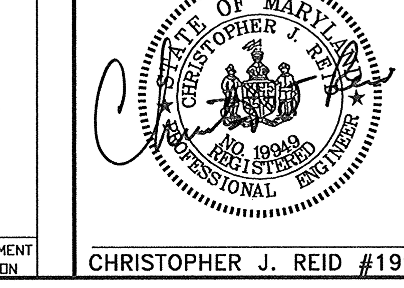
AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SWM & SEDIMENT CONTROL NOTES & DETAILS

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE



CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDNOTES.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	28 OF 51

SDP-99-134

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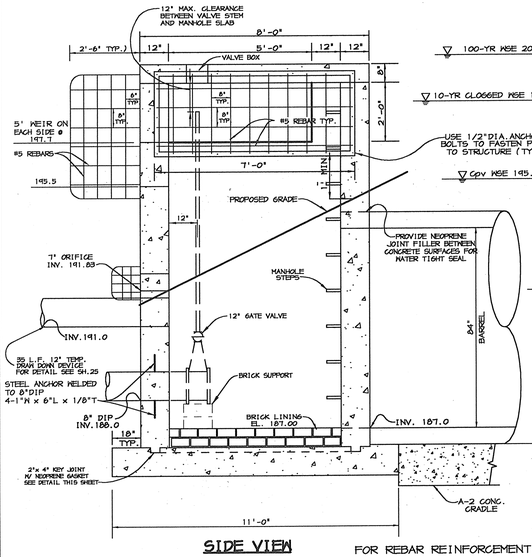
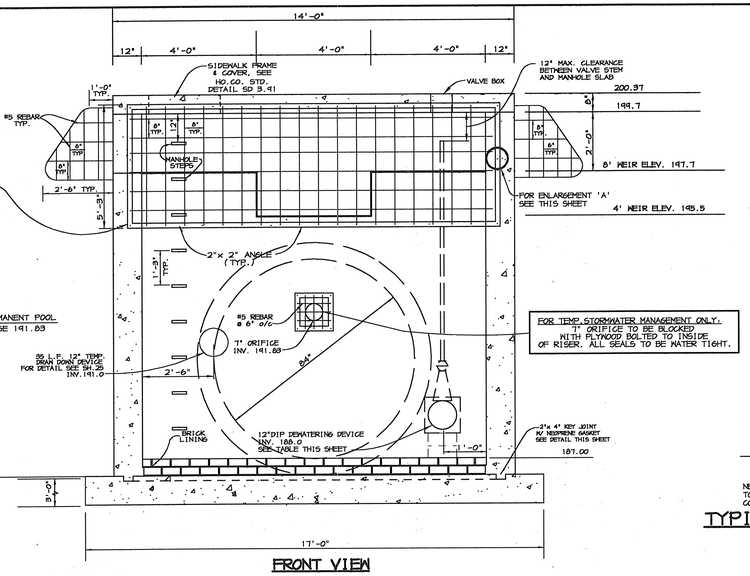


SIDE VIEW



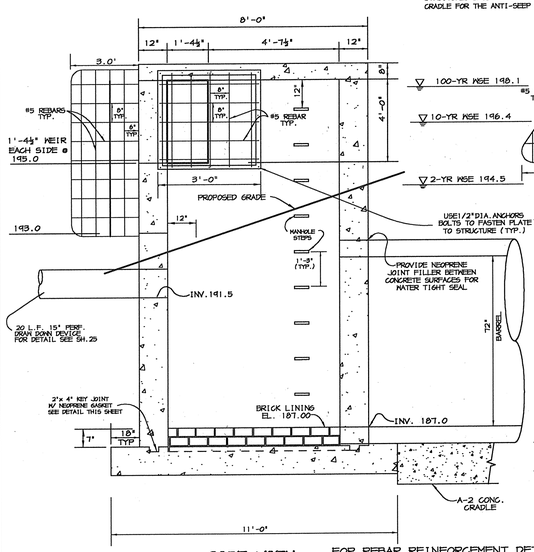
FRONT VIEW

FOR REBAR REINFORCEMENT DETAILS SEE SHEET 3B

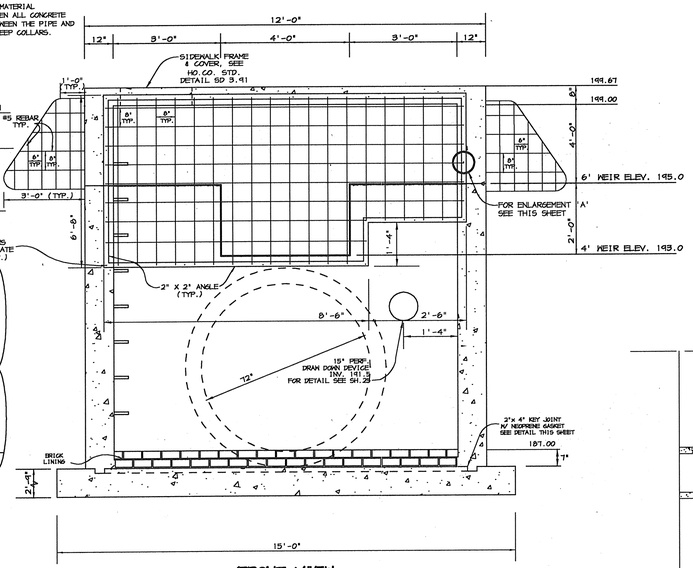
S-1 DETAIL - SWMF #1

SCALE: NTS

NOTE: ASPHALT JOINT FILLER MATERIAL IS TO BE PLACED BETWEEN ALL CONCRETE STRUCTURES EXCEPT BETWEEN THE PIPE AND CRADLE FOR THE ANTI-SEEP COLLARS.



SIDE VIEW



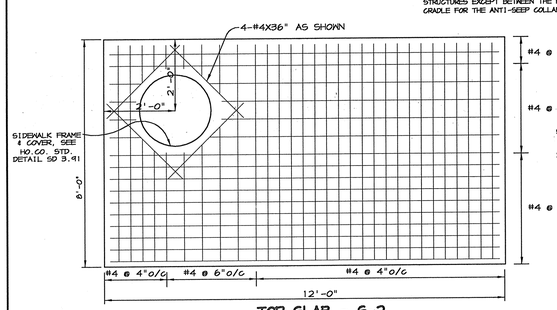
FRONT VIEW

FOR REBAR REINFORCEMENT DETAILS SEE SHEET 3B

S-2 DETAIL - BASIN #2

SCALE: NTS

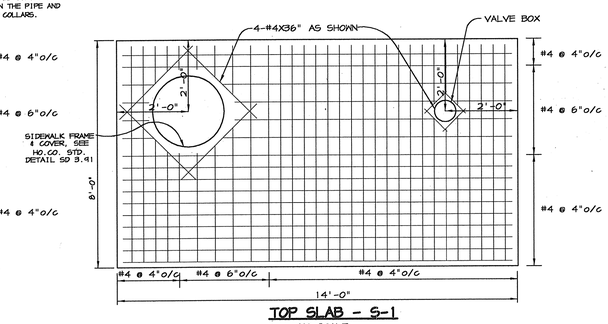
NOTE: ASPHALT JOINT FILLER MATERIAL IS TO BE PLACED BETWEEN ALL CONCRETE STRUCTURES EXCEPT BETWEEN THE PIPE AND CRADLE FOR THE ANTI-SEEP COLLARS.



TOP SLAB - S-2

NO SCALE

NOTES: 1. SLAB REINFORCING 1" CLEAR FROM BOTTOM AND 2" CLEAR FROM SIDES.
2. MIX NO. 2 CONCRETE.



TOP SLAB - S-1

NO SCALE

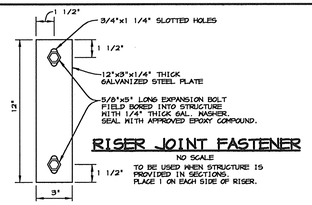
NOTES: 1. SLAB REINFORCING 1" CLEAR FROM BOTTOM AND 2" CLEAR FROM SIDES.
2. MIX NO. 2 CONCRETE.

RISER STRUCTURE NOTES FOR S-1 & S-2:

1. RISER TO BE CAST IN PLACE. SHOP DRAWINGS FOR THIS CONCRETE STRUCTURE SHALL MEET THE MINIMUM ASTM REQUIREMENTS FOR CAST IN PLACE STRUCTURES. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
2. SEE SHEET 3B FOR REINFORCEMENT DETAILS.
3. CONCRETE SHALL BE MSHA MIX NO. 3 (f'c=3,500 psi MINIMUM)
4. WHEN POND IS CONVERTED INTO A PERMANENT FACILITY, THE DRAWDOWN DEVICE HOLE SHALL BE REMOVED.
5. REFER TO HOWARD COUNTY STD. G-5.21 FOR MANHOLE STEP DETAILS.
6. RISER JOINTS SHALL BE WATERTIGHT USING NEOPRENE GASKETS.
7. A TWO FOOT STUB OF THE RCP SHALL BE PRECAST WITH RISER. ALL PIPE CONNECTIONS SHALL PROVIDE RUBBER GASKET FOR WATERTIGHTNESS.
8. RISER SHALL BE PLACED ON A FIRMLY COMPACTED SUBGRADE AND SHALL BE APPROVED BY A GEOTEGANICAL ENGINEER.
9. A 8" OPEN LEFT GATE VALVE (AWWA C-153, CL. 350) SHALL BE CONNECTED TO THE RISER WALL WITH ALL-THREADED ROD AND A FLANGE JOINT. PROVIDE A STEM EXTENSION ON THE GATE VALVE AND FIRMLY SECURE TO RISER WALL WITH BRACKET(S). PROVIDE A STANDARD VALE BOX AND COVER IN THE TOP SLAB DIRECTLY OVERTOP THE GATE VALVE.

REMOVABLE TRASH RACK NOTES:

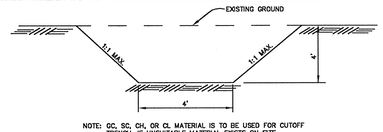
1. STEEL TO CONFORM TO ASTM A-36. #5 BARS TO BE SMOOTH. SEE DETAIL FOR SPACING.
2. ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
3. ALL BENDS TO BE 2" RADIUS. 2" x 2" ANGLE IRON AND 1/2" DIAMETER ANCHOR BOLTS TO BE USED FOR TRASH RACK FRAME.
4. GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT BATTLESHIP GRAY.



RISER JOINT FASTENER

NO SCALE

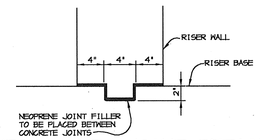
TO BE USED WHEN STRUCTURE IS PROVIDED IN SECTIONS. PLACE 1 ON EACH SIDE OF RISER.



NOTE: GC, SC, CH, OR CL MATERIAL IS TO BE USED FOR CUTOFF TRENCH. IF UNSUITABLE MATERIAL EXISTS ON SITE, ACCEPTABLE MATERIAL WILL NEED TO BE TRUCKED TO SITE.

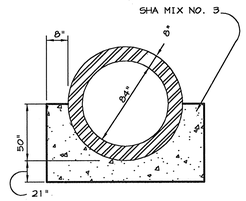
CUTOFF TRENCH DETAIL

NO SCALE



TYPICAL KEY JOINT DETAIL

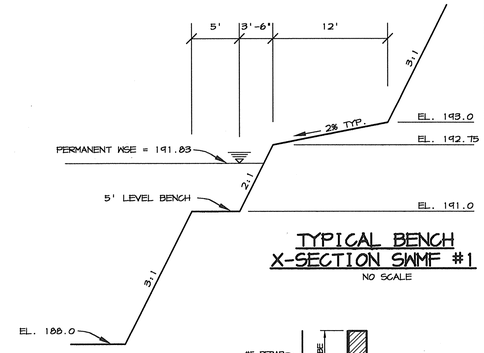
NO SCALE



CLASS 'A' DAMS LESS THAN 50' HIGH

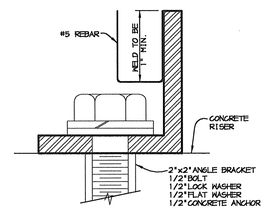
A-2 CONCRETE CRADLE SWMF#1

NO SCALE



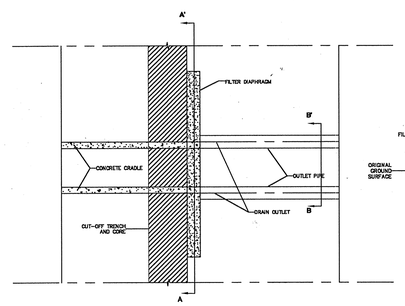
TYPICAL BENCH X-SECTION SWMF #1

NO SCALE



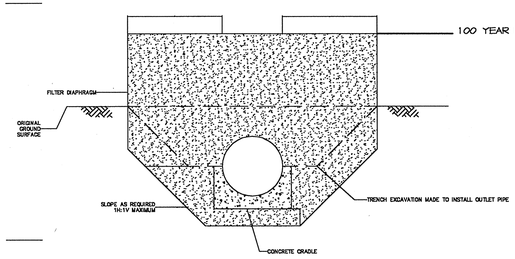
ENLARGEMENT A

NO SCALE



FILTER DIAPHRAGM PLAN VIEW

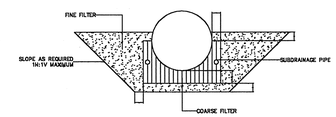
NOT TO SCALE



FILTER DIAPHRAGM SECTION A-A

NOT TO SCALE

NOTES:
1.) Filter Diaphragm should consist of material meeting the requirements of ASTM C-33 concrete sand.
2.) The Filter Diaphragm should be placed against undisturbed natural soils or structural fill.
3.) See PLAN VIEW for Section location.



FILTER DIAPHRAGM SECTION B-B

NOT TO SCALE

NOTES:
1.) The filter should consist of material meeting the requirements of ASTM C-33 concrete sand.
2.) Coarse filter should consist of material meeting the requirements of ASTM C-33 No. 7 stone.
3.) Subdrainage pipe should be 4-inch diameter slotted corrugated polethylene tubing per ASTM F-405 with a maximum 1/8-inch slot width for at at least the lower 120 degree sector.
4.) All material should be placed against undisturbed natural soils or structural fill.
5.) See PLAN VIEW for section location.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers — 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

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CHASE LIMITED PARTNERSHIP
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LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
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PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SWM PROFILES AND DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SWM-DET.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	27 OF 51

SDP-99-134

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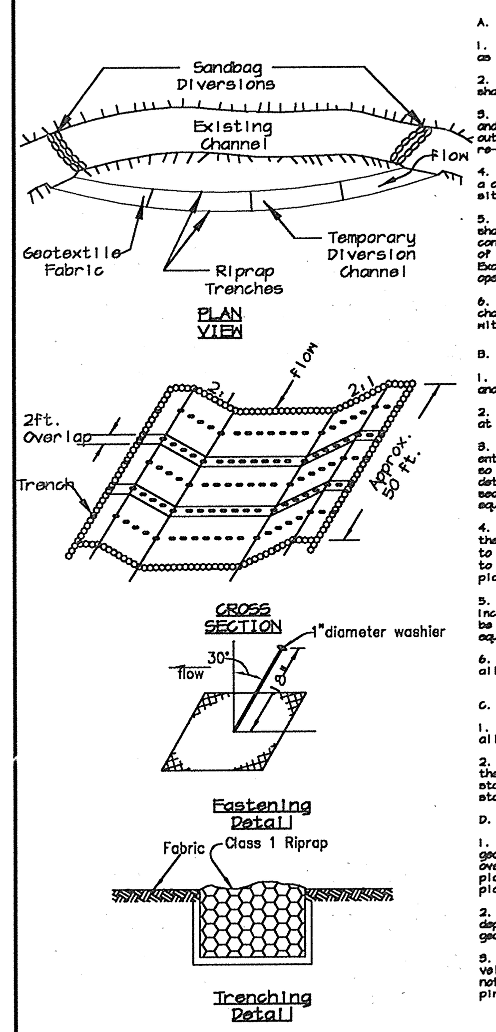
Waterway Construction: Open Channel Stream Diversion Sequence of Construction



A. Channel Excavation

1. All erosion and sediment control devices shall be installed as the first order of business.

2. All disturbance resulting from construction of the channel shall be contained by appropriate sediment control measures.

3. Excavation of the channel shall begin at the downstream end and proceed upstream. All excavated materials shall be stockpiled outside of the floodplain and temporarily stabilized to prevent re-entry into the stream channel.

4. The process excavation and stabilization with fabric shall be a continous (uninterrupted) operation. All materials shall be on site prior to channel construction.

5. The downstream and upstream connection to the natural channel shall be constructed under dry conditions. The stream shall be contained by sandbags along the opposing bank during the process of cutting the diversion channel into the natural stream channel. Excavation and stabilization shall be a continous (uninterrupted) operation.

6. All debris (rocks, sticks, etc.) shall be removed and the channel surfaces made smooth so that the fabric will rest flush with the channel sides and bottom.

B. Stabilization with Geotextile Fabric

1. The fabric shall have a minimum width such that it is keyed in and anchored at the top of stream bank.

2. Fabric shall be placed so that it rests flush with the channel at all points of contact.

3. Fabric shall be placed such that one piece will line the entire channel. If this is not possible, fabric shall be placed so that transverse overlapping occurs in accordance with the detail. Longitudinal overlaps shall not be allowed. Upstream sections shall overlap downstream sections. Overlap width shall equal 2 feet minimum.

4. The fabric shall be keyed into 2x2 feet trenches located at the upstream edge and at 50 feet intervals (the overlap nearest to each 50 feet increment). The key-in shall be from top of channel to top of channel. Class I riprap (WPD3.1) shall be carefully placed into the trench (zero drop height).

5. The fabric sections shall be secured with holddown pins (L=18 inch minimum) and washer (diameter=1 inch minimum). Overlaps shall be pinned along transverse and longitudinal axes with spacing equal to 9 feet maximum.

6. Sediment from surrounding areas of disturbance shall not be allowed to enter the diversion channel.

C. Removal of Diversion

1. Water shall not be allowed through the natural stream until all construction is completed.

2. After diversion of the stream through the natural stream bed, the temporary diversion channel shall be backfilled and stabilized. Points of tie-in to the natural channel shall be stabilized with riprap in accordance with WPD3.1.

D. Alternate Designs

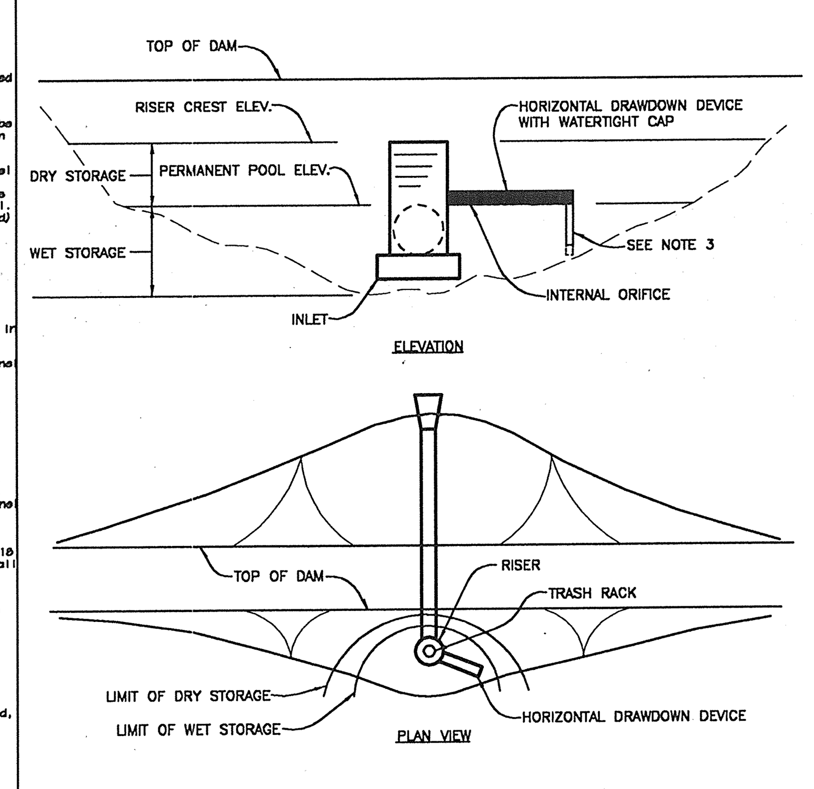
1. The above design may be modified to allow sewing of the geotextile fabric. Sewing of the geotextile fabric, rather than overlapping, would eliminate the requirement for transverse placement of the fabric. Either transverse or longitudinal placement should work equally well.

2. The spacing of the pins could be either larger or smaller depending on the anticipated velocities and thickness and type of geotextile fabric.

3. The entire bottom of the channel could be riprapped if high velocities were anticipated. When the area is riprapped, it is not required that the geotextile fabric underneath the riprap be pinned.

WATER RESOURCES ADMINISTRATION	Fabric-Based Channel Diversion	WPD 2.4

SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE



Construction Specifications

1. The total area of the perforation must be greater than 2 times the area of the internal orifice.

2. The perforated portion of the drawdown device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.

3. Provide support of drawdown device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of drawdown device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 29	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 4 - PIPE SLOPE DRAIN

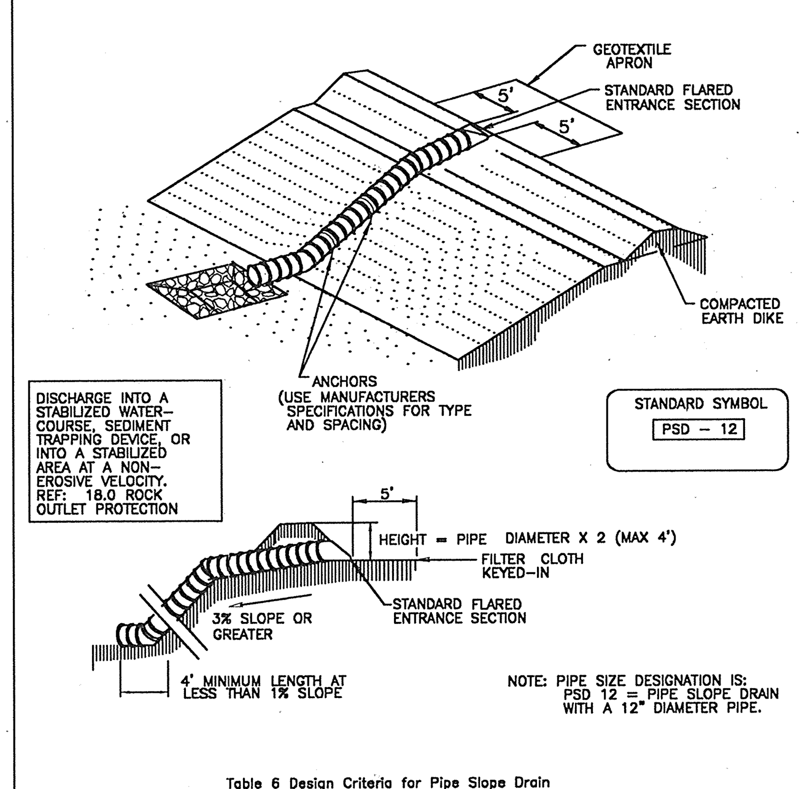


Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5
PSD-24 (2)	24	5.0

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PIPE SLOPE DRAIN

Construction Specifications – Pipe Slope Drain

1. The Pipe Slope Drain (PSD) shall have a slope of 3 percent or steeper.
2. The top of the earth dike over the inlet pipe shall be at least 2 times the pipe diameter measured at the invert of the pipe.
3. Flexible tubing is preferred. However, corrugated metal pipe or equivalent PVC pipe can be used. All connections shall be watertight.
4. A flared end section shall be attached to the inlet end of pipe with a watertight connection. Filter cloth shall be placed under the inlet of the pipe slope drain and shall extend out 5' from the inlet. The filter cloth shall be "keyed in" on all sides.
5. The Pipe Slope Drain shall be securely anchored to the slope by staking at the grommets provided. Spacing for anchors shall be as provided by manufacturer's specification. In no case shall less than two (2) anchors be provided, equally spaced along the length of pipe. These details should be provided by pipe suppliers.
6. The soil around and under the pipe and end section shall be hand tamped in 4 inch lifts to the top of the earth dike.
7. All pipe connections shall be watertight.
8. Whenever possible where a PSD drains an unstabilized area, it shall outlet into a sediment trap or basin. If this is not possible then the slope drain will discharge into a stable conveyance that leads to a sediment trap or basin. When discharging into a trap or basin the PSD shall discharge at the same elevation as the wet pool elevation. The discharge from the PSD must be as far away from the sediment control outlet as possible.
9. When the drainage area is stabilized, the PSD shall discharge onto a stabilized area at a non-erosive velocity.
10. Inspection and any required maintenance shall be performed periodically and after each rain event.
11. The inlet must be kept open at all times.

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SEQUENCE OF CONSTRUCTION (BOTH AREAS WILL BE ACTIVE CONCURRENTLY)

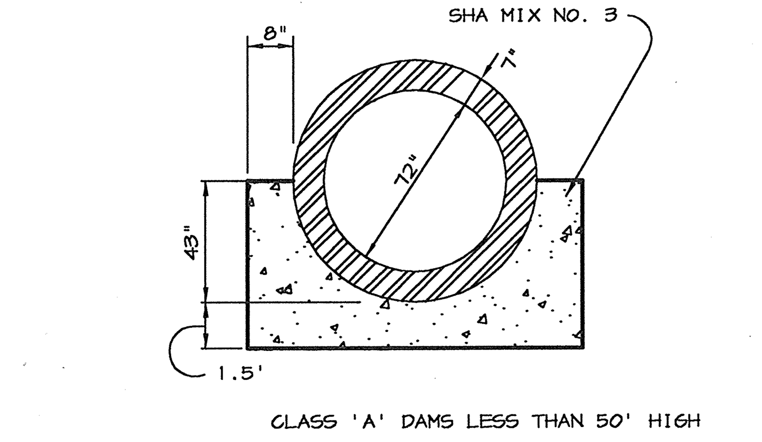
AREA I - QUARRY AREA

1. Obtain a Grading Permit ~~(GP 04 XX)~~, State Mining Permit (MP-02-SP-0599), Non-Tidal Wetland Permit (Tracking # 200262372), Dam Safety Permit (Tracking # 200262372), and other necessary permits prior to beginning construction. ~~Howard County Plan # SDP-99-134 must be signed and permitted before implementation of this plan. (1 week)~~
2. Clear and grub for and install silt fence, supersilt fence. (5 days)
3. Install stream diversion, SSF and install crossings for access to quarry (2) area. Contractor to use filter bags and sump pits for dewatering during construction of crossings.
4. Clear and grub for installation of SEC Basin #2, and stabilize construction entrances. (3 weeks)
5. Construct SEC basin #2. (3 weeks)
6. Clear and grub for diversion swales, earth berms. (2 weeks)
7. Construct diversion swales (beginning at basin) and earth berms. Fill stream channel only after diversion swales have been constructed. (2 weeks)
8. With permission of the MDE inspector, begin clearing grubbing and removal of overburden within quarry area. Contractor to follow dust control specifications. Construct berm along Mission Road using the overburden spoil. (1 year) Note that a 20-acre maximum of land shall be disturbed at any one time.
9. Install landscaping along completed earth berm. (4 weeks)
10. Refer to incremental stabilization specifications for berm and stockpile areas.

AREA II - OPERATION PLANTS, UTILITIES, ROADS

11. Clear and grub for SEC perimeter controls (silt fence, earth dikes, SEC basin #1). (2 weeks)
12. Construct perimeter controls and basin #1. Install pipe from M5-EW-5 in lengths that can be stabilized by the end of every day.
13. With permission of the MDE inspector, clear and grub and begin grading remainder of site. (3 months) Note that a 20-acre maximum of land shall be disturbed at any one time.
14. Begin construction of building and operation facilities. (6 months)
15. When subgrade has been reached, construct utilities & storm drains. (6 weeks)
16. Install paving. (4 weeks)
17. Complete building & operation facilities. (1 week)
18. With permission of MDE inspector, remove remaining SEC controls and stabilize area. (1 week)
19. Install landscaping, signs, and guard rails. (1 week)
20. With permission of MDE inspector, convert SCE basin into a permanent SWM wet pond. (2 weeks)

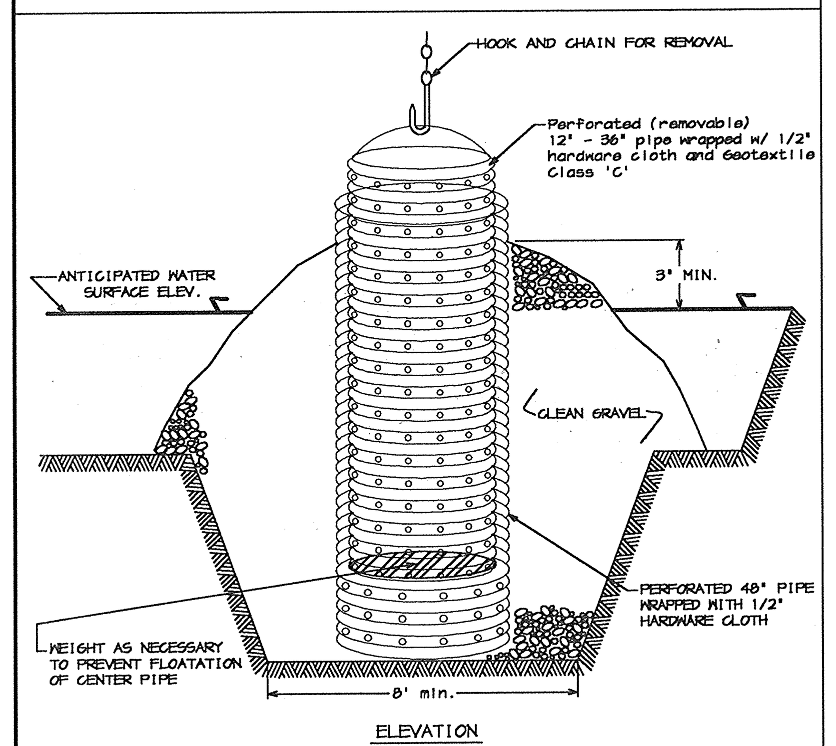
(2) NOTE: THE THREE STREAM CROSSINGS SHALL BE REMOVED AT THE COMPLETION OF MINING & STREAM RESTORATION COMPLETED BEFORE THE BOND AND PERMIT ARE RELEASED.



