

**INDEX OF SHEETS**

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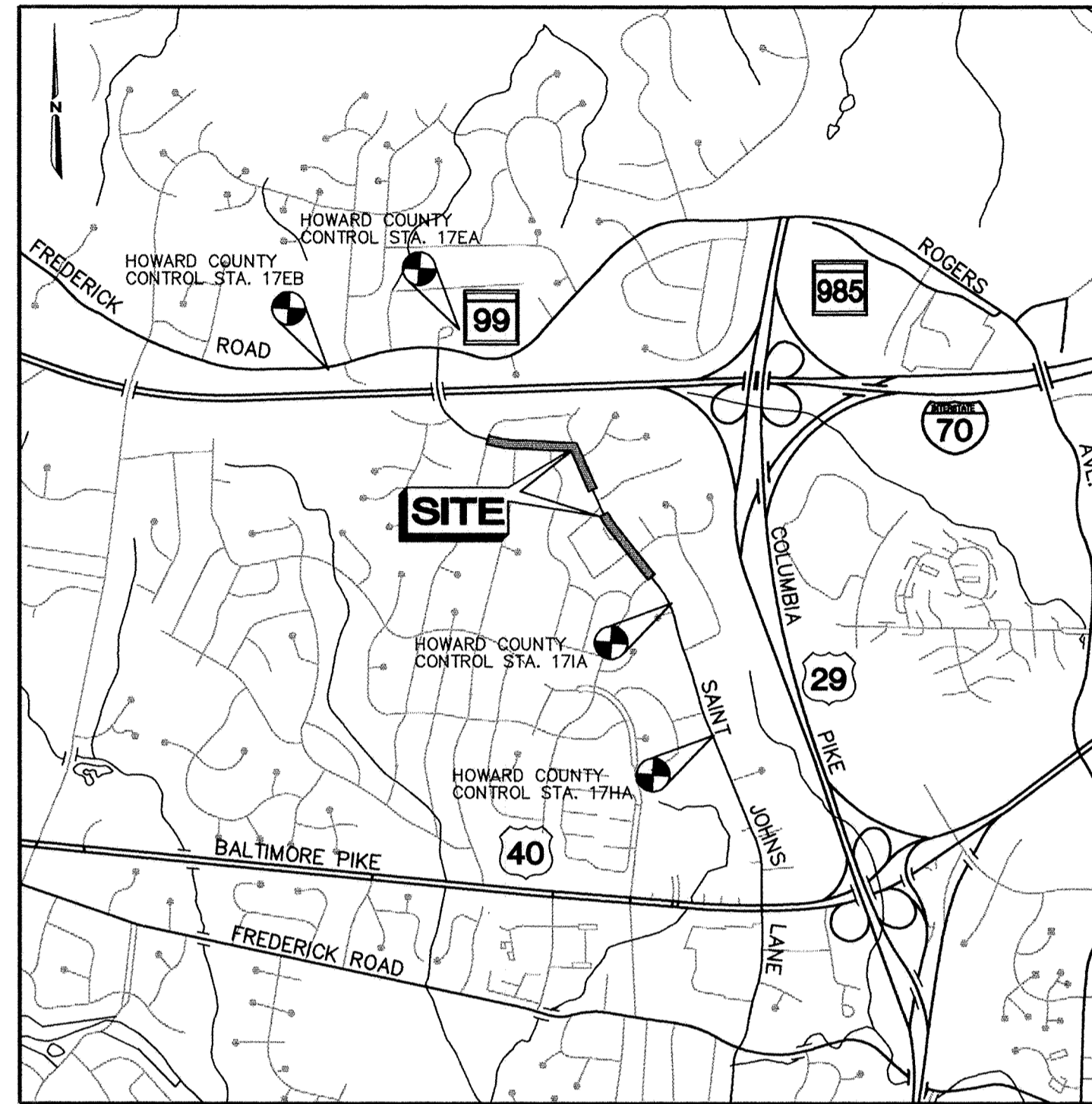
**GENERAL NOTES**

- ALL INFORMATION AND DETAILS ON THESE DRAWINGS SHALL BE AS DIRECTED BY THE HOWARD COUNTY ENGINEER AND THE MDSA PERMIT DIRECTOR.
- ALL STATIONING AND DIMENSIONING ARE TO BE FIELD VERIFIED BY CONTRACTOR.
- STORM DRAINAGE SLOPES ARE TO BE AS DIRECTED BY HOWARD COUNTY ENGINEER UNLESS OTHERWISE SHOWN ON PLANS.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.

MISS UTILITY 1-800-257-7777  
 Baltimore Gas & Electric Company - Electric Distribution 410-291-3119

THE CONTRACTOR SHALL CONTACT THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION OF ENGINEERING FOR VERIFICATION AND/OR INFORMATION REGARDING:

- PROPOSED/EXISTING RIGHT-OF-WAY.
  - UTILITY RELOCATION.
  - MAINTENANCE OF TRAFFIC DURING CONSTRUCTION.
  - EROSION/SEDIMENT CONTROL CERTIFICATION AND PERMIT
  - HORIZONTAL/VERTICAL SURVEY CONTROL.
  - GRADING PERMIT
- SEE HOWARD COUNTY STANDARD DETAILS NO'S G-1.01 & G-1.02 FOR STANDARD SYMBOLS.
  - COORDINATES BASED ON NAD '83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
- |      |                |
|------|----------------|
| 17HA | N, 590619.886  |
|      | E, 1360433.475 |
|      | ELEV. 438.332  |
| 17IA | N, 58803.676   |
|      | E, 1361007.491 |
|      | ELEV. 421.584  |
| 17EA | N, 594357.645  |
|      | E, 1357519.348 |
|      | ELEV. 479.466  |
| 17EB | N, 593813.920  |
|      | E, 1355731.862 |
|      | ELEV. 454.176  |
- MAINTENANCE OF TRAFFIC ALONG ST. JOHN'S LANE SHALL BE HANDLED BY SHA STANDARD MD-104.33-02 - WORK ZONE TRAFFIC CONTROL TYPICAL - SHOULDER WORK/2 LANE, 2 WAY. MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION FOR LANE CLOSURES SHALL BE HANDLED BY SHA STANDARD MD-104.31-02 - WORK ZONE TRAFFIC CONTROL TYPICAL, MD-104.32-01 - INTERSECTION FLAGGING OPERATION.
  - A STAGING AND STOCKPILE AREA TO BE DETERMINED BY CONTRACTOR AND APPROVED BY HOWARD COUNTY ENGINEER.
  - TOPOGRAPHIC SURVEY INFORMATION BASED ON FIELD SURVEY PREFORMED BY THE R.B.A. GROUP, INC. DATED MAY, 1998.
  - THE LOCATIONS OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS.
  - THE RIGHT-OF-WAY LINES AS SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THESE LINES DO NOT REPRESENT THE OFFICIAL PROPERTY ACQUISITION LINES. FOR OFFICIAL FEE RIGHT-OF-WAY AND EASEMENT INFORMATION REFER TO THE APPROPRIATE RIGHT-OF-WAY PLATS.
  - ALL INFORMATION AND DETAILS ON THE FOLLOWING SHEETS SHALL BE AS DIRECTED BY THE HOWARD COUNTY ENGINEER.
  - ALL DIMENSIONING IS TO BE FIELD VERIFIED BY CONTRACTOR.
  - REPLACE DRIVEWAYS "IN-KIND" BEHIND THE NEW SIDEWALK.



**LOCATION MAP**  
 SCALE 1" = 2000'

# CAPITAL PROJECT NO. K-5044

## St. John's Lane Sidewalk Construction

(From Ramblewood Road to Greenway Drive)

HOWARD COUNTY, MARYLAND  
 DEPARTMENT OF PUBLIC WORKS

**BENCH MARKS**

- **B.M. #17HA** ELEV. 438.322  
 STAMPED (BRASS OR ALUMINUM) DISC SET ON TOP OF CONCRETE (3' DEEP) CYLINDRIC BASE, 2" BELOW TERRAIN SURFACE, EAST SIDE OF ST. JOHN'S LANE.
- **B.M. #17IA** ELEV. 421.584  
 STAMPED (BRASS OR ALUMINUM) DISC SET ON TOP OF CONCRETE (3' DEEP) CYLINDRIC BASE, 2" BELOW TERRAIN SURFACE, WEST SIDE OF ST. JOHN'S LANE.
- **B.M. #17EB** ELEV. 454.176  
 STAMPED (BRASS OR ALUMINUM) DISC SET ON TOP OF CONCRETE (3' DEEP) CYLINDRIC BASE, 2" BELOW TERRAIN SURFACE, SOUTH SIDE OF OLD FREDERICK ROAD (MD RT. 99).
- **B.M. #17EA** ELEV. 479.466  
 STAMPED (BRASS OR ALUMINUM) DISC SET ON TOP OF CONCRETE (3' DEEP) CYLINDRIC BASE, 2" BELOW TERRAIN SURFACE, IN FRONT OF MT. HEBRON HIGH SCHOOL.

APPROVED: FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*Alfonso G. Palma* 3/22/00  
 CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT. DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Cheryl Samuels* 3/22/00  
 U.S. Natural Resources Conservation Service Date

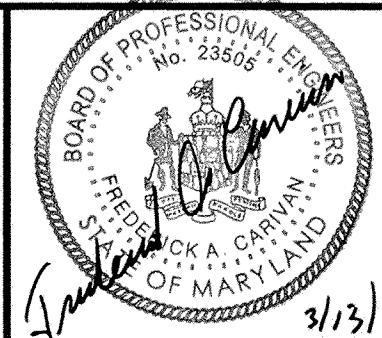
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John S. ...* 3/22/00  
 Howard Soil Conservation District EP.99.25 Date

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James J. ...* 3/22/00  
 DEPARTMENT OF PUBLIC WORKS DATE  
*Elizabeth R. ...* 3/22/00  
 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE

*Robert J. ...* 3/22/00  
 CHIEF, BUREAU OF ENGINEERING DATE  
*Andrew M. ...* 3/22/00  
 CHIEF, BUREAU OF HIGHWAYS DATE

**A/E GROUP, INC.**  
 ENGINEERS • PLANNERS  
 181 E. Main Street  
 Westminster, Maryland 21157  
 A/E Job No. 96-309-058



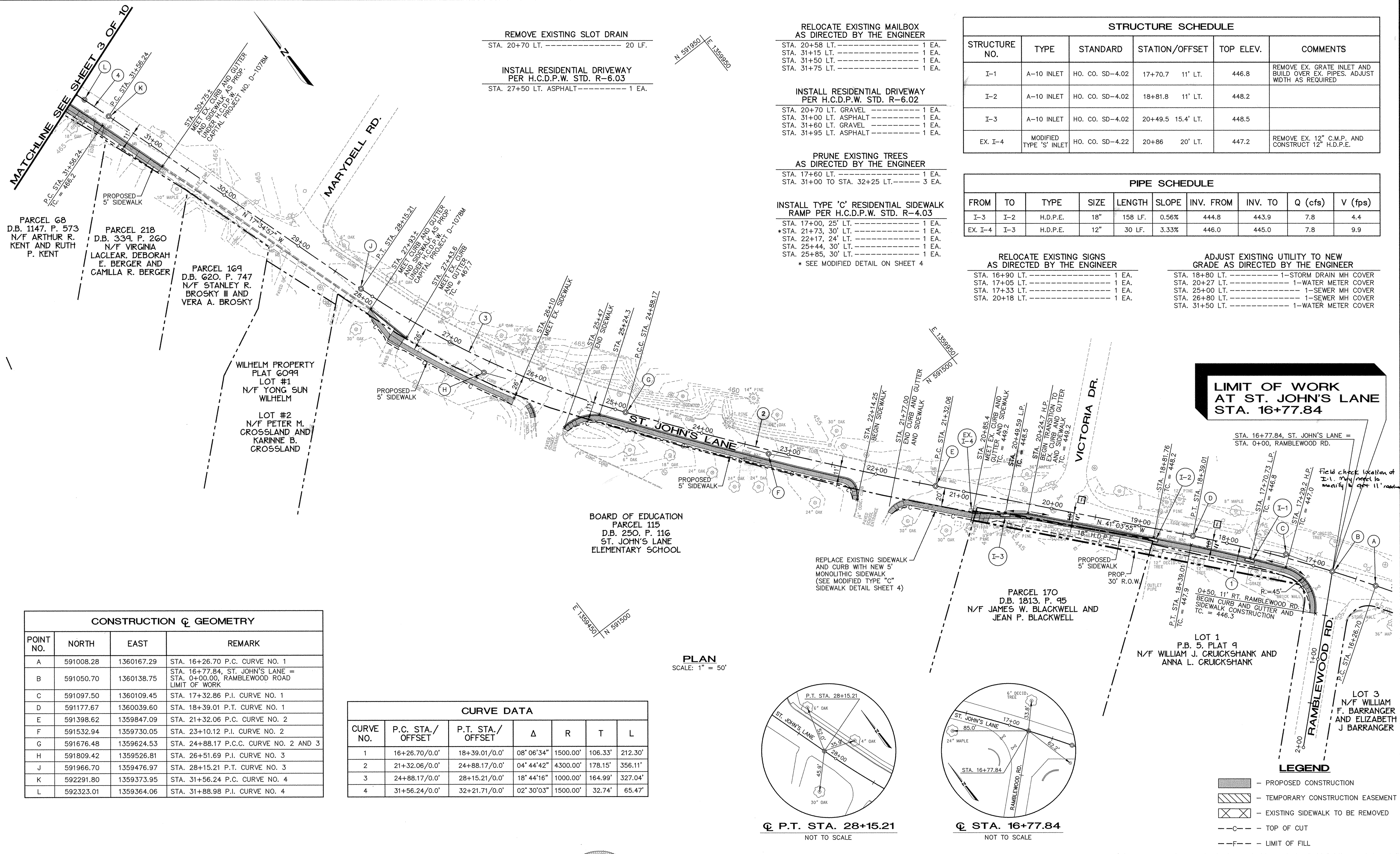
DES: F.A.C.				
DRN: J.N.W.				
CHK: W.S.A.				
DATE: 3/00	BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.  
**K-5044**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

TITLE SHEET  
**St. John's Lane Sidewalk Construction**

SHEET 1 OF 10



REMOVE EXISTING SLOT DRAIN  
 STA. 20+70 LT. ----- 20 LF.

INSTALL RESIDENTIAL DRIVEWAY  
 PER H.C.D.P.W. STD. R-6.03  
 STA. 27+50 LT. ASPHALT----- 1 EA.

RELOCATE EXISTING MAILBOX  
 AS DIRECTED BY THE ENGINEER  
 STA. 20+58 LT. ----- 1 EA.  
 STA. 31+15 LT. ----- 1 EA.  
 STA. 31+50 LT. ----- 1 EA.  
 STA. 31+75 LT. ----- 1 EA.

INSTALL RESIDENTIAL DRIVEWAY  
 PER H.C.D.P.W. STD. R-6.02  
 STA. 20+70 LT. GRAVEL ----- 1 EA.  
 STA. 31+00 LT. ASPHALT ----- 1 EA.  
 STA. 31+60 LT. GRAVEL ----- 1 EA.  
 STA. 31+95 LT. ASPHALT ----- 1 EA.

PRUNE EXISTING TREES  
 AS DIRECTED BY THE ENGINEER  
 STA. 17+60 LT. ----- 1 EA.  
 STA. 31+00 TO STA. 32+25 LT.----- 3 EA.

INSTALL TYPE 'C' RESIDENTIAL SIDEWALK  
 RAMP PER H.C.D.P.W. STD. R-4.03  
 STA. 17+00, 25' LT. ----- 1 EA.  
 \*STA. 21+73, 30' LT. ----- 1 EA.  
 STA. 22+17, 24' LT. ----- 1 EA.  
 STA. 25+44, 30' LT. ----- 1 EA.  
 STA. 25+85, 30' LT. ----- 1 EA.  
 \* SEE MODIFIED DETAIL ON SHEET 4

STRUCTURE SCHEDULE					
STRUCTURE NO.	TYPE	STANDARD	STATION/OFFSET	TOP ELEV.	COMMENTS
I-1	A-10 INLET	HO. CO. SD-4.02	17+70.7 11' LT.	446.8	REMOVE EX. GRATE INLET AND BUILD OVER EX. PIPES. ADJUST WIDTH AS REQUIRED
I-2	A-10 INLET	HO. CO. SD-4.02	18+81.8 11' LT.	448.2	
I-3	A-10 INLET	HO. CO. SD-4.02	20+49.5 15.4' LT.	448.5	
EX. I-4	MODIFIED TYPE 'S' INLET	HO. CO. SD-4.22	20+86 20' LT.	447.2	REMOVE EX. 12" C.M.P. AND CONSTRUCT 12" H.D.P.E.

