

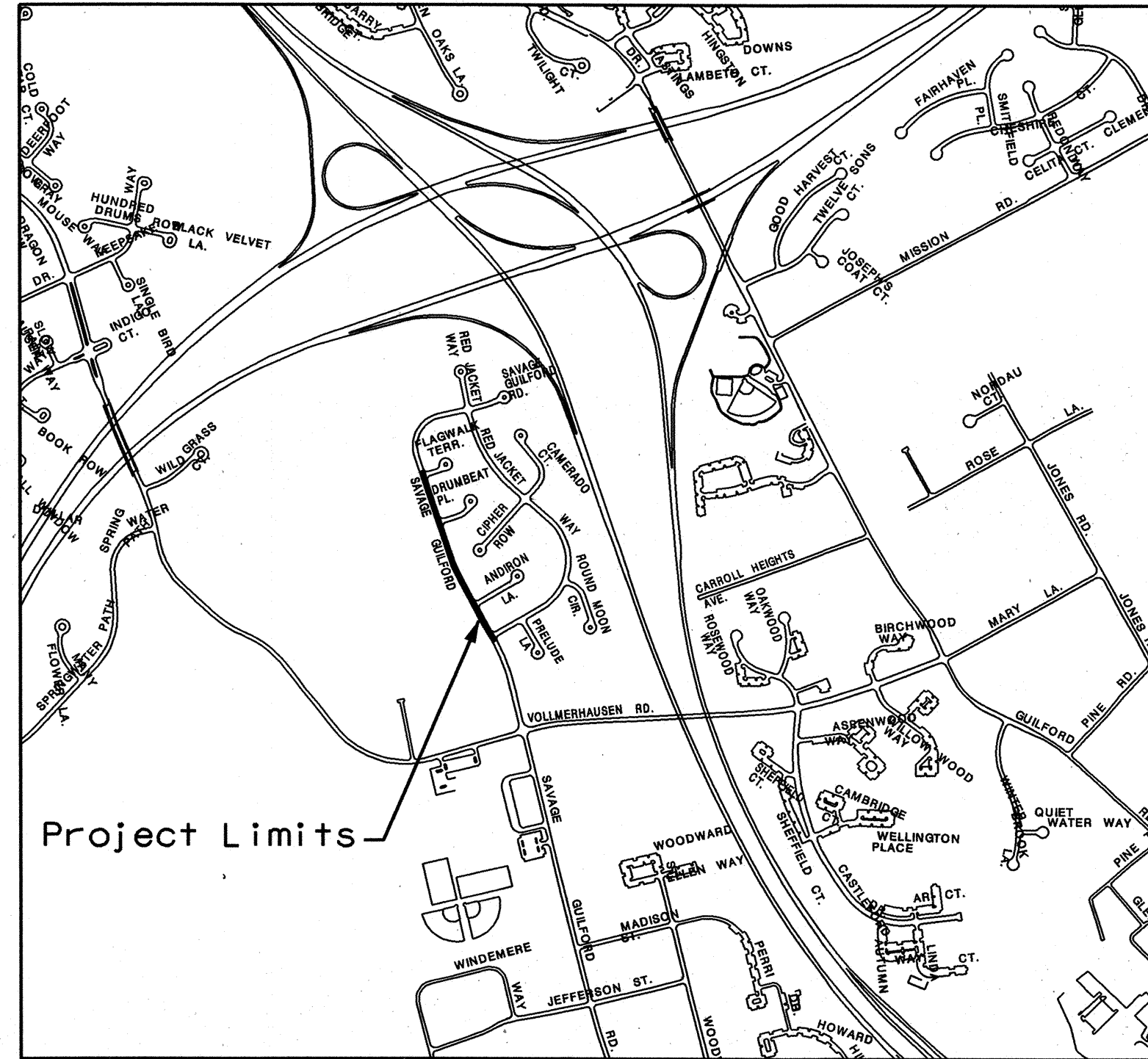
FINAL DESIGN
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT D - 1109
SAVAGE GUILFORD ROAD DRAINAGE IMPROVEMENTS

GENERAL NOTES.

1. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGES OR ADJUSTMENTS TO ANY RESIDENTIAL DRIVEWAYS, APRONS, DOWN SPOUTS, ROOF DRAIN LEADERS, OR UNDERDRAINS WHILE RECONSTRUCTING PROPOSED CURB AND DRIVEWAY APRONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION AND/OR REPLACEMENT OF ANY MAIL BOXES OR LETTER BOXES, FENCES, LANDSCAPING OF ANY SIGNS REMOVED OR DAMAGED DURING THE COURSE OF CONSTRUCTION.
3. THE CONTRACTOR SHALL REPLACE OR REPAIR ANY ROAD PAVEMENT DAMAGED DURING THE COURSE OF CONSTRUCTION AS DIRECTED BY THE HOWARD COUNTY INSPECTOR.
4. ALL RESIDENTIAL DRIVEWAYS, APRONS, AND PUBLIC ROADWAYS SHALL BE KEPT CLEAN AND FREE OF ALL CONSTRUCTION RELATED DEBRIS.
5. AT NO TIME SHALL ANY RESIDENTIAL DRIVEWAYS BE BLOCKED BY CONSTRUCTION VEHICLES AND/OR MATERIALS.
6. UNDER THE DIRECTION OF HOWARD COUNTY INSPECTORS, ONE TRAVEL LANE MAY BE CLOSED DURING NON-RUSH HOUR PERIODS. THIS TEMPORARY CLOSURE MUST NOT INHIBIT EMERGENCY VEHICLE INGRESS/EGRESS.
7. AT NO TIME SHALL CONTRACTOR ENTER PRIVATE PROPERTY WITH CONSTRUCTION VEHICLES, EQUIPMENT, MATERIALS AND/OR WORK CREWS.
8. BENCHMARKS
 BENCHMARK #1 - TRAV. PT. # 114 PK NAIL.
 BENCHMARK #2 - TRAV. PT. # 106 REBAR WITH CAP.
 BENCHMARK #3 - TRAV. PT. # 103 PK NAIL.
9. TOP ELEVATIONS FOR THE PROPOSED INLETS AND MANHOLES ARE PROVIDED ON THE PLANS AND/OR PROFILES. CONTRACTOR SHALL ADJUST FINAL ELEVATIONS TO FINISHED GRADE AS NECESSARY.
10. MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STA. NO. 47-C1 & 47-C4
11. CONTRACTOR TO ADJUST GRADE AS REQUIRED TO MEET FIELD CONDITIONS, TO ENSURE ADEQUATE DRAINAGE TO EXISTING AND PROPOSED STORM DRAIN STRUCTURES.
12. COORDINATES ARE BASED ON THE MARYLAND STATE GRID SYSTEM.
13. THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ON THE PLANS ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE STARTING CONSTRUCTION. NEITHER THE ENGINEER NOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS WARRANT OR GUARANTEE THE COMPLETENESS OR CORRECTNESS OF THE INFORMATION SHOWN.
14. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. ANY DAMAGE DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. IF CLEARANCES OF UTILITY CROSSINGS ARE LESS THAN SPECIFIED ON THIS PLAN OR LESS THAN 12' WHEN NOT SPECIFIED, THE CONTRACTOR MUST CONTACT THE COUNTY'S INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
15. TEST PITS SHALL BE DUG AT ALL UTILITY CROSSINGS TO DETERMINE EXISTING HORIZONTAL AND VERTICAL ALIGNMENT OF UTILITIES. TEST PITS SHALL BE DUG A SUFFICIENT AMOUNT OF TIME IN ADVANCE OF CONSTRUCTION OR TRENCHING OPERATION, IN ORDER TO ALLOW FOR NECESSARY ADJUSTMENTS.
16. ALL UTILITY POLES MUST BE CLEARED BY 5 FEET. IF THE STORM DRAIN PIPING OR STRUCTURE WORK IS WITHIN FIVE FEET OF A UTILITY POLE, THE POLE MUST BRACED OR THE PROPOSED STORM DRAIN SHALL BE PLACED BY TUNNELING. ALL COST FOR TUNNELING AND/OR BRACING ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LYING THE STORM DRAIN PIPE.
17. ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
18. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE COUNTY INSPECTOR. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE FOR FURNISHING AND LAYING STORM DRAIN PIPE.
19. PLACE REGULATION 'MEN WORKING' AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS, AND THE LATEST EDITION OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND ALL SUBSEQUENT ADDENDUMS.
20. EXISTING WATER HOUSE SERVICES, THAT ARE IN CONFLICT WITH THE PROPOSED STORM DRAINAGE FACILITIES SHALL BE RELOCATED PER COUNTY STANDARDS WITH 36" MINIMUM COVER AND 12" MINIMUM CLEARANCE TO STORM DRAIN PIPE.
21. FOR DETAILS NOT SHOWN ON DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, THE CONTRACTOR SHALL ABIDE BY THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, 'STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION'.
22. ALL SLOPES AND/OR DISTURBED AREAS SHALL RECEIVE 2-INCH DEPTH OF TOPSOIL BEFORE SEEDING AND MULCHING.
23. LOCATION POINTS FOR INLETS, MANHOLES AND STRUCTURES
 ITEMS: HORIZONTAL LOC. VERTICAL LOC.
 CURB TYPE INLETS CENTER FACE OF CURB TOP OF CURB
 MANHOLES CENTER OF COVER TOP OR COVER
24. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF NEW STORM DRAIN. COST SHALL BE INCLUDED IN THE UNITS PRICES BID FOR STORM DRAIN ITEMS. SOME TEST PITS WERE EXCAVATED DURING DESIGN. REFERENCE SPECIFICATIONS FOR RESULTS.
25. STANDARD DETAILS FOR THIS CONTRACT SHALL BE THE HOWARD COUNTY STANDARD DETAILS AS SUPPLEMENTED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS.
26. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN HEREON:
 MISS UTILITY 1-800-257-7777
 BALTIMORE GAS & ELECTRIC CO., UNDERGROUND ELECTRICAL DISTRIBUTION ENGINEERING DAMAGE CONTROL 234-6313
 BALTIMORE GAS & ELECTRIC CO., UNDERGROUND GAS DISTRIBUTION ENGINEERING 234-5533
 VERIZON TELEPHONE CO., 725-9976
 COLONIAL PIPELINE COMPANY 781-4641
 COMCAST COMMUNICATION 461-1152
 HOWARD COUNTY BUREAU OF UTILITIES 313-4900
 HOWARD COUNTY TRAFFIC DIVISION 313-2430
 HOWARD COUNTY SURVEYING AND DRAFTING DIVISION 313-2417
 HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION 313-1880
27. THE CONTRACTOR SHALL REPLACE ALL STEPS AND LEAD WALKS IN KIND DISTURBED IN CONSTRUCTION. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENT AS REQUIRED BY THE HOWARD COUNTY INSPECTOR.
28. IF COBBLESTONES ARE ENCOUNTERED, CONTRACTOR SHALL MAKE FIELD BUREAU OF HIGHWAYS MAINTENANCE YARD FOR STOCKPILING.
29. THE CONTRACTOR TO ADJUST ALL APPURTENANCES LOCATED IN THE PAVEMENT TO MATCH FINAL PAVEMENT ELEVATION.
30. THE CONTRACTOR SHALL RESTORE ALL SIDEWALKS AND CURBING DISTURBED IN CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS AS REQUIRED.
31. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.

SHEET INDEX.

1. Cover Sheet
2. Storm Drain Plan Sheet #1
3. Storm Drain Plan Sheet #2
4. Storm Drain Plan Sheet #3
5. Storm Drain Profiles
6. Storm Drain Profiles
7. Drainage Area Map, Standard Details, Structure, and Pipe Schedule.
8. Erosion Control Plan #1
9. Erosion Control Plan #2
10. Erosion Control Plan #3
11. Erosion Control Standard Notes and Details
12. Traffic Control Plan



VICINITY MAP
SCALE 1" = 1000'

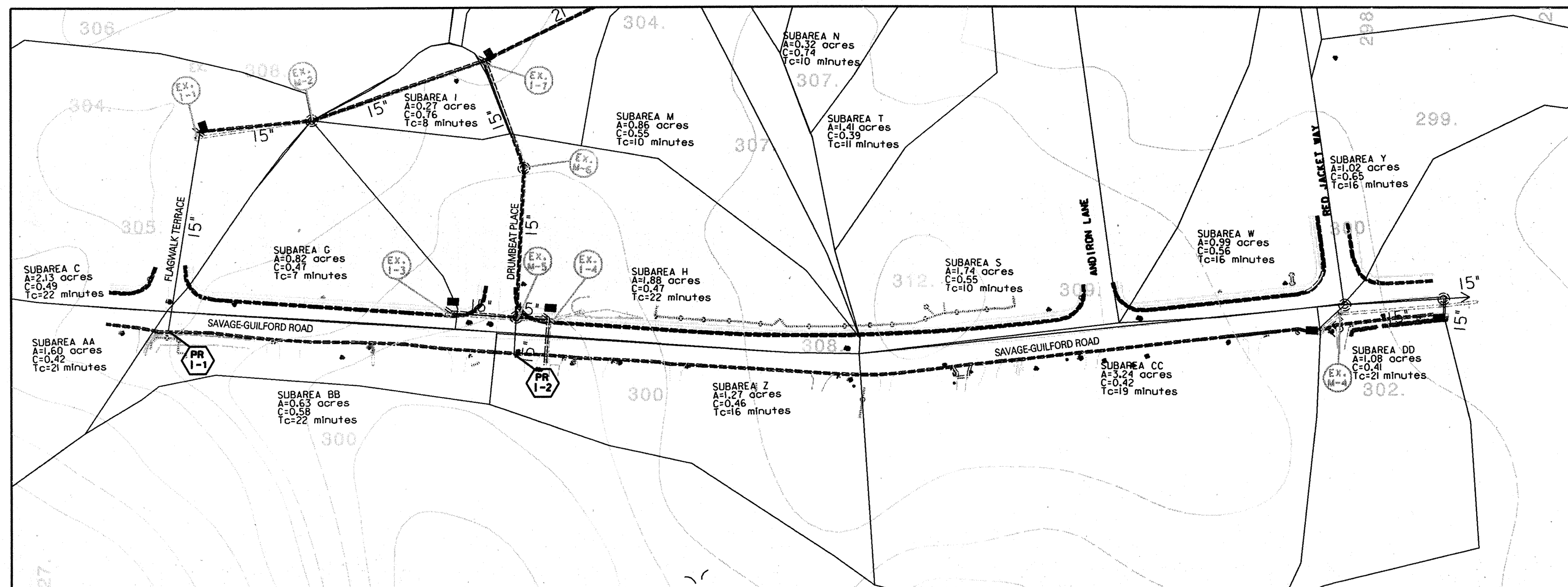
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.

