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STANDARD SPECIFICATIONS BOOK, BOOK OF STANDARDS AND MUTCD

ALL WORK ON THIS PROJECT SHALL CONFORM TO THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION'S SPECIFICATIONS ENTITLED STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED OCTOBER 1993 AND THE COMPANION MANUAL ENTITLED GENERAL PROVISIONS FOR CONSTRUCTION CONTRACTS REVISIONS THEREOF OR ADDITIONS THERETO. THE SPECIAL PROVISIONS INCLUDED IN THE INVITATION FOR BIDS BOOK; THE ADMINISTRATION'S BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES AND THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

SEDIMENT AND EROSION CONTROL

SEDIMENT AND EROSION CONTROL DETAILS INDICATED ON THE PLANS AND APPLICABLE PROVISIONS OF ALL CONTRACT DOCUMENTS SHALL BE STRICTLY ENFORCED.

SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PLACED AS DIRECTED BY S.H.A. PROJECT ENGINEER AS AGREED UPON BY MARYLAND DEPARTMENT OF THE ENVIRONMENT (M.D.E.) INSPECTOR.

THE GRADING LIMITS SHOWN ON THE PLAN ARE NOT TO BE EXCEEDED. ANY CHANGES IN THE GRADING, SEDIMENT AND EROSION CONTROL PLAN, STORM-WATER MANAGEMENT FACILITY OR OTHER SEGMENT OF THE WORK MUST BE REVIEWED AND APPROVED BY THE OFFICE OF ENVIRONMENTAL DESIGN AND/OR THE OFFICE OF THE CHIEF ENGINEER AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.

DESIGN CERTIFICATION

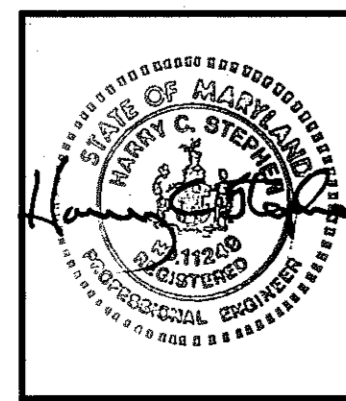
"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR CURRENT REVISIONS THEREOF, AND DEPARTMENT OF THE ENVIRONMENT STORMWATER MANAGEMENT REGULATIONS."

5/23/00
DATE

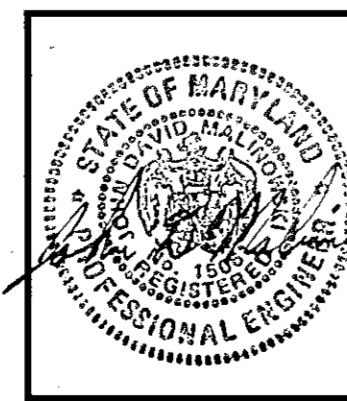
Harry C. Stephen
DESIGNER'S SIGNATURE

11249
HARRY C. STEPHEN, P.E.

MD. REGISTRATION NO.
P.E. R.L.S., OR R.L.A. (CIRCLE)



HARRY C. STEPHEN, P.E.
MD. REGISTRATION NO. 11249
HURST-ROSCHÉ ENGINEERS, INC.



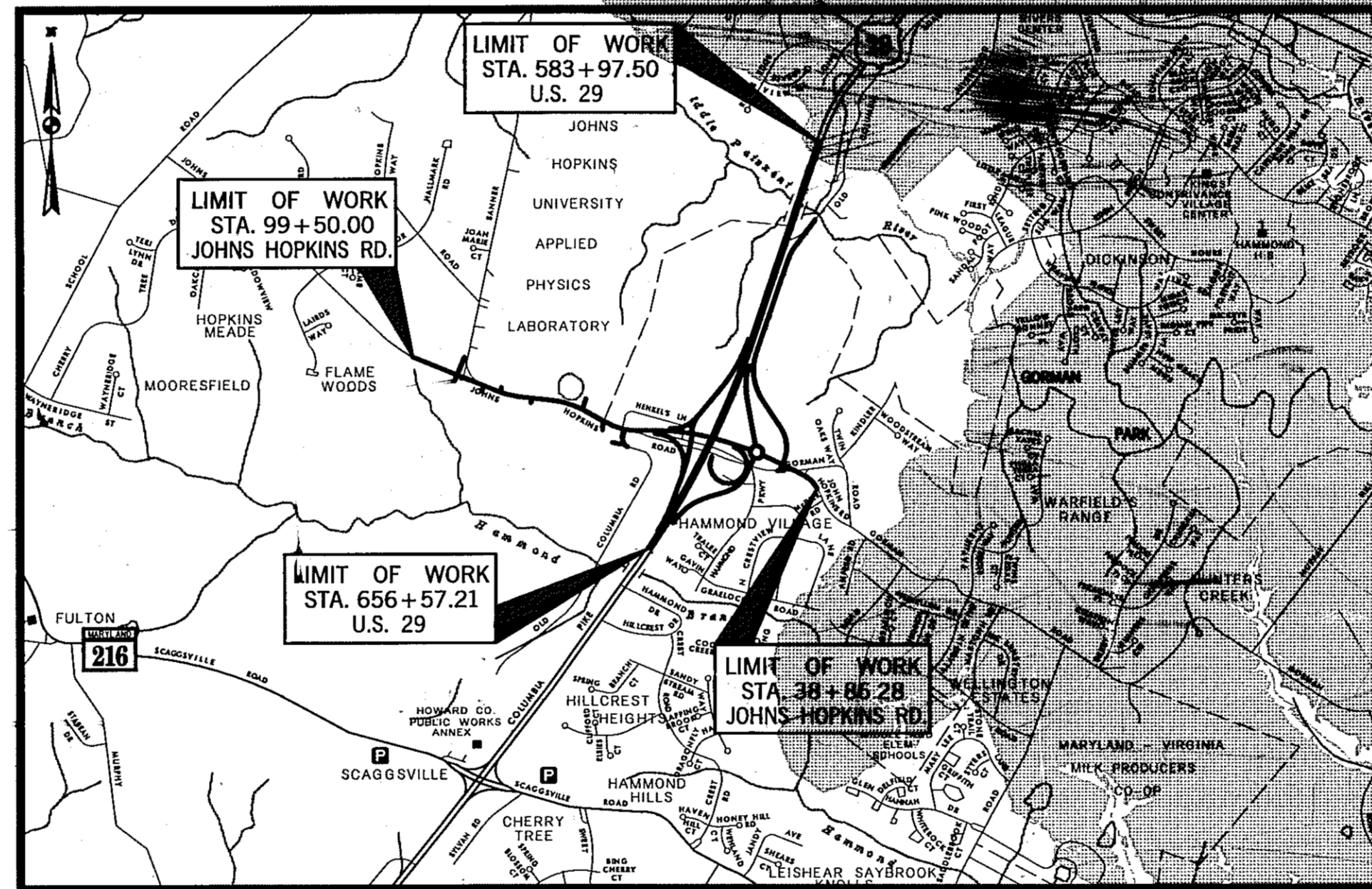
JOHN D. MALINOWSKI, P.E.
MD. REGISTRATION NO. 15061
DEWBERRY & DAVIS

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 Scott Adam Road
Suite 103
Cockeysville, MD 21030
410-683-1683



**Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
PLANS OF PROPOSED HIGHWAY
S.H.A. CONTRACT NO. H07415170
FEDERAL AID PROJECT NO. AC NH G-109-1(30)N**

**U.S. 29 MEDIAN WIDENING AND INTERCHANGE
AT JOHNS HOPKINS ROAD AND GORMAN ROAD**



HOWARD COUNTY, MARYLAND
PROJECT LENGTH = 5.08 MILES
SCALE: 1" = 2,000'



DESIGN DESIGNATION				
ROADWAY	U.S. 29		JOHNS HOPKINS ROAD	
CONTROLS / YEARS	2002	2022	2002	2022
AVERAGE DAILY TRAFFIC (A.D.T.)	70,000	116,000	15,000	27,000
DESIGN HOURLY VOLUME (D.H.V.)	10%	9%		
DIRECTIONAL DISTRIBUTION	67%	66%		
% TRUCKS - A.D.T.	7%	7%	7%	7%
% TRUCKS - D.H.V.	4%	4%		
DESIGN SPEED M. P. H.	60 MPH		40 MPH	
FUNCTIONAL CLASSIFICATION	FREEWAY/EXPRESSWAY		LOCAL	
CONTROL OF ACCESS	PARTIAL		UNCONTROLLED	
INTENSITY OF DEVELOPMENT	URBAN		URBAN	
TERRAIN	ROLLING		ROLLING	

HORIZONTAL DATUM	NAD 83/91
VERTICAL DATUM	NAVD 88

R-O-W PLAT NUMBERS	SURVEY BOOK NUMBERS
55255	
55256	
55257	
55258	
55259	
55260	

REVISIONS
ADDENDUM NO. 2 8/25/00
ADDENDUM NO. 4 9/7/00
REDLINE REVISION NO. 1 2/20/01
REDLINE REVISION NO. 2 7/30/01
REDLINE REVISION NO. 3 1/31/02
REDLINE REVISION NO. 4 8/5/02
REDLINE REVISION NO. 5 3/28/03

REVIEWED AND APPROVAL RECOMMENDED
Kate G. McCall 5/26/00
CHIEF, HIGHWAY DESIGN DIVISION

APPROVAL RECOMMENDED
John D. Malinowski 5/26/00
CHIEF ENGINEER, HIGHWAY DEVELOPMENT

APPROVED
Douglas P. ... 5/29/00
CHIEF ENGINEER, STATE HIGHWAY ADMINISTRATION

SOIL BORINGS

	A-3, SAND, NON-PLASTIC		A-5, SILT
	A-2, SAND AND FINES		A-7, CLAY
	A-2-4, SILTY SAND		A-7-2, SANDY CLAY
	A-2-7, CLAYEY SAND		A-7-4, SILTY CLAY
	A4, SILT		ROCK, PENETRATED BY POWER SOIL AUGER OR AS NOTED
	A-4-2, SANDY SILT		PLAN LOCATION OF STORM WATER MANAGEMENT BORINGS
	PLAN LOCATION OF SOIL BORINGS		PLAN LOCATION OF SURFACE WATER SAMPLE

* SOIL VISUALLY CLASSIFIED BY DRILLER

L.L.-LIQUID LIMIT N.P.-NON-PLASTIC O.M.C.-OPTIMUM MOISTURE CONTENT
P.I.-PLASTICITY INDEX M.D.D.-MAXIMUM DRY DENSITY P.C.F.-POUNDS PER CUBIC FOOT
M.D.D. & O.M.C. PER A.A.S.H.T.O. DESIGNATION T-180, METHOD C

UNLESS OTHERWISE NOTED ON PLANS, ALL SOIL SURVEY BORINGS FOR ROADWAY CONSTRUCTION WERE LEFT OPEN FOR 24 HOURS WITH NO EXCESS MOISTURE OR FREE WATER ENCOUNTERED DURING TIME OF SOIL SURVEY (3/99, 6/99)

RIGHT-OF-WAY

RIGHT-OF-WAY AND EASEMENT LINES SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THEY ARE NOT OFFICIAL. FOR OFFICIAL FEE RIGHT-OF-WAY AND EASEMENT INFORMATION, SEE APPROPRIATE RIGHT-OF-WAY PLATS.

UTILITIES

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS.

ENVIRONMENTAL INFORMATION

MDE # 99-SF-0312
ALL STORMWATER MANAGEMENT FACILITIES CONSTRUCTED FOR CONTRACT NO. H07415170 SHALL BE INSPECTED BIANNUALLY WITH MAINTENANCE PROVIDED WHEN REQUIRED. SEDIMENT AND EROSION CONTROL REGULATIONS WILL BE STRICTLY ENFORCED DURING CONSTRUCTION.

OWNERS / DEVELOPERS CERTIFICATION

"I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND /OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT."
"I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS."

STANDARD STABILIZATION NOTE:

"FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) 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 (14) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE."

COMPLETENESS OF DOCUMENTS

THE STATE HIGHWAY ADMINISTRATION SHALL ONLY BE RESPONSIBLE FOR THE COMPLETENESS OF DOCUMENTS OBTAINED DIRECTLY FROM THE STATE HIGHWAY ADMINISTRATION'S CASHIER'S OFFICE. FAILURE TO ATTACH ADDENDA MAY CAUSE THE BID TO BE IRREGULAR.

EXPLANATORY NOTES AND REFERENCES

1. **SPECIFICATIONS**
THE SPECIFICATIONS WILL BE THOSE OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION, TITLED "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS," DATED OCTOBER 1993. THE SUPPLEMENT THERETO AND REVISIONS THEREOF OR ADDITIONS THERETO INCLUDED IN THE PROPOSAL AND THE SPECIAL PROVISIONS.
2. **SIGHT DISTANCES**
STOPPING SIGHT DISTANCES FOR VERTICAL CREST CURVES ARE BASED ON A HEIGHT OF EYE OF 3.5 FEET, AND A HEIGHT OF OBJECT OF 6 INCHES. HEADLIGHT SIGHT DISTANCES ARE BASED ON A BEAM OF 2.0 FEET ABOVE THE ROADWAY AND A 1° UPWARD DIVERGENCE.
3. **SHOULDERS**
THE OUTER SHOULDER WHEN ON THE HIGH SIDE OF SUPERELEVATION SHALL TRANSITION FROM 6.00% AT NORMAL SECTION TO 4.00% AT HALF LEVEL TO 2.00% AT CROWN REMOVED.
4. **PIPE CULVERTS**
ALL PIPE LENGTHS AND LOCATIONS SHALL BE DETERMINED IN THE FIELD AND CHECKED BY THE ENGINEER BEFORE ORDERING.
5. **INVERT ELEVATIONS**
ALL INVERT ELEVATIONS ARE APPROXIMATE AND MAY BE VARIED TO SUIT FIELD CONDITIONS.
6. **INLETS**
NOTED INLET LOCATION AND ELEVATION IS TO CENTERLINE OF INLET GRATE AT FLOWLINE.
7. **UNDERDRAIN**
PROVISION IS MADE FOR PERFORATED CIRCULAR UNDERDRAIN AND CIRCULAR PIPE OUTLETS TO DISPOSE OF SPRINGS AND UNDERGROUND WATER WHICH MAY BE ENCOUNTERED DURING EXCAVATION OR PLACING EMBANKMENT. EXTENT OF THE UNDERDRAIN FIELD WILL BE DIRECTED BY THE ENGINEER. QUANTITIES TO BE CHECKED BY THE ENGINEER BEFORE ORDERING.
8. **SILT FENCE**
SEE EROSION AND SEDIMENT CONTROL DETAIL SHEETS.
9. **METHODS OF SEDIMENTATION AND EROSION CONTROL**
FINAL DETERMINATION AS TO THE LOCATION OF TEMPORARY SLOPE DRAINS, TEMPORARY BERMS AT THE TOP OF FILL SLOPES, TEMPORARY INTERCEPTOR BERMS AND STANDARD SEDIMENT TRAPS* WILL BE AT THE DIRECTION OF THE ENGINEER.
10. **TOPSOIL, SEED AND MULCH**
ALL CUT AND FILL SLOPES WILL HAVE TOPSOIL PLACED TO A DEPTH OF 2 INCH AND WILL BE SEEDED AND MULCHED AND SHALL BE YARD RAKED PRIOR TO SEEDING.
11. **REMOVE EXISTING PAVEMENT**
EXISTING ROADWAY SURFACES AND SHOULDERS SHALL BE REMOVED BEFORE ANY EMBANKMENT IS PLACED. SEE SECTION 206.03.01 OF THE SPECIFICATIONS.
12. **HORIZONTAL CONTROL**
THIS PROJECT IS ORIENTED TO CONFORM TO THE MARYLAND GRID SYSTEM.
13. **INTERIM EROSION AND SEDIMENT CONTROL**
INTERIM EROSION AND SEDIMENT CONTROL MEASURES WILL BE REQUIRED AND SUBMITTED WITH THE PROGRESS SCHEDULE FOR THE ENGINEER'S APPROVAL.
14. **UTILITY CROSSINGS**
INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF UNDERGROUND UTILITIES THAT HAVE NOT ALREADY BEEN VERIFIED BY DIGGING TEST PITS AT ALL UTILITY CROSSINGS. WELL IN ADVANCE OF TRENCHING. ALL UTILITIES ARE TO BE ADJUSTED BY THE APPROPRIATE AGENCY. REPAIRS TO UTILITIES OR PRIVATE PROPERTY DAMAGED AS A RESULT OF CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT HIS OWN EXPENSE. THE CONTRACTOR WILL CONTACT ALL UTILITY COMPANIES PRIOR TO HIS CONSTRUCTION SCHEDULE.

LIST OF ABBREVIATIONS

- A.D.T - AVERAGE DAILY TRAFFIC
- AHD - AHEAD
- B.A. - BELL ATLANTIC TELEPHONE POLE/LINE
- BCSSP - BITUMINOUS COATED STRUCTURAL STEEL PIPE
- B.G.&E. - BALTIMORE GAS AND ELECTRIC POLE/LINE
- BIT. - BITUMINOUS
- BK. - BACK
- B - BASELINE
- BLVD. - BOULEVARD
- B.M. - BENCH MARK
- C. - RATE OF TRANSITION
- CAL. - CALIBER
- C.C.&G - COMBINATION CURB AND GUTTER
- CL - CENTERLINE
- C.M.P. - CORRUGATED METAL PIPE
- COMB. - COMBINATION
- CONC. - CONCRETE
- CONSTR. - CONSTRUCTION
- CONTR. - CONTRACT
- CORR. - CORRECTION
- Dc - DEGREE OF CURVE (CURVE DATA)
- Δ - DELTA (CENTRAL ANGLE), DEGREES
- D.H.V. - DESIGN HOURLY VOLUME
- D.I. - DROP INLET
- DR. - DRIVE
- D.S. - DESIGN SPEED
- E - EXTERNAL DISTANCE
- EA. - EACH
- E.B.R. - EASTBOUND ROADWAY
- ELEV. - ELEVATION
- ENDW. - ENDWALL
- ENTR. - ENTRANCE
- E.P. - EDGE OF PAVEMENT
- EXIST., EX. - EXISTING
- F.H. - FIRE HYDRANT
- F.O. - FIBER OPTIC
- F.S. - FULL SUPERELEVATION
- GA. - GAUGE OR GAGE
- GAL. - GALLON
- H.L.S.D. - HEADLIGHT SIGHT DISTANCE
- H.O.V. - HIGH OCCUPANCY VEHICLE
- HP - HIGH POINT
- HT. - HEIGHT
- INV. - INVERT
- L - LENGTH
- LN - LANE
- LP - LOW POINT
- L.F. - LINEAR FOOT
- L.S. - LEVEL SECTION
- LT. - LEFT
- MAX. - MAXIMUM
- M.B. - MAIL BOX
- MD. - MARYLAND
- MIN. - MINIMUM
- N/A - NOT APPLICABLE
- N.B.R. - NORTHBOUND ROADWAY
- NO. - NUMBER
- N.S. - NORMAL SECTION
- P.C. - POINT OF CURVATURE
- P/C - POINT OF CROWN
- P.C.C. - POINT OF COMPOUND CURVE
- P/GE - PROFILE GRADE ELEVATION
- P.G.L. - PROFILE GRADE LINE
- P/GL - PROFILE GROUND LINE
- PKWY - PARKWAY
- P.O.C. - POINT ON CURVE
- P.O.T. - POINT ON TANGENT
- P.I. - POINT OF INTERSECTION
- P/R - POINT OF ROTATION
- P.R.C. - POINT OF REVERSE CURVATURE
- PROJ. - PROJECT
- PROP. - PROPOSED
- P.R.V.C. - POINT OF REVERSE VERTICAL CURVE
- P.T. - POINT OF TANGENCY
- P.V.C. - POINT OF VERTICAL CURVE
- P.V.I. - POINT OF VERTICAL INTERSECTION
- PVMT. - PAVEMENT
- P.V.T. - POINT OF VERTICAL TANGENCY
- R - RADIUS
- R.C.C.P. - REINFORCED CONCRETE, CEMENT PIPE
- RD. - ROAD
- REF. - REFERENCE
- RT. - RIGHT
- R/W - RIGHT-OF-WAY
- SAN., S - SANITARY SEWER
- S.B.R. - SOUTHBOUND ROADWAY
- S.E. - SUPERELEVATION
- SHLD. - SHOULDER
- S.S.D. - STOPPING SIGHT DISTANCE
- STA. - STATION
- STD. - STANDARD
- S.Y. - SQUARE YARD
- T. - TANGENT
- TC - TOP OF CURB
- TG - TOP OF GRATE
- TL - TRAVERSE LINE
- TP - TURNING POINT
- TRANS. - TRANSITION
- TYP. - TYPICAL
- U.D. - UNDERDRAIN PIPE
- U.D.O. - UNDERDRAIN PIPE OUTLET
- ULT. - ULTIMATE
- U.O.N. - UNLESS OTHERWISE NOTED
- W.B.R. - WESTBOUND ROADWAY
- W.M. - WATER MAIN
- W.V. - WATER VALVE

CONVENTIONAL SYMBOLS

- PROPOSED FULL DEPTH PAVING
- PROPOSED RESURFACING
- PAVEMENT TO BE REMOVED
- PROPOSED SHOULDER
- PROPOSED SIDEWALK
- LIMIT OF CUT SLOPE
- LIMIT OF FILL SLOPE
- LIMIT OF DISTURBANCE
- EXISTING GROUND
- BASELINE OF CONSTRUCTION
- EXISTING FENCE
- PROPOSED MEDIAN BARRIER
- ELECTRICAL HAND BOX - SIGNALS
- BURIED UTILITY LINES & NO. OF CABLES
- STATE, COUNTY OR CITY LINES
- PROPOSED TRAFFIC BARRIER W-BEAM
- EXISTING TRAFFIC BARRIER W-BEAM
- RIGHT-OF-WAY LINE
- FIRE HYDRANT
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING DROP INLET
- PROPOSED DITCH
- EXISTING DITCH
- UTILITY POLE
- LIGHT POLE
- GROUND ELEVATION
- GRADE ELEVATION
- PROPERTY LINE
- GAS LINE
- WATER LINE
- SEWER
- OVERHEAD ELECTRIC LINE
- UNDERGROUND ELECTRIC LINE
- PROPOSED UNDERDRAIN
- BENCH MARK
- WETLANDS BOUNDARY
- WETLAND BUFFER BOUNDARY
- PROPOSED NOISE BARRIER

FOR SYMBOLS FROM THE OFFICE OF TRAFFIC SEE THE OFFICE OF TRAFFIC SHEET

FOR SOIL LEGEND AND CONVENTIONAL SIGNS SEE THE TITLE SHEET

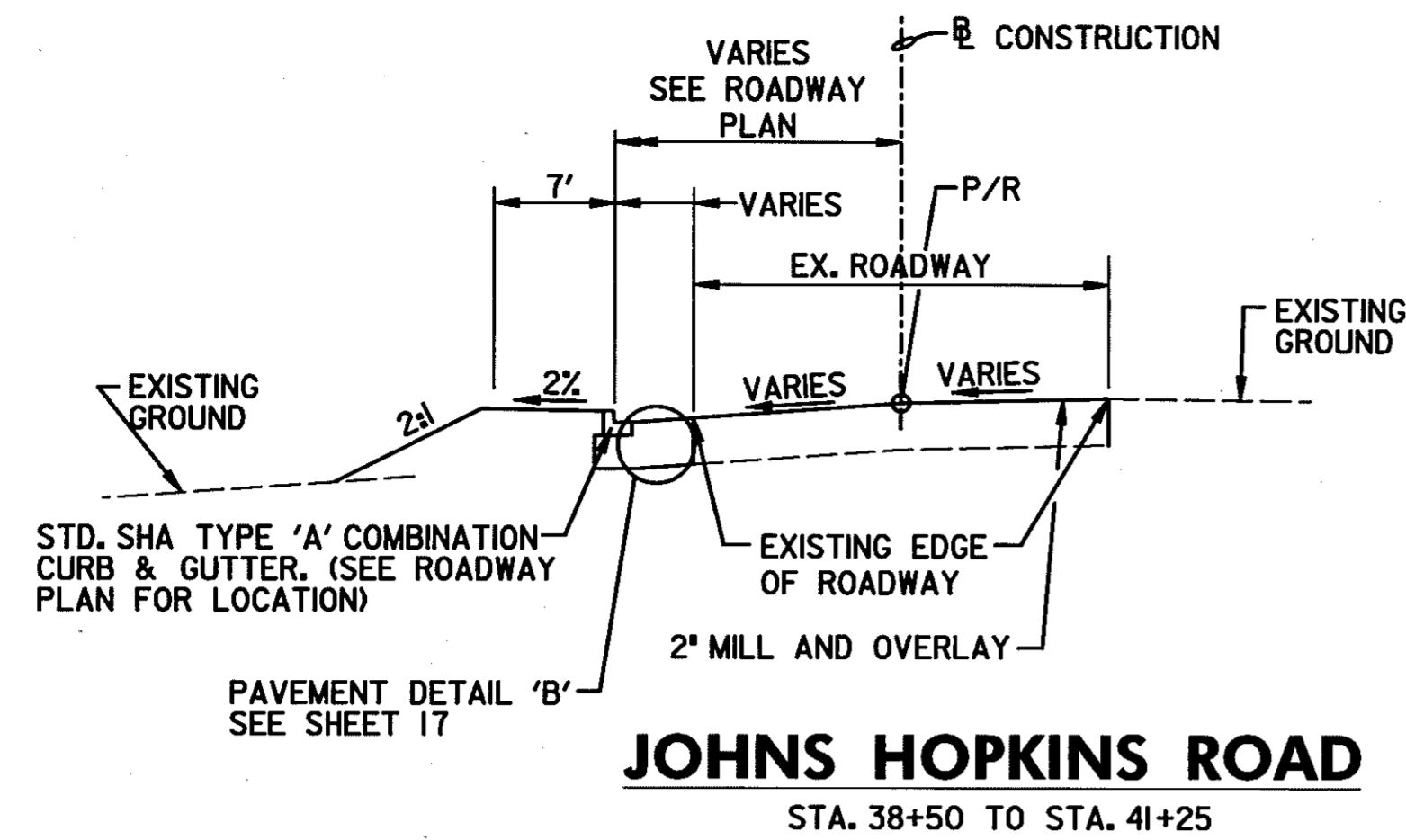
EXPLANATORY NOTES, ABBREVIATIONS AND SYMBOLS

SCALE: NOT TO SCALE

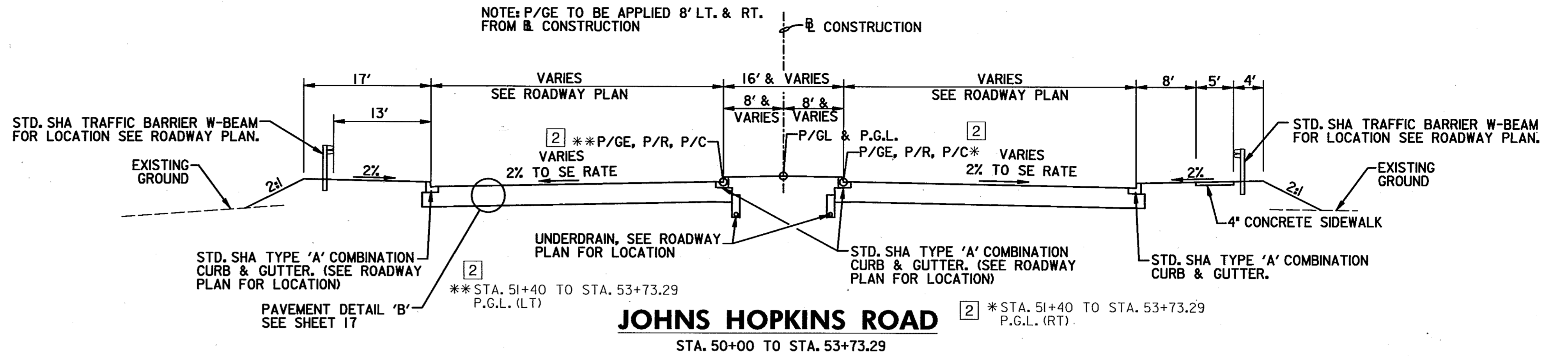
HURST-ROSCHKE ENGINEERS, INC./
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REVISIONS

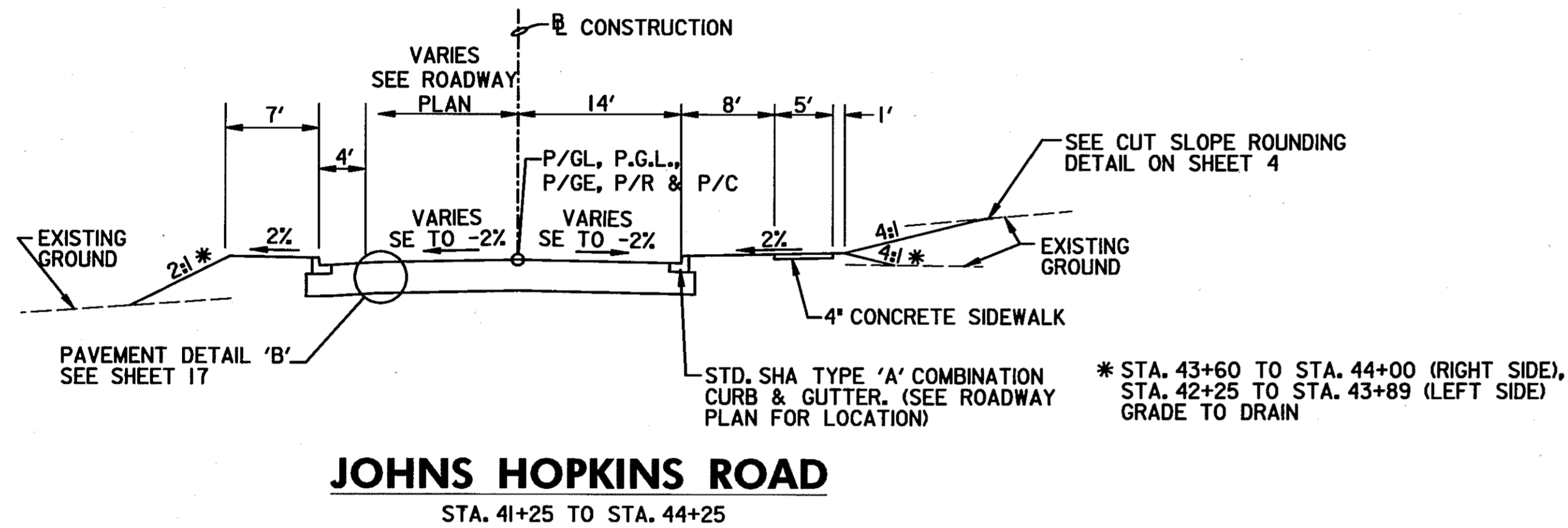
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 3		OF 320	



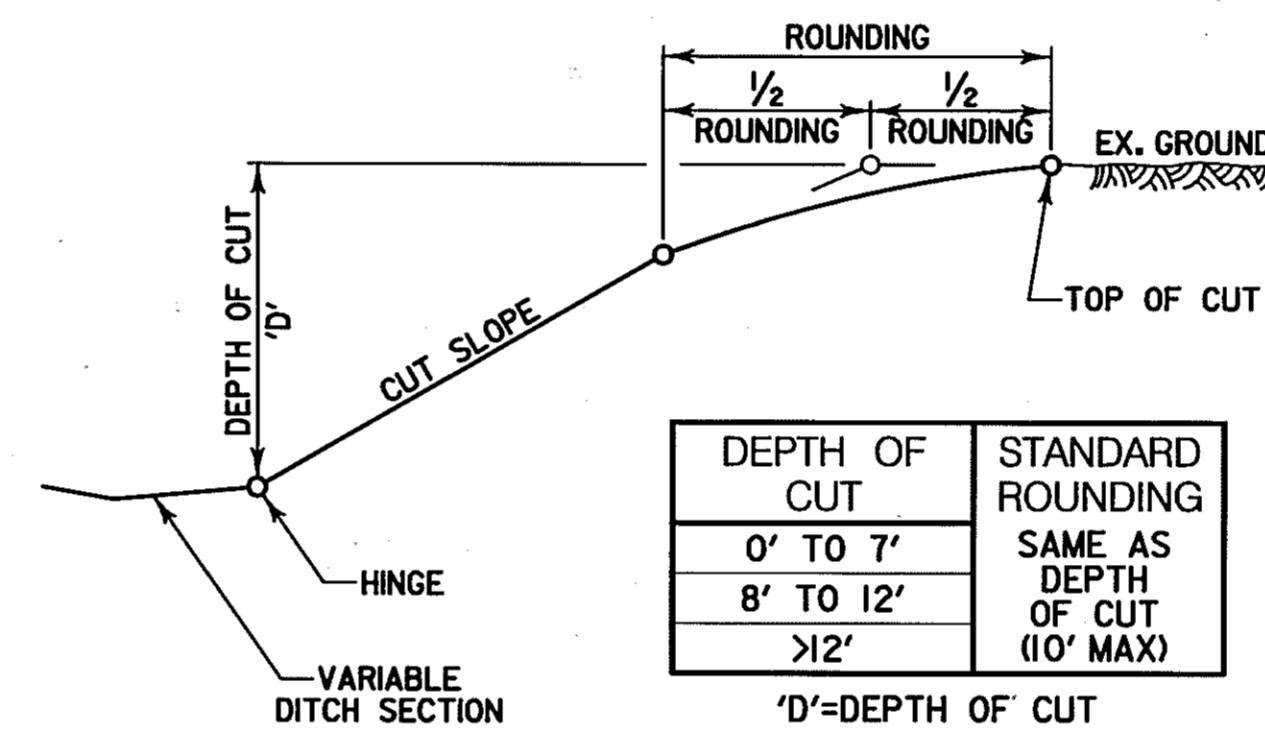
JOHNS HOPKINS ROAD
STA. 38+50 TO STA. 41+25