PIPE SCHEDULE									
FROM	TO	TYPE	SIZE	LENGTH	SLOPE	INV. FROM	INV. TO	Q (cfs)	V (fps)
I-3	I-2	H.D.P.E.	18"	158 LF.	0.56%	444.8	443.9	7.8	4.4
EX. I-4	I-3	H.D.P.E.	12"	30 LF.	3.33%	446.0	445.0	7.8	9.9

RELOCATE EXISTING SIGNS  
 AS DIRECTED BY THE ENGINEER  
 STA. 16+90 LT. ----- 1 EA.  
 STA. 17+05 LT. ----- 1 EA.  
 STA. 17+33 LT. ----- 1 EA.  
 STA. 20+18 LT. ----- 1 EA.

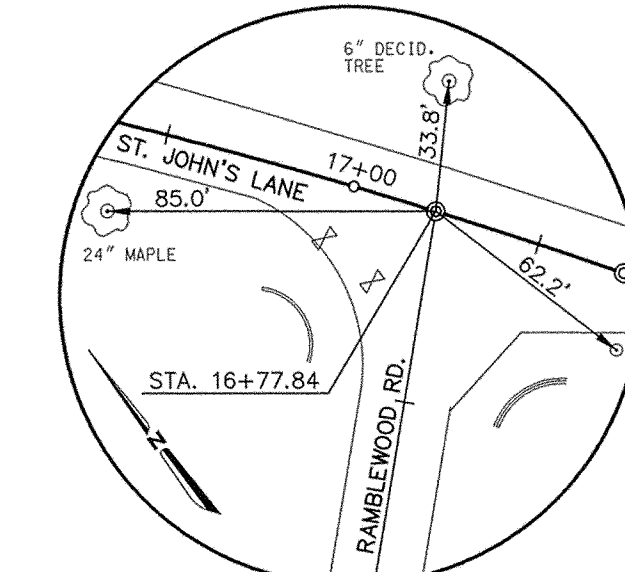
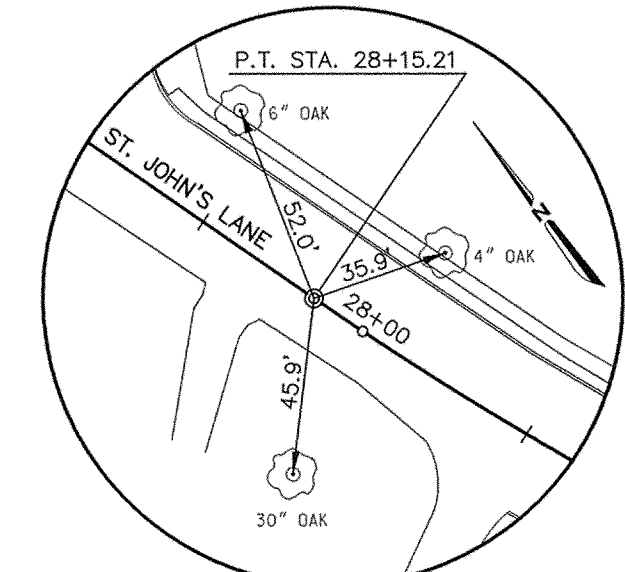
ADJUST EXISTING UTILITY TO NEW  
 GRADE AS DIRECTED BY THE ENGINEER  
 STA. 18+80 LT. ----- 1-STORM DRAIN MH COVER  
 STA. 20+27 LT. ----- 1-WATER METER COVER  
 STA. 25+00 LT. ----- 1-SEWER MH COVER  
 STA. 26+80 LT. ----- 1-SEWER MH COVER  
 STA. 31+50 LT. ----- 1-WATER METER COVER

**LIMIT OF WORK  
 AT ST. JOHN'S LANE  
 STA. 16+77.84**

CONSTRUCTION & GEOMETRY			
POINT NO.	NORTH	EAST	REMARK
A	591008.28	1360167.29	STA. 16+26.70 P.C. CURVE NO. 1
B	591050.70	1360138.75	STA. 16+77.84, ST. JOHN'S LANE = STA. 0+00.00, RAMBLEWOOD ROAD LIMIT OF WORK
C	591097.50	1360109.45	STA. 17+32.86 P.I. CURVE NO. 1
D	591177.67	1360039.60	STA. 18+39.01 P.T. CURVE NO. 1
E	591398.62	1359847.09	STA. 21+32.06 P.C. CURVE NO. 2
F	591532.94	1359730.05	STA. 23+10.12 P.I. CURVE NO. 2
G	591676.48	1359624.53	STA. 24+88.17 P.C.C. CURVE NO. 2 AND 3
H	591809.42	1359526.81	STA. 26+51.69 P.I. CURVE NO. 3
J	591966.70	1359476.97	STA. 28+15.21 P.T. CURVE NO. 3
K	592291.80	1359373.95	STA. 31+56.24 P.C. CURVE NO. 4
L	592323.01	1359364.06	STA. 31+88.98 P.I. CURVE NO. 4

CURVE DATA						
CURVE NO.	P.C. STA./OFFSET	P.T. STA./OFFSET	Δ	R	T	L
1	16+26.70/0.0'	18+39.01/0.0'	08° 06' 34"	1500.00'	106.33'	212.30'
2	21+32.06/0.0'	24+88.17/0.0'	04° 44' 42"	4300.00'	178.15'	356.11'
3	24+88.17/0.0'	28+15.21/0.0'	18° 44' 16"	1000.00'	164.99'	327.04'
4	31+56.24/0.0'	32+21.71/0.0'	02° 30' 03"	1500.00'	32.74'	65.47'

PLAN  
 SCALE: 1" = 50'



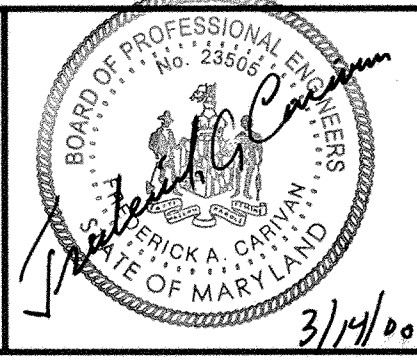
**LEGEND**

- PROPOSED CONSTRUCTION
- TEMPORARY CONSTRUCTION EASEMENT
- EXISTING SIDEWALK TO BE REMOVED
- TOP OF CUT
- LIMIT OF FILL

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

3/22/00 DATE  
 3/22/00 DATE

**A/E GROUP, INC.**  
 ENGINEERS • PLANNERS  
 181 E. Main Street  
 Westminster, Maryland 21157  
 A/E Job No. 96-309-058



DES: F.A.C.	revised lane widths + note	8/22/00
DRN: J.N.W.		
CHK: W.S.A.		
DATE: 3/00		
BY	NO.	REVISION

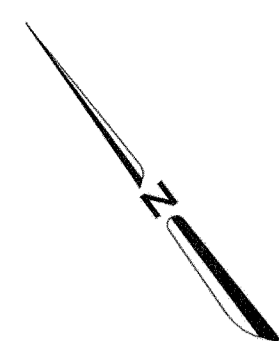
CAPITAL PROJECT NO.  
**K-5044**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

PLAN  
**St. John's Lane  
 Sidewalk Construction**

SCALE AS SHOWN  
 SHEET 2 OF 10

FILE: k:\96-309-058\station\100 submittal\gs02st1.dgn  
 DATE: 01-Mar-00 17:05



**RELOCATE EXISTING MAILBOX AS DIRECTED BY THE ENGINEER**

STA. 32+08 LT.	1 EA.
STA. 34+20 LT.	1 EA.
STA. 35+50 LT.	1 EA.
STA. 36+65 LT.	1 EA.
STA. 38+20 LT.	1 EA.
STA. 39+15 LT.	1 EA.
STA. 41+50 LT.	1 EA.
STA. 42+45 LT.	1 EA.

**INSTALL RESIDENTIAL DRIVEWAY PER H.C.D.P.W. STD. R-6.02**

STA. 33+10 LT. ASPHALT	1 EA.
STA. 35+60 LT. ASPHALT	1 EA.
STA. 36+75 LT. ASPHALT	1 EA.
STA. 38+30 LT. ASPHALT	1 EA.
STA. 41+65 LT. ASPHALT	1 EA.
STA. 42+60 LT. ASPHALT	1 EA.

**RELOCATE EXISTING SIGNS AS DIRECTED BY THE ENGINEER**

STA. 34+00 LT.	1 EA.
STA. 39+28 LT.	1 EA.
STA. 39+62 LT.	1 EA.
STA. 39+70 LT.	1 EA.
STA. 40+10 LT.	1 EA.
STA. 43+72 LT.	1 EA.

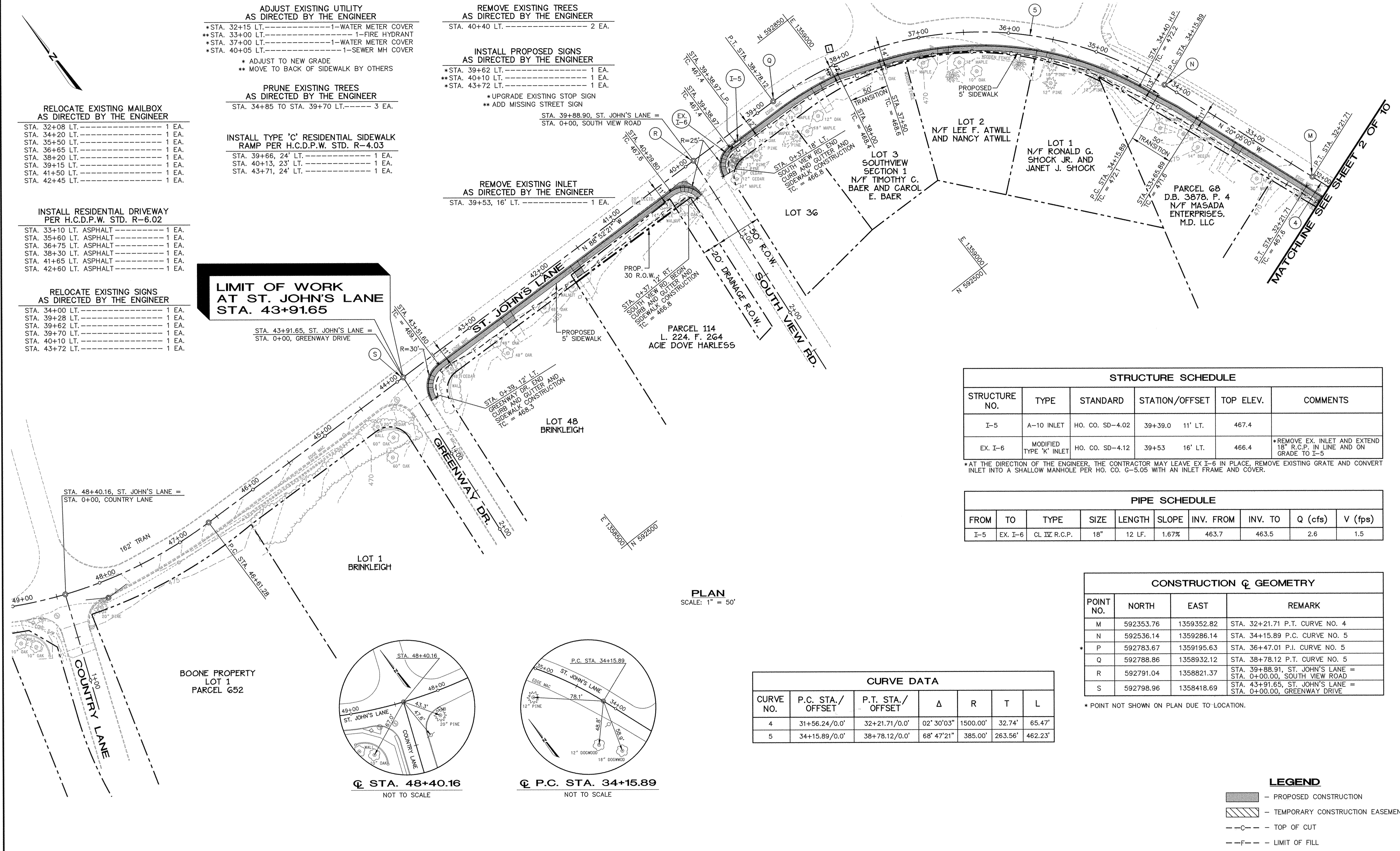
- ADJUST EXISTING UTILITY AS DIRECTED BY THE ENGINEER**
- \* STA. 32+15 LT. ----- 1-WATER METER COVER
  - \*\* STA. 33+00 LT. ----- 1-FIRE HYDRANT
  - \* STA. 37+00 LT. ----- 1-WATER METER COVER
  - \* STA. 40+05 LT. ----- 1-SEWER MH COVER
- \* ADJUST TO NEW GRADE  
\*\* MOVE TO BACK OF SIDEWALK BY OTHERS
- PRUNE EXISTING TREES AS DIRECTED BY THE ENGINEER**
- STA. 34+85 TO STA. 39+70 LT. ----- 3 EA.
- INSTALL TYPE 'C' RESIDENTIAL SIDEWALK RAMP PER H.C.D.P.W. STD. R-4.03**
- |                     |       |
|---------------------|-------|
| STA. 39+66, 24' LT. | 1 EA. |
| STA. 40+13, 23' LT. | 1 EA. |
| STA. 43+71, 24' LT. | 1 EA. |

- REMOVE EXISTING TREES AS DIRECTED BY THE ENGINEER**
- STA. 40+40 LT. ----- 2 EA.
- INSTALL PROPOSED SIGNS AS DIRECTED BY THE ENGINEER**
- |                   |       |
|-------------------|-------|
| * STA. 39+62 LT.  | 1 EA. |
| ** STA. 40+10 LT. | 1 EA. |
| * STA. 43+72 LT.  | 1 EA. |
- \* UPGRADE EXISTING STOP SIGN  
\*\* ADD MISSING STREET SIGN

- REMOVE EXISTING INLET AS DIRECTED BY THE ENGINEER**
- STA. 39+53, 16' LT. ----- 1 EA.

**LIMIT OF WORK AT ST. JOHN'S LANE STA. 43+91.65**

STA. 43+91.65, ST. JOHN'S LANE =  
STA. 0+00, GREENWAY DRIVE



**STRUCTURE SCHEDULE**

STRUCTURE NO.	TYPE	STANDARD	STATION/OFFSET	TOP ELEV.	COMMENTS
I-5	A-10 INLET	HO. CO. SD-4.02	39+39.0 11' LT.	467.4	
EX. I-6	MODIFIED TYPE 'K' INLET	HO. CO. SD-4.12	39+53 16' LT.	466.4	* REMOVE EX. INLET AND EXTEND 18" R.C.P. IN LINE AND ON GRADE TO I-5

\* AT THE DIRECTION OF THE ENGINEER, THE CONTRACTOR MAY LEAVE EX I-6 IN PLACE, REMOVE EXISTING GRATE AND CONVERT INLET INTO A SHALLOW MANHOLE PER HO. CO. G-5.05 WITH AN INLET FRAME AND COVER.

**PIPE SCHEDULE**

FROM	TO	TYPE	SIZE	LENGTH	SLOPE	INV. FROM	INV. TO	Q (cfs)	V (fps)
I-5	EX. I-6	CL IV R.C.P.	18"	12 LF.	1.67%	463.7	463.5	2.6	1.5

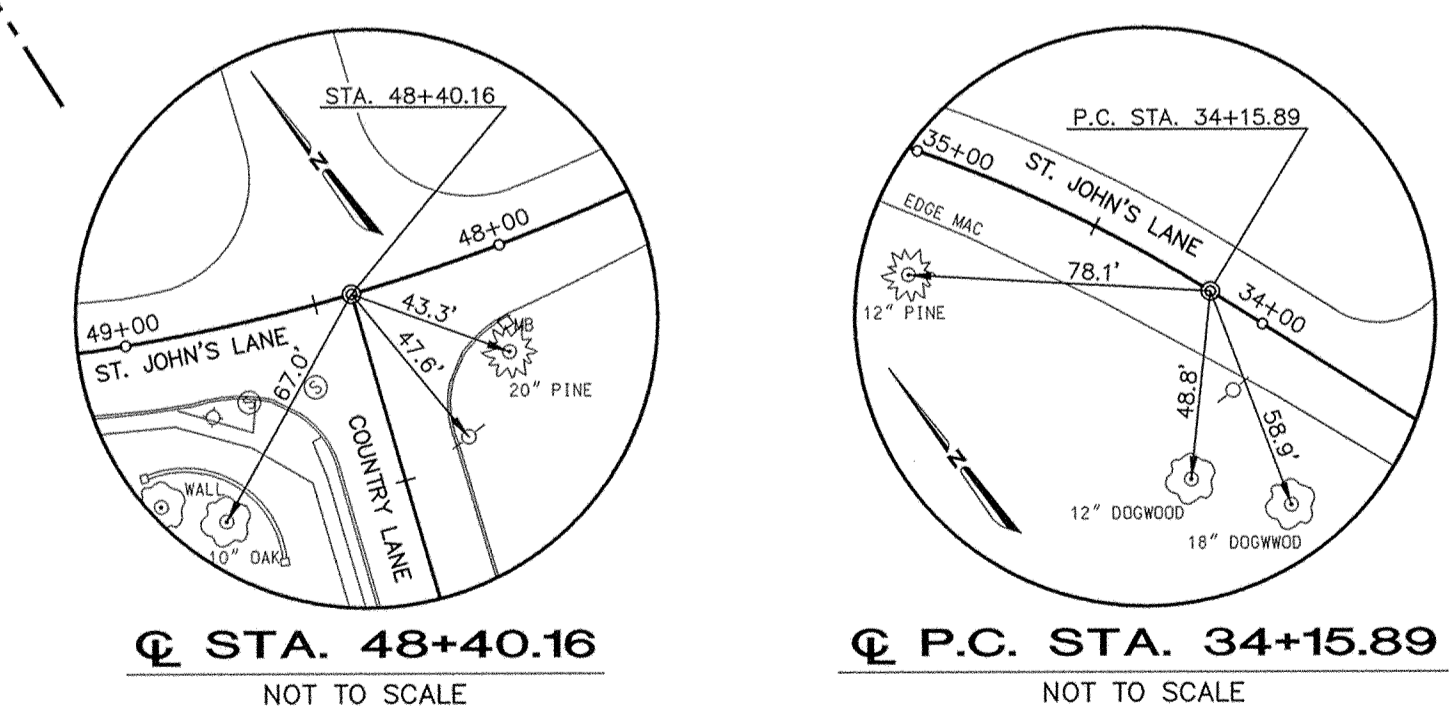
**CONSTRUCTION GEOMETRY**

POINT NO.	NORTH	EAST	REMARK
M	592353.76	1359352.82	STA. 32+21.71 P.T. CURVE NO. 4
N	592536.14	1359286.14	STA. 34+15.89 P.C. CURVE NO. 5
P	592783.67	1359195.63	STA. 36+47.01 P.I. CURVE NO. 5
Q	592788.86	1358932.12	STA. 38+78.12 P.T. CURVE NO. 5
R	592791.04	1358821.37	STA. 39+88.91, ST. JOHN'S LANE = STA. 0+00.00, SOUTH VIEW ROAD
S	592798.96	1358418.69	STA. 43+91.65, ST. JOHN'S LANE = STA. 0+00.00, GREENWAY DRIVE

\* POINT NOT SHOWN ON PLAN DUE TO LOCATION.