Reviewed for HOWARD S.G.D. Name: _____ Date: 10-30-03

Approved for HOWARD S.G.D. Name: _____ Date: 10/30/03

Signature: _____ Date: 10-30-03

USDA, NATURAL RESOURCES SERVICE



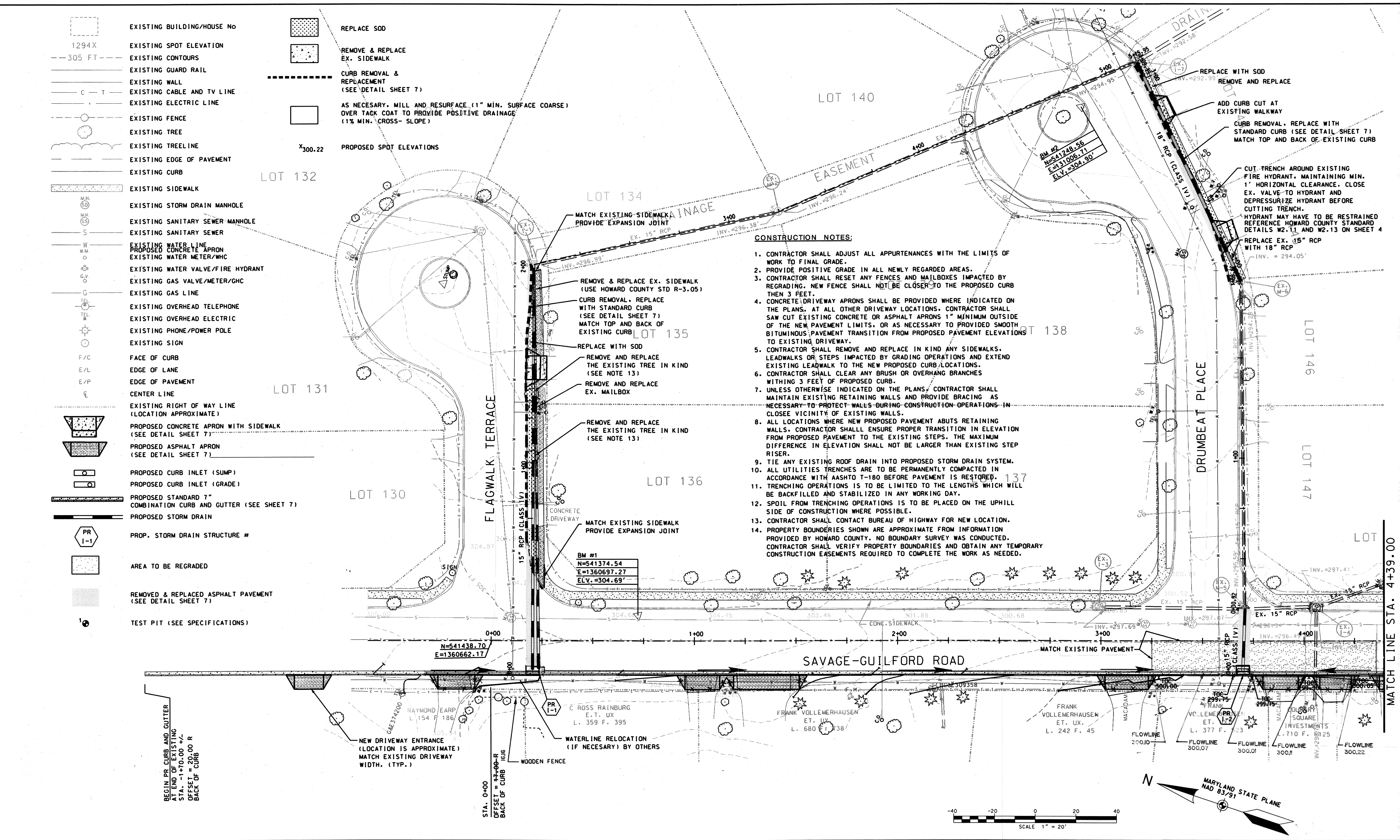
DRAINAGE AREA
SCALE 1" = 100'

| | | | | | | |
|--|---|--|---|--|--|--|
| <p style="text-align: center;">DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p>Director of Public Works: _____ Date: 10/30/03</p> <p>Chief, Bureau of Engineering: _____ Date: 10/30/03</p> <p>Chief, Transportation and Special Projects Division: _____ Date: 10-30-03</p> | <p style="text-align: center;">Baker MICHAEL BAKER JR. INC. Consulting Engineers 801 Conwell Park Drive Suite 110 Glen Burnie, Maryland 21061 (410) 424-2210</p> | | <p>DES: M.A.F.</p> <p>DRN: J.O.T.</p> <p>CHK: JVB</p> <p>DATE: 10/28/03</p> | <p>DRAINAGE IMPROVEMENTS</p> <p>PROJECT NO.</p> <p>D-1109</p> | <p>TITLE SHEET</p> <p>SAVAGE-GUILFORD ROAD</p> <p>HOWARD COUNTY, MARYLAND</p> | <p>SCALE AS SHOWN</p> <p>SHEET 1 OF 12</p> |
|--|---|--|---|--|--|--|

- EXISTING BUILDING/HOUSE NO
- 1294X EXISTING SPOT ELEVATION
- 305 FT EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING CABLE AND TV LINE
- EXISTING ELECTRIC LINE
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EXISTING STORM DRAIN MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- PROPOSED CONCRETE APRON
- EXISTING WATER METER/WHC
- EXISTING WATER VALVE/FIRE HYDRANT
- EXISTING GAS VALVE/METER/GHC
- EXISTING GAS LINE
- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PHONE/POWER POLE
- EXISTING SIGN
- FACE OF CURB
- EDGE OF LANE
- EDGE OF PAVEMENT
- CENTER LINE
- EXISTING RIGHT OF WAY LINE (LOCATION APPROXIMATE)
- PROPOSED CONCRETE APRON WITH SIDEWALK (SEE DETAIL SHEET 7)
- PROPOSED ASPHALT APRON (SEE DETAIL SHEET 7)
- PROPOSED CURB INLET (SUMP)
- PROPOSED CURB INLET (GRADE)
- PROPOSED STANDARD 7" COMBINATION CURB AND GUTTER (SEE SHEET 7)
- PROPOSED STORM DRAIN
- PROP. STORM DRAIN STRUCTURE #
- AREA TO BE REGRADED
- REMOVED & REPLACED ASPHALT PAVEMENT (SEE DETAIL SHEET 7)
- TEST PIT (SEE SPECIFICATIONS)

- REPLACE SOD
- REMOVE & REPLACE EX. SIDEWALK
- CURB REMOVAL & REPLACEMENT (SEE DETAIL SHEET 7)
- AS NECESSARY, MILL AND RESURFACE (1" MIN. SURFACE COARSE) OVER TACK COAT TO PROVIDE POSITIVE DRAINAGE (1% MIN. CROSS-SLOPE)
- PROPOSED SPOT ELEVATIONS

- CONSTRUCTION NOTES:**
1. CONTRACTOR SHALL ADJUST ALL APPURTENANCES WITH THE LIMITS OF WORK TO FINAL GRADE.
 2. PROVIDE POSITIVE GRADE IN ALL NEWLY REGARDED AREAS.
 3. CONTRACTOR SHALL RESET ANY FENCES AND MAILBOXES IMPACTED BY REGRADING. NEW FENCE SHALL NOT BE CLOSER TO THE PROPOSED CURB THEN 3 FEET.
 4. CONCRETE DRIVEWAY APRONS SHALL BE PROVIDED WHERE INDICATED ON THE PLANS, AT ALL OTHER DRIVEWAY LOCATIONS. CONTRACTOR SHALL SAW CUT EXISTING CONCRETE OR ASPHALT APRONS 1" MINIMUM OUTSIDE OF THE NEW PAVEMENT LIMITS, OR AS NECESSARY TO PROVIDED SMOOTH BITUMINOUS PAVEMENT TRANSITION FROM PROPOSED PAVEMENT ELEVATIONS TO EXISTING DRIVEWAY.
 5. CONTRACTOR SHALL REMOVE AND REPLACE IN KIND ANY SIDEWALKS, LEADWALKS OR STEPS IMPACTED BY GRADING OPERATIONS AND EXTEND EXISTING LEADWALK TO THE NEW PROPOSED CURB LOCATIONS.
 6. CONTRACTOR SHALL CLEAR ANY BRUSH OR OVERHANG BRANCHES WITHIN 3 FEET OF PROPOSED CURB.
 7. UNLESS OTHERWISE INDICATED ON THE PLANS, CONTRACTOR SHALL MAINTAIN EXISTING RETAINING WALLS AND PROVIDE BRACING AS NECESSARY TO PROTECT WALLS DURING CONSTRUCTION OPERATIONS IN CLOSE VICINITY OF EXISTING WALLS.
 8. ALL LOCATIONS WHERE NEW PROPOSED PAVEMENT ABUTS RETAINING WALLS, CONTRACTOR SHALL ENSURE PROPER TRANSITION IN ELEVATION FROM PROPOSED PAVEMENT TO THE EXISTING STEPS. THE MAXIMUM DIFFERENCE IN ELEVATION SHALL NOT BE LARGER THAN EXISTING STEP RISER.
 9. TIE ANY EXISTING ROOF DRAIN INTO PROPOSED STORM DRAIN SYSTEM.
 10. ALL UTILITIES TRENCHES ARE TO BE PERMANENTLY COMPACTED IN ACCORDANCE WITH AASHTO T-180 BEFORE PAVEMENT IS RESTORED.
 11. TRENCHING OPERATIONS IS TO BE LIMITED TO THE LENGTHS WHICH WILL BE BACKFILLED AND STABILIZED IN ANY WORKING DAY.
 12. SPOIL FROM TRENCHING OPERATIONS IS TO BE PLACED ON THE UPHILL SIDE OF CONSTRUCTION WHERE POSSIBLE.
 13. CONTRACTOR SHALL CONTACT BUREAU OF HIGHWAY FOR NEW LOCATION.
 14. PROPERTY BOUNDARIES SHOWN ARE APPROXIMATE FROM INFORMATION PROVIDED BY HOWARD COUNTY. NO BOUNDARY SURVEY WAS CONDUCTED. CONTRACTOR SHALL VERIFY PROPERTY BOUNDARIES AND OBTAIN ANY TEMPORARY CONSTRUCTION EASEMENTS REQUIRED TO COMPLETE THE WORK AS NEEDED.



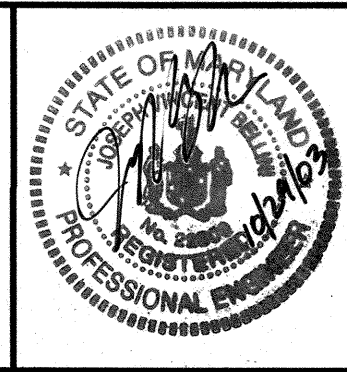
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Paul J. Wilson
 DIRECTOR OF PUBLIC WORKS
 DATE: 10/30/03

Richard J. Johnson
 CHIEF, BUREAU OF ENGINEERING
 DATE: 10/30/03

Everly E. Jones
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
 DATE: 10/30/03

Baker
 Michael Baker Jr., Inc.
 Consulting Engineers
 801 Crownall Park Drive
 Suite 110
 Glen Burnie, Maryland 21061
 (410) 424-2210






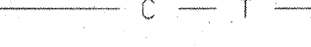

















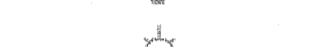










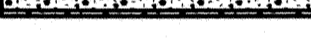
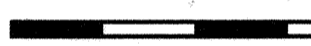


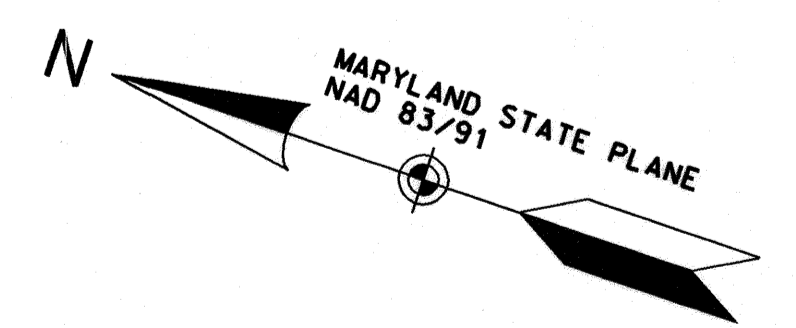
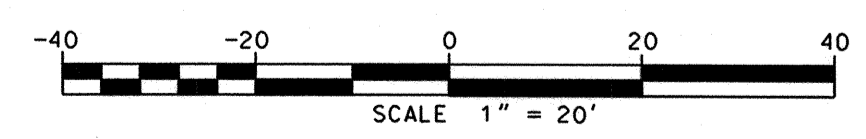
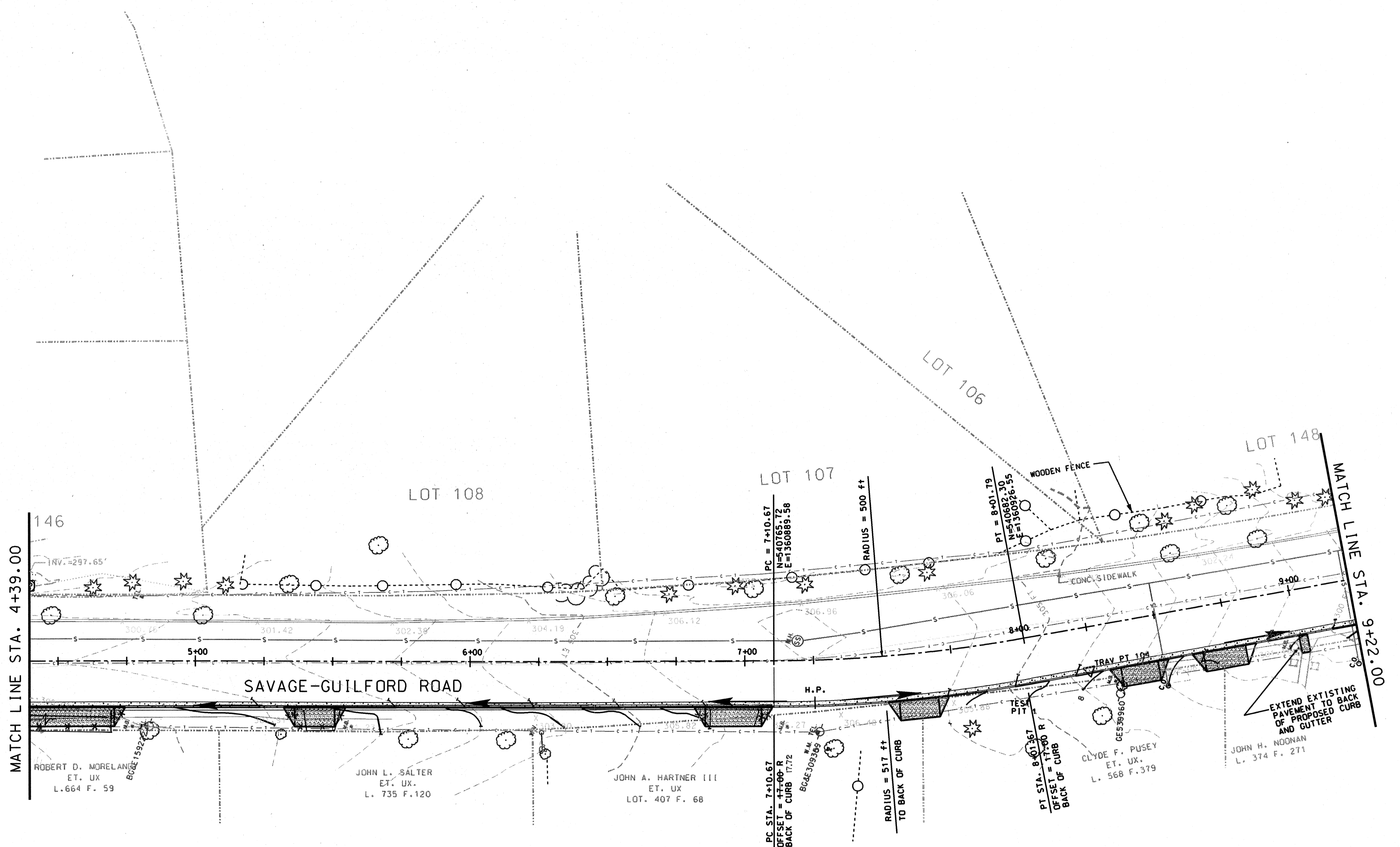
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| DRN: J.O.T. | |
| CHK: JVB | |
| DATE: 10/28/03 | |
| BY: NO. | DATE |