JOHNS HOPKINS ROAD
STA. 50+00 TO STA. 53+73.29



JOHNS HOPKINS ROAD
STA. 41+25 TO STA. 44+25

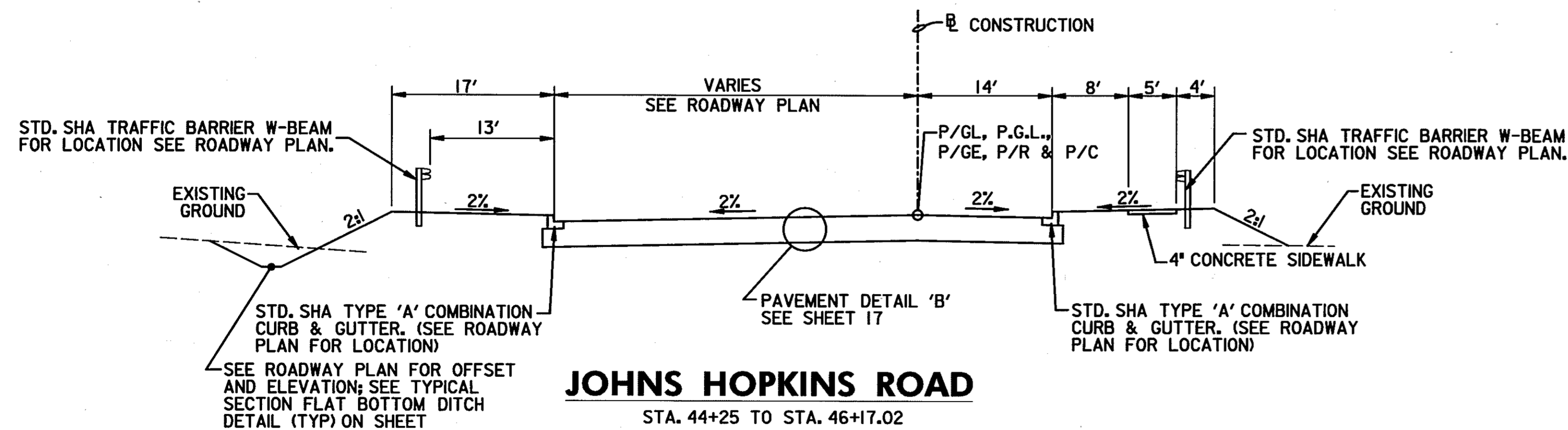


CUT SLOPE ROUNDING DETAIL

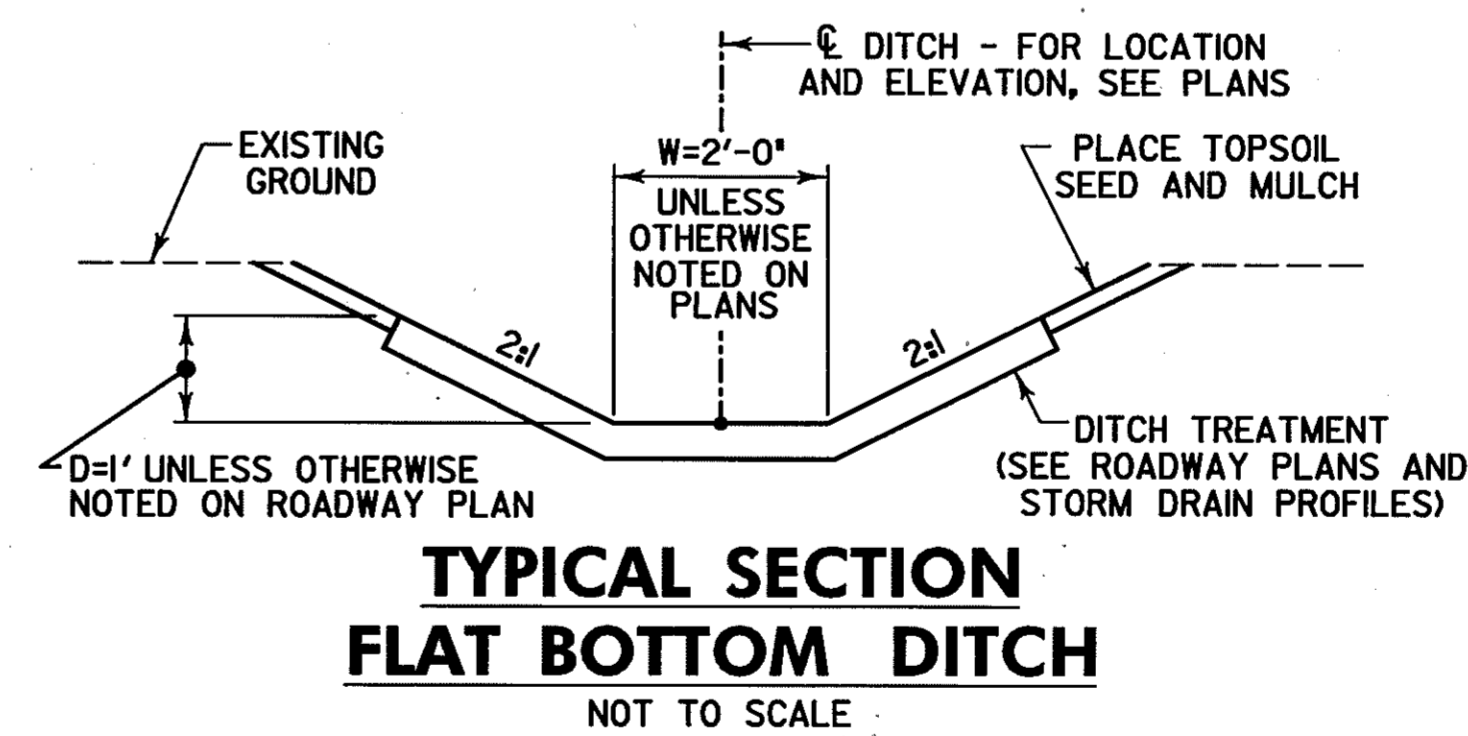
DEPTH OF CUT	SLOPE RATIO	HEIGHT OF EMBANKMENT	SLOPE RATIO
0' TO 5'	4:1	0' TO 10'	4:1
5' TO 10'	3:1	10' TO 20'	3:1
> 10'	2:1	> 20'	2:1

NOTE: SLOPE RATIO CHART TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

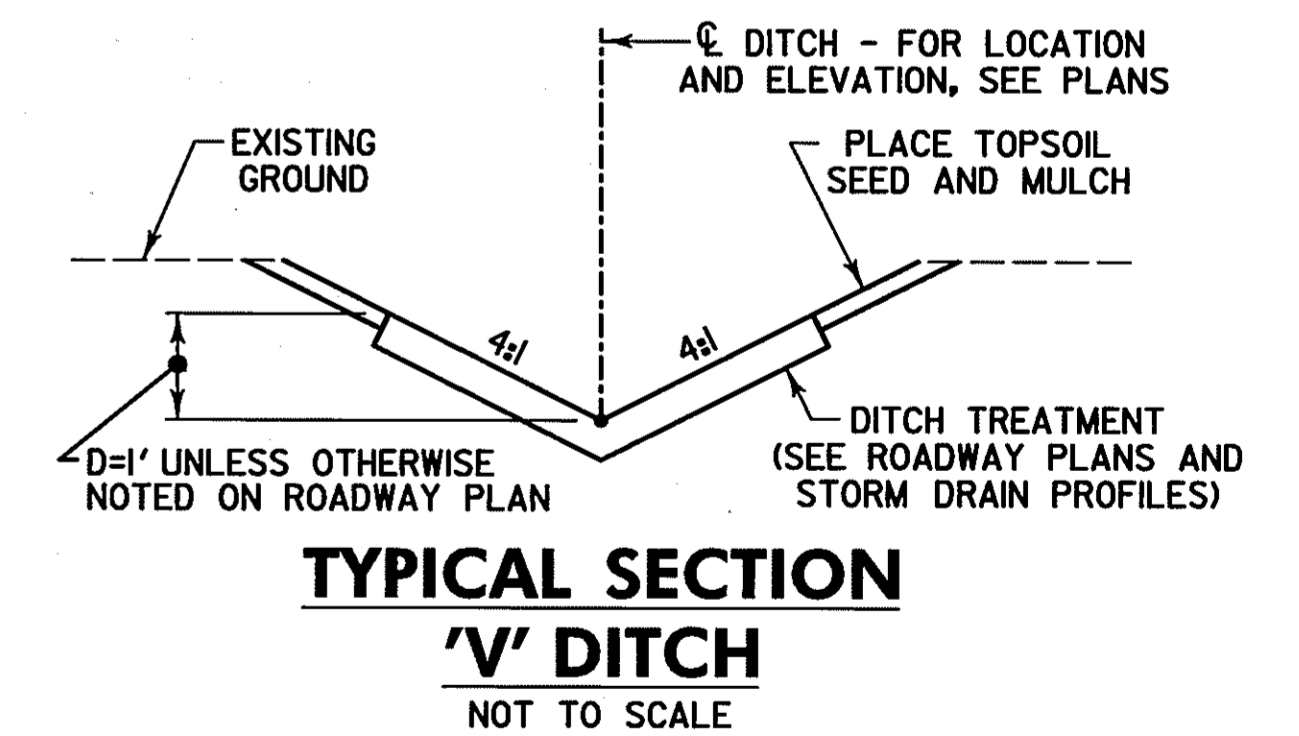
CUT / FILL SLOPE RATIO CHART



JOHNS HOPKINS ROAD
STA. 44+25 TO STA. 46+17.02



**TYPICAL SECTION
FLAT BOTTOM DITCH**
NOT TO SCALE



**TYPICAL SECTION
V DITCH**
NOT TO SCALE

NOTE: WHEN RIPRAP IS USED AS A DITCH TREATMENT, PLACE FILTER CLOTH UNDER RIPRAP.

NOTE: DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2\"/>

TYPICAL SECTIONS & MISCELLANEOUS DETAILS

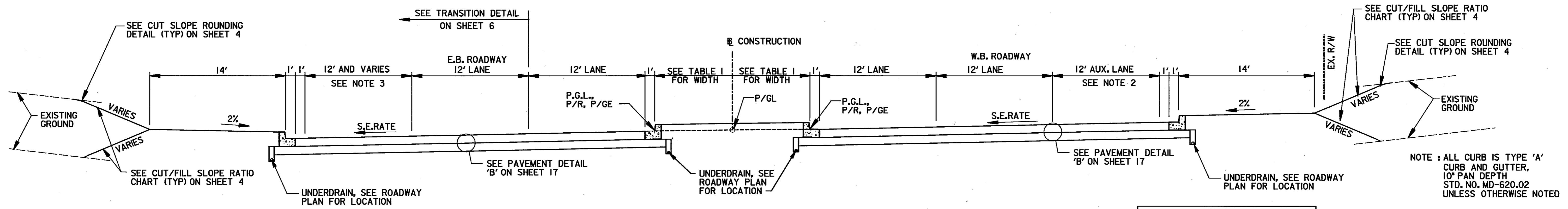
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HURST-ROSCHKE ENGINEERS, INC./
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REVISIONS
2 REDLINE NO. 2 DATE: 7/30/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 4 OF 320
PREL. TRAC. BY FINAL TRAC. BY



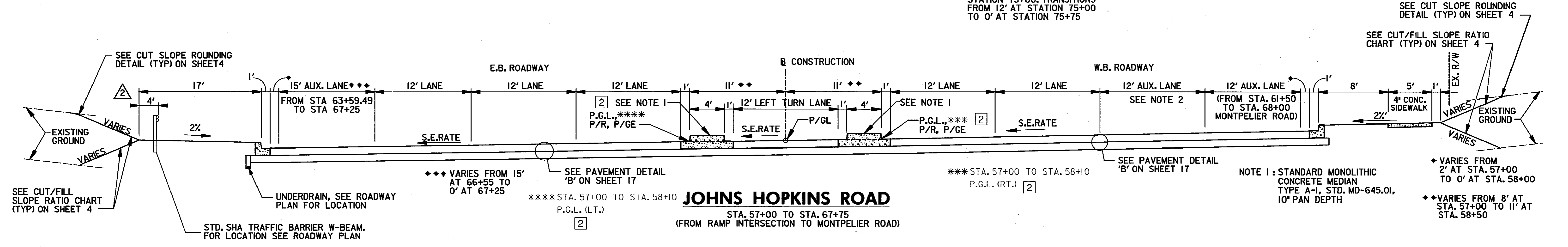
JOHNS HOPKINS ROAD

STA. 67+75 TO STA. 91+27.18±
(FROM MONTPELIER ROAD TO SANNER ROAD RAMP)

WIDTH	STATION TO STATION
11' TO 10'	67+75.00 TO 68+75.00
10'	68+75.00 TO 72+50.00
10' TO 8'	72+50.00 TO 73+50.00
8'	73+50.00 TO 94+00.00

NOTE 2: FROM MONTPELIER ROAD TO JHU-APL EAST ENTRANCE. (STA. 68+00 TO STA. 75+00)

NOTE 3: FROM MONTPELIER ROAD TO STATION 75+00. TRANSITIONS FROM 12' AT STATION 75+00 TO 0' AT STATION 75+75

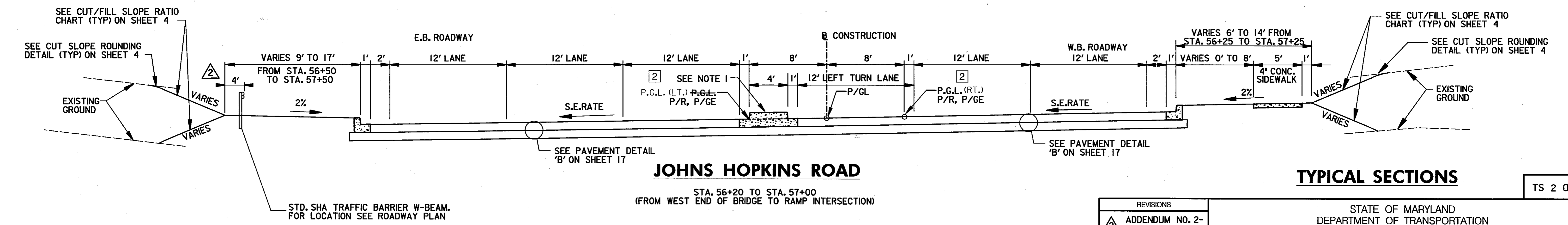


JOHNS HOPKINS ROAD

STA. 57+00 TO STA. 67+75
(FROM RAMP INTERSECTION TO MONTPELIER ROAD)

NOTE 1: STANDARD MONOLITHIC CONCRETE MEDIAN TYPE A-1, STD. MD-645.01, 10" PAN DEPTH

NOTE: DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH
DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH
SEE SHEETS 33 & 34 FOR SUPERELEVATION TRANSITION DETAILS.



JOHNS HOPKINS ROAD

STA. 56+20 TO STA. 57+00
(FROM WEST END OF BRIDGE TO RAMP INTERSECTION)

TYPICAL SECTIONS

TS 2 OF 14

NOTE: DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH
DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH
SEE SHEETS 32 & 33 FOR SUPERELEVATION TRANSITION DETAILS.

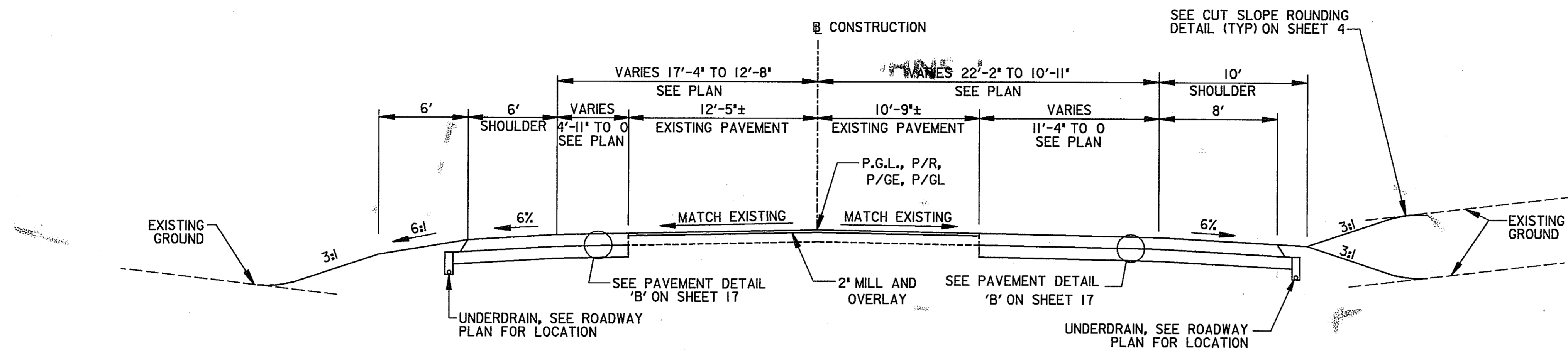
SCALE: NOT TO SCALE

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

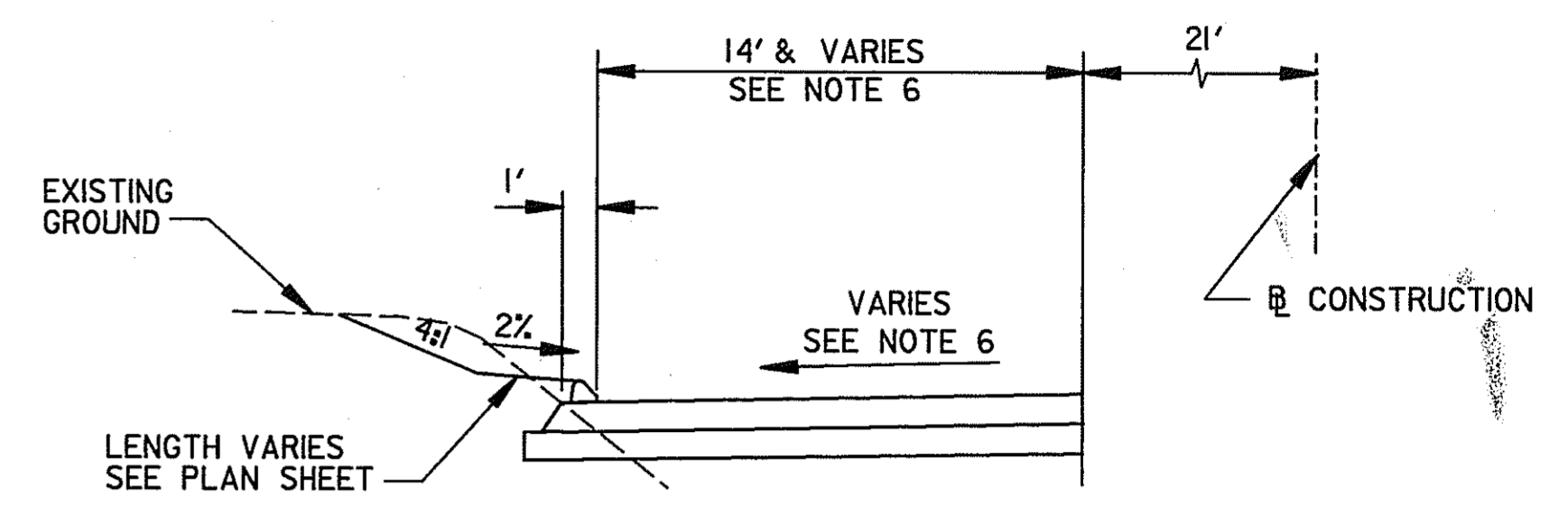
REVISIONS
ADDENDUM NO. 2-08/ /00
REDLINE NO. 2 DATE: 7/30/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

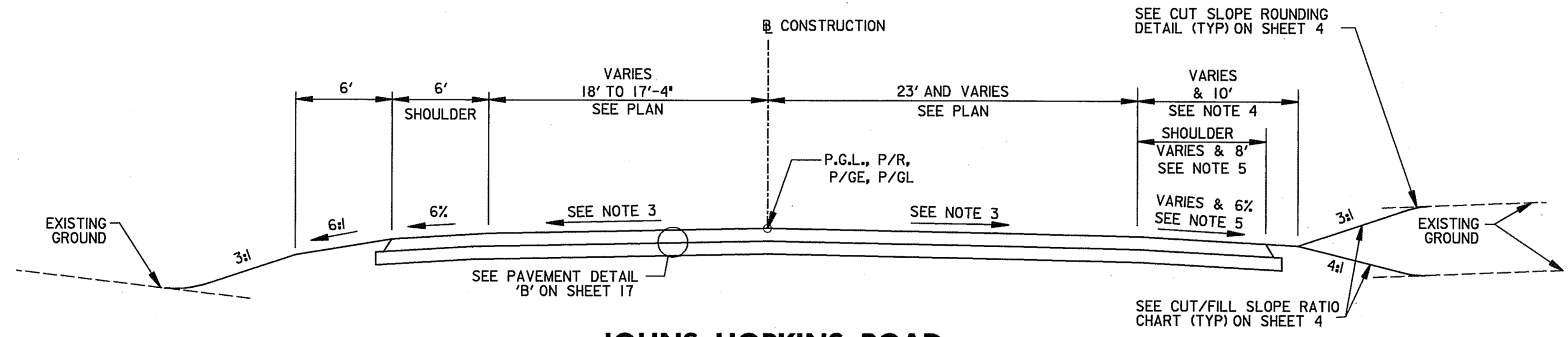
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 5 OF 320
PREL. TRAC. BY FINAL TRAC. BY



JOHNS HOPKINS ROAD
STA. 96+00 TO STA. 99+50

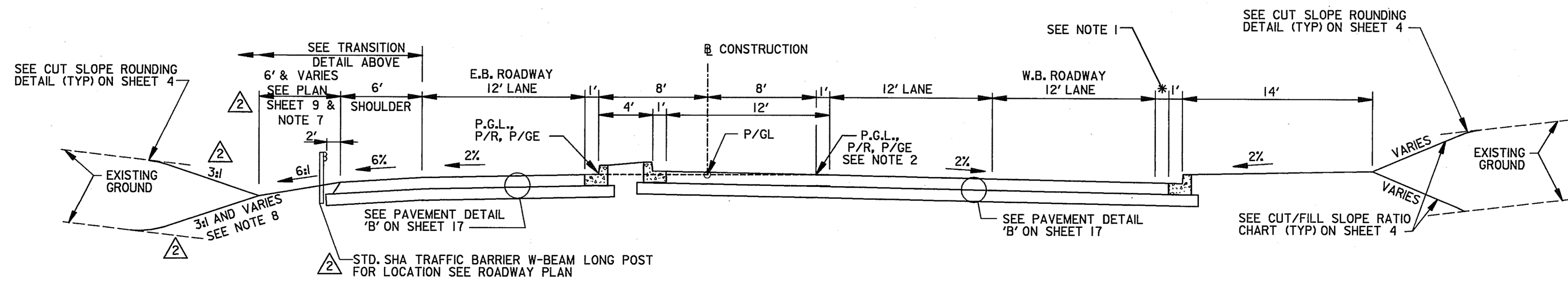


**JOHNS HOPKINS ROAD
TRANSITION DETAIL**
STA. 90+50 TO STA. 91+50



JOHNS HOPKINS ROAD
STA. 95+00 TO STA. 96+00

- NOTE :**
- ① VARIES SEE PLAN SHEET AND INTERSECTION DETAIL SHEET
 - ② P.G.L., P/R & P/GE TRANSITION FROM 8' FROM THE P/GL AT STA. 94+00 TO 0' FROM THE P/GL AT STA. 95+00
 - ③ TRANSITION SLOPE FROM -2% AT STA. 95+00 TO EXISTING AT STA. 96+00
 - ④ VARIES FROM 18' AT STA. 95+00 TO 10' AT STA. 95+50
 - ⑤ VARIES FROM 16' AT -2% AT STA. 95+00 TO 8' AT -6% AT STA. 95+50
 - ⑥ TRANSITION FROM 14' AT 90+50 TO 6' AT STA. 91+50. TRANSITION CROSS SLOPE FROM 1.17% AT STA. 90+50 TO 6% AT STA. 91+50.
 - ⑦ 2' FROM STA. 91+50 TO STA. 93+50. TRANSITION FROM 2' AT STA. 93+50 TO 6' AT STA. 94+00.
 - ⑧ 2 1/2' FROM STA. 91+50 TO STA. 93+50. TRANSITION FROM 2 1/2' AT STA. 93+50 TO 3 1/2' AT STA. 94+00.



JOHNS HOPKINS ROAD
STA. 91+27.18± TO STA. 95+00

NOTE: DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH
DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH
SEE SHEETS 32 & 33 FOR SUPERELEVATION TRANSITION DETAILS.

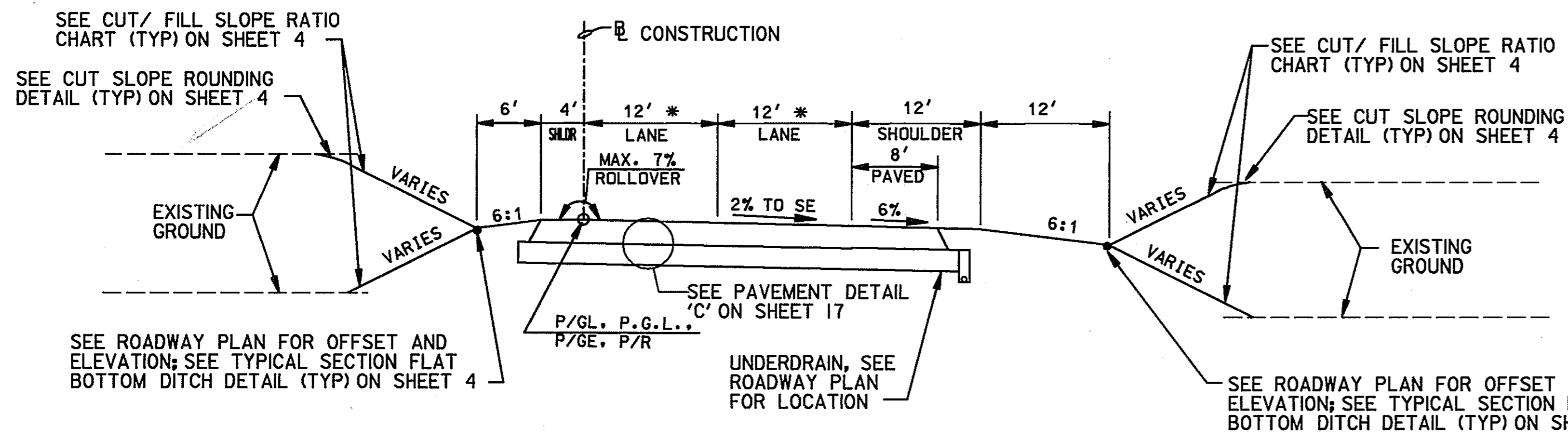
TYPICAL SECTIONS

SCALE: NOT TO SCALE

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
② ADDENDUM NO. 2-08/25/00

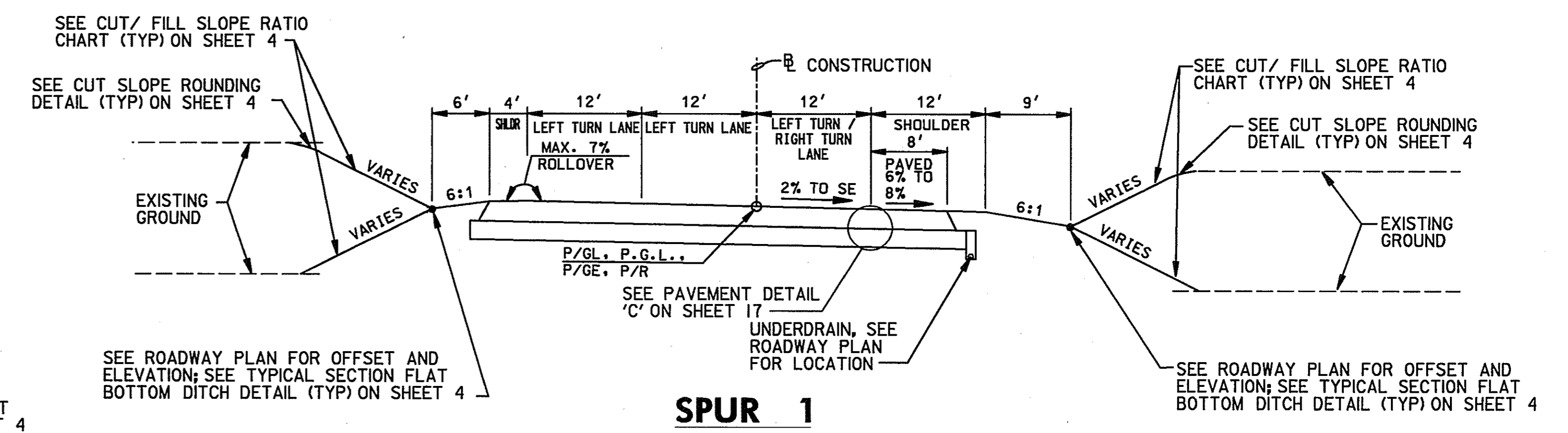
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 6		OF 320	



RAMP 1

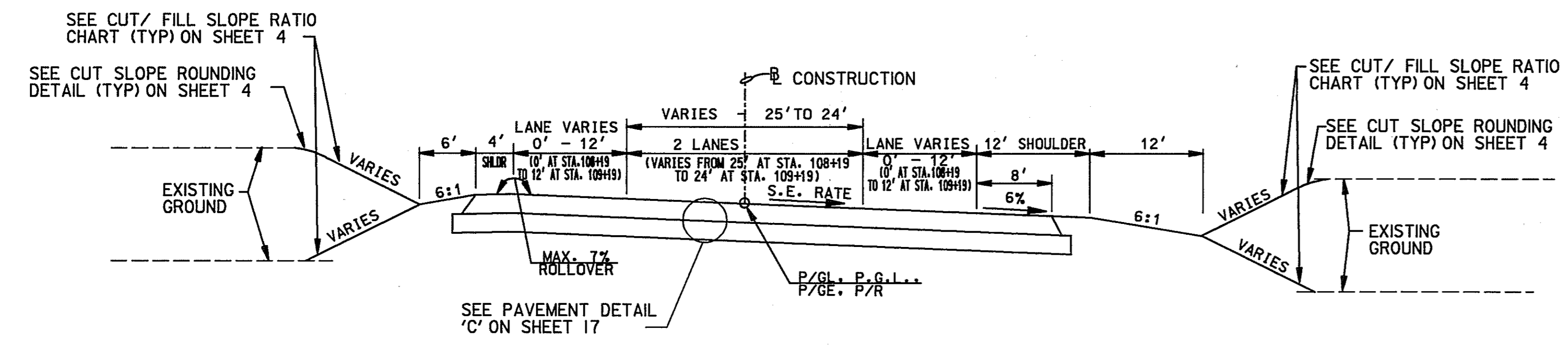
STA. 113+44.28 TO STA. 118+19.54

* TRANSITION FROM 12' AT STA. 113+60.00 TO 13' AT STA. 114+60.00 THEN
 * TRANSITION FROM 13' AT STA. 117+19.54 TO 12' AT STA. 118+19.54



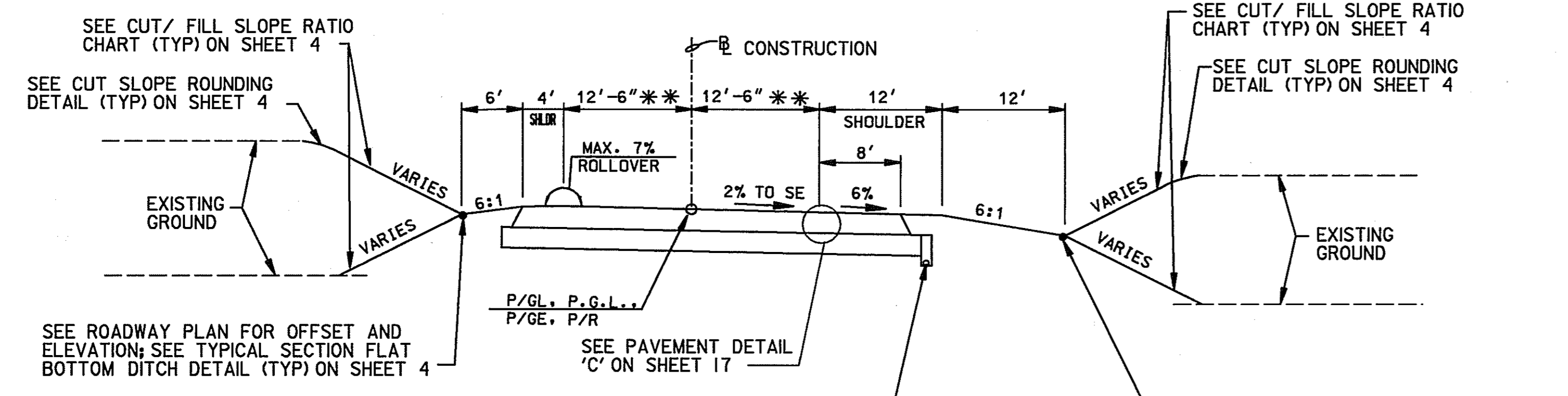
SPUR 1

STA. 1000+00 TO STA. 1102+35.93



RAMP 1

STA. 108+19 TO STA. 113+44.28



RAMP 1

STA. 100+00 TO STA. 108+19

** TRANSITION FROM 12' AT STA. 100+00 TO 12.5' AT STA. 103+00

NOTE: DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH
 DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH
 SEE SHEETS 32 & 33 FOR SUPERELEVATION TRANSITION DETAILS.