**CURVE DATA**

CURVE NO.	P.C. STA./OFFSET	P.T. STA./OFFSET	Δ	R	T	L
4	31+56.24/0.0'	32+21.71/0.0'	02° 30' 03"	1500.0'	32.74'	65.47'
5	34+15.89/0.0'	38+78.12/0.0'	68° 47' 21"	385.00'	263.56'	462.23'

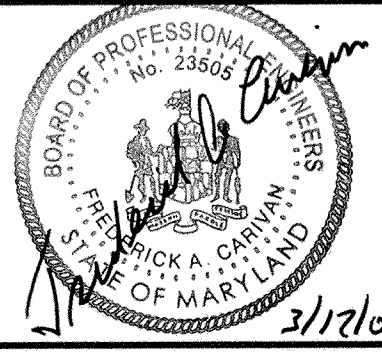


**PLAN SCALE: 1" = 50'**

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

DATE: 3/22/00  
DATE: 3/22/00  
DATE: 3/23/00

**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21157  
A/E Job No. 96-309-058



DES: F.A.C.  
DRN: J.N.W.  
CHK: W.S.A.  
DATE: 3/00

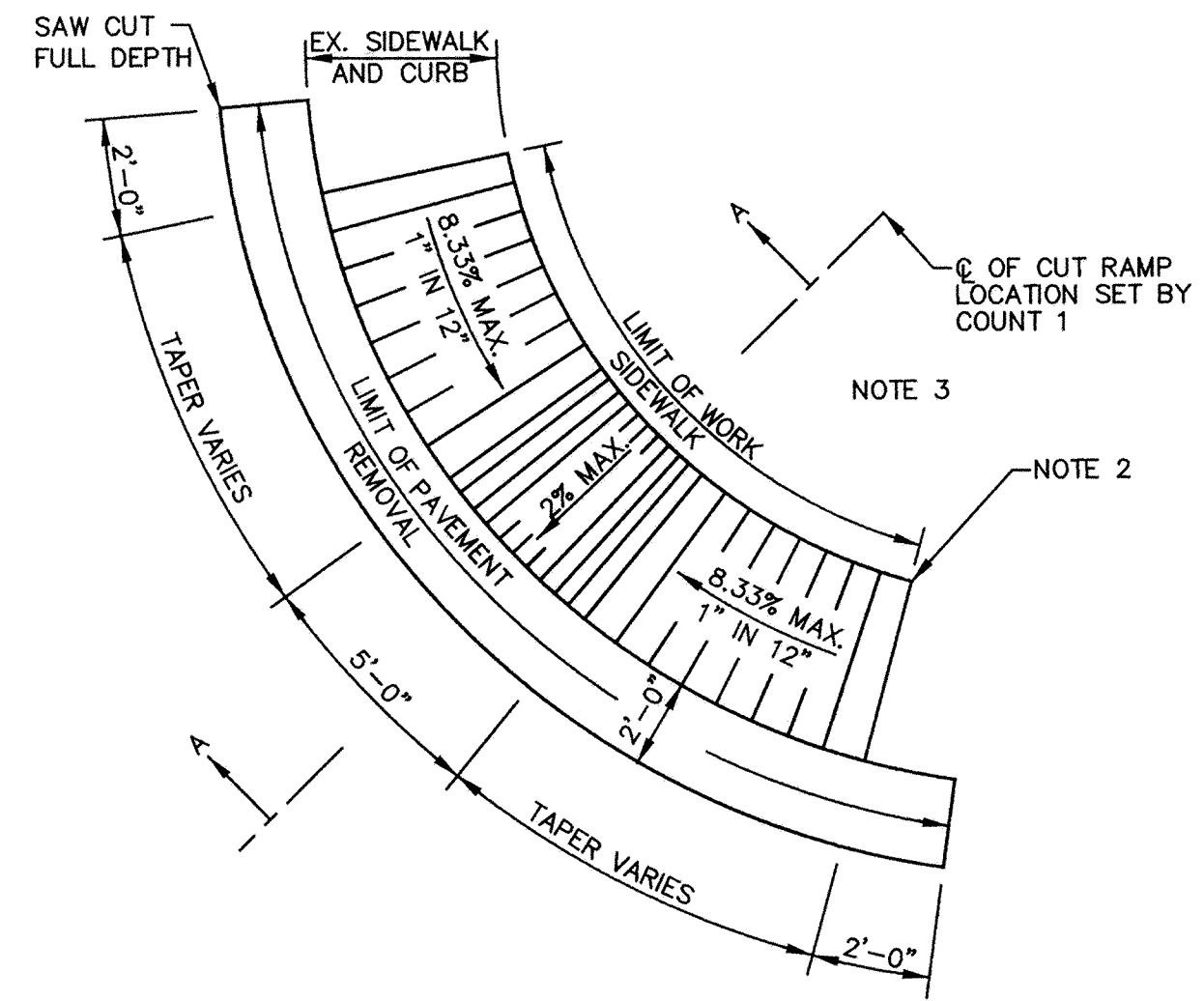
revised lane widths 8/22/00

**CAPITAL PROJECT NO.**  
**K-5044**

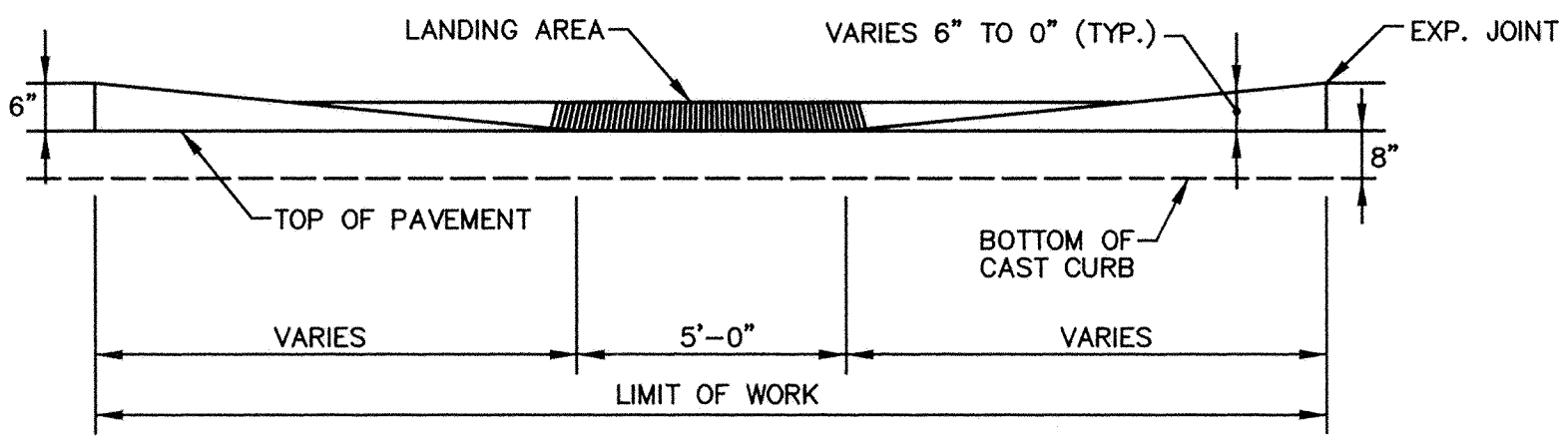
**PLAN**  
**St. John's Lane Sidewalk Construction**

SCALE AS SHOWN  
SHEET 3 OF 10

FILE: c:\96-309-058\station\100 submittal\p03e1.dgn  
DATE: 29-Feb-00 18:20



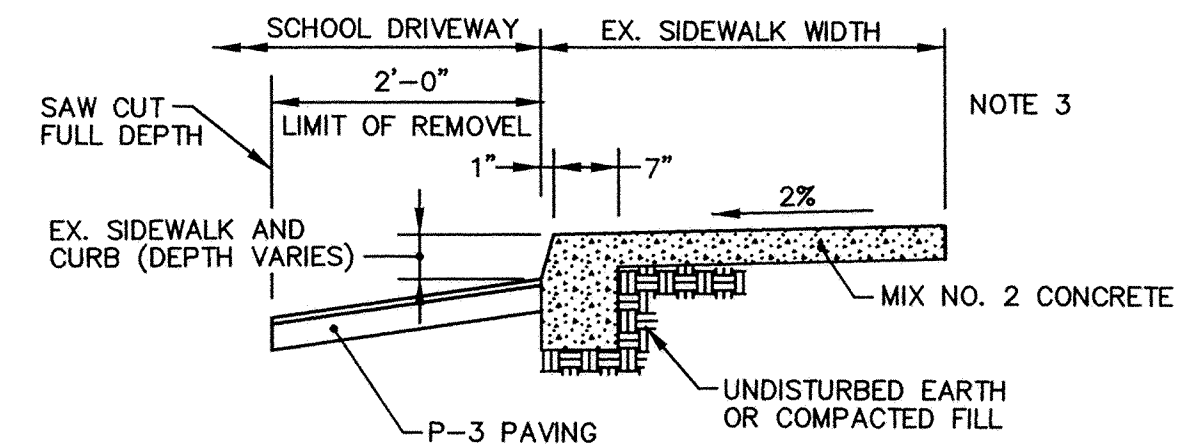
PLAN



FRONT VIEW

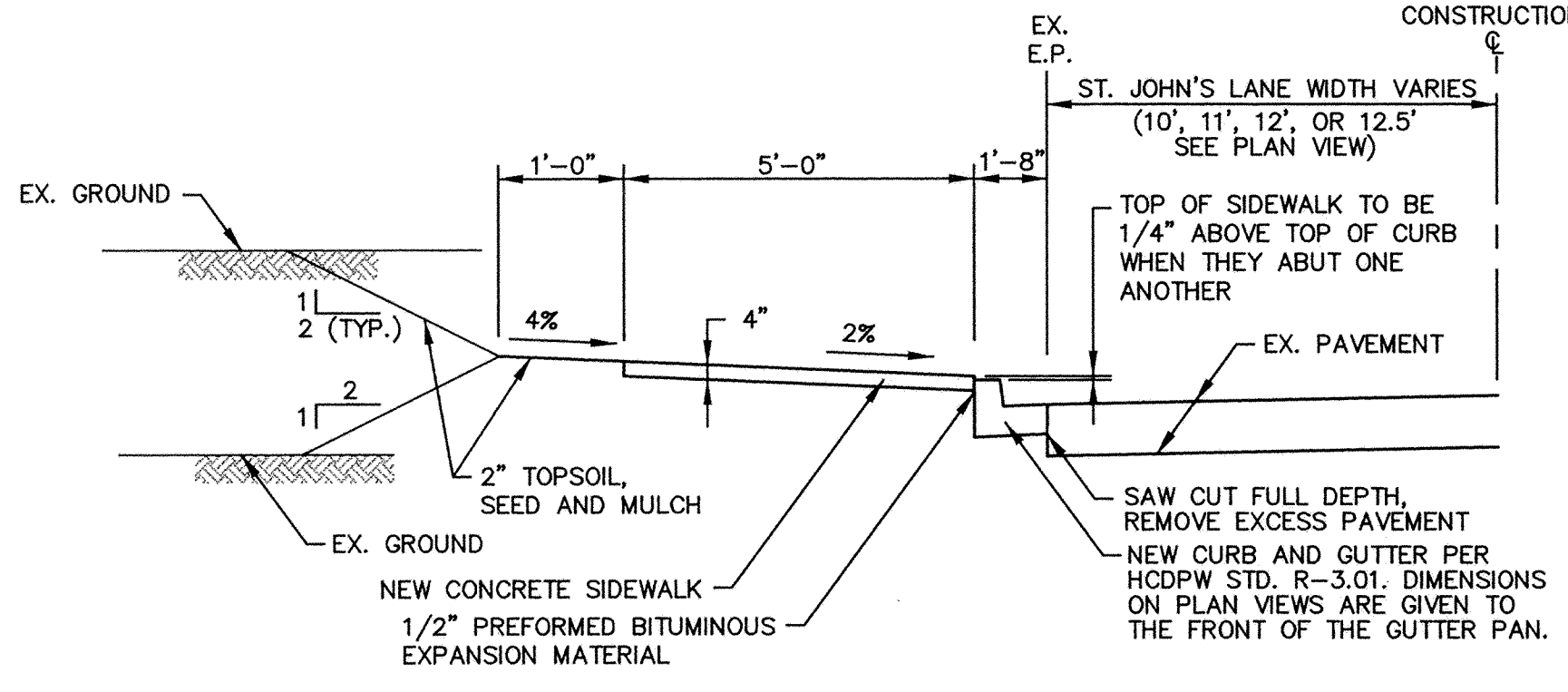
**GENERAL NOTES**

1. SAW CUT AND REMOVE EXISTING SIDEWALK AND PAVEMENT. REGRADE AREA FOR NEW RAMP. RECAST CONCRETE SIDEWALK AND CURB IN ONE POUR. REPLACE EXISTING PAVEMENT.
2. ALL RAMPS SHALL HAVE A WARNING TEXTURE EXTENDING TO THE FULL WIDTH AND LENGTH OF THE CURB RAMP.
3. GRASS AREA ADJACENT TO SIDEWALK MUST BE SLOPED TO MEET RAMP.