A-2 CONCRETE CRADLE BASIN #2

NO SCALE

DETAIL 20A - REMOVABLE PUMPING STATION



Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.

2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.

3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.

4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

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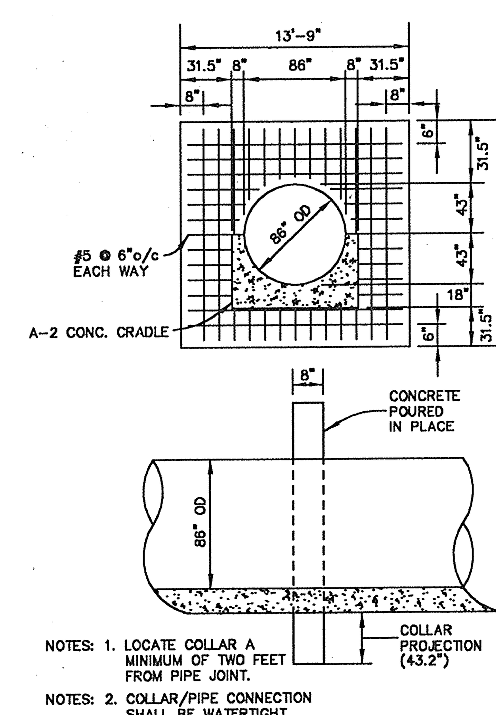
DRAWDOWN DEVICE TABLE

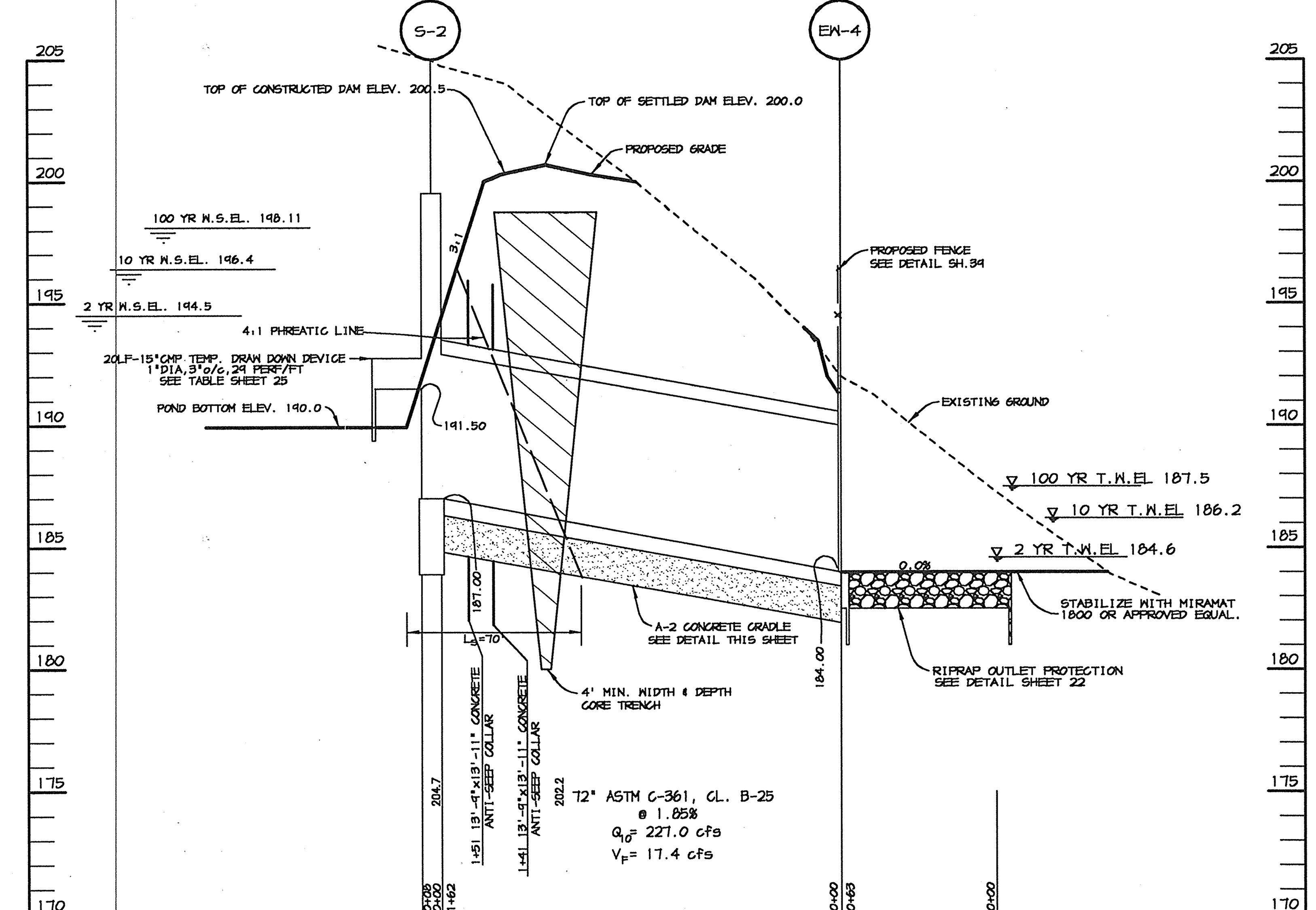
BASIN	SIZE	SLOPE	INVERT	*DETAIL
1	12" CMP	0.0 %	191.00	1"DIA.,38 PERF/FT 3"o/c SEE DET. THIS SH.
2	15" CMP	0.0 %	191.50	1"DIA.,29 PERF/FT 3"o/c SEE DET. THIS SH.

*1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
NOTE: FOR SEDIMENT CONTROL PHASE ONLY.



CONCRETE ANTI-SEEP COLLARS - BASIN #2

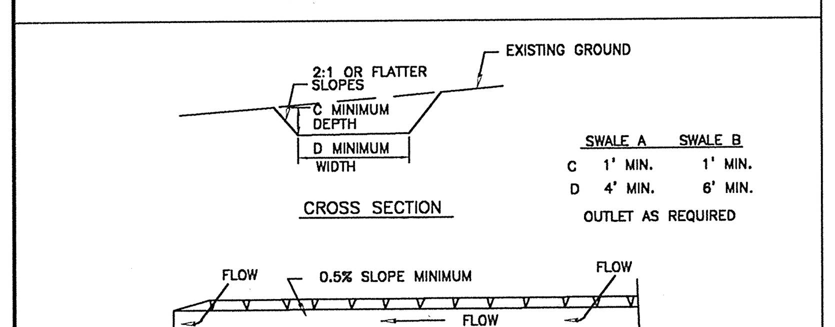
NO SCALE



PROFILE THRU PRINCIPLE SPILLWAY BASIN#2 / SETTLING BASIN

SCALE: HOR.: 1"=50' VERT.: 1"=5'

DETAIL 2 - TEMPORARY SWALE



	SWALE A	SWALE B
C	1' MIN.	1' MIN.
D	4' MIN.	6' MIN.

OUTLET AS REQUIRED

DRAINAGE AREA = 10 ac (MAX)
SLOPE = 10% (MAX)

STANDARD SYMBOL A - 2 / B - 3

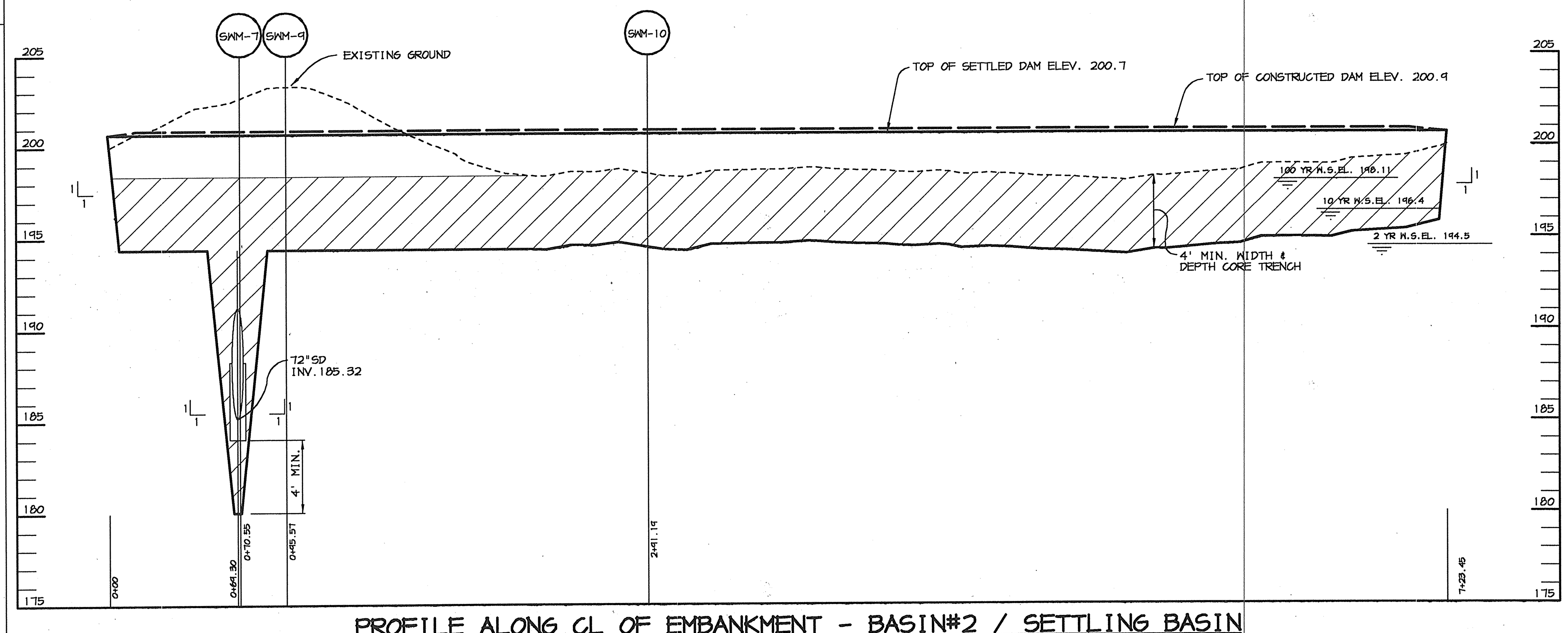
FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4"-7" stone or recycled concrete equivalent pressed into soil in a minimum 7" layer.

Construction Specifications

1. All temporary swales shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
5. The swale shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill, if necessary, shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the swale.
8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 2 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



PROFILE ALONG CL OF EMBANKMENT - BASIN#2 / SETTLING BASIN

SCALE: HOR.: 1"=50' VERT.: 1"=5'

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.
Jim Myers/05 9/27/05
Jim Myers/03 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
9/27/05
2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
11/7/05
3/15/04
DIRECTOR DATE
2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT HB 10/6/05 DATE

DATE	NO.	REVISION
6-15-05	2	REV. SEQ. OF CONST., ADDED NOTE, CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

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(DEVELOPER)
CHASE MINING LLC
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PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE S.W.M. PROFILES, SEDIMENT & EROSION CONTROL DETAILS

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1.30.04
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY : MAD
CHECKED BY : C.J.R.
PROJECT NO : 99092/PROFILE4.DWG
DATE : JANUARY 29, 2004
SCALE : AS SHOWN
DRAWING NO. 26 OF 51

SDP-99-134

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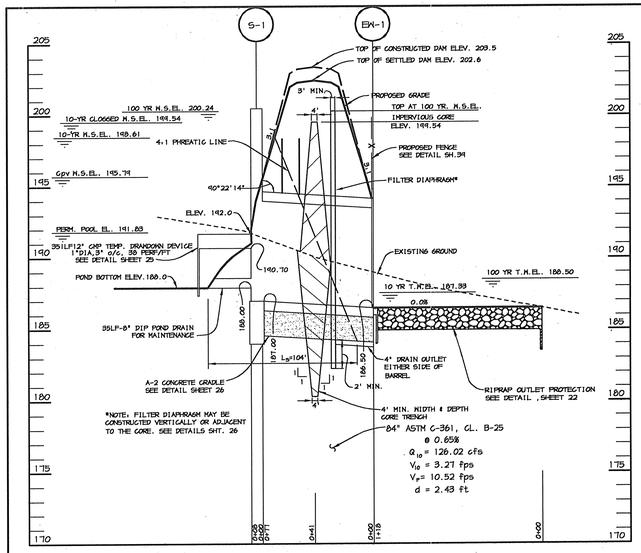
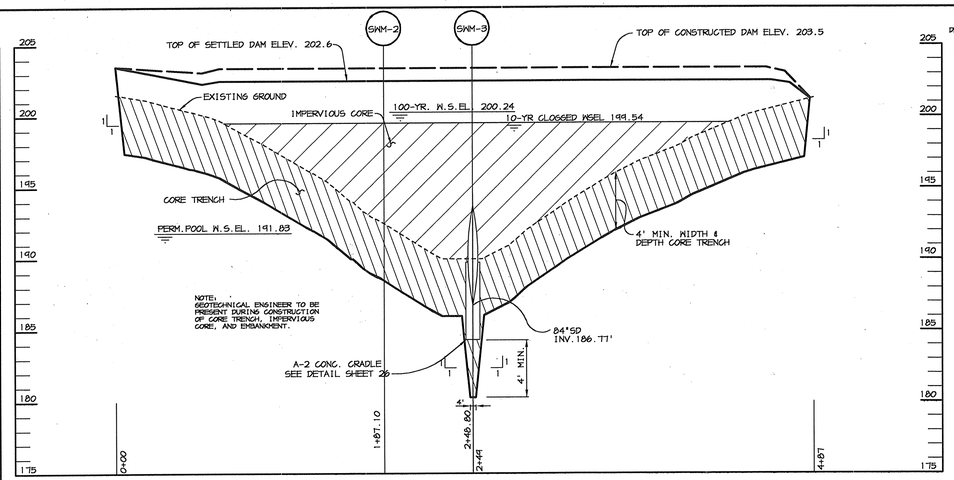


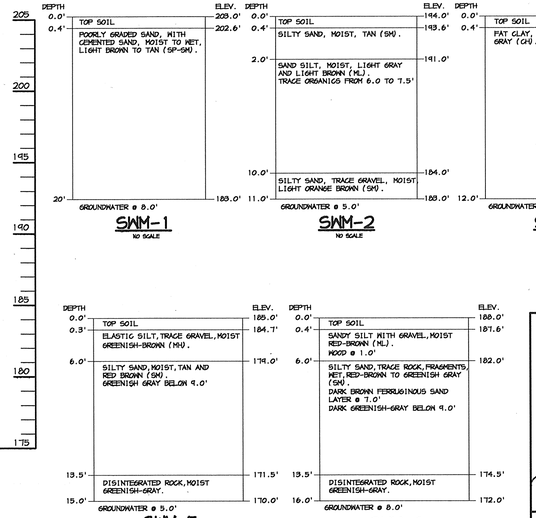
PROFILE THRU PRINCIPAL SPILLWAY - SWMF#1

SCALE: HOR.: 1"=50' VERT.: 1"=5'



PROFILE ALONG ℄ OF EMBANKMENT - SWMF#1

SCALE: HOR.: 1"=50' VERT.: 1"=5'



BY THE DEVELOPER :

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Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

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Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers/US 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
6-15-05	2	REMOVED PROFILES AND DETAIL
1-6-05	1	REV. RIPRAP AT EW-1 & SHEET NO

DEVELOPER/OWNER:

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(DEVELOPER)
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PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **S.W.M. PROFILES, SEDIMENT & EROSION CONTROL NOTES & DETAILS**

Patton Harris Rust & Associates, pc
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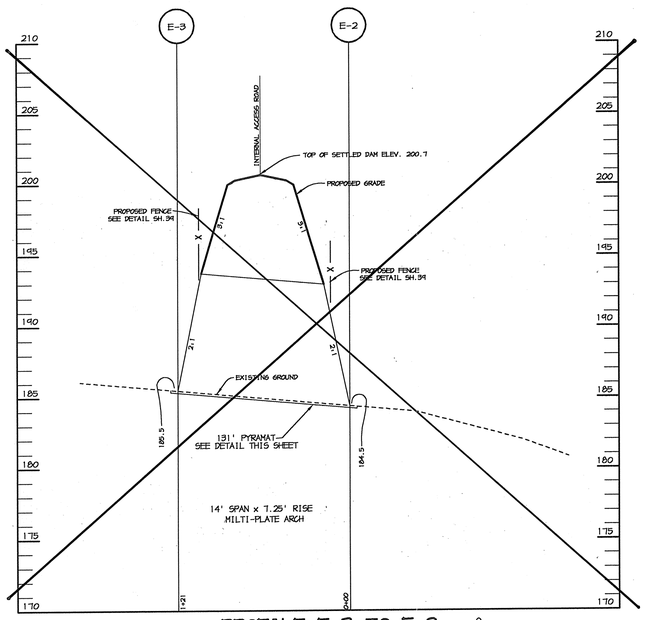
1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE3.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	25 OF 51

SDP-99-134



PROFILE E-3 TO E-2 (2)

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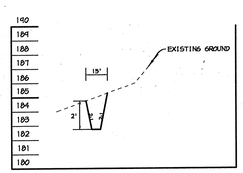
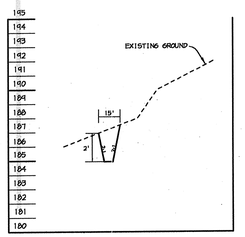


CROSS SECTION XS AT TEMP. CHANNEL DIVERSION.

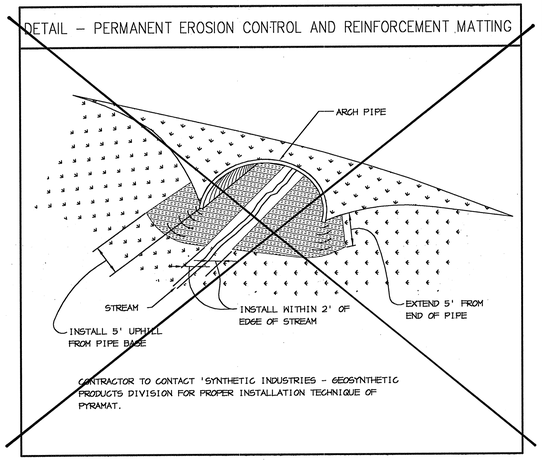
SCALE: HOR.: 1"=50' VERT.: 1"=5'



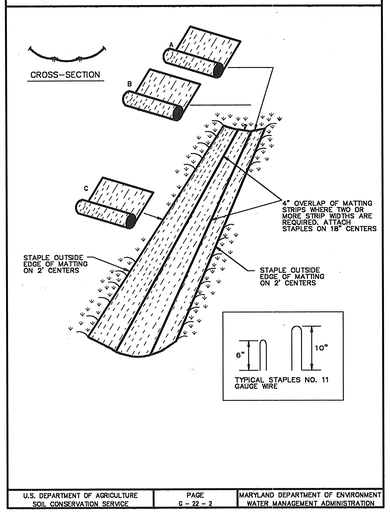
CROSS SECTION XS2 AT TEMP. CHANNEL DIVERSION.

SCALE: HOR.: 1"=50' VERT.: 1"=5'

DETAIL - PERMANENT EROSION CONTROL AND REINFORCEMENT MATTING



DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

INCREMENTAL STABILIZATION OF EMBANKMENTS - FILL SLOPES

1. EMBANKMENTS SHALL BE CONSTRUCTED IN LIFTS AS PRESCRIBED ON THE PLANS.
2. SLOPES SHALL BE STABILIZED IMMEDIATELY WHEN THE VERTICAL HEIGHT OF THE MULTIPLE LIFTS REACHES 15', OR WHEN THE GRADING OPERATION CEASES PRESCRIBED IN THE PLANS.
3. AT THE END OF EACH DAY, TEMPORARY SWALES AND PIPE SLOPE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE.
4. CONSTRUCTION SEQUENCE: REFER TO FIGURE 5 (BELOW)
   a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SLOPE SILT FENCE ON THE LOW SIDE OF THE FILL AS SHOWN IN FIGURE 5, UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
   b. PLACE PHASE 1 EMBANKMENT, DRESS AND STABILIZE.
   c. PLACE PHASE 2 EMBANKMENT, DRESS AND STABILIZE.
   d. PLACE FINAL PHASE EMBANKMENT, DRESS AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THECOMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

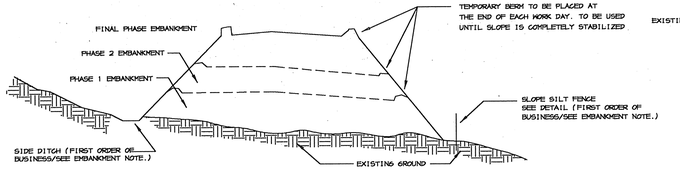


FIGURE 5 - INCREMENTAL STABILZATION - FILL

NO SCALE

INCREMENTAL STABILIZATION OF EMBANKMENTS - CUT SLOPES

1. ALL CUT SLOPES SHALL BE DRESSED, PREPARED AND MULCHED AS THE WORK PROGRESSES SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 15'.
2. CONSTRUCTION SEQUENCE: REFER TO FIGURE 4 (BELOW)
   a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONVEY RUNOFF FROM THE EXCAVATION.
   b. PERFORM PHASE 1 EXCAVATION, DRESS AND STABILIZE.
   c. PERFORM PHASE 2 EXCAVATION, DRESS AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
   d. PERFORM FINAL PHASE EXCAVATION, DRESS AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN, THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

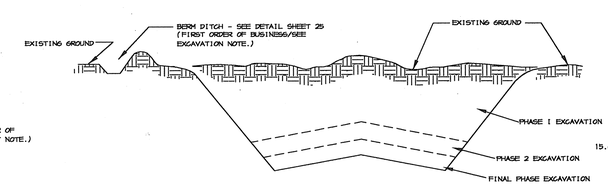


FIGURE 4 - INCREMENTAL STABILZATION - CUT

NO SCALE

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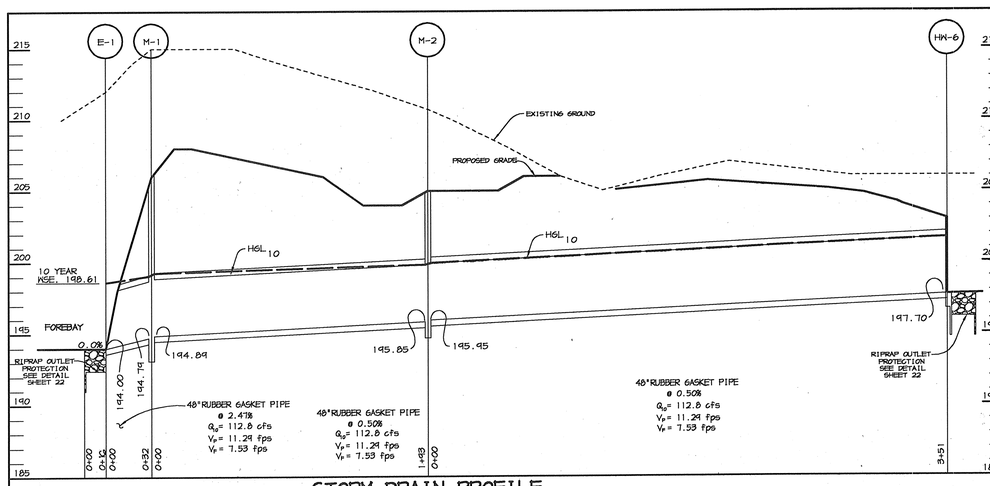
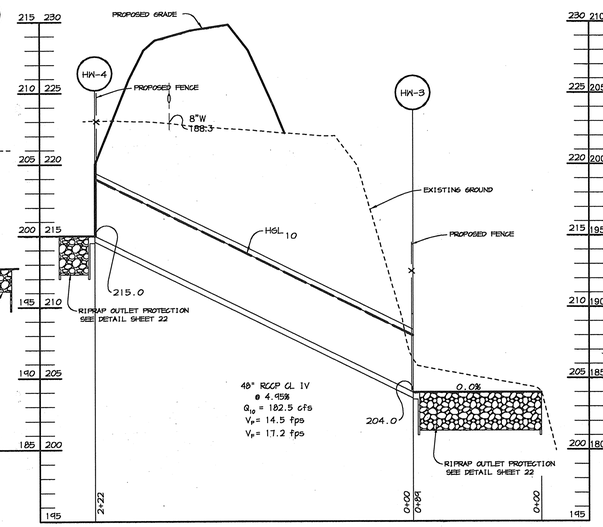


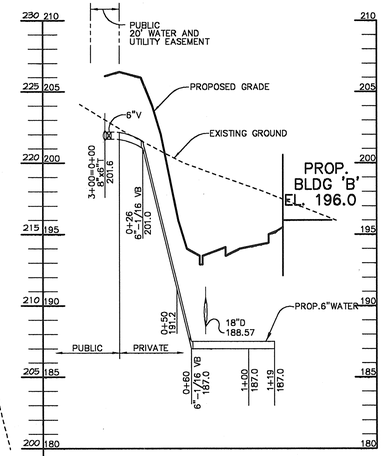
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



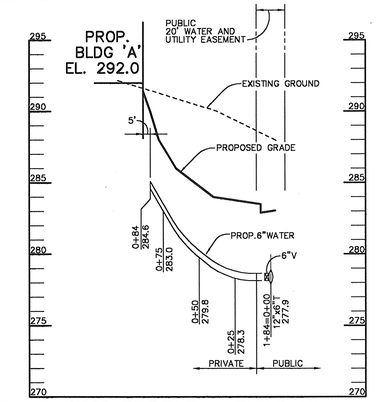
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



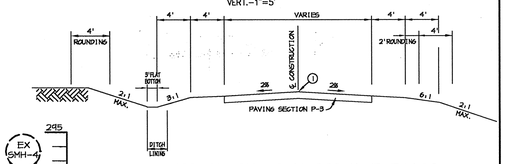
WHC PROFILE – BUILDING B

SCALE : HOR.-1"=50' VERT.-1"=5'



WHC PROFILE – BUILDING A

SCALE : HOR.-1"=50' VERT.-1"=5'

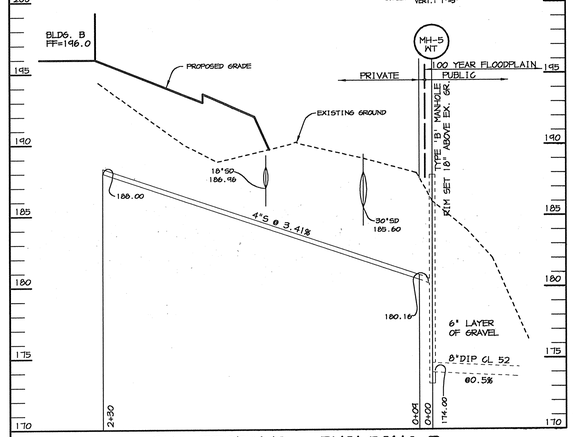


TYPICAL SECTION PRIVATE ROADS

① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.