DRAINAGE IMPROVEMENTS
PROJECT NO. D-1109

STORM DRAIN PLAN
SAVAGE-GUILFORD ROAD
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2 OF 12

-  EXISTING BUILDING/HOUSE NO
-  EXISTING SPOT ELEVATION
-  EXISTING CONTOURS
-  EXISTING GUARD RAIL
-  EXISTING WALL
-  EXISTING CABLE AND TV LINE
-  EXISTING ELECTRIC LINE
-  EXISTING FENCE
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-  EXISTING TREELINE
-  EXISTING EDGE OF PAVEMENT
-  EXISTING CURB
-  EXISTING SIDEWALK
-  EXISTING STORM DRAIN MANHOLE
-  EXISTING SANITARY SEWER MANHOLE
-  EXISTING SANITARY SEWER
-  EXISTING WATER LINE
-  EXISTING WATER METER/WHC
-  EXISTING WATER VALVE/FIRE HYDRANT
-  EXISTING GAS VALVE/METER/GHC
-  EXISTING GAS LINE
-  EXISTING OVERHEAD TELEPHONE
-  EXISTING OVERHEAD ELECTRIC
-  EXISTING PHONE/POWER POLE
-  EXISTING SIGN
-  FACE OF CURB
-  EDGE OF LANE
-  EDGE OF PAVEMENT
-  CENTER LINE
-  RIGHT OF WAY LINE (LOCATION APPROXIMATE)
-  PROPOSED ASPHALT APRON
-  PROPOSED CURB INLET
-  PROPOSED STANDARD 7" COMBINATION CURB AND GUTTER
-  PROPOSED STORM DRAIN
-  PROP. STORM DRAIN STRUCTURE #
-  TEST PIT (SEE SPECIFICATIONS)



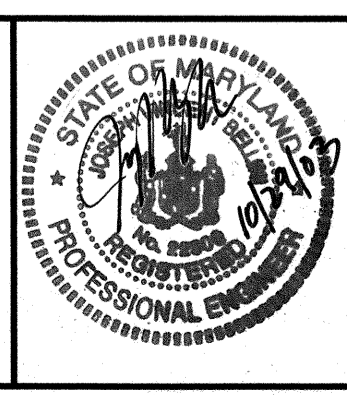
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 10/30/03
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 10/30/03
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 10/30/03
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

Baker
MICHAEL BAKER JR. INC.
Consulting Engineers
801 Cromwell Park Drive
Suite 110
Glen Burnie, Maryland 21061
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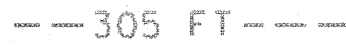






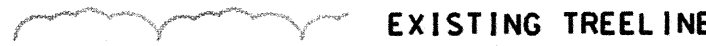








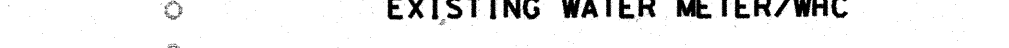


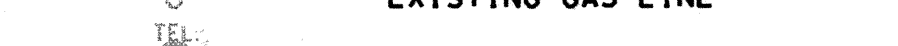









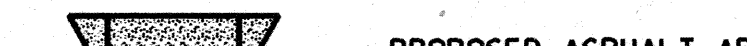






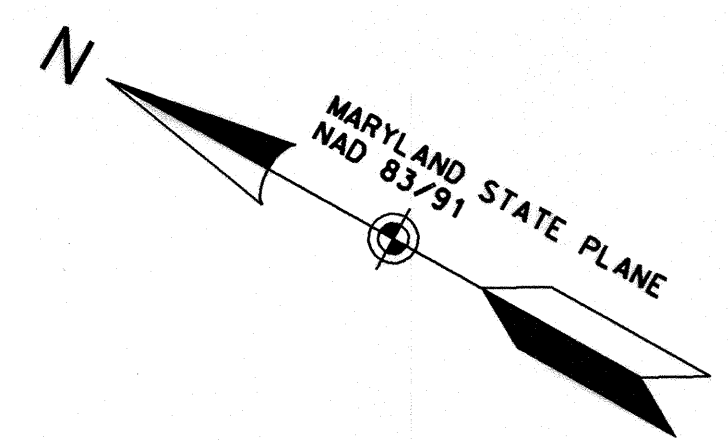
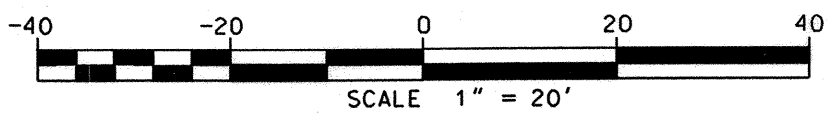
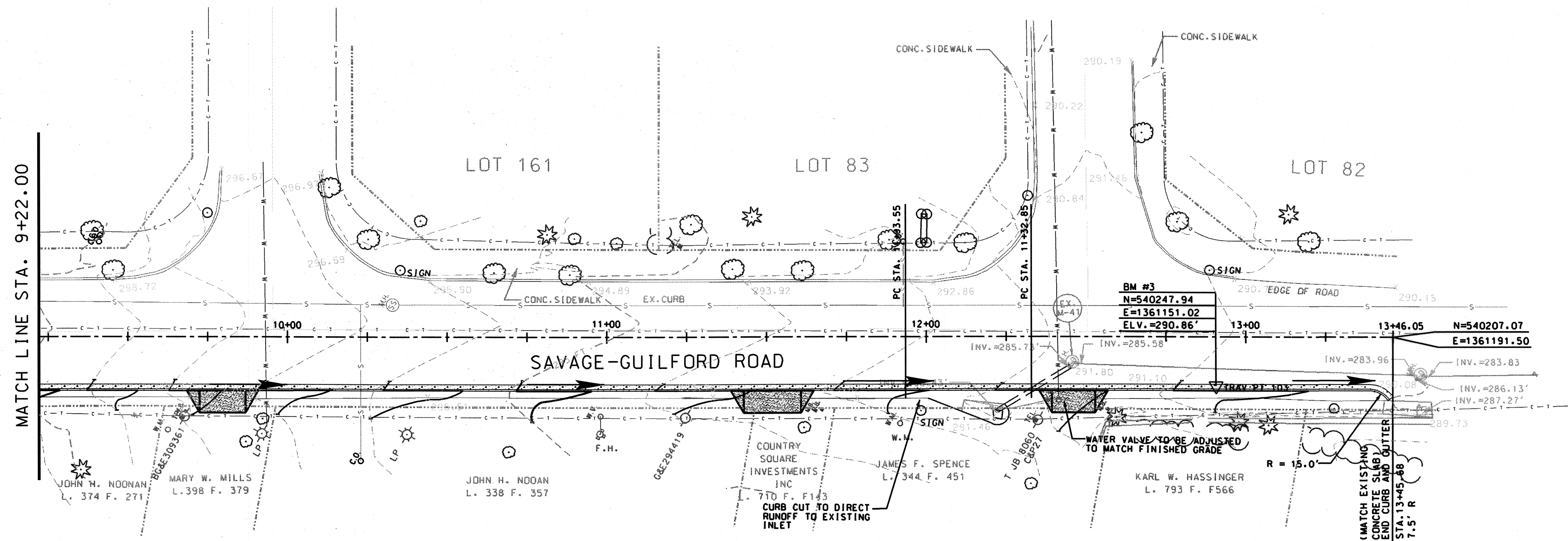
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| DRN: J.O.T. | | | |
| CHK: JVB | | | |
| DATE: 10/28/03 | BY | NO. | DATE |

DRAINAGE IMPROVEMENTS
PROJECT NO.
D-1109

STORM DRAIN PLAN
SAVAGE-GUILFORD ROAD
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 12

-  EXISTING BUILDING/HOUSE NO
- 1294X EXISTING SPOT ELEVATION
-  EXISTING CONTOURS
-  EXISTING GUARD RAIL
-  EXISTING WALL
-  EXISTING CABLE AND TV LINE
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-  PROPOSED ASPHALT APRON
-  PROPOSED CURB INLET
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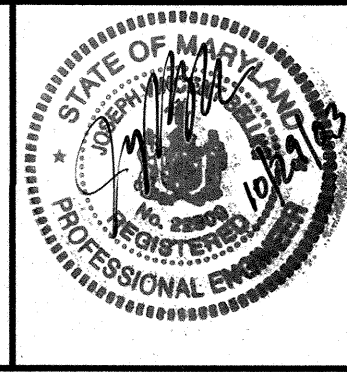
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John G. Sch...
 DIRECTOR OF PUBLIC WORKS
 DATE: 10/30/03

Paul J. Johnson
 CHIEF, BUREAU OF ENGINEERING
 DATE: 10/30/03

Eddy E. J. J...
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
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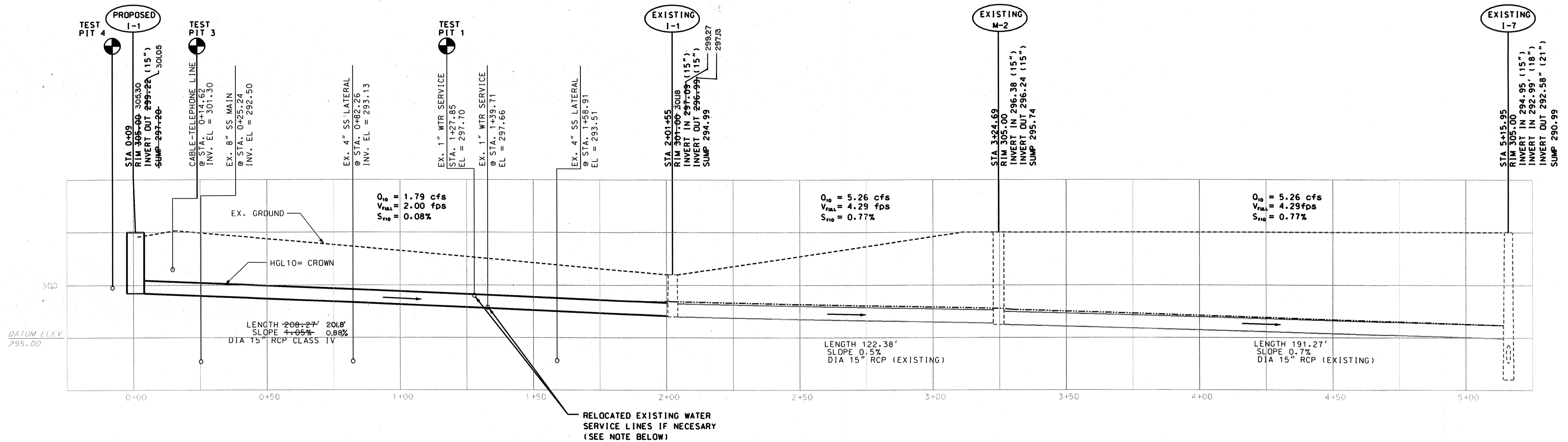
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STORM DRAIN PLAN
 SAVAGE-GUILFORD ROAD
 HOWARD COUNTY, MARYLAND

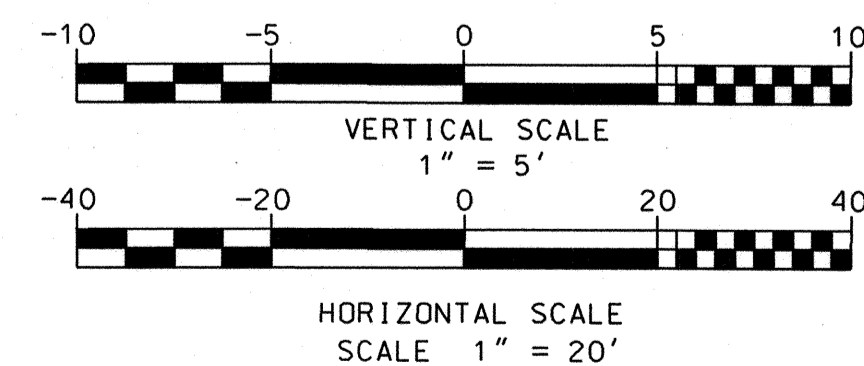
SCALE
 AS SHOWN

SHEET
 4 OF 12



NOTES:

1. PIPE LENGTHS SHOWN ARE FROM CENTER OF THE STRUCTURE TO CENTER OF THE STRUCTURE.
2. THE HORIZONTAL AND VERTICAL LOCATIONS AND SIZE OF THE WATER MAIN AND SERVICE LINES ARE APPROXIMATE. INVERT ELEVATIONS SHOWN WERE OBTAINED FROM WATER MAIN PROFILES ON THE ORIGINAL DESIGN PLANS. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF CROSSINGS PRIOR TO INSTALLATIONS OF STORM DRAIN PIPE. A MINIMUM 12 INCH VERTICAL CLEARANCE MUST BE MAINTAINED AT CROSSING POINT. IF THE MINIMUM CLEARANCE REQUIREMENT IS NOT SATISFIED, WATER SERVICE LINE SHALL BE VERTICALLY RELOCATED TO MAINTAIN MINIMUM CLEARANCE AND MINIMUM COVER OF 3'-6".
3. THE HORIZONTAL AND VERTICAL LOCATION AND SIZE OF SANITARY SEWER LATERALS ARE APPROXIMATE. THE INVERT ELEVATION OF THE LATERAL AT THE CROSSING POINT WAS COMPUTED USING THE INVERT ELEVATION OF THE MAIN LINE (OBTAINED FROM PROFILES ON THE ORIGINAL DESIGN PLANS) AND ASSUMING A 2% SLOPE ALONG THE LATERAL.
4. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING BURIED ELECTRICAL, CABLE, AND TV LINES ARE APPROXIMATE. VERTICAL LOCATIONS SHOWN ON PROFILES ASSUME 2' OF COVER (UNLESS TEST PITS WERE EXCAVATED).