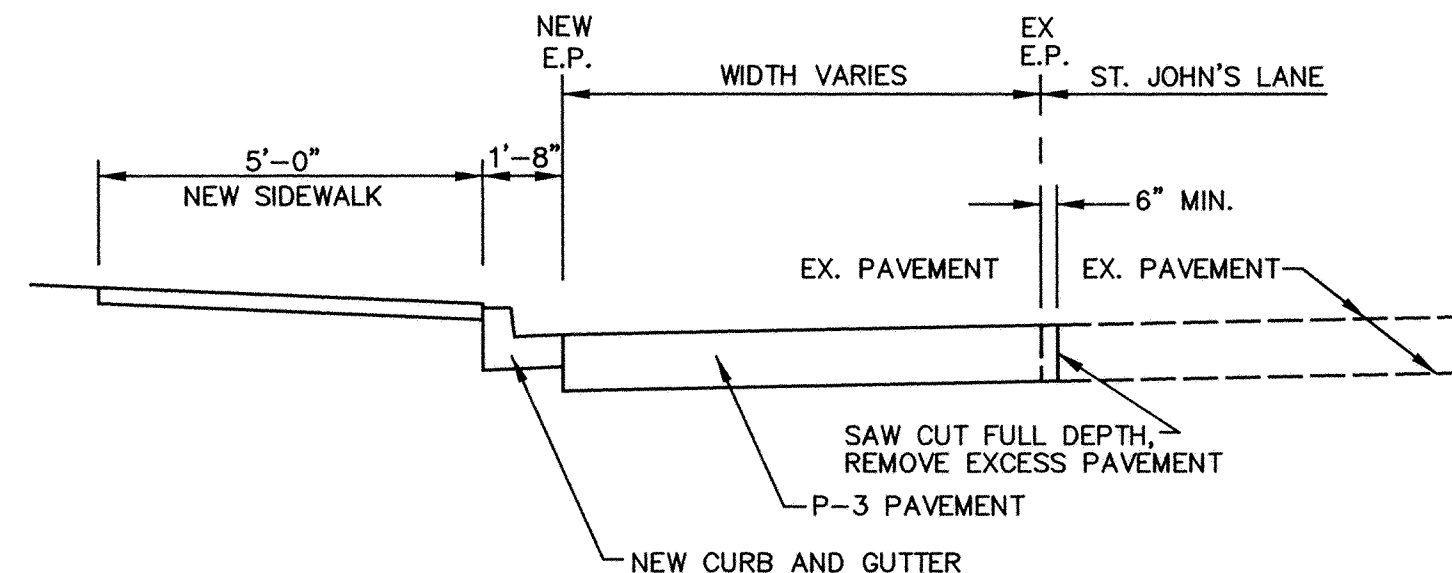


SECTION A-A

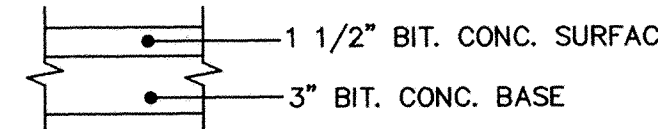
**MODIFIED TYPE 'C' RESIDENTIAL SIDEWALK**  
NOT TO SCALE



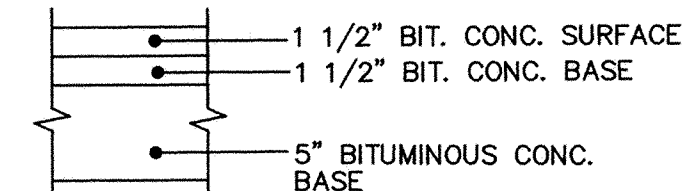
**TYPICAL SIDEWALK AND CURB SECTION**  
SCALE: NOT TO SCALE



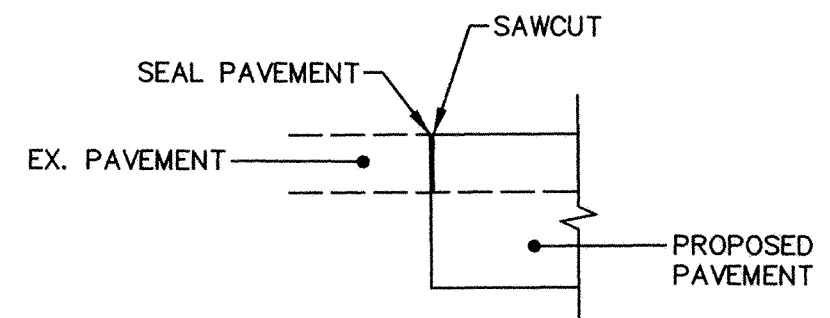
**NEW PAVEMENT SECTION AT CORNERS**  
SCALE: NOT TO SCALE



**P-8 PAVING SECTION**  
NOT TO SCALE



**P-3 PAVING SECTION**  
NOT TO SCALE



**TYPICAL PAVEMENT JOIN**  
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

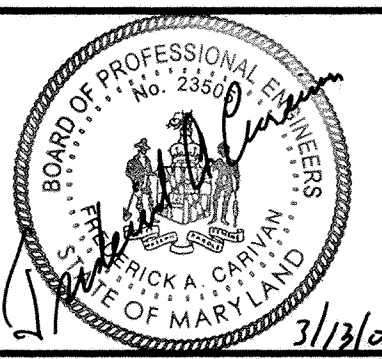
*James P. Lewis* 3/22/00  
CHIEF, BUREAU OF ENGINEERING

*Robert J. Johnson* 3/22/00  
CHIEF, BUREAU OF ENGINEERING

*Charles W. M. ...* 3/23/00  
CHIEF, BUREAU OF HIGHWAYS

CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION

**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21157  
A/E Job No. 96-309-058



DES: F.A.C.				
DRN: A.M.T.				
CHK: W.S.A.				
DATE: 3/00	BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.  
**K-5044**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

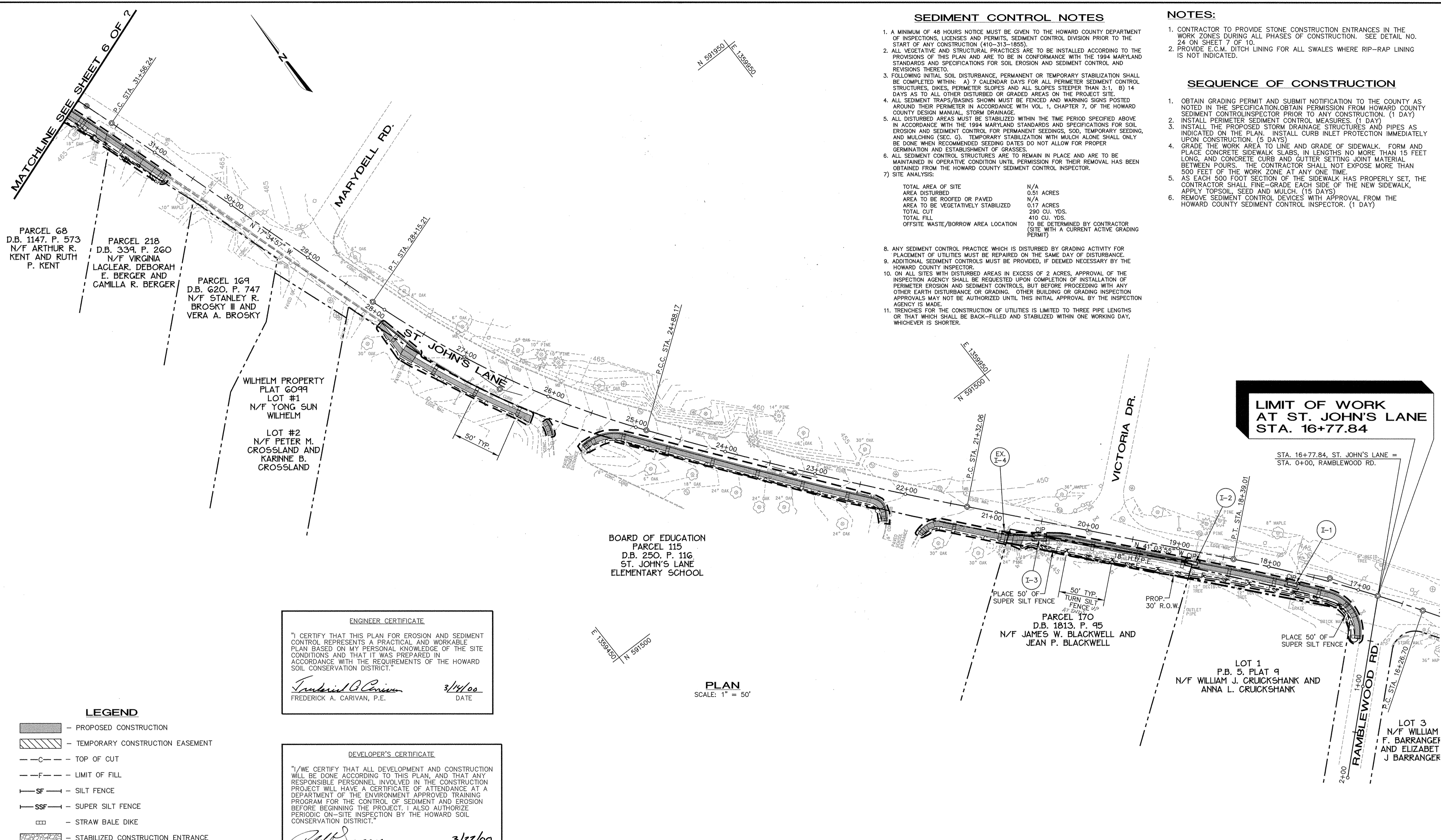
SECTIONS AND DETAILS

**St. John's Lane Sidewalk Construction**

SCALE AS SHOWN

SHEET 4 OF 10

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DATE: 01-Mar-00 16:11



PARCEL 68  
D.B. 1147, P. 573  
N/F ARTHUR R.  
KENT AND RUTH  
P. KENT

PARCEL 218  
D.B. 339, P. 260  
N/F VIRGINIA  
LACLEAR, DEBORAH  
E. BERGER AND  
CAMILLA R. BERGER

PARCEL 169  
D.B. 620, P. 747  
N/F STANLEY R.  
BROSKY III AND  
VERA A. BROSKY

WILHELM PROPERTY  
PLAT 6099  
LOT #1  
N/F YONG SUN  
WILHELM

LOT #2  
N/F PETER M.  
CROSSLAND AND  
KARINNE B.  
CROSSLAND

BOARD OF EDUCATION  
PARCEL 115  
D.B. 250, P. 116  
ST. JOHN'S LANE  
ELEMENTARY SCHOOL

PARCEL 170  
D.B. 1813, P. 95  
N/F JAMES W. BLACKWELL AND  
JEAN P. BLACKWELL

LOT 1  
P.B. 5, PLAT 9  
N/F WILLIAM J. CRUCKSHANK AND  
ANNA L. CRUCKSHANK

LOT 3  
N/F WILLIAM  
F. BARRANGER  
AND ELIZABET  
J. BARRANGER

**SEDIMENT CONTROL NOTES**

- 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 (410-313-1855).
- 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.
- FOLLOWING INITIAL SOIL 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.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 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 SEEDINGS, SOO, TEMPORARY SEEDING, AND MULCHING (SEC. 5). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	N/A
AREA DISTURBED	0.51 ACRES
AREA TO BE ROOFED OR PAVED	N/A
AREA TO BE VEGETATIVELY STABILIZED	0.17 ACRES
TOTAL CUT	290 CU. YDS.
TOTAL FILL	410 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	TO BE DETERMINED BY CONTRACTOR (SITE WITH A CURRENT ACTIVE GRADING PERMIT)
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY INSPECTOR.
- 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.
- 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.

**NOTES:**

- CONTRACTOR TO PROVIDE STONE CONSTRUCTION ENTRANCES IN THE WORK ZONES DURING ALL PHASES OF CONSTRUCTION. SEE DETAIL NO. 24 ON SHEET 7 OF 10.
- PROVIDE E.C.M. DITCH LINING FOR ALL SWALES WHERE RIP-RAP LINING IS NOT INDICATED.

**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT AND SUBMIT NOTIFICATION TO THE COUNTY AS NOTED IN THE SPECIFICATION. OBTAIN PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR PRIOR TO ANY CONSTRUCTION. (1 DAY)
- INSTALL PERIMETER SEDIMENT CONTROL MEASURES. (1 DAY)
- INSTALL THE PROPOSED STORM DRAINAGE STRUCTURES AND PIPES AS INDICATED ON THE PLAN. INSTALL CURB INLET PROTECTION IMMEDIATELY UPON CONSTRUCTION. (5 DAYS)
- GRADE THE WORK AREA TO LINE AND GRADE OF SIDEWALK. FORM AND PLACE CONCRETE SIDEWALK SLABS, IN LENGTHS NO MORE THAN 15 FEET LONG, AND CONCRETE CURB AND GUTTER SETTING JOINT MATERIAL BETWEEN POURS. THE CONTRACTOR SHALL NOT EXPOSE MORE THAN 500 FEET OF THE WORK ZONE AT ANY ONE TIME.
- AS EACH 500 FOOT SECTION OF THE SIDEWALK HAS PROPERLY SET, THE CONTRACTOR SHALL FINE-GRADE EACH SIDE OF THE NEW SIDEWALK, APPLY TOPSOIL, SEED AND MULCH. (15 DAYS)
- REMOVE SEDIMENT CONTROL DEVICES WITH APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. (1 DAY)

**LIMIT OF WORK  
AT ST. JOHN'S LANE  
STA. 16+77.84**

STA. 16+77.84, ST. JOHN'S LANE =  
STA. 0+00, RAMBLEWOOD RD.

**ENGINEER CERTIFICATE**

"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."

*Frederick A. Carivan* 3/14/00  
FREDERICK A. CARIVAN, P.E. DATE

**DEVELOPER'S CERTIFICATE**

"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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

*Robert J. Seaman* 3/27/00  
SIGNATURE OF DEVELOPER DATE  
PRINT NAME BELOW SIGNATURE

**PLAN**  
SCALE: 1" = 50'

- LEGEND**
- PROPOSED CONSTRUCTION
  - TEMPORARY CONSTRUCTION EASEMENT
  - TOP OF CUT
  - LIMIT OF FILL
  - SF — SILT FENCE
  - SSF — SUPER SILT FENCE
  - STRAW BALE DIKE
  - STABILIZED CONSTRUCTION ENTRANCE
  - LIMIT OF DISTURBANCE
  - CIP — CURB INLET PROTECTION

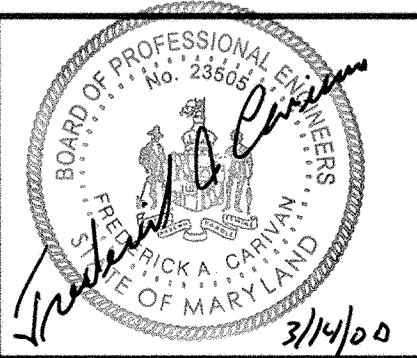
**FOR SEDIMENT & EROSION CONTROL ONLY**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Shaw* 3/22/00  
DEPARTMENT OF PUBLIC WORKS DATE  
CHIEF, BUREAU OF ENGINEERING

*Robert J. Seaman* 3/27/00  
CHIEF, BUREAU OF HIGHWAYS DATE

**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21157  
A/E Job No. 96-309-058



DES: F.A.C.					
DRN: J.N.W.					
CHK: W.S.A.					
DATE: 3/00	BY	NO.	REVISION	DATE	

CAPITAL PROJECT NO.  
**K-5044**

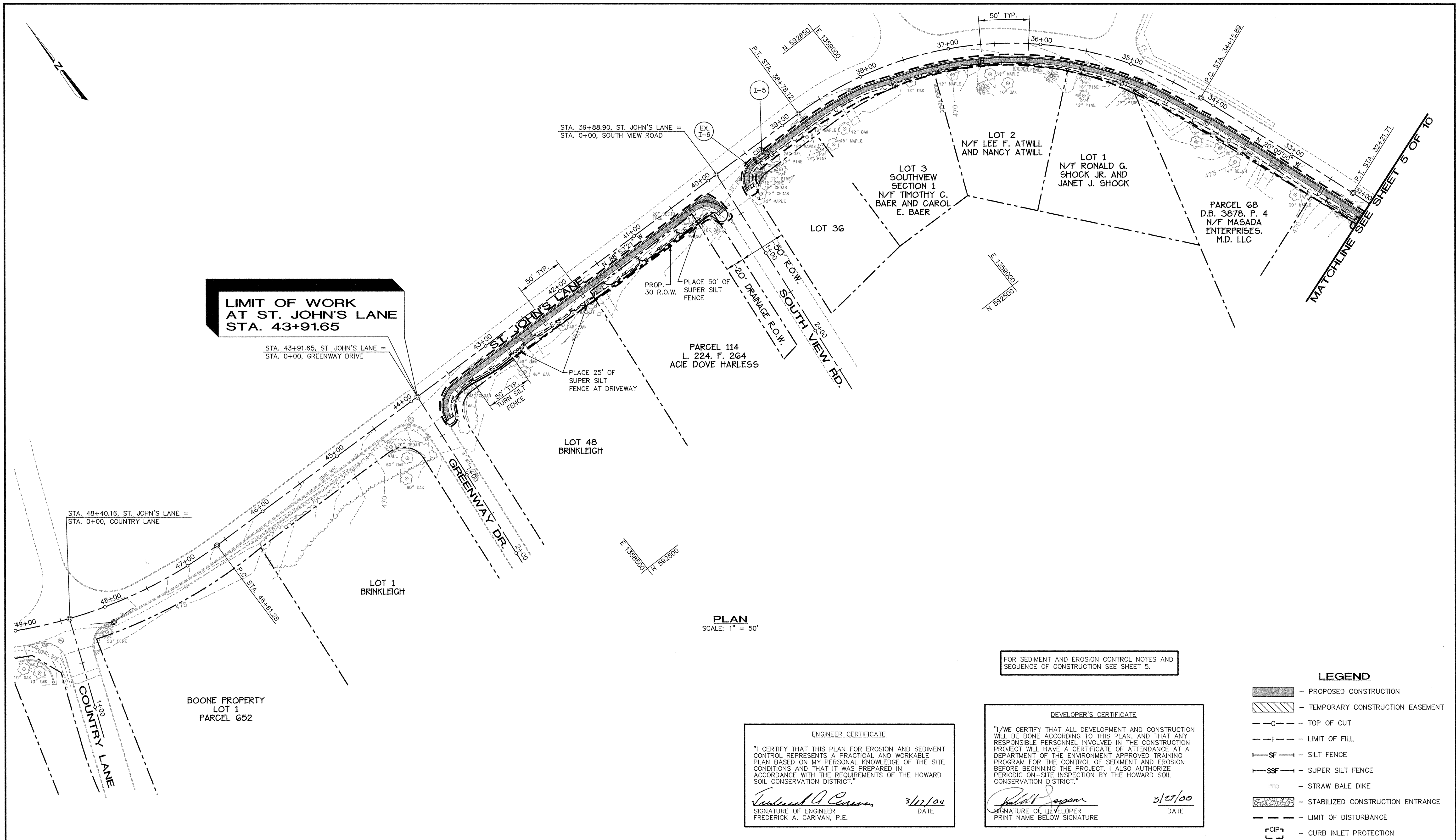
600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

SEDIMENT AND EROSION CONTROL PLAN

**St. John's Lane  
Sidewalk Construction**

SCALE AS SHOWN

SHEET 5 OF 10



**LIMIT OF WORK  
AT ST. JOHN'S LANE  
STA. 43+91.65**

STA. 43+91.65, ST. JOHN'S LANE =  
STA. 0+00, GREENWAY DRIVE

**PLAN**  
SCALE: 1" = 50'

FOR SEDIMENT AND EROSION CONTROL NOTES AND  
SEQUENCE OF CONSTRUCTION SEE SHEET 5.

