F.H.WA. REGION NO.	STATE	F.E.D. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	BR-SOS-I(207)	1	10

INDEX OF SHEETS

SHEET NO.	DESCRIPTION	LOCATION
1	TITLE SHEET AND LOCATION MAP	
2	TYPICAL SECTIONS AND DETAILS	
3	PLAN AND PROFILE	STA. 1+00 TO STA. 7+66.34
4	SUPERELEVATION DETAILS AND REFERENCE TIES	
5	SEDIMENT CONTROL PLAN	
6	GENERAL PLAN AND ELEVATION	BOX CULVERT-STA.4+57.00
7	BOX CULVERT AND DETAILS	
8	WINGWALL AND FOOTING DETAILS	
9	EARTHWORK AND PAVEMENT QUANTITIES	
10	SUMMARY OF QUANTITIES	

STATE OF MARYLAND

CARROLL COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF PLANNING AND ENGINEERING

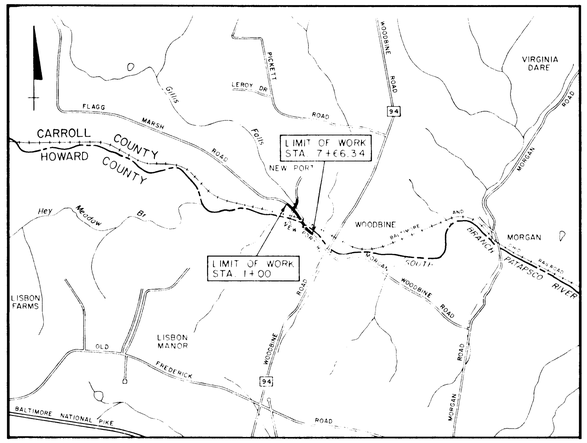
PLANS OF PROPOSED HIGHWAY

CARROLL COUNTY CONTRACT NO.

FEDERAL AID PROJECT NO. BR-SOS-I(207)

S.H.A. CONTRACT NO. CL-691-951-712

FLAGG MARSH ROAD OVER
SOUTH BRANCH PATAPSCO RIVER



LOCATION MAP

Scale 1" = 2,000'

LENGTH OF PROJECT 0.181 MILES

DEVELOPER

I certify that this plan of Sediment Control will be implemented to the fullest extent, and all structures will be installed to the design and specifications as spelled out in this plan and that any responsible personnel involved in construction project will have a certification of attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic on-site evaluation by the Carroll Soil Conservation District personnel and cooperating agencies.

Owner/Developer _____ Date _____

ENGINEER

I certify that this plan of Sediment Control is designed with my personal knowledge of the site conditions and has been designed to the Standards and Specifications adopted by the Carroll Soil Conservation District.

Engineer _____ Date 2/1/85

SOIL CONSERVATION SERVICE

Reviewed for _____ (Name) S.C.D.

and meets Technical Requirements.

_____ (Signature) Date _____

U.S. Soil Conservation Service

SOIL CONSERVATION DISTRICT

The Development Plan is approved for Soil Erosion and Sediment Control by the Carroll Soil Conservation District.

Approved _____ (Carroll SCD) Date _____

ABBREVIATIONS

P.R.C.	POINT OF REVERSE CURVE
P.C.	POINT OF CURVE
P.V.R.C.	POINT OF REVERSE VERTICAL CURVE
P.T.	POINT OF TANGENT
P.V.C.	POINT OF VERTICAL CURVE
P.V.T.	POINT OF VERTICAL TANGENT
P.V.I.	POINT OF VERTICAL INTERSECTION
A.D.T.	AVERAGE DAILY TRAFFIC
P/GE	PROFILE GRADE ELEVATION
P/GL	PROFILE GROUND LINE
P.G.L.	PROFILE GRADE LINE
B.M.	BENCH MARK
ELEV.	ELEVATION
℄	BASE LINE
℄	CENTER LINE
STD. PL.	STANDARD PLATE
S & M S.D.	SEED & MULCH SIDE DITCH
S.S.M. S.D.	SOIL STABILIZATION MATTING SIDE DITCH
S & M.S.D.D.	SEED & MULCH SURFACE DRAIN DITCH

CONVENTIONAL SIGNS

STATE AND NATIONAL LINE	CULVERTS
COUNTY LINE	RETAINING WALL
CITY OR VILLAGE	DROP INLET
GUARD RAIL/FENCE LINE	TROLLEY POLE
UNFENCED PROPERTY	POWER POLE
RIGHT OF WAY LINE	TELEPHONE OR TELEGRAPH POLE
TRAVELED WAY	MARSH
RAILROADS	HEDGE
BASE OR SURVEY LINE	GROUND ELEVATION (DATUM LINE)
	GRADE ELEVATION (DATUM LINE)

- DESIGN TRAFFIC DATA -

DESCRIPTION	1983	1996
A. D. T.	600	800
D. H. V.	82	110
DIRECTIONAL DISTRIBUTION D. H. V.	50% N-S	50% N-S
PERCENT TRUCKS - A. D. T.	5	5
PERCENT TRUCKS - D. H. V.	5	5

DESIGN SPEED 30 M.P.H.
MAXIMUM GRADIENT 10.80%
MAXIMUM DEGREE OF CURVE 20°-00'-00"

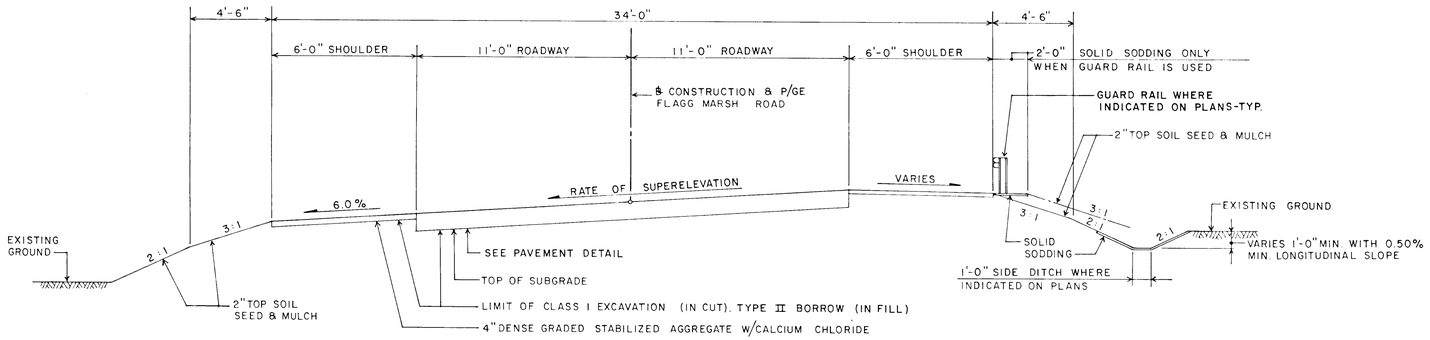
NOTE: DESIGN SPEED NEW PORT ROAD 20 MPH

STV/SANDERS & THOMAS
- architects
- engineers
- planners

21 Governors Court Baltimore, Maryland 21207

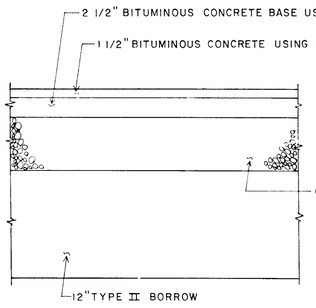
C279A201

F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	BR-SOS-I(207)	2	10

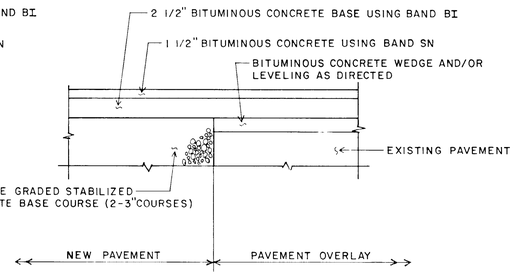


TYPICAL SECTION FLAGG MARSH ROAD

N.T.S.



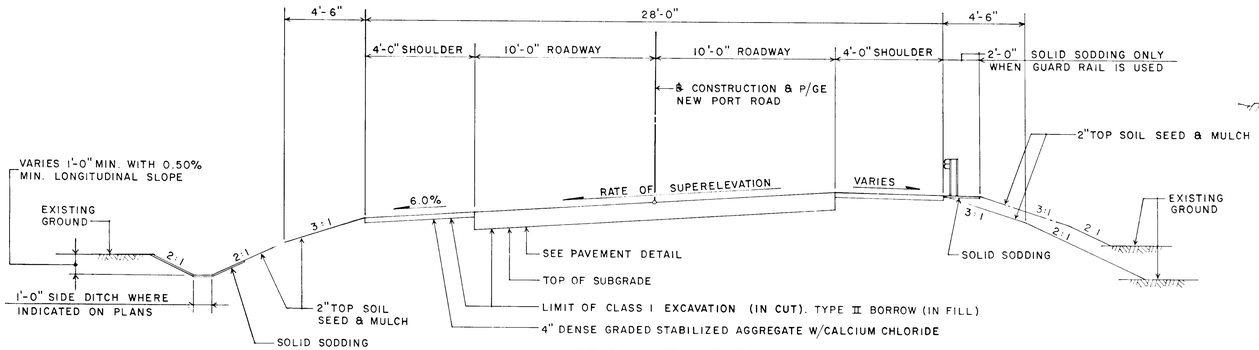
TYPICAL PAVEMENT DETAIL



PAVEMENT OVERLAY

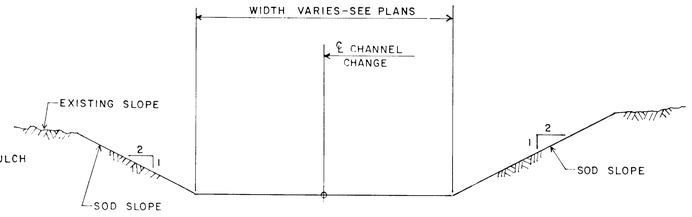
FLAGG MARSH AND NEW PORT ROAD

N.T.S.



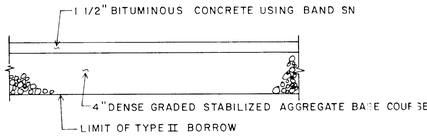
TYPICAL SECTION NEW PORT ROAD

N.T.S.