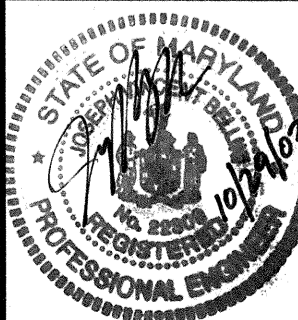
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. ...
DIRECTOR OF PUBLIC WORKS
DATE: 10/30/03

Paul J. ...
CHIEF, BUREAU OF ENGINEERING
DATE: 10/30/03

Evelyn E. ...
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
DATE: 10/30/03

Baker
MICHAEL BAKER JR. INC.
Consulting Engineers
801 Cromwell Park Drive
Suite 110
Glen Burnie, Maryland 21061
410-424-2210



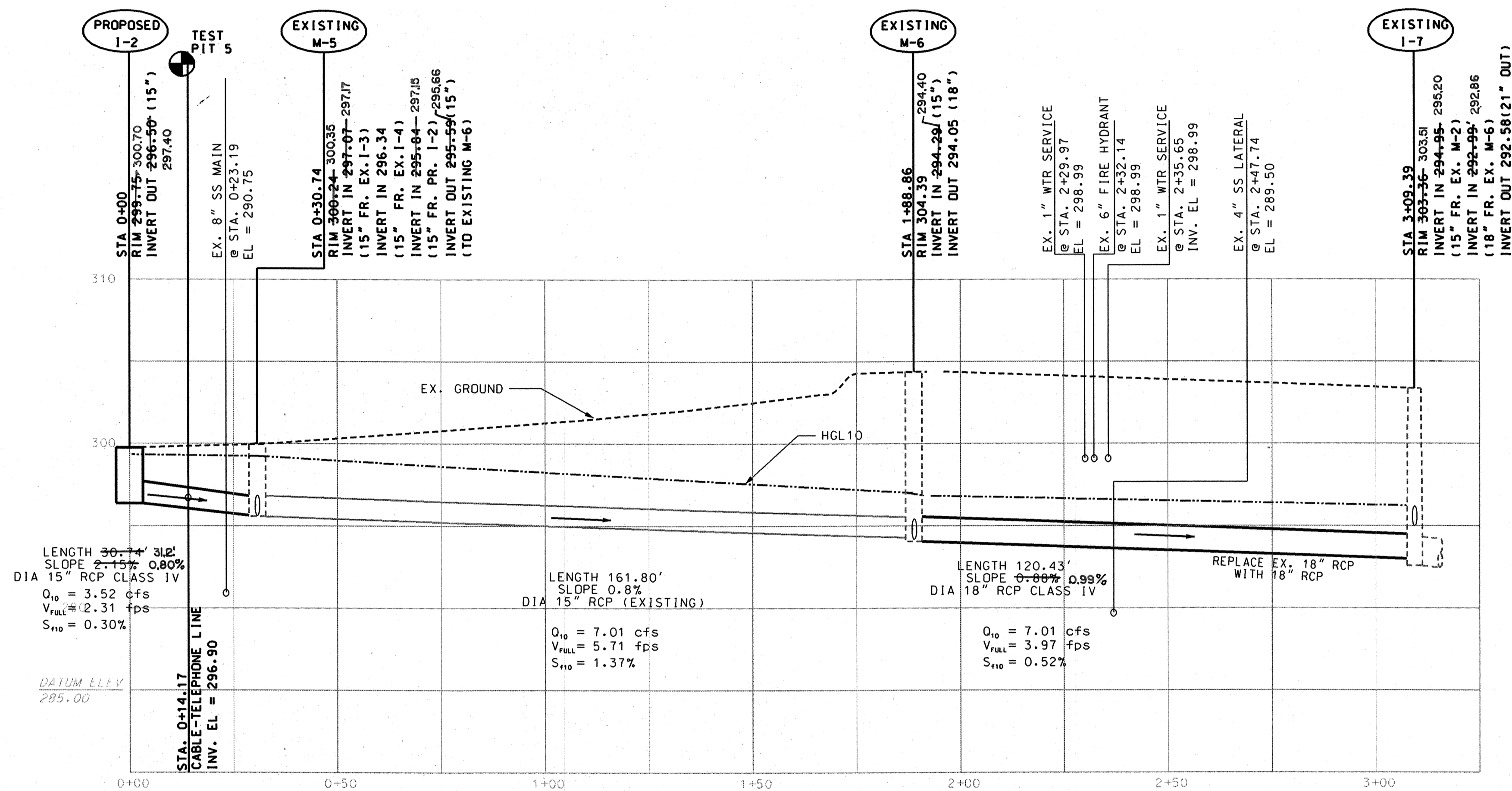
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|----------------|----|-----|------|
| DES: M.A.F. | | | |
| DRN: J.O.T. | | | |
| CHK: JVB | | | |
| DATE: 10/28/03 | BY | NO. | DATE |

DRAINAGE IMPROVEMENTS
PROJECT NO.
D-1109

STORM DRAIN PROFILES
SAVAGE-GUILFORD ROAD
HOWARD COUNTY, MARYLAND

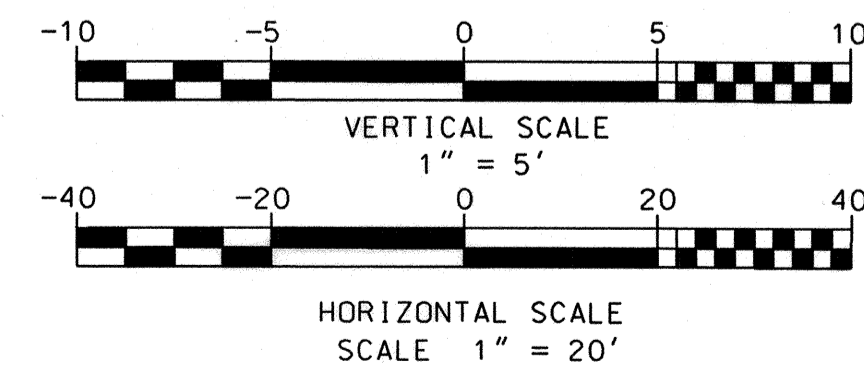
SCALE
AS SHOWN

SHEET
5 OF 12



NOTES:

1. PIPE LENGTHS SHOWN ARE FROM CENTER OF THE STRUCTURE TO CENTER OF THE STRUCTURE.
2. THE HORIZONTAL AND VERTICAL LOCATIONS AND SIZE OF THE WATER MAIN AND SERVICE LINES ARE APPROXIMATE. INVERT ELEVATIONS SHOWN WERE OBTAINED FROM WATER MAIN PROFILES ON THE ORIGINAL DESIGN PLANS. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF CROSSINGS PRIOR TO INSTALLATIONS OF STORM DRAIN PIPE. A MINIMUM 12 INCH VERTICAL CLEARANCE MUST BE MAINTAINED AT CROSSING POINT. IF THE MINIMUM CLEARANCE REQUIREMENT IS NOT SATISFIED, WATER SERVICE LINE SHALL BE VERTICALLY RELOCATED TO MAINTAIN MINIMUM CLEARANCE AND MINIMUM COVER OF 3'-6".
3. THE HORIZONTAL AND VERTICAL LOCATION AND SIZE OF SANITARY SEWER LATERALS ARE APPROXIMATE. THE INVERT ELEVATION OF THE LATERAL AT THE CROSSING POINT WAS COMPUTED USING THE INVERT ELEVATION OF THE MAIN LINE (OBTAINED FROM PROFILES ON THE ORIGINAL DESIGN PLANS) AND ASSUMING A 2% SLOPE ALONG THE LATERAL.
4. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING BURIED ELECTRICAL, CABLE, AND TV LINES ARE APPROXIMATE. VERTICAL LOCATIONS SHOWN ON PROFILES ASSUME 2' OF COVER (UNLESS TEST PITS WERE EXCAVATED).



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Jan P. [Signature] 10/30/03
 DIRECTOR OF PUBLIC WORKS DATE

Richard [Signature] 10/30/03
 CHIEF, BUREAU OF ENGINEERING DATE

Walter [Signature] 10/30/03
 CHIEF, BUREAU OF HIGHWAYS DATE

Evelyn [Signature] 10/30/03
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

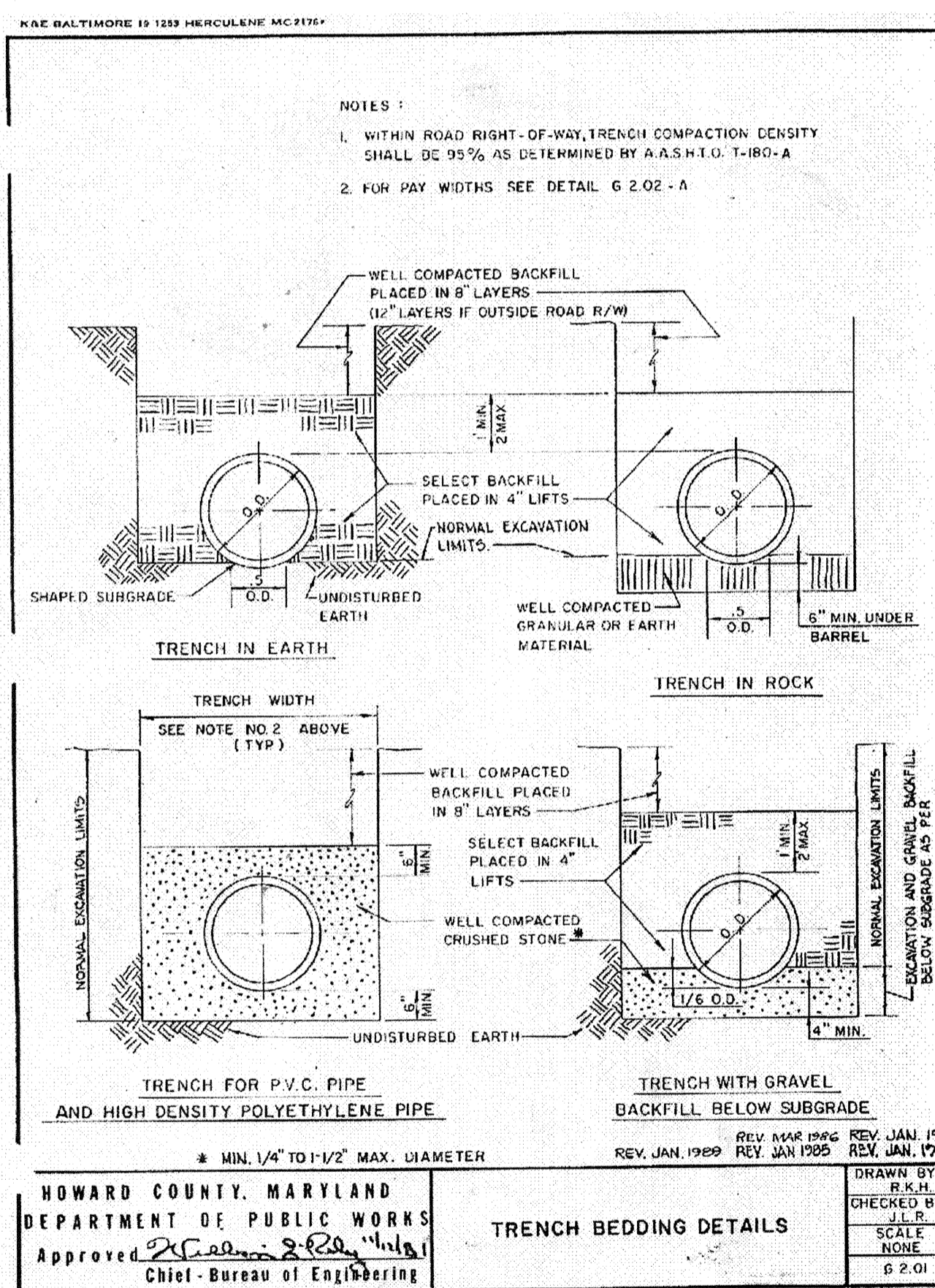
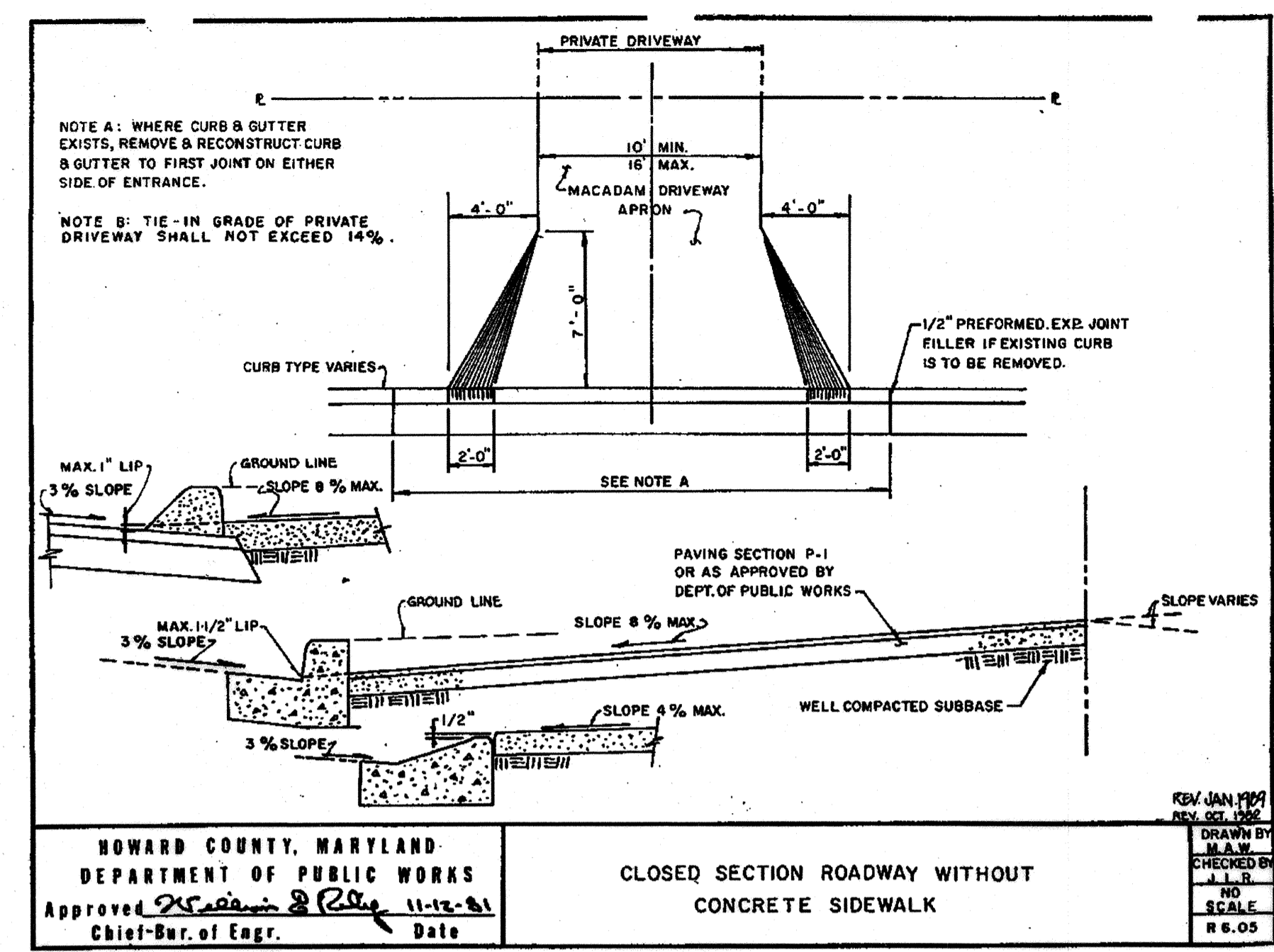
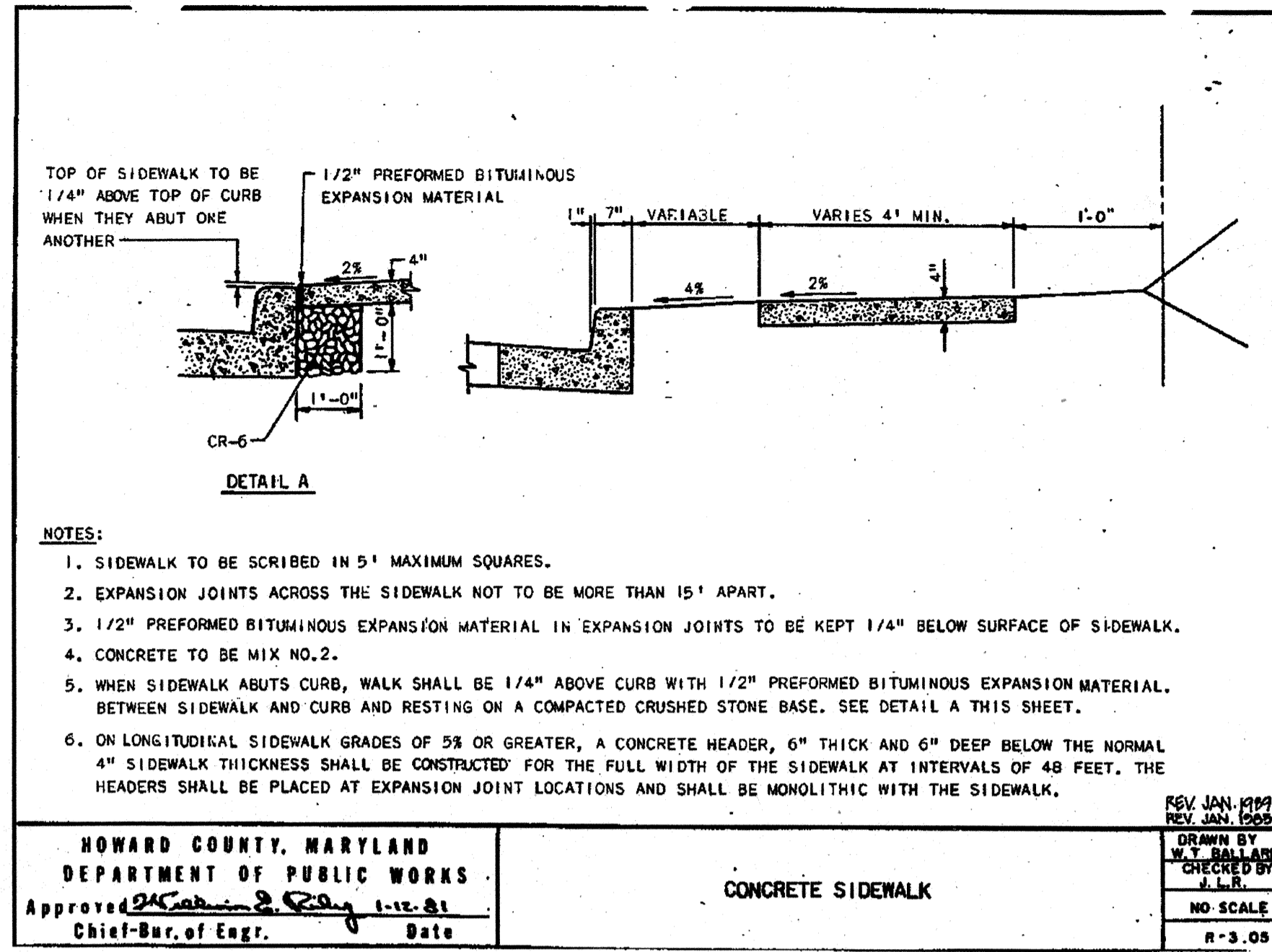
Baker
 MICHAEL BAKER JR. INC.
 Consulting Engineers
 801 Crosswell Park Drive
 Suite 110
 Glen Burnie, Maryland 21061
 (410) 424-2210