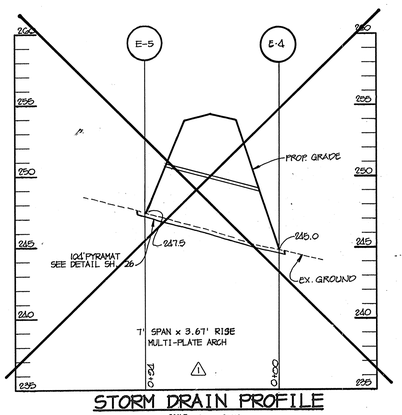
TYPICAL SECTION INTERNAL ACCESS ROAD

NO SCALE



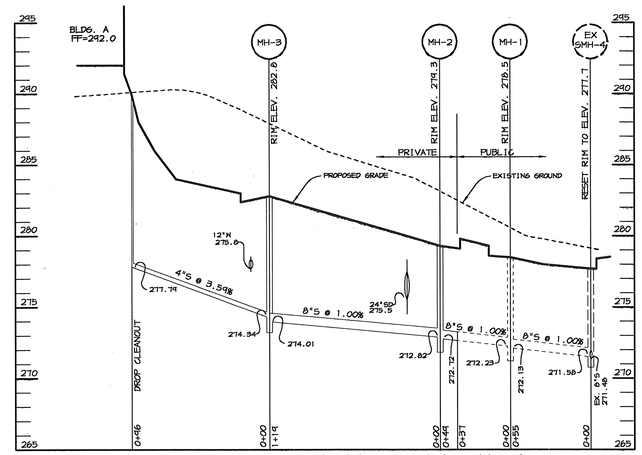
SHC PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



SHC PROFILE - BUILDING A

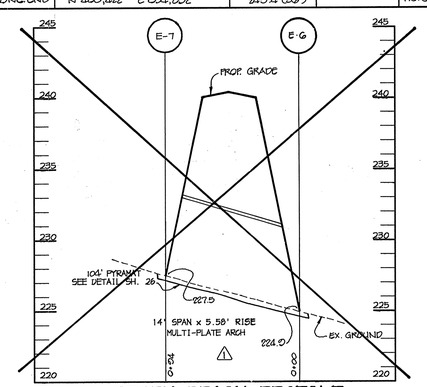
SCALE : HOR.-1"=50' VERT.-1"=5'

STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	K	N 480,138 E 855,378	272.62 (30")	272.52 (30")	280.73	HOCO STD. DETAIL SD 4.13
I-2	A-5	N 479,933 E 855,724	275.24 (24")	274.74 (30")	280.40	HOCO STD. DETAIL SD 4.40
I-2A	A-5	N 480,010 E 855,619	274.08 (30")	273.48 (30")	284.00	HOCO STD. DETAIL SD 4.40
I-3	A-5	N 479,874 E 855,679	275.88 (21")	275.63 (24")	280.50	HOCO STD. DETAIL SD 4.40
I-3A	S-COMBINATION	N 479,687 E 855,488	-	283.00 (12")	284.40	HOCO STD. DETAIL SD 4.32
HW-6	48" TYPE A HW	N 482,173 E 856,271	-	191.70 (48")	-	HOCO STD. DETAIL SD 5.11
I-5	MOD. DOUBLE-S COMB.	N 481,990 E 857,068	186.57 (27")	186.32 (30")	192.00	SEE DETAIL M-SD 423 SHEET 39
I-6	S-COMBINATION	N 481,875 E 856,881	-	188.73 (18")	192.60	HOCO STD. DETAIL SD 4.32
I-7	A-5	N 482,135 E 856,852	-	188.44 (18")	192.50	HOCO STD. DETAIL SD 4.40
I-8	DOUBLE-S	N 481,710 E 856,993	-	193.74 (24")	201.74	HOCO STD. DETAIL SD 4.23
I-9	DOUBLE-S	N 479,588 E 855,464	-	277.75 (21")	281.00	HOCO STD. DETAIL SD 4.23
M-1	6'BRICK MH	N 481,707 E 856,018	194.84	194.79	206.00	HOCO STD. DETAIL 6 5.03
M-2	6'BRICK MH	N 481,845 E 856,054	195.95	194.85	203.00	HOCO STD. DETAIL 6 5.03
⚠1 M-3	5' PRECAST MH	N 480,530 E 855,065	222.10 (12") 224.10 (30")	218.74 (36")	216.0	HOCO STD. DETAIL 6 5.13
M-4	5' PRECAST MH	N 481,850 E 856,968	188.18 (18") 190.40 (24")	186.43 (27")	194.93	HOCO STD. DETAIL 6 5.13
⚠2 ⚠1 E-5	ALCMP END.	~~N 482,420 E 854,480~~	-	248.31	-	~~CONTECH SLOPE COLLAR~~
M-6	4' PRECAST MH	N 479,677 E 855,516	281.30 (12") 271.25 (21")	277.15 (21")	287.40	HOCO STD. DETAIL 6 5.12
M-7	6' PRECAST MH	N 480,542 E 855,280	256.10 (30") 254.35 (36")	253.85 (36")	260.80	HOCO STD. DETAIL 6 5.03
WQ-1	BAYSAVER	N 481,994 E 857,136	SEE SHEET 37			
HW-1	36"TYPE A HW	N 480,603 E 855,303	-	253.60 (36")	-	HOCO STD. DETAIL SD 5.11
HW-2	30"TYPE A HW	N 480,476 E 854,875	-	275.00 (30")	-	HOCO STD. DETAIL SD 5.11
HW-3	48"TYPE A HW	N 481,351 E 855,990	-	204.00	-	HOCO STD. DETAIL SD 5.11
HW-4	48"TYPE 'E'	N 481,152 E 855,846	-	215.00	-	HOCO STD. DETAIL SD 5.31
⚠2 E-3	ALCMP END	~~N 482,584 E 856,422~~	-	184.09	-	~~CONTECH SLOPE COLLAR~~
E-1	48" CONC. END SEC.	N 481,682 E 856,038	-	144.00	-	HOCO STD. DETAIL SD 5.51
S-1	CONTROL STRUCTURE	N 481,987 E 856504	SEE DETAIL SHEET 26			
S-2	CONTROL STRUCTURE	N 482,818 E 856,546	SEE DETAIL SHEET 26			
EW-1	84" HW	N 482,057 E 856,546	-	186.50	-	SHA DETAIL MD-352.02
⚠2 E-2	ALCMP END	~~N 482,557 E 856,538~~	-	182.23 184.23	-	~~CONTECH SLOPE COLLAR~~
EW-3	30"TYPE A HW	N 482,037 E 857,181	-	185.50	-	HOCO STD. DETAIL SD 5.11
EW-4	72" HW	N 482,661 E 856,603	-	184.00	-	SHA DETAIL MD-352.02
⚠2 ⚠1 E-4	ALCMP END	~~N 482,408 E 854,918~~	-	243.12	-	~~CONTECH SLOPE COLLAR~~
⚠2 ⚠1 E-6	ALCMP END	~~N 483,161 E 854,916~~	-	217.94 219.94	-	~~CONTECH SLOPE COLLAR~~
⚠2 ⚠1 E-7	ALCMP END	~~N 483,247 E 854,840~~	-	221.40 223.40	-	~~CONTECH SLOPE COLLAR~~
M-8	4' PRECAST MH	N 482,135 E 856,862	188.39 (18")	188.29 (18")	193.80	HOCO STD. DETAIL 6 5.12
M-9	4' PRECAST MH	N 481,987 E 857,129	186.00 (30")	185.40 (30")	193.30	HOCO STD. DETAIL 6 5.12

⚠1

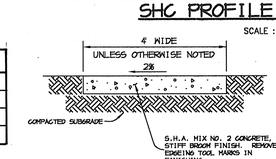
STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	REMARKS
E-8	72" CONC. END	N 483,342 E 856,401	–	198.7 (72")	HO. CO. STD. DETAIL SD 5.51
E-9	72" CONC. END	N 483,406 E 856,508	198.2 (72")	–	HO. CO. STD. DETAIL SD 5.51
E-10	30" CONC. END	N 483,382 E 854,868	–	242.7 (30")	HO. CO. STD. DETAIL SD 5.51
E-11	30" CONC END	N 483,422 E 854,882	245.4 (30")	–	HO. CO. STD. DETAIL SD 5.51



STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'

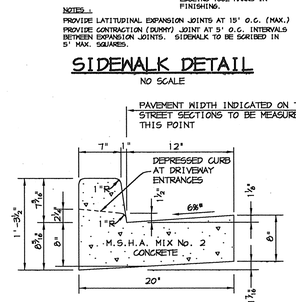
NOTES: ✳ LOCATION OF 'S' & WQ FACILITY INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR 'A' INLETS LOCATION IS GIVEN AT THROAT OPENING AT CENTER OF FACE OF CURB. FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE. TOP ELEVATION IS TOP OF CURB/GRATE/RIM.



NOTES:
PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.) PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN 5' MAX. SQUARES.

SIDEWALK DETAIL

NO SCALE

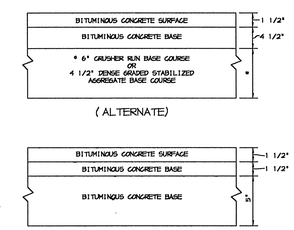


HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

STANDARD 7" COMBINATION CURB AND GUTTER

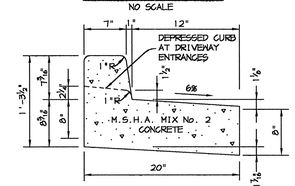
NO SCALE



HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

P-3 PAVING

NO SCALE



REVERSE 7" COMBINATION CURB AND GUTTER

NO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE	3/10/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE	2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE	3/11/04

DATE	NO.	REVISION
6-15-05	2	REV. STRUCTURE SCHEDULE & REMOVED PROFILES
1-6-05	1	REV. STRUCTURE SCHEDULE & PROFILES

DEVELOPER/OWNER:

(OWNER) CHASE LIMITED PARTNERSHIP P.O. BOX 850 LAUREL, MD 20725 410.792.7234

(DEVELOPER) CHASE MINING LLC P.O. BOX 850 LAUREL, MD 20725 410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43 PARCEL 234 & P.O. 235, BLOCK 19 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

PROFILES AND DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE2.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	24 OF 51

SDP-99-134

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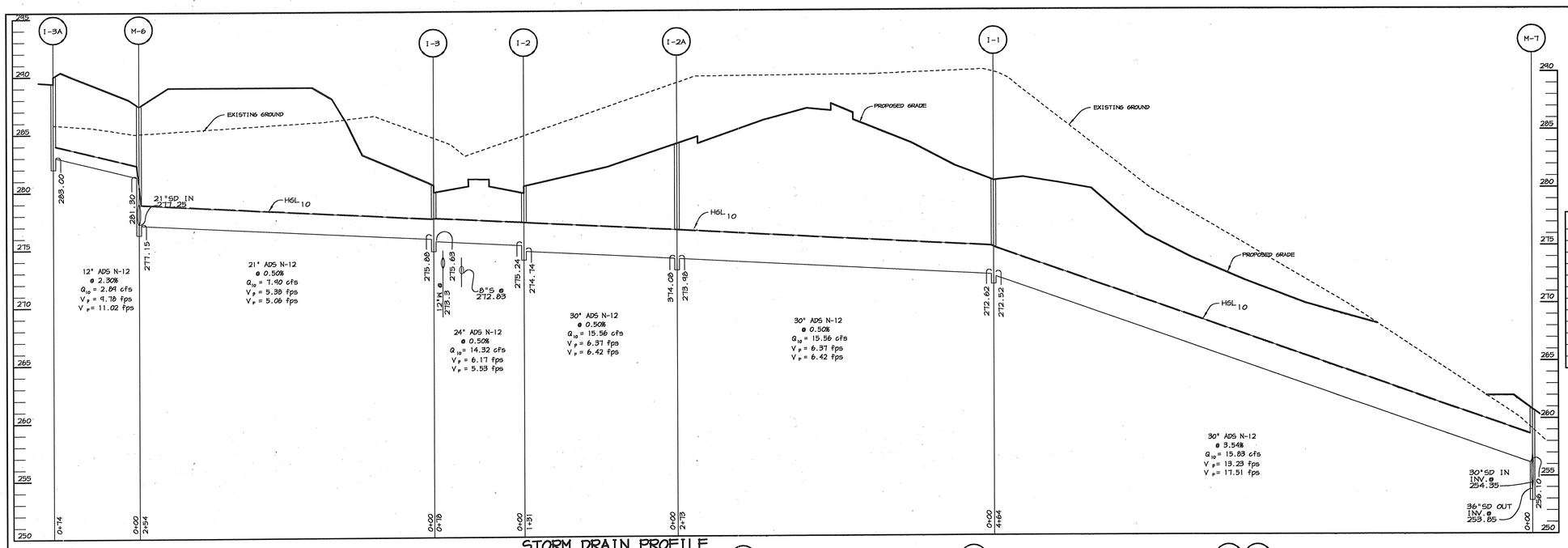
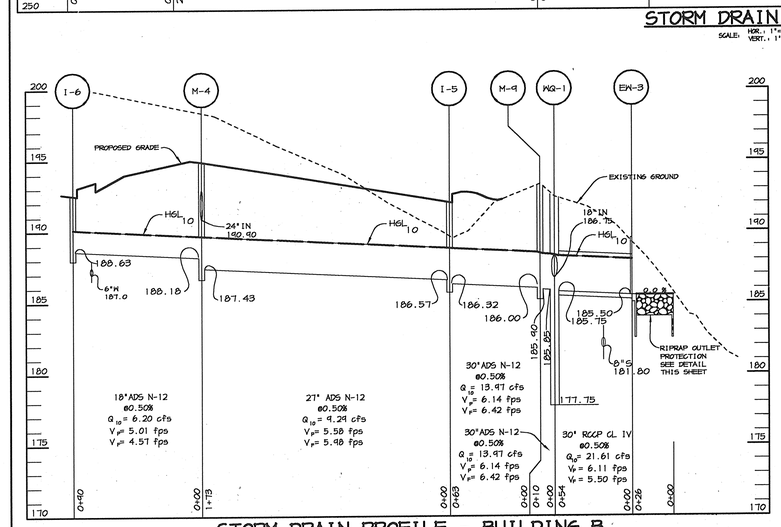


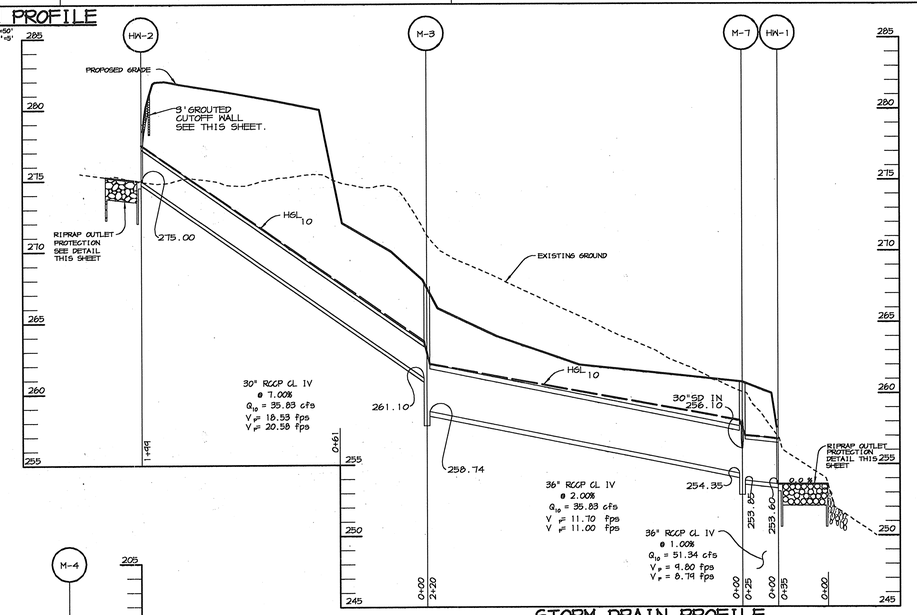
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



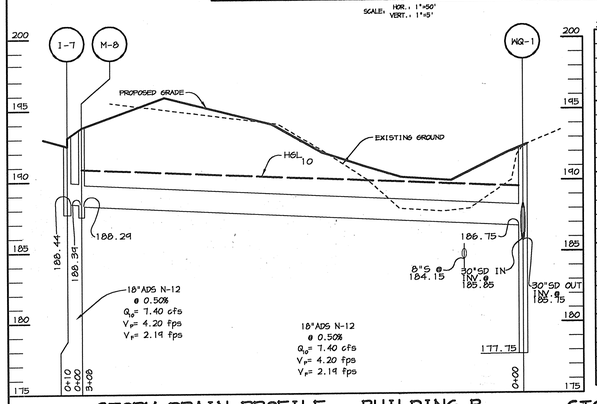
STORM DRAIN PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



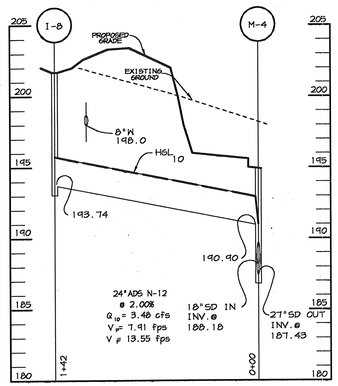
STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



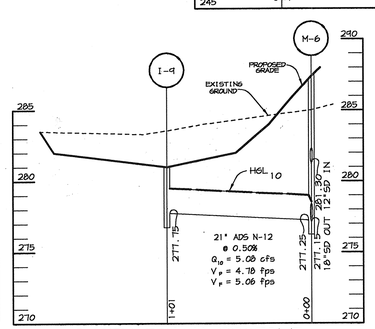
STORM DRAIN PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



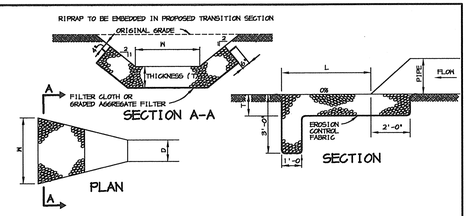
STORM DRAIN PROFILE - BUILDING B

SCALE: HOR.: 1"=50' VERT.: 1"=5'



STORM DRAIN PROFILE

SCALE: HOR.: 1"=50' VERT.: 1"=5'



RIPRAP OUTLET PROTECTION DETAIL

NO SCALE

STRUCTURE	MEDIAN STONE DIA.	SHA CLASS	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q_{10}	V_F	d_F
E-1	4.5"	I	16'	20'	14"	48.3	7.82	1.16'
EW-1	4.5"	I	118'	55'	14"	126.02	10.52	2.49'
HW-6	4.5"	I	22'	15'	14"			
EW-3	4.5"	I	26'	28.5'	14"	52.22	6.56	0.96'
HW-1	4.5"	I	35'	38'	14"	49.60	6.45	1.19'
HW-2	4.5"	I	25'	17'	14"	35.8	-	-
HW-3	16"	II	80'	35'	32"			
HW-4	16"	II	27'	20'	32"	101.4	-	-
E-5	25'	I	14'	12'	15"	40.00	-	-
EW-4	23'	III	63'	60'	14"	227.0	8.03	1.60'
E-10	25'	I	40'	14'	10"	82.0	11.0	2.8'
MSHA E-1	4.5"	I	10'	12'	14"			

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

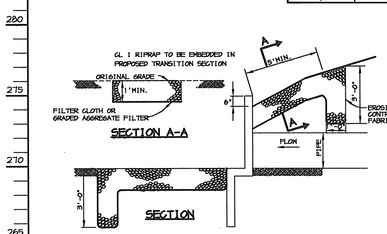
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.

3. GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.

4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.

5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

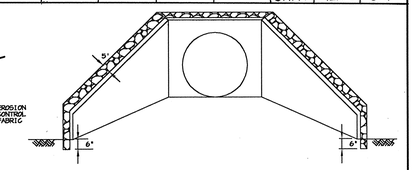
E-4	9.5"	I	44'	23.10'	19"	131.60	13.82	2.38'
E-6	9.5"	I	41'	21.90'	19"	365.95	11.63	3.97'
E-2	9.5"	I	50'	33.00'	19"	619.47	12.82	5.01'



GROUTED CUTOFF WALL DETAIL

NO SCALE

NOTE: LOCATED UPSTREAM OF ENDWALLS. USED TO PREVENT HEAD CUTTING.



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/10/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/11/04

DATE	NO.	REVISION
6-15-05	2	REV. RIPRAP OUTLET CHART, CHANGED SHEET NO.
1-6-05	1	REV. RIPRAP DETAIL & SHEET NO.

DEVELOPER/OWNER:

(OWNER) CHASE LIMITED PARTNERSHIP P.O. BOX 850 LAUREL, MD 20725 410.792.7234

(DEVELOPER) CHASE MINING LLC P.O. BOX 850 LAUREL, MD 20725 410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43 PARCEL 234 & P.O. 235, BLOCK 19 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

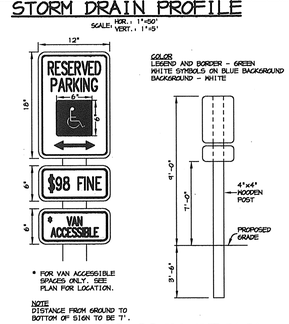
PROFILES AND DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04 DATE

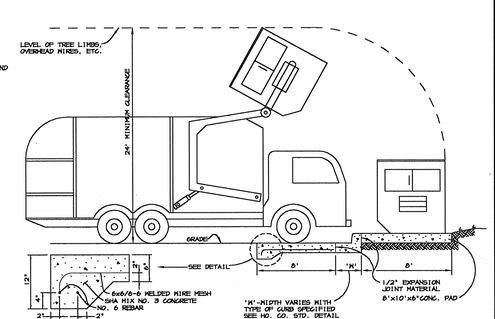
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ PROFILE.DWG
DATE :	JANUARY 29, 2004
SCALE :	AS SHOWN
DRAWING NO.	23 OF 51



HANDICAP SIGN DETAIL

NO SCALE



DUMPSTER PAD

NO SCALE

SDP-99-134

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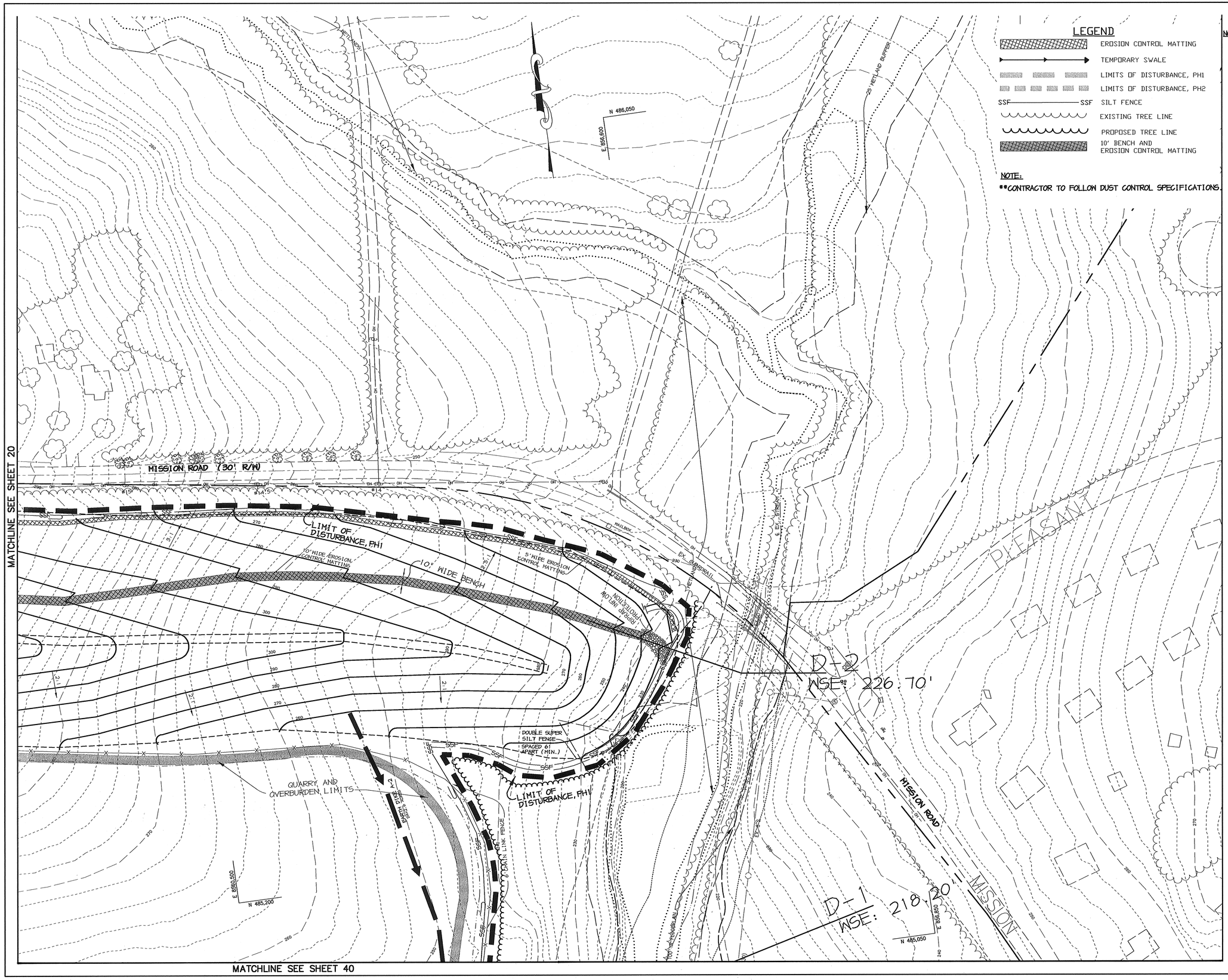

LEGEND

- EROSION CONTROL MATTING
- TEMPORARY SWALE
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SSF——SSF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- 10' BENCH AND EROSION CONTROL MATTING

NOTE:

**CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE 2/17/04 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT 2/12/04 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 3/15/04 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/20/04 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 3/11/04 DATE

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND
CHRISTOPHER J. REID
No. 19949
PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIMI1.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	22 OF 51

SDP-99-134

P:\project\990921-0\Engr\Plans\Sedimi1.dwg, Layout1, 01/29/2004 12:56:40 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
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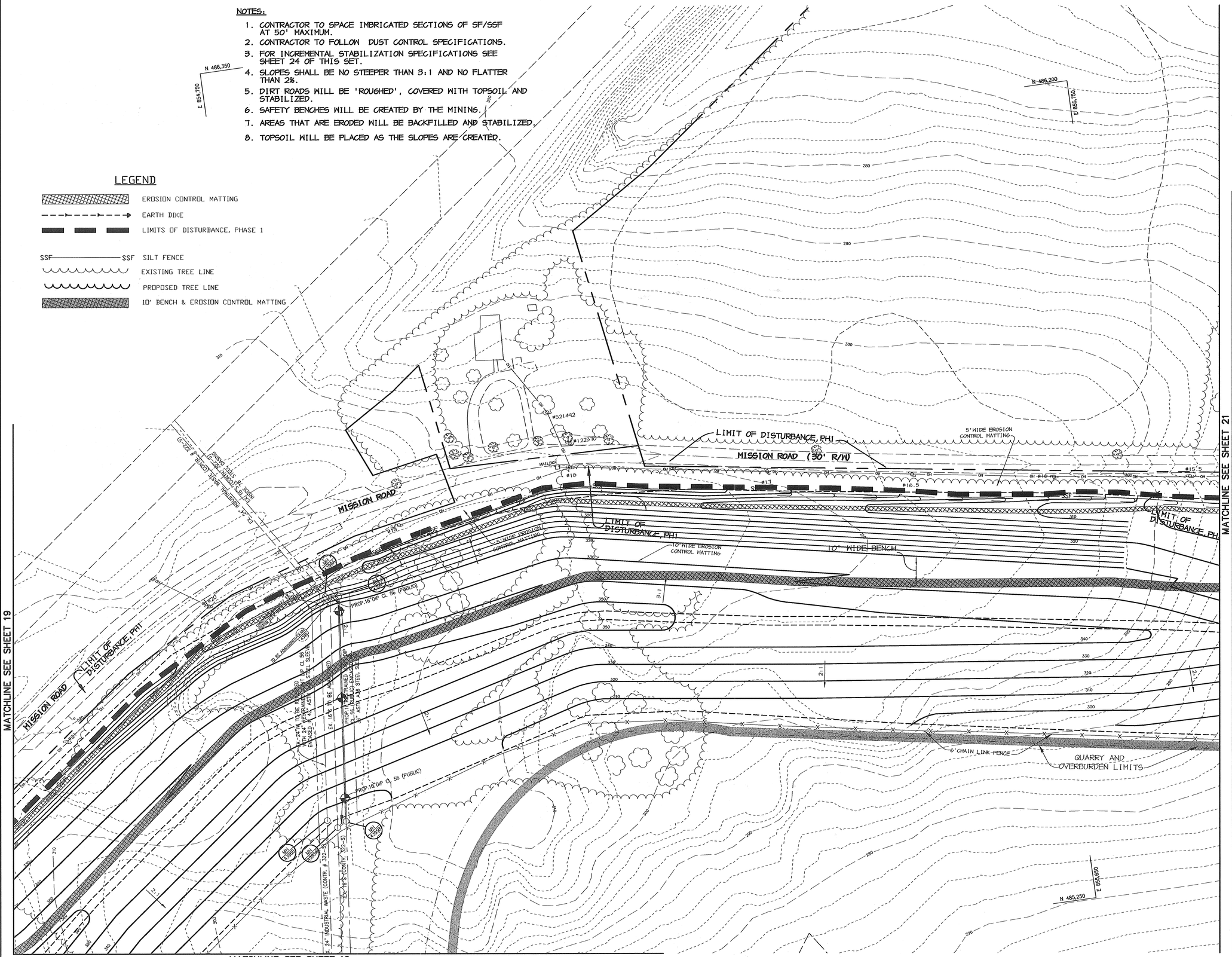
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- LIMITS OF DISTURBANCE, PHASE 1
- SSF — SSF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- 10' BENCH & EROSION CONTROL MATTING



BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers — 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Jeff [illegible] — 2/12/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Marsha S. Wright — 3/15/04
DIRECTOR — DATE

[illegible] — 2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Roberts — 3/4/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