**LEGEND**

- PROPOSED CONSTRUCTION
- TEMPORARY CONSTRUCTION EASEMENT
- TOP OF CUT
- LIMIT OF FILL
- SILT FENCE
- SUPER SILT FENCE
- STRAW BALE DIKE
- STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE
- CURB INLET PROTECTION

**ENGINEER CERTIFICATE**

"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.

*Frederick A. Carivan* 3/17/00  
SIGNATURE OF ENGINEER DATE  
FREDERICK A. CARIVAN, P.E.

**DEVELOPER'S CERTIFICATE**

"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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Robert S. Sponer* 3/27/00  
SIGNATURE OF DEVELOPER DATE  
PRINT NAME BELOW SIGNATURE

**FOR SEDIMENT & EROSION CONTROL ONLY**

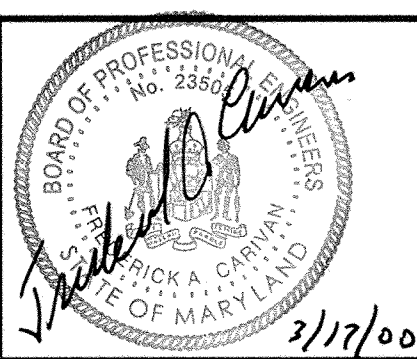
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Lane* 3/22/00  
DEPARTMENT OF PUBLIC WORKS DATE  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION

*Robert S. Sponer* 3/22/00  
CHIEF, BUREAU OF ENGINEERING DATE

*Andrew M. Danville* 3/23/00  
CHIEF, BUREAU OF HIGHWAYS DATE

**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21157  
A/E Job No. 96-309-058



DES: F.A.C.					
DRN: A.M.T.					
CHK: W.S.A.					
DATE: 3/00	BY	NO.	REVISION	DATE	

CAPITAL PROJECT NO.  
**K-5044**

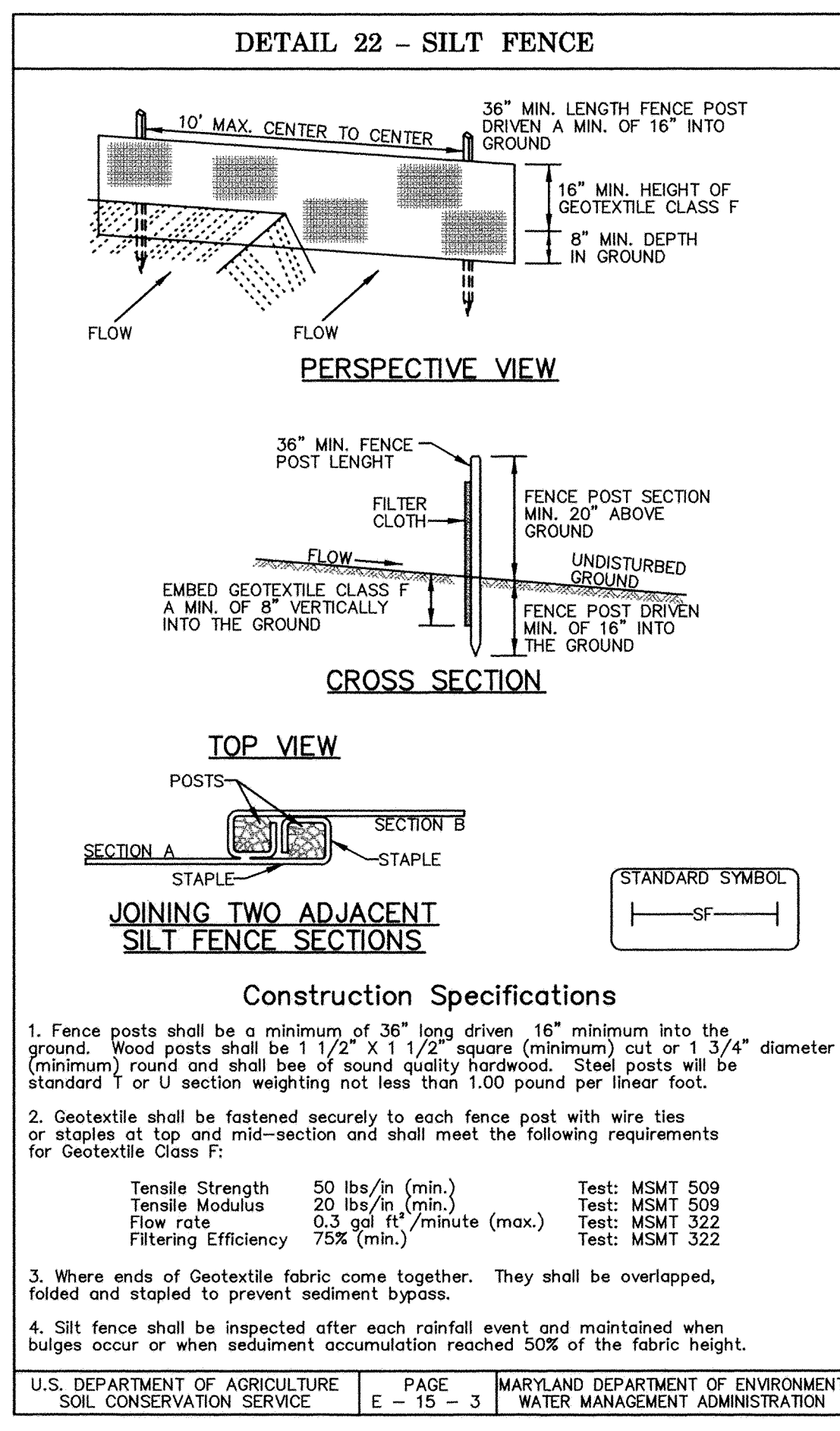
600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

SEDIMENT AND EROSION CONTROL PLAN  
**St. John's Lane  
Sidewalk Construction**

SCALE  
AS  
SHOWN

SHEET  
**6** OF 10

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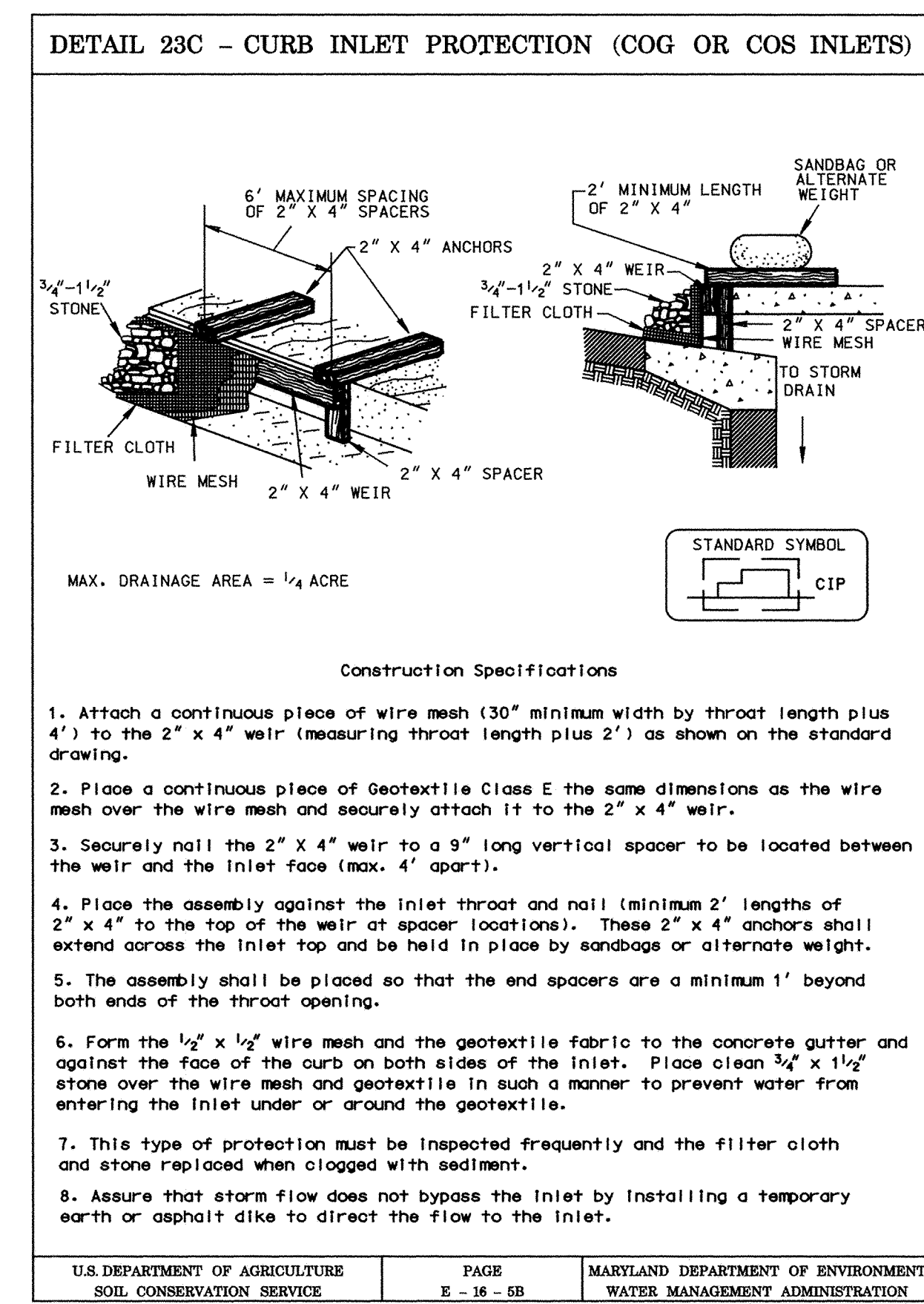
### SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-15-3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



## STANDARD AND SPECIFICATIONS FOR TOPSOIL

**Definition and Purpose**  
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

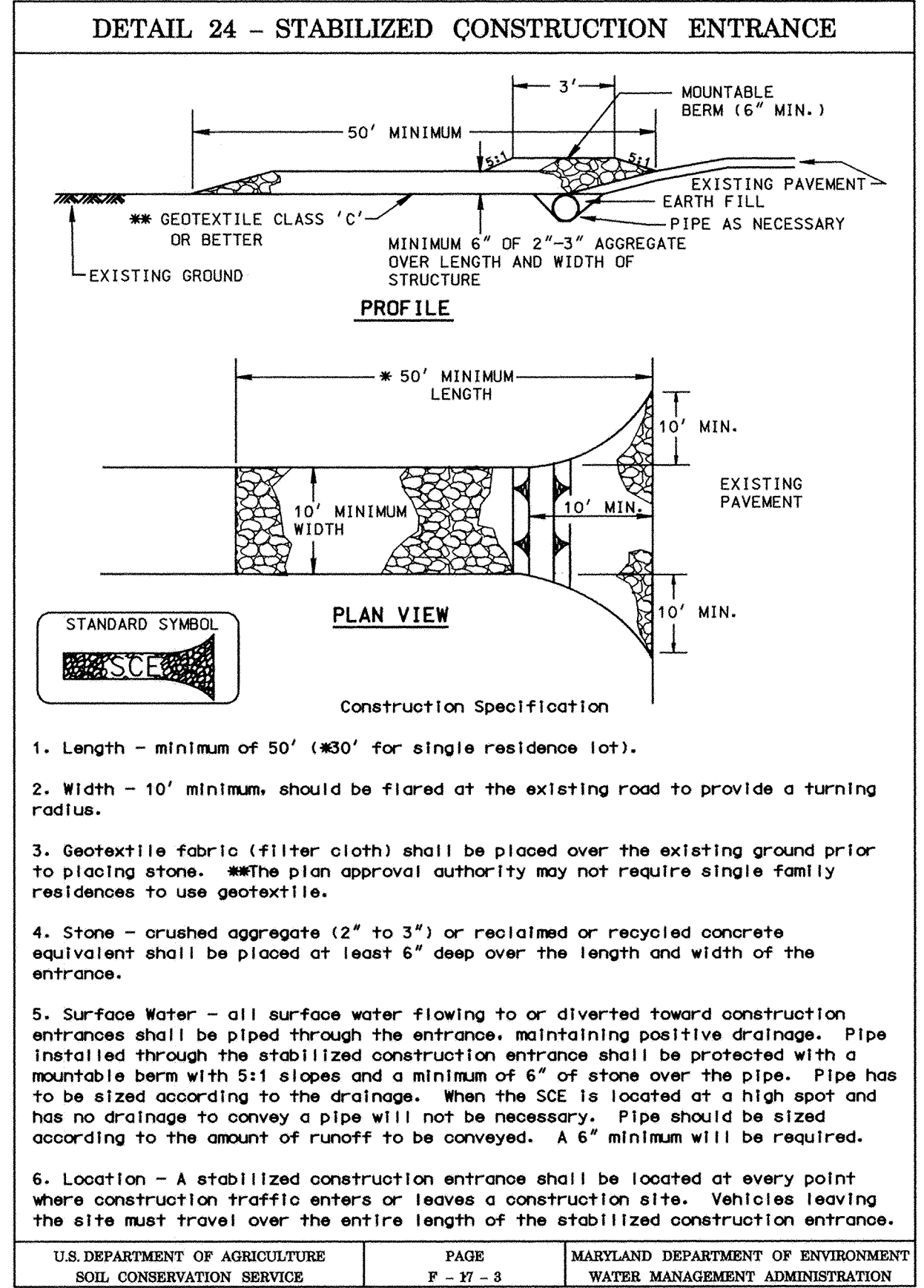
To provide a suitable soil medium for vegetative growth. Soils of concern have a low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

**Conditions Where Practice Applies**

- This practice is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - 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.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- 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 that appropriate stabilization shown on the plans.

**Construction and Material Specifications**

- Topsoil salvaged from 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-SGS in cooperation with Maryland Agricultural Experimental Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - 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 texture subsoils and shall contain less than 5% by volume of cinders, stone, silt, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
  - Where the 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:
  - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- Topsoil Application
  - 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.
  - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4"-8" higher in elevation.
  - Topsoil shall be uniformly disturbed 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.
  - 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.