TYPICAL CHANNEL SECTION
SOUTH BRANCH PATAPSCO RIVER

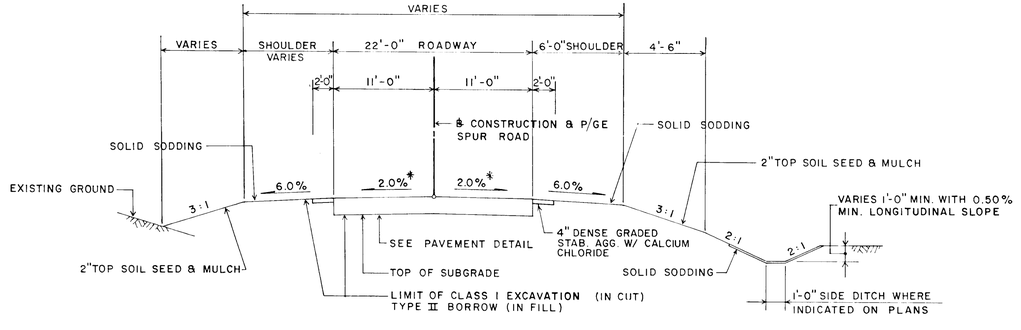
N.T.S.



PAVEMENT DETAIL

SPUR AND ENTRANCE ROAD

N.T.S.



TYPICAL SECTION SPUR ROAD

N.T.S.

*: OR TRANSITION TO MEET EXISTING SLOPE.

GENERAL NOTES

THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE "STANDARD SPECIFICATIONS" FOR CONSTRUCTION & MATERIALS DATED JANUARY 1982, TOGETHER WITH ALL REVISIONS, ADDENDA, ADDITIONS, INCLUDED IN THE PROPOSAL AND SPECIAL PROVISIONS.

VERTICAL CONTROL:

ALL ELEVATIONS SHOWN ARE BASED ON BENCH MARK (NAIL) SET IN POLE NO. GE 110781 RECORDED IN THE CARROLL COUNTY RECORD OF CONTROL SURVEY. THE LOCATION OF THE POLE IS SHOWN ON THE PLAN AND PROFILE SHEET.

HORIZONTAL CONTROL:

ALL BEARINGS AND COORDINATES SHOWN ARE BASED ON STATION DESIGNATION 4031003 RECORDED IN THE HOWARD COUNTY RECORD OF CONTROL SURVEY GENERAL COUNTY PROJECT C-4-0119.

TEMPORARY EROSION AND SEDIMENT CONTROL:

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS.

GUARD RAIL:

GUARD RAIL IS TO BE STANDARD W BEAM GUARD RAIL (12 GAUGE). THE EXACT LOCATION AND QUANTITY SHALL BE CHECKED BY THE ENGINEER BEFORE ORDERING. SEE MD STATE STANDARD NO. MD-660.01, 660.03, 660.22.

BORINGS:

MATERIAL DESCRIPTIONS SHOWN ON ALL BORING LOGS WERE DETERMINED BY VISUAL CLASSIFICATION.

STV/SANDERS & THOMAS
- architects
- engineers
- planners

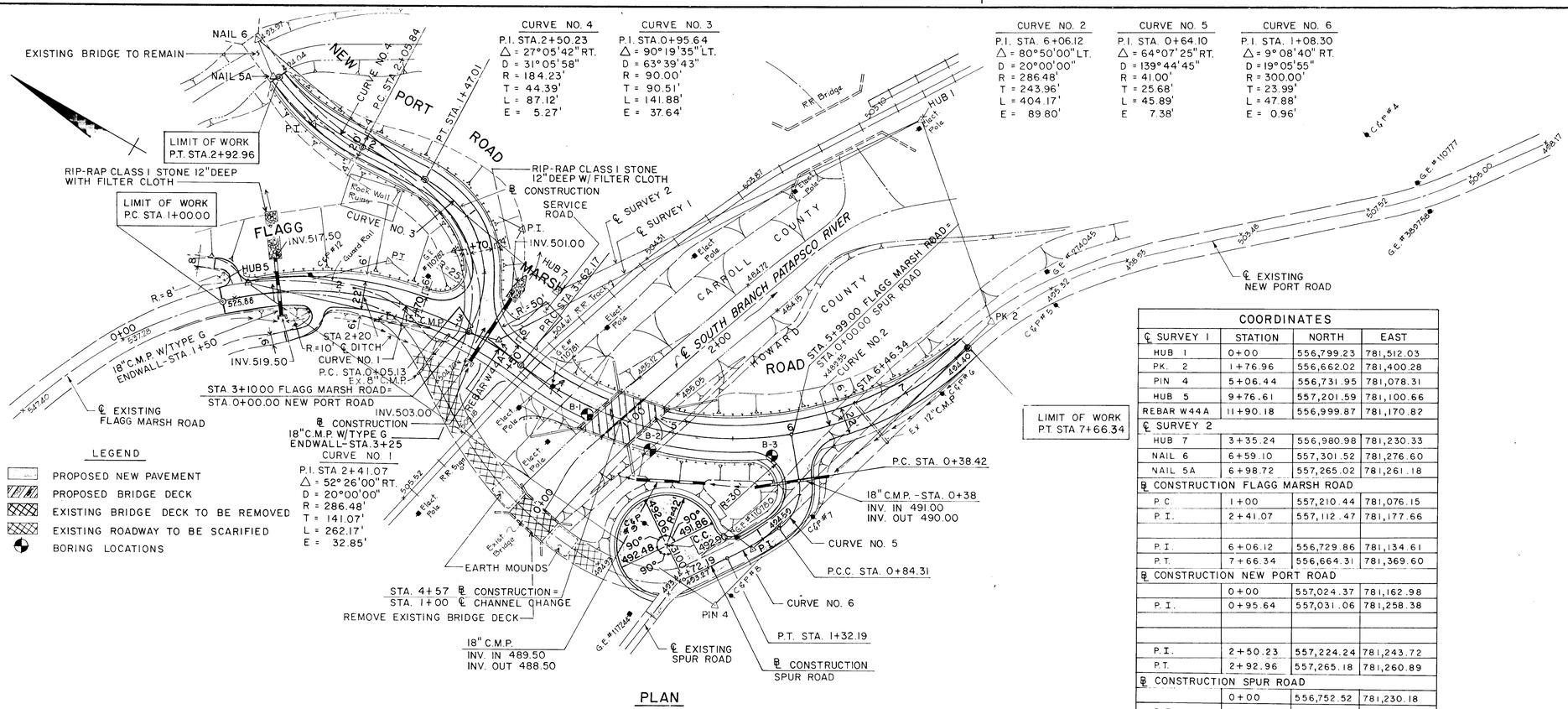
21 Governors Court Baltimore, Maryland 21207

REVISIONS

CARROLL COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF PLANNING AND ENGINEERING
FLAGG MARSH ROAD OVER SOUTH BRANCH PATAPSCO RIVER
TYPICAL SECTIONS AND DETAILS

CONT. NO. CL-691-951-712 BOOK NO. SHEET NO. 2 OF 10
PREL. TRAC. BY FINAL TRAC. BY

F.H.WA. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	BR-SOS-II(207)	3	10



PLAN

COORDINATES			
℄ SURVEY 1	STATION	NORTH	EAST
HUB 1	0+00	556,799.23	781,512.03
PK. 2	1+76.96	556,662.02	781,400.28
PIN 4	5+06.44	556,731.95	781,078.31
HUB 5	9+76.61	557,201.59	781,100.66
REBAR W44A	11+90.18	556,999.87	781,170.82
℄ SURVEY 2			
HUB 7	3+35.24	556,980.98	781,230.33
NAIL 6	6+59.10	557,301.52	781,276.60
NAIL 5A	6+98.72	557,265.02	781,261.18
℄ CONSTRUCTION FLAGG MARSH ROAD			
P.C.	1+00	557,210.44	781,076.15
P.I.	2+41.07	557,112.47	781,177.66
P.I.	6+06.12	556,729.86	781,134.61
P.T.	7+66.34	556,664.31	781,369.60
℄ CONSTRUCTION NEW PORT ROAD			
	0+00	557,024.37	781,162.98
P.I.	0+95.64	557,031.06	781,258.38
P.I.	2+50.23	557,224.24	781,243.72
P.T.	2+92.96	557,265.18	781,260.89
℄ CONSTRUCTION SPUR ROAD			
	0+00	556,752.52	781,230.18
P.I. 5	0+64.10	556,710.51	781,181.77
P.C.C.	0+84.31	556,720.62	781,158.16
P.I. 6	1+08.30	556,730.06	781,136.11
P.T.	1+32.19	556,742.89	781,115.84
P.O.T.	1+72.19	556,764.28	781,082.04
C.C. Cull-de-sac		556,790.48	781,065.46

CONSTRUCT SOD SIDE DITCH (SEE DETAIL SHEET 2)

FLAGG MARSH ROAD
STA. 1+00 TO STA. 3+25 RT.
STA. 4+80 TO STA. 7+66 RT.

SPUR ROAD
STA. 0+20 TO STA. 2+20 RT.

CONSTRUCT GUARD RAIL W. BEAM

FLAGG MARSH ROAD
STA. 1+20 TO STA. 2+90 LT.
STA. 3+35 TO STA. 4+30 RT.
STA. 3+90 TO STA. 4+45 LT.
STA. 4+70 TO STA. 5+80 RT.
STA. 4+95 TO STA. 7+66 LT.

NEW PORT ROAD
STA. 0+00 TO STA. 2+90 RT.
STA. 0+25 TO STA. 2+90 LT.

CONSTRUCT ENTRANCE

FLAGG MARSH ROAD
STA. 1+15 LT. (30')
STA. 1+80 RT. (40')

SPUR ROAD
STA. 1+72 LT. (20')

CONSTRUCT RAILROAD CROSSING

FLAGG MARSH ROAD
STA. 3+70

CONSTRUCT SERVICE ROAD FOR B&O RAILROAD USING DENSE GRADED STABILIZED AGGREGATE

STA. 3+45 LT. & RT.

CONSTRUCT EARTH MOUNDS (SEE DETAIL SHEET 5)

FLAGG MARSH ROAD
STA. 4+10 RT.
STA. 4+55 RT.

SCARIFYING PAVEMENT

FLAGG MARSH ROAD
STA. 2+60 TO STA. 5+00 RT.