SCALE: NOT TO SCALE

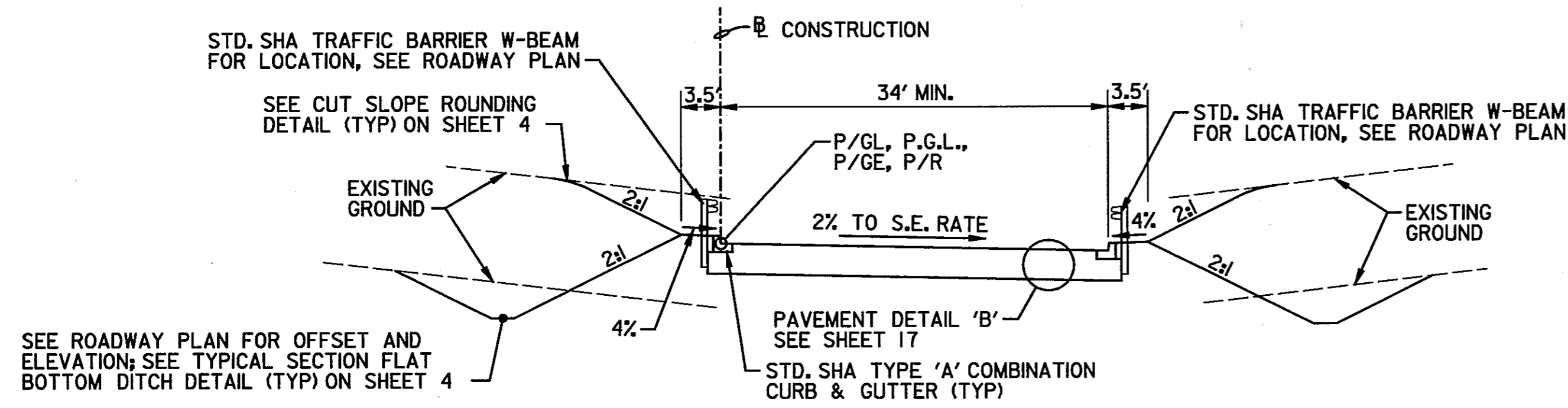
TYPICAL SECTIONS

TS 4 OF 14

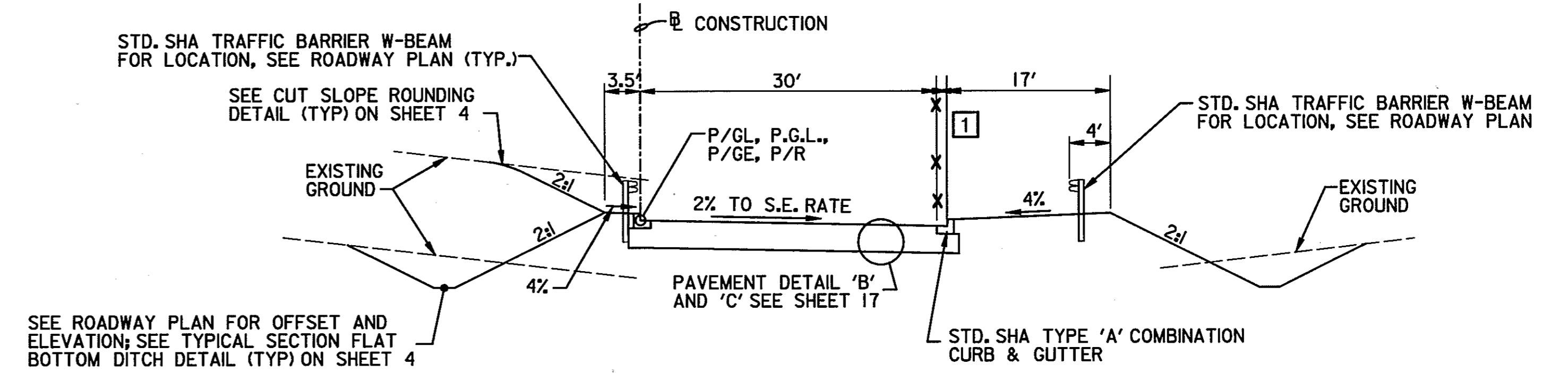
HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	

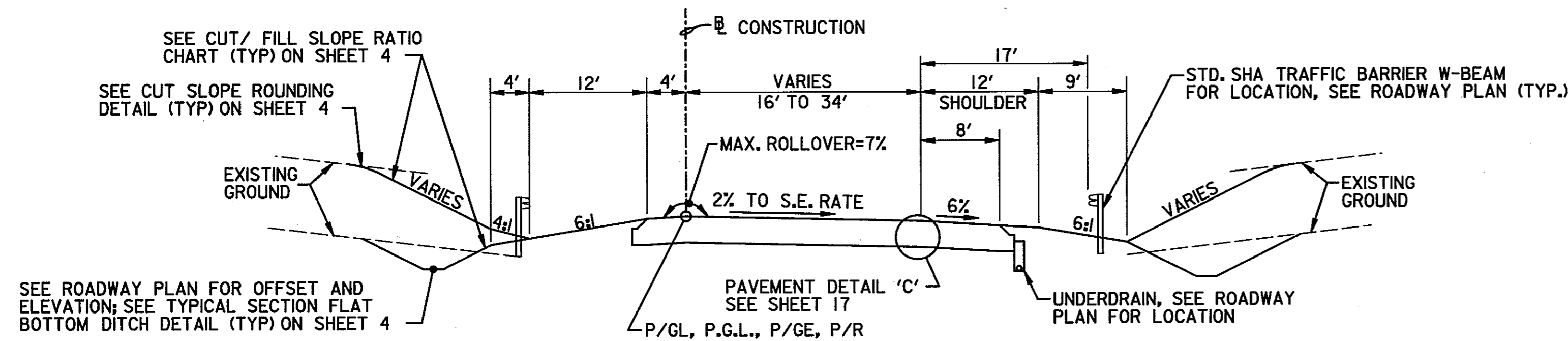
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 7		OF 320	



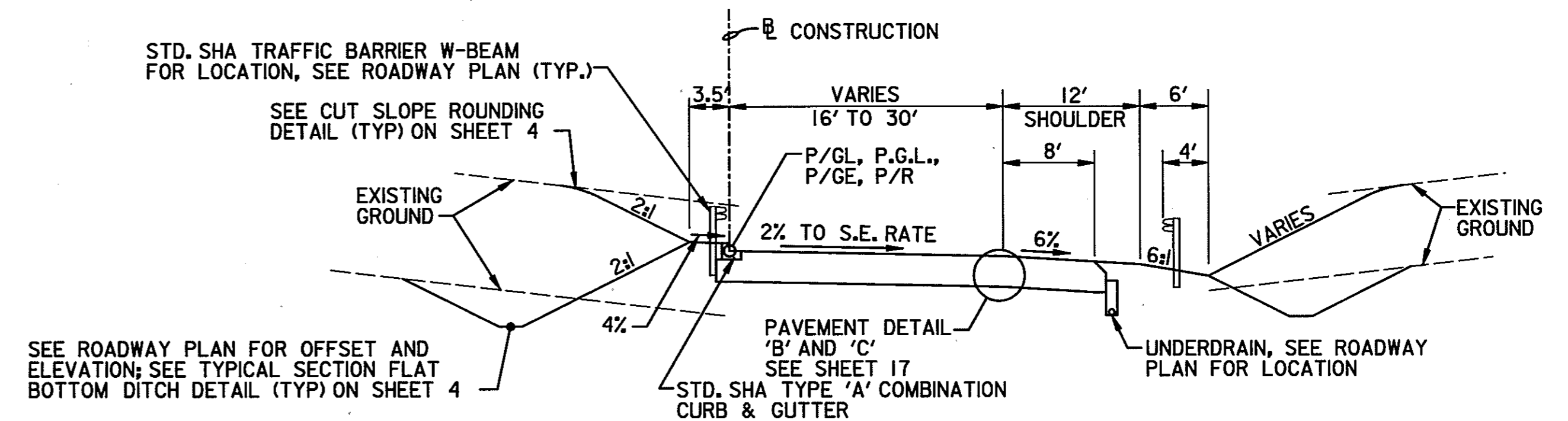
RAMP 2
STA. 201+10.00 TO STA. 205+00.00



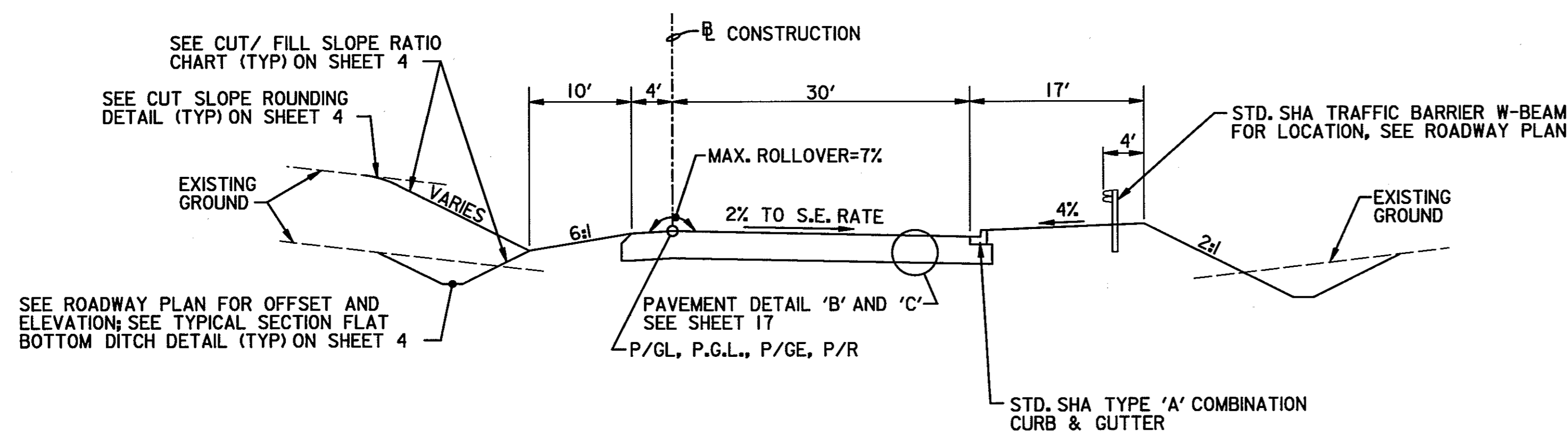
RAMP 3
STA. 301+97.47 TO STA. 304+50.00



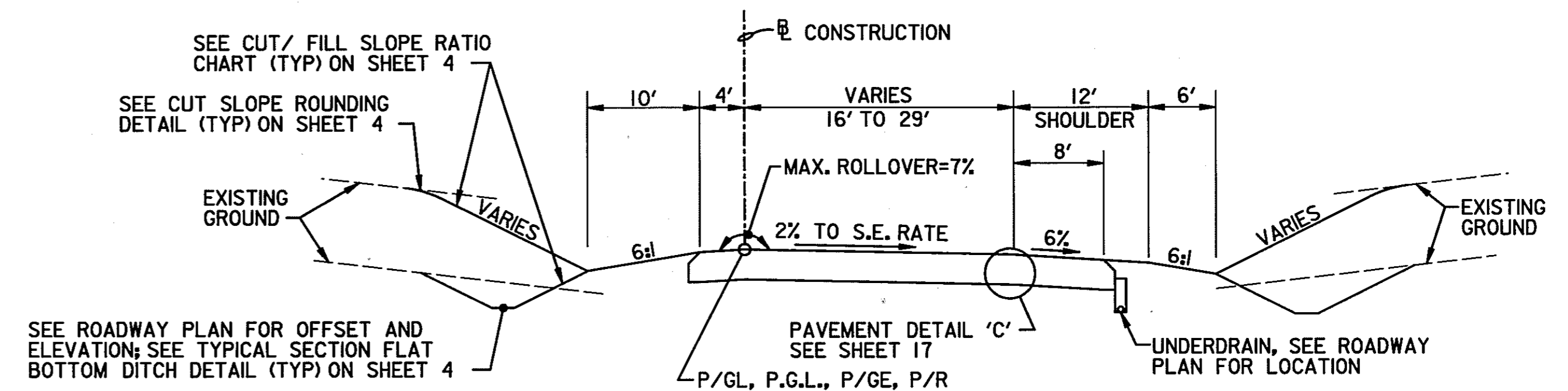
RAMP 2
STA. 205+00.00 TO STA. 212+82.33



RAMP 3
STA. 304+50.00 TO STA. 311+50.00



RAMP 3
STA. 300+00.00 TO STA. 301+97.47



RAMP 3
STA. 311+50.00 TO STA. 313+91.29

NOTE:
DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH.
DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH.

SCALE: NOT TO SCALE

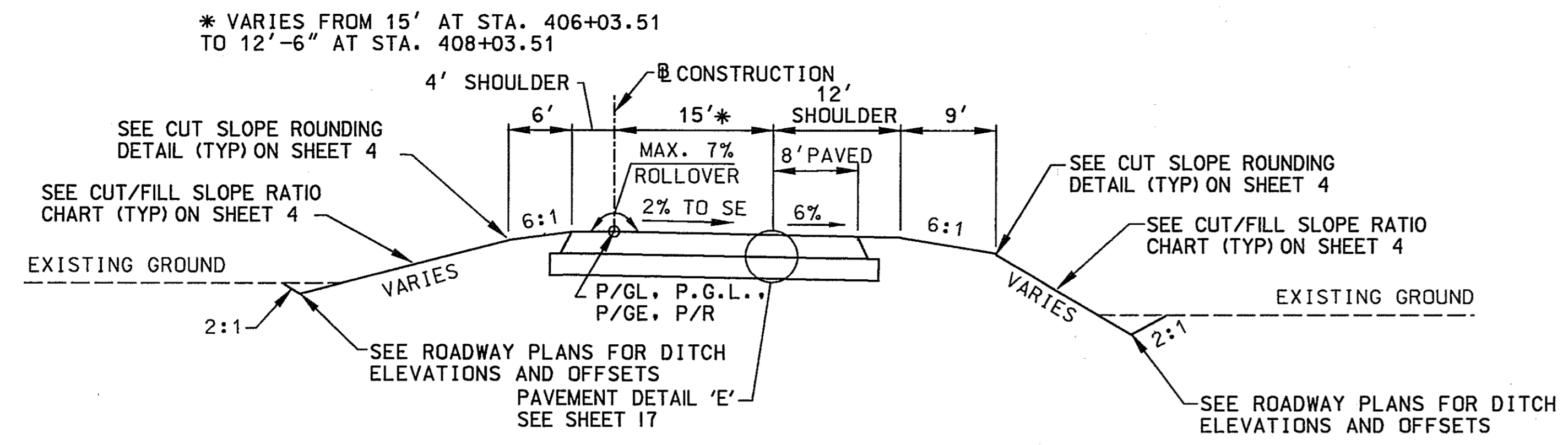
TYPICAL SECTIONS

TS 5 OF 14

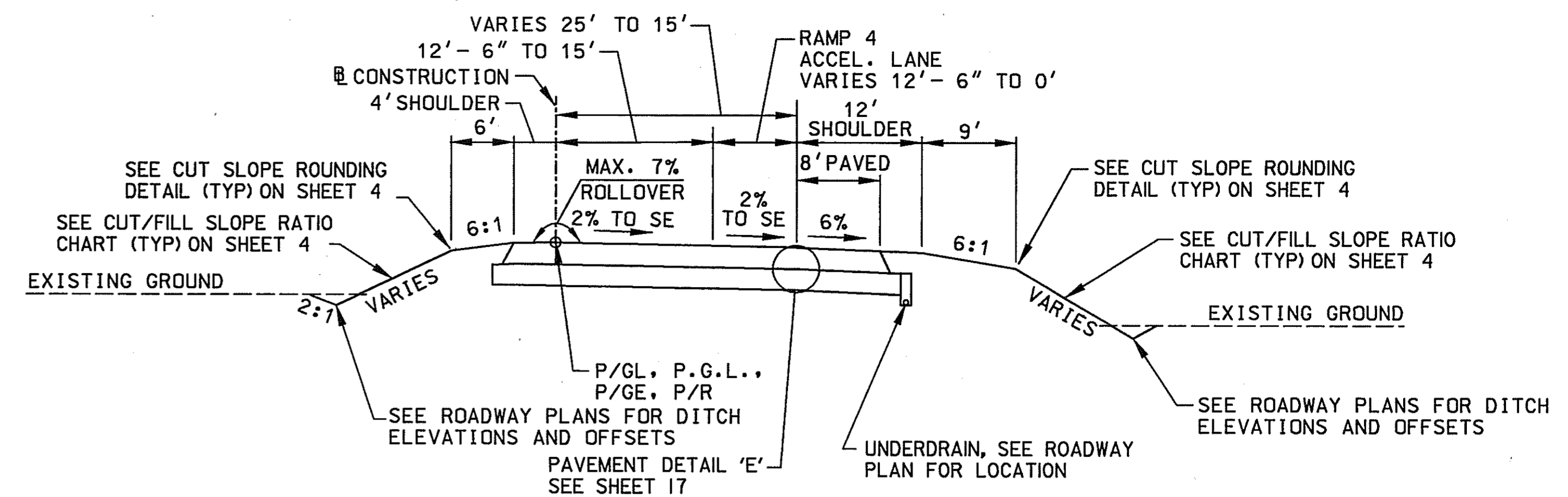
HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
1	REDLINE NO. 1 DATE: 2/20/01

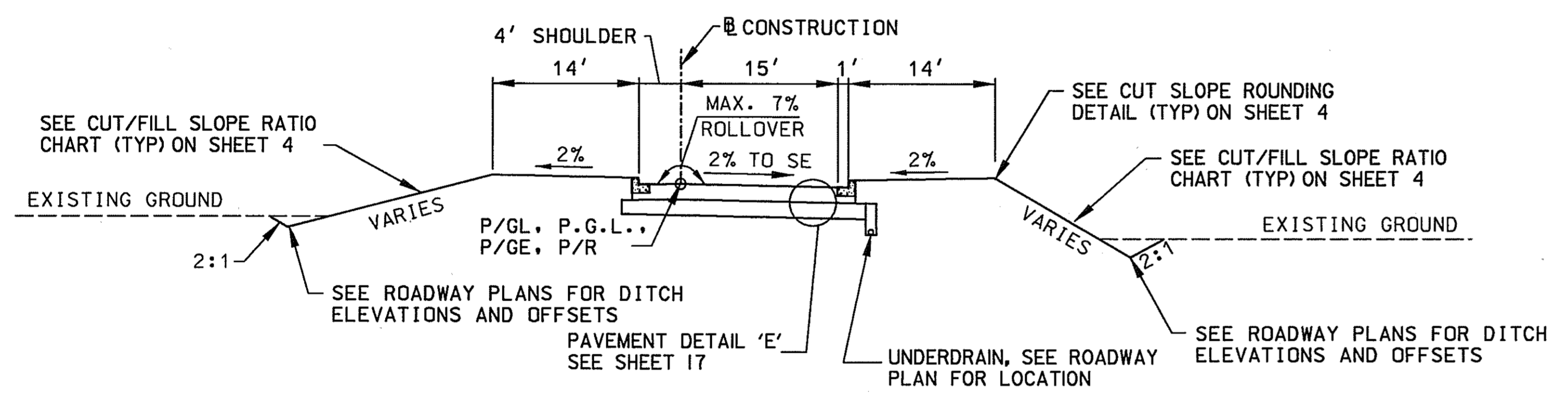
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 8		OF 320	



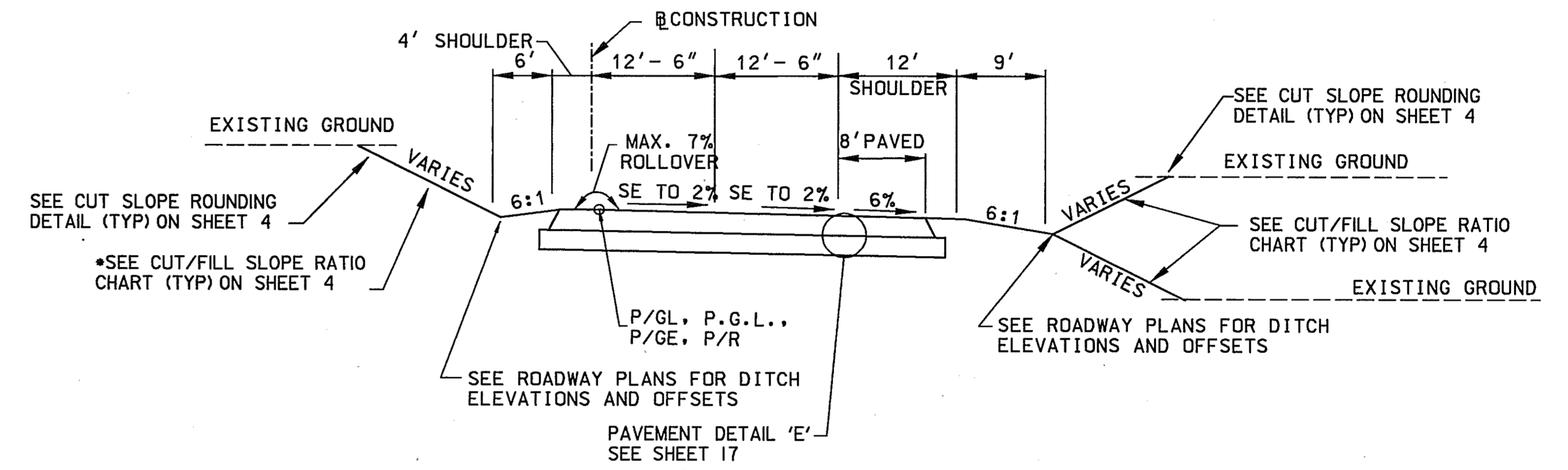
RAMP 4
STA. 401+80 TO STA 408+03.51



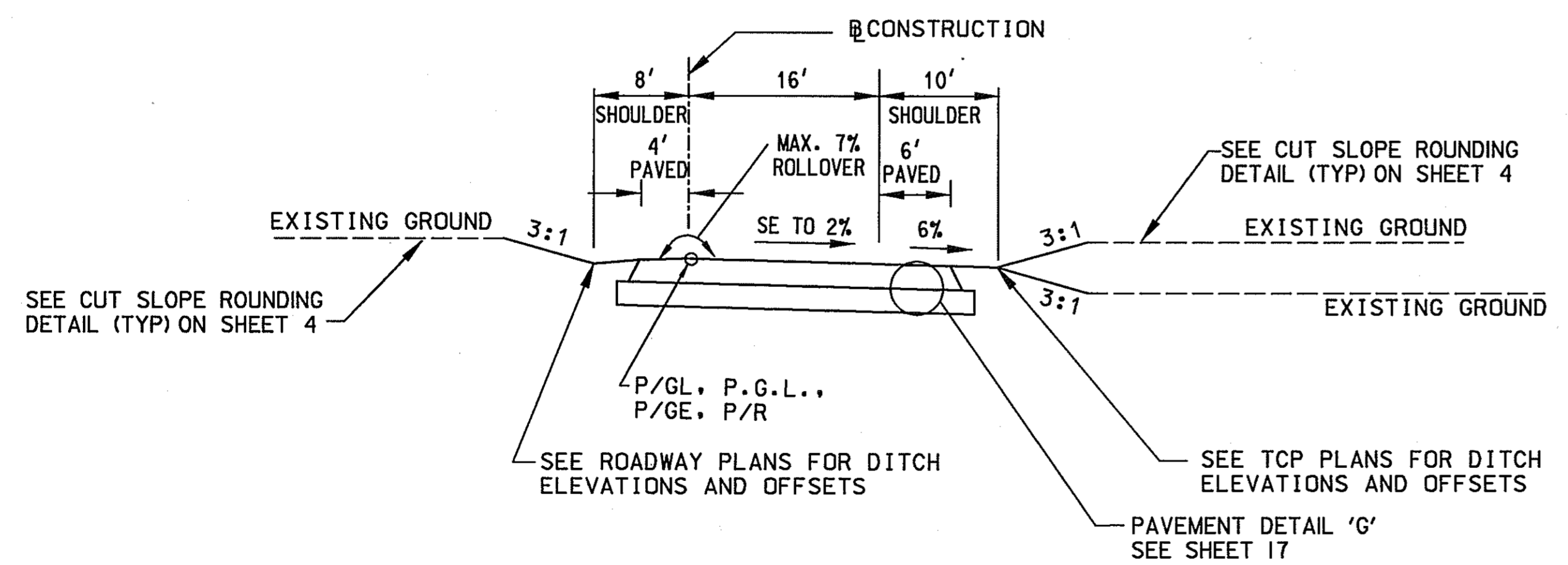
SPUR 4
STA. 1408+83.80 TO STA 1411+83.80



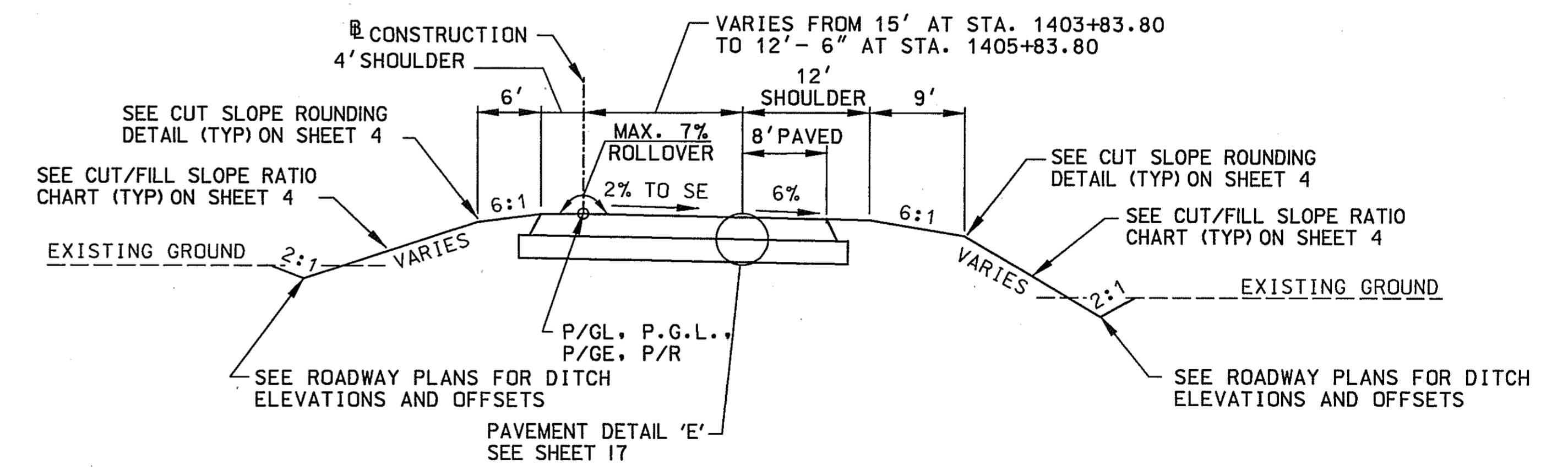
RAMP 4
STA. 401+15 TO STA 401+80



SPUR 4
STA. 1405+83.80 TO STA 1408+83.80



TEMPORARY RAMP 4
STA. 2401+75± TO STA. 2409+62±



SPUR 4
STA. 1400+75 TO STA 1405+83.80

TYPICAL SECTIONS

NOTE: DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH
DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH
SEE SHEETS 32 & 33 FOR SUPERELEVATION TRANSITION DETAILS.

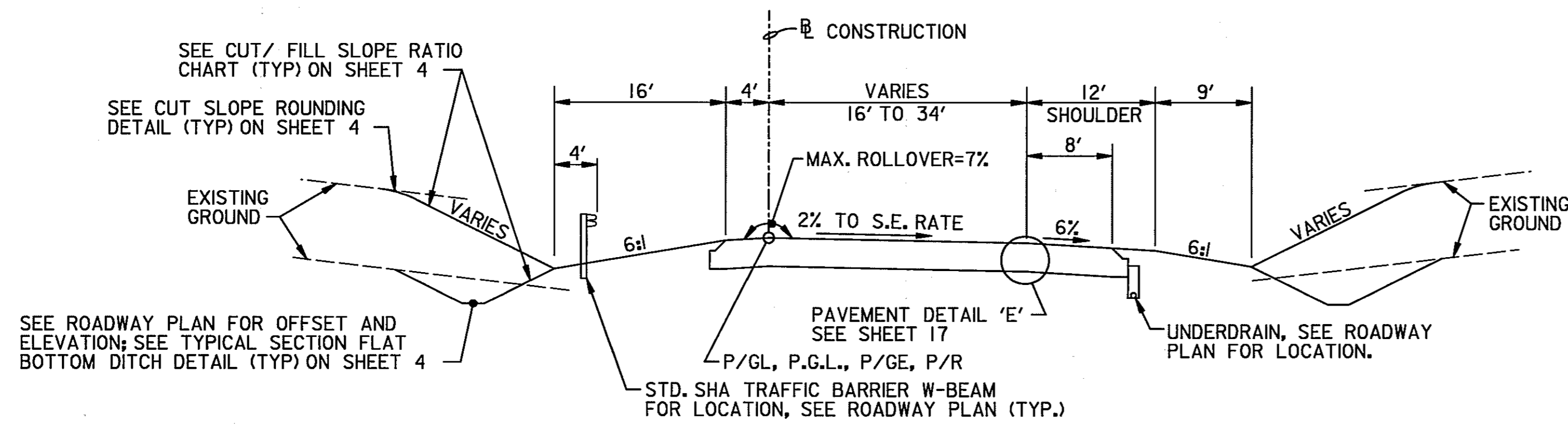
SCALE: NOT TO SCALE

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

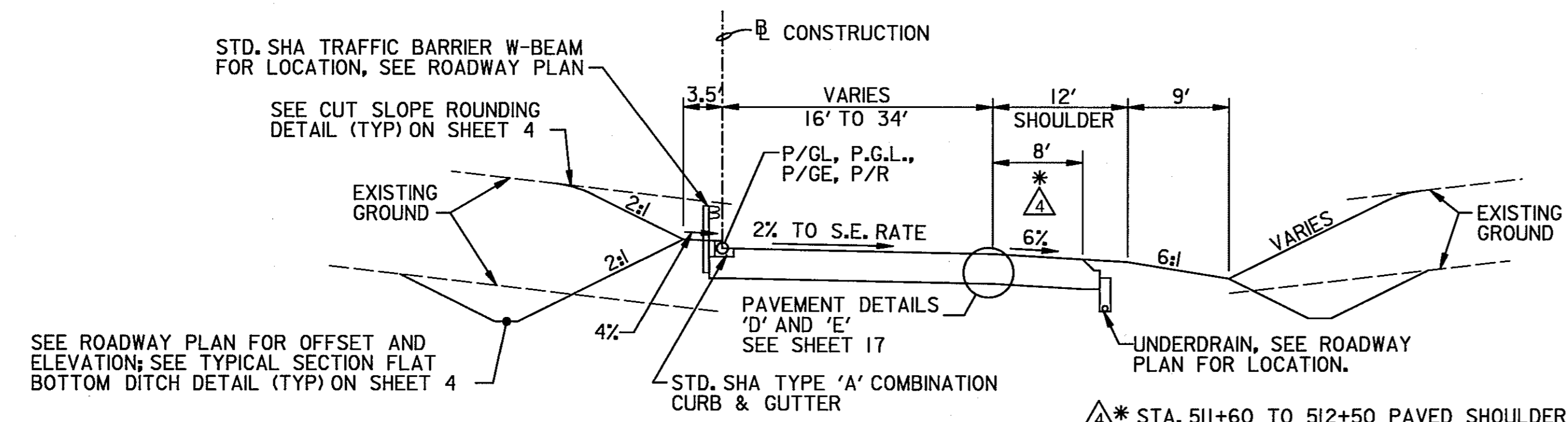
REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

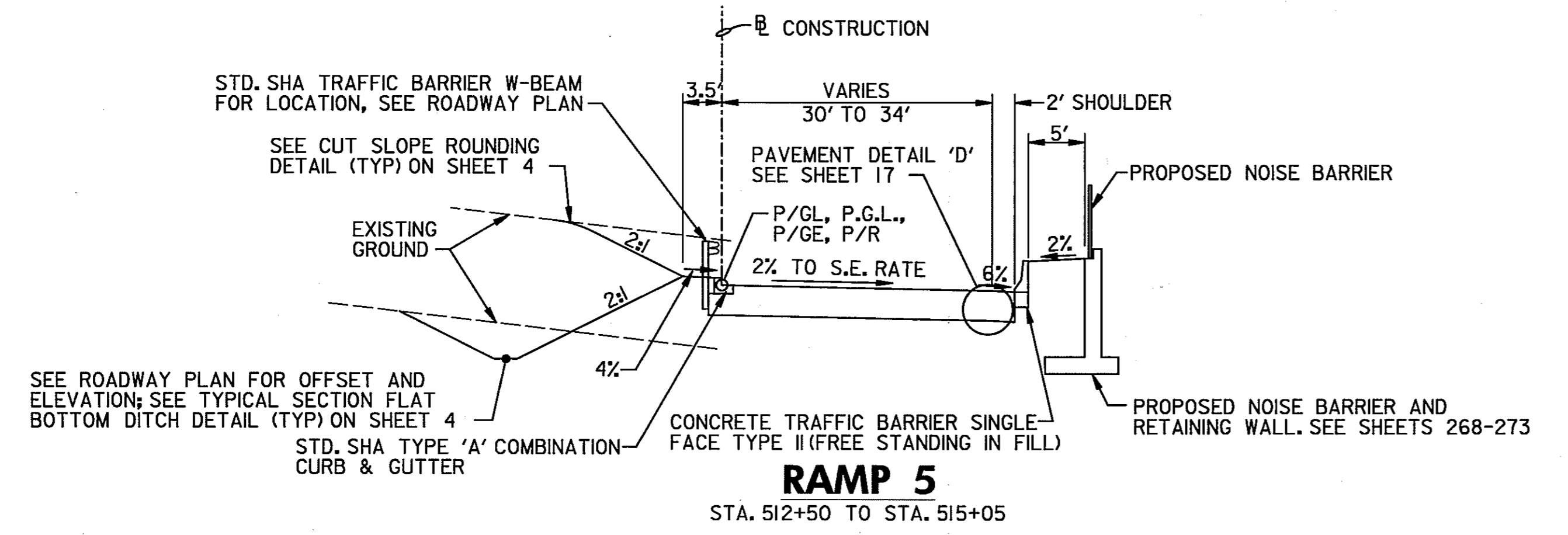
CONT. NO. HO7416170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 9 OF 320
PREL. TRAC. BY FINAL TRAC. BY