### STABILIZED CONSTRUCTION ENTRANCE

**Construction Specification**

- Length - minimum of 50' (#30' for single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- 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.
- 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.
- 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.
- 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-17-3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

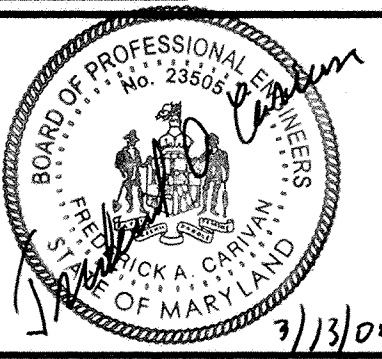
## FOR SEDIMENT & EROSION CONTROL ONLY

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

3/22/00  
3/23/00

DEPARTMENT OF PUBLIC WORKS  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION

A/E GROUP, INC.  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21157  
A/E Job No. 96-309-058



DES: F.A.C.				
DRN: J.N.W.				
CHK: W.S.A.				
DATE: 3/00	BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.  
**K-5044**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

SEDIMENT AND EROSION CONTROL DETAILS

**St. John's Lane  
Sidewalk Construction**

SCALE AS SHOWN

SHEET 7 OF 10

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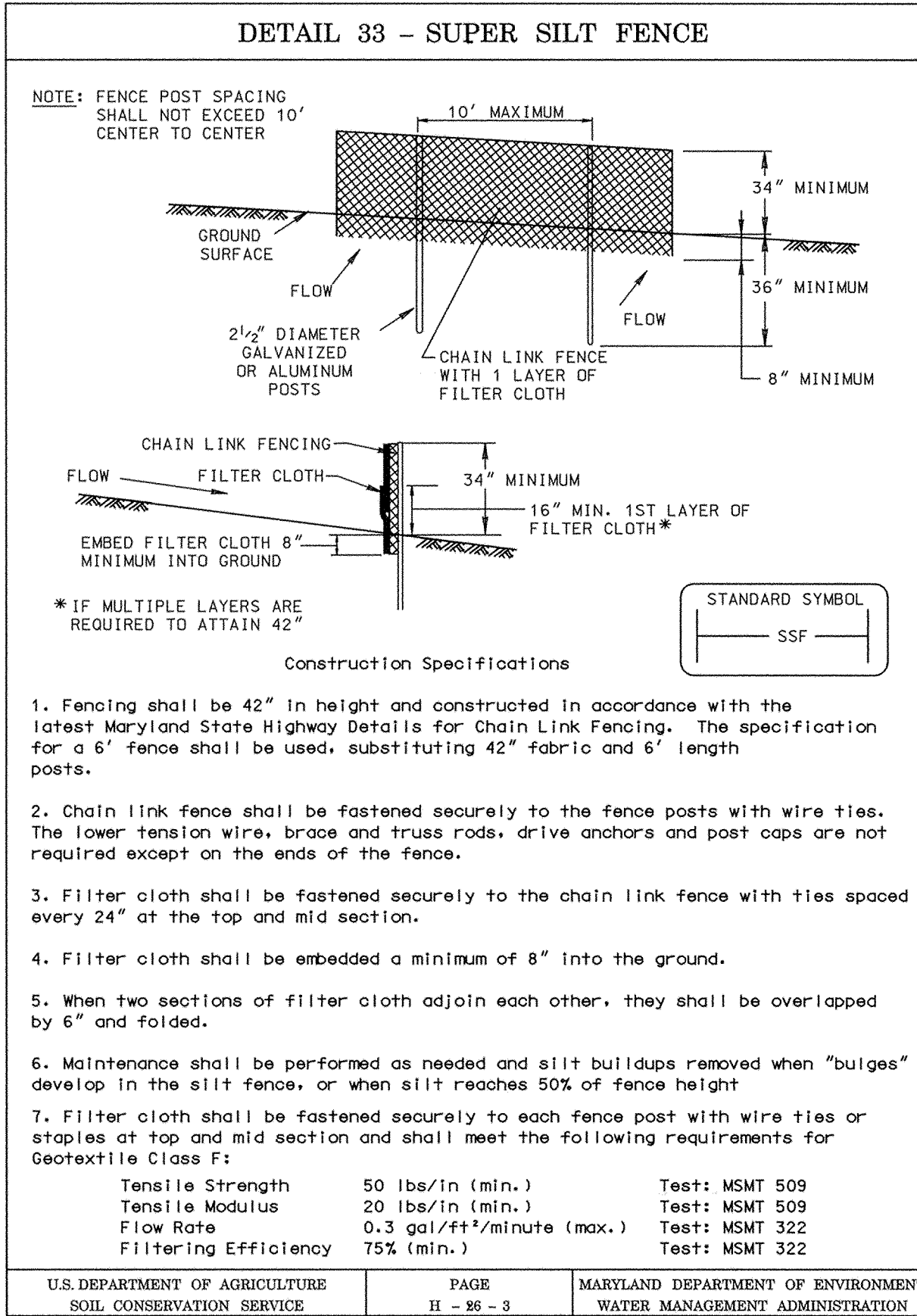
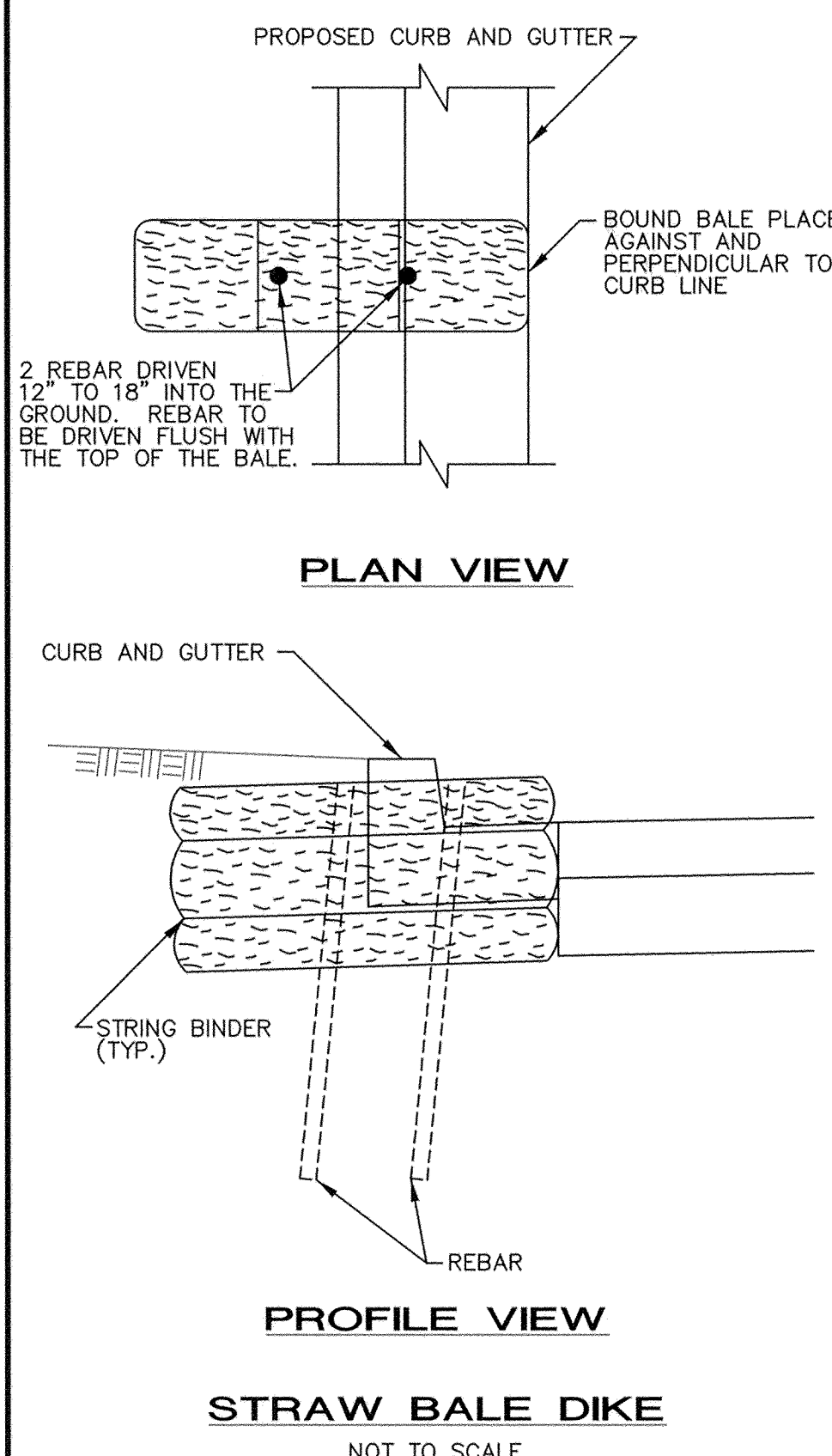
Section I - Vegetative Stabilization Methods and Materials

- A. Site Preparation
- Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
  - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
  - Schedule required soil tests to determine soil amendment composition and application rates for site having disturbed area over 5 acres.
- B. Soil Amendments (Fertilizer and Lime Specifications)
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
  - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
  - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
  - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
- C. Seedbed Preparation
- Temporary Seeding
    - Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
    - Apply fertilizer and lime as prescribed on the plans.
    - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
  - Permanent Seeding
    - Minimum soil conditions required for permanent vegetative establishment:
      - Soil pH shall be between 6.0 and 7.0.
      - Soluble salts shall be less than 500 parts per million (ppm).
      - The soil shall contain less than 40% clay but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serotia lespedeza is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
      - Soil shall contain 1.5% minimum organic matter by weight.
      - Soil must contain sufficient pore space to permit adequate root penetration.
      - If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
    - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
    - Apply soil amendments as per soil test or as included on the plans.

- Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface.
 

Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.
- Seed Specifications
  - All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
  - Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculant shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80 F. can weaken bacteria and make the inoculant less effective.
- Methods of Seeding
  - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.
    - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs/ac; K20 (potassium); 200 lbs/ac.
    - Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
    - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
  - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
    - Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
    - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
  - Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
    - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
    - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- Mulch Specifications (In order of preference)
  - Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
  - Wood Cellulose Fiber Mulch (WCFM)
    - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
    - WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

- WCFM, including dy, shall contain no germination or growth inhibiting factors.
  - WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
  - WCFM material shall contain no elements or compounds at concentration levels that will be phlyo-toxic.
  - WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum. Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
- G. Mulching Seeded Areas
- Mulch shall be applied to all seeded areas immediately after seeding.
  - If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
  - When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
  - Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
- H. Securing Straw Mulch (Mulch Anchoring):
- Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
- A mulch anchoring tool is a tractor drawing implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. The practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
  - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  - Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. The remainder of area should appear to be uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tack II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.

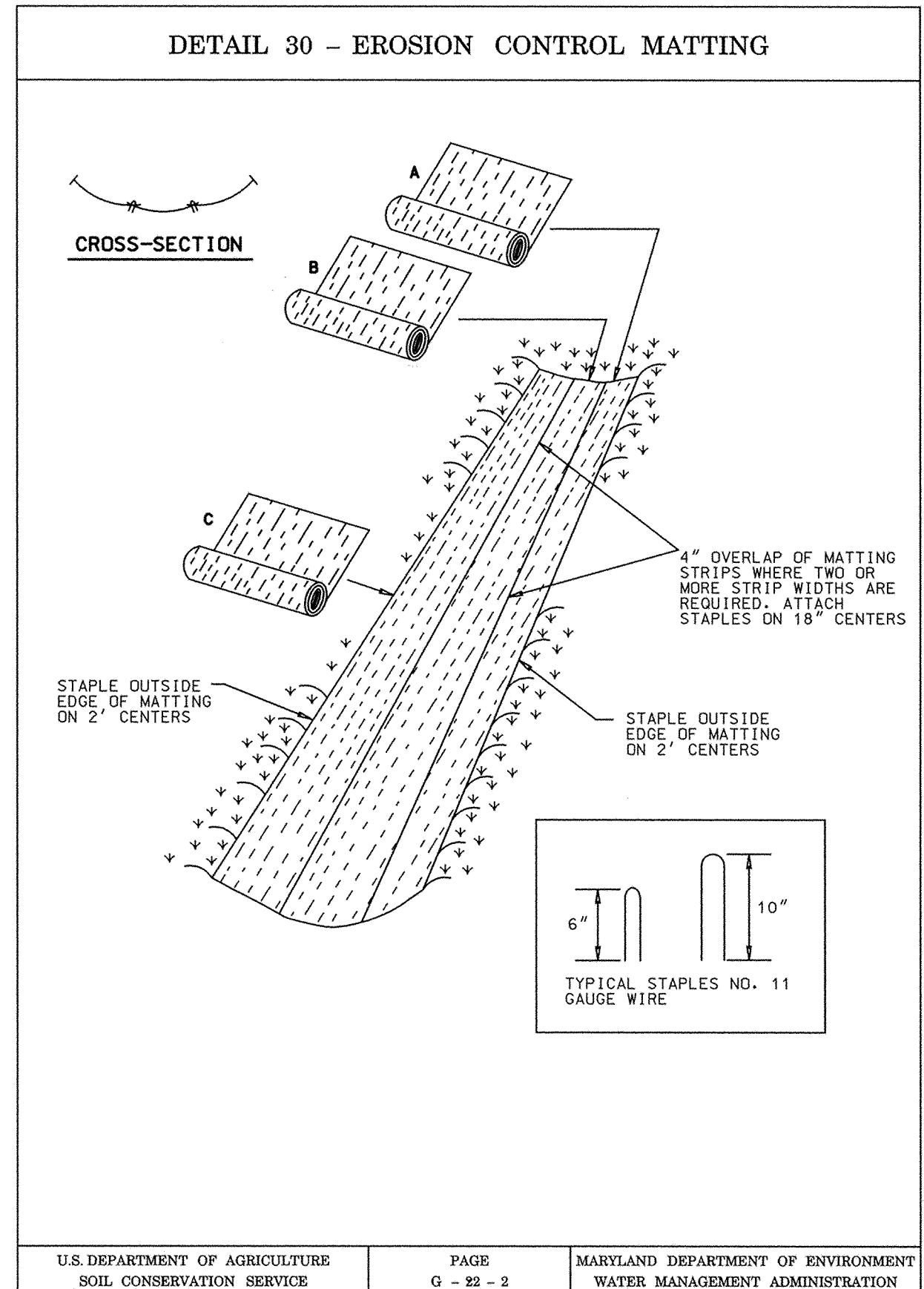


**SUPER SILT FENCE**

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE      PAGE H - 26 - 3A      MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



**EROSION CONTROL MATTING**

Construction Specifications

- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
- Staple the 4" overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
- Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", ship-lap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE      PAGE G - 26 - 2A      MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

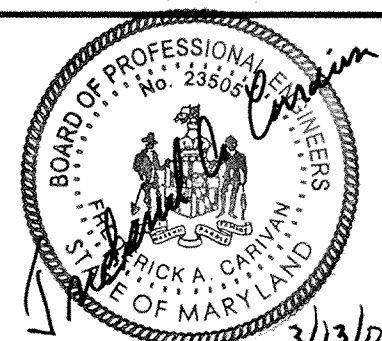
**FOR SEDIMENT & EROSION CONTROL ONLY**

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

James R. Shaw 3/22/00      Chief, Bureau of Engineering  
 DATE      DATE

Greg Calvo 3/22/00      Chief, Transportation Projects and Watershed Management Division  
 DATE      DATE

**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21157  
A/E Job No. 96-309-058



DES: F.A.C.			
DRN: J.N.W.			
CHK: W.S.A.			
DATE: 3/00	BY	NO.	REVISION

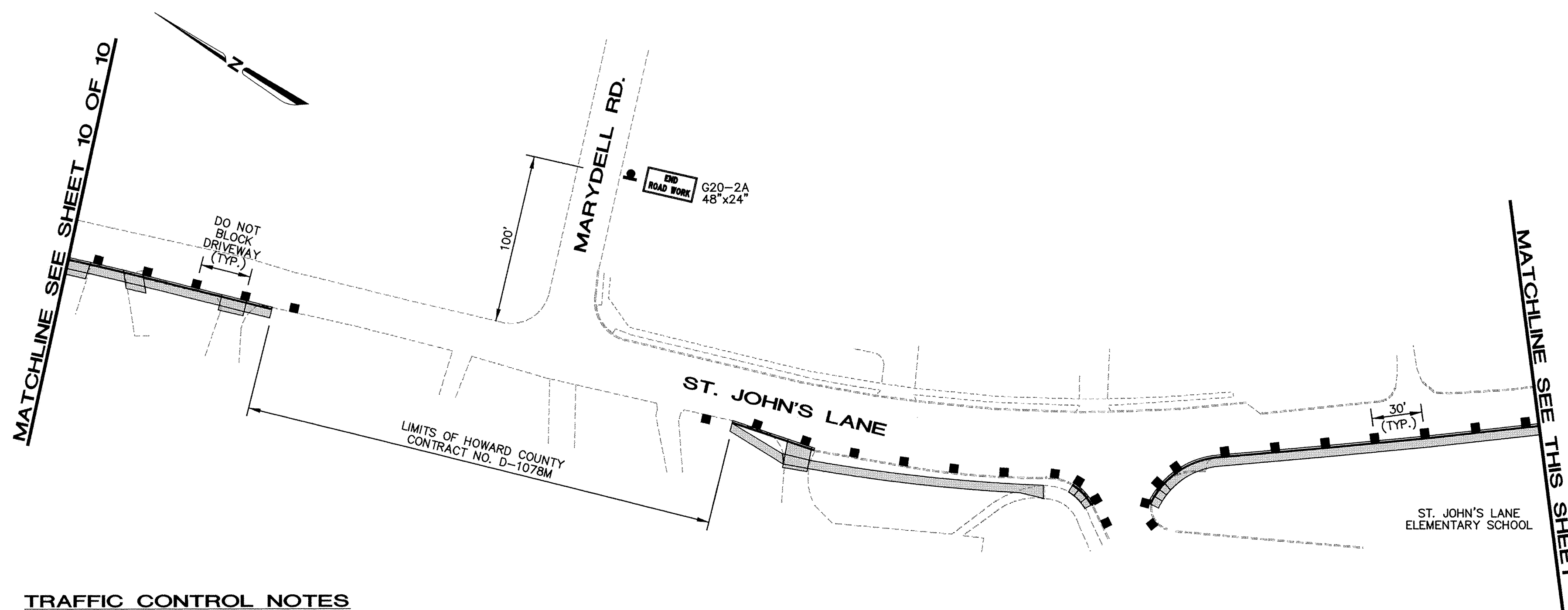
CAPITAL PROJECT NO.  
**K-5044**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