REMOVE EXISTING RUIN

NEW POST ROAD
STA. 1+80

REMOVE EXISTING BRIDGE CONCRETE SLAB AND BEAM

STA. 4+40 RT

CONSTRUCT 18" C.M. PIPE WITH TYPE G ENDWALL AND CLASS 1 RIP-RAP STONE DITCH

FLAGG MARSH ROAD
STA. 1+50 STA. 5+00 RT.
STA. 3+25

CONSTRUCT 18" C.M. PIPE

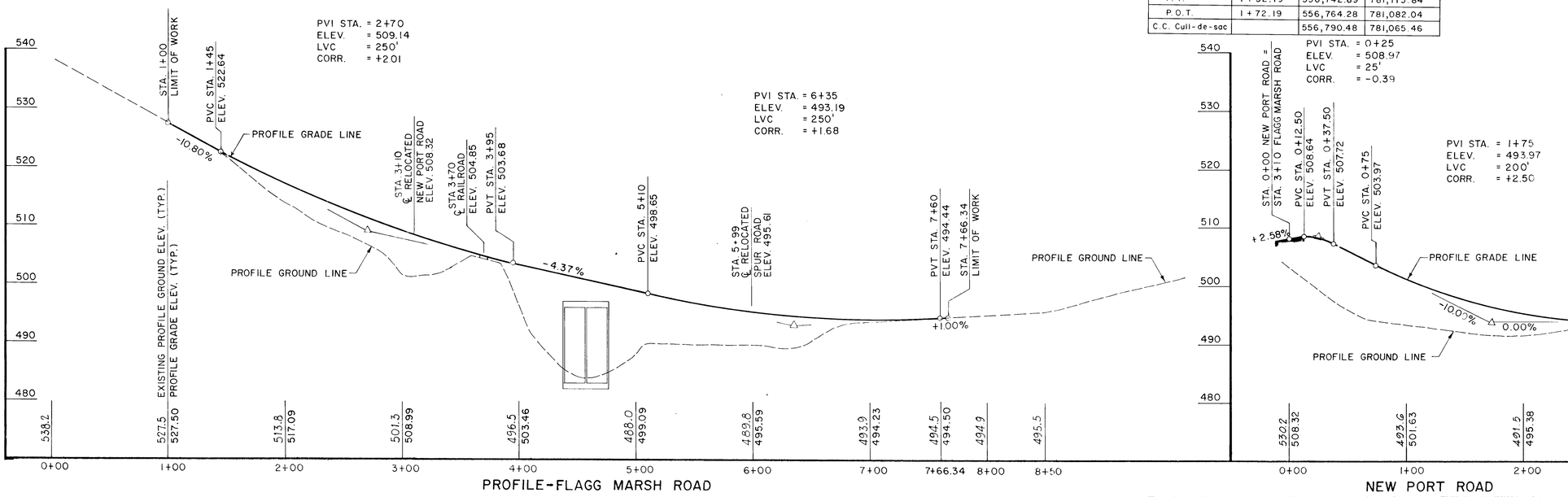
SPUR ROAD
STA. 0+38

EXISTING C.M. PIPE TO BE ABANDONED

FLAGG MARSH ROAD
STA. 2+50 RT. (15" C.M. PIPE)
STA. 2+90 RT. (8" C.M. PIPE)
STA. 6+60 (12" C.M. PIPE)

C&P AND G&E POLES

TO BE RELOCATED BY OTHERS



SCALE { PLAN: 1 IN. = 50 FT.
{ PROFILE: HOR. 1 IN = 50 FT. VERT. 1 IN. = 10 FT.

STV / SANDERS & THOMAS
- architects
- engineers
- planners

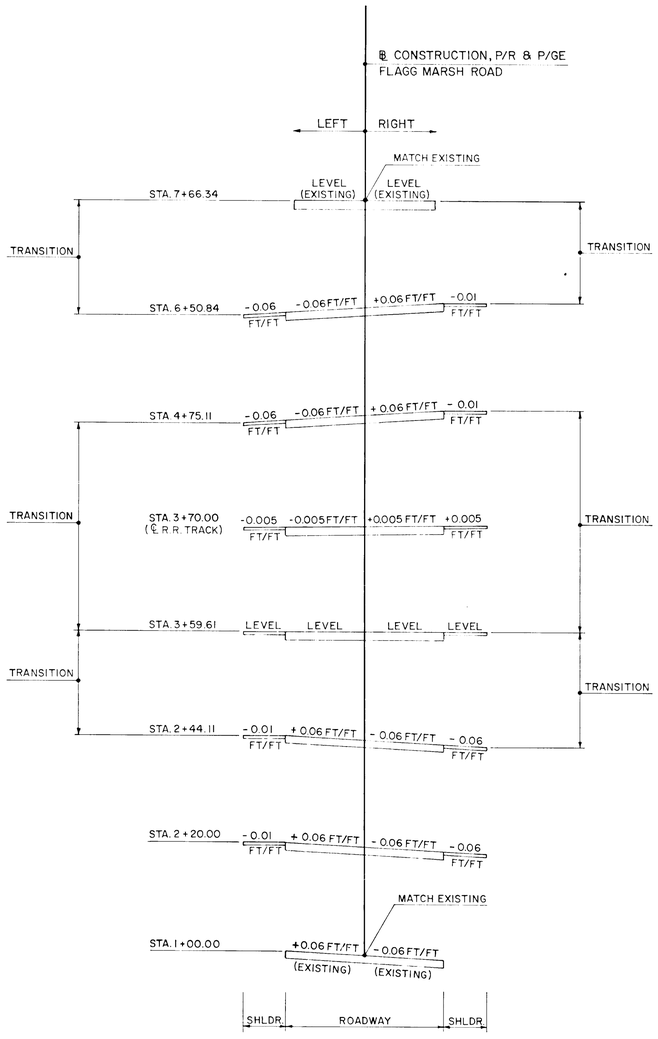
21 Governors Court Baltimore, Maryland 21207

REVISIONS

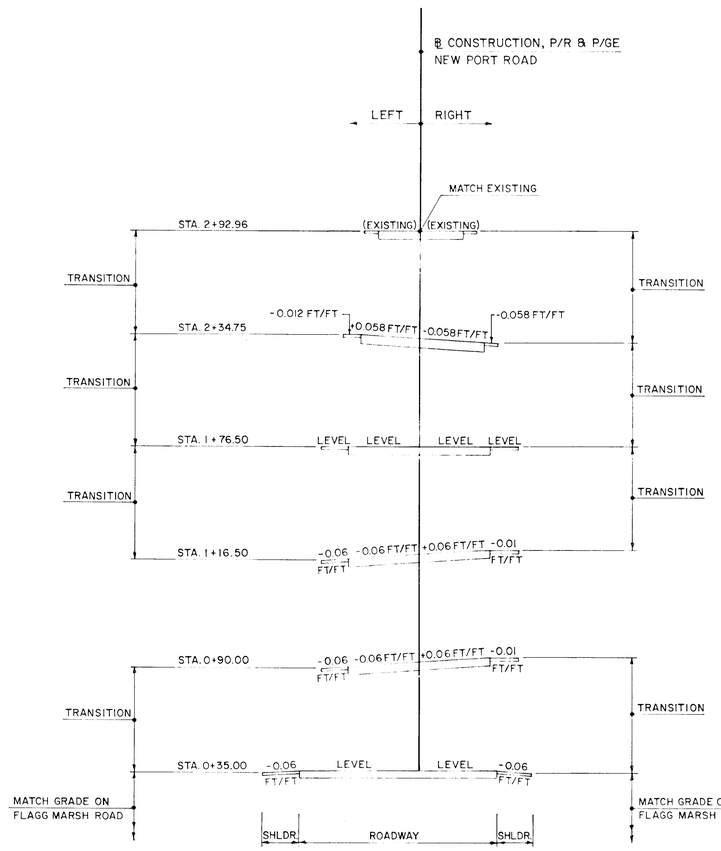
CARROLL COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF PLANNING AND ENGINEERING
FLAGG MARSH ROAD OVER SOUTH BRANCH PATAPSCO RIVER
PLAN AND PROFILE

CONT NO. CL-691-951-712 BOOK NO. SHEET NO. 3 OF 10
PREL. TRAC. BY FINAL TRAC. BY

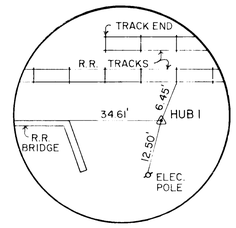
F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	BR-SOS-1(207)	4	10



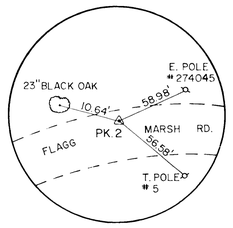
SUPERELEVATION DETAIL
FLAGG MARSH ROAD



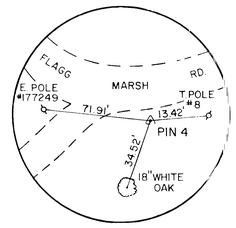
SUPERELEVATION DETAIL
NEW PORT ROAD



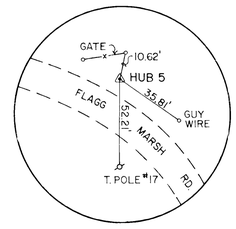
HUB 1



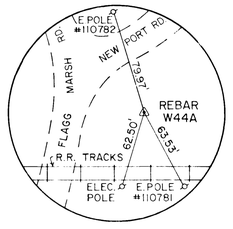
PK. 2



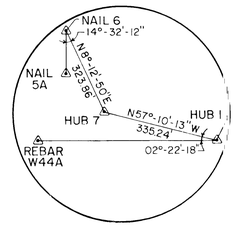
PIN 4



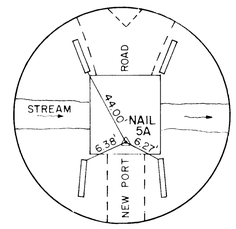
HUB 5



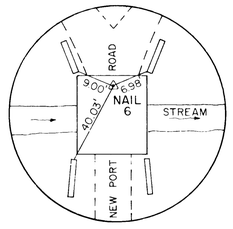
REBAR W44A



HUB 7



NAIL 5A



NAIL 6

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- architects
- engineers
- planners

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REVISIONS

CARROLL COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF PLANNING AND ENGINEERING
FLAGG MARSH ROAD OVER SOUTH BRANCH PATAPSCO RIVER
SUPERELEVATION DETAILS AND REFERENCE TIES