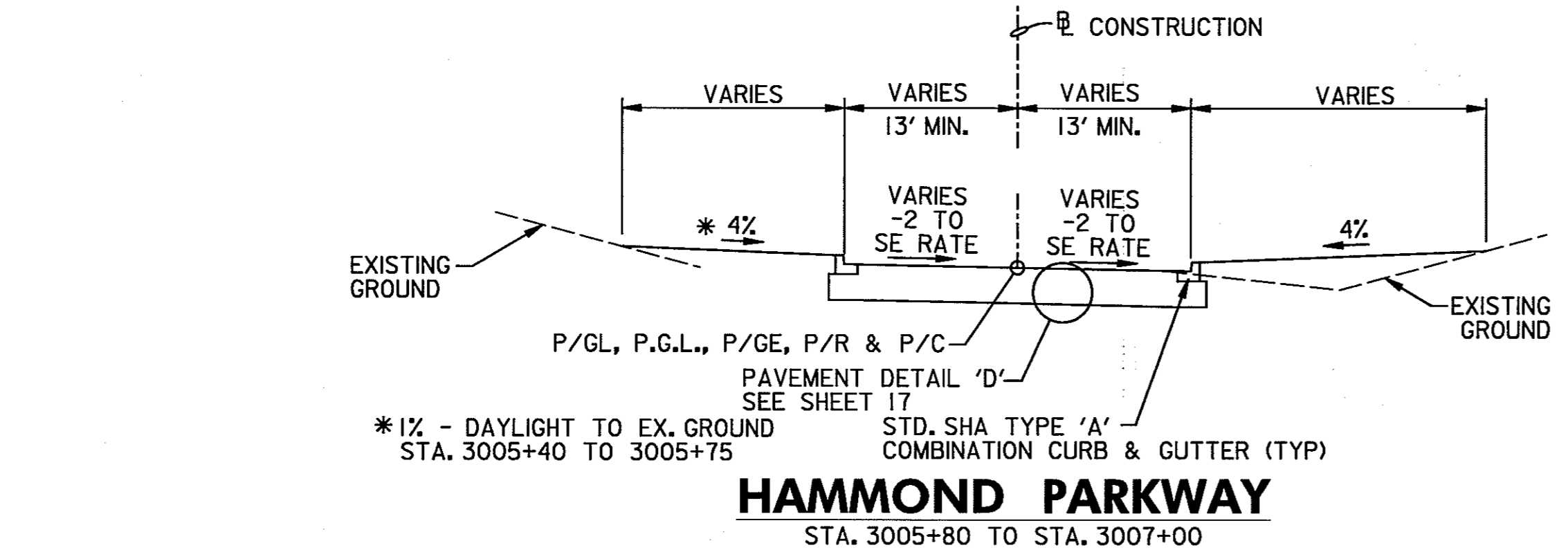
RAMP 5
STA. 500+00 TO STA. 502+50



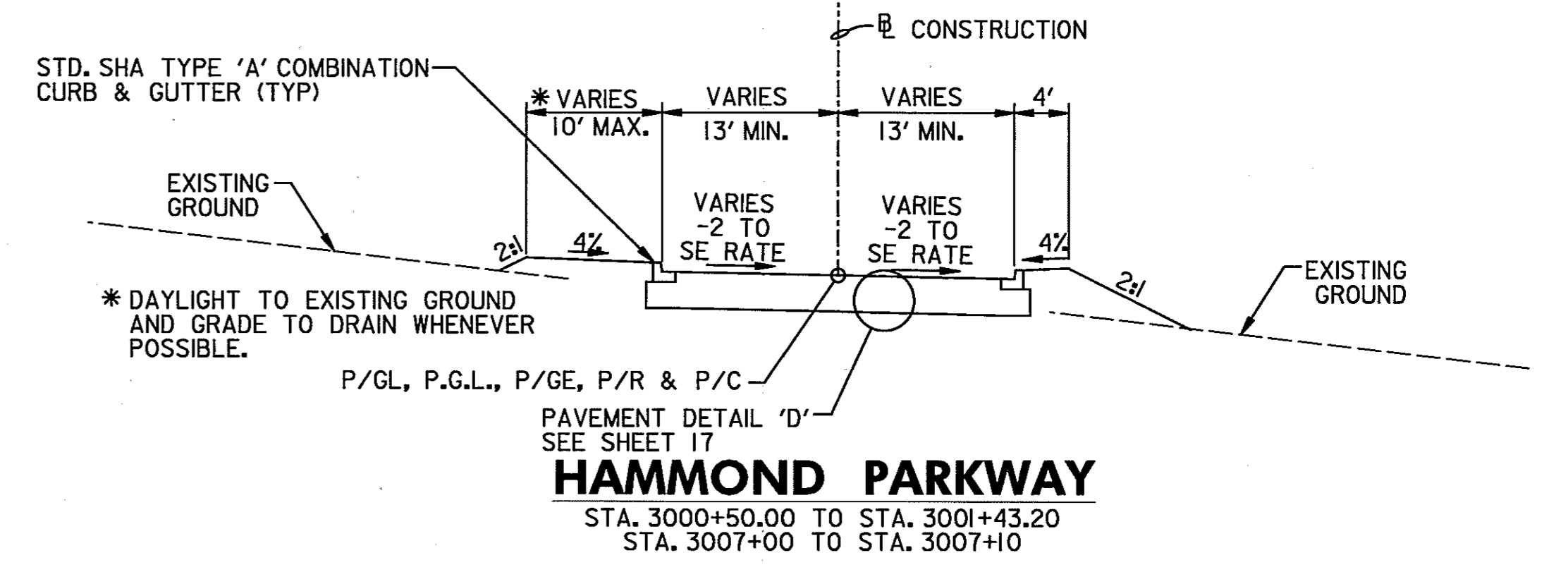
RAMP 5
STA. 502+50 TO STA. 512+50



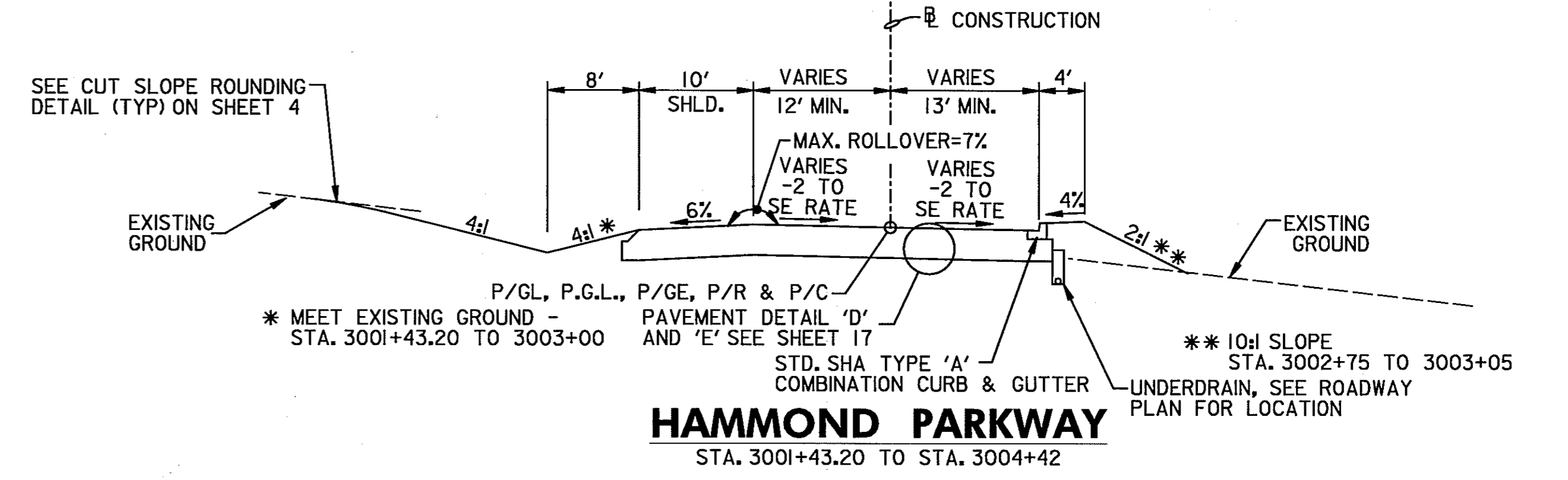
RAMP 5
STA. 512+50 TO STA. 515+05



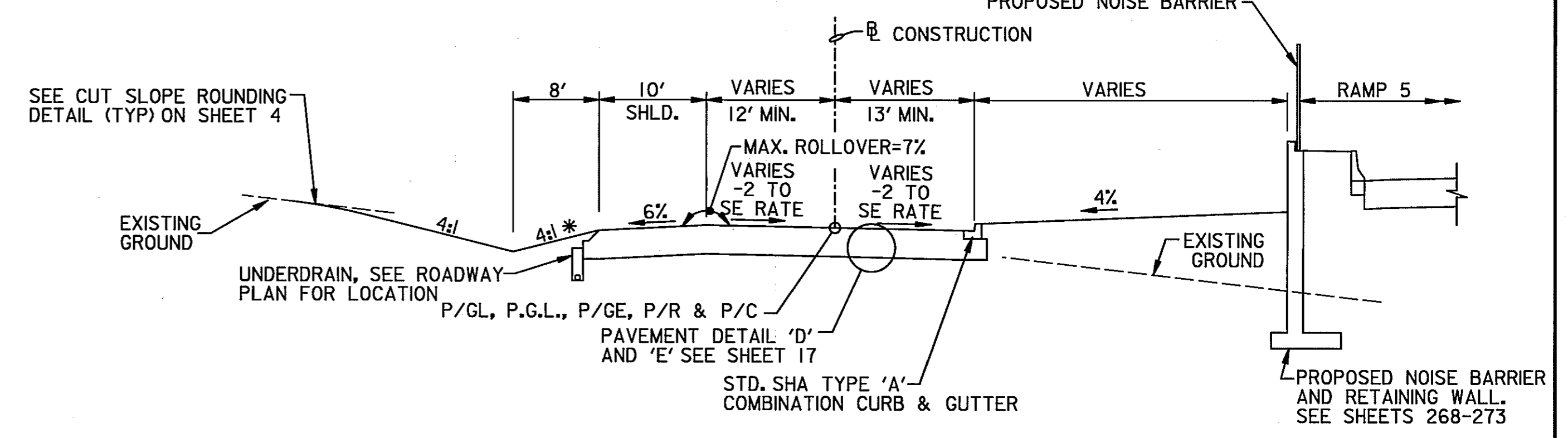
HAMMOND PARKWAY
STA. 3005+80 TO STA. 3007+00



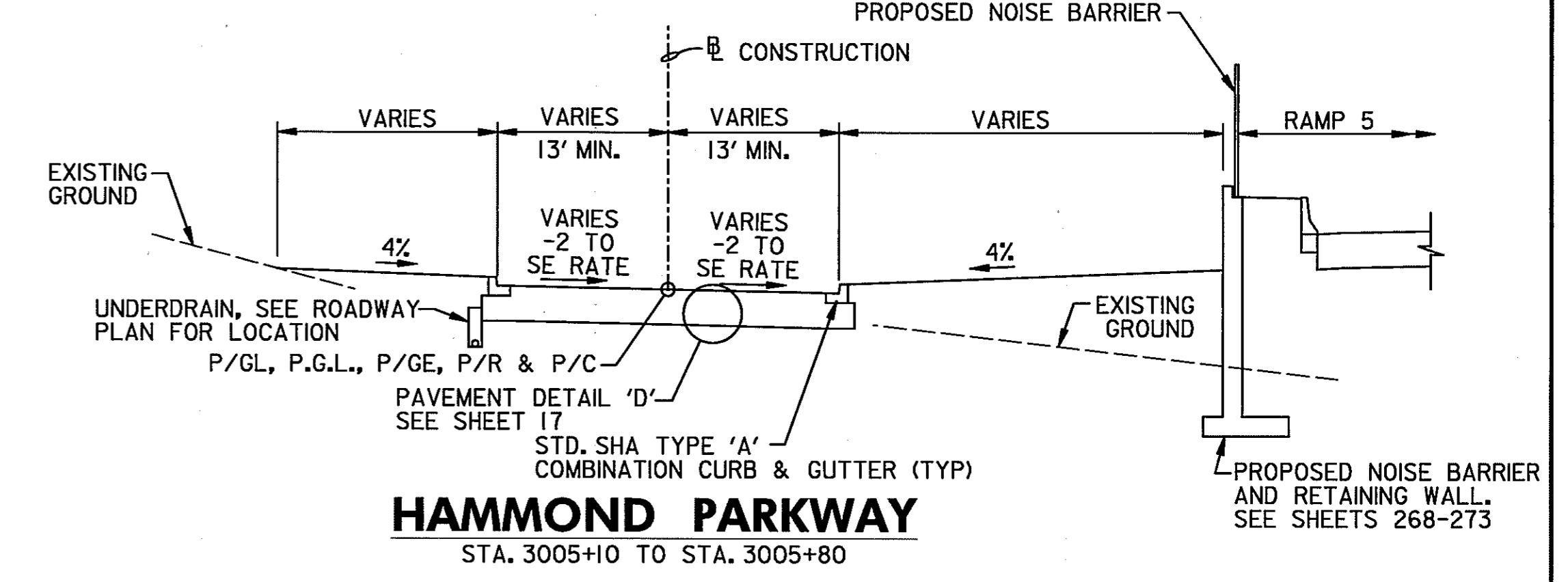
HAMMOND PARKWAY
STA. 3000+50.00 TO STA. 3001+43.20
STA. 3007+00 TO STA. 3007+10



HAMMOND PARKWAY
STA. 3001+43.20 TO STA. 3004+42



HAMMOND PARKWAY
STA. 3004+42 TO STA. 3005+10



HAMMOND PARKWAY
STA. 3005+10 TO STA. 3005+80

NOTE:
DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH.
DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH.

TYPICAL SECTIONS

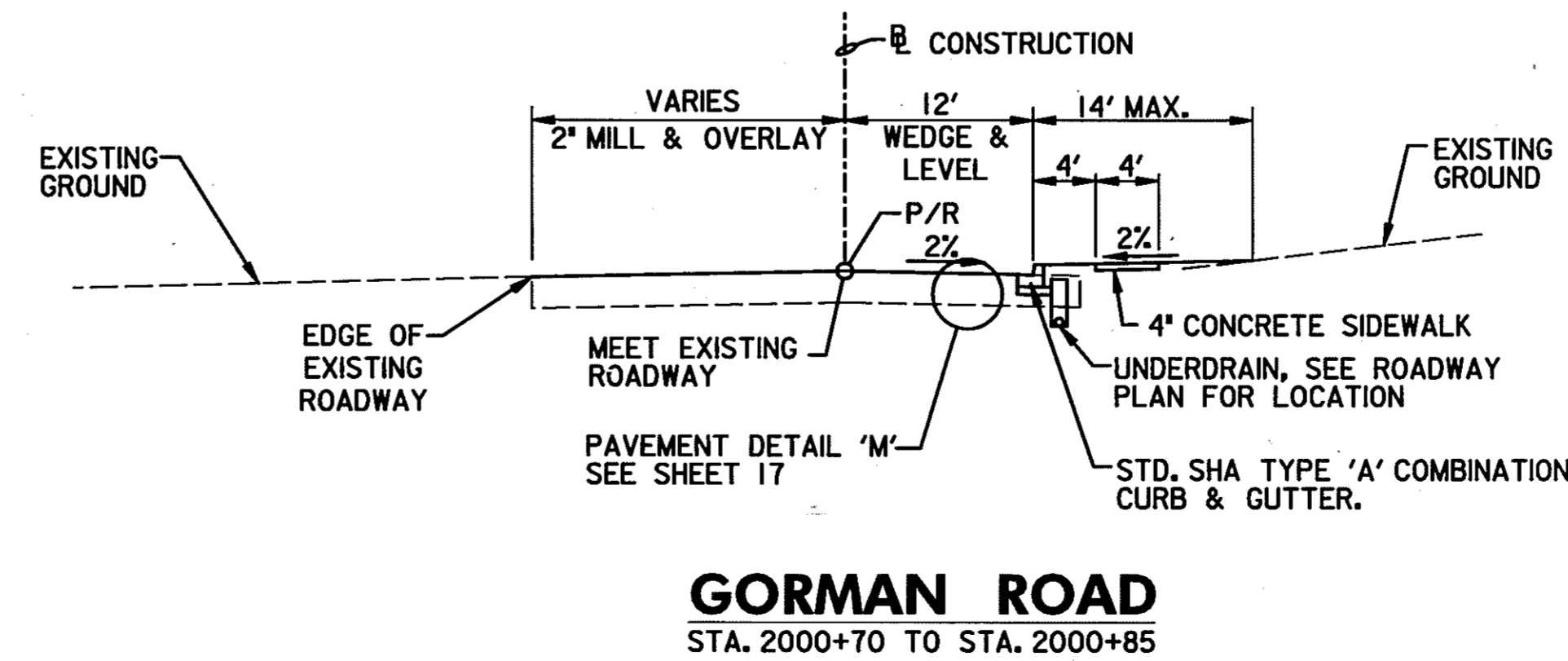
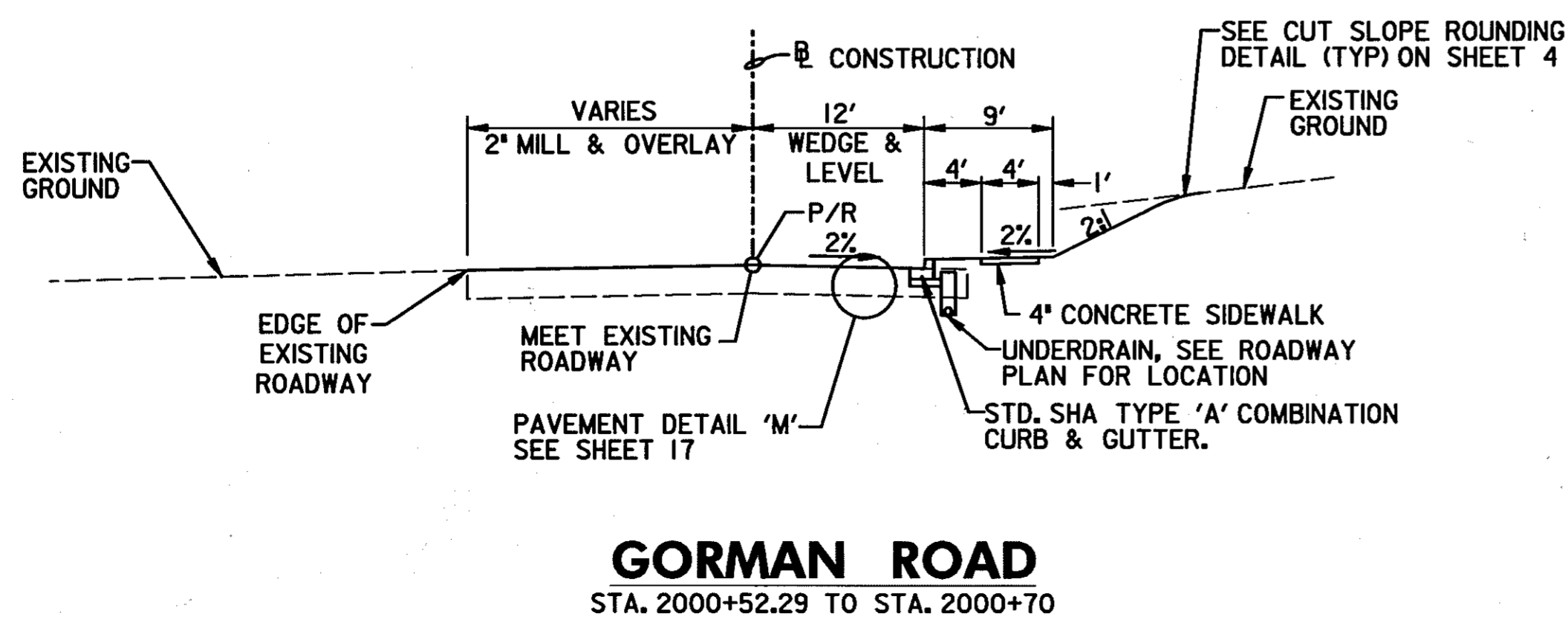
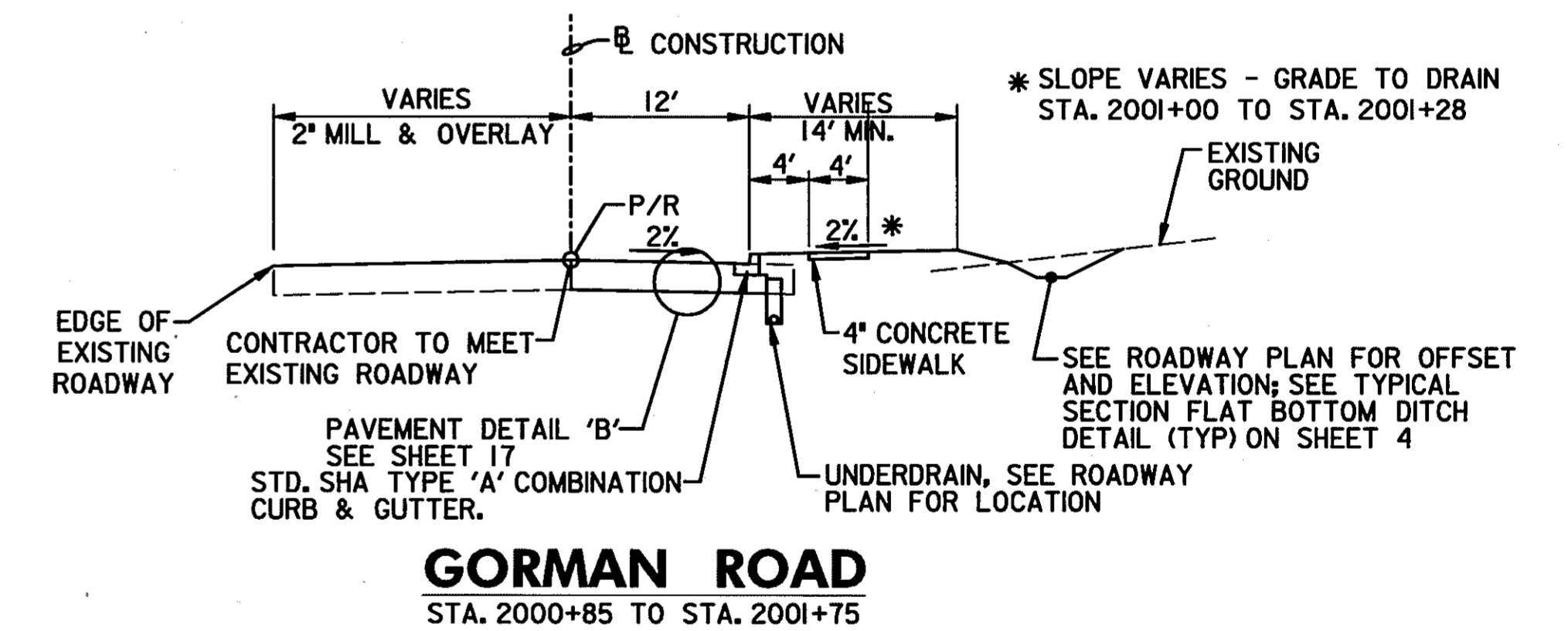
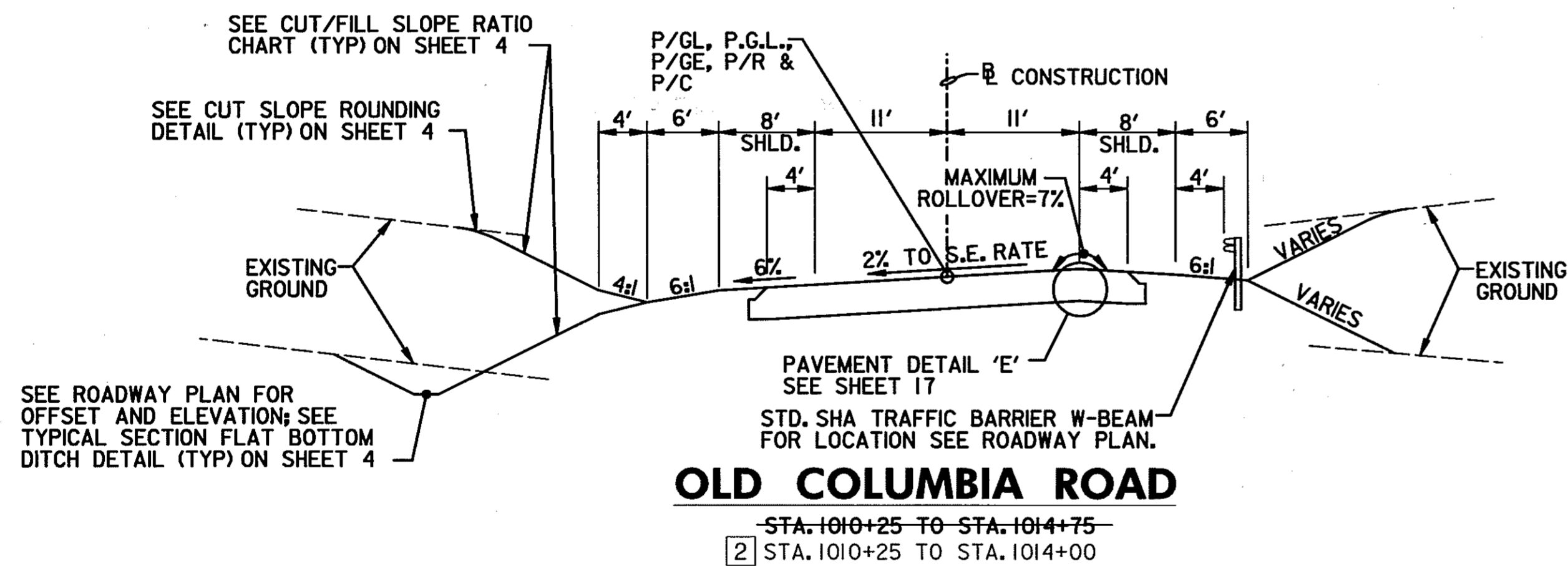
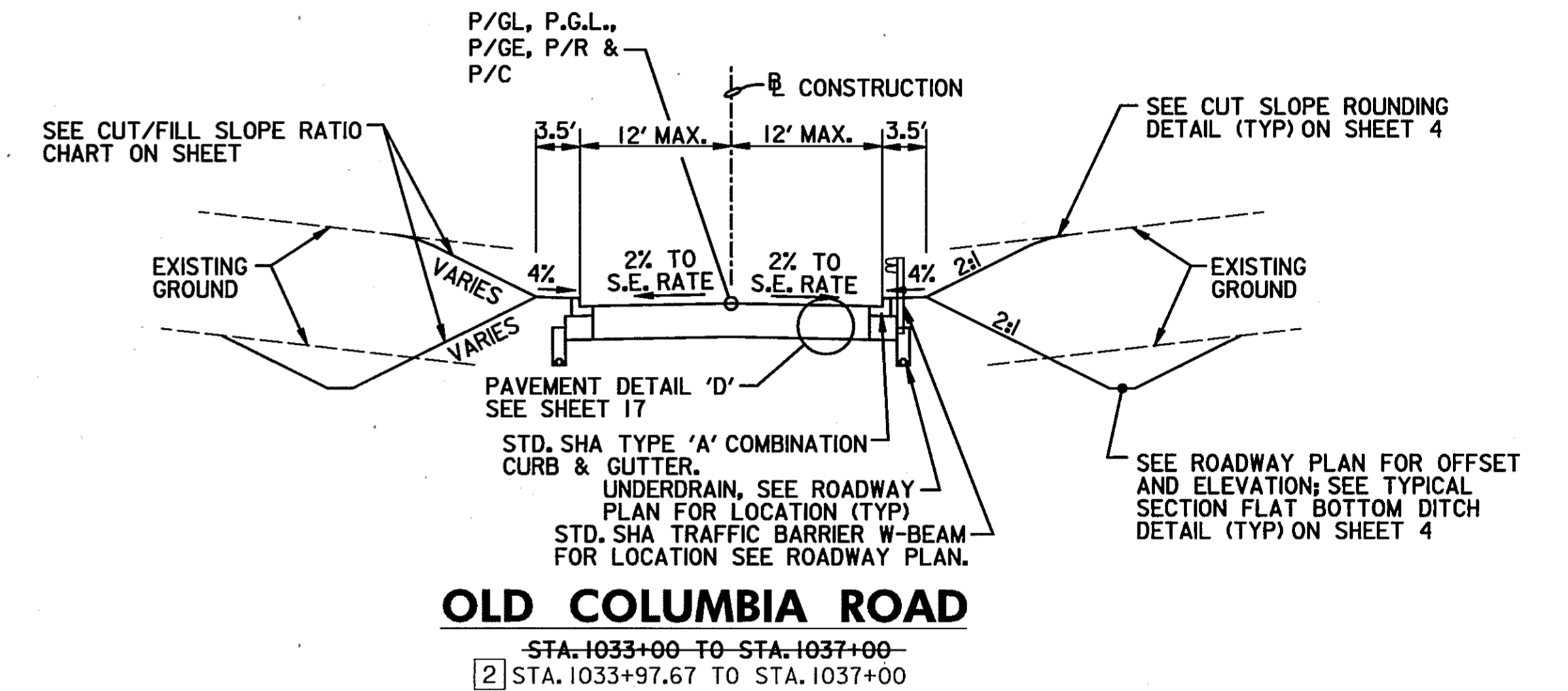
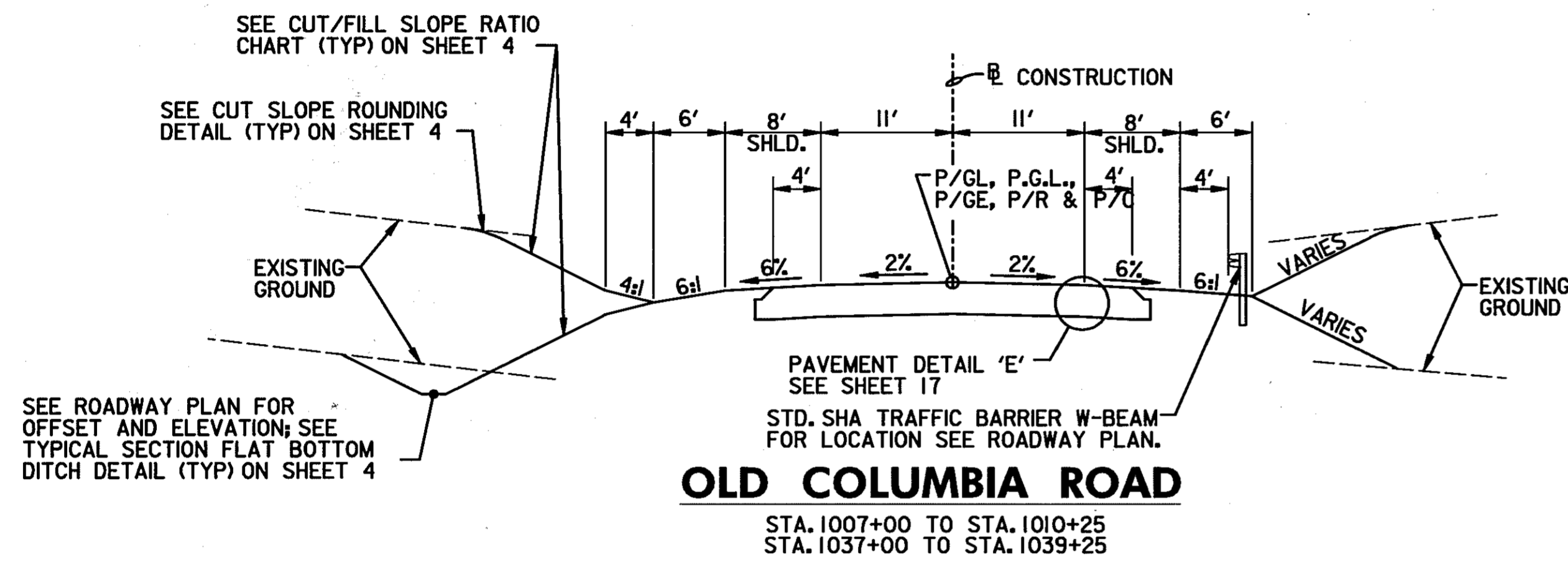
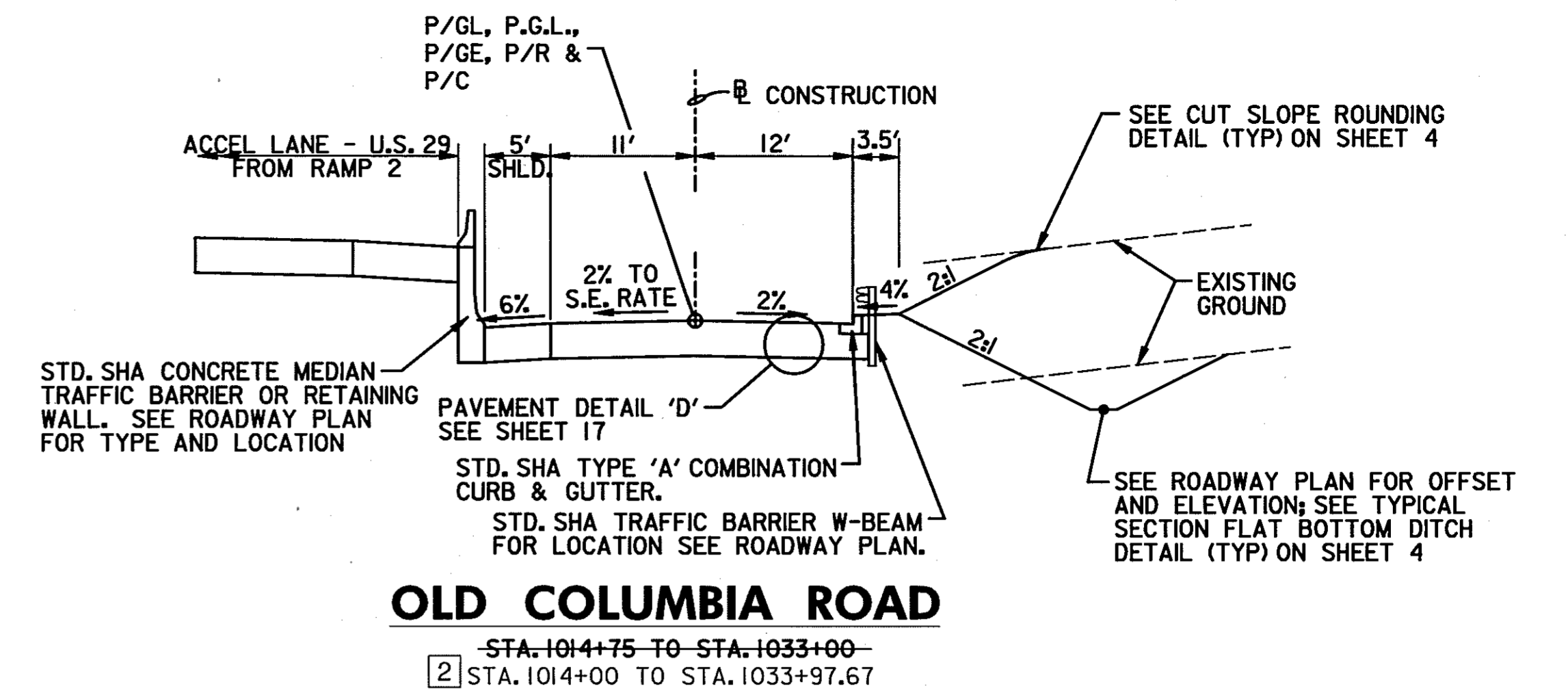
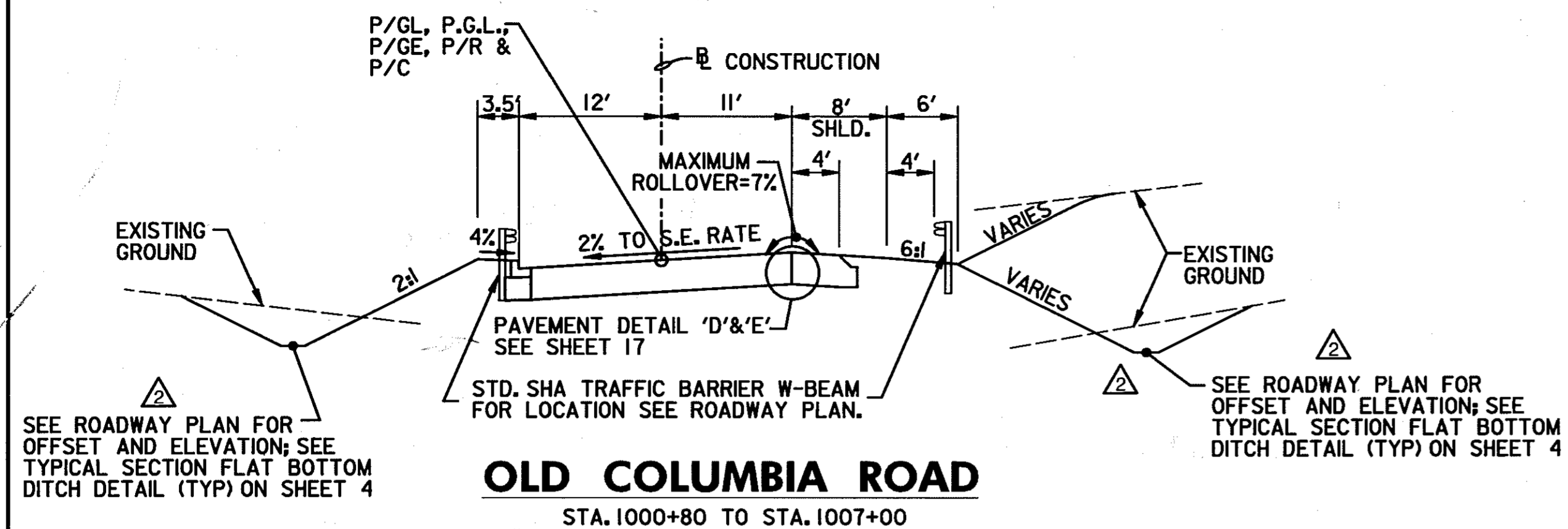
TS 7 OF 14