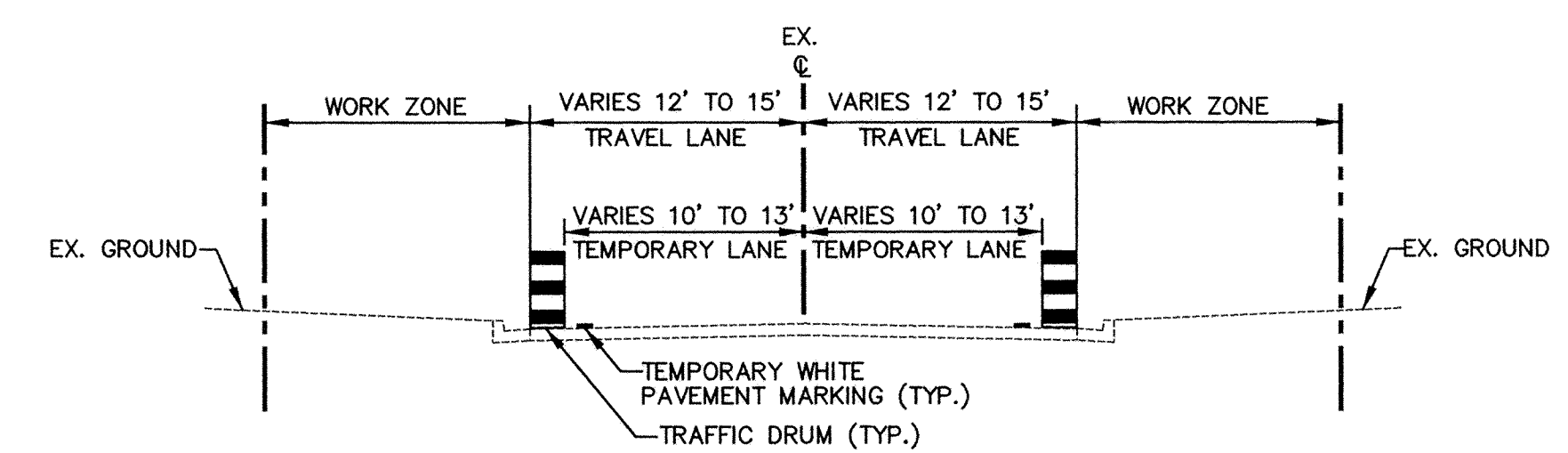
SEDIMENT AND EROSION CONTROL DETAILS  
**St. John's Lane**  
**Sidewalk Construction**

SCALE AS SHOWN  
SHEET 8 OF 10

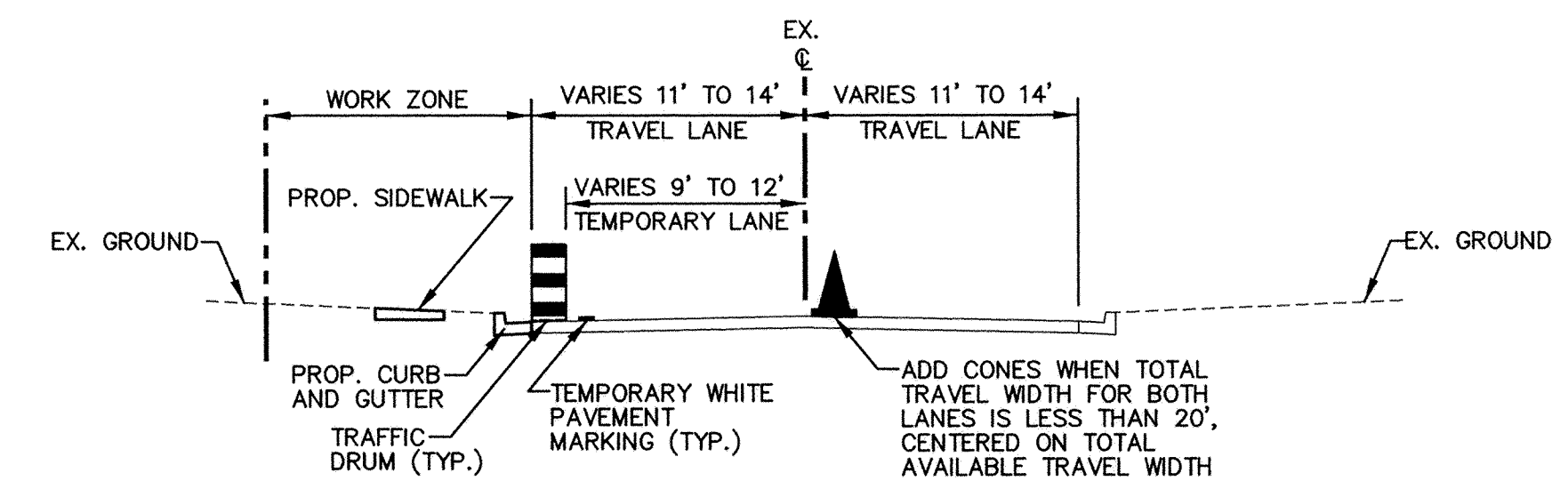




PLAN  
SCALE: 1" = 50'



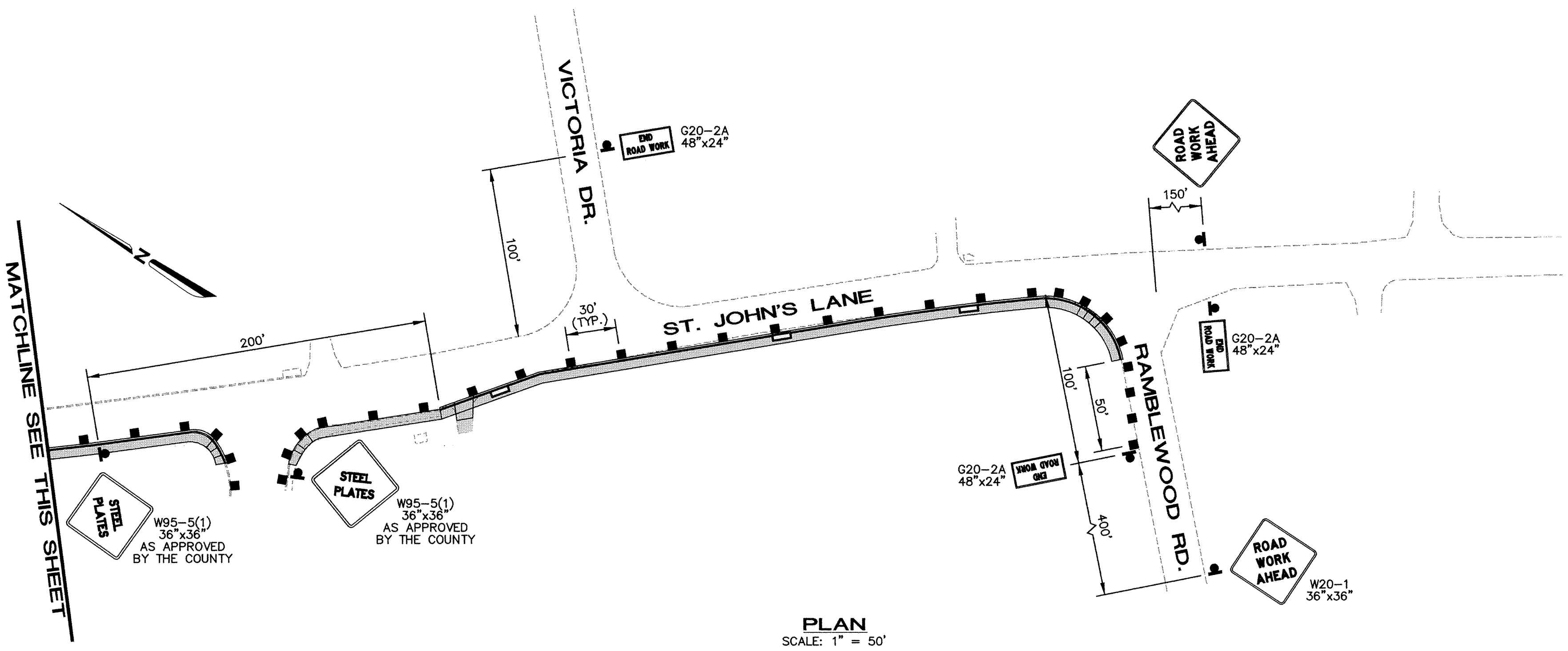
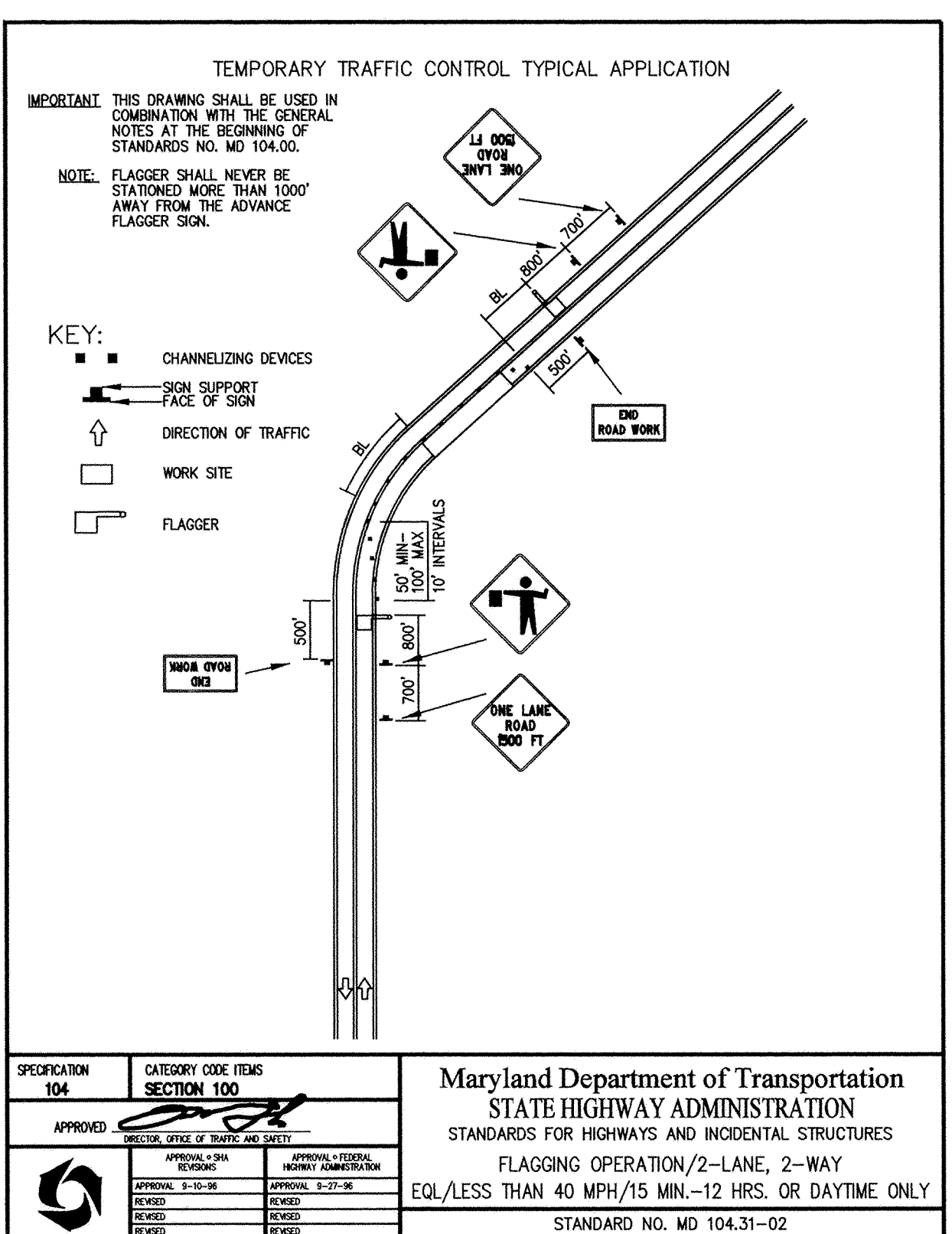
TYPICAL TRAFFIC CONTROL SECTION  
NOT TO SCALE  
SOUTH VIEW ROAD  
SCHOOL ACCESS DRIVE



TYPICAL TRAFFIC CONTROL SECTION  
NOT TO SCALE  
RAMBLEWOOD DRIVE  
GREENWAY DRIVE

**TRAFFIC CONTROL NOTES**

- THE CONTRACTOR SHALL USE MSHA STANDARD NO. MD 104.31-02, STANDARD NO. MD 104.32-02 AND STANDARD NO. MD 104.33-02 AS APPROVED BY THE HOWARD COUNTY ENGINEER.
  - THE CONTRACTOR SHALL CONTACT THE LOCAL SCHOOL TO DETERMINE THE HOURS WHEN BUSES ARE TRAVELING TO AND FROM THE NEIGHBORING BUILDINGS. THE CONTRACTOR SHALL NOT BE ALLOWED TO CLOSE A TRAVEL LANE DURING SCHOOL TRAVEL HOURS.
  - DURING ALL PHASES OF CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN AT THE END OF EACH WORK DAY, A CLEAR ACCESS TO ALL LOCAL RESIDENCES.
  - THE TOTAL LENGTH OF THE PROJECT IS APPROXIMATELY 3150 FEET. THE CONTRACTOR'S WORK AREA SHALL BE A MINIMUM OF 500 FEET AND A MAXIMUM OF 1000 FEET WHEN PLACING CURB AND GUTTER OR SIDEWALK. IF THE CONTRACTOR MUST CLOSE A TRAVEL LANE FOR ANY OPERATION, THE MAXIMUM LENGTH OF LANE CLOSURE SHALL BE 1000 FEET.
  - WHEN WORKING IN FRONT OF ST. JOHN'S ELEMENTARY SCHOOL, THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO GUIDE PEDESTRIANS AS WELL AS VEHICLES AROUND THE WORK ZONE. THE CONTRACTOR SHALL CENTER ONE WORK AREA AROUND THE SCHOOL ACCESS DRIVES. THE CONTRACTOR SHALL PERFORM THE WORK OPERATIONS SUCH THAT AT LEAST ONE ACCESS TO THE SCHOOL REMAINS OPEN AT ALL TIMES AND IS CLEARED ENOUGH TO ALLOW FREE ACCESS TO ALL EMERGENCY VEHICLES.
  - THE CONTRACTOR SHALL INFORM SCHOOL OFFICIALS AT THE END OF EACH WEEK AS TO THE CONTRACT'S PROGRESS AND THE ANTICIPATED AREA OF CONSTRUCTION FOR THE FOLLOWING WEEK.
- CONSTRUCTION PHASING**
- THE CONTRACTOR SHALL PERFORM THE WORK IN A MINIMUM OF THREE (3) PHASES. THE PHASES ARE AS FOLLOWS:  
 PHASE A. RAMBLEWOOD ROAD TO MARYDELL ROAD.  
 PHASE B. MARYDELL ROAD TO SOUTHVIEW ROAD.  
 PHASE C. SOUTHVIEW ROAD TO COUNTRY LANE.  
 THE CONTRACTOR MAY BEGIN AT THE NORTH OR SOUTH END OF THE PROJECT. ONCE BEGUN, THE CONTRACTOR WILL CONTINUE IN THE SAME DIRECTION UNTIL THE WORK IS COMPLETE. ALL PHASES SHOULD BE CONDUCTED AS FOLLOWS:  
 7.1 SET UP SIGNING AND CHANNELIZING DEVICES AS SHOWN ON SHEETS 9 AND 10 ON THE PLANS.  
 7.2 CLEAR AND GRUB THE WORK AREA BETWEEN 500 AND 1000 FEET LONG. FINE-GRADE THE AREA FOR THE NEW SIDEWALK. SAW CUT AND TRIM THE EXISTING PAVEMENT EDGE TO CONSTRUCT THE NEW CONCRETE CURB AND GUTTER. REMOVE AND STORE EXISTING STREET SIGNS.  
 7.3 PLACE THE EROSION CONTROL MATERIALS THROUGHOUT THE WORK AREA AS SHOWN ON THE PLANS OR AS DIRECTED BY THE COUNTY.  
 7.4 PERFORM ANY DRAINAGE WORK AS SHOWN ON THE PLANS OR AS DIRECTED BY THE COUNTY. PLACE THE SIDEWALK AND CURB AND GUTTER WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE COUNTY.  
 7.5 PLACE TOPSOIL SEEDING OVER AREAS NOT COVERED BY SIDEWALK, OR CURB AND GUTTER. REPLACE STREET SIGNS WHERE DIRECTED BY THE COUNTY.  
 7.6 REMOVE TEMPORARY EROSION CONTROL MATERIALS AS DIRECTED BY THE COUNTY. REMOVE SIGNING AND CHANNELIZING DEVICES FROM THE FIRST WORK AREA AND PROCEED TO THE SECOND AREA AND REPEAT THE PROCESS UNTIL THE ENTIRE WORK IS COMPLETE.  
 7.7 DURING DRAINAGE CONSTRUCTION WORK, THE CONTRACTOR MAY, WITH THE APPROVAL OF THE COUNTY, LEAVE SMALL AREAS OF EXCAVATION OPEN BETWEEN WORKDAYS. IF SO, THE AREAS SHALL BE COVERED BY STABILIZED STEEL PLATES. THIS OPTION SHALL NOT BE ALLOWED OVER WEEKENDS OR HOLIDAYS. ALL TRENCHES SHALL BE BACKFILLED AND COMPACTED.  
 7.8 WHEN NOT IN EFFECT, W95-5(1) SIGNS SHALL BE REMOVED FROM THE SITE OR COVERED WITH AN (OPAQUE) MATERIAL AS APPROVED BY THE COUNTY.