CONT NO. CL-691-951-712 SOC# NO. SHEET NO. 4 OF 10
PREL. TRAC. BY FINAL TRAC. BY

F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	BR-SOS-1(207)	5	10

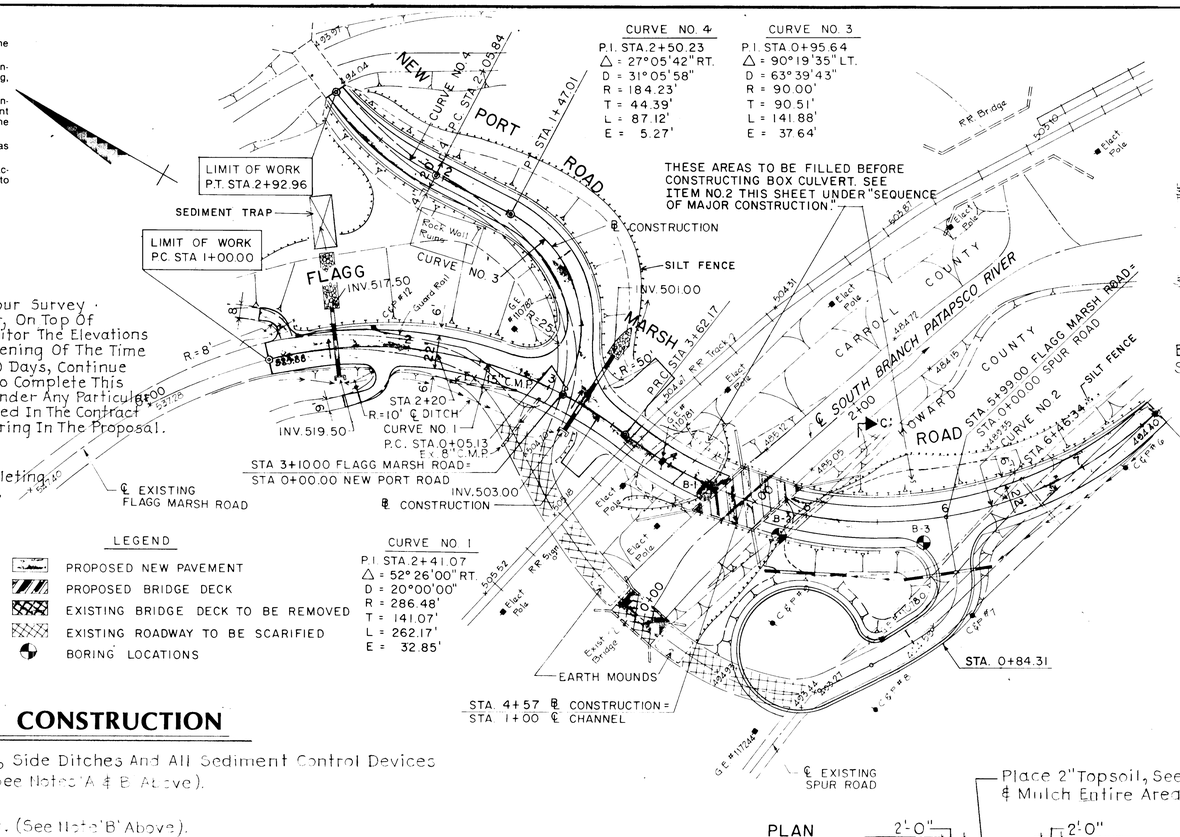
SEDIMENT CONTROL NOTES

1) No grading can take place until an approval letter has been received by the owner from the Carroll Soil Conservation District.
2) Structural measures such as berms, dikes, traps, basins, etc. will be installed and stabilized according to this plan prior to any other grading, clearing, or disturbance of the existing surface of the site.
3) On-site inspection and maintenance of all sediment control measures including clean-out of sediment traps and berms and proper establishment of all planned vegetative measures, will be the responsibility of the developer on the site on a continuing day to day basis.
4) Sediment trapped behind sediment trapping facilities shall be removed as shown on plans.
5) Appropriate sediment control measures to be installed prior to and in accordance with stages of related road and other construction according to the plan.

NOTES:

'A'. Contractor Shall Establish A Minimum Of Four Survey Control Points, As Directed By The Engineer, On Top Of The Embankment After Construction. Monitor The Elevations Of These Points On A Weekly Basis. If Flattening Of The Time Settlement Curve Is Not Observed After 60 Days, Continue The Surcharge Period. The Cost Necessary To Complete This Item Will Not Be Measured For Payment Under Any Particular Item, But All Costs Thereof Shall Be Included In The Contract Prices Bid On Other Pertinent Items Appearing In The Proposal.

'B'. The Minimum Time Interval Between Completing The Embankment And Paving In Item No.2 Shall Be 60 Days.

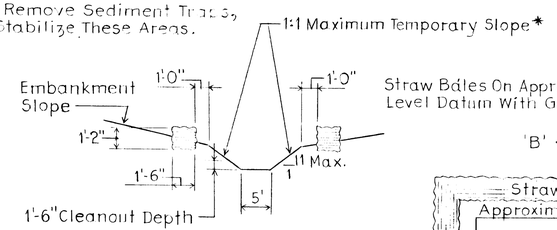


LEGEND

- PROPOSED NEW PAVEMENT
- PROPOSED BRIDGE DECK
- EXISTING BRIDGE DECK TO BE REMOVED
- EXISTING ROADWAY TO BE SCARIFIED
- BORING LOCATIONS

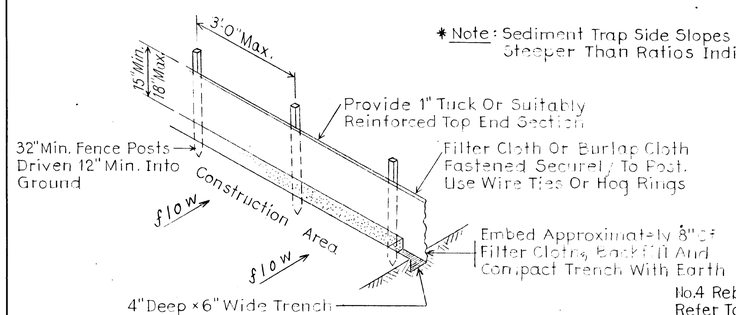
SEQUENCE OF MAJOR CONSTRUCTION

1. Install Silt Fences, Sediment Traps, Side Ditches And All Sediment Control Devices
2. Fill Proposed Embankment Shown. (See Notes 'A' & 'B' Above).
3. Construct Box Culvert.
4. Construct Approaches To Box Culvert. (See Note 'B' Above).
5. Remove Existing Bridge Deck.
6. Place Earth Mound On Both Sides Of Existing Bridge.
7. Scarify Roadway Surface As Shown.
8. Stabilize All Disturbed Areas And Remove Sediment Traps, Silt Fences And Straw Bales And Stabilize These Areas.

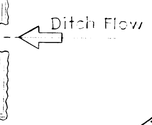


SECTION B - B

*Note: Sediment Trap Side Slopes May Be Steeper Than Ratios Indicated.

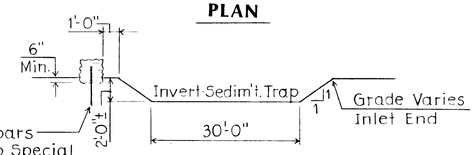


SILT FENCE



Note: To Be Constructed In Accordance With Standard No. MD 388.11

PLAN

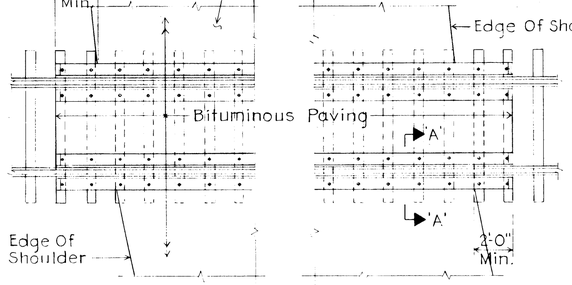


PROFILE

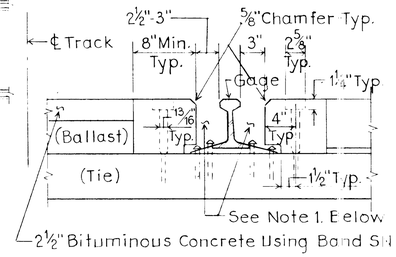
STRAW BALE SEDIMENT TRAP DETAILS

EROSION AND SEDIMENT CONTROL DETAILS

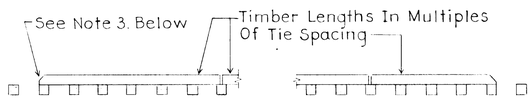
Not To Scale



PLAN



SECTION A - A



ELEVATION

RAILROAD CROSSING DETAILS

Not To Scale

Notes:

1. Spaces Between Rail And Headers Shall Be Filled With Snugly-Fitting Timber Fillers Or Mastic Material.
2. Each Timber Shall Be Securely Spiked Down At Its Ends And At Least To Every Other Tie. Timbers Shall Be Bored For Drive Spikes And Dowels To Prevent Splitting. Drive Spikes, Lag Screws Or Twist Dowels Shall Be ¾" Diameter And Shall Have A Holding Length Of At Least 5" In The Tie. Only One Lag Screw Or Twist Dowel In Every Other Tie For Each Plank Shall Be Required. Planks Shall Be Bored For Lag Screws And Shall Be Countersunk For Tie Washers And Lag Screw Heads. Where Twist Dowels Are Used, The Planks Shall Be Bored With Bits Having A Diameter Which Will Assure Full Holding Power Of The Dowel.
3. The Outer End Of Each Timber On Each End Of The Crossing Shall Be Beveled Not More Than 45 Degrees With The Horizontal With A Minimum End Thickness Of One Inch.
4. See Special Provisions For Construction Requirements.

PLAN

EARTH MOUND

Not To Scale

SECTION C - C

Not To Scale

Contractor Will Provide Adequate Sediment Control Devices (Such As Channel Silt Fence, Gabions, Traps Etc.) For All Constructions In The Stream. The Costs Of Furnishing, Erecting, Cleaning, Removing Etc. Will Not Be Measured For Payment, But Cost Thereof Shall Be Included In The Contract Lump Sum Price For 'Double 18'x13' Reinforced Concrete Box Culvert.'

NOTE

Following Initial Soil Disturbance, Permanent Or Temporary Stabilization (Specified On Plans) Shall Be Completed Within Seven Calendar Days As To The Surface Of All Perimeter Controls, Dikes, Swales, Ditches, Perimeter Slopes And All Slopes Greater Than 3 Horizontal TO 1 Vertical (3:1) And Fourteen Days As To All Other Disturbed Or Graded Area On The Project Site.

DEVELOPER CERTIFICATION

I certify that this plan of Sediment Control will be implemented to the fullest extent, and all structures will be installed to the design and specifications as spelled out in this plan and that all responsible personnel involved in construction project will have a certification of attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic on-site evaluation by the Carroll Soil Conservation District personnel and cooperating agencies.

Owner/Developer — Date

ENGINEER CERTIFICATION

I certify that this plan of sediment control is designed with my personal knowledge of the site conditions and has been designed to the standards and specifications adopted by the Carroll Soil Conservation District.

[illegible] A. [illegible] 2/1/85

Engineer — Date

SOIL CONSERVATION SERVICE CERTIFICATION

Reviewed for _____ (name) S.C.D and meets technical requirements.

Approved _____

U.S. Soil Conservation Service — date

SOIL CONSERVATION DISTRICT CERTIFICATION

The development plan is approved for soil erosion and sediment control by the carroll coil conservation district.