| | | | |
|----------------|----|-----|------|
| DES: M.A.F. | | | |
| DRN: J.O.T. | | | |
| CHK: JVB | | | |
| DATE: 10/28/03 | BY | NO. | DATE |

DRAINAGE IMPROVEMENTS
PROJECT NO. D-1109

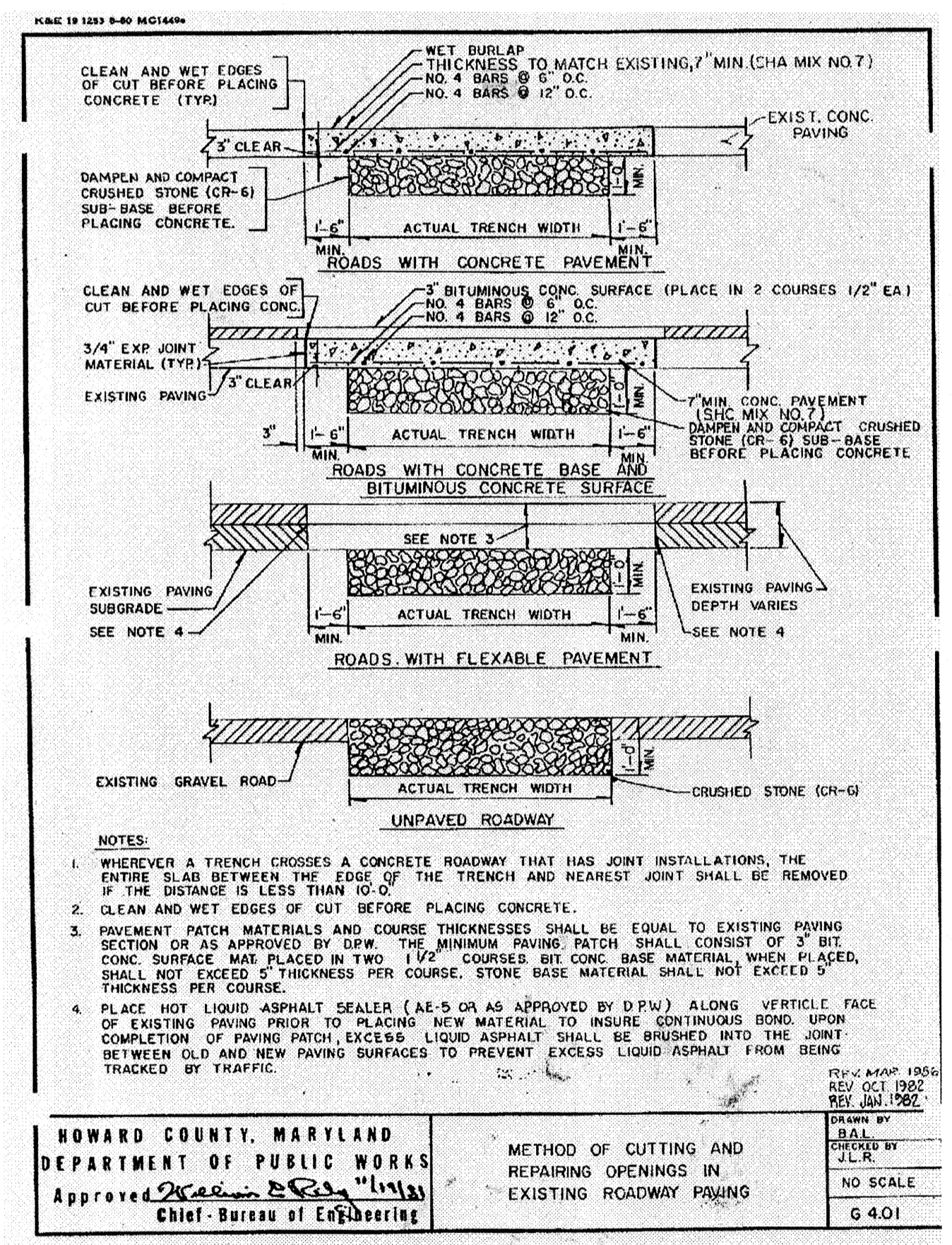
STORM DRAIN PROFILES
SAVAGE-GUILFORD ROAD
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 6 OF 12



STORM DRAIN PIPE SCHEDULE

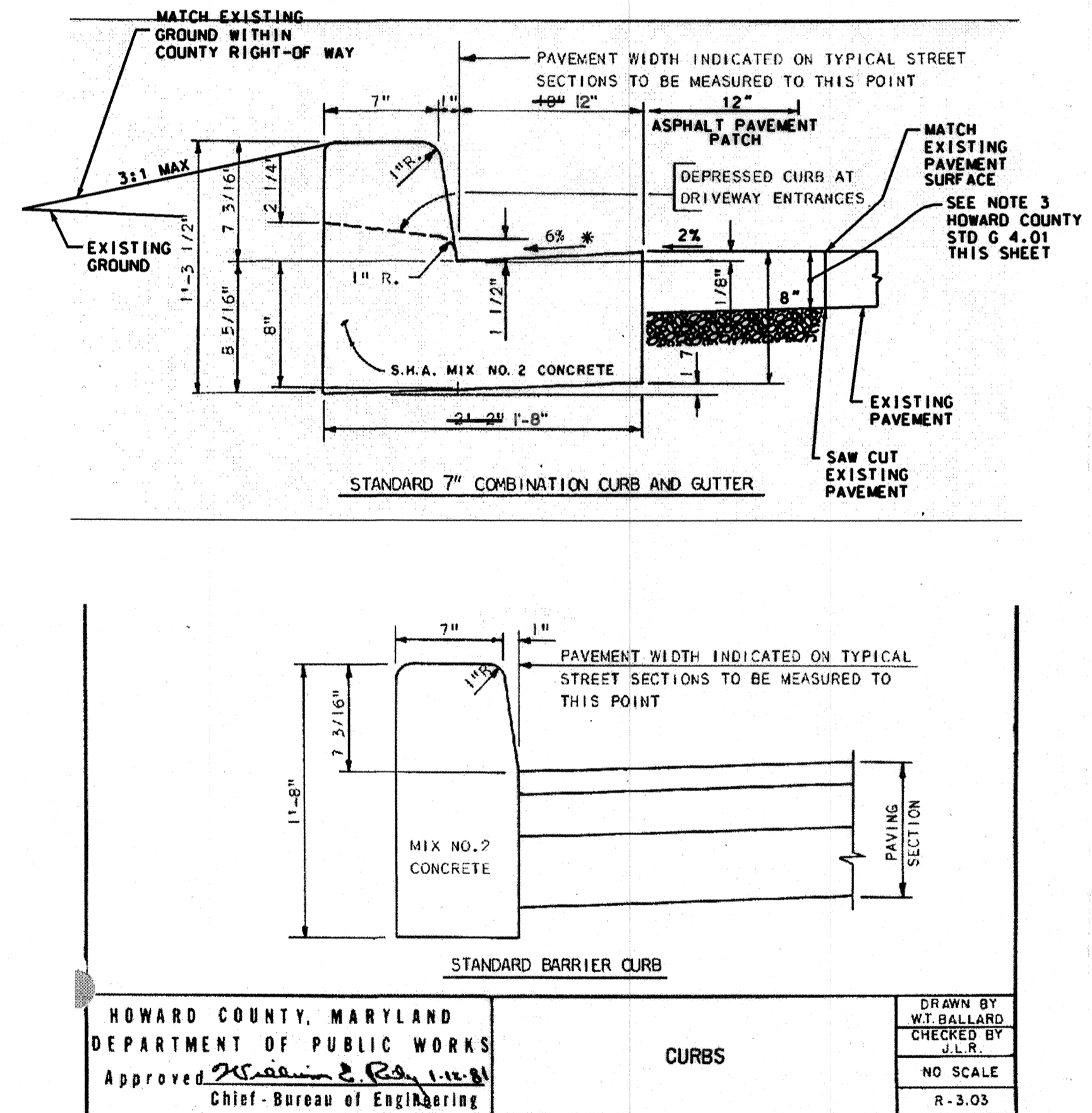
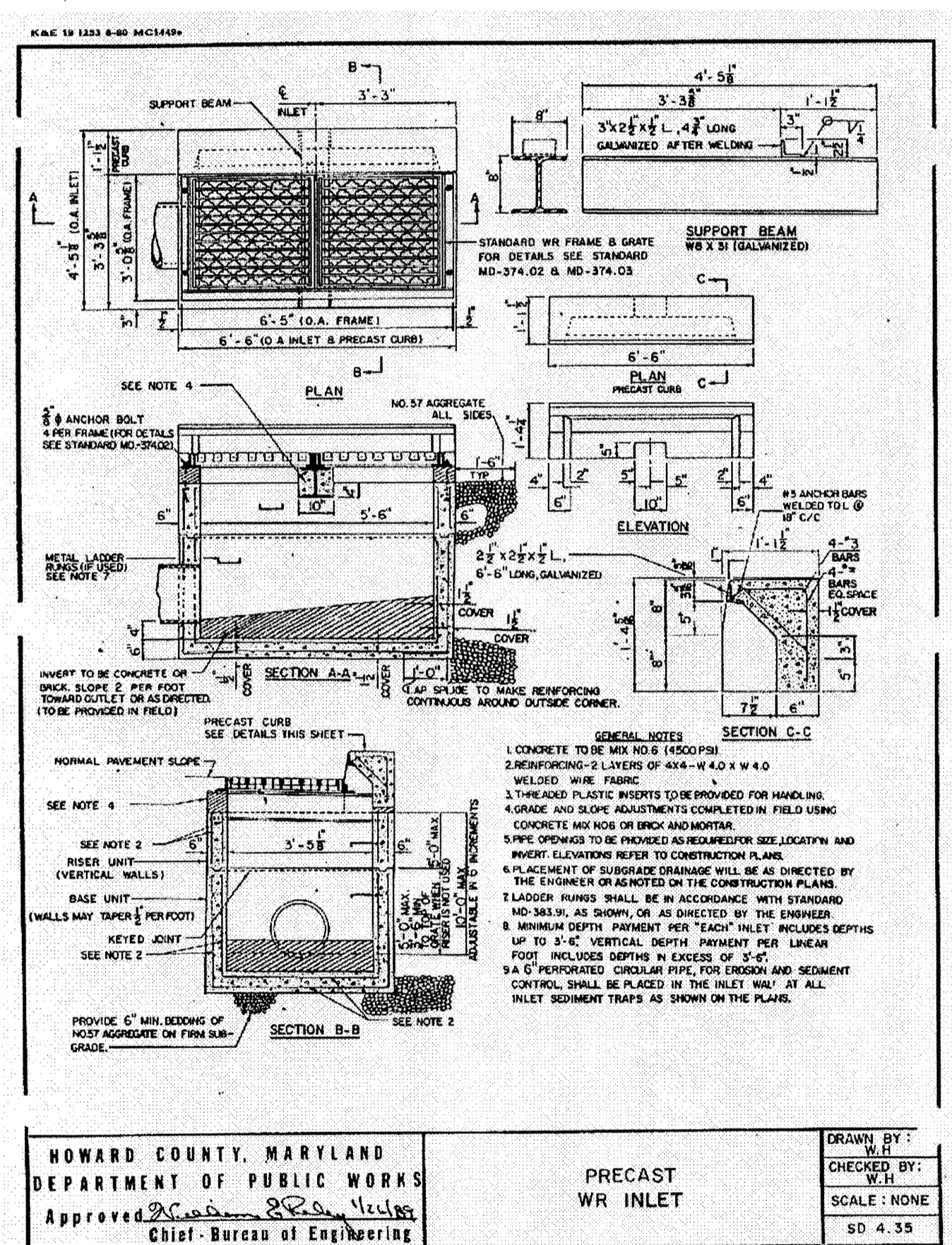
| SIZE | TYPE | CLASS | LENGTH |
|------|------|-------|--------|
| 15" | RCP | IV | 244' |
| 18" | RCP | IV | 120' |