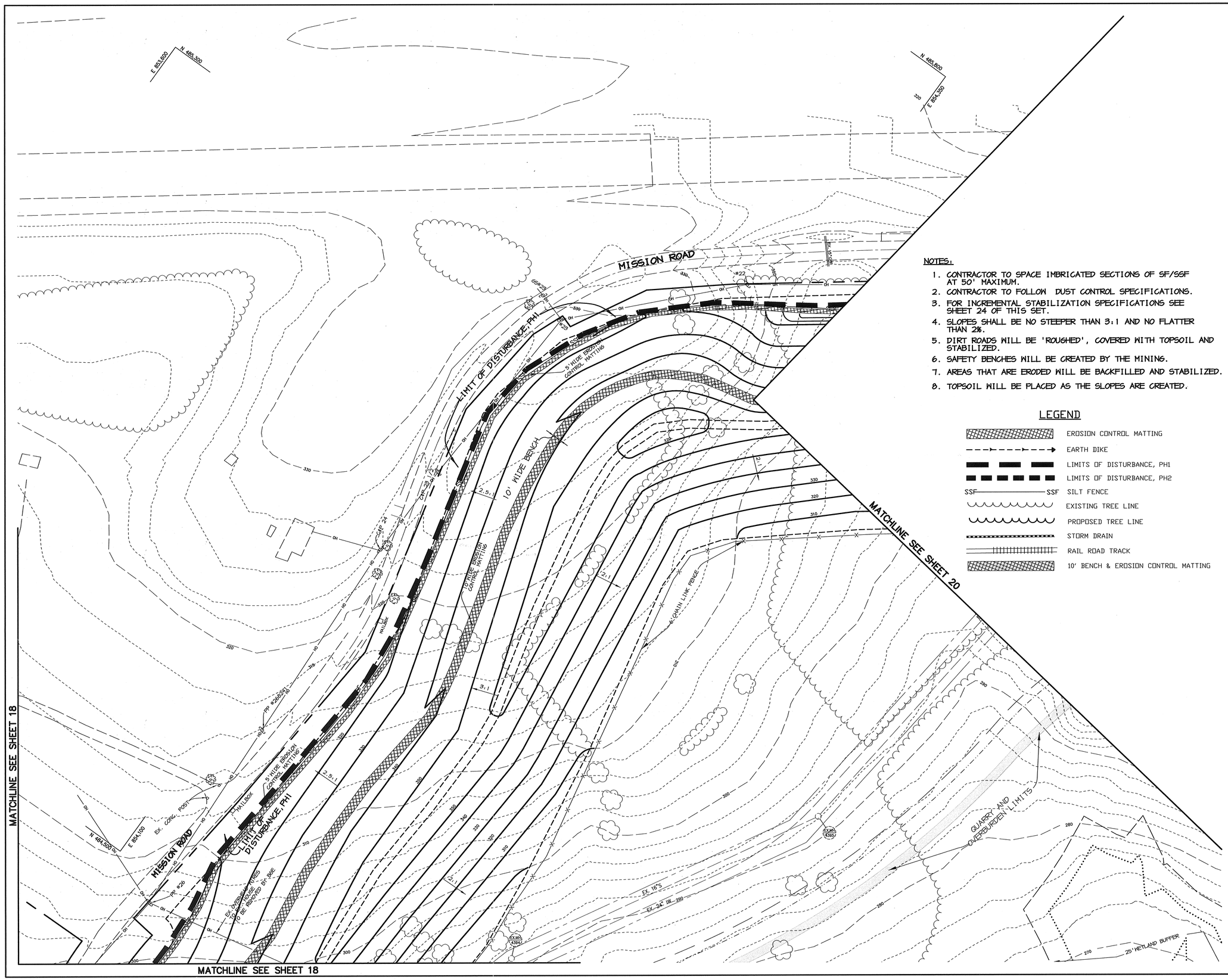
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM10.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	21 OF 51

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim10.dwg, Layout1, 01/29/2004 01:30:10 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SSF——SSF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- 10' BENCH & EROSION CONTROL MATTING

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

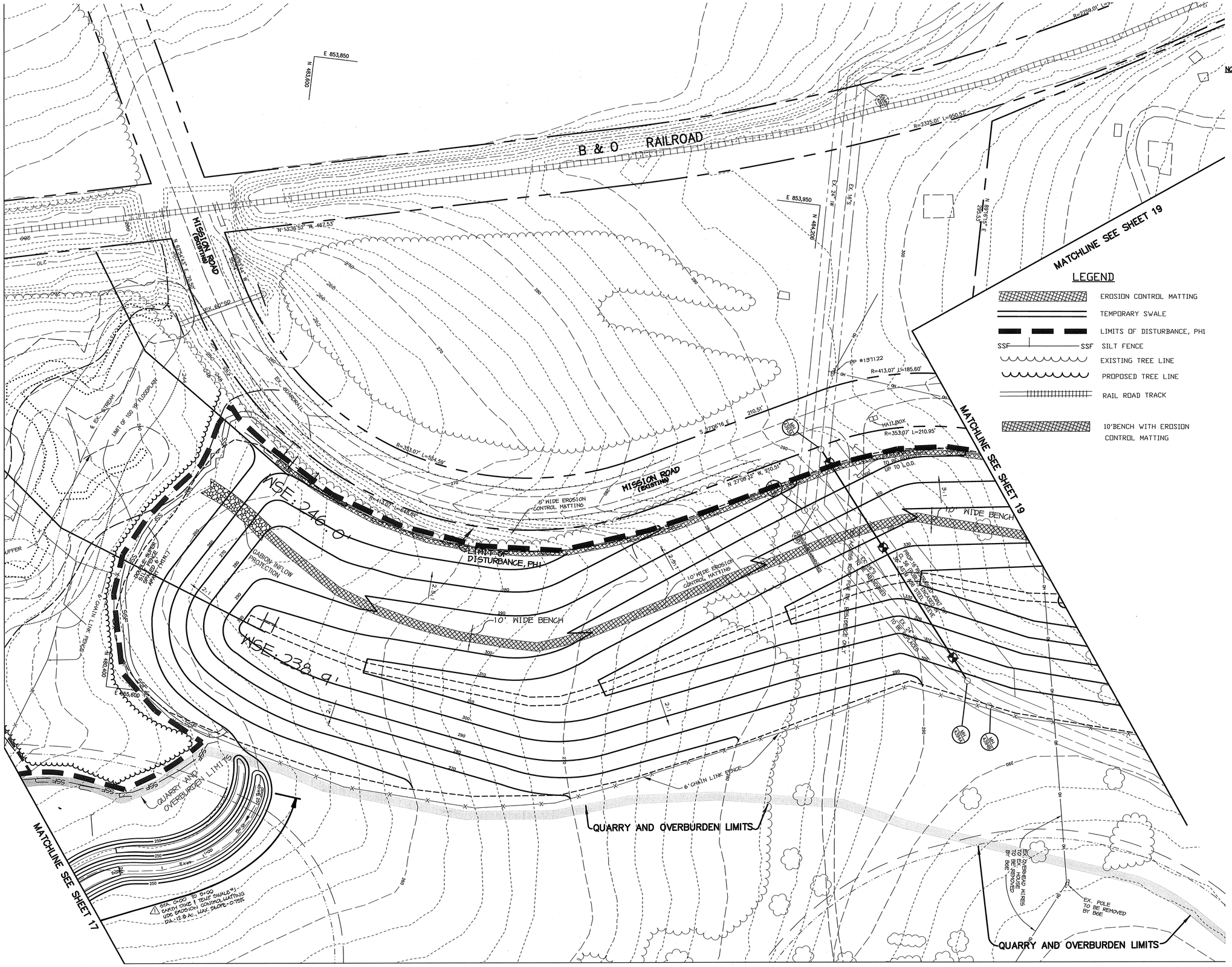
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM9.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	20 OF 51

SDP-99-134

P:\project\9909221-01\Engr\Plans\Sedim9.dwg, Layout1, 01/29/2004 12:40:27 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 2/2/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/2/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
6-13-05	2	CHANGED SHEET NO.
1-6-05	1	REV. EARTH DIKE & SWALE & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

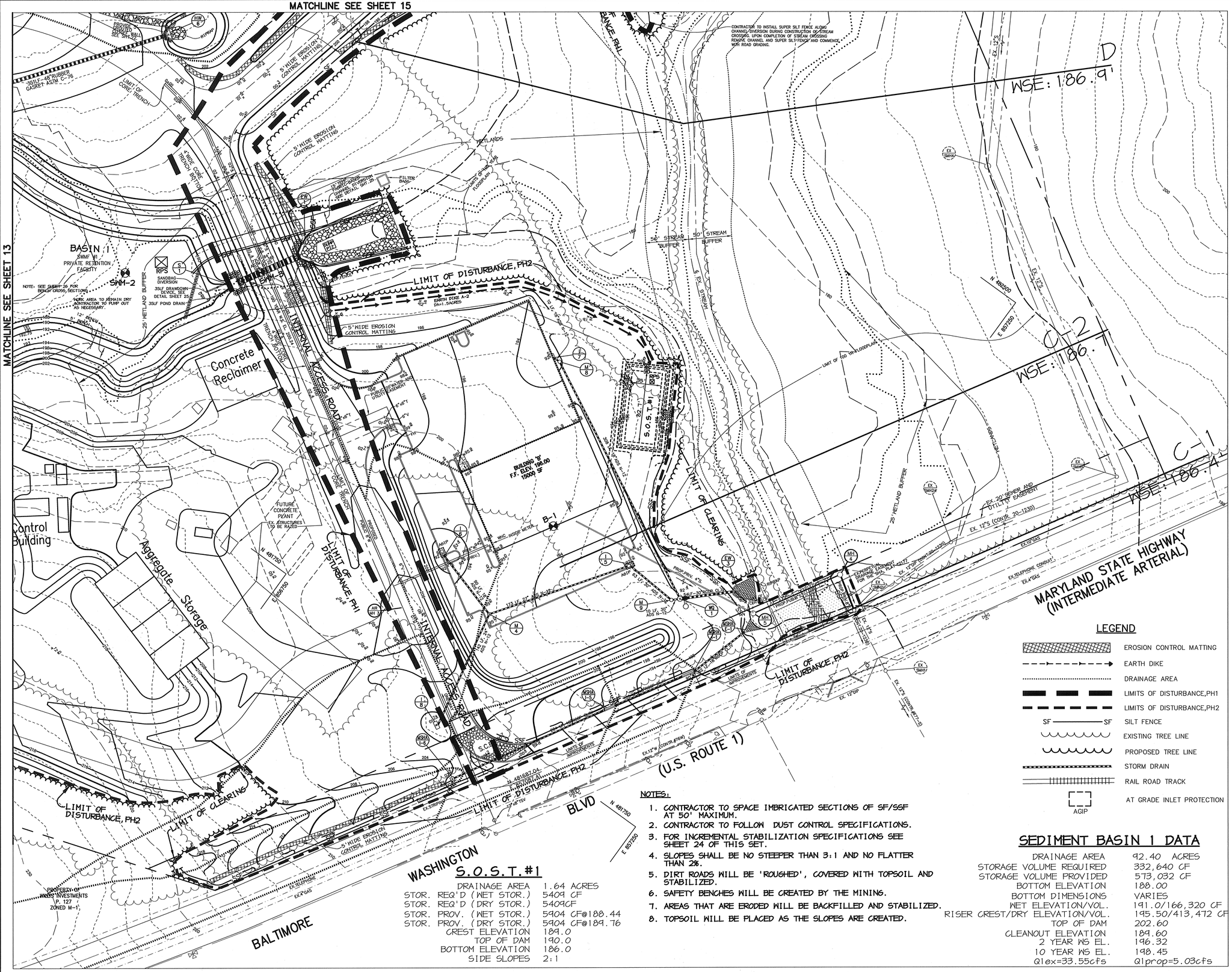
STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM8.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	19 OF 51

SDP-99-134

P:\project\9909\21-01\Engr\Plans\Sedim8.dwg, Layout1, 01/29/2004 12:39:50 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SF —— SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- AGIP AT GRADE INLET PROTECTION

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
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7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

S.O.S.T. #1

DRAINAGE AREA	1.64 ACRES
STOR. REQ'D (WET STOR.)	5409 CF
STOR. REQ'D (DRY STOR.)	5409CF
STOR. PROV. (WET STOR.)	5404 CF@188.44
STOR. PROV. (DRY STOR.)	5404 CF@189.76
CREST ELEVATION	189.0
TOP OF DAM	190.0
BOTTOM ELEVATION	186.0
SIDE SLOPES	2:1

SEDIMENT BASIN 1 DATA

DRAINAGE AREA	92.40 ACRES
STORAGE VOLUME REQUIRED	332,640 CF
STORAGE VOLUME PROVIDED	573,032 CF
BOTTOM ELEVATION	188.00
BOTTOM DIMENSIONS	VARIES
WET ELEVATION/VOL.	191.0/166,320 CF
RISER CREST/DRY ELEVATION/VOL.	195.50/413,472 CF
TOP OF DAM	202.60
CLEANOUT ELEVATION	189.60
2 YEAR WS EL.	196.32
10 YEAR WS EL.	198.45
Qlex=33.55cfs	Qlprop=5.03cfs

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christ J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

2/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM4.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	15 OF 51

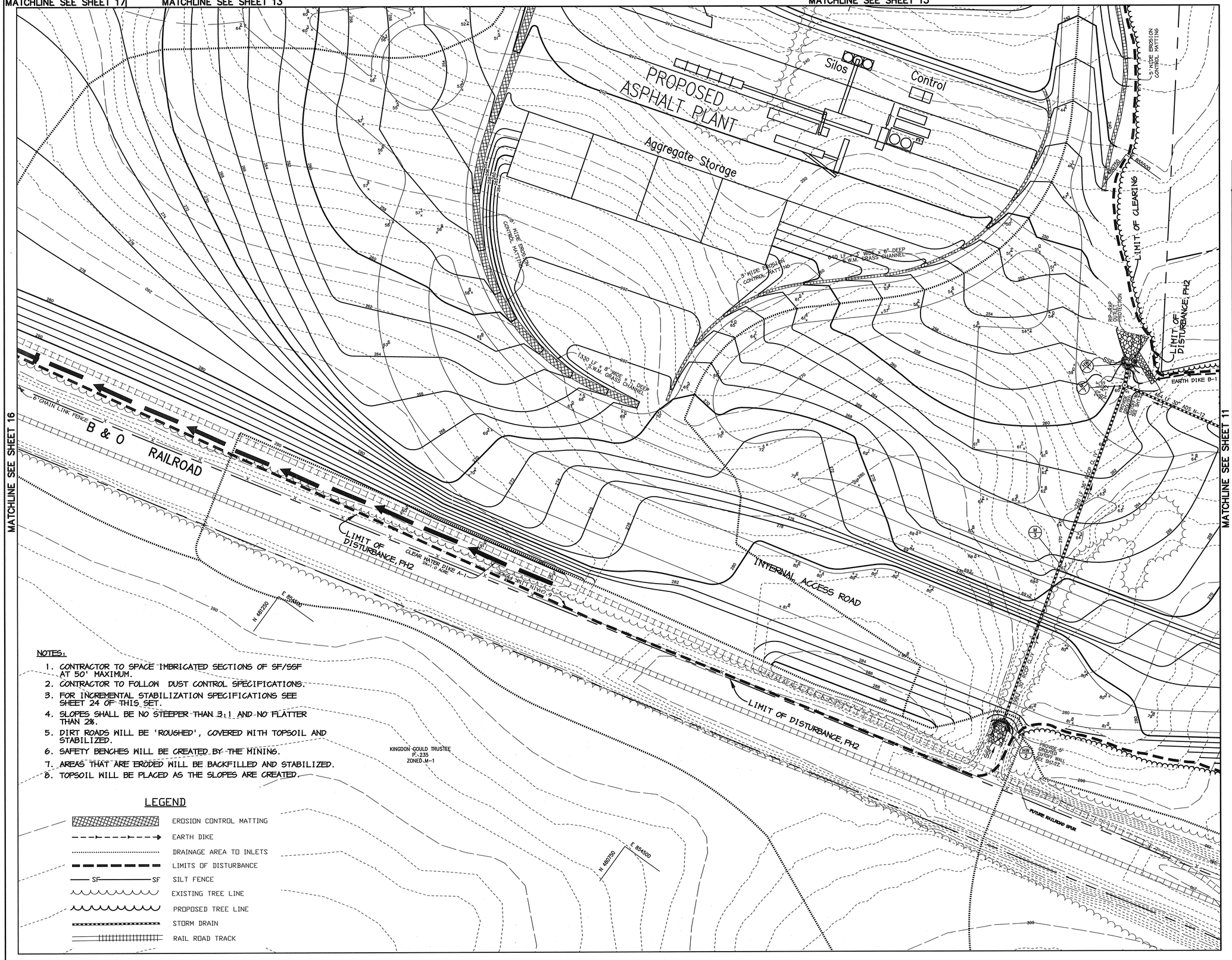
SDP-99-134

P:\project\990921-01\Engr\Plans\Sedim4.dwg, Layout1, 01/29/2004 12:34:10 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 17 | MATCHLINE SEE SHEET 13 | MATCHLINE SEE SHEET 13

MATCHLINE SEE SHEET 16

MATCHLINE SEE SHEET 11



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

NOTE: THIS PLAN IS FOR SEDIMENT CONTROL AND DRAINAGE AREA INFORMATION ONLY. SEE SHEET 5 FOR GRADING.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 1-30-04
DEVELOPER — DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J. Reid — 1.30.04
ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers — 2/12/04
NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/12/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR — DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	ADDED NOTE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

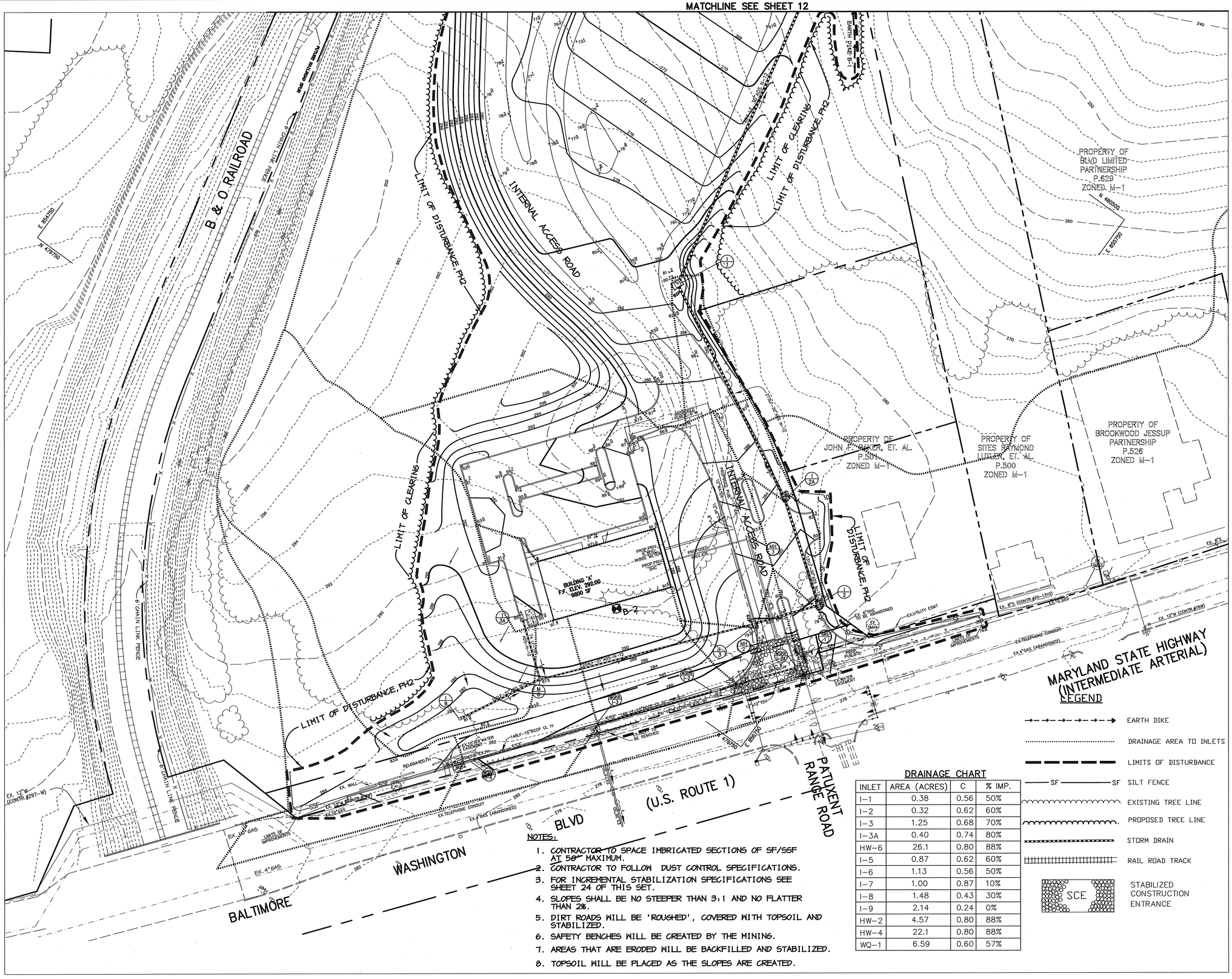
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/SEDIM2.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	13 OF 51

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim2.dwg, Layout1, 01/29/2004 12:32:57 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 12



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

DRAINAGE CHART

INLET	AREA (ACRES)	C	% IMP.
I-1	0.38	0.56	50%
I-2	0.32	0.62	60%
I-3	1.25	0.68	70%
I-3A	0.40	0.74	80%
HW-6	26.1	0.80	88%
I-5	0.87	0.62	60%
I-6	1.13	0.56	50%
I-7	1.00	0.87	10%
I-8	1.48	0.43	30%
I-9	2.14	0.24	0%
HW-2	4.57	0.80	88%
HW-4	22.1	0.80	88%
WQ-1	6.59	0.60	57%

LEGEND

- EARTH DIKE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- SCE STABILIZED CONSTRUCTION ENTRANCE

⚠ NOTE: THIS PLAN IS FOR SEDIMENT CONTROL AND DRAINAGE AREA INFORMATION ONLY. SEE SHEET 4 FOR GRADING.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christopher J. Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE 2/2/04
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT 2/2/04
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 3/15/04
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/20/04
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 3/11/04
DATE

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	ADDED NOTE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

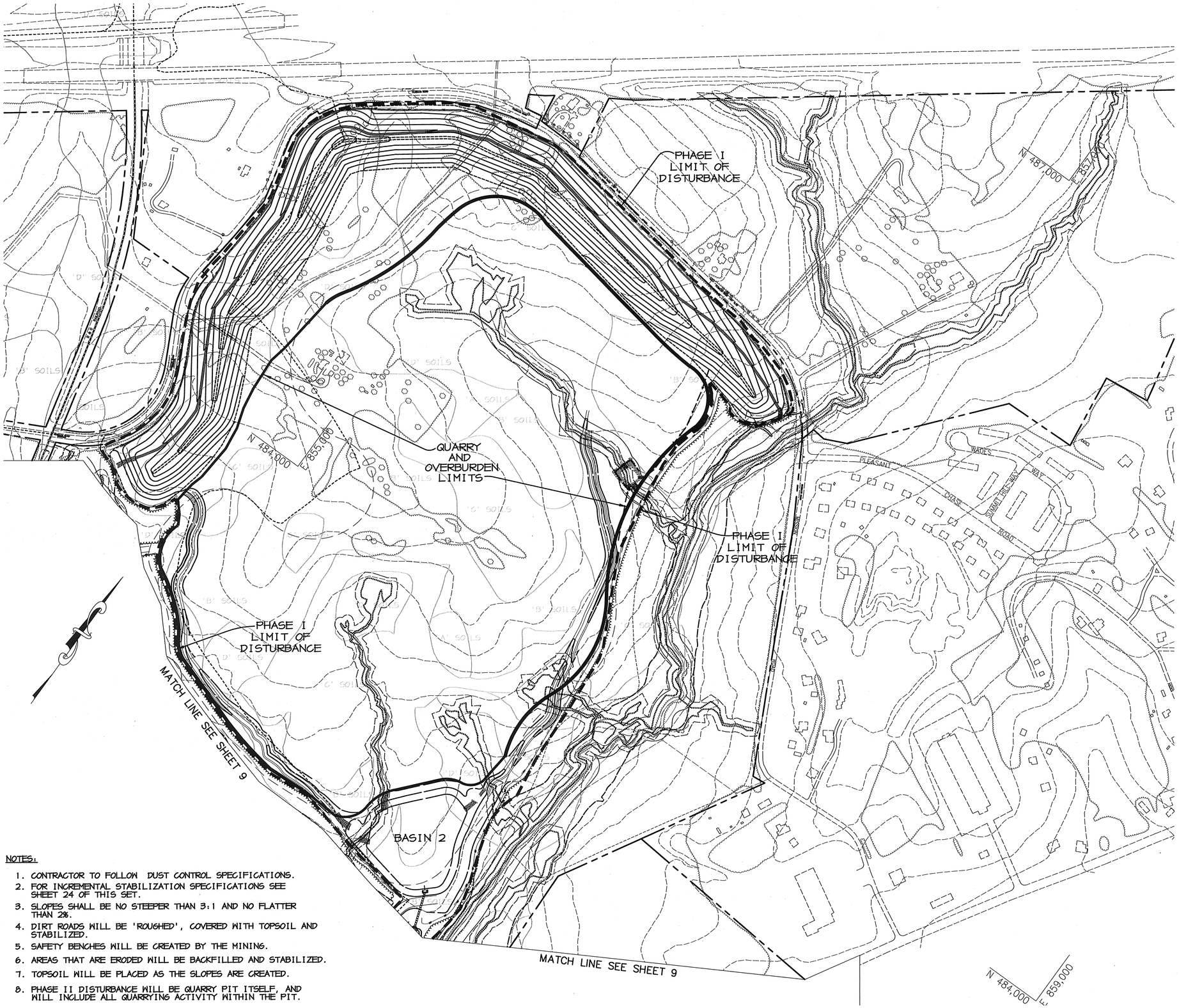
STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIMI.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	12 OF 51

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim1.dwg, Layout1, 01/29/2004 12:32:18 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EXISTING CONTOURS (300)
- PROPOSED CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EXISTING SOILS
- EASEMENT
- EXISTING FENCE
- DRAINAGE AREA DIVIDE TO INLETS
- LIMIT OF DISTURBANCE, PHASE I
- EROSION CONTROL MATTING
- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- RIP RAP OUTLET PROTECTION
- GABION INFLOW PROTECTION
- EARTH DIKE
- TEMPORARY SWALE
- LIMIT OF 100-YR FLOODPLAIN
- RPS — REMOVABLE PUMPING STATION
- 10' BENCH ALONG LANDSCAPE BERM
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM

NOTES:

1. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
2. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
3. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
4. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
5. SAFETY BENCHES WILL BE CREATED BY THE MINING.
6. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
7. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.
8. PHASE II DISTURBANCE WILL BE QUARRY PIT ITSELF, AND WILL INCLUDE ALL QUARRYING ACTIVITY WITHIN THE PIT.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 2/25/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL EROSION & SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1-30-04
DATE

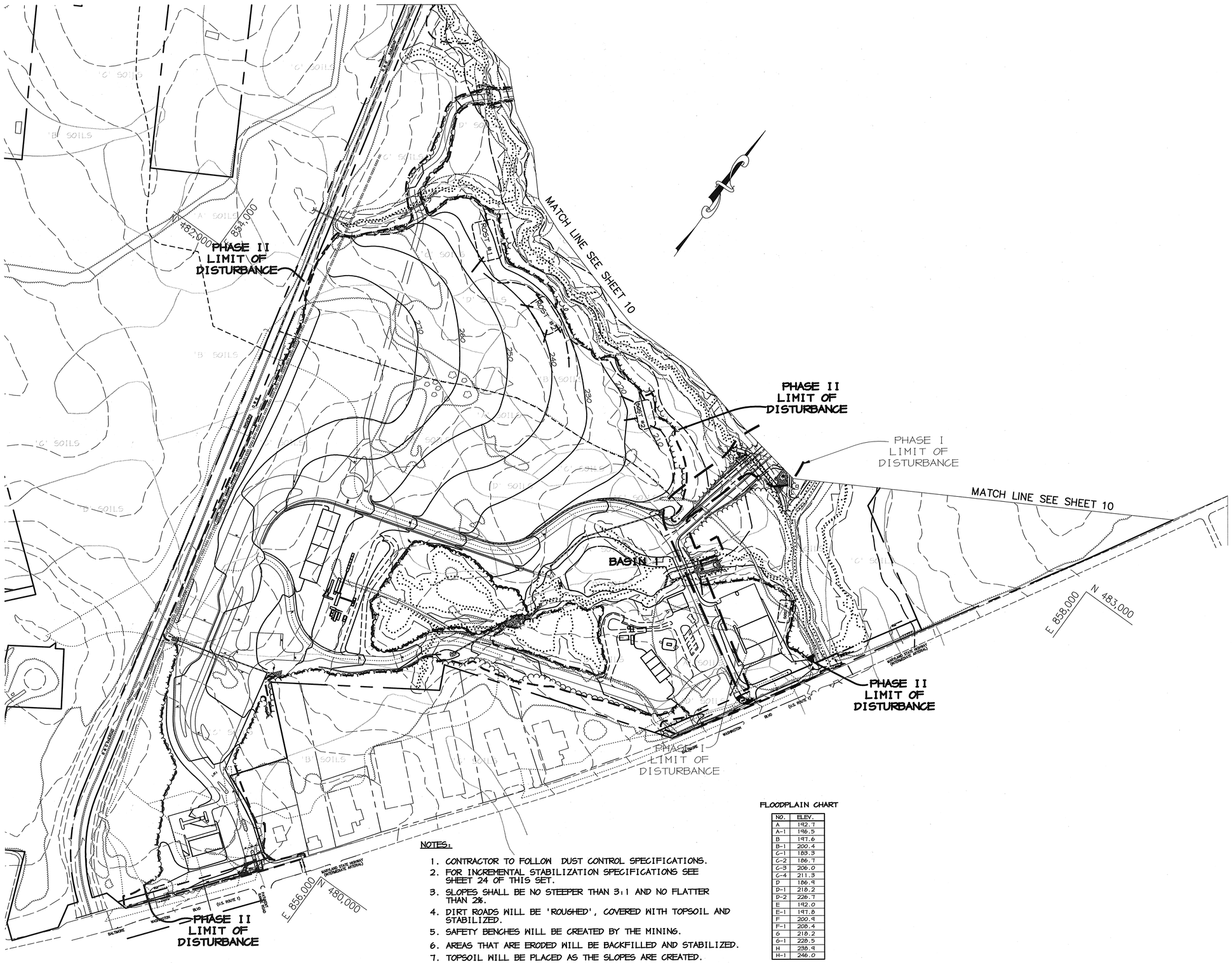
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.	
DRAWN BY :	
CHECKED BY : C.J.R.	
PROJECT NO : 99092/OVER10.DWG	
DATE : JANUARY 29, 2004	
SCALE : 1" = 200'	
DRAWING NO. 11 OF 51	

SDP-99-134

P:\project\990921-10\Engr\Plans\OVER10.dwg, Layout1, 01/29/2004 12:28:26 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