Approved _____

carroll S.C.D — date

REVISIONS

STV/SANDERS & THOMAS
- architects
- engineers
- planners

21 Governors Court Baltimore, Maryland 21207

SEDIMENT CONTROL PLAN

FOR

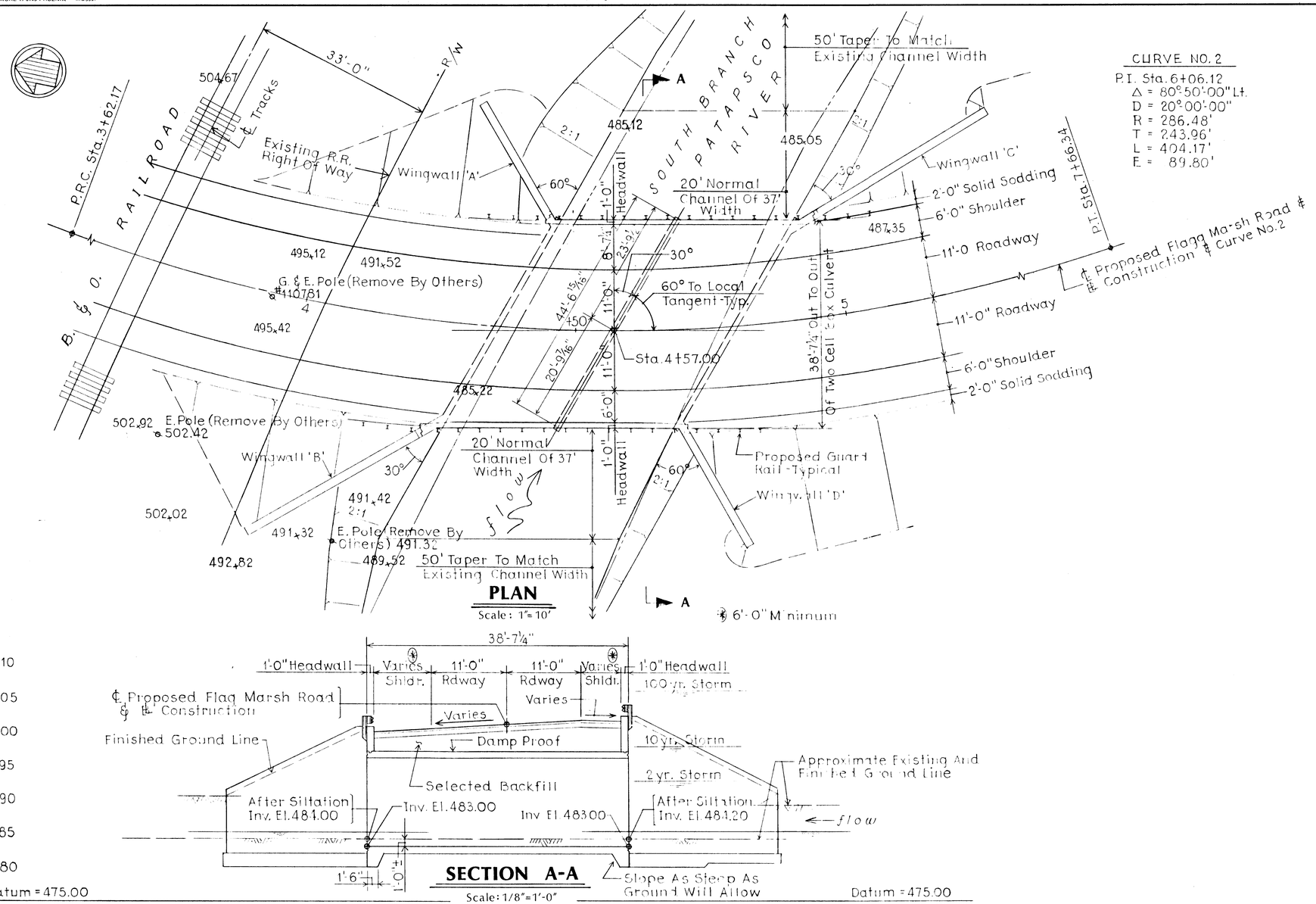
FLAGG MARSH ROAD OVER SOUTH BRANCH PATAPSCO RIVER

CARROLL COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF PLANNING AND ENGINEERING

CONT. NO. CL-691-951-712 BOOK NO. _____ SHEET NO. 5 OF 10
PREL. TRAC. BY _____ FINAL TRAC. BY _____

K&E BALTIMORE 17 0153 PHOENIX MC355•

FHWA REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	BR-SOS-1(207)	6	10



PLAN
Scale: 1"=10'

CURVE NO. 2
P.I. Sta. 6+06.12
Δ = 80°-50'-00" Lt.
D = 20°-00'-00"
R = 286.48'
T = 243.96'
L = 404.17'
E = 89.80'

GENERAL NOTES

SPECIFICATIONS: SHA SPECIFICATIONS DATED JANUARY 1982, REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISION FOR MATERIALS AND CONSTRUCTION. A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 1983 FOR DESIGN INCLUDING ALL INTERIM SPECIFICATIONS.

CONCRETE DESIGN: SERVICE LOAD DESIGN METHOD fc = 1200 P.S.I.

REINFORCING STEEL DESIGN: fs = 24,000 P.S.I.

LOADING: HS-20-44

CONCRETE: ALL CONCRETE IN TOP SLAB SHALL BE MIX NO. 6 (4500 P.S.I.). MIX NO. 1 CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 2500 P.S.I. ALL OTHER CONCRETE SHALL BE MIX NO. 3 (3500 P.S.I.). SEE SPECIAL PROVISIONS.

CHAMFER: ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS, EXCEPT ON UNEXPOSED FOOTINGS OR WHERE INDICATED BY THE FOLLOWING NOTATION ON THE PLANS "DO NOT CHAMFER."

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO A.S.T.M. DESIGNATION A 615 GRADE 60 ONLY. ALL SPLICES NOT SHOWN SHALL BE LAPPED AS PER BAR LAP CHARTS. ALL REINFORCING STEEL IN THE TOP MAT OF TOP SLAB AND HEADWALL SHALL BE EPOXY COATED. SEE SPECIAL PROVISIONS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED.

EXCAVATION: SEE SPECIAL PROVISIONS.

KEYS: ALL KEYS ARE NOMINAL SIZE.

SECTION A-A
Scale: 1/8"=1'-0"

HYDRAULIC DATA FOR PROPOSED STRUCTURE

DRAINAGE AREA	____ ACRES	____ SQ. MI.
STORM WATER DISCHARGE (Frequency: ____ Year storm)		____ C.F.S.
TIDAL FLOW (from volume impounded up to high tide EL. ____, "Q" for drop of one foot per hour)		____ C.F.S.
DESIGN DISCHARGE		____ C.F.S.
TOTAL OPENING OF STRUCTURE		468 SQ. FT.
OPENING UTILIZED BY DESIGN DISCHARGE (Bridge Only)		432 SQ. FT.
FLOW DEPTH IN STRUCTURE* (At outlet end for design discharge)		12 FT.
VELOCITY AT OUTLET*		____ FT.PER SEC.
MANNING'S ROUGHNESS COEFFICIENT (Average)		____

*Figures based on no tail water control

HYDROLOGIC DATA

MAXIMUM PREVIOUS KNOWN DISCHARGE		____ C.F.S.
HIGH WATER ELEVATION OF RECORD Date ____		____
GAGING STATION DATA		
GAGING STATION LOCATION ____		
YEARS OF CONTINUOUS RECORD		____ YEARS
DRAINAGE AREA	____ ACRES	____ SQ. MI.
MAXIMUM MEASURED DISCHARGE Date ____		____ C.F.S.

EXISTING STRUCTURE
TYPE Concrete Beam & Slab Bridge
DATE BUILT
OWNERSHIP Carroll County
UNDERCLEARANCE 9.7 FT.
OPENING TO UNDERCLEARANCE 360 SQ. FT.
DISPOSITION Remove Beam & Slab Only
REMARKS

UTILITIES
STORM SEWERS
SANITARY SEWERS
WATER MAINS
GAS MAINS
ELECTRIC WIRES — OVERHEAD Yes; UNDERGROUND
TELEPHONE — OVERHEAD Yes; UNDERGROUND
OTHER

OTHER CONTRACTS FOR THIS STRUCTURE: ____ ____

STV/SANDERS & THOMAS
• architects
• engineers
• planners
21 Governors Court Baltimore, Maryland 21207

REVISIONS

STATE OF MARYLAND
CARROLL COUNTY ROAD DEPARTMENT
WESTMINSTER, MARYLAND
FLAGG MARSH ROAD OVER
SOUTH BRANCH PATAPSCO RIVER

GENERAL PLAN AND ELEVATION

SCALE: AS SHOWN DATE: Feb. 1, 1985 CONTRACT CL-691-951-112

DESIGNED BY R.P.T.
DRAWN BY W. McF.
CHECKED BY W.E.S.

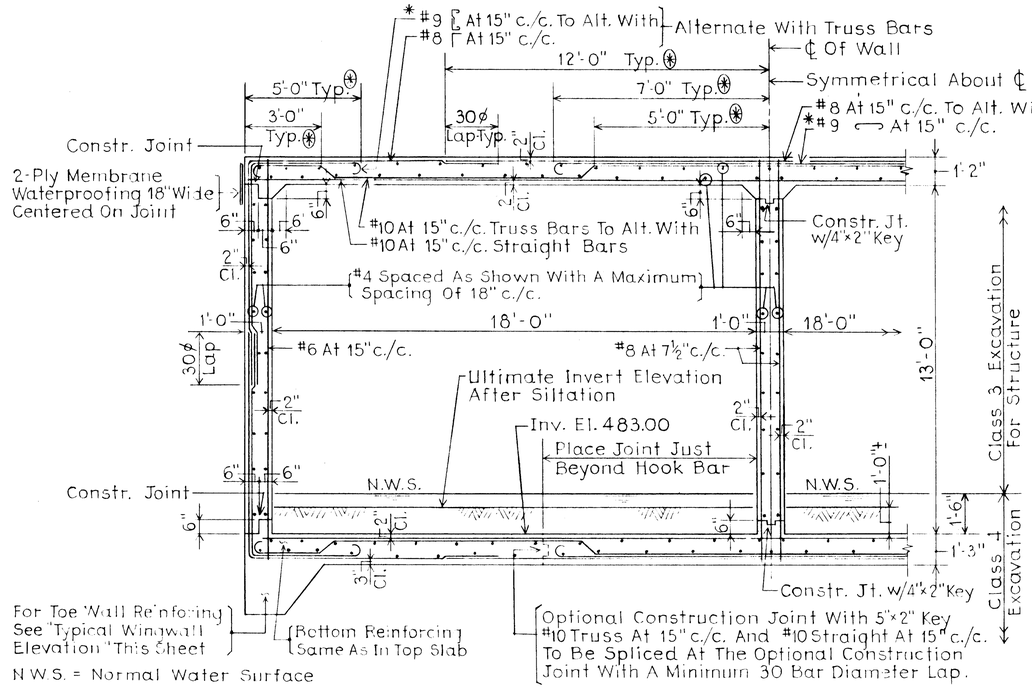
SHEET NO. 6 OF 10

BRIDGE NO. | SURVEY BOOK NO. | File No. | Pocket No. | Folder No. | INDEXED

27725

F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOT. SHEETS
3	MD.	BR-505-1(207)	7	10

* Hooks May Be Eliminated If Bars Are Extended 30 Diameters.