STRUCTURE SCHEDULE *

| NO. | TYPE | STATION | OFFSET | TOP | INV. IN | INV. OUT | REMARKS |
|-----|---------------|------------------|-----------------|--------------------|---------|--------------------|---------|
| 1-1 | HO. COUNTY WR | 0+23.3 0+20.4 | 16.2' 17' RT | 305.30' 299.06' | — | 301.05' 299.22' | 10' |
| 1-2 | HO. COUNTY WR | 3+69.6 | 17.3' 17' RT | 300.70' 299.75' | — | 297.40' 296.50' | 10' |

* STATION AND OFFSET ARE MEASURED TO THE CENTER OF THE INLET STRUCTURE MANHOLE COVER AT THE INSIDE FACE OF WALL. TOP ELEVATION IS THE TOP OF THE INLET SLAB AT THE TOP BACK OF CURB BACK OF CURB



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10/30/03 DATE

10/30/03 DATE

10/30/03 DATE

10/30/03 DATE

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801 Cromwell Park Drive
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Glen Burnie, Maryland 21061
(410) 424-2210

DES: M.A.F.
DRN: J.D.T.
CHK: JVB
DATE: 10/28/03

BY NO. DATE

DRAINAGE IMPROVEMENTS

PROJECT NO. D-1109

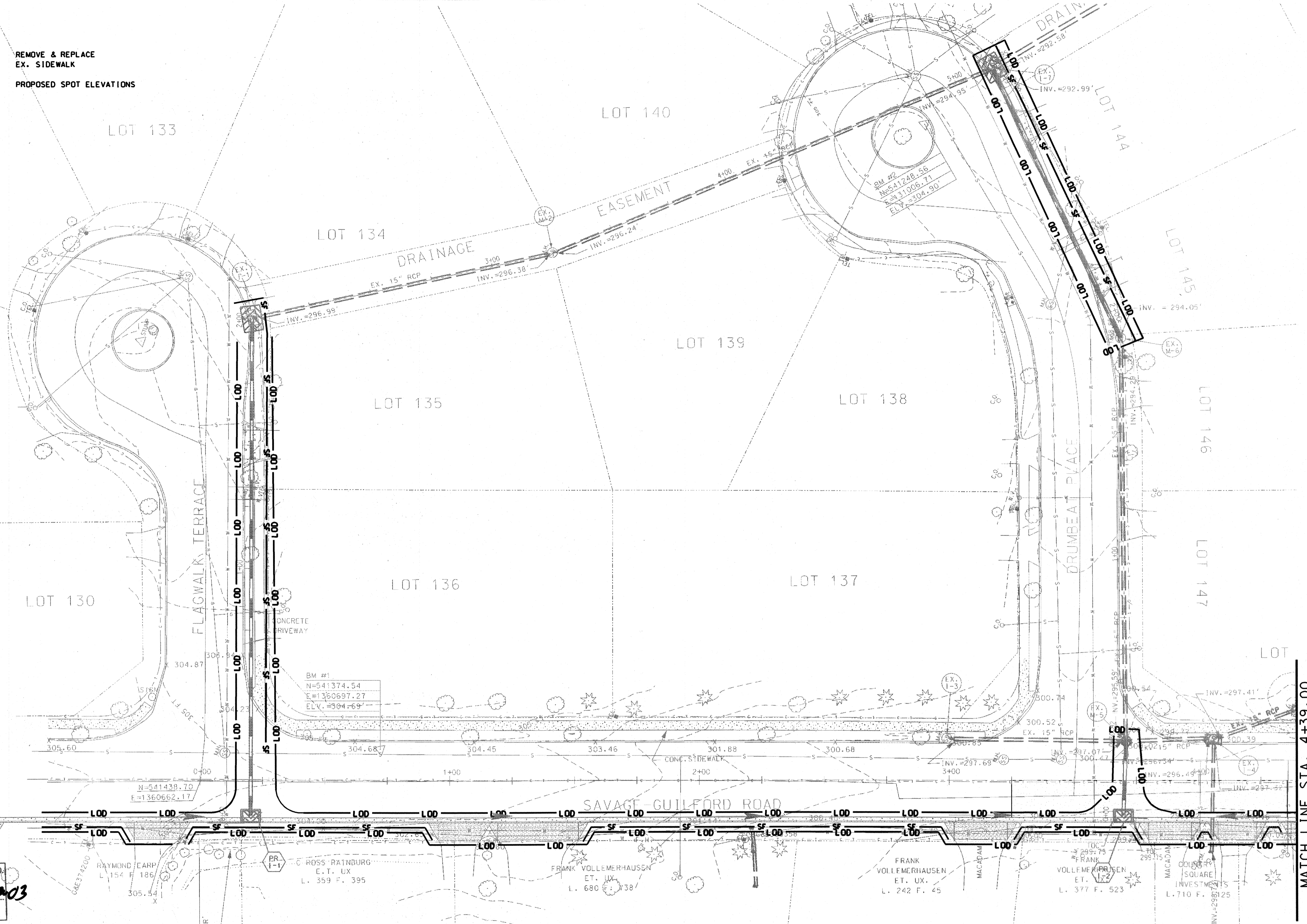
DRAINAGE AREA MAP, STANDARD DETAILS, STRUCTURE, AND PIPE SCHEDULE

SAVAGE-GUILFORD ROAD
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

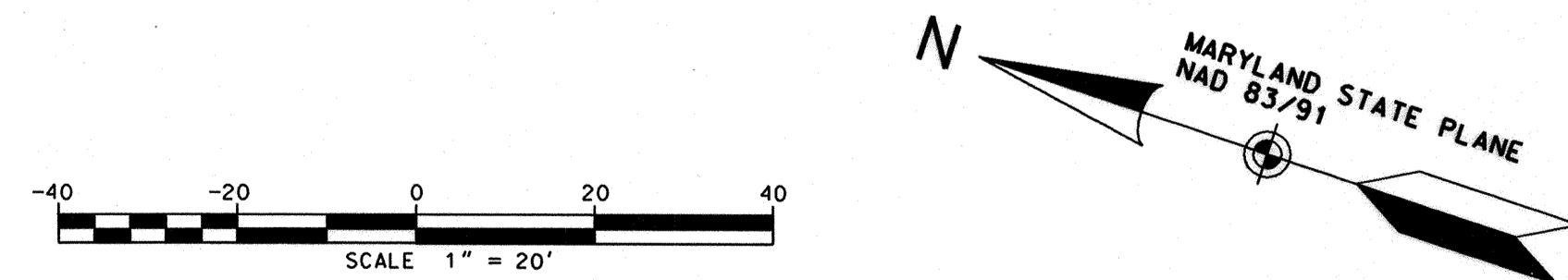
SHEET 7 OF 12

- EXISTING BUILDING/HOUSE NO
- 1294X EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING CABLE AND TV LINE
- EXISTING ELECTRIC LINE
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EXISTING STORM DRAIN MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- PROPOSED CONCRETE APRON
- EXISTING WATER METER/WHC
- EXISTING WATER VALVE/FIRE HYDRANT
- EXISTING GAS VALVE/METER/GHC
- EXISTING GAS LINE
- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PHONE/POWER POLE
- EXISTING SIGN
- FACE OF CURB
- EDGE OF LANE
- EDGE OF PAVEMENT
- CENTER LINE
- EXISTING RIGHT OF WAY LINE (LOCATION APPROXIMATE)
- PROPOSED CONCRETE APRON WITH SIDEWALK (SEE DETAIL SHEET 7)
- PROPOSED ASPHALT APRON WITHOUT SIDEWALK (SEE DETAIL SHEET 7)
- PROPOSED CURB INLET (SUMP)
- PROPOSED CURB INLET (GRADE)
- PROPOSED STANDARD 7" COMBINATION CURB AND GUTTER (SEE SHEET 7)
- PROPOSED STORM DRAIN
- PROP. STORM DRAIN STRUCTURE #
- AREA TO BE REGRADED
- TEST PIT (SEE SPECIFICATIONS)
- LIMIT OF DISTURBANCE
- INLET PROTECTION
- SILK FENCE



Reviewed by: *[Signature]* S.C.D.
 10/30/03
 USDA, NATURAL RESOURCES SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 10/30/03
 APPROVED HOWARD S.C.D. DATE



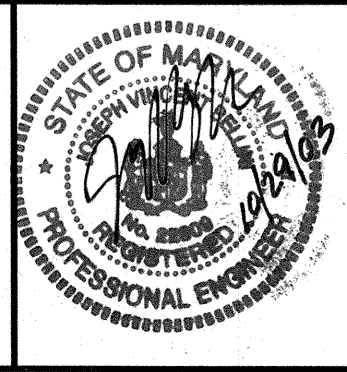
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 10/30/03
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 10/30/03
 CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 10/30/03
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

Baker
 MICHAEL BAKER JR. INC.
 Consulting Engineers
 801 Crosswell Park Drive
 Suite 110
 Glen Burnie, Maryland 21061
 (410) 424-2210












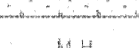



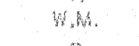

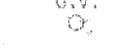




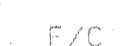

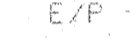













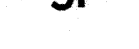


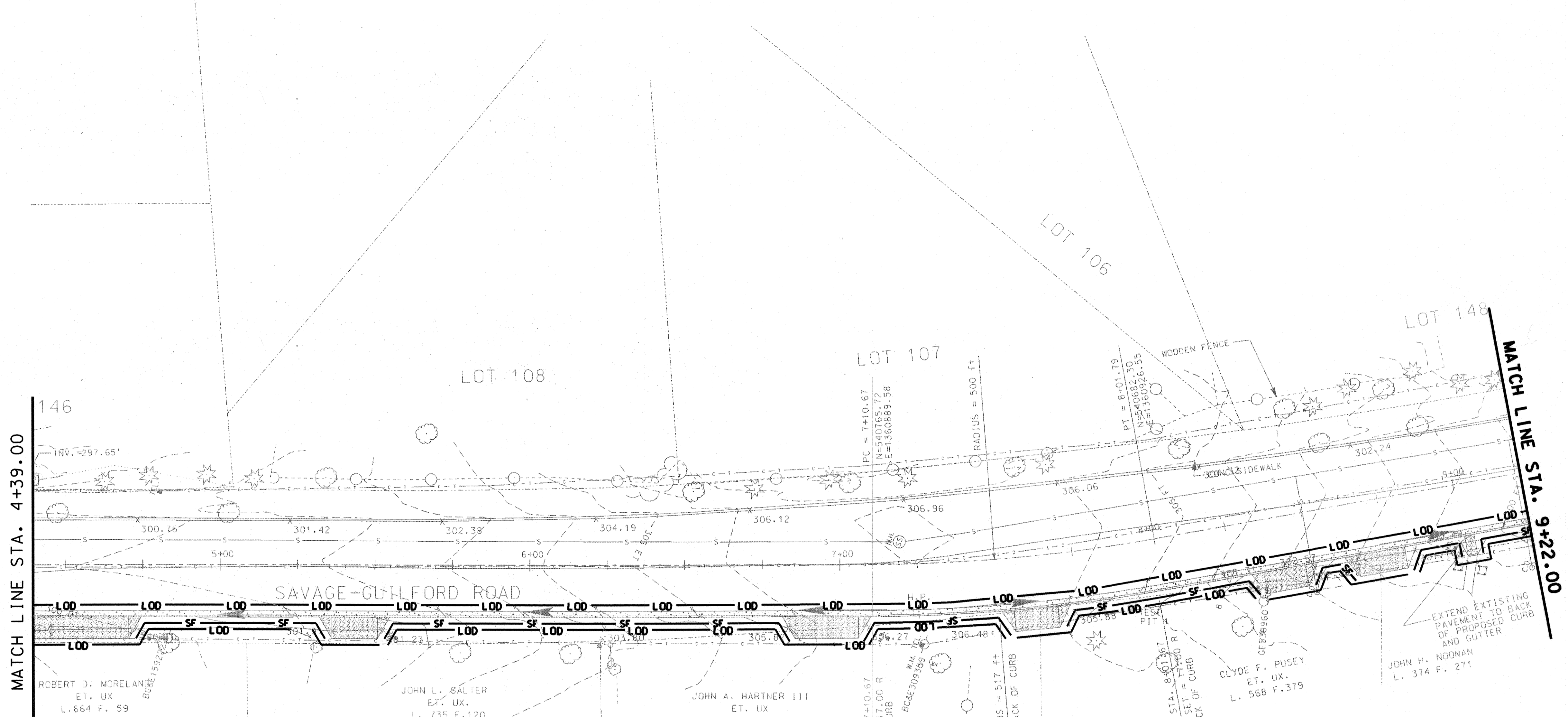
| | |
|----------------|------|
| DES: M.A.F. | |
| DRN: J.O.T. | |
| CHK: JVB | |
| DATE: 10/28/03 | |
| BY NO. | DATE |

DRAINAGE IMPROVEMENTS
 PROJECT NO.
 D-1109

EROSION AND SEDIMENT CONTROL PLAN
 SAVAGE-GUILFORD ROAD
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 8 OF 12

-  EXISTING BUILDING/HOUSE No
-  1294X EXISTING SPOT ELEVATION
-  305 FT EXISTING CONTOURS
-  EXISTING GUARD RAIL
-  EXISTING WALL
-  EXISTING CABLE AND TV LINE
-  EXISTING ELECTRIC LINE
-  EXISTING FENCE
-  EXISTING TREE
-  EXISTING TREELINE
-  EXISTING EDGE OF PAVEMENT
-  EXISTING CURB
-  EXISTING SIDEWALK
-  EXISTING STORM DRAIN MANHOLE
-  EXISTING SANITARY SEWER MANHOLE
-  EXISTING SANITARY SEWER
-  EXISTING WATER LINE
-  EXISTING WATER METER/WHC
-  EXISTING WATER VALVE/FIRE HYDRANT
-  EXISTING GAS VALVE/METER/GHC
-  EXISTING GAS LINE
-  EXISTING OVERHEAD TELEPHONE
-  EXISTING OVERHEAD ELECTRIC
-  EXISTING PHONE/POWER POLE
-  EXISTING SIGN
-  FACE OF CURB
-  EDGE OF LANE
-  EDGE OF PAVEMENT
-  CENTER LINE
-  PROPOSED ASPHALT APRON
-  PROPOSED CURB INLET
-  PROPOSED STANDARD 7" COMBINATION CURB AND GUTTER
-  PROPOSED STORM DRAIN
-  PROP. STORM DRAIN STRUCTURE #
-  RIGHT OF WAY LINE
-  AREA TO BE REGRADED
-  LIMIT OF DISTURBANCE
-  INLET PROTECTION
-  SILK FENCE