LEGEND

- EXISTING CONTOURS (300)
- PROPOSED CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EXISTING SOILS
- EASEMENT
- PROPOSED FENCE
- DRAINAGE AREA DIVIDE TO INLETS
- LIMIT OF DISTURBANCE, PHASE I
- LIMIT OF DISTURBANCE, PHASE II
- EROSION CONTROL MATTING
- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- RIP RAP OUTLET PROTECTION
- GABION INFLOW PROTECTION
- EARTH DIKE
- TEMPORARY SWALE
- WET BUFFER LIMITS
- RPS — REMOVABLE PUMPING STATION
- 100-YR FLOODPLAIN LIMITS
- 50'STREAM BUFFER
- EXISTING STREAM

NOTES:

1. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
2. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
3. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
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7. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

FLOODPLAIN CHART

NO.	ELEV.
A	192.7
A-1	196.5
B	197.6
B-1	200.4
C-1	183.3
C-2	186.7
C-3	206.0
C-4	211.3
D	186.9
D-1	210.2
D-2	226.7
E	192.0
E-1	197.8
F	200.9
F-1	208.4
G	210.2
G-1	228.5
H	230.9
H-1	246.0

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 2/25/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

OVERALL EROSION & SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

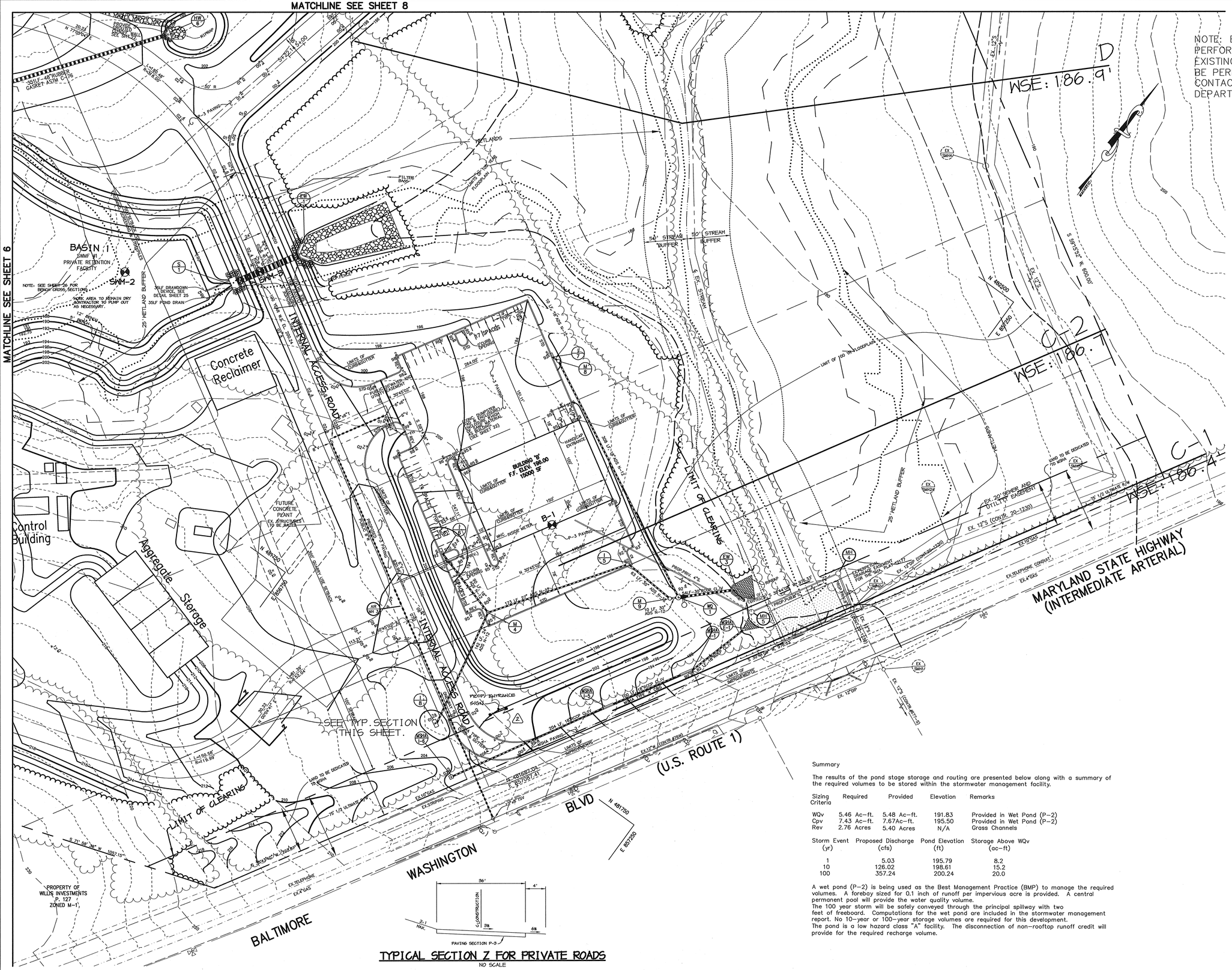
DESIGNED BY : C.J.R.	
DRAWN BY :	
CHECKED BY : C.J.R.	
PROJECT NO : 99092/OVER4.DWG	
DATE : JANUARY 29, 2004	
SCALE : 1" = 200'	
DRAWING NO. 10 OF 51	

SDP-99-134

P:\project\990921-01\Engr\Plans\OVER9.dwg, Layout1, 01/29/2004 12:27:48 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 6



NOTE: EXISTING WELL ABANDONMENTS SHOULD BE PERFORMED BY LICENSED WELL DRILLERS. EXISTING SEPTIC SYSTEM ABANDONMENTS SHOULD BE PERFORMED BY PRIVATE CONTRACTORS. CONTACT HOWARD COUNTY HEALTH DEPARTMENT TO COORDINATE ABANDONMENT.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING
- MSHA PAVING

Summary

The results of the pond stage storage and routing are presented below along with a summary of the required volumes to be stored within the stormwater management facility.

Sizing Criteria	Required	Provided	Elevation	Remarks
WQv	5.46 Ac-ft.	5.48 Ac-ft.	191.83	Provided in Wet Pond (P-2)
Cpv	7.43 Ac-ft.	7.67Ac-ft.	195.50	Provided in Wet Pond (P-2)
Rev	2.76 Acres	5.40 Acres	N/A	Grass Channels

Storm Event (yr)	Proposed Discharge (cfs)	Pond Elevation (ft)	Storage Above WQv (ac-ft)
1	5.03	195.79	8.2
10	126.02	198.61	15.2
100	357.24	200.24	20.0

A wet pond (P-2) is being used as the Best Management Practice (BMP) to manage the required volumes. A forebay sized for 0.1 inch of runoff per impervious acre is provided. A central permanent pool will provide the water quality volume.
The 100 year storm will be safely conveyed through the principal spillway with two feet of freeboard. Computations for the wet pond are included in the stormwater management report. No 10-year or 100-year storage volumes are required for this development.
The pond is a low hazard class "A" facility. The disconnection of non-rooftop runoff credit will provide for the required recharge volume.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 3/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/20/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/04

DATE	NO.	REVISION
6-15-05	2	ADDED ENTRANCE SIGN, CHANGED SHEET NUMBER
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

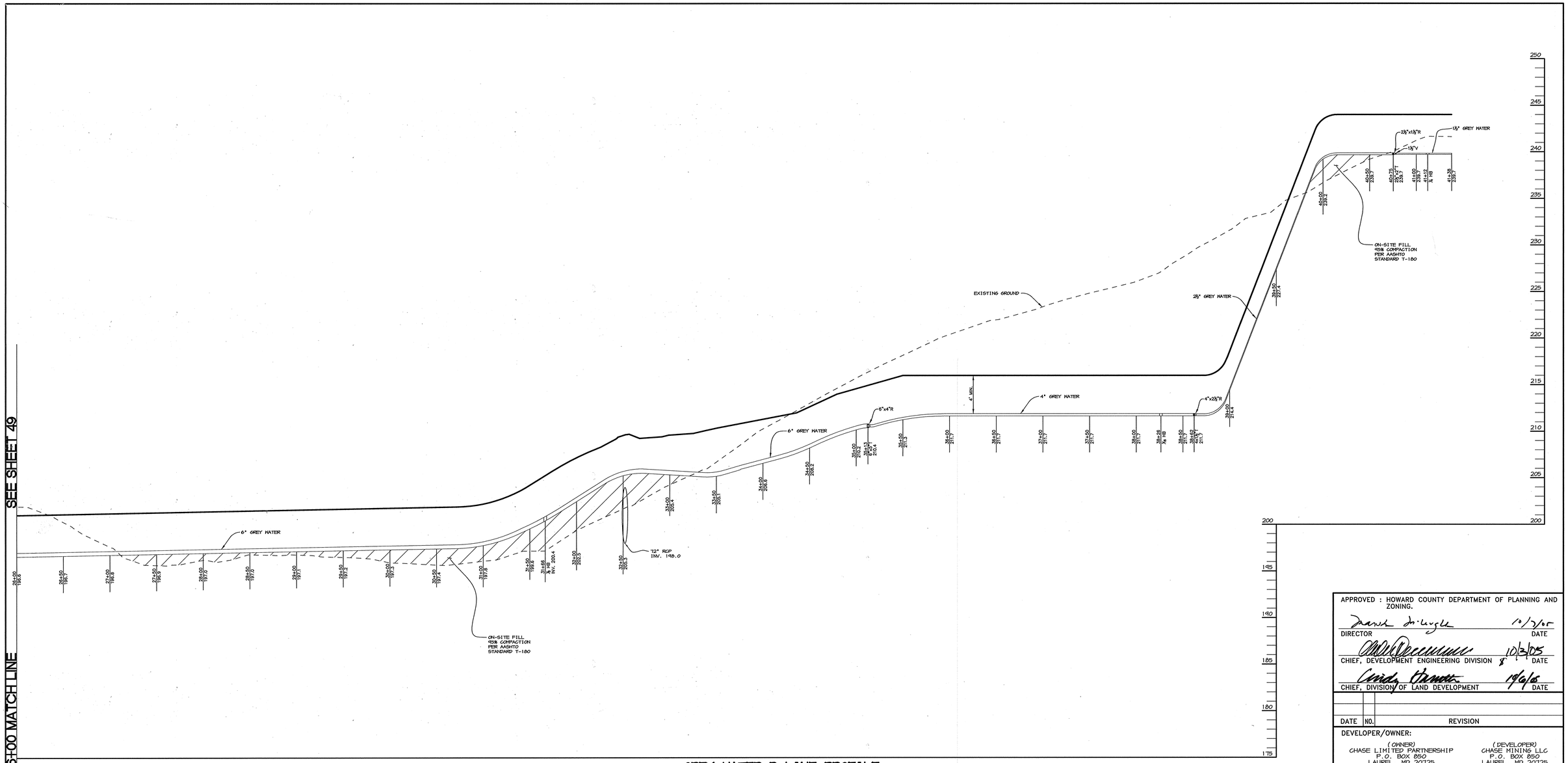
STATE OF MARYLAND CHRISTOPHER J. REID NO. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SDP-7.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	7 OF 51

SDP-99-134

P:\project\990921-01\Engr\Plans\Sdp-7.dwg, Layout1, 01/29/2004 12:25:54 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1



GREY WATER B-LINE PROFILE

HOR.: 1"=50'
VERT.: 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/7/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

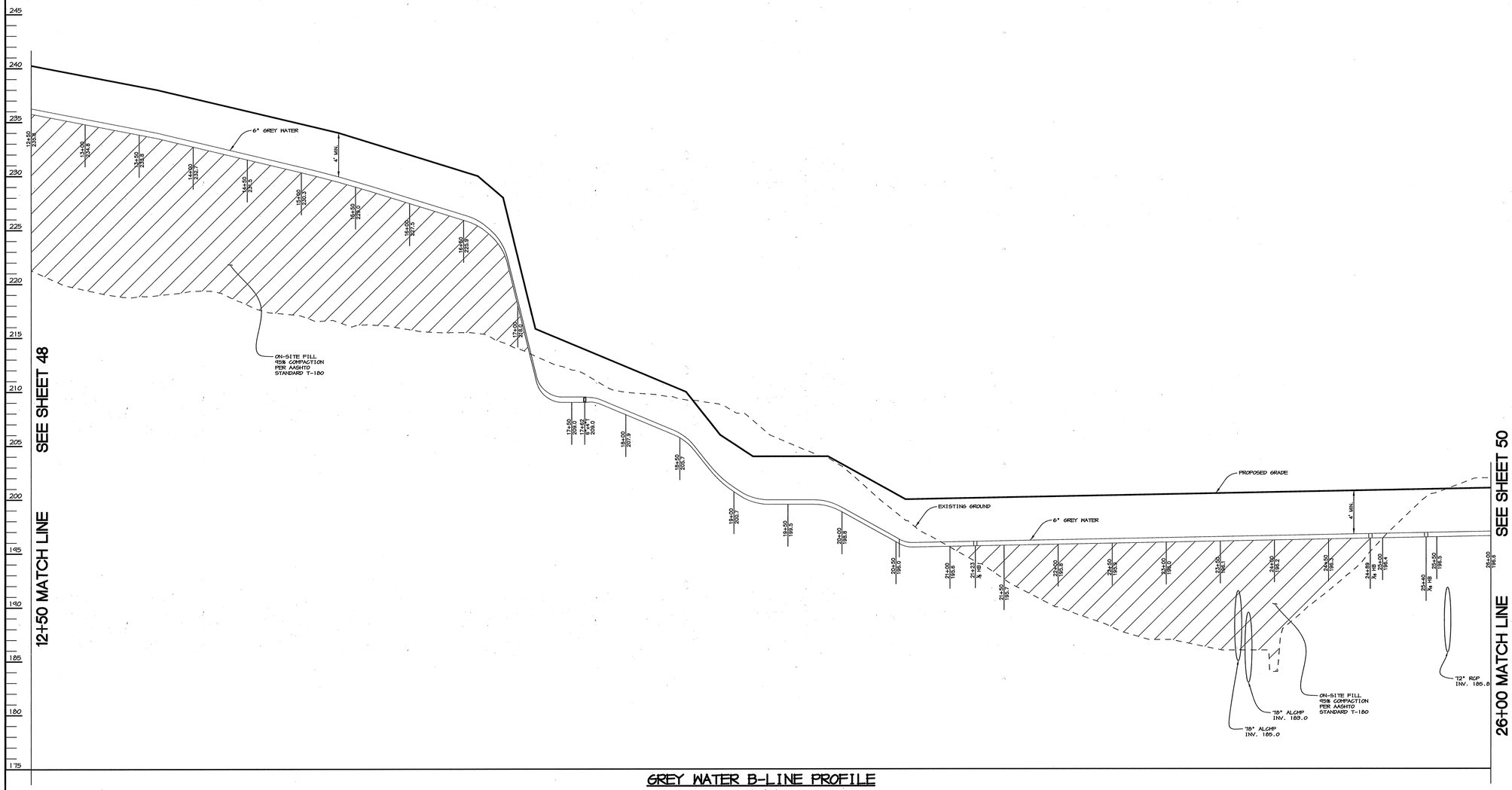
8.30.05
DATE

STATE OF MARYLAND AIMEE C. REMINGTON

AIMEE C. REMINGTON #29923

DESIGNED BY : ACR	
DRAWN BY : EMR	
CHECKED BY : ACR	
PROJECT NO : 99092/PROFILE8-W&S	
DATE : AUGUST 30, 2005	
SCALE : AS SHOWN	
DRAWING NO. 51 OF 51	

SDP-99-134



GREY WATER B-LINE PROFILE

HOR.: 1"=50'
VERT.: 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/7/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
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410.792.7234

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P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

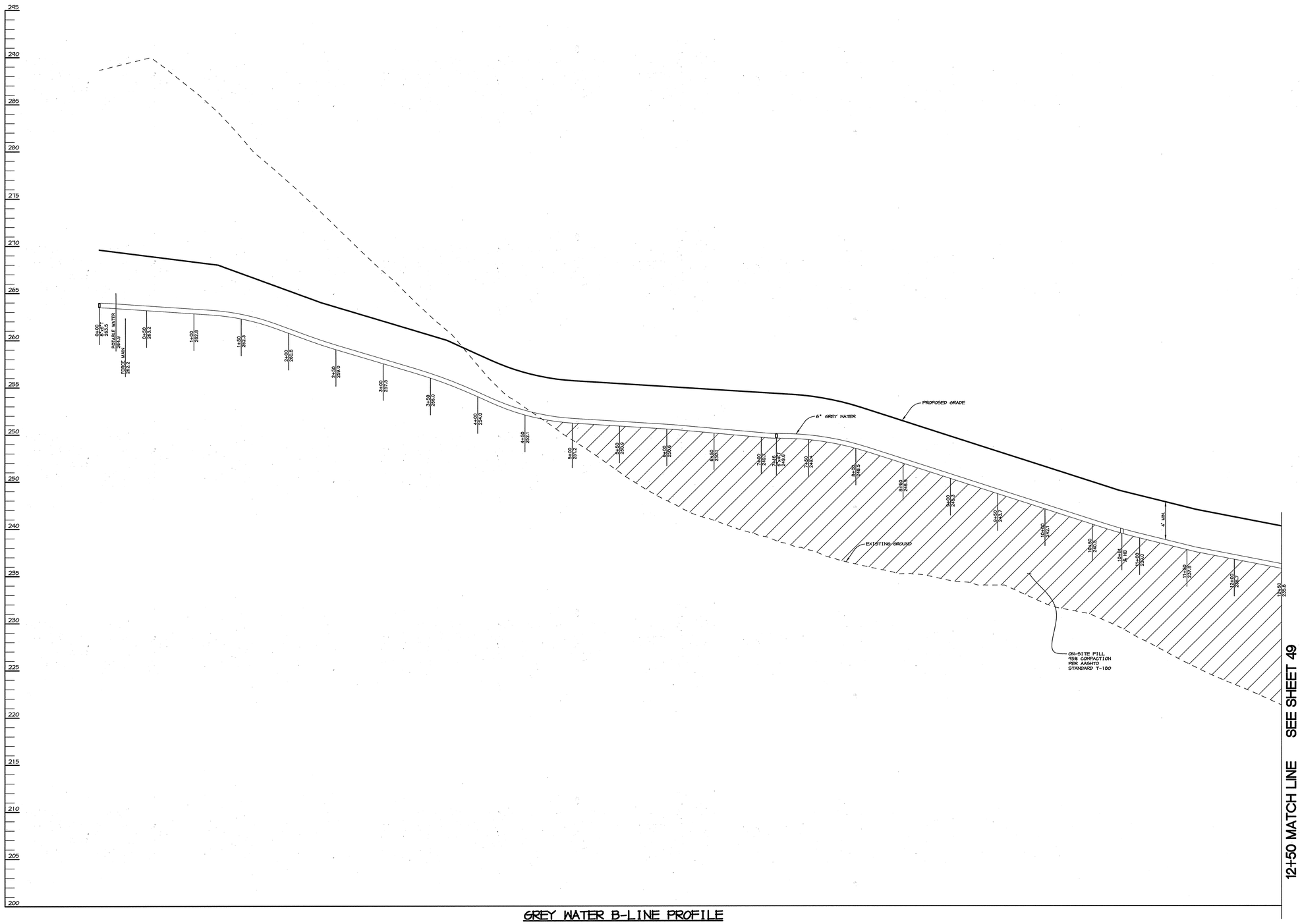
8-30-05
DATE

STATE OF MARYLAND
AIMEE C. REMINGTON
No. 29923
PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #29923

DESIGNED BY : ACR	
DRAWN BY : EMR	
CHECKED BY : ACR	
PROJECT NO : 99092/PROFILE8-W&S	
DATE : AUGUST 30, 2005	
SCALE : AS SHOWN	
DRAWING NO. 50 OF 51	

SDP-99-134



GREY WATER B-LINE PROFILE

HOR. : 1"=50'
VERT. : 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

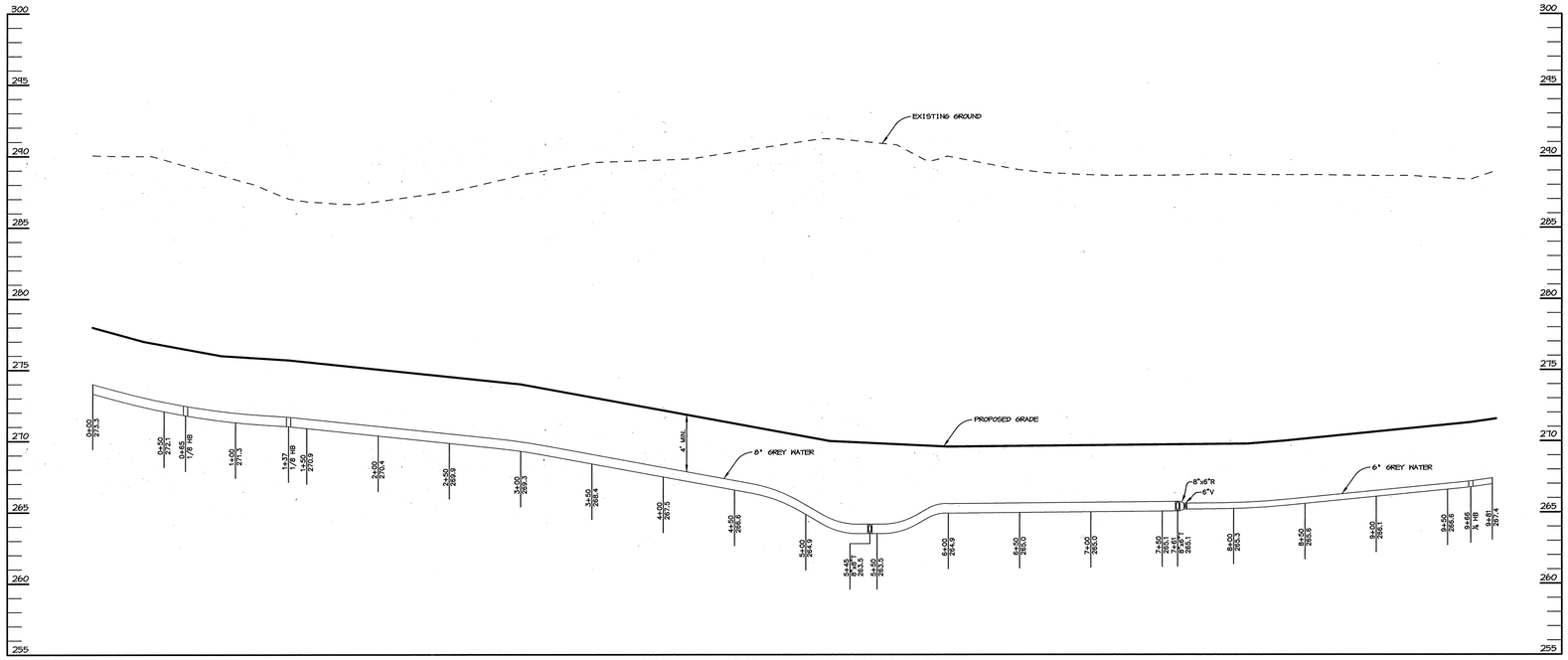
8.30.05
DATE

STATE OF MARYLAND AIMEE C. REMINGTON No. 23923 PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #23923

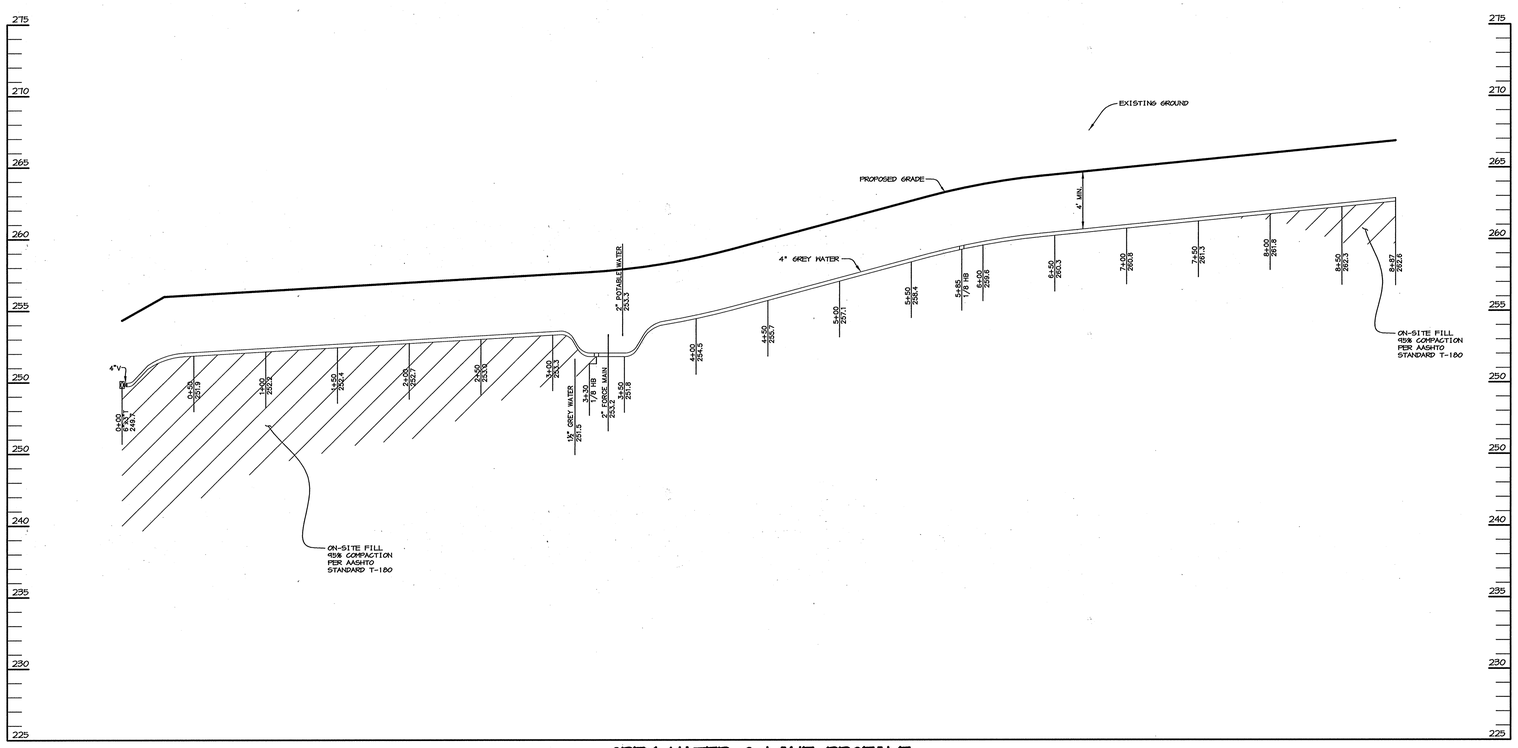
DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/PROFILE8-W&S
DATE :	AUGUST 30, 2005
SCALE :	AS SHOWN
DRAWING NO.	49 OF 51

SDP-99-134



GREY WATER A-LINE PROFILE

HOR.: 1"=50'
VERT.: 1"=5'



GREY WATER C-LINE PROFILE

HOR.: 1"=50'
VERT.: 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/7/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

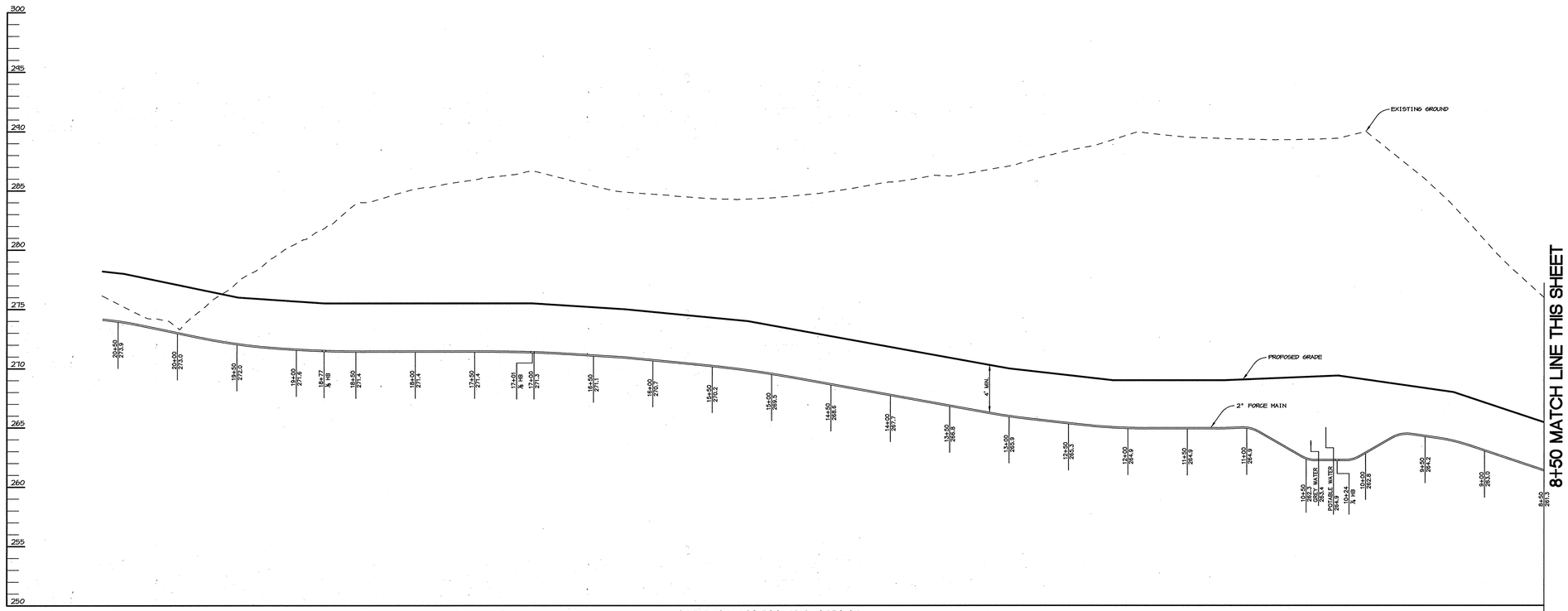
8.30.05
DATE

STATE OF MARYLAND
AIMEE C. REMINGTON
No. 29923
PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #29923