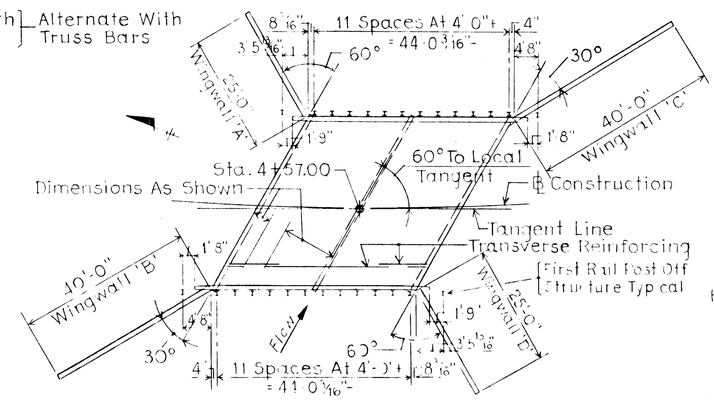


N.W.S. = Normal Water Surface

TYPICAL SECTION THRU BOX CULVERT

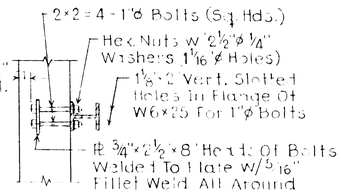
Scale: 3/8"= 1'-0"

⊛ All Transverse Reinforcement Will Be Placed Parallel To Local Tangent At Sta. 4+57.00. Dimensions Shown For Reinforcement Are Normal To Box Culvert, See "Guard Rail Post Spacing & Details" Below.



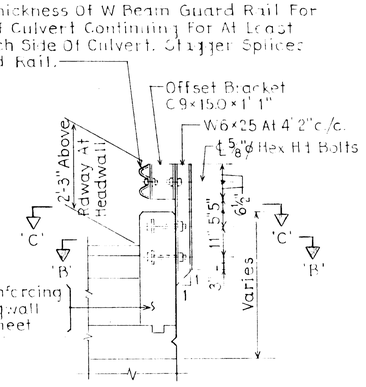
GUARD RAIL POST SPACING & DETAILS

Not To Scale



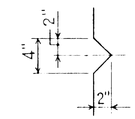
SECTION 'B - B'

Double Thickness Of W Beam Guard Rail For Length Of Culvert Continuing For At Least 12'-6" Each Side Of Culvert. Stagger Splices At Guard Rail.



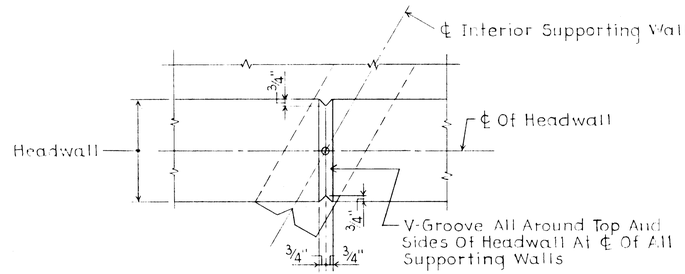
For Headwall Reinforcing See "Typical Wingwall Elevation" This Sheet

SECTION 'A - A'



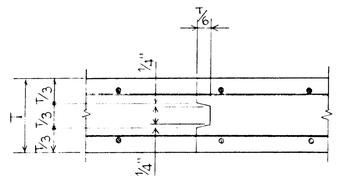
TYPICAL V - GROOVE DETAIL

Scale : 1 1/2" = 1'-0"



GROOVE DETAIL AT HEADWALL

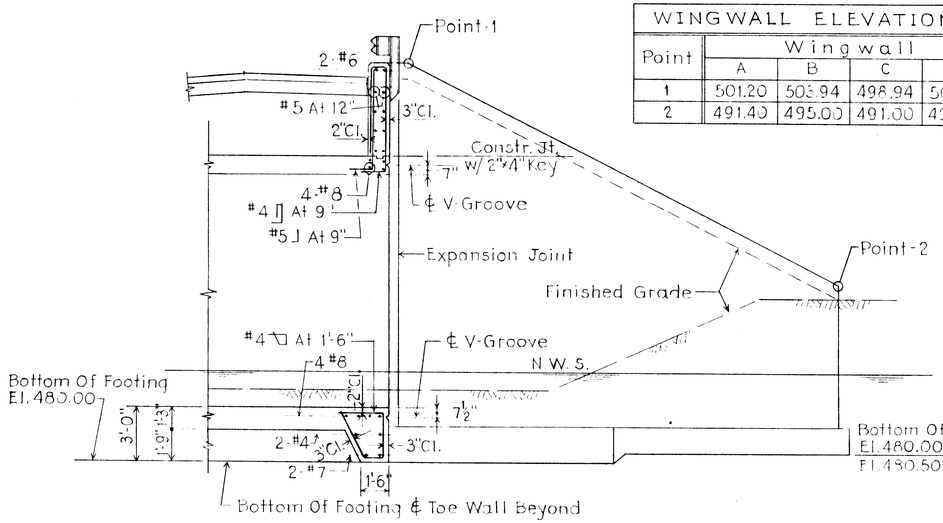
Scale : 1 1/2" = 1'-0"



CONSTRUCTION JOINT

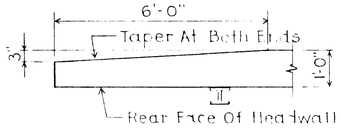
Not To Scale

WINGWALL ELEVATIONS				
Point	Wingwall			
	A	B	C	D
1	501.20	503.94	498.94	501.76
2	491.40	495.00	491.00	490.80

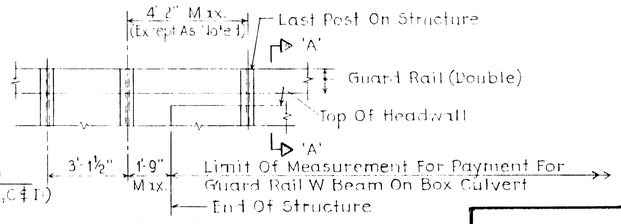


TYPICAL WINGWALL ELEVATION

Scale: 1/4"=1'-0"



SECTION 'C - C'



ELEVATION

GUARD RAIL DETAILS AT BOX CULVERT

Not To Scale

STV/SANDERS & THOMAS
- architects
- engineers
- planners

21 Governors Court Baltimore, Maryland 21207

REVISIONS

STATE OF MARYLAND
CARROLL COUNTY ROAD DEPARTMENT
WESTMINSTER, MARYLAND

FLAGG MARSH ROAD OVER
SOUTH BRANCH PATAPSCO RIVER

BOX CULVERT AND DETAILS

SCALE: AS SHOWN DATE: Feb 1, 1985 CONTRACT CL-691-951-712

DESIGNED BY C.V.S.
DRAWN BY McF.
CHECKED BY R.P.T.

SHEET NO. 7 OF 10

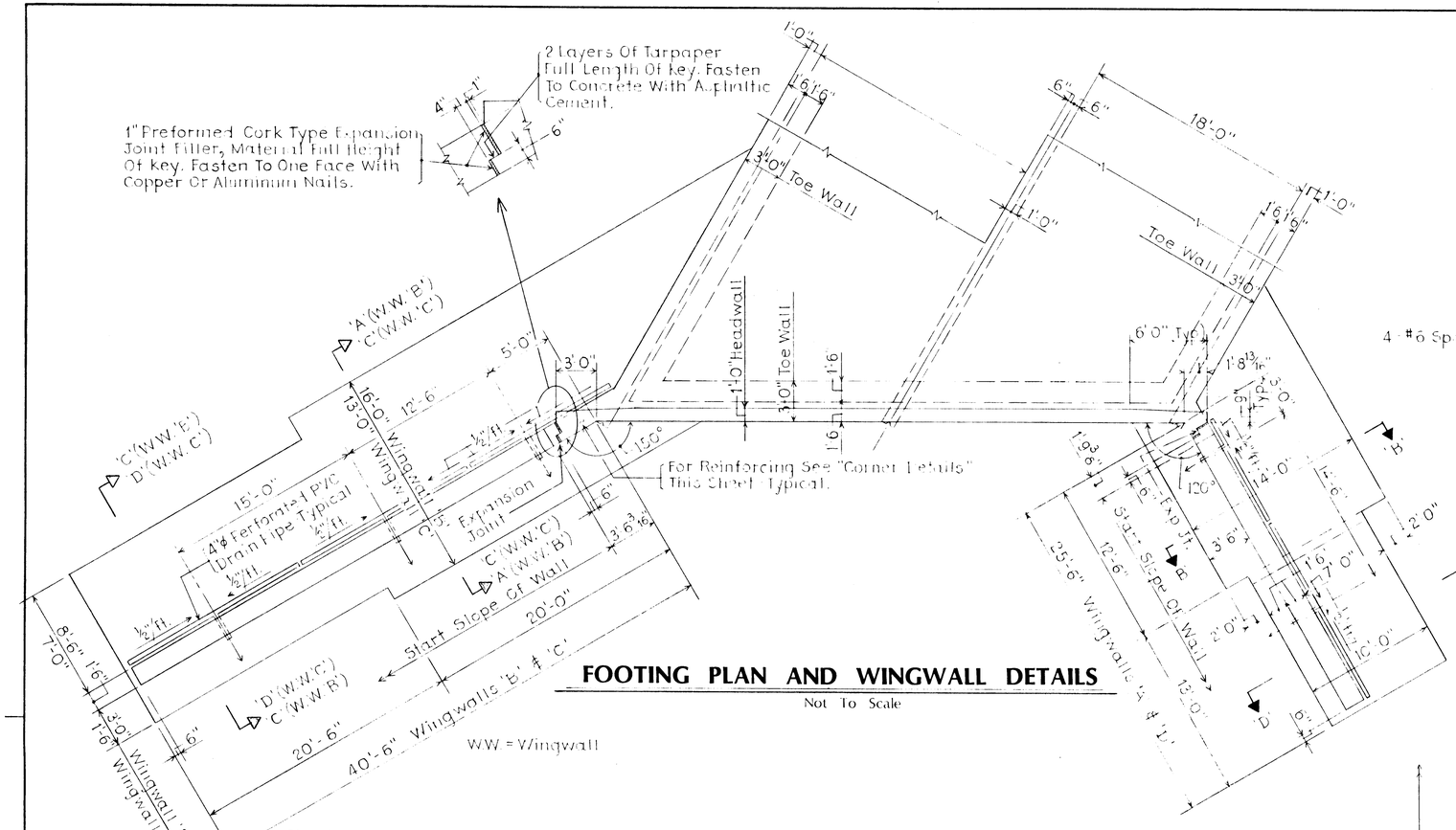
OTHER CONTRACTS FOR THIS STRUCTURE: _____ _____