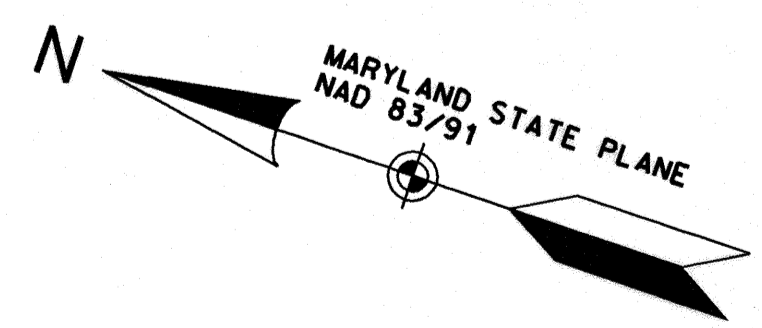
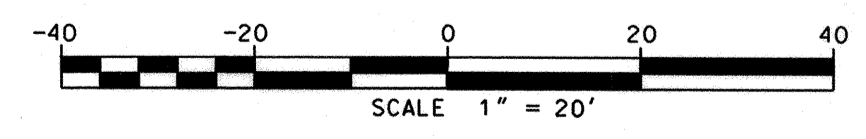


THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

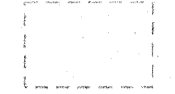














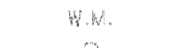








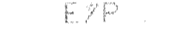














Approved: *Jim Meyer* 10/30/03

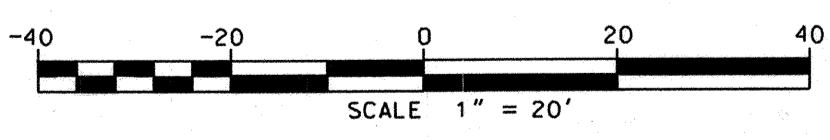
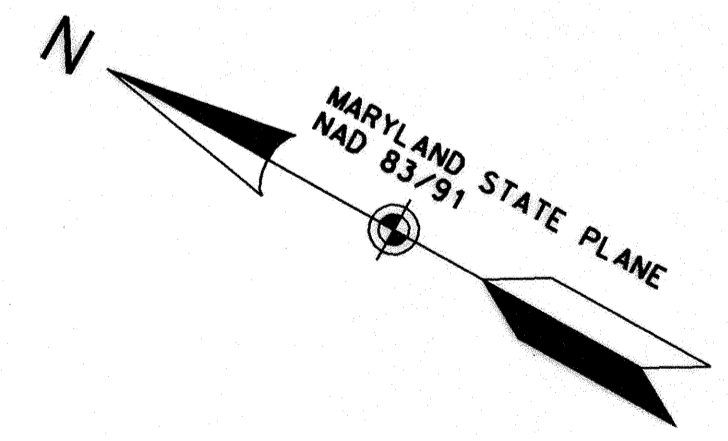
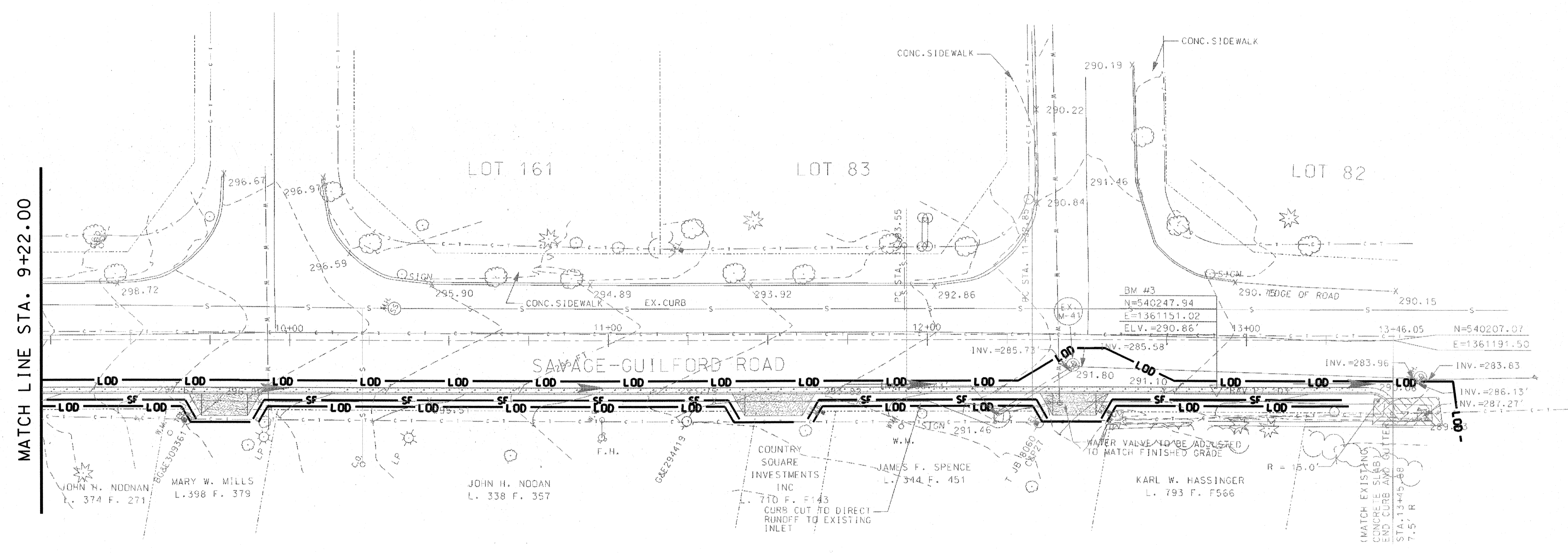
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Approved: *John A. Plutko* 10/30/03



| | | | | | |
|--|---|---|---|---|--|
| <p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p>Director of Public Works: <i>John A. Plutko</i> 10/30/03</p> <p>Chief, Bureau of Engineering: <i>Robert D. Moreland</i> 10/30/03</p> <p>Chief, Bureau of Highways: <i>William R. Mabe</i> 10-30-03</p> <p>Chief, Transportation and Special Projects Division: <i>Evelyn E. Jordan</i> 10/30/03</p> | <p>Baker</p> <p>MICHAEL BAKER JR. INC. Consulting Engineers 801 Cromwell Park Drive Suite 110 Glen Burnie, Maryland 21061 (410) 424-2210</p> | <p>DES: M.A.F.</p> <p>DRN: J.O.T.</p> <p>CHK: JVB</p> <p>DATE: 10/28/03</p> | <p>DRAINAGE IMPROVEMENTS PROJECT NO. D-1109</p> | <p>EROSION AND SEDIMENT CONTROL PLAN SAVAGE-GUILFORD ROAD HOWARD COUNTY, MARYLAND</p> | <p>SCALE AS SHOWN</p> <p>SHEET 9 OF 12</p> |
|--|---|---|---|---|--|

-  EXISTING BUILDING/HOUSE NO
-  1294X EXISTING SPOT ELEVATION
-  305' F1 EXISTING CONTOURS
-  EXISTING GUARD RAIL
-  EXISTING WALL
-  EXISTING CABLE AND TV LINE
-  EXISTING ELECTRIC LINE
-  EXISTING FENCE
-  EXISTING TREE
-  EXISTING TREELINE
-  EXISTING EDGE OF PAVEMENT
-  EXISTING CURB
-  EXISTING SIDEWALK
-  EXISTING STORM DRAIN MANHOLE
-  EXISTING SANITARY SEWER MANHOLE
-  EXISTING SANITARY SEWER
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-  EXISTING GAS LINE
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-  EXISTING PHONE/POWER POLE
-  EXISTING SIGN
-  FACE OF CURB
-  EDGE OF LANE
-  EDGE OF PAVEMENT
-  CENTER LINE
-  PROPOSED CONCRETE APRON
-  PROPOSED CURB INLET
-  PROPOSED STANDARD 7" COMBINATION CURB AND GUTTER
-  PROPOSED STORM DRAIN
-  PROP. STORM DRAIN STRUCTURE #
-  RIGHT OF WAY LINE
-  AREA TO BE REGRADED
-  LIMIT OF DISTURBANCE
-  INLET PROTECTION
-  SILT FENCE



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

John P. Slon 10/30/03
APPROVED HOWARD S.C.D. DATE

Jim Miller 10-30-03
USDA, NATURAL RESOURCES SERVICE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

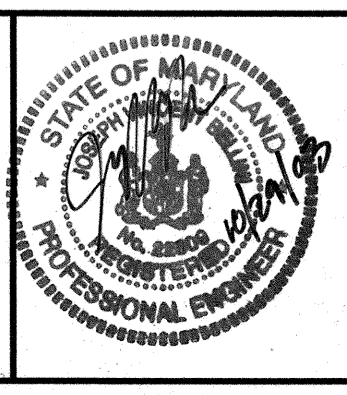
John P. Slon 10/30/03
DIRECTOR OF PUBLIC WORKS DATE

W. Wade F. Mahan 10-30-03
CHIEF, BUREAU OF HIGHWAYS DATE

Robert Seaman 10/30/03
CHIEF, BUREAU OF ENGINEERING DATE

Evelyn E. Jones 10/30/03
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

Baker
MICHAEL BAKER JR. INC.
Consulting Engineers
801 Crownall Park Drive
Suite 110
Glen Burnie, Maryland 21061
410 424-2210



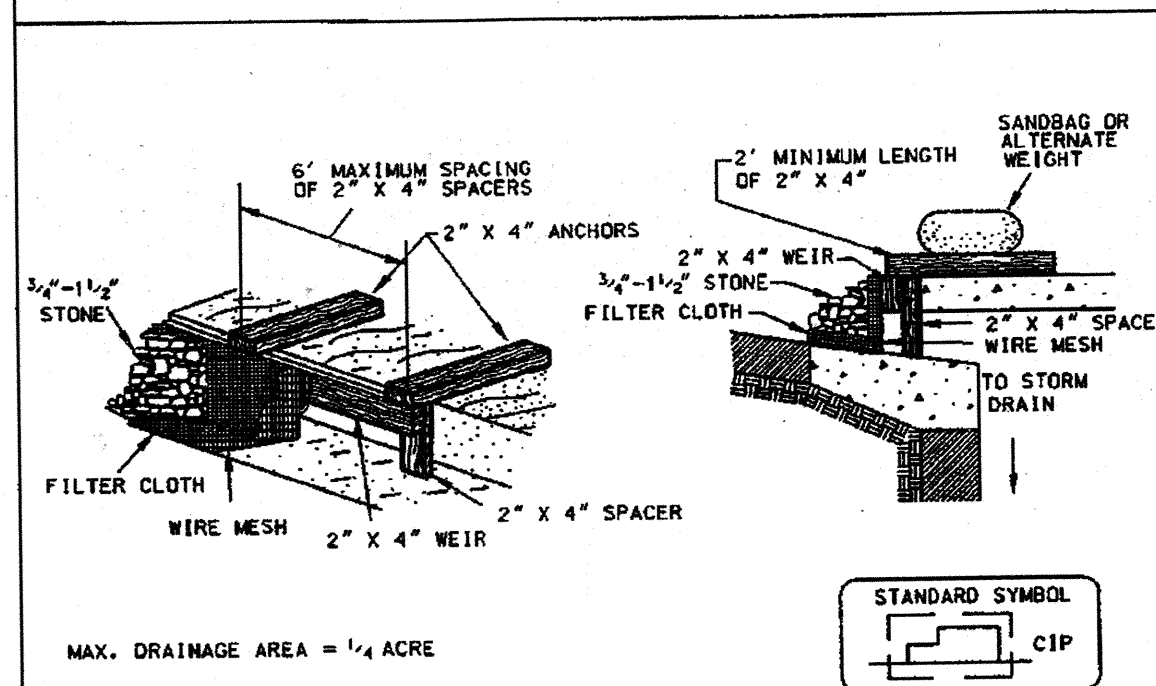
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| DES: M.A.F. | | | | |
| DRN: J.D.T. | | | | |
| CHK: JVB | | | | |
| DATE: 10/28/03 | BY | NO. | | DATE |

DRAINAGE IMPROVEMENTS
PROJECT NO.
D-1109

EROSION AND SEDIMENT CONTROL PLAN
SAVAGE-GUILFORD ROAD
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 10 OF 12

DETAIL 28C - CURB INLET PROTECTION (COG OR COS INLETS)

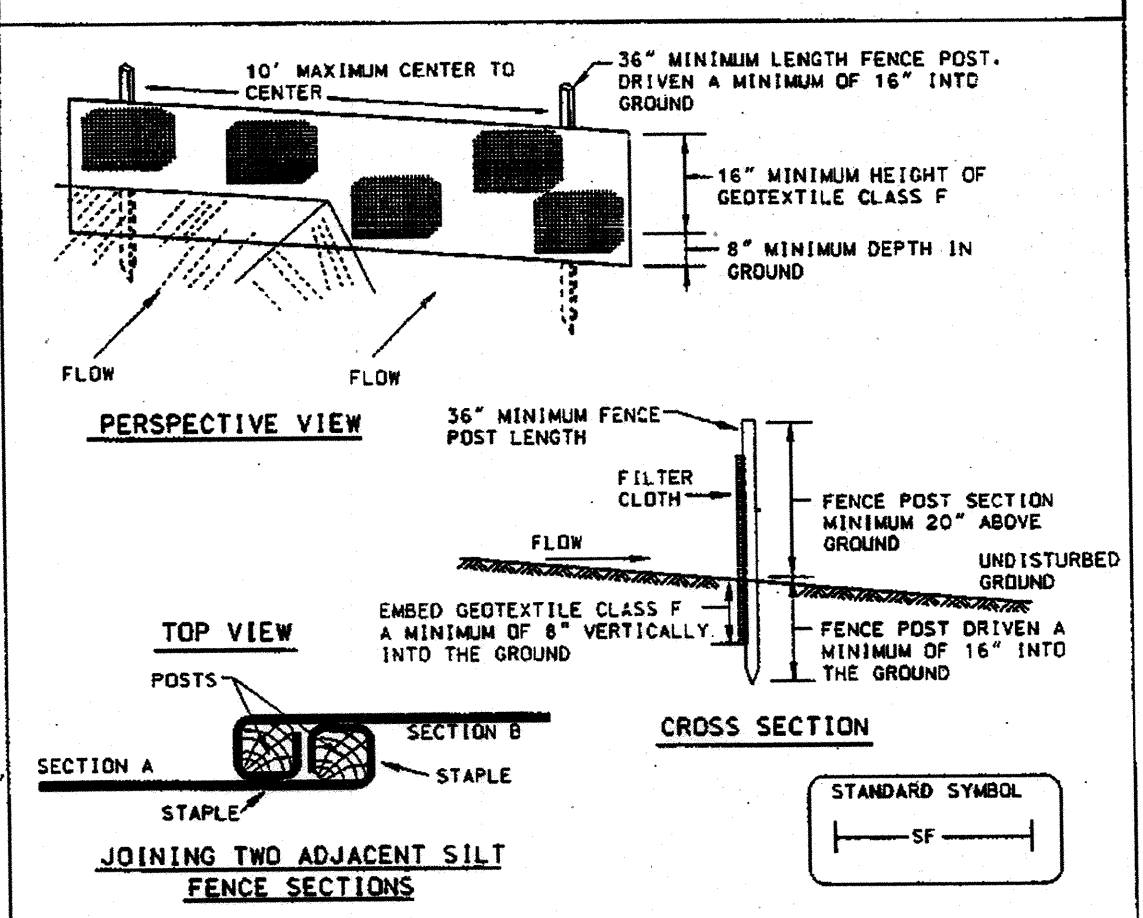


Construction Specifications

- 1. Attach a continuous piece of wire mesh (30\"/>

Table with 3 columns: U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENTAL AND WATER MANAGEMENT ADMINISTRATION, and a central column with page information.