SCALE: NOT TO SCALE

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 4	DATE: 9/7/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 10		OF 320	



NOTE:
DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH.
DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH.

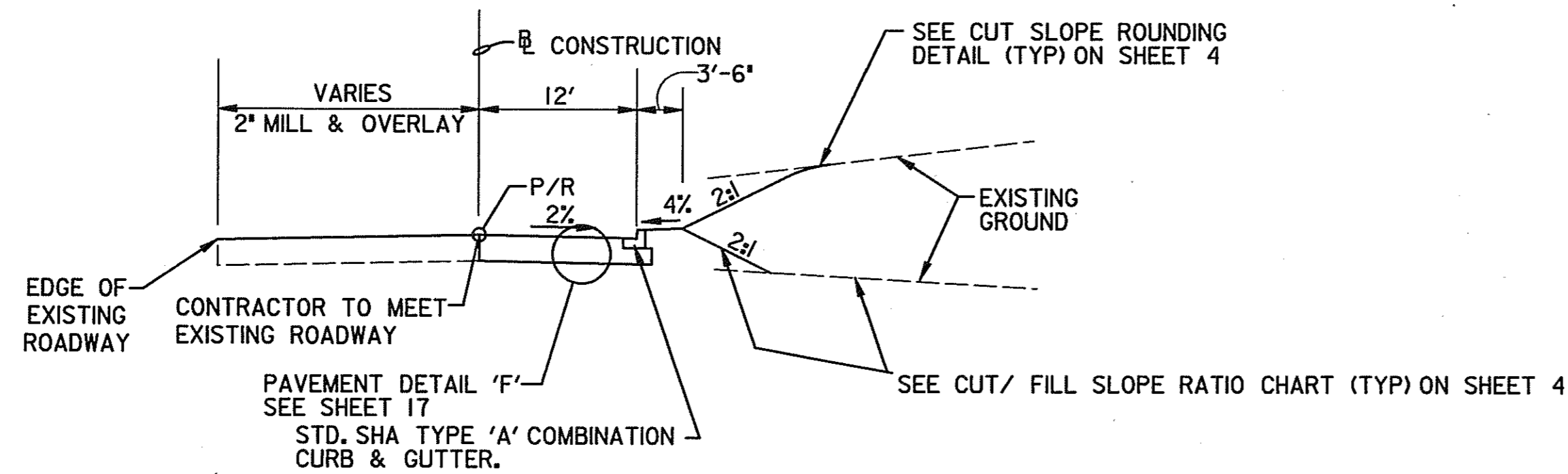
TYPICAL SECTIONS

SCALE: NOT TO SCALE

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

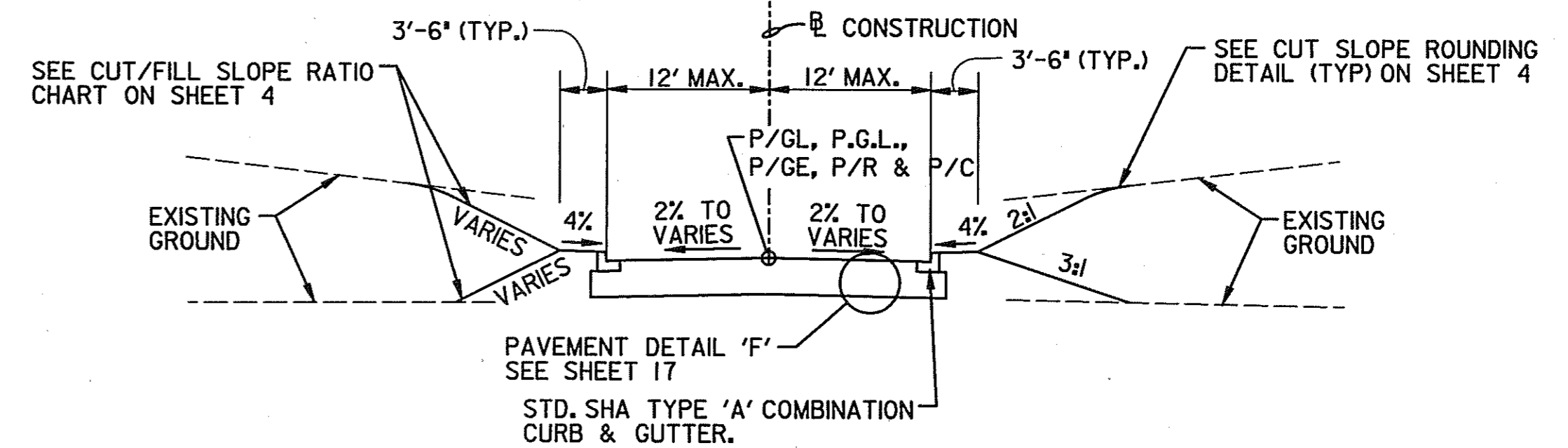
REVISIONS	
1	ADDENDUM NO. 2 DATE: 8/7/00
2	REDLINE NO. 2 DATE: 7/30/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 11		OF 320	



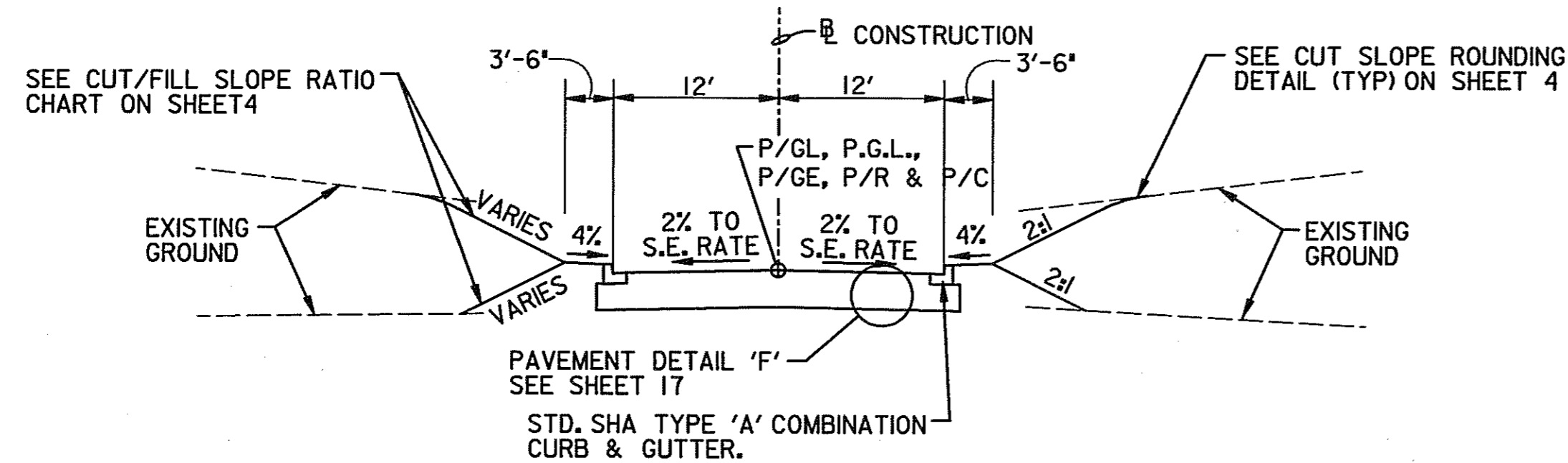
BODY SHOP NORTH ENTRANCE

STA. 2+23 TO STA. 2+40



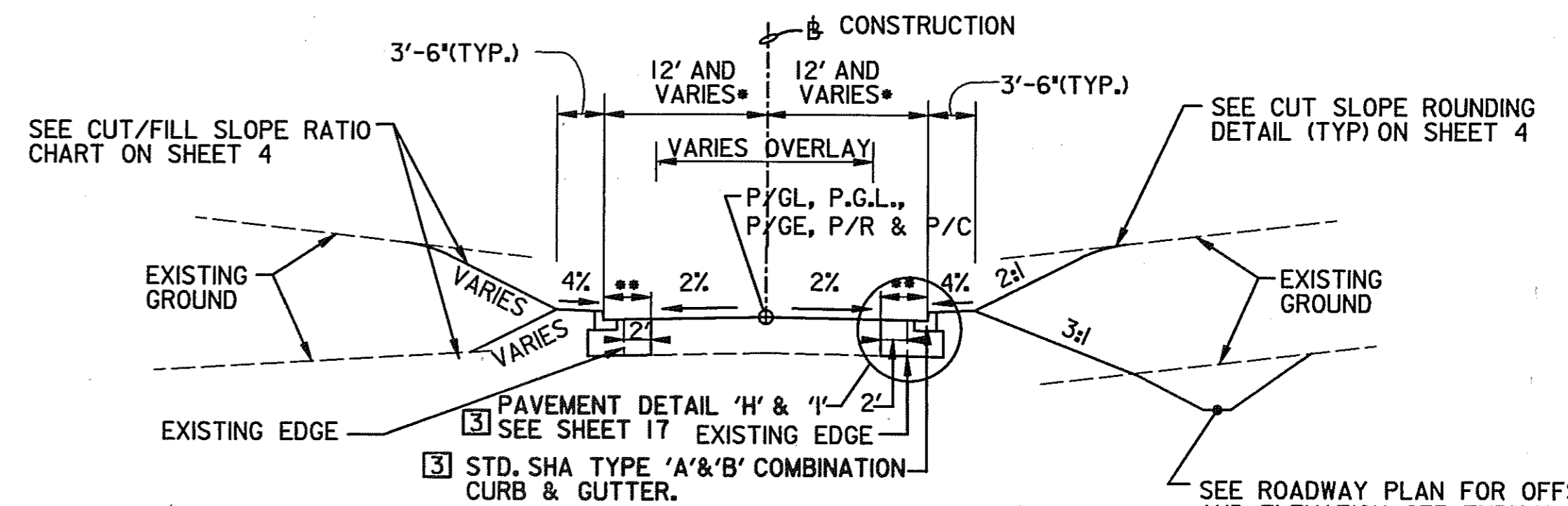
WESTVACO ENTRANCE

STA. 1+77 TO STA. 2+00



BODY SHOP NORTH ENTRANCE

STA. 1+66 TO STA. 2+23

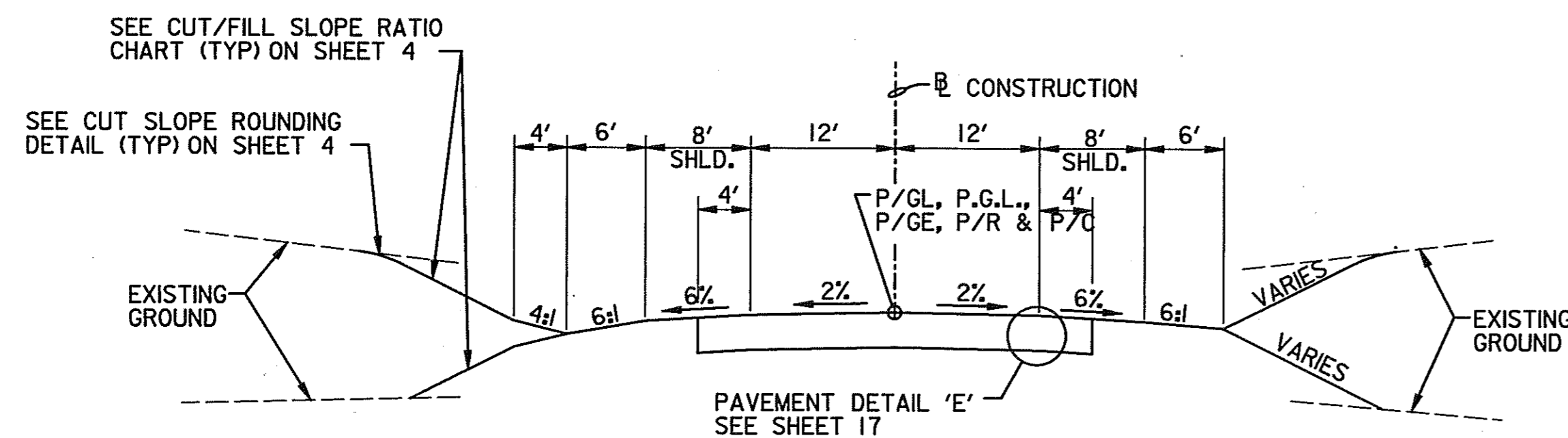


JHU-APL EAST ENTRANCE

STA. 7+01 LT TO STA. 7+61 LT
STA. 6+91 RT TO STA. 7+31 RT
9+25

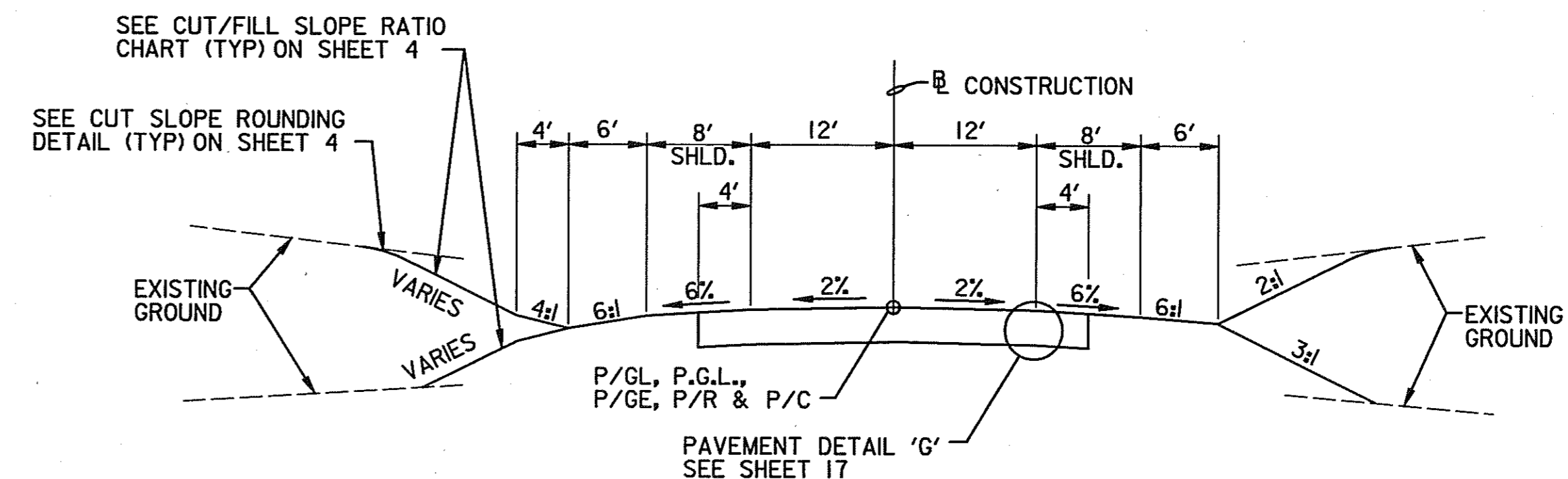
*VARIES FROM 16' AT STA. 7+01 LT TO 12' AT STA. 7+61 LT FROM 16' AT STA. 6+90.76 RT TO 12' AT STA. 9+25 RT

** VARIES 3' MIN.



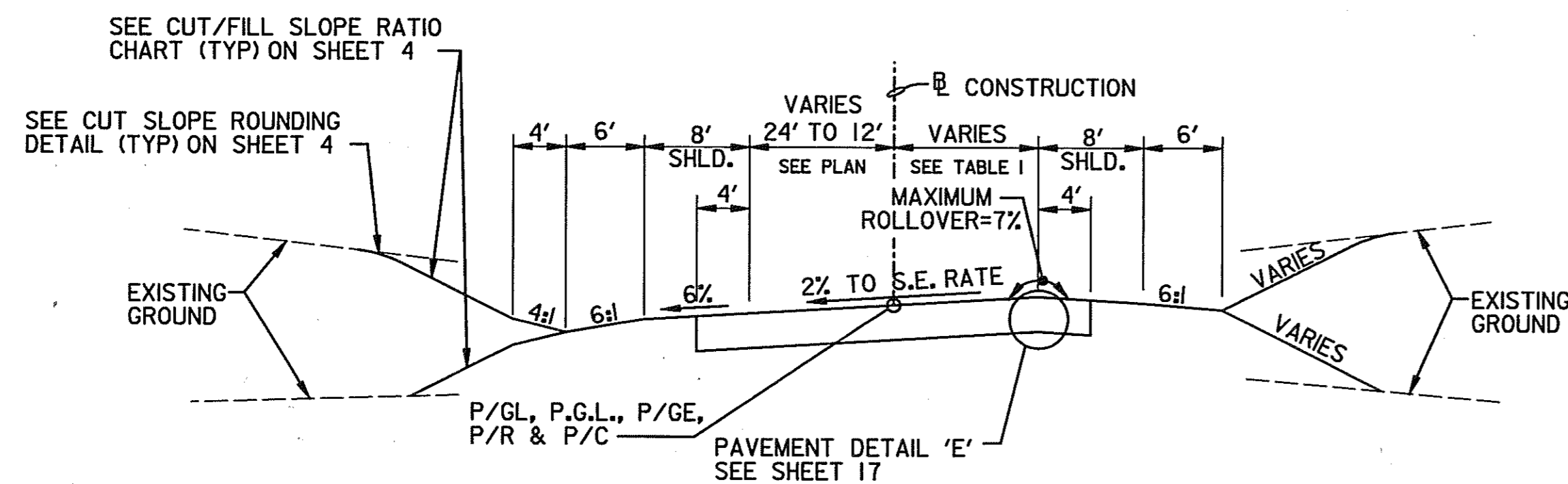
OLD COLUMBIA ROAD

STA. 13+03 TO STA. 14+18.71



BODY SHOP EAST ENTRANCE

STA. 20+38 TO STA. 21+76



OLD COLUMBIA ROAD

STA. 11+10 TO STA. 13+03

TABLE I	
WIDTH	STATION TO STATION
12' TO 28'	11+10.65 TO 11+77.56
28'	11+75.56 TO 12+30.78
28' TO 12'	12+30.78 TO 13+01.27

SCALE: NOT TO SCALE

NOTE: DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH
DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH
SEE SHEETS 32 & 33 FOR SUPERELEVATION TRANSITION DETAILS.

TYPICAL SECTIONS & MISCELLANEOUS DETAILS

TS 9 OF 14

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

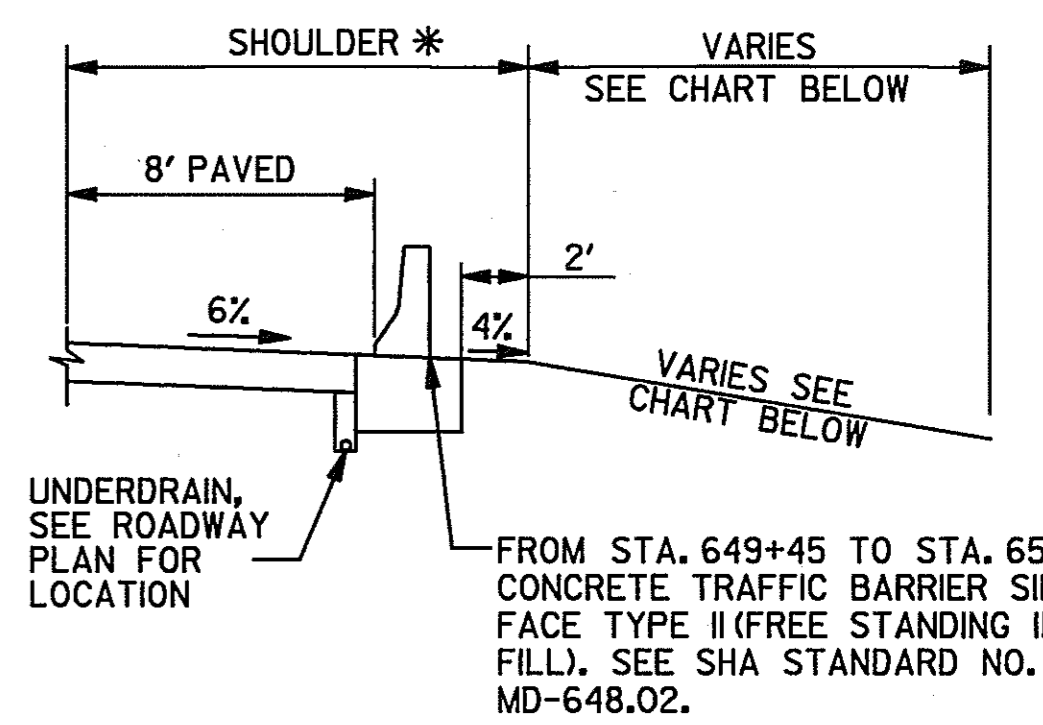
REVISIONS
3 REDLINE NO.3-
DATE: 1/31/02

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 12 OF 320
PREL. TRAC. BY FINAL TRAC. BY

NOTES

- 1: VARIES 0' TO 12' FROM STA. 591+85 TO STA. 594+85
- 2: VARIES 12' TO 24' FROM STA. 598+85 TO STA. 601+85
- 3: VARIES 4' TO 0' FROM STA. 643+57.23 TO STA. 645+50
- 4: VARIES 15' TO 12' FROM STA. 643+57.23 TO STA. 645+50
- 5: THRU LANE 15 PROPOSED IMPROVEMENT BY OTHERS SEE SHA CONTRACT No. HO 3065370
- 6: VARIES 12' TO 0' FROM STA. 653+57.21 TO STA. 656+57.21
- 7: VARIES 8' TO 10' FROM STA. 653+57.21 TO STA. 656+57.21
- 8: 6' WIDTH FROM STA. 652+00 TO STA. 653+50. VARIES FROM 6' AT STA. 653+50 TO 12' AT STA. 654+00
- 9: 2:1 SLOPE FROM STA. 662+00 TO STA. 653+50. THAN VARIES



STATION	SLOPE
648+00	6:1 FOR 12' THEN 2:1
648+50	4:1 FOR 12' THEN 2:1
649+00	2:1 UNTIL EXISTING GROUND
TO	
651+00	2:1 UNTIL EXISTING GROUND
651+50	4:1 FOR 6' THEN 2:1
652+00	6:1 FOR 6' THEN 2:1

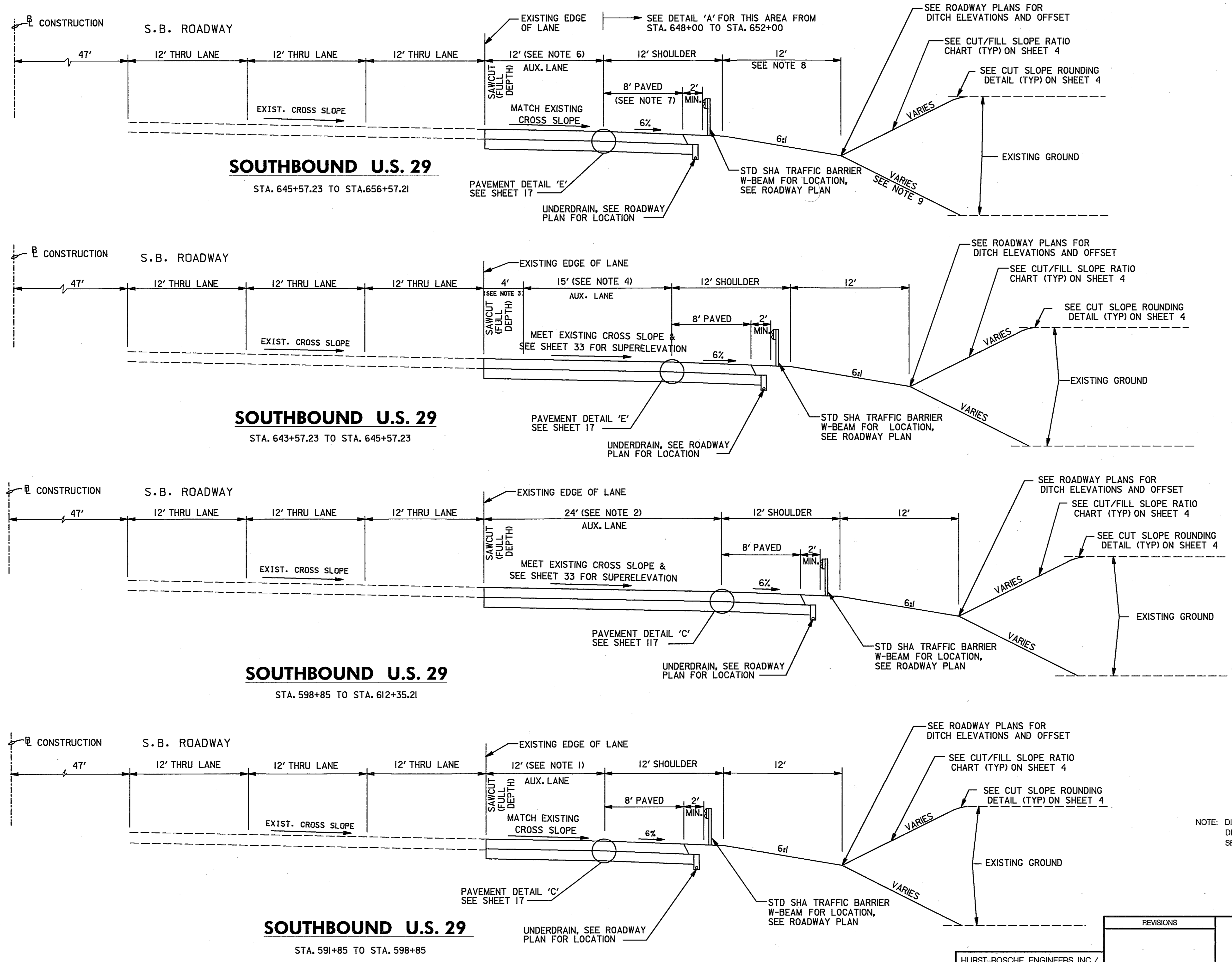
* TRANSITION SHOULDER FROM 12' AT STA. 649+40 TO 12.25' AT STA. 649+45 AND FROM 12.25' AT STA. 650+75 TO 12' AT STA. 650+80.

DETAIL 'A'

NOTE: DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH. DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH. SEE SHEETS 32 & 33 FOR SUPERELEVATION TRANSITION DETAILS.