AS BUILT COMMENTS ADDED DATE _____

BRIDGE NO. | SURVEY BOOK NO. | File No. | Pocket No. | Folder No. | INDEXED

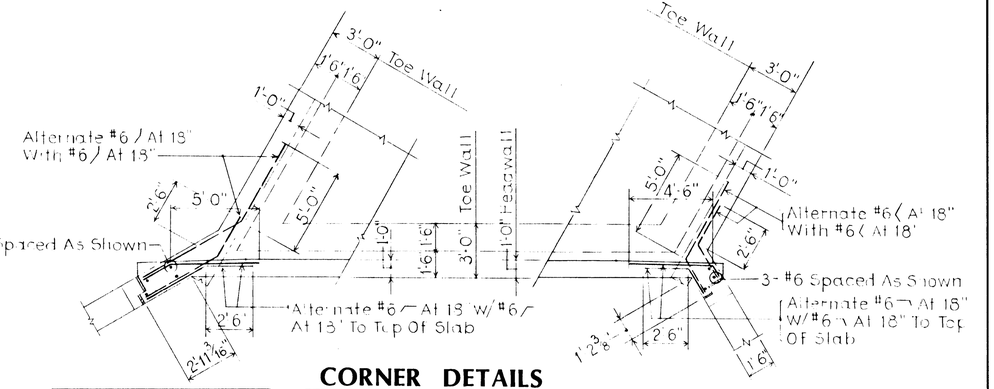
27725

F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	BR-SOS-1(207)	8	10



FOOTING PLAN AND WINGWALL DETAILS

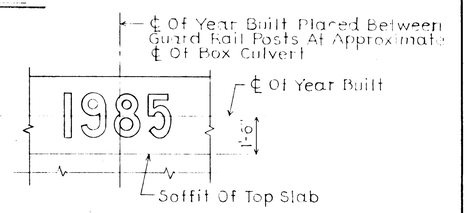
Not To Scale



CORNER DETAILS

Scale : 1/4" = 1'-0"

REINFORCING BAR LAP CHART	
BAR SIZE	CLASS C LAP
#4	1'- 8"
#5	2'- 2"
#6	2'- 7"
#7	3'- 3"
#8	4'- 3"
#9	5'- 5"
#10	6'- 10"
#11	8'- 5"



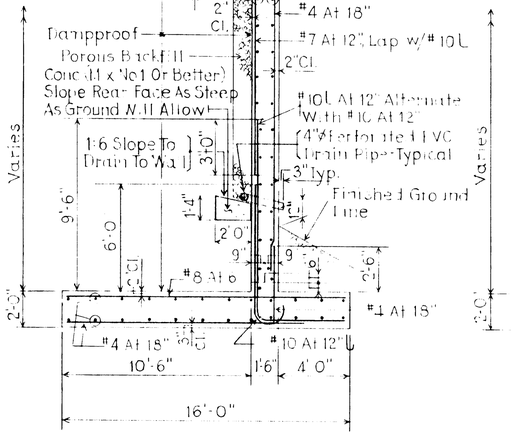
YEAR BUILT MARKER

Not To Scale

Notes: 1. Year Built Marking To Be Placed On Outside Of Upstream And Downstream Headwalls.

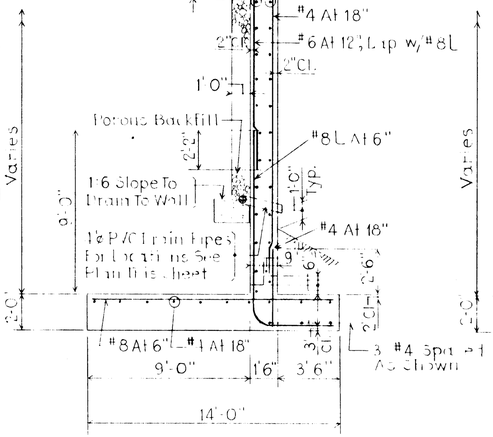
2. For Lampposting And Drainage Details Not Shown On Sections 'B-B', 'C-C' And 'D-D' See Section 'A-A'.

3. Exact Elevation Of Drains To Be Determined By The Engineer In The Field.



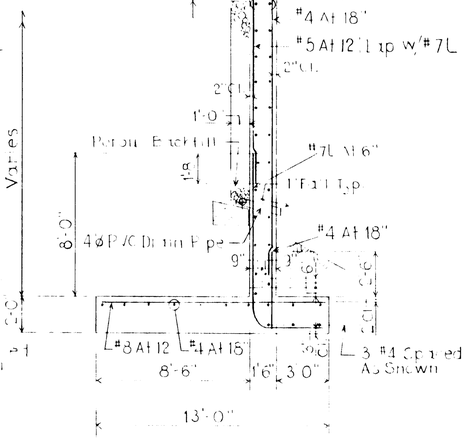
SECTION 'A - A'

Scale : 1/4" = 1'-0"



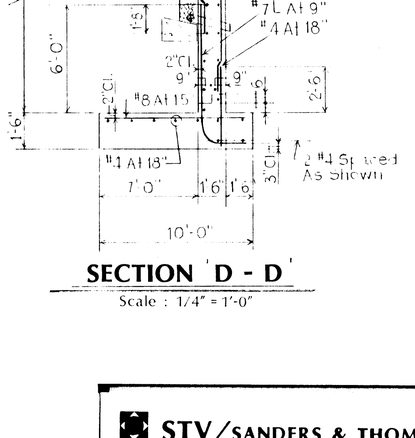
SECTION 'B - B'

Scale : 1/4" = 1'-0"



SECTION 'C - C'

Scale : 1/4" = 1'-0"



SECTION 'D - D'

Scale : 1/4" = 1'-0"

STV/SANDERS & THOMAS

- architects
- engineers
- planners

21 Governors Court Baltimore, Maryland 21207

REVISIONS

STATE OF MARYLAND
CARROLL COUNTY ROAD DEPARTMENT
WESTMINSTER, MARYLAND

FLAGG MARSH ROAD OVER
SOUTH BRANCH PATAPSCO RIVER

WINGWALL AND FOOTING DETAILS

SCALE AS SHOWN DATE: Feb. 1, 1985 CONTRACT CL-691-951-712

DESIGNED BY C.V.S.
DRAWN BY McF.
CHECKED BY R.P.T.

SHEET NO 8 OF 10

OTHER CONTRACTS FOR THIS STRUCTURE: _____ _____

AS BUILT COMMENTS ADDED DATE _____

BRIDGE NO.

SURVEY BOOK NO.

File No. Pocket No. Folder No.

INDEXED

27725

F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	BR-SOS-I(207)	9	10

GRADING

STATION FROM	STATION TO	CUT C.Y.	FILL C.Y.	CLASS 2 CUT C.Y.	TOP SOIL REMOVAL C.Y.	REMARKS
1+00	7+66.34		7040	270	50	℄ CONSTR. FLAGG MARSH ROAD
0+00	2+92.96		2400	20		℄ CONSTR. NEW PORT ROAD
0+00	0+65.00		900			℄ CONSTR. SPUR ROAD
0+00	2+00.00			200		℄ CHANNEL CHANGE
4+00	4+50.00		53			100'LT. ℄ CONST. FLAGG MARSH RD.
TOTAL			10,393	490	50	

CLASS 'I' EXCAVATION

TOP SOIL REMOVAL UNDER FILL	50 C.Y.
ALLOWANCE FOR REMOVAL OF MAINTENANCE OF TRAFFIC	150 C.Y.
TOTAL CLASS 'I' EXCAVATION	200 C.Y.

CLASS '2' EXCAVATION

CUT - FROM GRADING ITEMS	490 C.Y.
- ALLOWANCE FROM SEDIMENT CONTROLS	30 C.Y.
TOTAL CLASS '2' EXCAVATION	520 C.Y.
LOSS DUE TO HANDLING AND DENSIFICATION (25%)	130 C.Y.
FROM SEDIMENT CONTROL NOT AVAILABLE FOR FILL	7 C.Y.
TOTAL CLASS '2' EXCAVATION AVAILABLE FOR EMBANKMENT	383 C.Y.

EMBANKMENT REQUIRED

FILL - FROM GRADING ITEMS, TYPE I	9,193 C.Y.
TYPE II	1,200 C.Y.
TOTAL EMBANKMENT	10,393 C.Y.
PLUS 16% DENSIFICATION FACTOR	2,143 C.Y.
TOTAL EMBANKMENT REQUIRED	12,536 C.Y.
EXCAVATION AVAILABLE FROM EMBANKMENT	383 C.Y.
TOTAL BORROW TYPE I	10,761 C.Y.
TOTAL BORROW TYPE II	1,392 C.Y.

PROPOSAL QUANTITIES

CLASS 'I' EXCAVATION	200 C.Y.
CLASS '2' EXCAVATION	520 C.Y.
BORROW EXCAVATION, TYPE I	10,761 C.Y.
BORROW EXCAVATION, TYPE II	1,392 C.Y.

PAVEMENT

DESCRIPTION	LOCATION	COMPUTATION	UNIT	QUANTITY
1 1/2" BITUMINOUS CONCRETE USING BAND SN	FLAGG MARSH, NEW PORT, SPUR AND ENTRANCE ROADS	21,500 S.F. ÷ 9 = 2,389 S.Y. ÷ 12 S.Y./TON	TON	199
TOTAL BITUMINOUS CONCRETE SURFACE USING BAND SN (WITH ASPHALT CEMENT AT 0.06 STONE)			TON	199
2 1/2" BITUMINOUS CONCRETE BASE USING BAND BI	FLAGG MARSH AND NEW PORT ROAD	20,300 S.F. ÷ 9 = 2,256 S.Y. ÷ 7.20 S.Y./TON	TON	313
TOTAL BITUMINOUS CONCRETE BASE USING BAND BI (WITH ASPHALT CEMENT AT 0.05 STONE)			TON	313
BITUMINOUS CONCRETE FOR WEDGE AND/OR LEVELING			TON	8
TOTAL BITUMINOUS CONCRETE FOR WEDGE AND/OR LEVELING (WITH ASPHALT CEMENT AT 0.05 STONE)			TON	8
6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE	STA. 1+00 TO STA. 6+60 FLAGG MARSH RD. STA. 0+00 TO STA. 2+92.96 NEW PORT RD.	12,320 S.F. ÷ 9 5,640 S.F. ÷ 9	S.Y. S.Y.	1,369 627
TOTAL 6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE (2 COURSES)			S.Y.	1,996
4" DENSE GRADED STABILIZED AGGREGATE BASE COURSE	SPUR AND ENTRANCE ROADS	8,730 S.F. ÷ 9	S.Y.	970
TOTAL 4" DENSE GRADED STABILIZED AGGREGATE BASE COURSE			S.Y.	970

BORING NO. 1

STA. 4+30 7'LT. ℄ CONSTRUCTION FLAGG MARSH ROAD
SURFACE ELEV. 487.0 DATE: 10-24-84

Depth of Casing, ft.	Sample No.	Sample depth from-to (in feet)	Blows on Sampler	ID of Sampler (inches)	Tot. length of recov. sample	Length of Lab. sample	DEPTH IN FEET	SOIL GRAPH
	1	0-1.5	4 3 4	1 3/8	10"		0	
	2	5-6.5	55 50 71	1 3/8	10"		4 8.5	
	3	10-10.5	100 5"	1 3/8	6"		11.5	
	RUN 1	11.5-16.5	CORE	02	1 3/8	60"		

DRILLER'S DESCRIPTION
Soil type, color, texture, consistency, sampler driving noises, blows per foot on casing, depths wash water lost, observed fluctuations in water level, notes on drilling ease, etc.