DETAIL 22 - SILT FENCE



Construction Specifications

- 1. Fence posts shall be a minimum of 36\"/>

Table with 3 columns: U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENTAL AND WATER MANAGEMENT ADMINISTRATION, and a central column with page information.

II. MATERIALS

- A. WOODEN FRAME IS TO BE CONSTRUCTED OF 2\"/>

III. PROCEDURE

A. SWALE, DITCHLINE OR YARD INLET PROTECTION

- 1. EXCAVATE COMPLETELY AROUND INLET TO A DEPTH OF 18\"/>

B. CURB INLET PROTECTION

- 1. ATTACH A CONTINUOUS PIECE OF WIRE MESH (30\"/>

STANDARD EROSION AND SEDIMENT CONTROL NOTES

- 1. THE CONTRACTOR SHALL NOTIFY THE ADMINISTRATION (WMA) AT (410) 631-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND UNLESS WAIVED BY THE ADMINISTRATION, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF WMA.
- 2. THE CONTRACTOR MUST NOTIFY WMA IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS: A. THE REQUIRED PRE-CONSTRUCTION MEETING. B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES. C. DURING THE INSTALLATION OF SEDIMENT BASINS TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES. D. PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S). E. PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES. F. PRIOR TO FINAL ACCEPTANCE.
- 3. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL BE RESPONSIBLE FOR PROJECT. HAVE THEM INSPECTED AND APPROVED BY THE AGENCY INSPECTOR OR WMA INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE WMA INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR. THE CONTRACTOR MUST OBTAIN PRIOR AGENCY AND WMA APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.
- 4. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.
- 5. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR.
- 6. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, CONFIGURATION WITHIN THIS TIME PERIOD AS WELL AS SWALES, AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN SEVEN (7) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT FOR STABILIZATION MAY BE REDUCED TO THREE (3) DAYS FOR SENSITIVE AREAS.)
- 7. THE CONTRACTOR SHALL APPLY SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS AND STOCKPILES WITHIN FOURTEEN (14) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THE AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT MAY BE REDUCED TO SEVEN (7) DAYS FOR SENSITIVE AREAS.)
- 8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENT AND AN APPROVED ANCHOR MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10 PERCENT AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NO LATER THAN FOURTEEN (14) CALENDAR DAYS AFTER ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER PERMITTED. THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF WMA AND AGENCY.
- 9. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. PROTECTIVE METHODS MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIPRAP OR OTHER APPROVED STABILIZATION MEASURES.
- 10. TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED, WITH PERMISSION OF WMA INSPECTOR AND AGENCY INSPECTORS, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT THE START OF WORK.
- 11. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE TRENCH.
- 12. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE MORE THAN OTHERWISE DIRECTED. TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS, WHICH MAY DRAIN AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL. AREAS DESIGNED TO ONE DAY HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.
- 13. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION WHICH IS EXISTING OR UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.
- 14. THE WMA INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
- 15. ALL TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.
- 16. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING, AND GROUND COVERS.
- 17. TEMPORARY SEDIMENT TRAP(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A POINT ONE-HALF (1/2) THE DEPTH BETWEEN THE OUTLET CREST AND THE BOTTOM OF THE TRAP. SEDIMENT BASINS SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE-HALF (1/2) THE DEPTH BETWEEN THE DEWATERING ELEVATION AND THE BOTTOM OF THE BASIN. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST FORTY-TWO (42) INCHES HIGH. HAVE POSTS SPACED NO FARTHER APART THAN EIGHT (8) FEET. HAVE MESH OPENINGS NO GREATER THAN TWO (2) INCHES IN WIDTH AND FOUR (4) INCHES IN HEIGHT WITH A MINIMUM OF FOURTEEN (14) GAUGE WIRE. FENCE MUST BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.
- 18. SEDIMENT CONTROL FOR UTILITY CONSTRUCTION FOR AREAS OUTSIDE OF DESIGNATED CONTROLS OR AS DIRECTED BY ENGINEER OR WMA INSPECTOR: A. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO B. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE INSPECTORS. C. TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY. UNLESS D. ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY MUST HAVE PRIOR APPROVAL BY WMA; OTHERWISE, APPROVAL MUST BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE WAYS. PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.
- 19. SITES WHERE INFILTRATION DEVICES ARE USED FOR THE CONTROL OF STORMWATER, EXTREME CARE MUST BE TAKEN TO PREVENT RUNOFF FROM UNSTABILIZED AREAS FROM ENTERING THE STRUCTURE DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISH GRADE BOTTOM ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION DEVICE.
- 20. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS IN UNPAVED AREAS SHALL BE STABILIZED AND PROTECTED TO PREVENT TRACKING OF MUD ONTO PUBLIC STORMWATER. EXTREME CARE MUST BE TAKEN TO PREVENT TRACKING OF MUD ONTO PUBLIC WHEN A STORM DRAIN SYSTEM OUTFALL IS DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN AND THE SYSTEM IS TO BE USED FOR TEMPORARILY CONVEYING SEDIMENT LADEN WATER. ALL STORM DRAIN INLETS IN NON-SUMP AREAS SHALL HAVE TEMPORARY ASPHALT BERMS CONSTRUCTED AT THE TIME OF BASE PAVING TO DIRECT GUTTER FLOW INTO THE INLETS TO AVOID SURCHARGING AND OVERFLOW OF INLETS IN SUMP AREAS.
- 21. SITE ANALYSIS TOTAL AREA OF SITE.....SITE IS DEFINED AS AREAS INVOLVING ANY IMPROVEMENTS. AREA TO BE DISTURBED.....0.46 ACRES. AREA TO BE ROOFED OR PAVED.....0.14 ACRES. (NEW PAVEMENT 0.14 ACRES) AREA TO BE VEGETATIVELY STABILIZED.....0.32 ACRES. TOTAL CUT.....0 CY. TOTAL FILL.....91 CY. OFFSITE WASTE/BORROW AREA LOCATION.....TO BE APPROVED BY SEDIMENT CONTROL INSPECTOR.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. Approved: [Signature] 10/30/03

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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND. Includes signatures and dates for Director of Public Works, Chief, Bureau of Engineering, and Chief, Transportation and Special Projects Division.

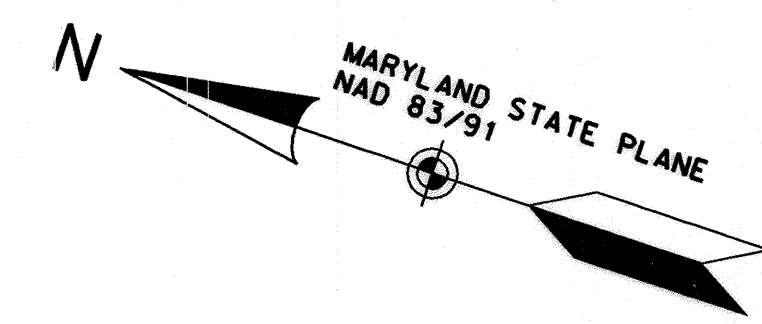
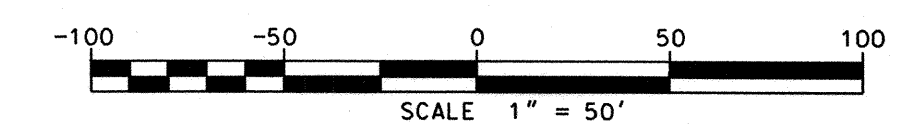
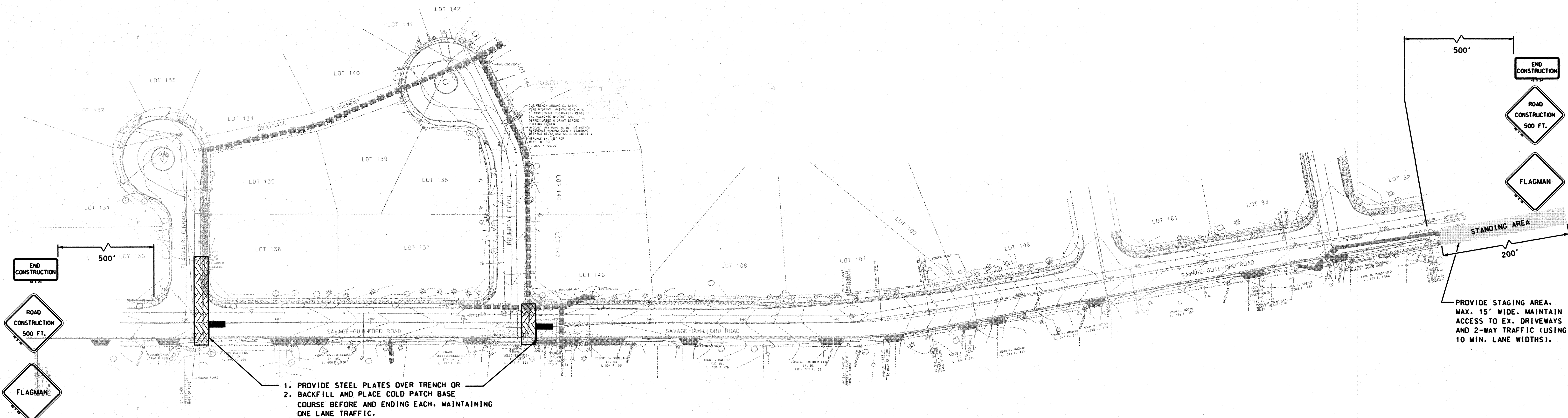
Baker Michael Baker Jr., Inc. Consulting Engineers 801 Crosswell Park Drive Suite 110 Glen Burnie, Maryland 21061 (410) 424-2210

Table with columns for DES, DRN, CHK, DATE, BY, NO. Values include M.A.F., J.O.T., JVB, 10/28/03.

DRAINAGE IMPROVEMENTS PROJECT NO. D-1109. EROSION CONTROL STANDARD NOTES AND DETAILS SAVAGE-GUILFORD ROAD HOWARD COUNTY, MARYLAND. SCALE AS SHOWN SHEET 11 OF 12

GENERAL NOTES

1. HOWARD COUNTY TRAFFIC ENGINEERING AND SHA SHALL REVIEW PROPOSED SIGN LOCATIONS IN THE FIELD PRIOR TO ANY SIGN INSTALLATIONS.
2. ALL SIGN SHALL BE MOUNTED ON 4" x 4" WOODEN POSTS.
3. ALL SIGN DISTANCES MAY BE ADJUSTED TO FIT FIELD CONDITIONS WITH THE ENGINEERS APPROVAL.
4. THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN TRAFFIC CONTROL SIGNS AND DEVICES. MAINTAIN TRAFFIC DURING HOURS OF CONSTRUCTIONS AND AT ALL OTHER TIMES IN ACCORDANCE WITH THE METHODS INDICATED ON TRAFFIC CONTROL DEVICES. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MARYLAND SHA SPECIFICATIONS STANDARD NO. MD -107.002, THE MD MUTCD AND OR AS DIRECTED.
5. SIGNS LARGER THAN 10 SQUARE FEET IN TOTAL AREA SHALL BE INSTALLED ON TWO 4" x 4" WOODEN POSTS.
6. ALL SIGNS NOT IN USE SHALL BE EITHER COVERED WITH AN OPAQUE MATERIAL APPROVED BY THE COUNTY OR REMOVED FROM THE SITE IMMEDIATELY UPON COMPLETION OF USE.
7. THE POSSIBILITY EXIST THAT ONE OR MORE SIGNS MAY HAVE TO BE MOUNTED ON WOODEN STANDS.
8. THE CONTRACTOR SHALL MEET WITH THE ENGINEER, LOCAL POLICE AND RESIDENTS OF SAVAGE-GUILFORD, FLAG WALK PLACE AND DRUMBEAT PLACE, WITHIN THE LIMIT TO ADVISE THE MOF THIS WORK SCHEDULE. THE CONTRACTOR SHALL THEN ADVISE THE RESIDENCES BI-WEEKLY ON PROGRESS.
9. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS ON SAVAGE-GUILFORD FLAG WALK PLACE AND DRUMBEAT PLACE WITHIN THE WORK ZONE.
10. THE CONTRACTOR SHALL SCHEDULE THE WORK SUCH THAT THE DETOUR SYSTEM SHALL BE EFFECT FOR THE SHORTEST TIME PRACTICAL. THE CONTRACTOR SHALL PRESENT A SCHEDULE OF WORK TO THE COUNTY PRIOR TO THE START OF THE WORK. THAT SCHEDULE WILL BE REVIEWED TO MINIMIZE THE DETOUR TIME.



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

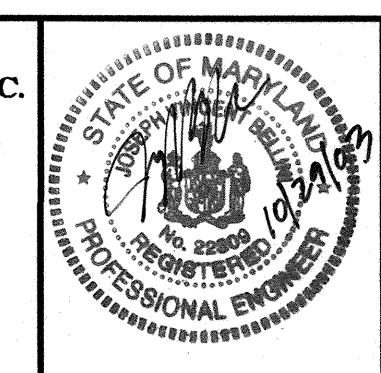
John J. ... 10/30/03
 DIRECTOR OF PUBLIC WORKS DATE

William R. ... 10-30-03
 CHIEF, BUREAU OF HIGHWAYS DATE

Robert ... 10/30/03
 CHIEF, BUREAU OF ENGINEERING DATE

Evelyn ... 10/30/03
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

Baker
 MICHAEL BAKER JR. INC.
 Consulting Engineers
 801 Cromwell Park Drive
 Suite 110
 Glen Burnie, Maryland 21061
 (410) 424-2210



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| DES: M.A.F. | |
| DRN: J.O.T. | |
| CHK: JVB | |
| DATE: 10/28/03 | BY NO. DATE |

DRAINAGE IMPROVEMENTS
 PROJECT NO.
 D-1109

TRAFFIC CONTROL PLAN
 SAVAGE-GUILFORD ROAD
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 12 OF 12