PLAN  
SCALE: 1" = 50'

- LEGEND**
- WORK ZONE
  - — CHANNELIZATION DEVICE
  - ▲ — SIGN WITH SUPPORT

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

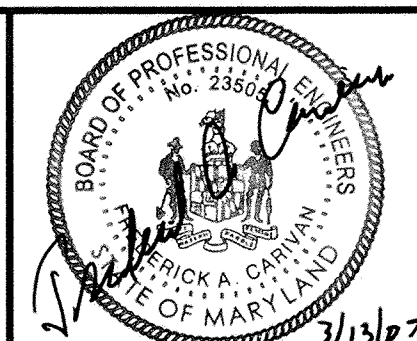
*James J. Shaw* 3/22/00  
CHIEF, BUREAU OF ENGINEERING

*Robert J. Johnson* 3/22/00  
CHIEF, BUREAU OF ENGINEERING

*Eric Calver* 3/22/00  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION

*David M. Smith* 3/22/00  
CHIEF, BUREAU OF HIGHWAYS

**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21157  
A/E Job No. 96-309-058



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DATE: 3/00	BY	NO.	REVISION	DATE

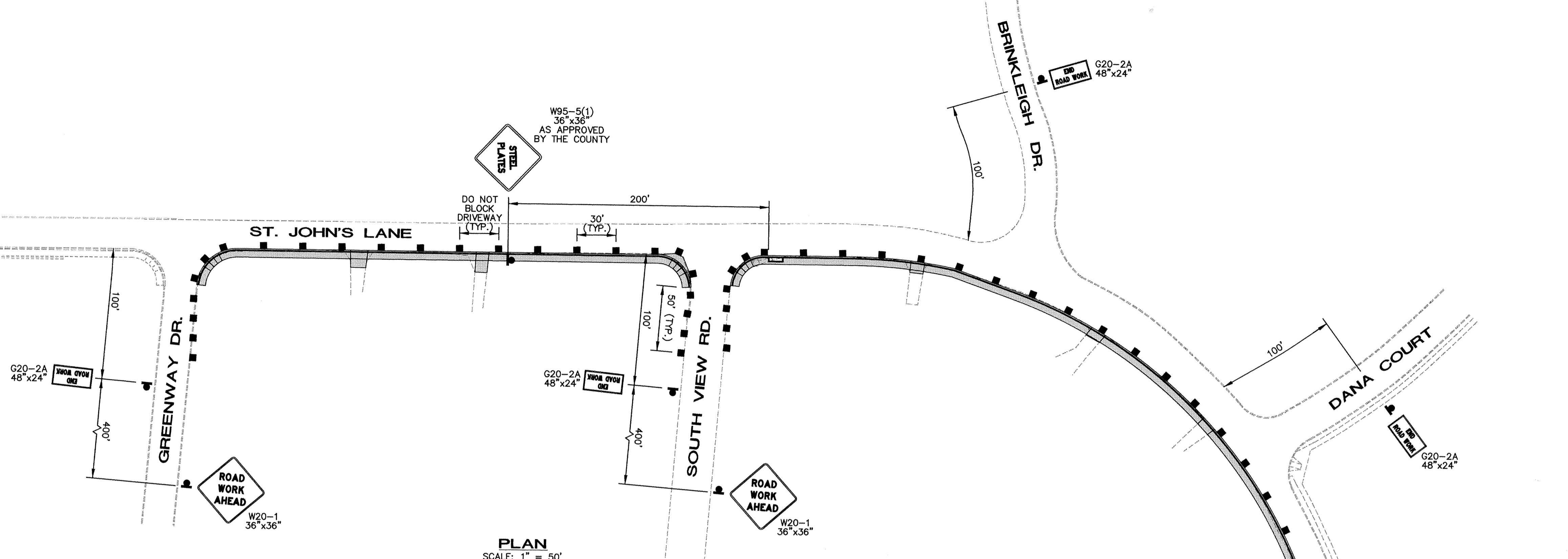
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**K-5044**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

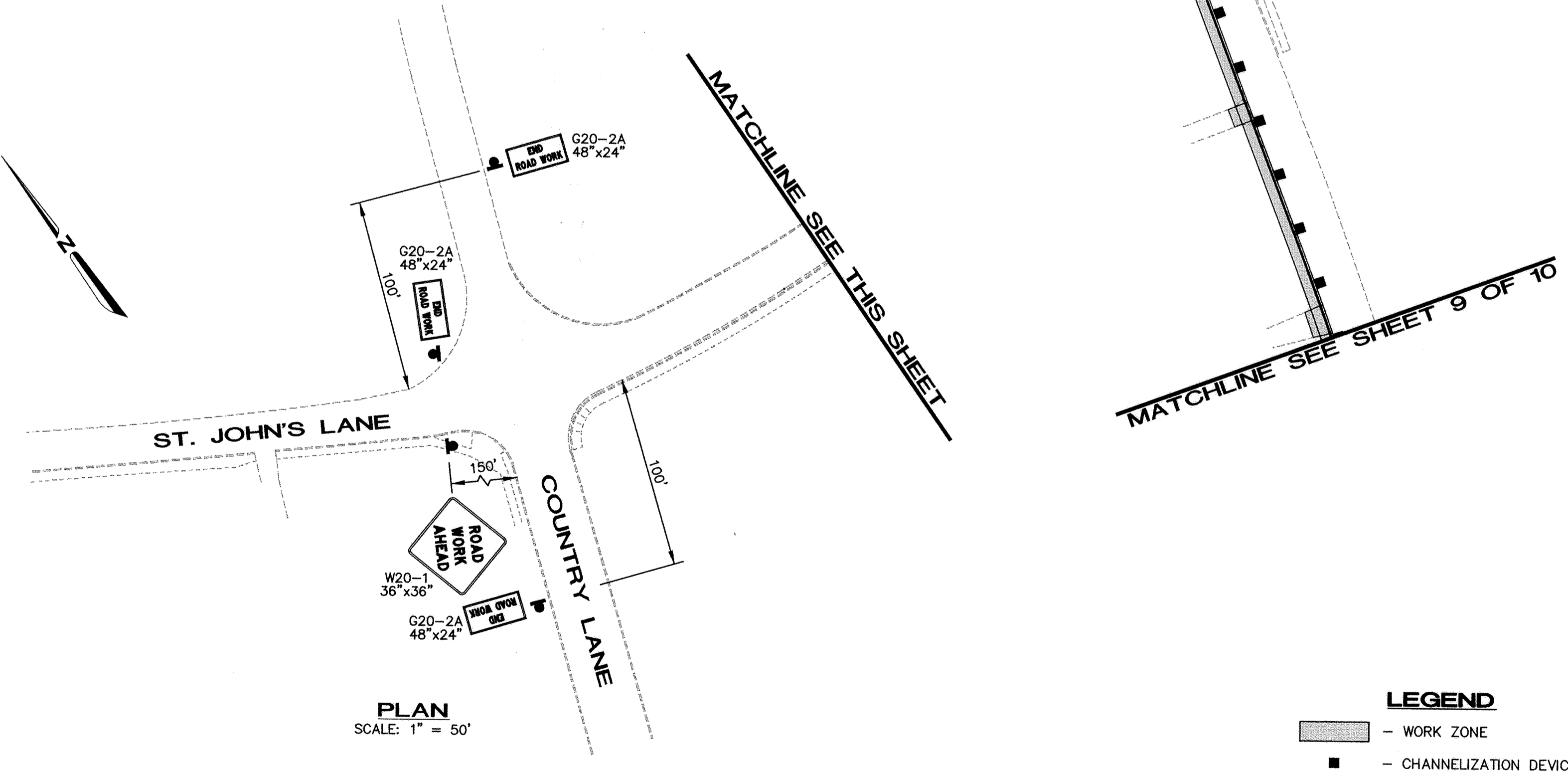
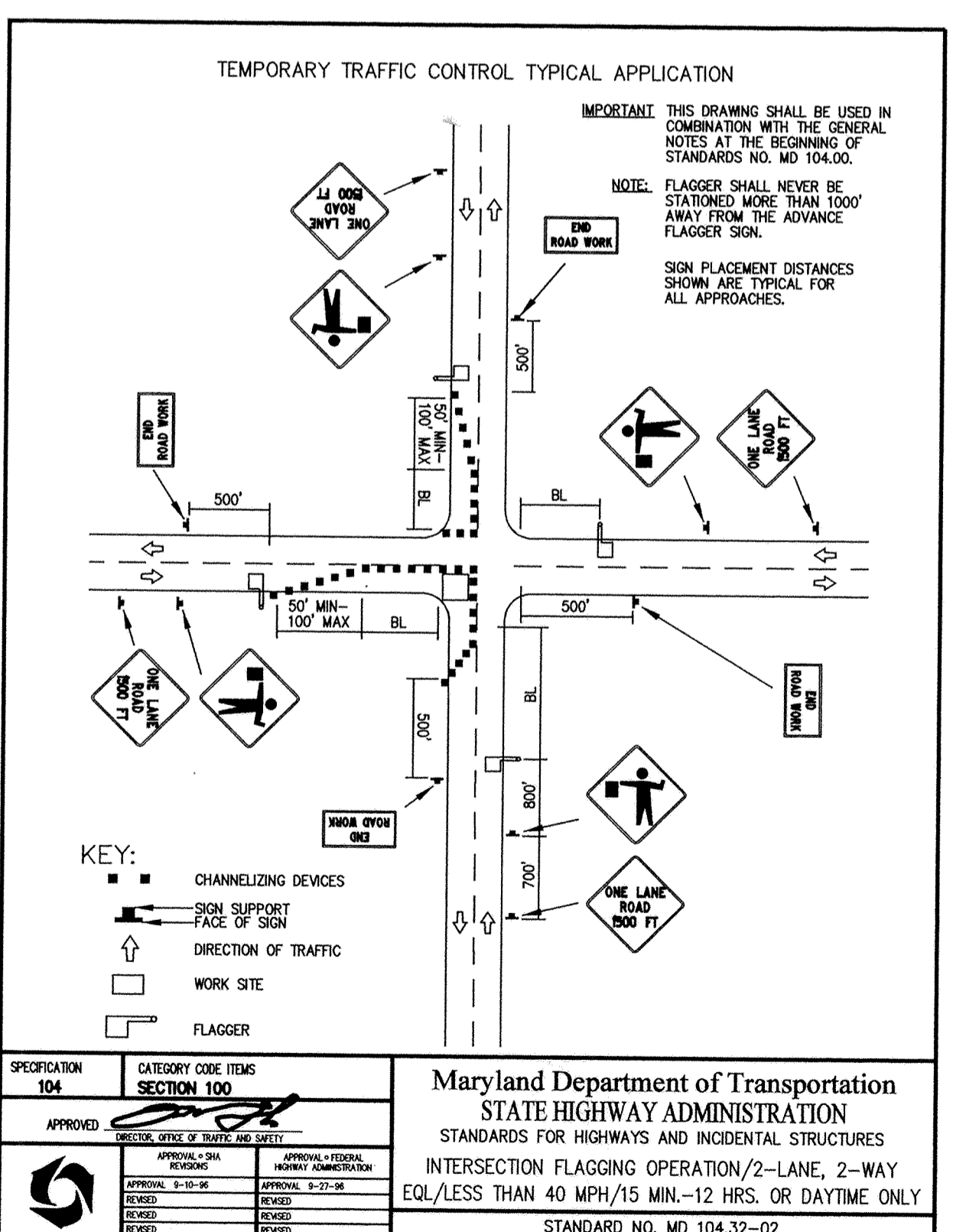
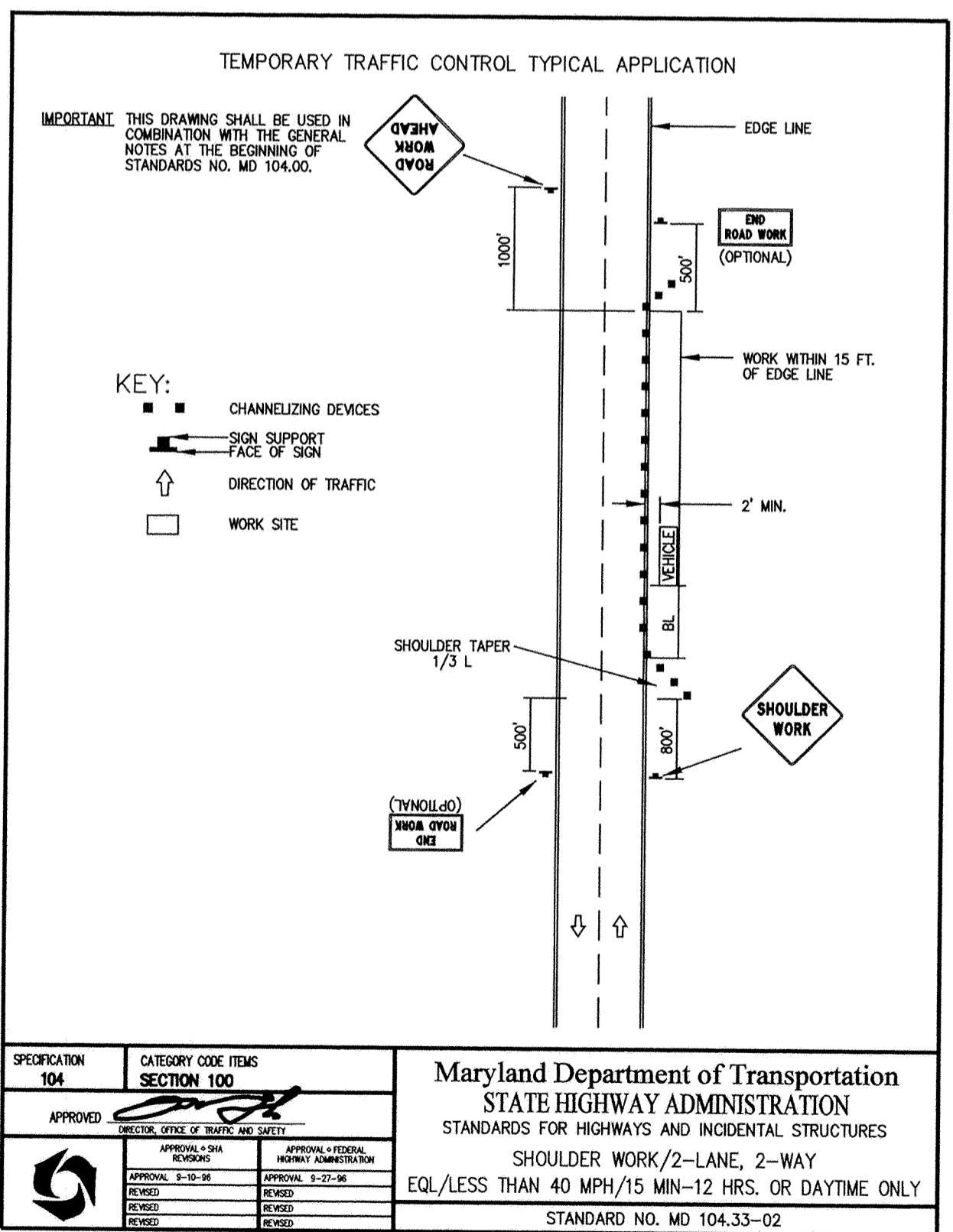
TRAFFIC CONTROL PLAN  
**St. John's Lane  
Sidewalk Construction**

SCALE AS SHOWN  
SHEET 9 OF 10

MATCHLINE SEE THIS SHEET



PLAN  
SCALE: 1" = 50'



PLAN  
SCALE: 1" = 50'

- LEGEND**
- WORK ZONE
  - CHANNELIZATION DEVICE
  - ▲ SIGN WITH SUPPORT

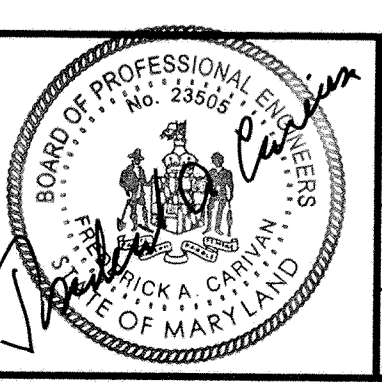
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

APPROVED: *[Signature]* DATE: 3/22/00  
CHIEF, BUREAU OF ENGINEERING

APPROVED: *[Signature]* DATE: 3/23/00  
CHIEF, BUREAU OF HIGHWAYS

DEPARTMENT OF PUBLIC WORKS  
3/22/00  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION

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**K-5044**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

TRAFFIC CONTROL PLAN  
**St. John's Lane  
Sidewalk Construction**

SCALE AS SHOWN  
SHEET 10 OF 10

FILE: k:\96-309\_058\station\100 submittal\ps10stj.dgn  
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