TYPICAL SECTIONS

TS 10 OF 14



SCALE: NOT TO SCALE

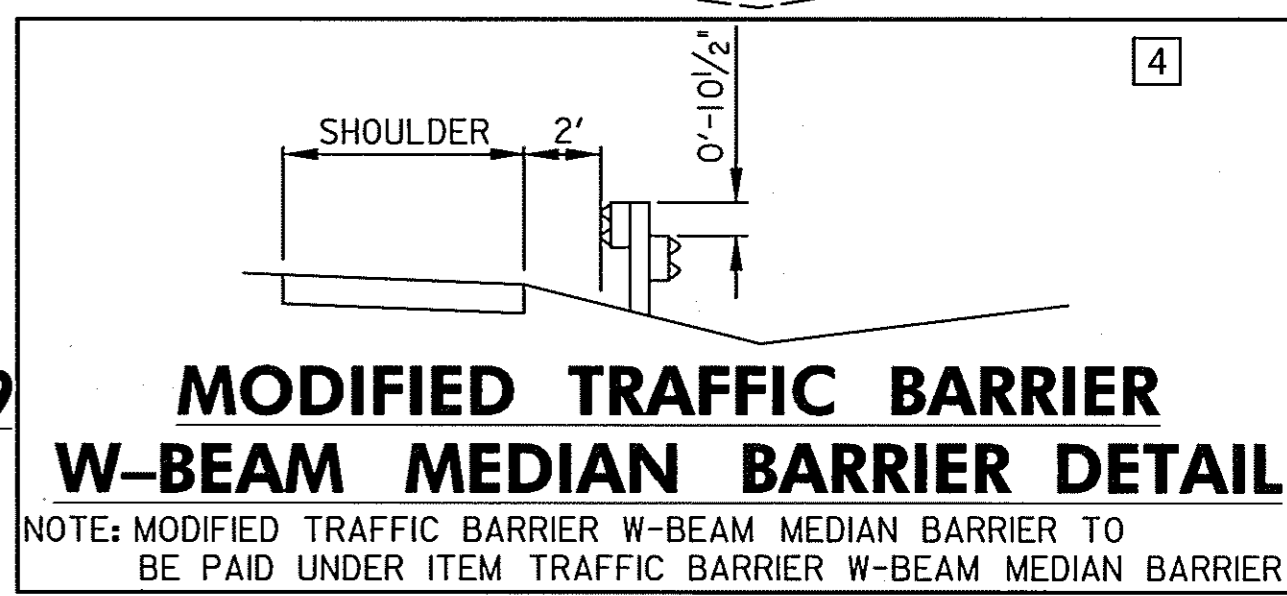
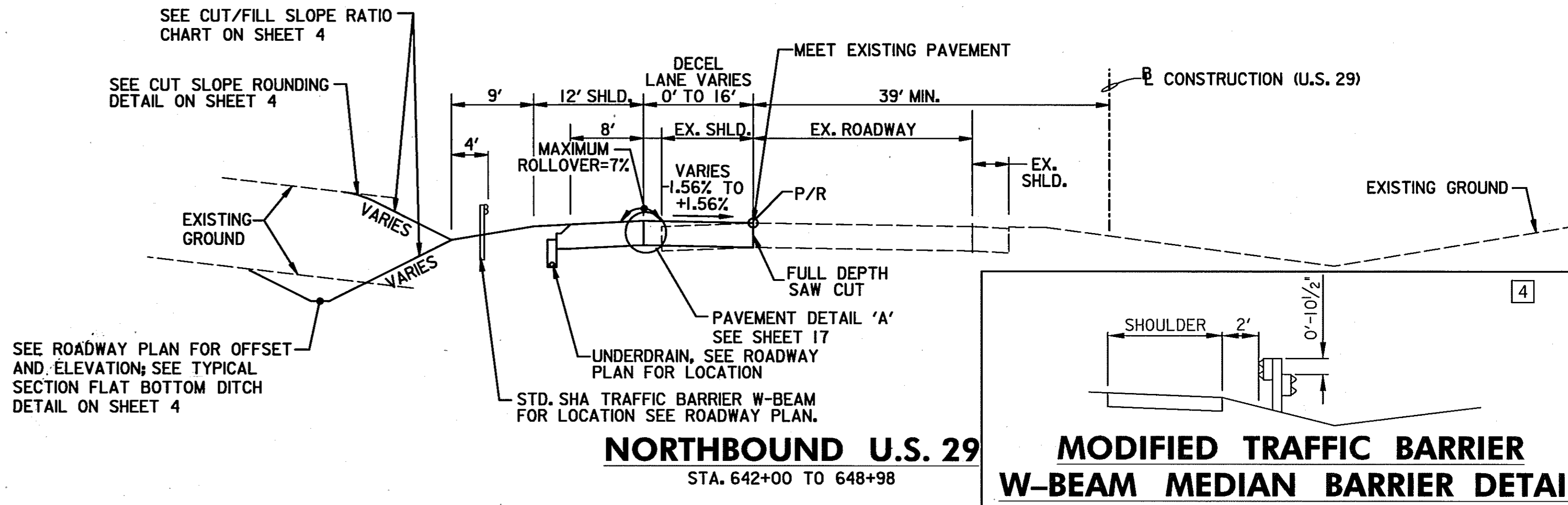
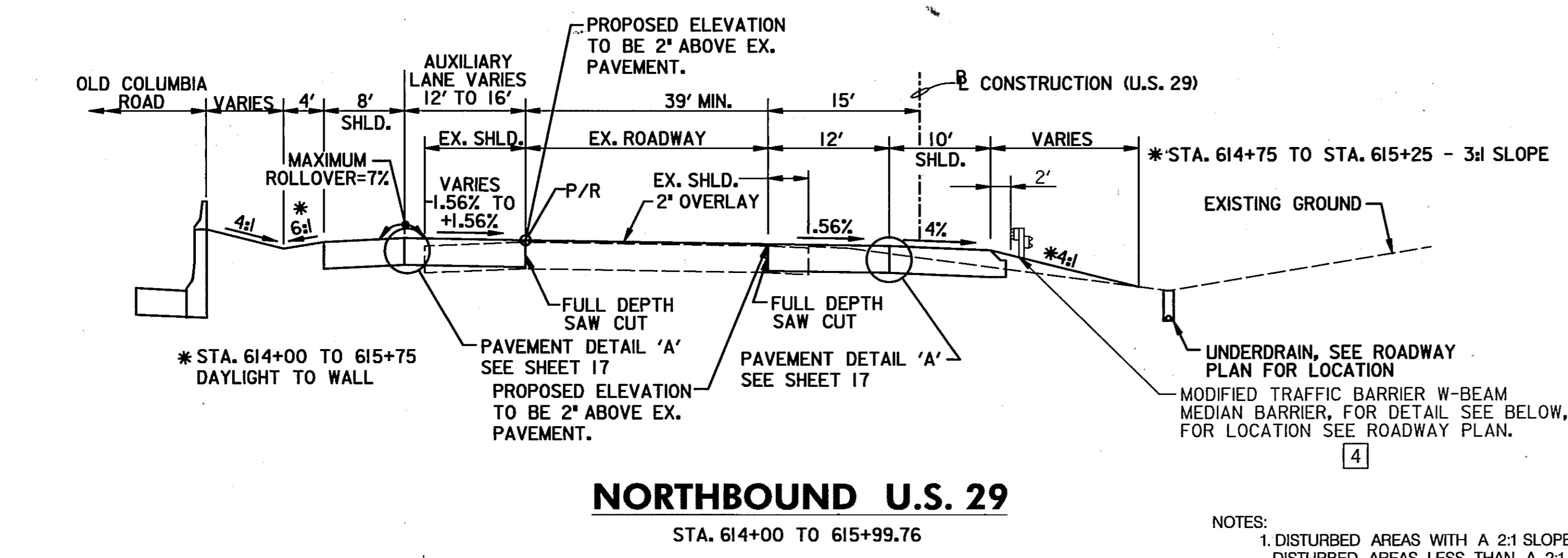
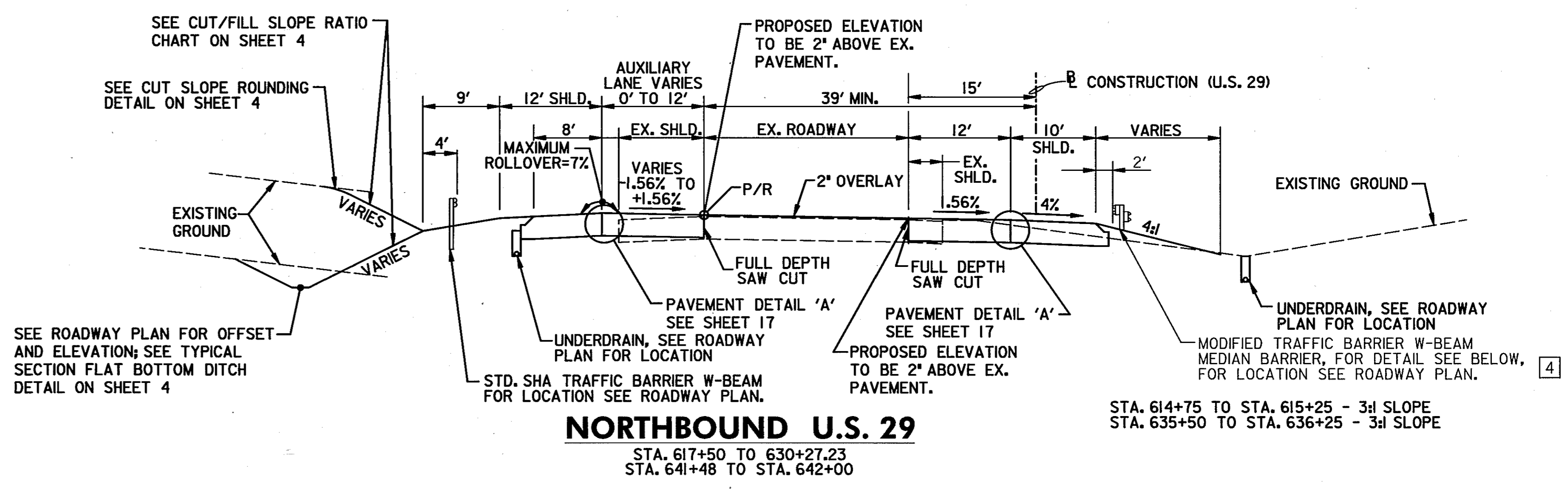
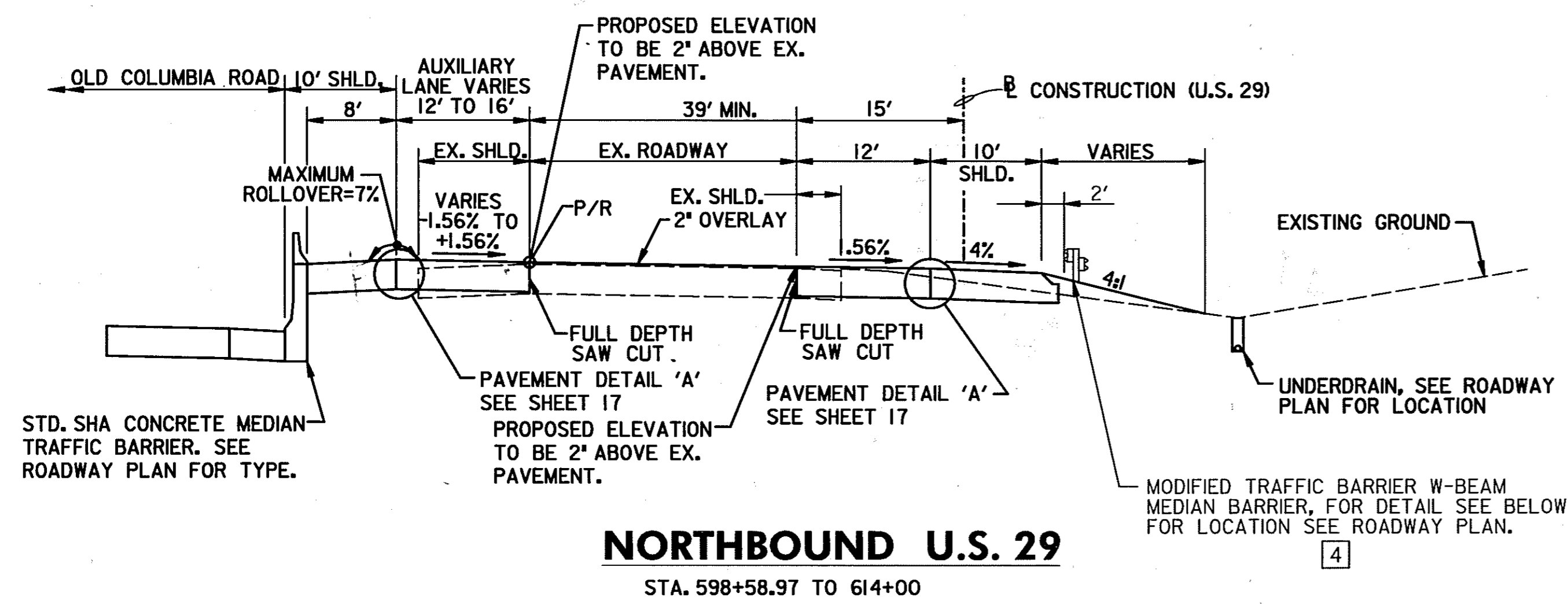
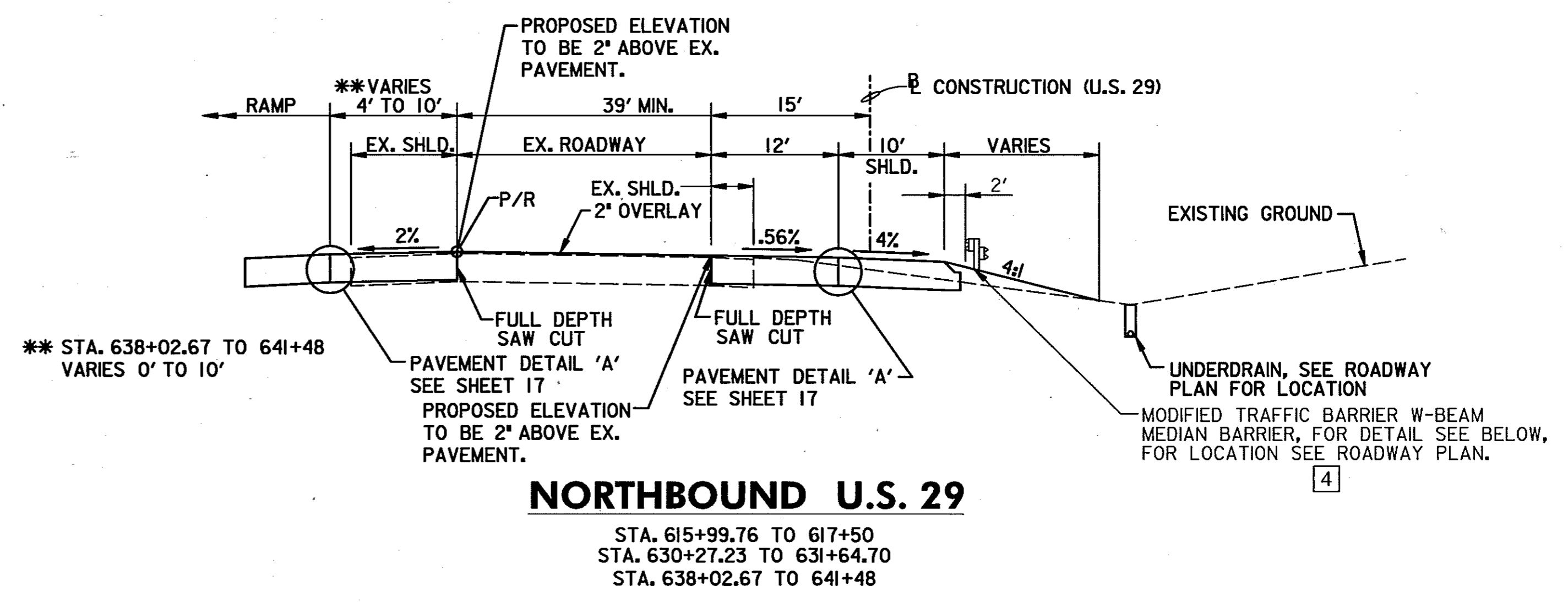
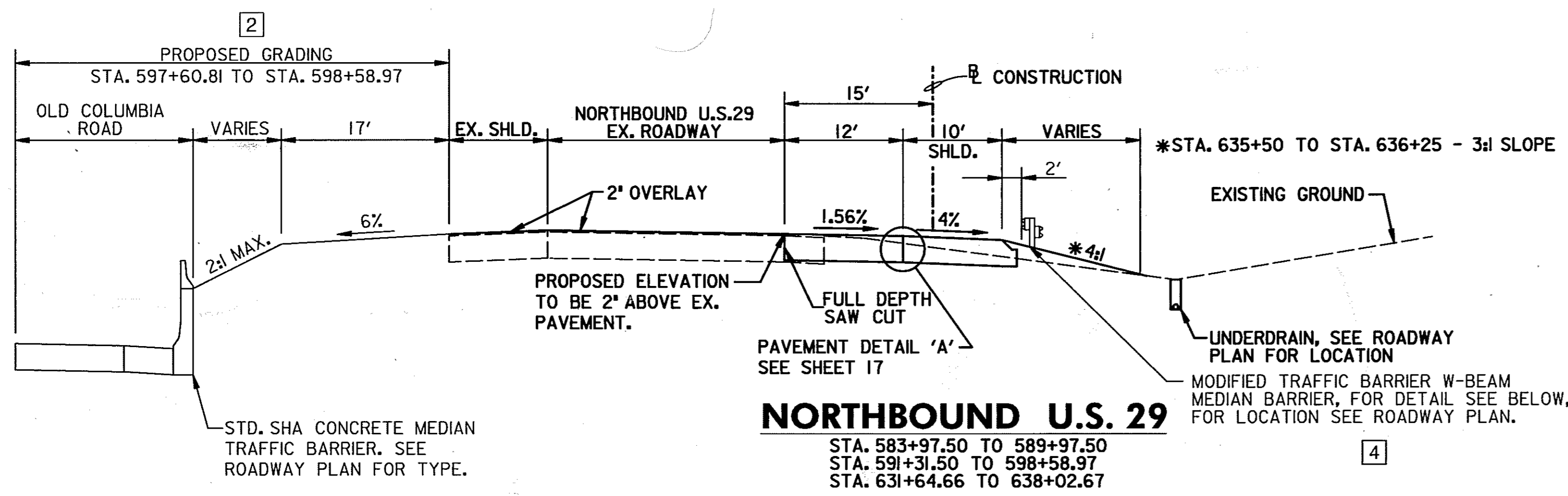
SCALE: PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 13 OF 320
PREL. TRAC. BY FINAL TRAC. BY

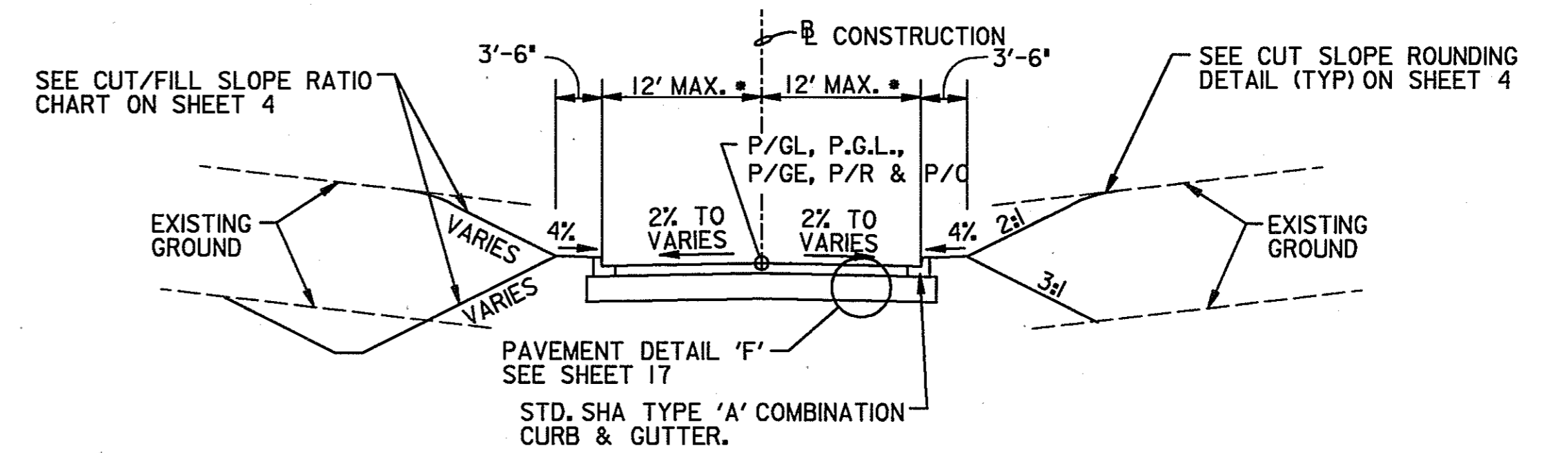
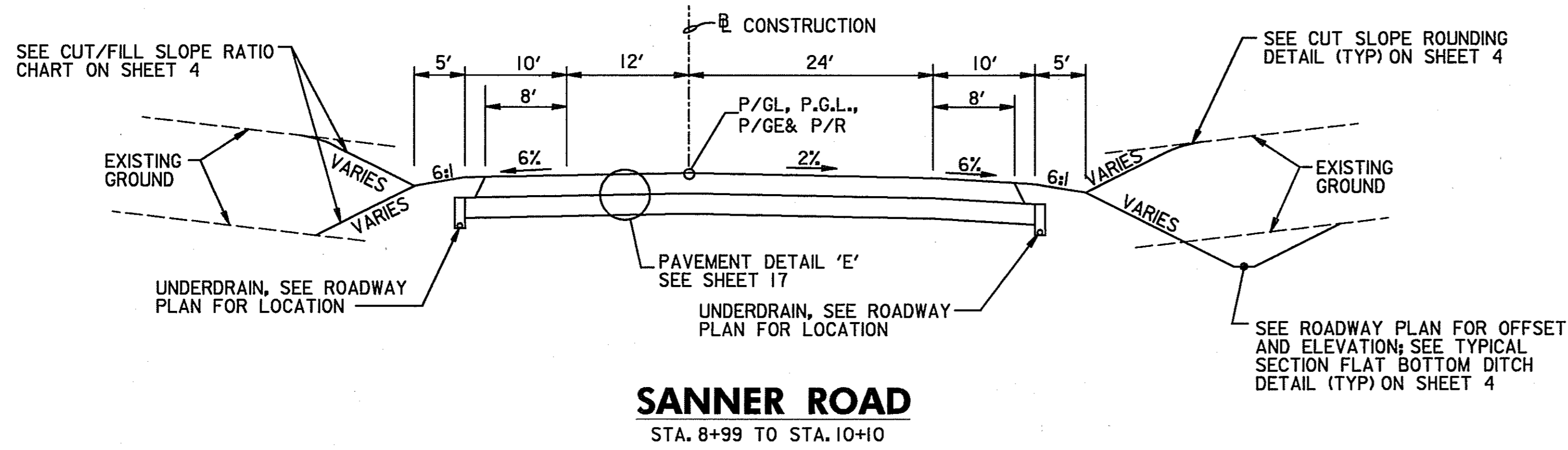


- NOTES:
 1. DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH. DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH.
 2. ALL OVERLAY SHOWN ON THIS SHEET USE 2" HOT MIX ASPHALT SUPERPAVE 12.5MM - PG 70-22, 8 PV.

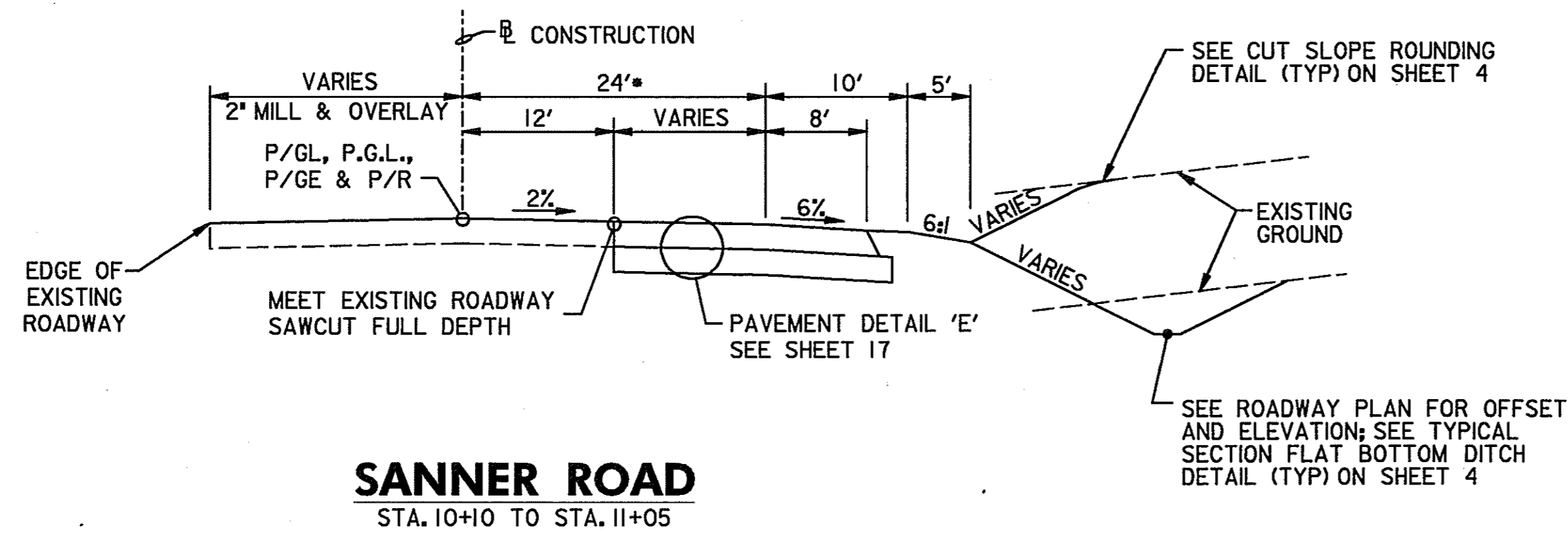
SCALE: NOT TO SCALE

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

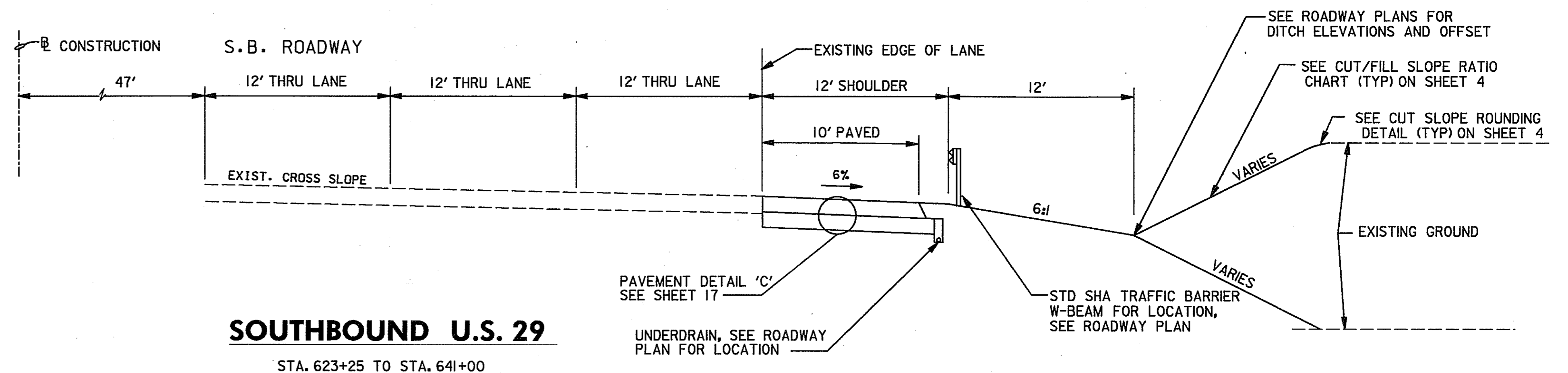
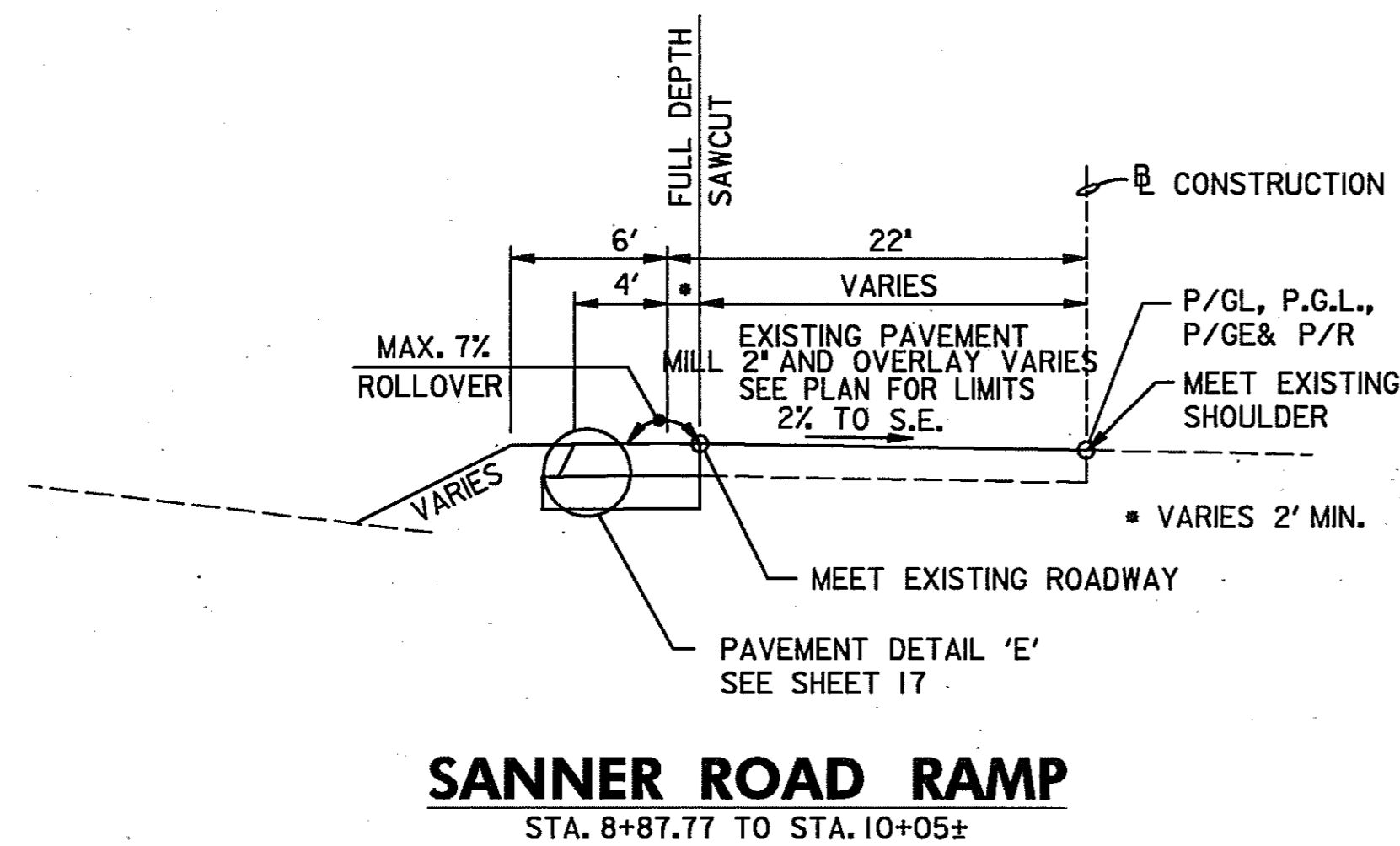
REVISIONS	
1	ADDENDUM NO. 2 DATE: 8/25/00
2	REDLINE NO. 2 DATE: 7/30/01
4	REDLINE NO. 4 DATE: 8/5/02



• VARIES SEE SHEET 40



• VARIES FROM 36' AT STA. 10+05 TO 12' AT STA. 11+05



NOTE: DISTURBED AREAS WITH A 2:1 SLOPE SHALL BE 2" TOPSOIL, SEED AND MULCH
DISTURBED AREAS LESS THAN A 2:1 SLOPE SHALL BE 4" TOPSOIL, SEED AND MULCH
SEE SHEETS 32 & 33 FOR SUPERELEVATION TRANSITION DETAILS.