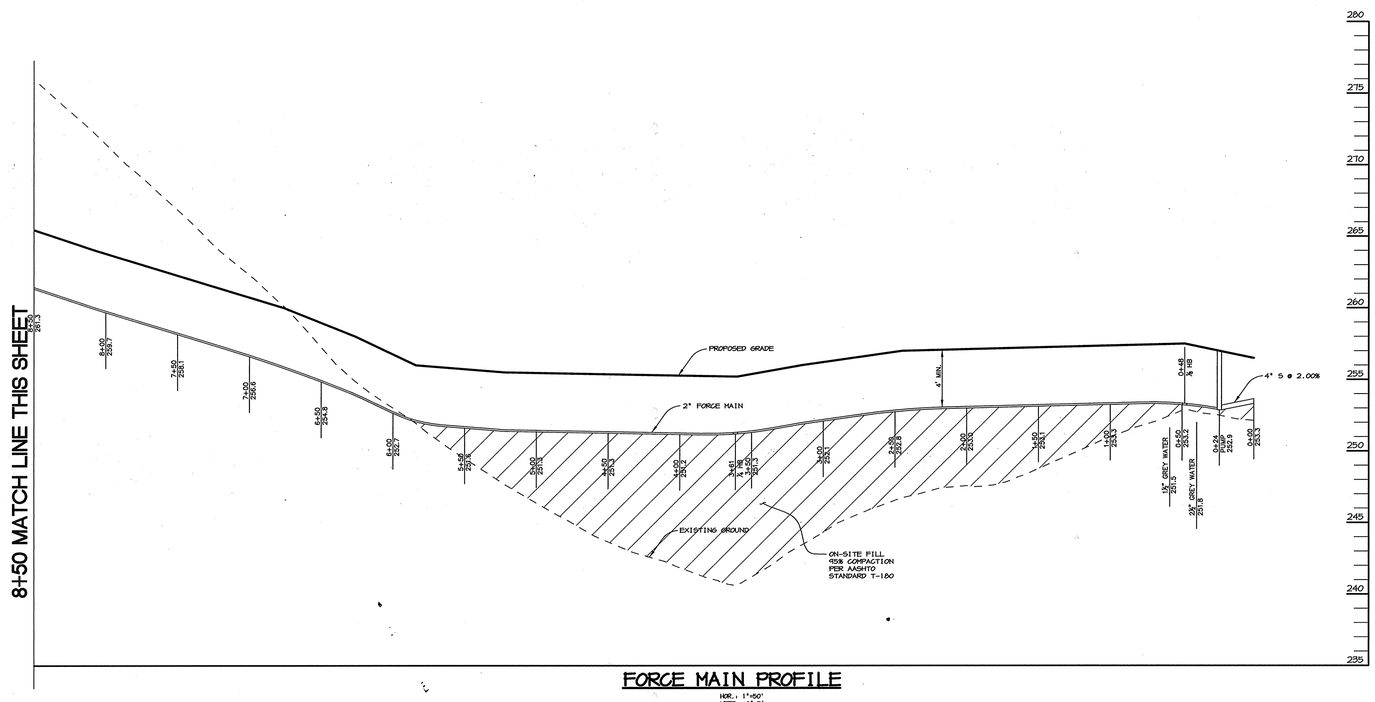
DESIGNED BY : ACR	
DRAWN BY : EMR	
CHECKED BY : ACR	
PROJECT NO : 99092/PROFILES-W&S	
DATE : AUGUST 30, 2005	
SCALE : AS SHOWN	
DRAWING NO. 48 OF 51	

SDP-99-134



FORCE MAIN PROFILE

HOR.: 1"=50'
VERT.: 1"=5'



FORCE MAIN PROFILE

HOR.: 1"=50'
VERT.: 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

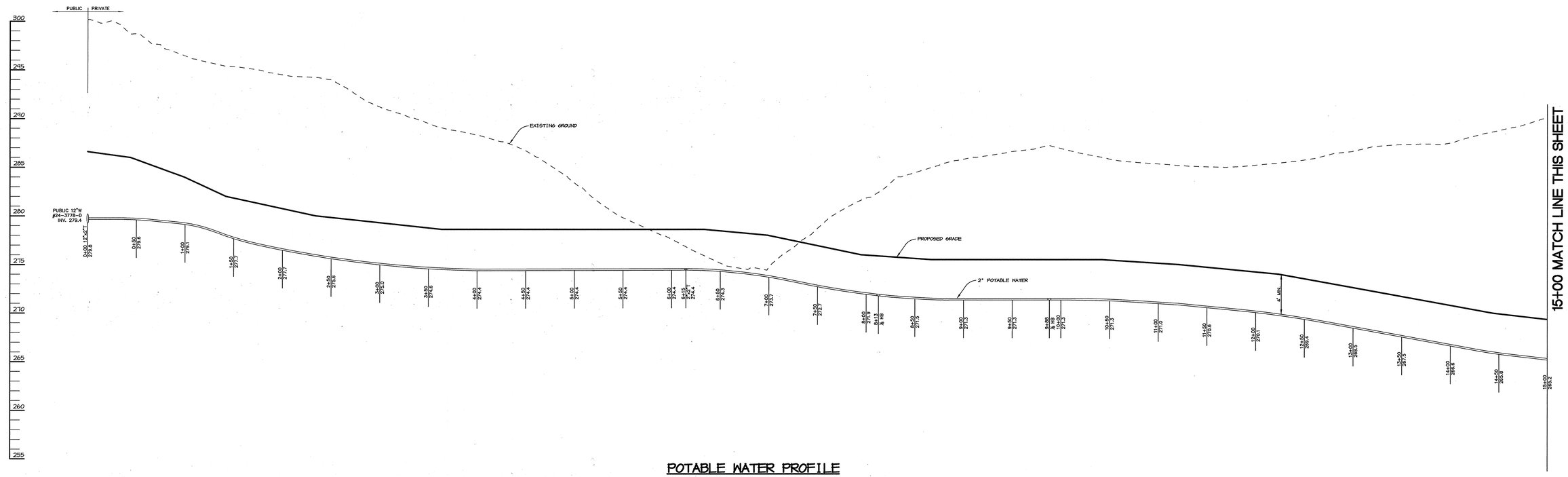
8-30-05
DATE

STATE OF MARYLAND — AIMEE C. REMINGTON — No. 29923 — PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #29923

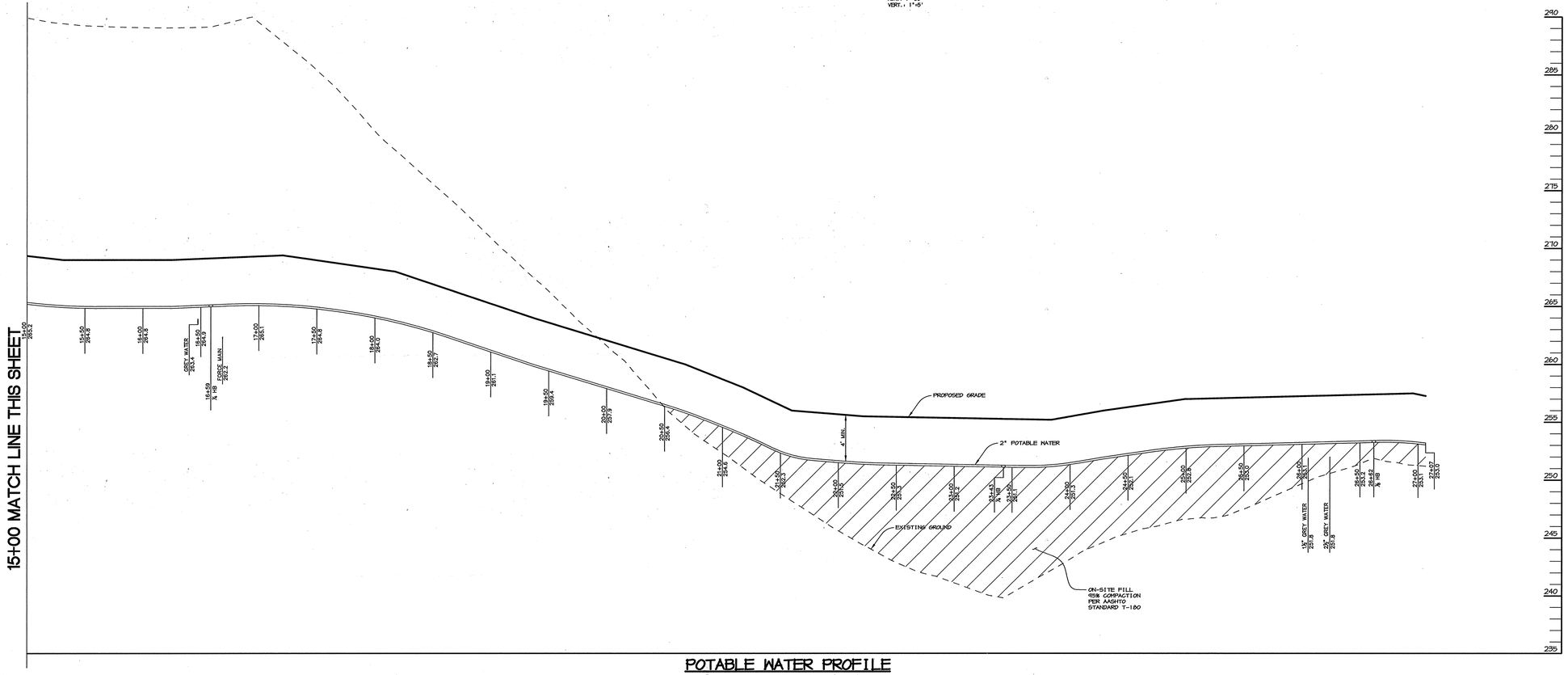
DESIGNED BY : ACR	
DRAWN BY : EMR	
CHECKED BY : ACR	
PROJECT NO : 99092/PROFILE8-W&S	
DATE : AUGUST 30, 2005	
SCALE : AS SHOWN	
DRAWING NO. 47 OF 51	

SDP-99-134



POTABLE WATER PROFILE

HOR.: 1"=50'
VERT.: 1"=5'



POTABLE WATER PROFILE

HOR.: 1"=50'
VERT.: 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

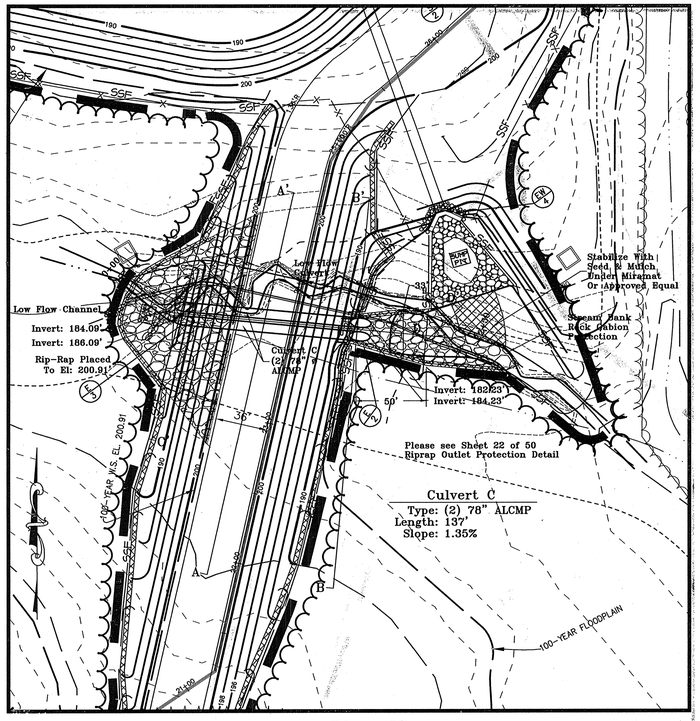
8-30-05
DATE

STATE OF MARYLAND
AIMEE C. REMINGTON
No. 29923
PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #29923

DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/ PROFILE8-W&S
DATE :	AUGUST 30, 2005
SCALE :	AS SHOWN
DRAWING NO.	46 OF 51

SDP-99-134

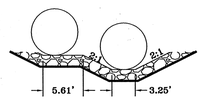


Affected Stream ■ 2,080.38 Sq.Ft.

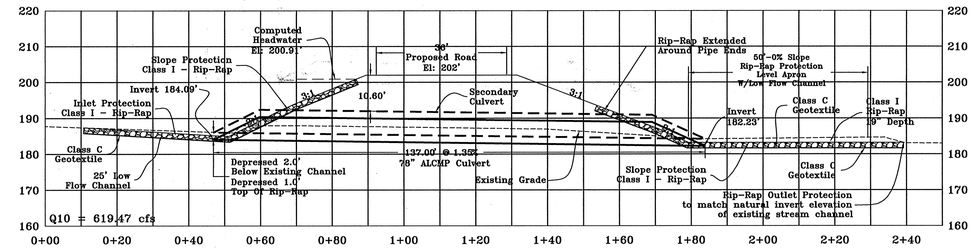
Plan View
Scale: 1"=50'

Legend

- Existing Grade Contours
- Surveyed Contours
- Final Grade Contours
- Limits Of Disturbance
- Rock Rip-Rap
- Super Silt Fence — SSF
- Erosion Control Matting

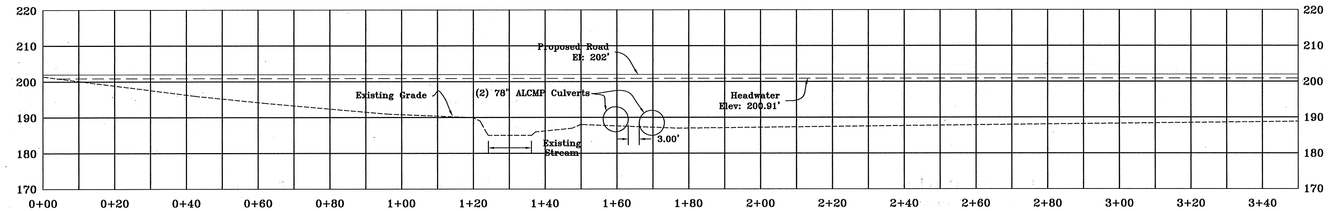


Detail #1
Scale: 1"=10'

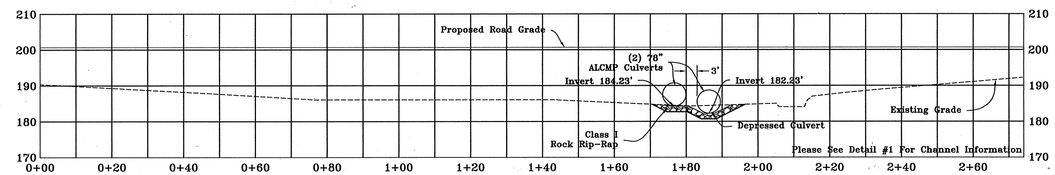


Notes:
Design Load = 360,000lbs
Min. Cover = 4'
Max. Road Grade = 7%

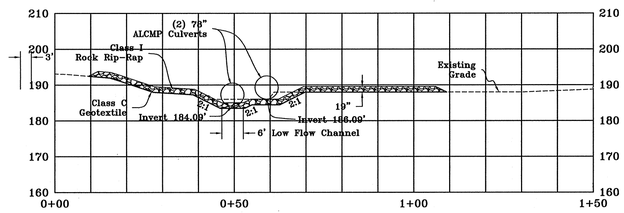
E-2 TO E-3 PROFILE
Scale: 1"=20'



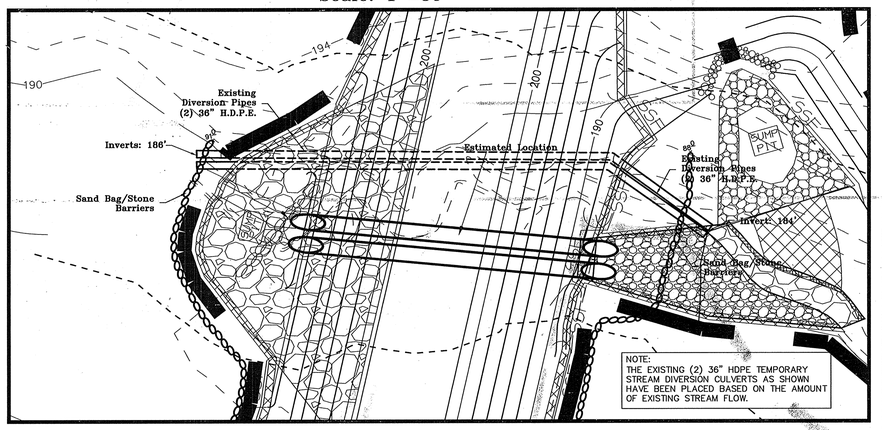
Section A - A'
Scale: 1"=20'



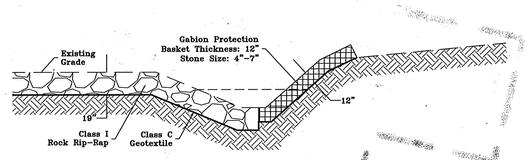
Section B - B'
Scale: 1"=20'



Section C - C'
Scale: 1"=20'

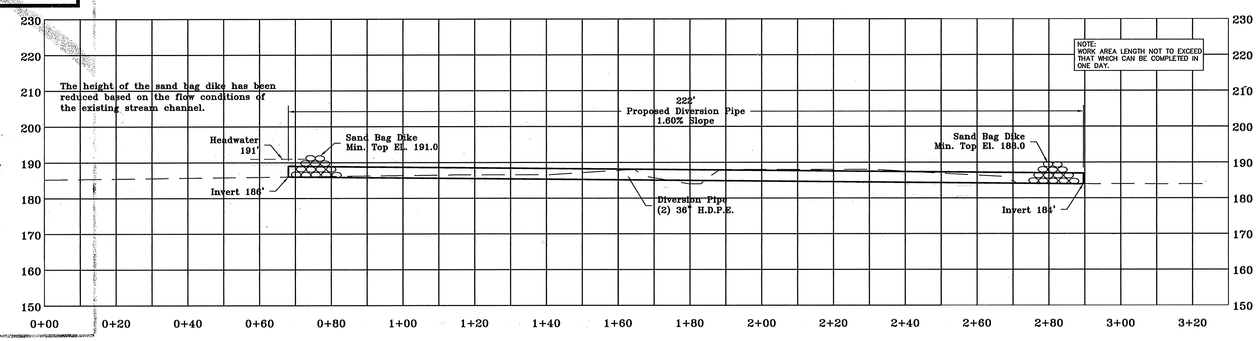


Temporary Instream Construction Measures
Plan View
Scale: 1"=30'



Section D - D'
Scale: 1"=10'

Notes:
1. The maximum lined dimension of the mesh opening shall not exceed 4 1/2 inches.
2. The area of the mesh opening shall not exceed (10) ten square inches.
3. The gabions shall be fabricated in such a manner that the sides, end, and lid can be assembled at the construction site into a rectangular basket of the specified sizes.
4. The gabions shall be of a single unit construction and shall be installed according to the manufacturer's specifications.



Culvert C - Profile
Temporary Instream Construction Measures
Diversion Pipe
Scale: 1"=20'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/7/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.1234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
CULVERT C PLAN AND PROFILES

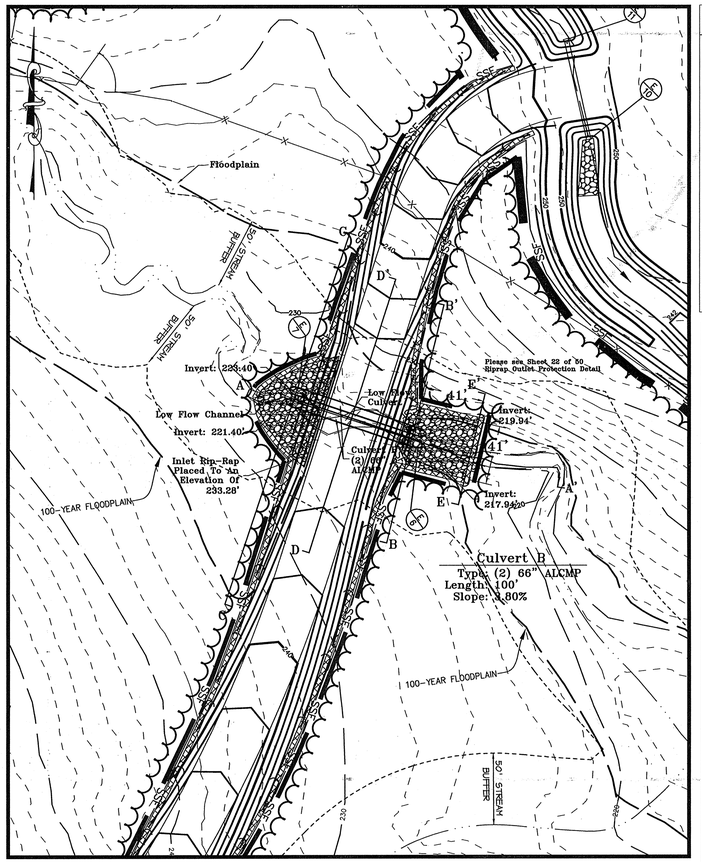
CME ENGINEERING
Civil Mining Environmental Engineering, Inc.
12 Village Parkway, Frostburg, MD 21532
301-689-1700 Fax: 301-689-5177 E-Mail: info@cmeeinc.com

8/26/05
DATE

STATE OF MARYLAND — SEAN CHARLES OGDEN — No. 17002 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY :	
DRAWN BY :	DJW
CHECKED BY :	WEL
PROJECT NO :	99092/ DETAIL-CME
DATE :	AUGUST 30, 2005
SCALE :	AS SHOWN
DRAWING NO.	45 OF 51

SDP-99-134

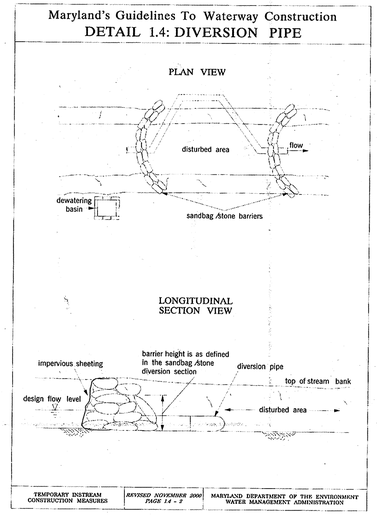


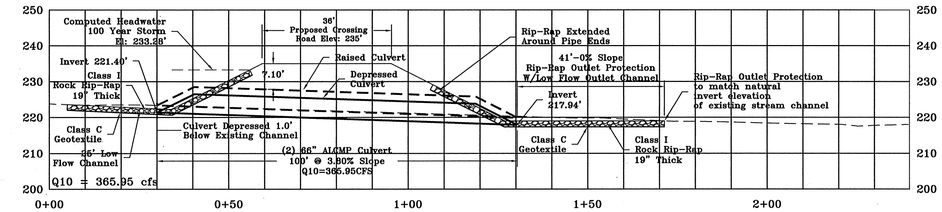
Affected Stream ▬ 1,717.80 Sq.Ft.

Plan View
Scale: 1"=50'

Legend

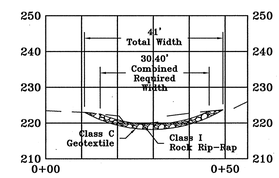
- Existing Grade Contours
- Surveyed Contours
- Final Grade Contours
- Revised Final Grade Contours
- Limits Of Disturbance
- Rock Rip-Rap
- Super Silt Fence — SSF
- Erosion Control Matting



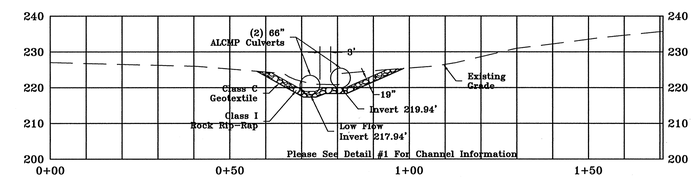


Notes:
Design Load = 360,000lbs
Min. Cover = 4'
Max. Road Grade = 7%

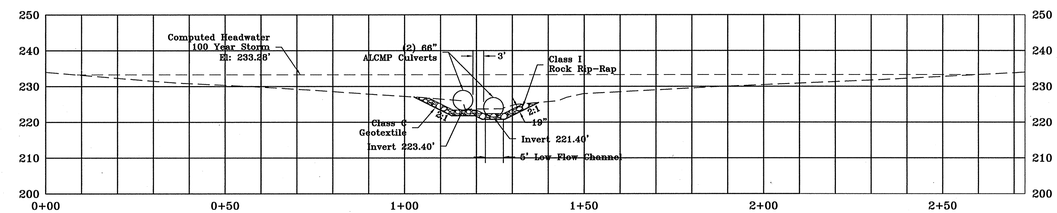
E-6 TO E-7 PROFILE
Section A - A'
Scale: 1"=20'



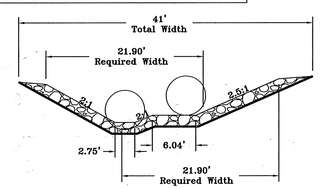
Section E - E'
Scale: 1"=20'



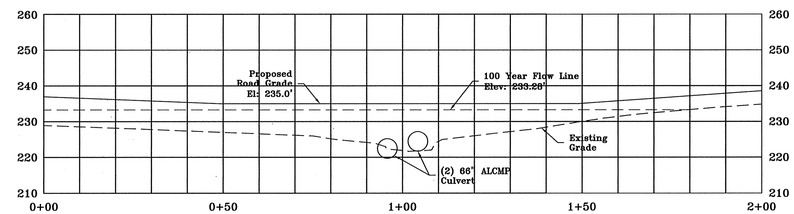
Section B - B'
Scale: 1"=20'



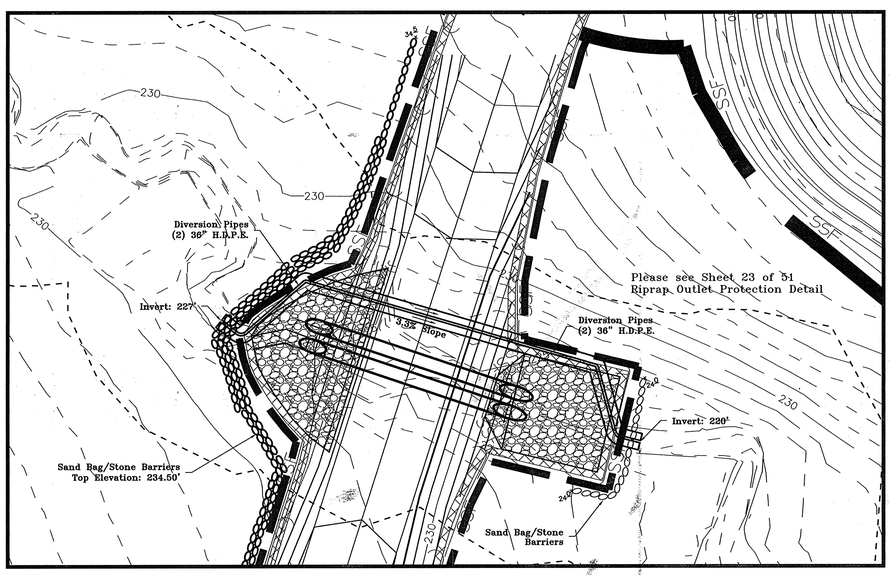
Section C - C'
Scale: 1"=20'



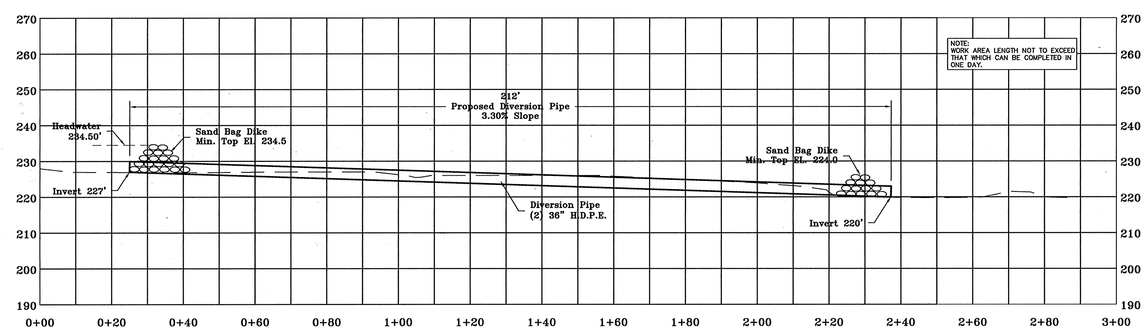
Detail #1
Scale: 1"=10'



Section D - D'
Scale: 1"=20'



Temporary Instream Construction Measures
Plan View
Scale: 1"=30'



Culvert B - Profile
Temporary Instream Construction Measures
Diversion Pipe
Scale: 1"=20'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
CULVERT B PLAN AND PROFILES