6" Weathered & Non Weathered Rock Fragments
Green, Wet, Medium Stiff Micaceous SILT with Some Weathered Rock Fragments & Trace F SAnd

Brown & Green, Moist, Hard Micaceous SILT with Trace Weathered Rock Fragments & F Sand

Green, Moist, Hard, Micaceous SILT with Weathered Rock Fragmen with Trace F Sand

Rock

B.O.H. 16.5'

Engineer

WATER LEVEL 4.5' CAVED 0"

BORING NO. 2

STA. 4+85 18'LT. ℄ CONSTRUCTION FLAGG MARSH ROAD
SURFACE ELEV. 487.4 DATE: 10-24-84

Depth of Casing, ft.	Sample No.	Sample depth from-to (in feet)	Blows on Sampler	ID of Sampler (inches)	Tot. length of recov. sample	Length of Lab. sample	DEPTH IN FEET	SOIL GRAPH
	1	1-2.5	1 2 2	1 3/8	8"		0 3	
	2	5-6.5	1 2 13	1 3/8	18"		6	
	3	10-11.5	17 30 31	1 3/8	10"		8 12	
	4	12-12.2'	100 2"	3/8	0"			
	RUN 1	12.2'-17.2'	CORED	1 1/8	54"			

DRILLER'S DESCRIPTION
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths wash water lost, observed fluctuations in water level, notes on drilling ease, etc.

Brown, Damp Soft SILT with Trace Mica, F Sand Clay & Roots

Gray, Moist, Soft SILT with Some Mica Trace Very F Sand, Wood, Roots, Small Gravel

Brown, Wet, Medium Dense f-c SAND & Gravel with Some Silt

Brown, & Green Damp Hard Micaceous SILT with Some Weathered Rock Fragments & Trace Sand

Rock

B.O.H. 17.2'

Engineer

WATER LEVEL 2.5' AT COMP. 3.5' AT 24 HRS CAVED 8.5'

BORING NO. 3

STA. 5+82 15'LT. ℄ CONSTRUCTION FLAGG MARSH ROAD
SURFACE ELEV. 489.4 DATE: 10-24-84

Depth of Casing, ft.	Sample No.	Sample depth from-to (in feet)	Blows on Sampler	ID of Sampler (inches)	Tot. length of recov. sample	Length of Lab. sample	DEPTH IN FEET	SOIL GRAPH
	1	1-2.5	1/12 1	1 3/8	18"		0 3.5	
	2	4.5-6	2 5 6	1 3/8	18"		6	
	3	9.5-11	20 25 20	1 3/8	6"		11.5	
	4	13.5-13.7	100 2"	1 3/8	2"		13.5	

DRILLER'S DESCRIPTION
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths wash water lost, observed fluctuations in water level, notes on drilling ease, etc.

Brown, Moist, Very Soft SILT with Trace Mica, F Sand, Clay & Weathered Rock Fragments

2.5'-3.5' some boulders

Gray & Brown, Moist, Soft SILT with Root Material, Small Gravel & Trace Sand

Green, Damp Hard Micaceous SILT & Weathered Rock Fragments with Trace F Sand

Auger Refusal 13.5'
B.O.H. 13.7'

Engineer

WATER LEVEL 5' CAVED 6.5'

BORING DATA

HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.
PIPE SIZE	1 1/2 in.
HOLE DIAMETER	3 1/2 in.
ROCK CORE DIAMETER	2 in.
BORING METHOD	H.S.A. & R.C.

H.S.A. = HOLLOW STEM AUGER
R.C. = ROCK CORING

NOTE FOR BORING LOCATIONS, SEE SHEET NO. 3.

REVISIONS

STATE OF MARYLAND
CARROLL COUNTY ROAD DEPARTMENT
WESTMINSTER, MARYLAND

FLAGG MARSH ROAD OVER
SOUTH BRANCH PATAPSCO RIVER

EARTHWORK AND PAVEMENT QUANTITIES

SCALE: AS SHOWN DATE: Feb 1, 1985 CONTRACT CL-691-951-7 2

DESIGNED BY R.P.T.
DRAWN BY McF.
CHECKED BY C.V.S.

SHEET NO 9 OF 10

STV/SANDERS & THOMAS
• architects
• engineers
• planners
21 Governors Court Baltimore, Maryland 21207

OTHER CONTRACTS FOR THIS STRUCTURE: _____

AS BUILT COMMENTS ADDED
DATE

BRIDGE NO

SURVEY BOOK NO

File No. Pocket No. Folder No.

INDEXED

27725

F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	BR-SOS-1(207)	10	10

ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITIES	CONTINGENT QUANTITY	PROPOSAL QUANTITY	FINAL QUANTITY
	PRELIMINARY ITEMS					
101	CLEAR AND GRUBBING	L.S.	LUMP SUM		LUMP SUM	
102	ENGINEER'S OFFICE NO. 1	L.S.	LUMP SUM		LUMP SUM	
103	MAINTENANCE OF TRAFFIC	L.S.	LUMP SUM		LUMP SUM	
104	BANK RUN GRAVEL FOR MAINTENANCE OF TRAFFIC	TON		75	75	
105	BITUMINOUS CONCRETE FOR MAINTENANCE OF TRAFFIC	TON		20	20	
106	TEMPORARY TRAFFIC SIGNS	S.F.		100	100	
107	CONSTRUCTION STAKEOUT	L.S.	LUMP SUM		LUMP SUM	
108	MOBILIZATION	L.S.	LUMP SUM		LUMP SUM	
	GRADING ITEMS					
201	CLASS 1 EXCAVATION	C.Y.	200		200	
202	CLASS 1-A EXCAVATION	C.Y.		20	20	
203	CLASS 2 EXCAVATION	C.Y.	520		520	
204	BORROW EXCAVATION TYPE I	C.Y.	10,761		10,761	
205	BORROW EXCAVATION TYPE II	C.Y.	1392		1392	
206	CONTINGENT BORROW EXCAVATION TYPE I	C.Y.		200	200	
207	SCARIFYING PAVEMENT	S.Y.	900		900	
	DRAINAGE ITEMS					
301	CLASS 3 EXCAVATION FOR INCIDENTAL CONSTRUCTION	C.Y.		20	20	
302	SELECTED BACKFILL USING ASSHTO #57 STONE	C.Y.		20	20	
303	MIX 1 CONCRETE FOR INCIDENTAL CONSTRUCTION	C.Y.	20		20	
304	18" C.M. PIPE #14 GAUGE	L.F.	224		224	
305	STANDARD TYPE G ENDWALL FOR 18" PIPE	EA.	2		2	
306	STRAW BALES	L.F.	350		350	
307	SILT FENCE	L.F.	950		950	
308	CLASS 1 LIGHT RIPRAP	S.Y.	60		60	
	STRUCTURE ITEMS					
401	REMOVAL OF PORTIONS OF EXISTING SUPERSTRUCTURE	L.S.	LUMP SUM		LUMP SUM	
402	CLASS 3 EXCAVATION	C.Y.	350		350	
403	CLASS 4 EXCAVATION	C.Y.	700		700	
404	SUBFOUNDATION CONCRETE	C.Y.		50	50	
405	DOUBLE 18' x 13' REINFORCED CONCRETE BOX CULVERT	L.S.	LUMP SUM		LUMP SUM	
406	CONTINGENT CONCRETE FOR BOX CULVERT	C.Y.		50	50	
407	GUARD RAIL W BEAM FOR BOX CULVERT	L.S.	LUMP SUM		LUMP SUM	
408	SUBFOUNDATION AGGREGATES	TON		50	50	
	PAVEMENT ITEMS					
501	4" DENSE GRADED STABILIZED AGGREGATE BASE COURSE	S.Y.	970		970	
502	6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE (2 COURSES)	S.Y.	1996		1996	
503	BITUMINOUS CONCRETE SURFACE USING BAND SN (WITH ASPHALT CEMENT)	TON	199		199	
504	BITUMINOUS CONCRETE BASE USING BAND BI (WITH ASPHALT CEMENT)	TON	313		313	
505	BITUMINOUS CONCRETE FOR WEDGE AND/OR LEVELING (WITH ASPHALT CEMENT)	TON	8		8	
506	BITUMINOUS GRADE CROSSING	L.S.	LUMP SUM		LUMP SUM	
507	CALCIUM CHLORIDE	TON	5		5	

ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITIES	CONTINGENT QUANTITY	PROPOSAL QUANTITY	FINAL QUANTITY
	SHOULDER ITEMS					
601	4" DENSE GRADED STABILIZED AGGREGATE	S.Y.	1260		1260	
602	CALCIUM CHLORIDE FOR 4" STABILIZED SHOULDER	S.Y.	1260		1260	
603	GUARD RAIL W BEAM	L.F.	1300		1300	
	LANDSCAPING ITEMS					
701	TOP SOIL FURNISHED AND PLACED 2" DEPTH	C.Y.	200		200	
702	TEMPORARY SEEDING	LB.	100		100	
703	SEEDING AND MULCHING	LB.	100		100	
704	SOLID SODDING	S.Y.	1000		1000	
705	UREAFORM FERTILIZER	LB.	300		300	

OTHER CONTRACTS FOR THIS STRUCTURE: _____ _____

AS-BUILT COMMENTS ADDED
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STATE OF MARYLAND
CARROLL COUNTY ROAD DEPARTMENT
WESTMINSTER, MARYLAND

FLAGG MARSH ROAD OVER
SOUTH BRANCH PATAPSCO RIVER

SUMMARY OF QUANTITIES

SCALE NONE DATE Feb 1, 1985 CONTRACT CL-691-95-712

DESIGNED BY R.P.T.
DRAWN BY McF
CHECKED BY R.P.T.

SHEET NO 10 OF 10