SCALE: NOT TO SCALE

SCALE: NTS

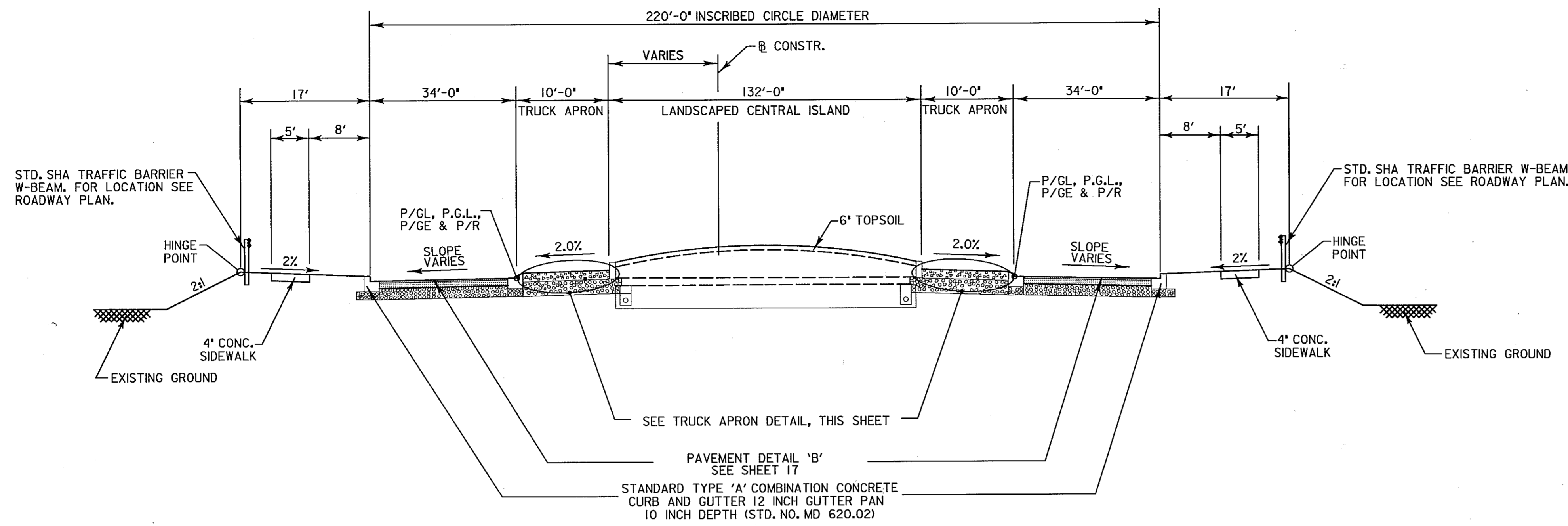
TYPICAL SECTIONS

TS 12 OF 14

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

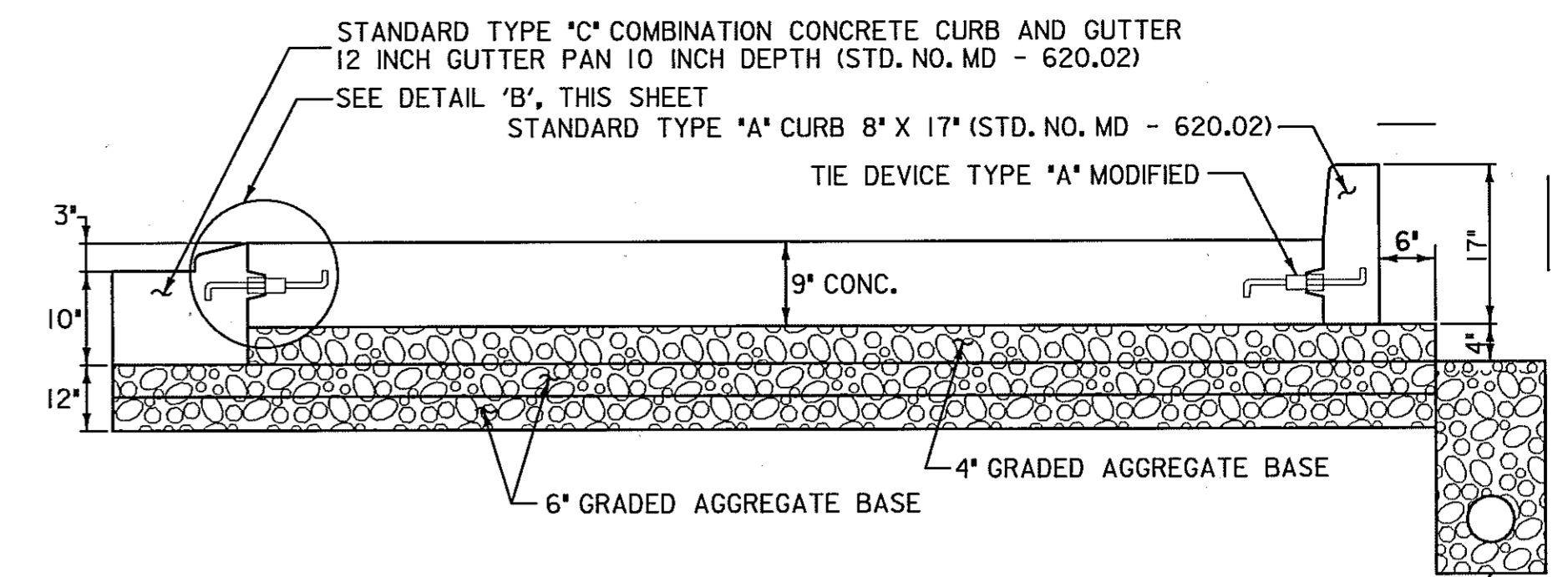
REVISIONS

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 15		OF 320	



TYPICAL SECTION THRU ROUNDABOUT

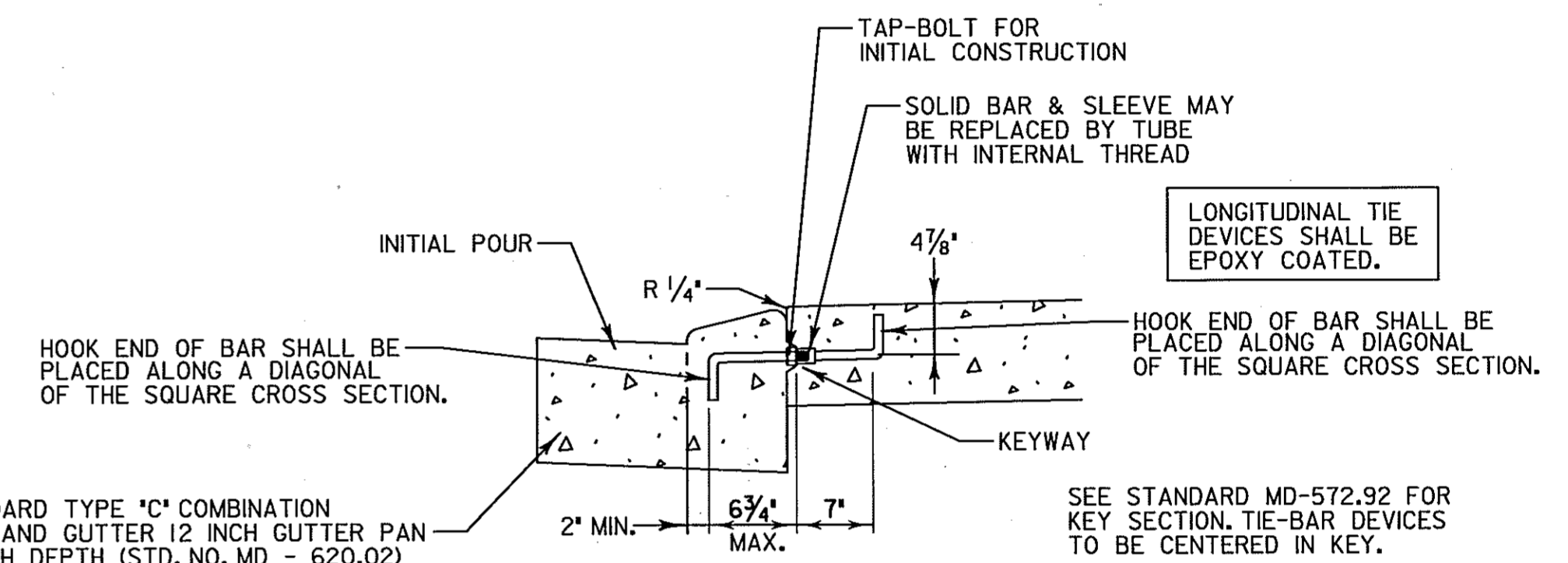
NOT TO SCALE



TRUCK APRON DETAIL

NOT TO SCALE

NOTE: TIE DEVICES ARE TO BE SPACED AT 30" RADIALLY AND AT 12" BETWEEN SLAB POURS.



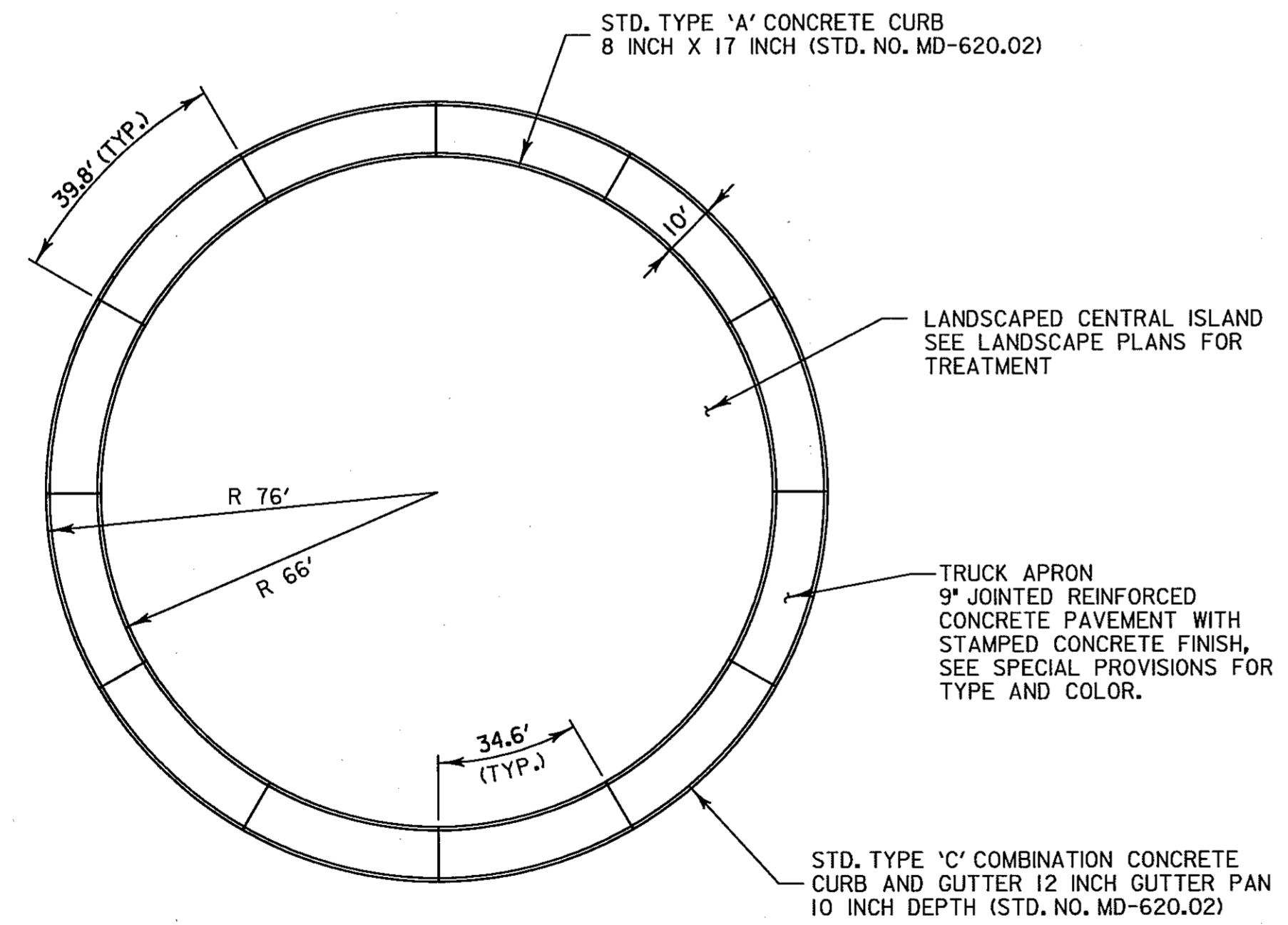
DETAIL 'B'

NOT TO SCALE

MATERIAL: MALLEABLE IRON OR STEEL. SEE SPECIFICATIONS OR SPECIAL PROVISIONS FOR TOTAL STRENGTH REQUIREMENTS.

NOTES: ANY SIMILAR DEVICE MAY BE SUBMITTED FOR CONSIDERATION OF THE ENGINEER. IF THE GENERAL TYPE OF A SUBSTITUTION IS APPROVED, THE DEVICE MUST STILL MEET THE STRENGTH REQUIREMENTS APPEARING IN THE SPECIFICATIONS OR SPECIAL PROVISIONS.

THE PORTION OF THE DEVICE INITIALLY INSTALLED MUST BE HELD FIRMLY IN PLACE BY TAP-BOLTS INSERTED THROUGH DRILLED HOLES. IF HOLES IN THE FORMS HAVE BEEN FORMED BY ANY OTHER METHOD THAN DRILLING, THEN STEEL WASHERS MUST BE USED, IN ADDITION TO THE TAP-BOLTS, AS DIRECTED BY THE ENGINEER.

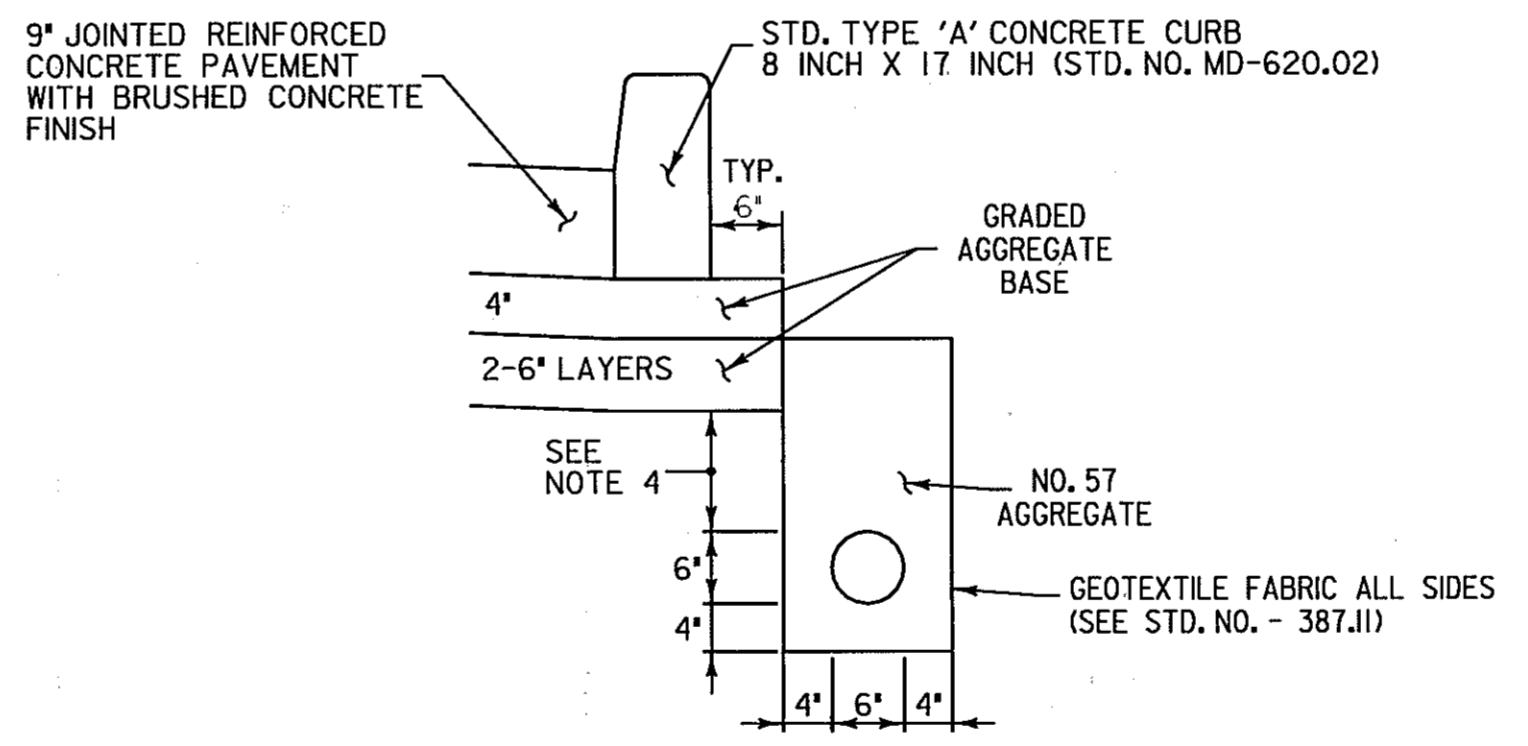


TRUCK SLAB DETAIL

NOT TO SCALE

NOTES:

1. CONSTRUCT 12 SLABS @ 34.6' INNER SPACING AND 39.8' OUTER SPACING AS SHOWN.
2. CONSTRUCTION/EXPANSION JOINTS SHALL CONFORM TO STD. NO. MD-572.92.



PLACEMENT OF PERFORATED UNDERDRAIN

NOT TO SCALE

GENERAL NOTES

1. SILT FENCE SHALL BE INSTALLED BEFORE TRENCHING OPERATIONS BEGIN. ON THE DOWN HILL SIDE OF THE PROPOSED TRENCH LOCATION.
2. UNDERDRAIN SHALL BE CONSTRUCTED PRIOR TO AGGREGATE BASE COURSE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE CONTRACTOR SHALL PROTECT THE UNDERDRAIN TRENCH AND AGGREGATE FROM CONTAMINATION BY SOIL AND OTHER DEBRIS UNTIL THE AGGREGATE BASE COURSE IS PLACED.
4. MINIMUM DEPTH 4", MAXIMUM DEPTH 10" AT OUTLET. PIPE SHALL HAVE CONSTANT RATE OF FALL.

NOTE: ALL DISTURBED AREAS ARE TO HAVE 2" TOPSOIL, SEED AND MULCH.

TYPICAL SECTIONS & MISCELLANEOUS DETAILS

TS 13 OF 14

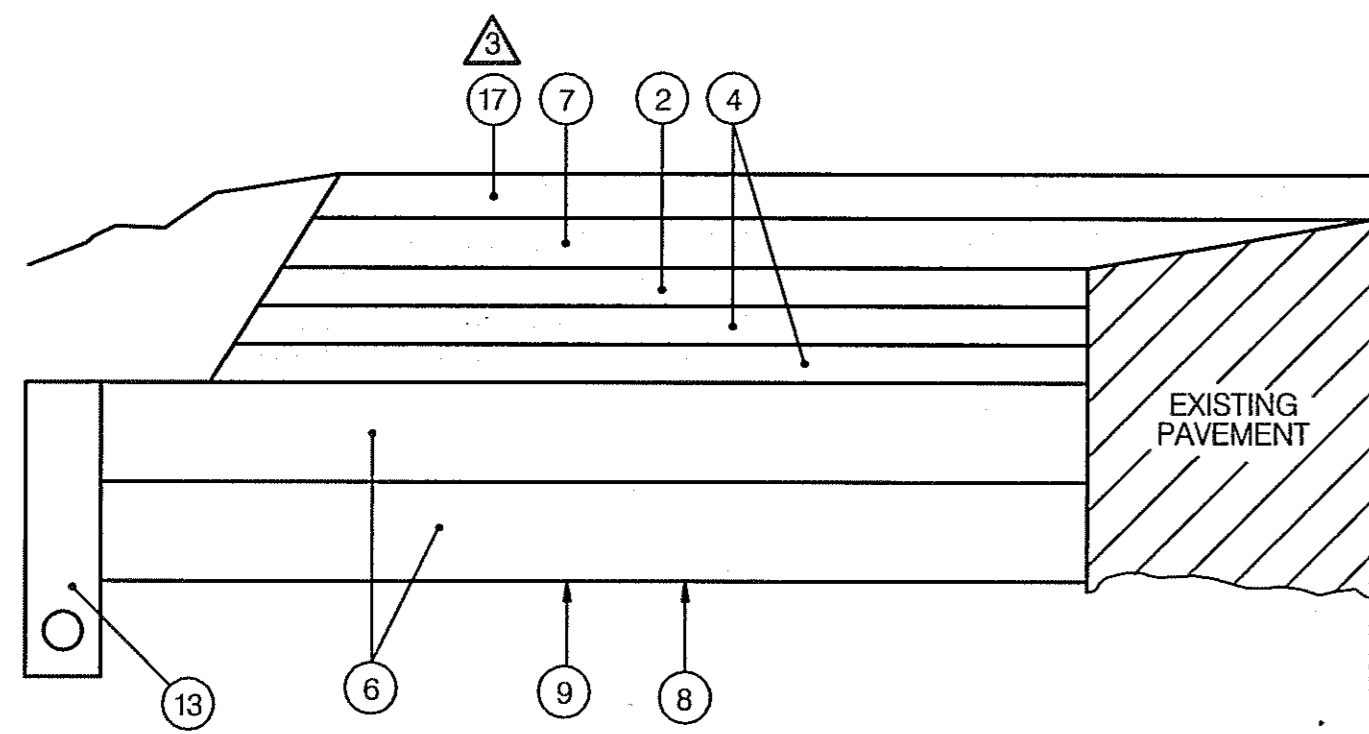
SCALE: AS SHOWN

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

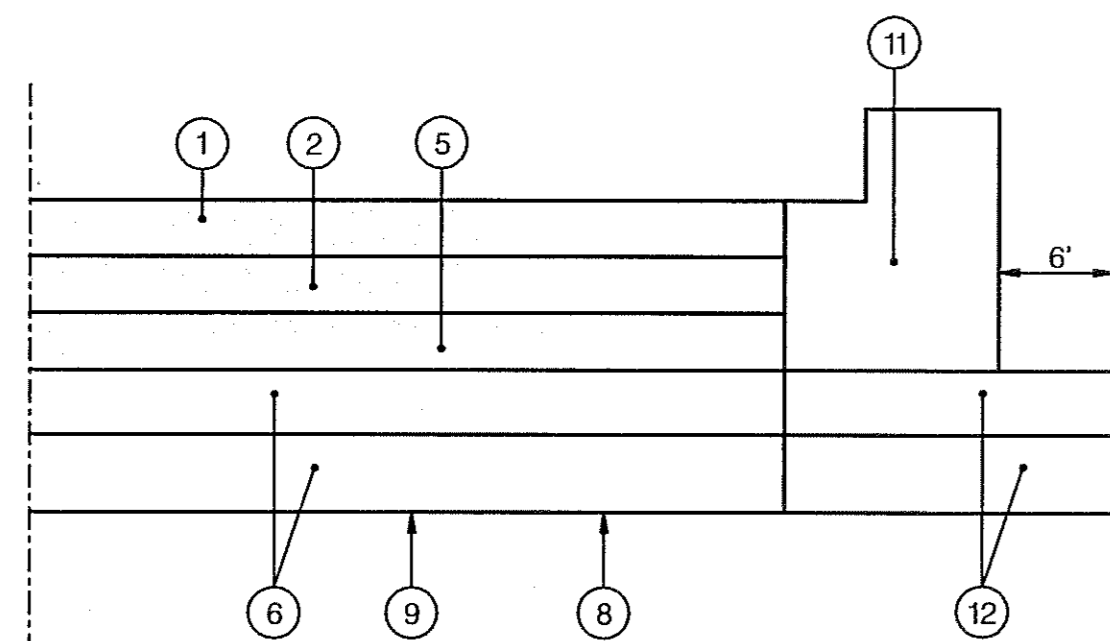
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 16 OF 320
PREL. TRAC. BY FINAL TRAC. BY



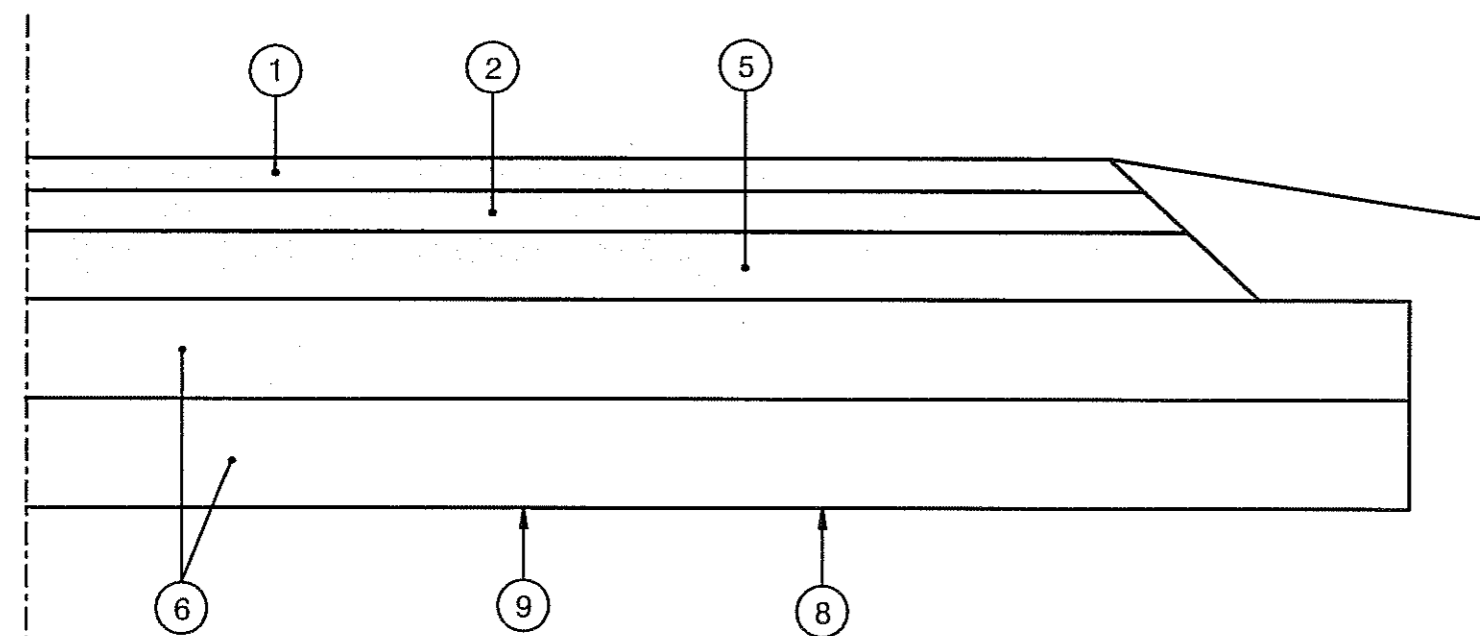
PAVEMENT DETAIL 'A'

NORTHBOUND U.S. 29 WIDENING AND RESURFACING
 NOTE: THE HMA SUPERPAVE 9.5 mm WEDGE /LEVEL LAYER IS NOT STRUCTURALLY NECESSARY AND SHOULD ONLY BE PLACED TO CORRECT CROSS SLOPE OR GRADE



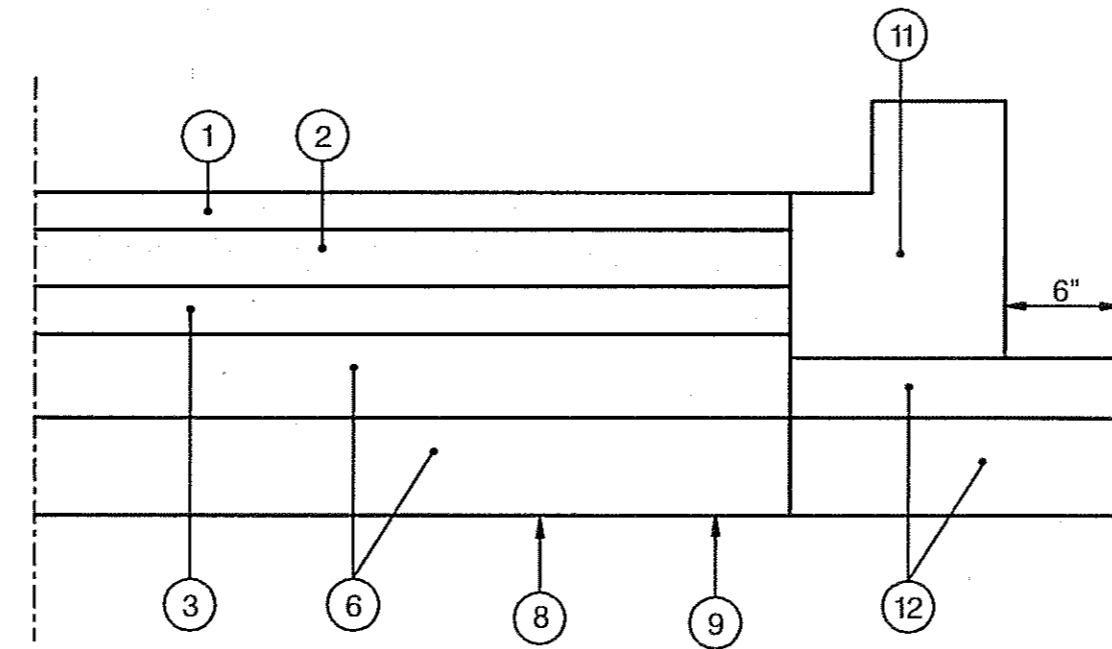
PAVEMENT DETAIL 'B'

JOHNS HOPKINS ROAD, GORMAN ROAD, MONTPELIER ROAD,
 RAMP 1, RAMP 2, RAMP 3 AND SPUR 1



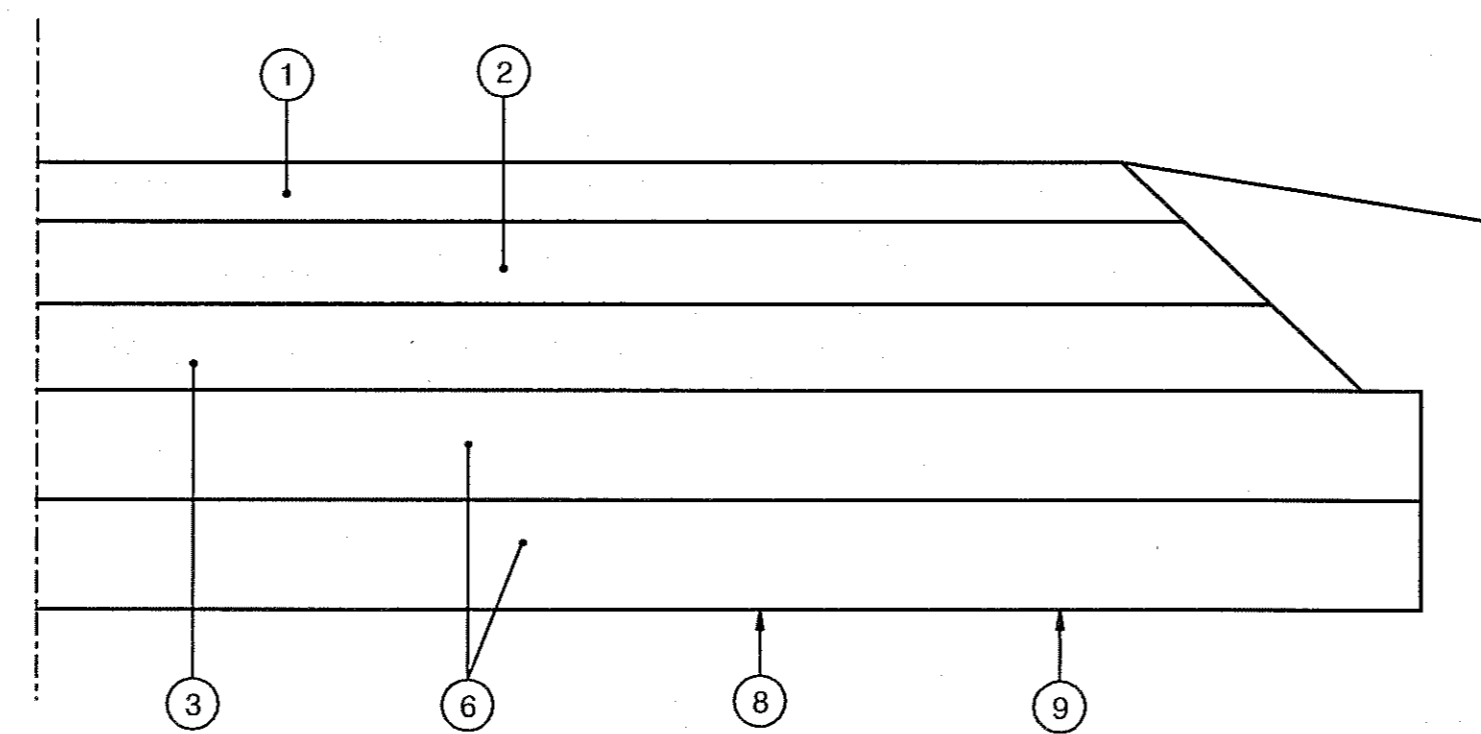
PAVEMENT DETAIL 'C'

JOHNS HOPKINS ROAD, GORMAN ROAD, RAMP 1,
 RAMP 2, RAMP 3 AND SPUR 1



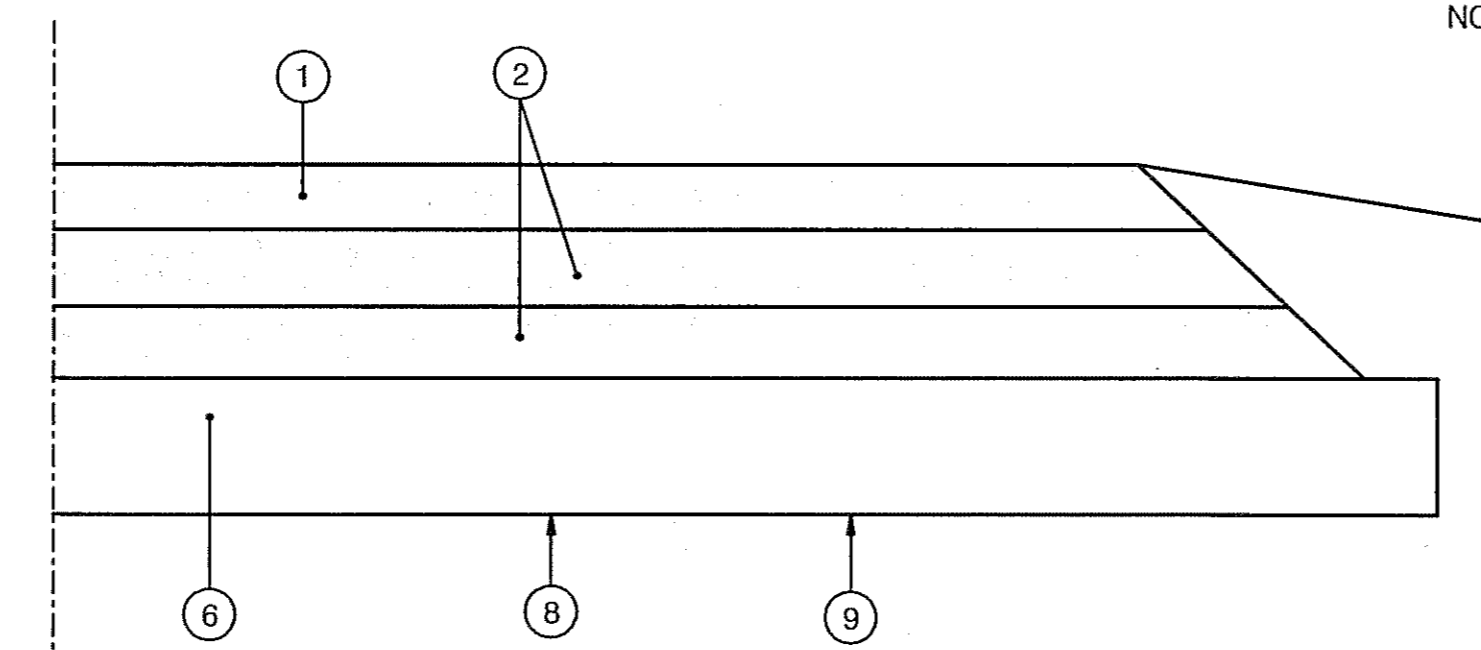
PAVEMENT DETAIL 'D'