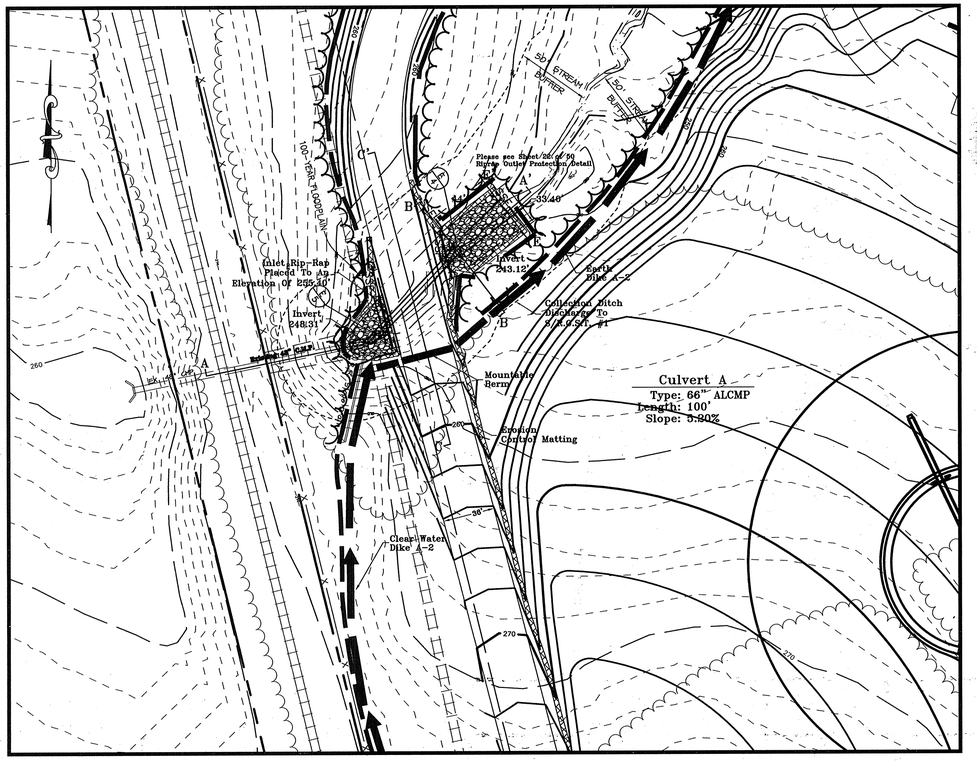
CME ENGINEERING
Civil Mining Environmental Engineering, Inc.
12 Village Parkway, Frostburg, MD 21532
301-689-1700 Fax: 301-689-5177 E-Mail: info@cmeeinc.com

8/29/05
DATE

STATE OF MARYLAND
SEAN CHARLES SCAN
No. 17002
REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY :	
DRAWN BY :	DJW
CHECKED BY :	WEL
PROJECT NO :	99092/ DETAIL-CME
DATE :	AUGUST 30, 2005
SCALE :	AS SHOWN
DRAWING NO.	44 OF 51

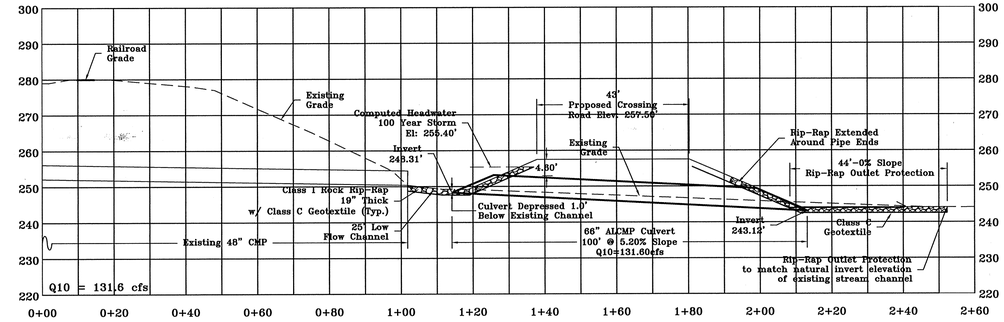
SDP-99-134



Plan View
Scale: 1"=50'

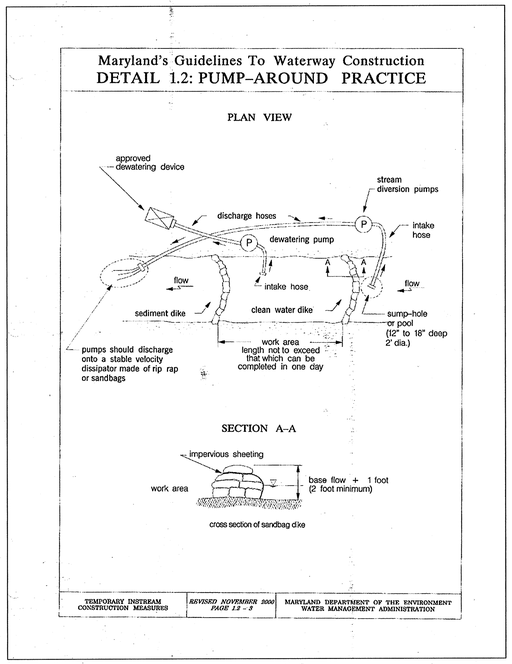
Legend

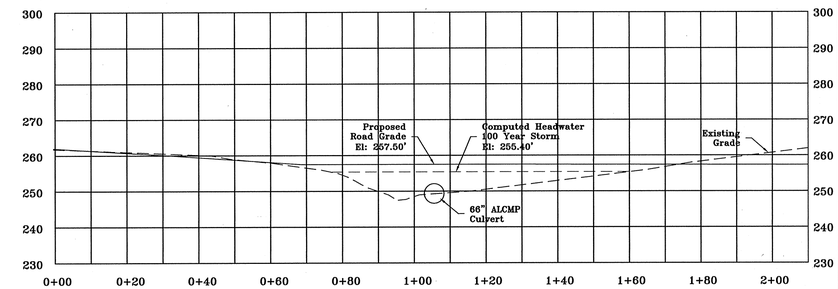
- Existing Grade Contours
- Surveyed Contours
- Final Grade Contours
- Revised Final Grade Contours
- Limits Of Disturbance
- Ditch line
- Berm
- Rock Rip-Rap
- Super Silt Fence (SSF)
- Erosion Control Matting



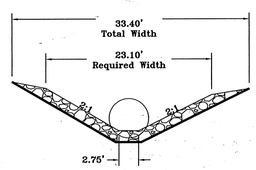
Notes:
Design Load = 360,000lbs
Min. Cover = 4'
Max. Road Grade = 7%

E-4 TO E-5 PROFILE
Section A - A'
Scale: 1"=20'

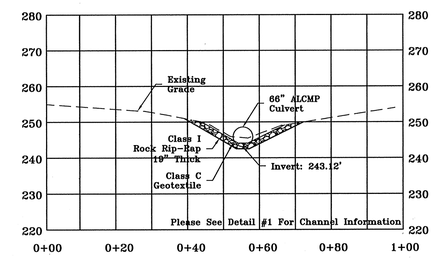




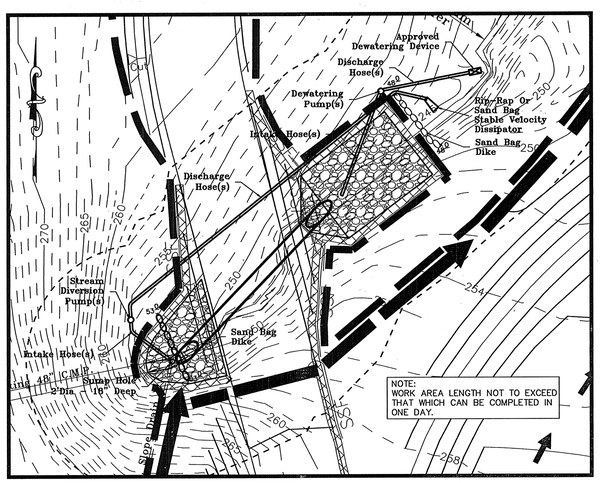
Section C - C'
Scale: 1"=20'



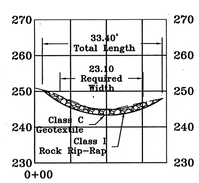
Detail #1
Scale: 1"=10'



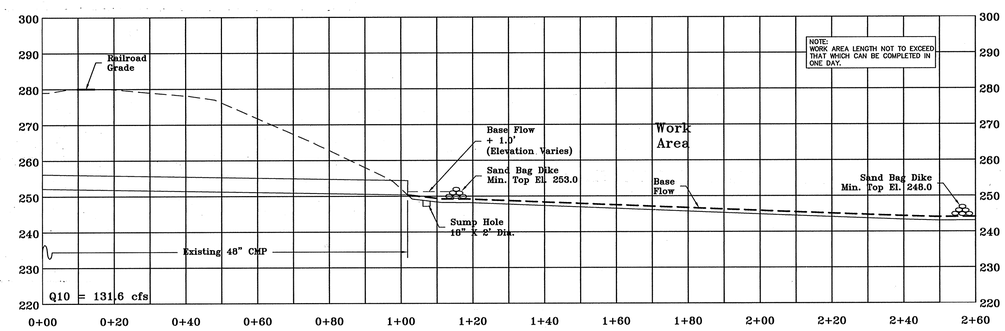
Section B - B'
Scale: 1"=20'



Temporary Instream Construction Measures
Plan View
Scale: 1"=30'



Section E - E'
Scale: 1"=20'



Culvert A - Profile
Temporary Instream Construction Measures
Pump-Around Practice
Scale: 1"=20'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/7/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/6/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT
CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
CULVERT A PLAN AND PROFILES

CME ENGINEERING
Civil Mining Environmental Engineering, Inc.
12 Village Parkway, Frostburg, MD 21532
301-689-1700 Fax: 301-689-5177 E-Mail: info@cmeeinc.com

8/29/05
DATE

STATE OF MARYLAND — SEAN CHARLES BROWN — No. 17002 — REGISTERED PROFESSIONAL ENGINEER

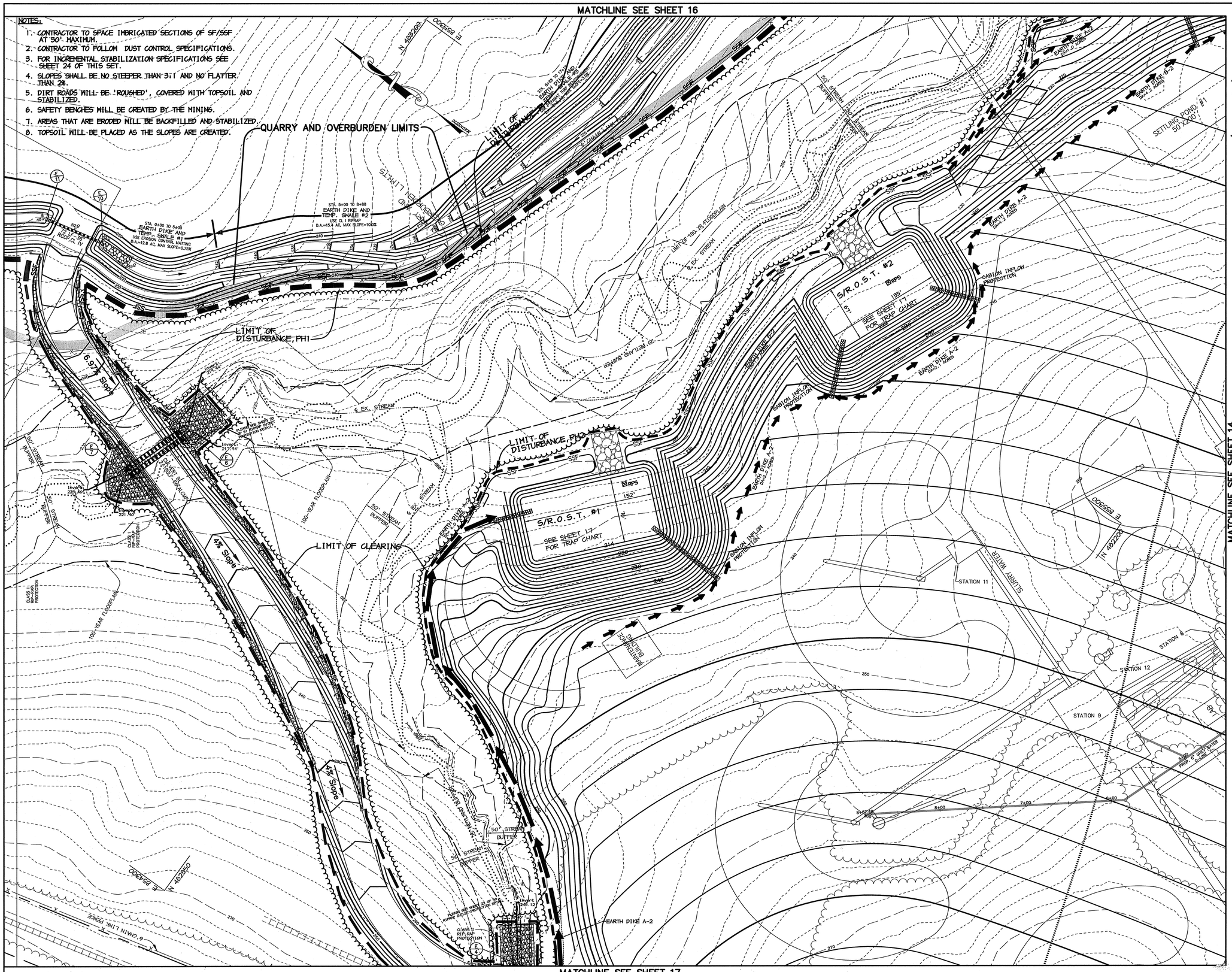
DESIGNED BY :	
DRAWN BY :	DJW
CHECKED BY :	WEL
PROJECT NO :	99092/ DETAIL-CME
DATE :	AUGUST 30, 2005
SCALE :	AS SHOWN
DRAWING NO.	43 OF 51

SDP-99-134

MATCHLINE SEE SHEET 16

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.



MATCHLINE SEE SHEET 17

MATCHLINE SEE SHEET 14

LEGEND

- TEMPORARY SWALE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- EARTH DIKE
- PYRAMAT REINFORCED MATTING

DATE	NO.	REVISION
8/30/05	3	NEW SHEET AND REVISED STREAM CROSSING AND GRADING
2/21/05	2	ADDED PLANT LAYOUT
1/06/05	1	REVISED EARTH DIKE, SWALE & ACCESS ROAD

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 8/30/05
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Aimee C. Remington 8.30.05
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 9/6/05
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

9/6/05
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

10/3/05
DIRECTOR DATE

10/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

10/6/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

8.30.05
DATE

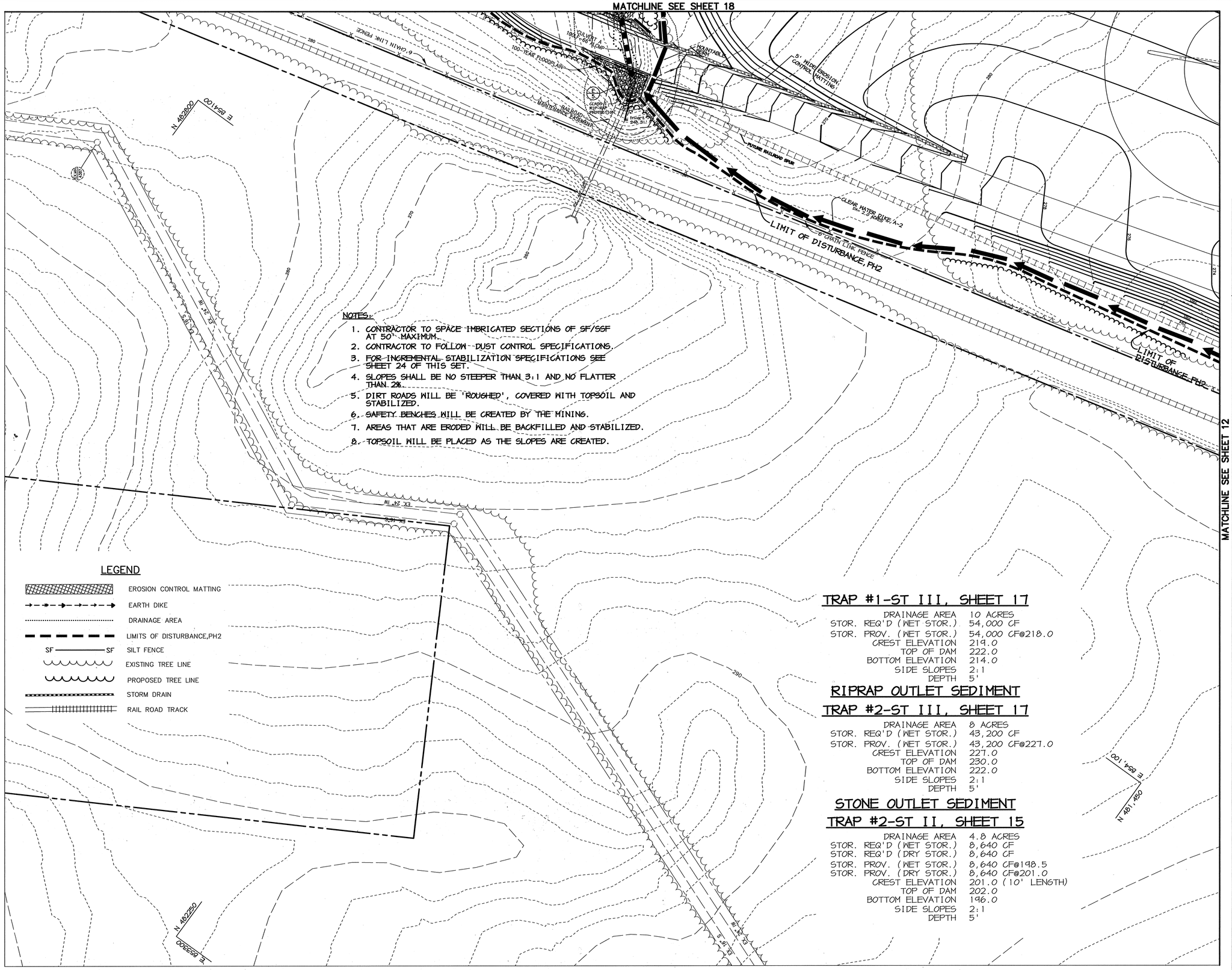
STATE OF MARYLAND — AIMEE C. REMINGTON — No. 29923 — PROFESSIONAL ENGINEER

Aimee C. Remington
AIMEE C. REMINGTON #29923

DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/ SEDIM7.DWG
DATE :	AUGUST 30, 2005
SCALE :	1" = 50'
DRAWING NO.	18 OF 51

SDP-99-134

MATCHLINE SEE SHEET 18



NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK

TRAP #1-ST III, SHEET 17

DRAINAGE AREA	10 ACRES
STOR. REQ'D (WET STOR.)	54,000 CF
STOR. PROV. (WET STOR.)	54,000 CF@218.0
CREST ELEVATION	219.0
TOP OF DAM	222.0
BOTTOM ELEVATION	214.0
SIDE SLOPES	2:1
DEPTH	5'

RIPRAP OUTLET SEDIMENT

TRAP #2-ST III, SHEET 17

DRAINAGE AREA	8 ACRES
STOR. REQ'D (WET STOR.)	43,200 CF
STOR. PROV. (WET STOR.)	43,200 CF@227.0
CREST ELEVATION	227.0
TOP OF DAM	230.0
BOTTOM ELEVATION	222.0
SIDE SLOPES	2:1
DEPTH	5'

STONE OUTLET SEDIMENT

TRAP #2-ST II, SHEET 15

DRAINAGE AREA	4.8 ACRES
STOR. REQ'D (WET STOR.)	8,640 CF
STOR. REQ'D (DRY STOR.)	8,640 CF
STOR. PROV. (WET STOR.)	8,640 CF@198.5
STOR. PROV. (DRY STOR.)	8,640 CF@201.0
CREST ELEVATION	201.0 (10' LENGTH)
TOP OF DAM	202.0
BOTTOM ELEVATION	196.0
SIDE SLOPES	2:1
DEPTH	5'

MATCHLINE SEE SHEET 12

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 8/30/05
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Aimée C. Remington 8.30.05
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE 9/4/05 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT 9/4/05 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 10/3/05 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/3/05 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 10/6/05 DATE

DATE	NO.	REVISION
8/30/05	2	NEW SHEET AND REVISED STREAM CROSSING & GRADING
1/06/05	1	REVISED GRADING & ACCESS ROAD

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

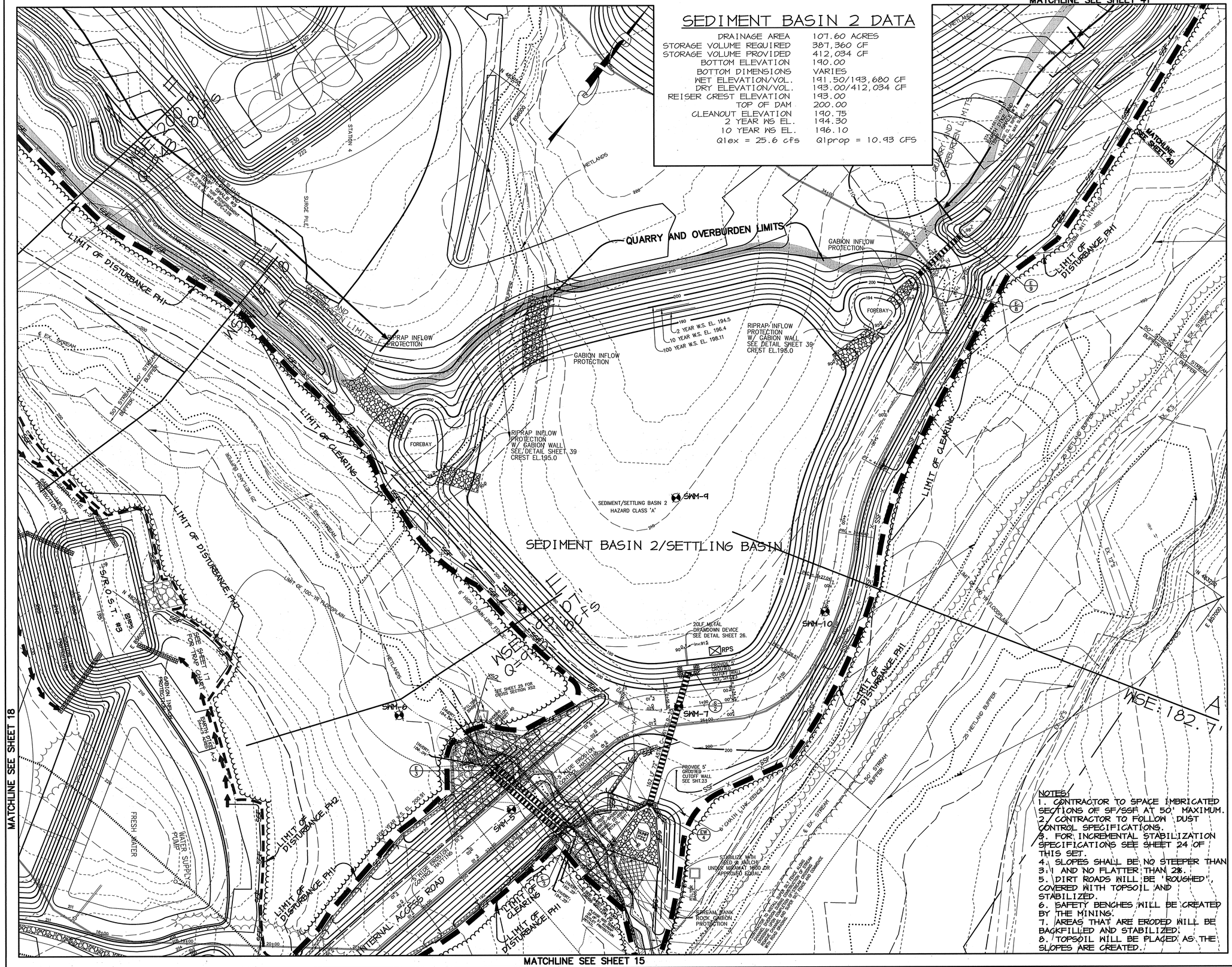
8.30.05
DATE

STATE OF MARYLAND — AIMEE C. REMINGTON — No. 23923 — PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #23923

DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/ SEDIM6.DWG
DATE :	AUGUST 30, 2005
SCALE :	1" = 50'
DRAWING NO.	17 OF 51

SDP-99-134



SEDIMENT BASIN 2 DATA

DRAINAGE AREA	107.60 ACRES
STORAGE VOLUME REQUIRED	387,360 CF
STORAGE VOLUME PROVIDED	412,034 CF
BOTTOM ELEVATION	190.00
BOTTOM DIMENSIONS	VARIES
WET ELEVATION/VOL.	191.50/193,680 CF
DRY ELEVATION/VOL.	193.00/412,034 CF
REISER CREST ELEVATION	193.00
TOP OF DAM	200.00
CLEANOUT ELEVATION	190.75
2 YEAR WS EL.	194.30
10 YEAR WS EL.	196.10
Q1ex = 25.6 cfs	Q1prop = 10.93 CFS

LEGEND

- TEMPORARY SWALE
- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE, PH1
- LIMITS OF DISTURBANCE, PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- PYRAMAT REINFORCED MATTING

DATE	NO.	REVISION
8/30/05	3	NEW SHEET, AND REVISE STREAM CROSSINGS & GRADING
2/21/05	2	ADDED CRUSHER PLANT LAYOUT
1/06/05	1	REVISED EARTH DIKE AND SWALE

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 8/30/05
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Aimee C. Remington 8.30.05
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 9/6/05
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

9/6/05
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

10/3/05
DIRECTOR DATE

10/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

10/6/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

8.30.05
DATE

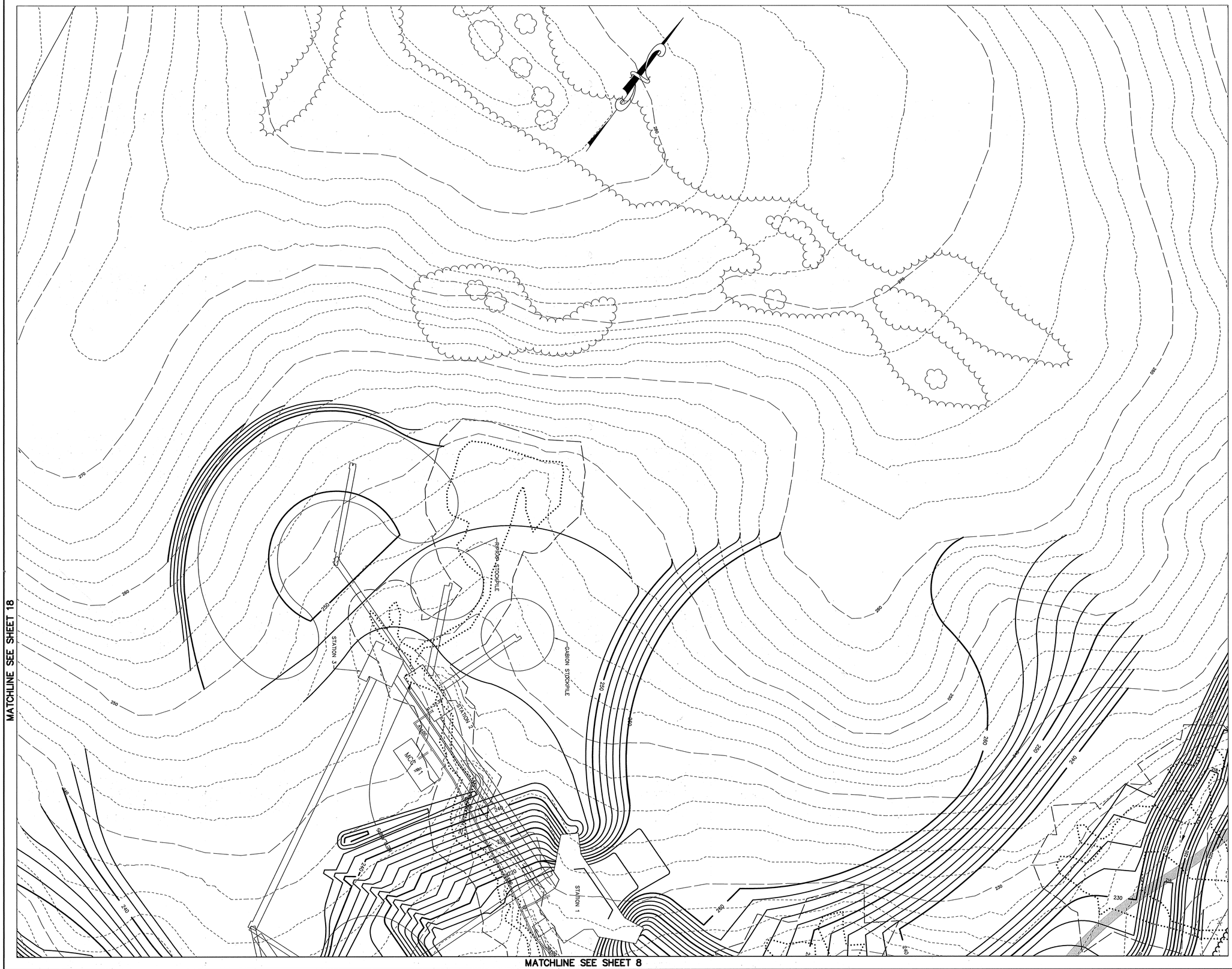
STATE OF MARYLAND — AIMEE C. REMINGTON — No. 29923 — PROFESSIONAL ENGINEER

Aimee C. Remington
AIMEE C. REMINGTON #29923

DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/SEDIM5.DWG
DATE :	AUGUST 30, 2005
SCALE :	1" = 50'
DRAWING NO.	16 OF 51

NOTES:
1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

SDP-99-134



LEGEND

- EXISTING CONTOURS (300)
- PROPOSED CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

8·30·05
DATE

STATE OF MARYLAND
AIMEE C. REMINGTON
No. 29923
PROFESSIONAL ENGINEER

Aimee C. Remington
AIMEE C. REMINGTON #29923

DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/ SDP8ADWG
DATE :	AUGUST 30, 2005
SCALE :	1" = 50'
DRAWING NO.	9 OF 51

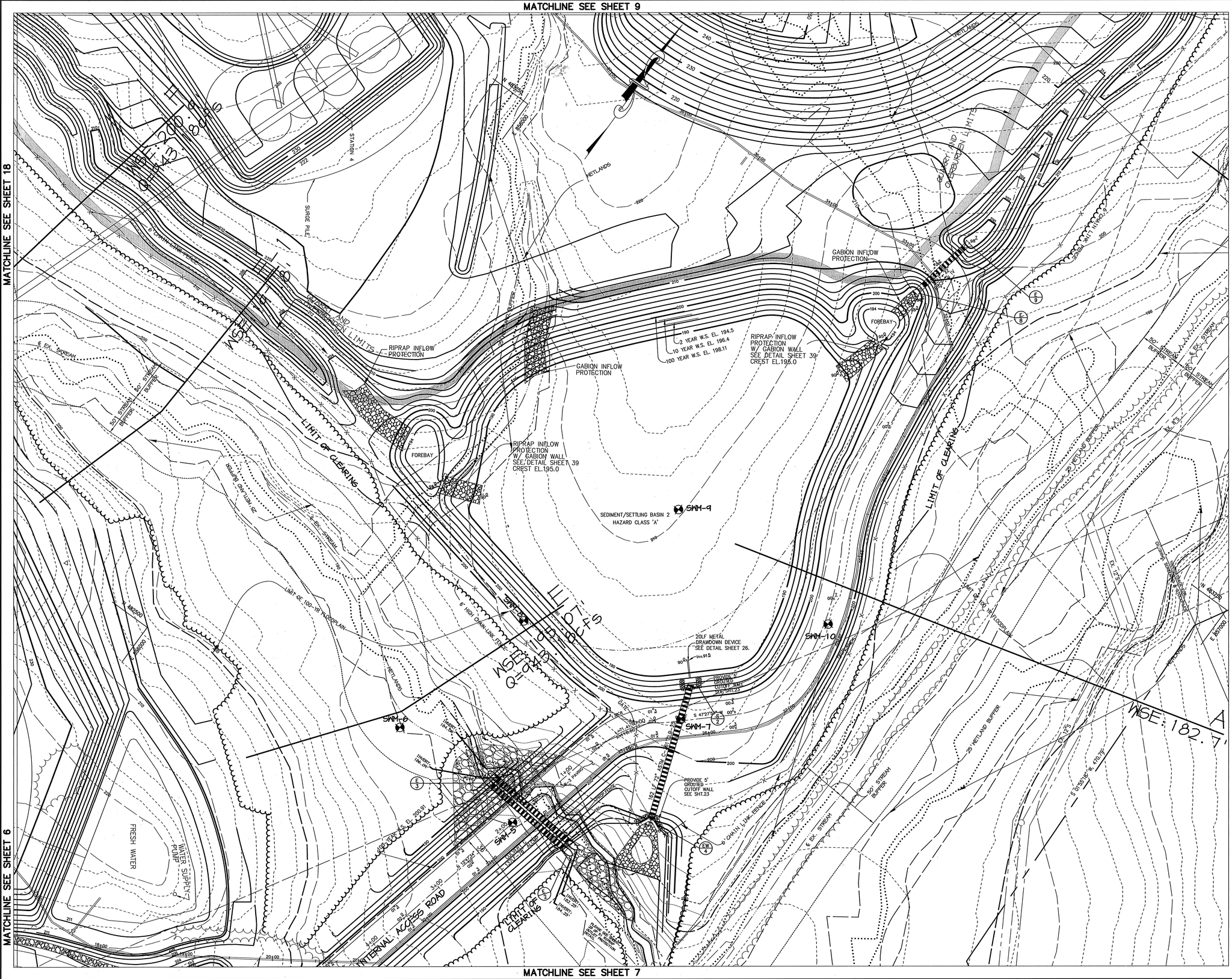
SDP-99-134

MATCHLINE SEE SHEET 9

MATCHLINE SEE SHEET 18

MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 7



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING

PRIVATELY OWNED AND MAINTAINED SEDIMENT/SETTLING BASIN 2- DESIGN SUMMARY				
DESIGN STORM (YR.)	ALLOWABLE RELEASE (C.F.S.)	POND & STUDY POINT #2 FACILITY DISCHARGE (C.F.S.)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME (AC. FT.)
2	56.5	23.7	194.5	10.0
10	190.9	123.8	196.4	16.9
100	372.3	276.7	198.1	23.1

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/3/05

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/3/05

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/6/05

DATE	NO.	REVISION
8/30/05	2	ADDED WATER + SEWER AND REVISED GRADING
1/06/05	1	REVISED GRADING & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

REVISED SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

8-30-05
DATE

STATE OF MARYLAND — AIMEE C. REMINGTON — No. 29923 — PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #29923

DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/ SDP8.DWG
DATE :	AUGUST 30, 2005
SCALE :	1" = 50'
DRAWING NO.	8 OF 51

SDP-99-134

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 7

MATCHLINE SEE SHEET 18

MATCHLINE SEE SHEET 5

MATCHLINE SEE SHEET 4

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/7/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/05

DATE	NO.	REVISION
8/30/05	3	ADDED SEWER & WATER AND REVISED GRADING
1/06/05	1	REVISED GRADING & SHEET NO.

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

REVISED
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

8-30-05
DATE

STATE OF MARYLAND
AIMEE C. REMINGTON
No. 29923
PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #29923

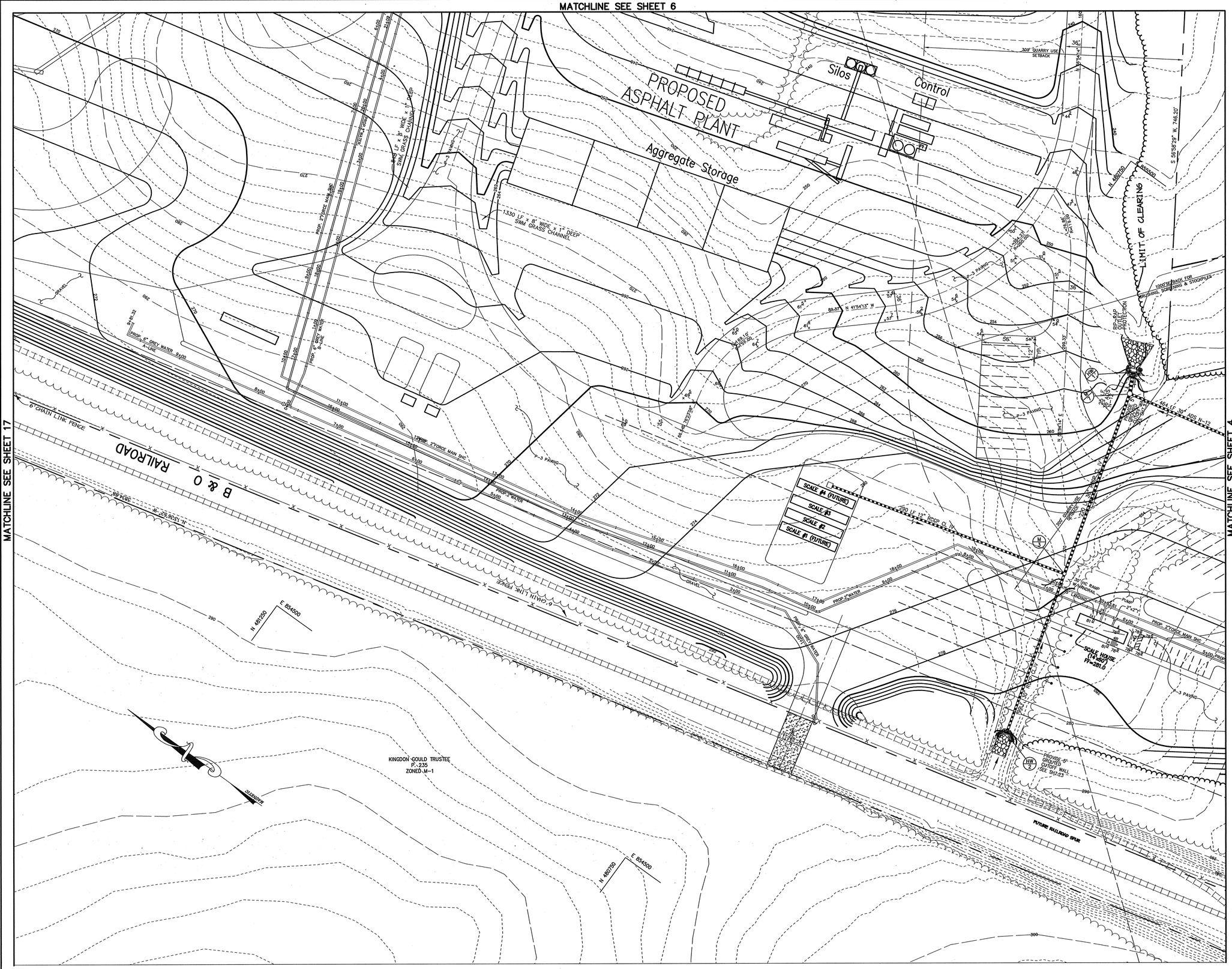
DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/SDP6.DWG
DATE :	AUGUST 30, 2005
SCALE :	1" = 50'
DRAWING NO.	6 OF 51

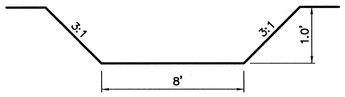
SDP-99-134

MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 17

MATCHLINE SEE SHEET 4





TYPICAL SECTION
S.W.M. GRASS CHANNEL

NO SCALE

NOTE: USE 4"-7" STONE PRESSED INTO THE SOIL A MINIMUM OF 7" WHERE SPECIFIED ON THE PLAN VIEW; OTHERWISE USE EROSION CONTROL MATTING.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 10/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 11/6/05

DATE	NO.	REVISION
8/30/05	2	ADDED WATER & SEWER & REVISED GRADING
1/06/05	1	REV. ACCESS ROAD & GRADING AND ADDED SCALE HOUSE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3. TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE REVISED
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

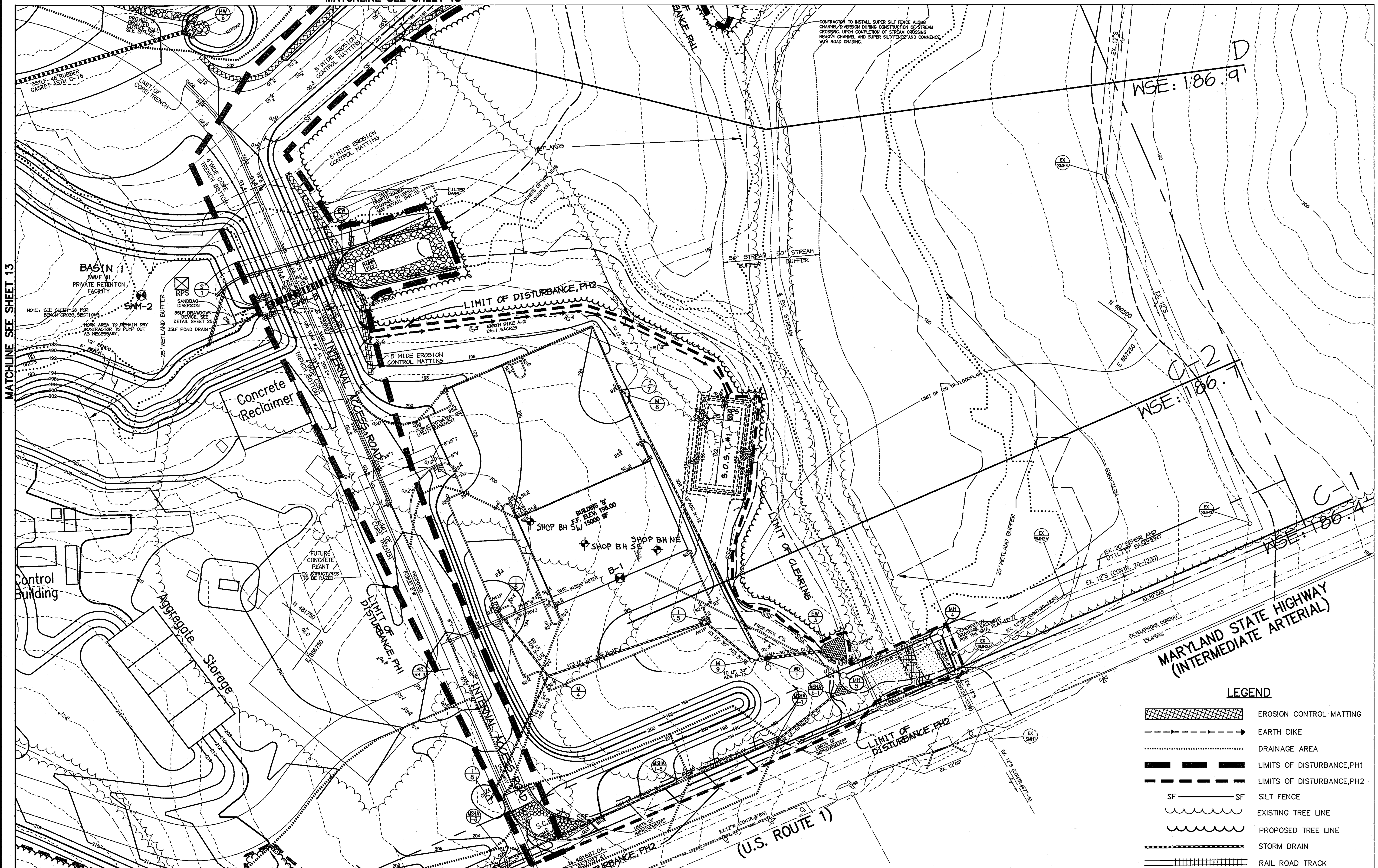
8-30-05
DATE

STATE OF MARYLAND
AIMEE C. REMINGTON
No. 29923
PROFESSIONAL ENGINEER

AIMEE C. REMINGTON #29923

DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/ SDP-5.DWG
DATE :	AUGUST 30, 2005
SCALE :	1" = 50'
DRAWING NO.	5 OF 51

SDP-99-134



S.O.S.T. #1

DRAINAGE AREA	1.64 ACRES
STOR. REQ'D (WET STOR.)	5409 CF
STOR. REQ'D (DRY STOR.)	5409CF
STOR. PROV. (WET STOR.)	5904 CF@188.44
STOR. PROV. (DRY STOR.)	5904 CF@189.76
CREST ELEVATION	189.0
TOP OF DAM	190.0
BOTTOM ELEVATION	186.0
SIDE SLOPES	2:1

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.

LEGEND

- EROSION CONTROL MATTING
- EARTH DIKE
- DRAINAGE AREA
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- AGIP — AT GRADE INLET PROTECTION

SEDIMENT BASIN 1 DATA

DRAINAGE AREA	92.40 ACRES
STORAGE VOLUME REQUIRED	332,640 CF
STORAGE VOLUME PROVIDED	573,032 CF
BOTTOM ELEVATION	188.00
BOTTOM DIMENSIONS	VARIES
WET ELEVATION/VOL.	191.0/166,320 CF
RISER CREST/DRY ELEVATION/VOL.	195.50/413,472 CF
TOP OF DAM	202.60
CLEANOUT ELEVATION	189.60
2 YEAR WS EL.	196.32
10 YEAR WS EL.	198.45
Q1ex=33.55cfs	Q1prop=5.03cfs

7-31-07 (3) ADDED SHOP BOREHOLES

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 1-30-04
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Christy J Reid 1.30.04
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers /CS 2/17/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

2/17/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/15/04
DIRECTOR DATE

2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton HB 3/11/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
6-15-05	2	CHANGED SHEET NO.
1-6-05	1	CHANGED SHEET NO.

DEVELOPER/OWNER:

(OWNER)	(DEVELOPER)
CHASE LIMITED PARTNERSHIP	CHASE MINING LLC
P.O. BOX 850	P.O. BOX 850
LAUREL, MD 20725	LAUREL, MD 20725
410.792.7234	410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04
DATE

CHRISTOPHER J. REID #19949

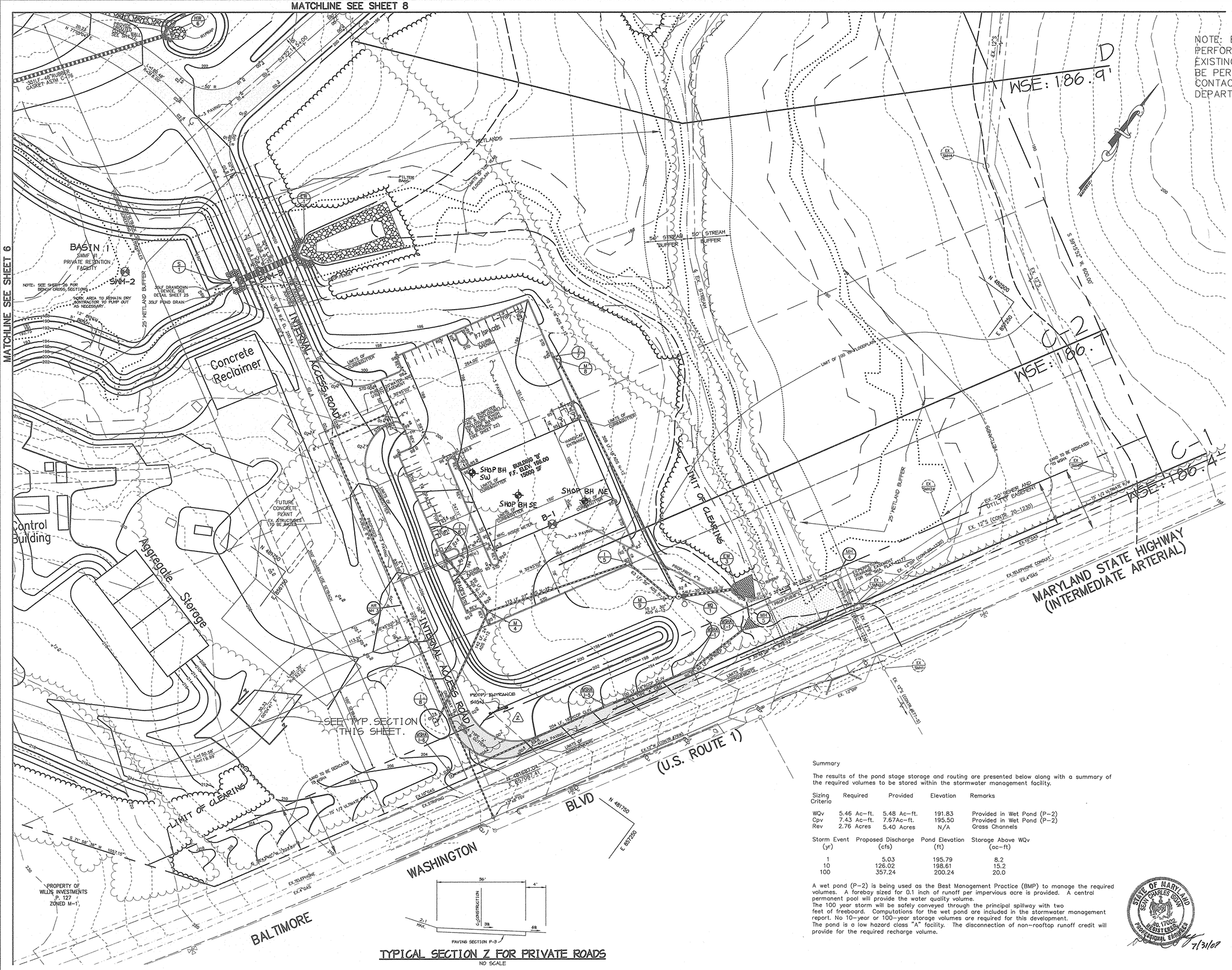
DESIGNED BY :	C.J.R.
DRAWN BY :	MAD
CHECKED BY :	C.J.R.
PROJECT NO :	99092/ SEDIM4.DWG
DATE :	JANUARY 29, 2004
SCALE :	1" = 50'
DRAWING NO.	15 OF 51

SDP-99-134

P:\project\99092\1-0\Engr\Plans\Sedim4.dwg, Layout1, 01/29/2004 12:34:10 PM, HP1050C_Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 6



NOTE: EXISTING WELL ABANDONMENTS SHOULD BE PERFORMED BY LICENSED WELL DRILLERS. EXISTING SEPTIC SYSTEM ABANDONMENTS SHOULD BE PERFORMED BY PRIVATE CONTRACTORS. CONTACT HOWARD COUNTY HEALTH DEPARTMENT TO COORDINATE ABANDONMENT.

LEGEND

- EXISTING CONTOURS (300)
- PROPOSED CONTOURS (300)
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING ROAD
- EXISTING BOUNDARY LINE
- EXISTING BUILDING
- EXISTING WETLANDS
- APPROXIMATE LOCATION OF BENCH FOR BERM
- EASEMENT
- PROPOSED FENCE
- RIP RAP OUTLET PROTECTION
- LIMIT OF 100-YR FLOODPLAIN
- 10' BENCH
- 50'STREAM BUFFER
- WETLAND BUFFER LIMITS
- EXISTING STREAM
- P-3 PAVING
- MSHA PAVING

TYPICAL SECTION Z FOR PRIVATE ROADS

NO SCALE

Summary

The results of the pond stage storage and routing are presented below along with a summary of the required volumes to be stored within the stormwater management facility.

Sizing Criteria	Required	Provided	Elevation	Remarks
WQv	5.46 Ac-ft.	5.48 Ac-ft.	191.83	Provided in Wet Pond (P-2)
Cpv	7.43 Ac-ft.	7.67Ac-ft.	195.50	Provided in Wet Pond (P-2)
Rev	2.76 Acres	5.40 Acres	N/A	Grass Channels

Storm Event (yr)	Proposed Discharge (cfs)	Pond Elevation (ft)	Storage Above WQv (ac-ft)
1	5.03	195.79	8.2
10	126.02	198.61	15.2
100	357.24	200.24	20.0

A wet pond (P-2) is being used as the Best Management Practice (BMP) to manage the required volumes. A forebay sized for 0.1 inch of runoff per impervious acre is provided. A central permanent pool will provide the water quality volume.
The 100 year storm will be safely conveyed through the principal spillway with two feet of freeboard. Computations for the wet pond are included in the stormwater management report. No 10-year or 100-year storage volumes are required for this development.
The pond is a low hazard class "A" facility. The disconnection of non-rooftop runoff credit will provide for the required recharge volume.

STATE OF MARYLAND SEAN CHARLES ISGUR No. 17002 REGISTERED PROFESSIONAL ENGINEER 7/31/07

DATE	NO.	REVISION
7-31-07	3	ADDED SHOP BOREHOLES
6-15-05	2	ADDED ENTRANCE SIGN, CHANGED SHEET NUMBER
1-6-05	1	CHANGED SHEET NO.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 2/12/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/20/04

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/11/04

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

1.30.04 DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY : MAD
CHECKED BY : C.J.R.
PROJECT NO : 99092/SDP-7.DWG
DATE : JANUARY 29, 2004
SCALE : 1" = 50'
DRAWING NO. 7 OF 51

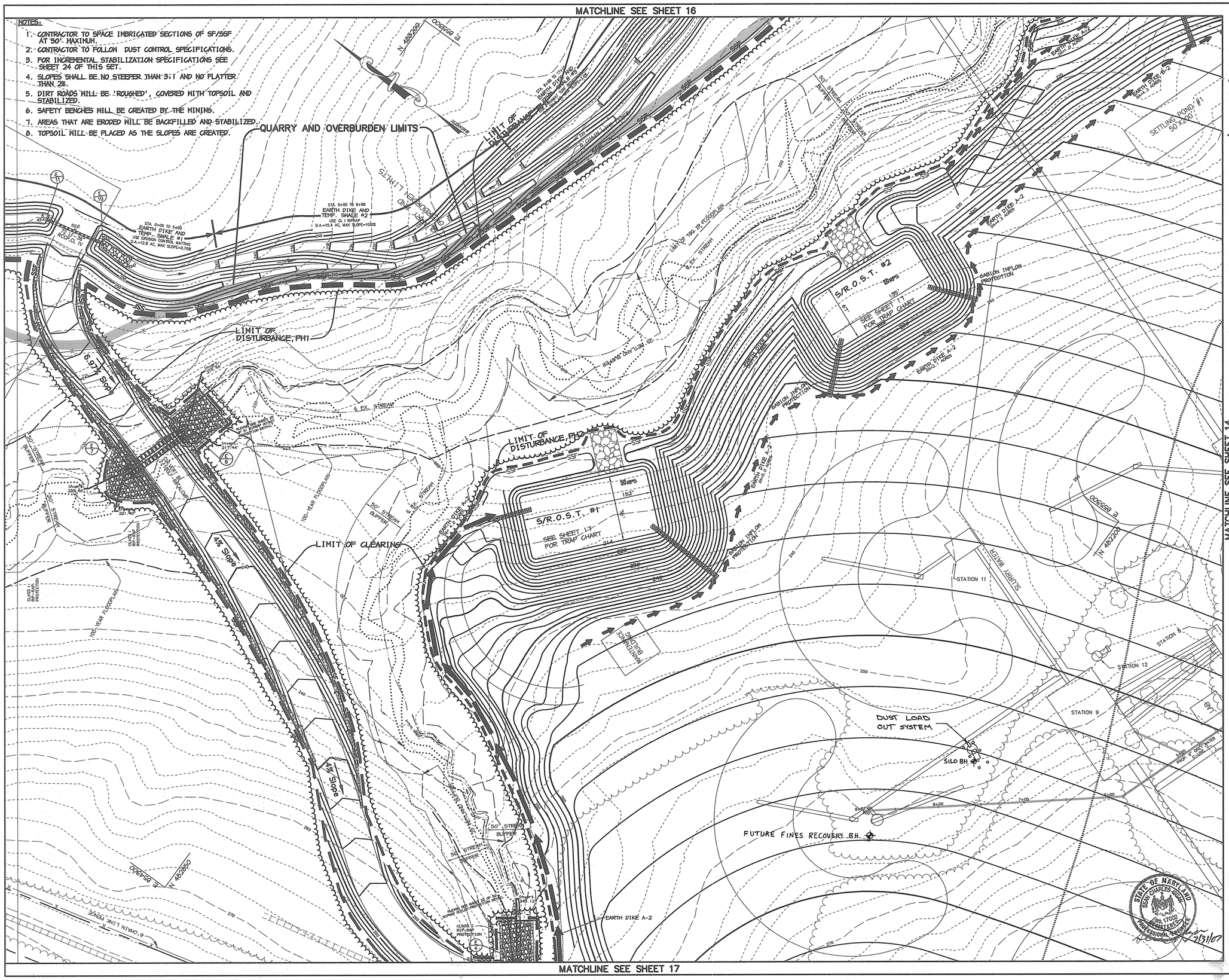
SDP-99-134

P:\project\990921-01\Engr\Plans\Sdp-7.dwg, Layout1, 01/29/2004 12:25:54 PM, HP1050C, Mylar.pc3, Arch D - 24 x 36 in. (landscape), 1:1

MATCHLINE SEE SHEET 16

NOTES:

1. CONTRACTOR TO SPACE IMBRICATED SECTIONS OF SF/SSF AT 50' MAXIMUM.
2. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS.
3. FOR INCREMENTAL STABILIZATION SPECIFICATIONS SEE SHEET 24 OF THIS SET.
4. SLOPES SHALL BE NO STEEPER THAN 3:1 AND NO FLATTER THAN 2%.
5. DIRT ROADS WILL BE 'ROUGHED', COVERED WITH TOPSOIL AND STABILIZED.
6. SAFETY BENCHES WILL BE CREATED BY THE MINING.
7. AREAS THAT ARE ERODED WILL BE BACKFILLED AND STABILIZED.
8. TOPSOIL WILL BE PLACED AS THE SLOPES ARE CREATED.



MATCHLINE SEE SHEET 17

LEGEND

- TEMPORARY SWALE
- DRAINAGE AREA TO INLETS
- LIMITS OF DISTURBANCE,PH1
- LIMITS OF DISTURBANCE,PH2
- SF — SF SILT FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- STORM DRAIN
- RAIL ROAD TRACK
- EARTH DIKE
- PYRAMAT REINFORCED MATTING

DATE	NO.	REVISION
7/31/07	4	ADDED DUST LOAD OUT SYSTEM
8/30/05	3	NEW SHEET AND REVISED STREAM CROSSING AND GRADING
2/21/05	2	ADDED PLANT LAYOUT
1/06/05	1	REVISED EARTH DIKE, SWALE & ACCESS ROAD

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 8/30/05
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Aimee C. Remington 8.30.05
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 9/6/05
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

9/6/05
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

10/3/05
DIRECTOR DATE

10/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

10/6/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEVELOPER/OWNER:

(OWNER)
CHASE LIMITED PARTNERSHIP
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

(DEVELOPER)
CHASE MINING LLC
P.O. BOX 850
LAUREL, MD 20725
410.792.7234

PROJECT

CHASE QUARRY

AREA ZONED M-1 & MXD-3, TAX MAP No. 43
PARCEL 234 & P.O. 235, BLOCK 19
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

GRADING, SEDIMENT CONTROL & DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

8.30.05
DATE

STATE OF MARYLAND — AIMEE C. REMINGTON — No. 29923 — PROFESSIONAL ENGINEER

Aimee C. Remington
AIMEE C. REMINGTON #29923

DESIGNED BY :	ACR
DRAWN BY :	EMR
CHECKED BY :	ACR
PROJECT NO :	99092/SEDIM7.DWG
DATE :	AUGUST 30, 2005
SCALE :	1" = 50'
DRAWING NO.	18 OF 51

MATCHLINE SEE SHEET 14

SDP-99-134