RAMP 4, RAMP 5, SPUR 4, OLD COLUMBIA ROAD,
 HAMMOND PARKWAY & SANNER ROAD



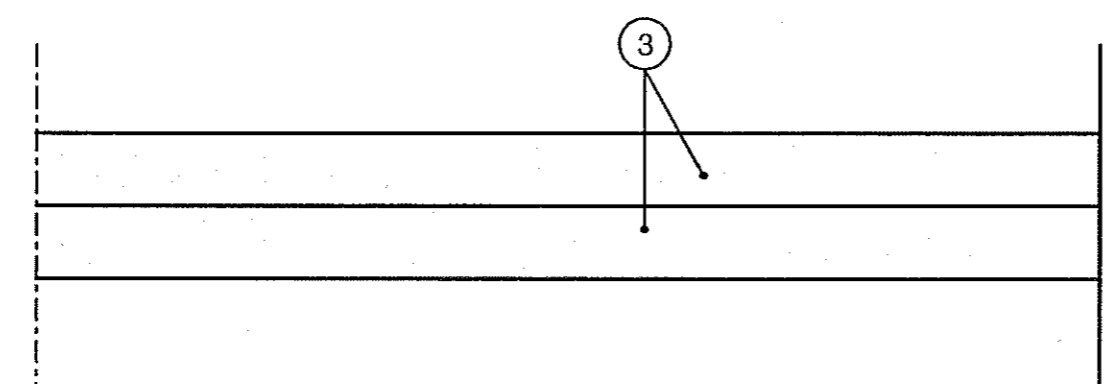
PAVEMENT DETAIL 'E'

RAMP 4, RAMP 5, SPUR 4, OLD COLUMBIA ROAD,
 HAMMOND PARKWAY & SANNER ROAD



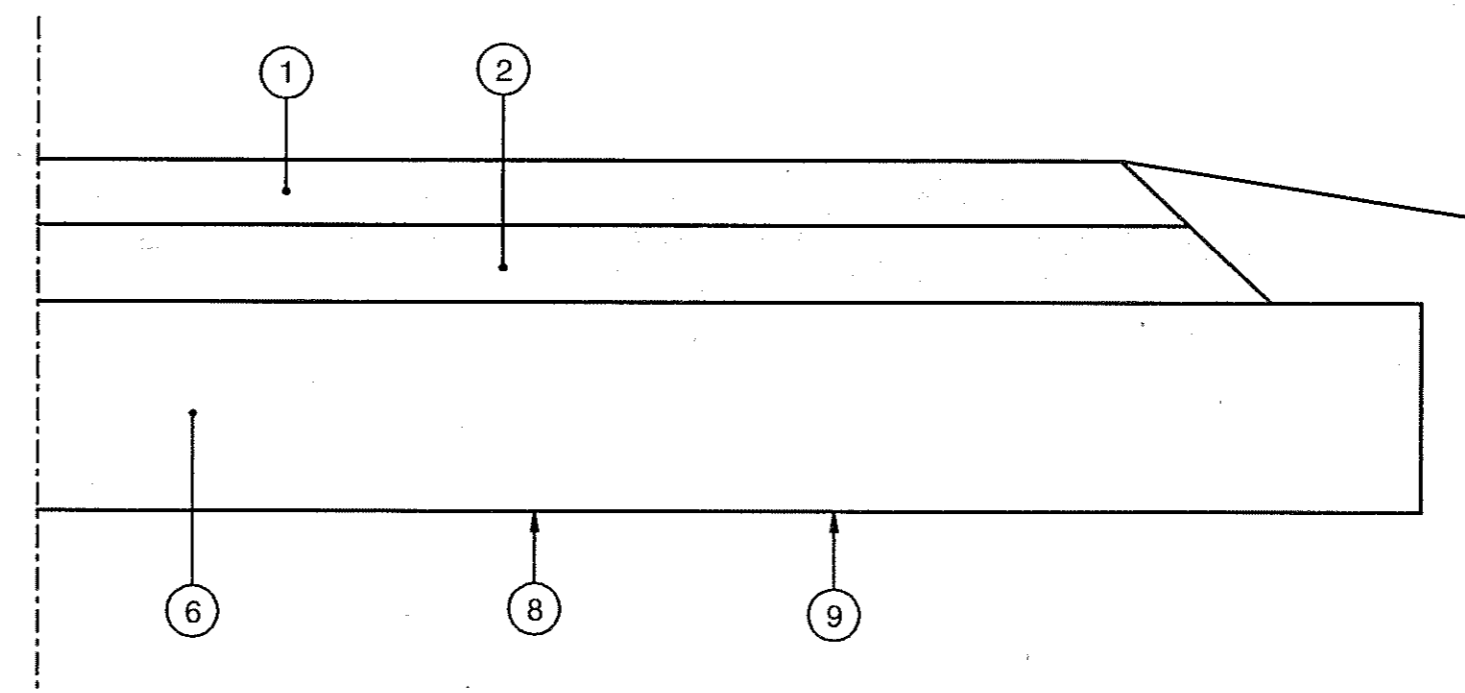
PAVEMENT DETAIL 'F'

BODY SHOP NORTH, WEST VACO & JHU-APL ENTRANCE EAST AND WEST



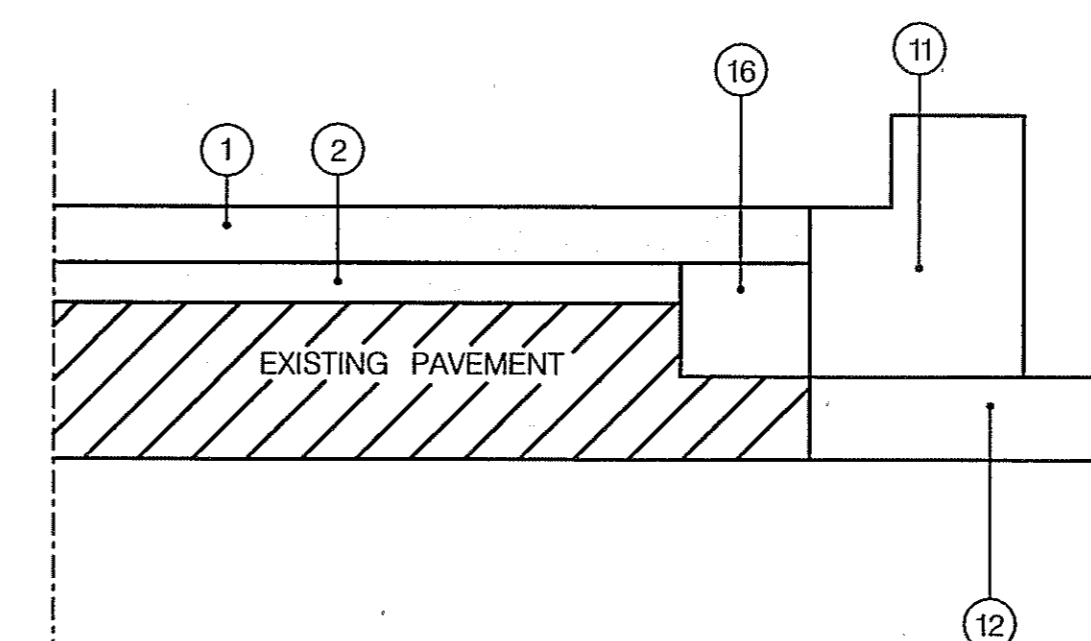
PAVEMENT DETAIL 'L'

RESIDENTIAL DRIVEWAYS



PAVEMENT DETAIL 'G'

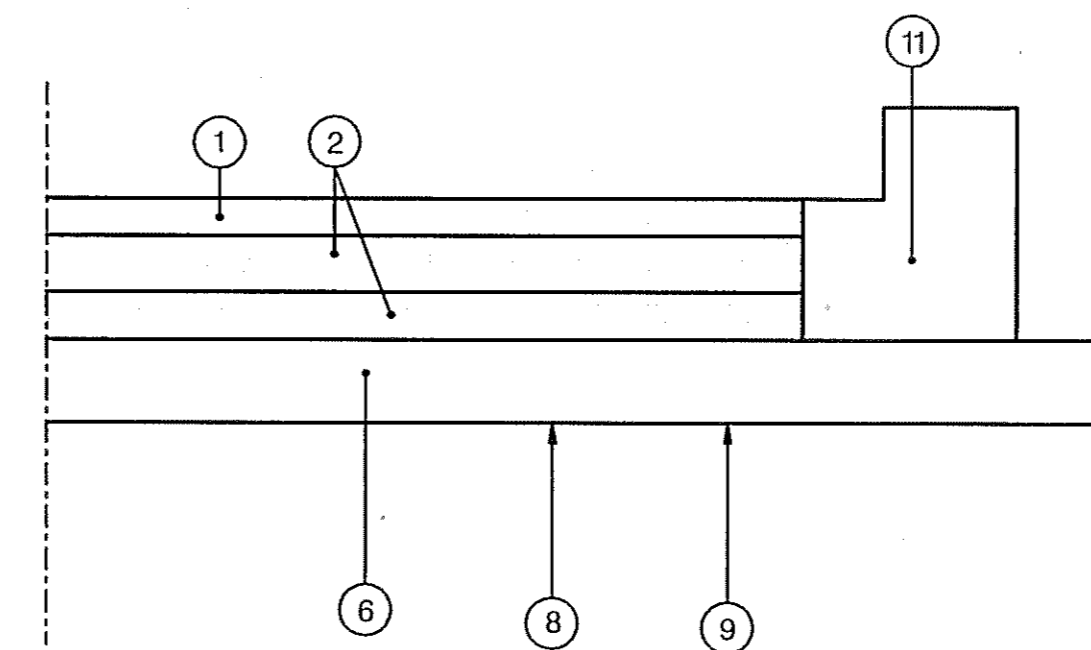
BODY SHOP EAST AND DRIVE 'A' ENTRANCE AND TEMPORARY RAMP 4



PAVEMENT DETAIL 'H'

RESURFACE DETAIL - GORMAN ROAD, SANNER ROAD & SANNER ROAD RAMP,
 JHU-APL EAST ENTRANCE

NOTE: AREA NEXT TO CURB AND GUTTER IS WORK TO BE DONE AT THE CONTRACTOR'S OPTION. AN ADDITIONAL 1' WIDTH, (MAXIMUM), EXCAVATION FOR CURB AND GUTTER FORM PLACEMENT. THE ADDITIONAL EXCAVATION WIDTH IS FILLED WITH MIX 2 PORTLAND CEMENT CONCRETE TO THE BOTTOM OF THE FINAL HMA COURSE.

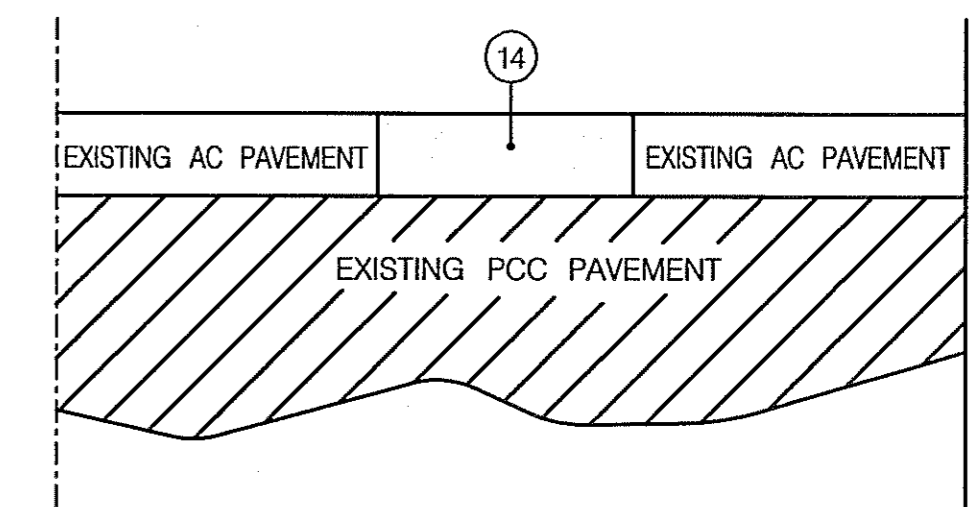


PAVEMENT DETAIL 'I'

BODY SHOP NORTH, WESTVACO, PRICE DRIVEWAY & JHU-APL ENTRANCES

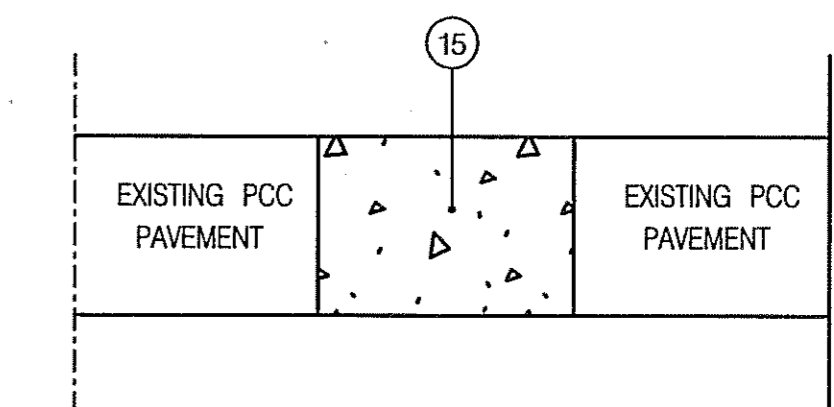
PAVEMENT SECTION LEGEND

- 1 2" HOT MIX ASPHALT SUPERPAVE 12.5 mm - PG 70-22, 8 PV
- 2 3" HOT MIX ASPHALT SUPERPAVE 19.0 mm FOR BASE - PG 64-22, HIGH ESALS
- 3 3" HOT MIX ASPHALT SUPERPAVE 25.0 mm, PG 64-22
- 4 4" HOT MIX ASPHALT SUPERPAVE 25.0 mm, PG 64-22
- 5 5" HOT MIX ASPHALT SUPERPAVE 25.0 mm, PG 64-22
- 6 6" BASE COURSE USING GRADED AGGREGATE
- 7 VARIABLE DEPTH HOT MIX ASPHALT SUPERPAVE 9.5 mm - PG 70-22 FOR WEDGE /LEVEL
- 8 LIMIT OF CLASS 1 EXCAVATION
- 9 TOP OF SUBGRADE
- 10 9" REINFORCED PORTLAND CEMENT CONCRETE, MIX #7
- 11 MDSHA STANDARD TYPE 'A' COMBINATION CURB AND GUTTER OR TYPE 'B' COMBINATION CURB AND GUTTER.
- 12 GRADED AGGREGATE BASE INCIDENTAL TO PLACEMENT OF CURB AND GUTTER
- 13 MDSHA STANDARD LONGITUDINAL UNDERDRAIN
- 14 VARIABLE DEPTH HOT MIX ASPHALT 19.0 mm - PG 64-22 FOR PATCHING
- 15 9" TYPE I PATCH WITH MODIFIED MIX #6 PORTLAND CEMENT CONCRETE
- 16 MIX #2 PORTLAND CEMENT CONCRETE INCIDENTAL TO LINEAR FOOT ITEM FOR CURB & GUTTER
- 17 2" HOT MIX ASPHALT SUPERPAVE 12.5 mm - GAP GRADED



PAVEMENT DETAIL 'J'

NORTHBOUND U.S. 29 - PATCH DETAIL



PAVEMENT DETAIL 'K'

SOUTHBOUND U.S. 29 - PATCH DETAIL

PAVING DETAILS

SCALE: NOT TO SCALE

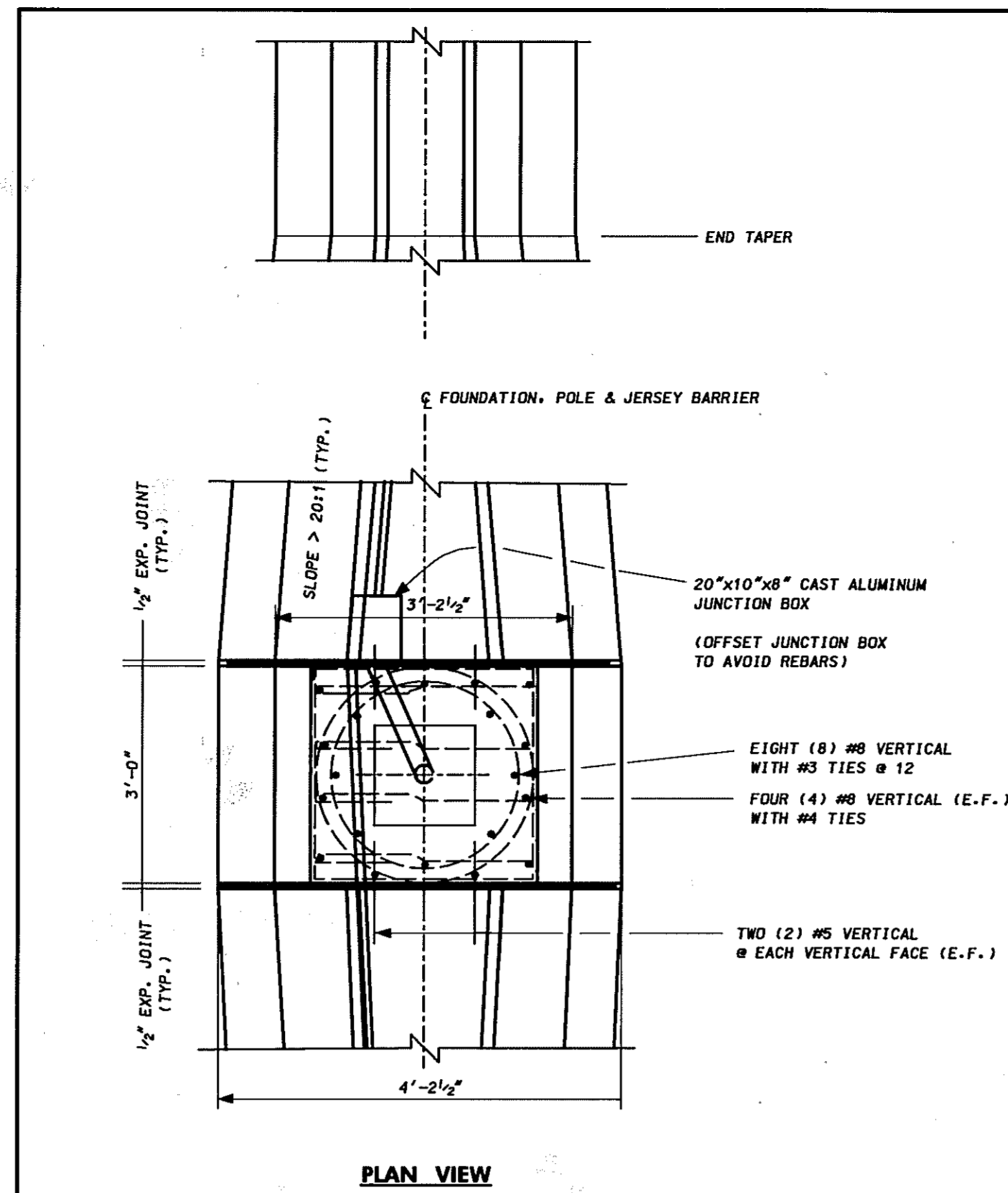
HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
1	ADDENDUM NO. 2 DATE: 08/25/00
2	ADDENDUM NO. 3 DATE: 09/07/00
3	REDLINE NO. 2 DATE: 07/30/01
4	REDLINE NO. 3 DATE: 1/31/02

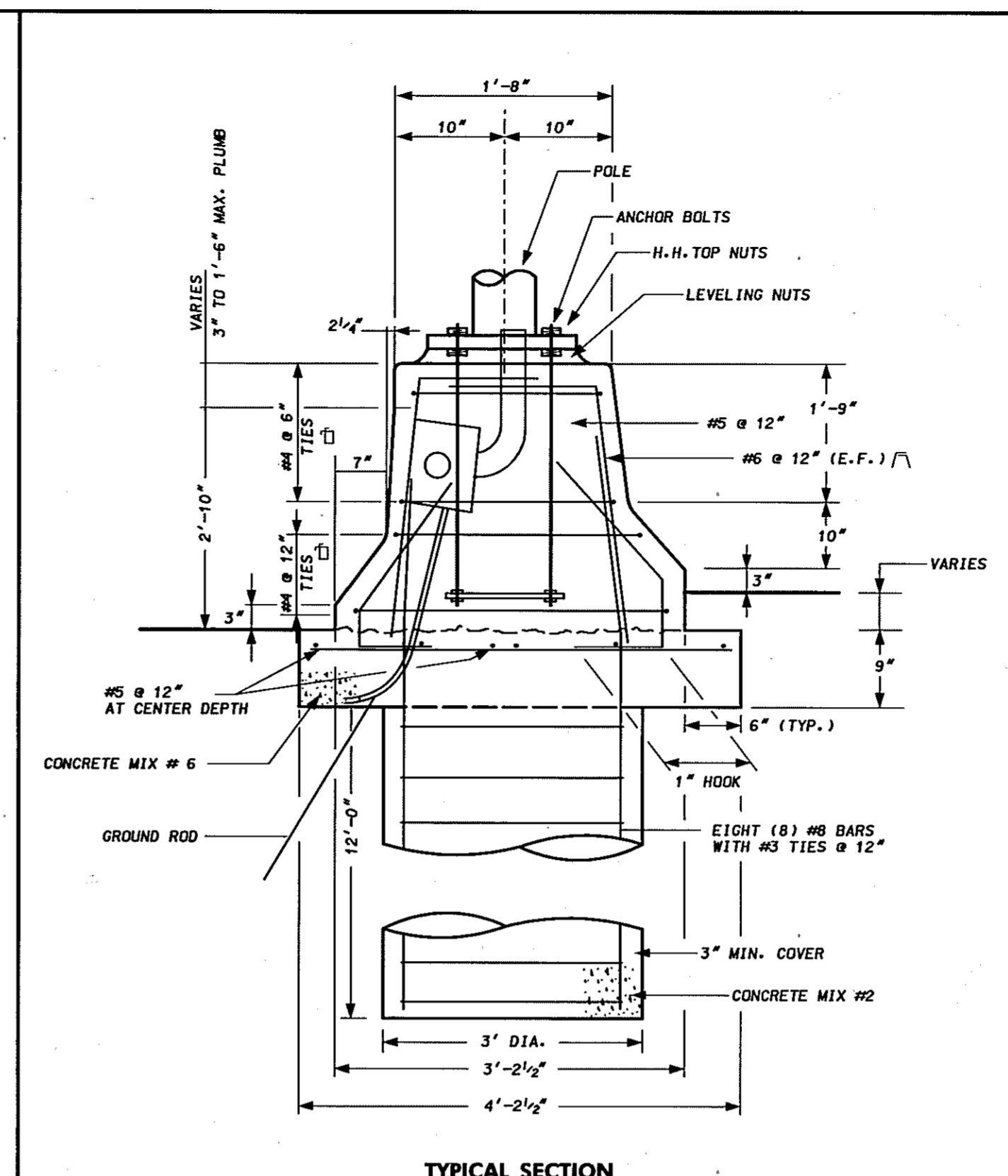
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY	JMJ	SHEET NO.	17 OF 320
		FINAL TRAC. BY	

U.S.29/OLD COLUMBIA ROAD CONCRETE MEDIAN TRAFFIC BARRIER ELEVATIONS

STATION	OLD COLUMBIA ROAD		U.S. ROUTE 29		TOP OF WALL ELEVATION	MEDIAN TRAFFIC BARRIER TYPE
	ELEVATION	STATION	ELEVATION	STATION		
2	1033+85.00	283.10			285.93	A
2	1033+75.00	284.09			287.74	C
2	1033+50.00	285.71			291.84	D
2	1033+25.00	287.07			295.83	E
2	1033+00.00	288.44	598+60.76 +58.97	295.04	297.87	E
2	1032+75.00	289.92	598+78.78 +84.45	296.18	299.01	E
2	1032+50.00	291.19	599+06.67 +10.01	297.85	297.88	E
2	1032+25.00	292.49	599+34.36 +35.62	299.15	299.21	E
2	1032+00.00	293.72	599+61.00	300.46	300.68	E
2	1031+75.00	296.01	599+86.00	301.68	304.51	E
2	1031+50.00	296.27	600+11.00	302.91	305.74	E
2	1031+25.00	298.41	600+36.00	304.16	306.99	E
2	1031+00.00	298.90	600+61.00	305.41	308.24	E
	1030+75.00	300.25	600+86.00	306.61	309.44	E
	1030+50.00	301.68	601+11.00	307.92	310.75	E
	1030+25.00	303.10	601+36.00	309.23	312.07	E
	1030+00.00	304.53	601+61.00	310.52	313.35	E
	1029+75.00	305.95	601+86.00	311.71	314.54	E
	1029+50.00	307.38	602+11.00	312.92	315.75	E
	1029+25.00	308.80	602+36.00	314.20	317.03	E
	1029+00.00	310.23	602+61.00	315.47	318.30	E
2	1028+75.00	311.65	602+86.00	316.72	319.58	E
	1028+50.00	313.08	603+11.00	318.03	320.86	E
	1028+25.00	314.50	603+36.00	319.26	322.10	E
	1028+00.00	315.93	603+61.00	320.50	323.33	E
	1027+75.00	317.35	603+86.00	321.72	324.55	E
	1027+50.00	318.78	604+11.00	322.95	325.78	E
	1027+25.00	320.20	604+36.00	324.20	327.03	E
	1027+00.00	321.63	604+61.00	325.45	328.28	E D
2	1026+75.00	323.05	604+86.00	326.71	329.55	E D
2	1026+50.00	324.48	605+11.00	327.96	330.79	E D
2	1026+25.00	325.90	605+36.00	329.21	332.04	E D
	1026+00.00	327.33	605+61.00	330.45	333.28	D
	1025+75.00	328.75	605+86.00	331.70	334.53	D
	1025+50.00	330.18	606+11.00	332.95	335.78	D
	1025+25.00	331.60	606+36.00	334.21	337.05	D
	1025+00.00	333.03	606+61.00	335.47	338.30	D
	1024+75.00	334.45	606+86.00	336.70	339.53	D
	1024+50.00	335.88	607+11.00	337.99	340.76	D
	1024+25.00	337.30	607+36.00	339.15	341.98	D
2	1024+00.00	338.73	607+61.00	340.37	343.20	E D
	1023+75.00	340.12	607+86.00	341.62	344.45	C
2	1023+50.00	341.48	608+11.00	342.87	345.70	C
	1023+25.00	342.81	608+36.00	344.13	346.96	C
	1023+00.00	344.10	608+61.00	345.40	348.23	C
	1022+75.00	345.37	608+86.00	346.63	349.47	C
	1022+50.00	346.61	609+11.00	347.86	350.69	C
	1022+25.00	347.81	609+36.00	349.10	351.93	C
	1022+00.00	348.99	609+61.00	350.34	353.17	C
	1021+75.00	350.13	610+86.00	351.60	354.43	C
	1021+50.00	351.24	610+11.00	352.87	355.70	C
	1021+25.00	352.32	610+36.00	354.13	356.96	C
	1021+00.00	353.37	610+61.00	355.38	358.21	D
	1020+75.00	354.39	610+86.00	356.62	359.45	D
	1020+50.00	355.38	611+11.00	357.86	360.69	D
	1020+25.00	356.34	611+36.00	359.12	361.95	D
	1020+00.00	357.26	611+61.00	360.36	363.19	D
	1019+75.00	358.17	611+86.00	361.60	364.43	D
	1019+50.00	359.02	612+11.00	362.84	365.67	D
2	1019+25.00	359.86	612+36.00	364.13	366.96	E
2	1019+00.00	360.66	612+61.00	365.39	368.22	E
2	1018+75.00	361.54	612+86.00	366.60	369.43	E
2	1018+50.00	362.39	613+11.00	367.80	370.63	E
2	1018+25.00	363.21	613+36.00	368.98	371.81	E
2	1018+00.00	364.05	613+61.00	370.17	373.00	E
	1017+75.00	364.86	613+86.17	371.37	374.20	E
2	1017+50.00	365.38	614+13.62	372.58	375.41	E
2	1017+25.00	366.38	614+41.12	373.86	376.69	E
2	1017+00.00	367.26	614+68.74	374.63	377.46	E
2	1016+75.00	368.19			378.27	E
2	1016+50.00	369.02		378.84	379.08	E
2	1016+25.00	369.47			379.27	E
2	1016+00.00	369.90			379.47	E
2	1015+75.00	369.30			379.19	E
2	1015+50.00	369.67			378.91	E
2	1015+25.00	370.00			377.00	E
2	1015+00.00	370.32			375.32	D
2	1014+75.00	370.59			373.42	A
2	1014+50.00	370.84			373.67	A
2	1014+25.00	371.04			373.87	A
2	1014+12.67	371.14			373.97	A



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
TYPICAL FOR
LIGHT POLE BASE AT MEDIAN BARRIER
TYPE A, B & C



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
TYPICAL FOR
LIGHT POLE BASE AT MEDIAN BARRIER
TYPE A, B & C

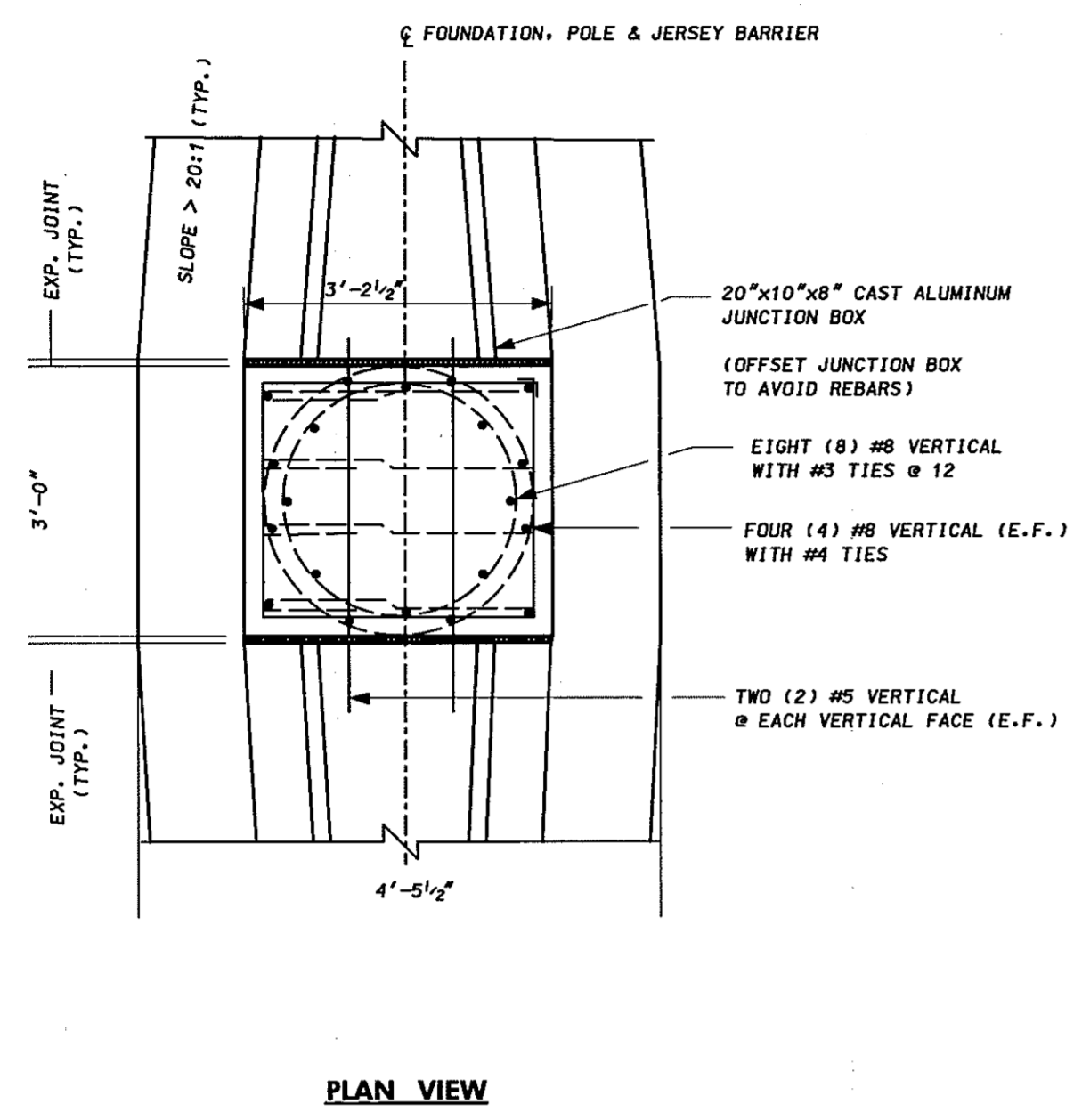
SCALE: NOT TO SCALE

CONCRETE MEDIAN TRAFFIC BARRIER DETAILS

HURST-ROSCHER ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

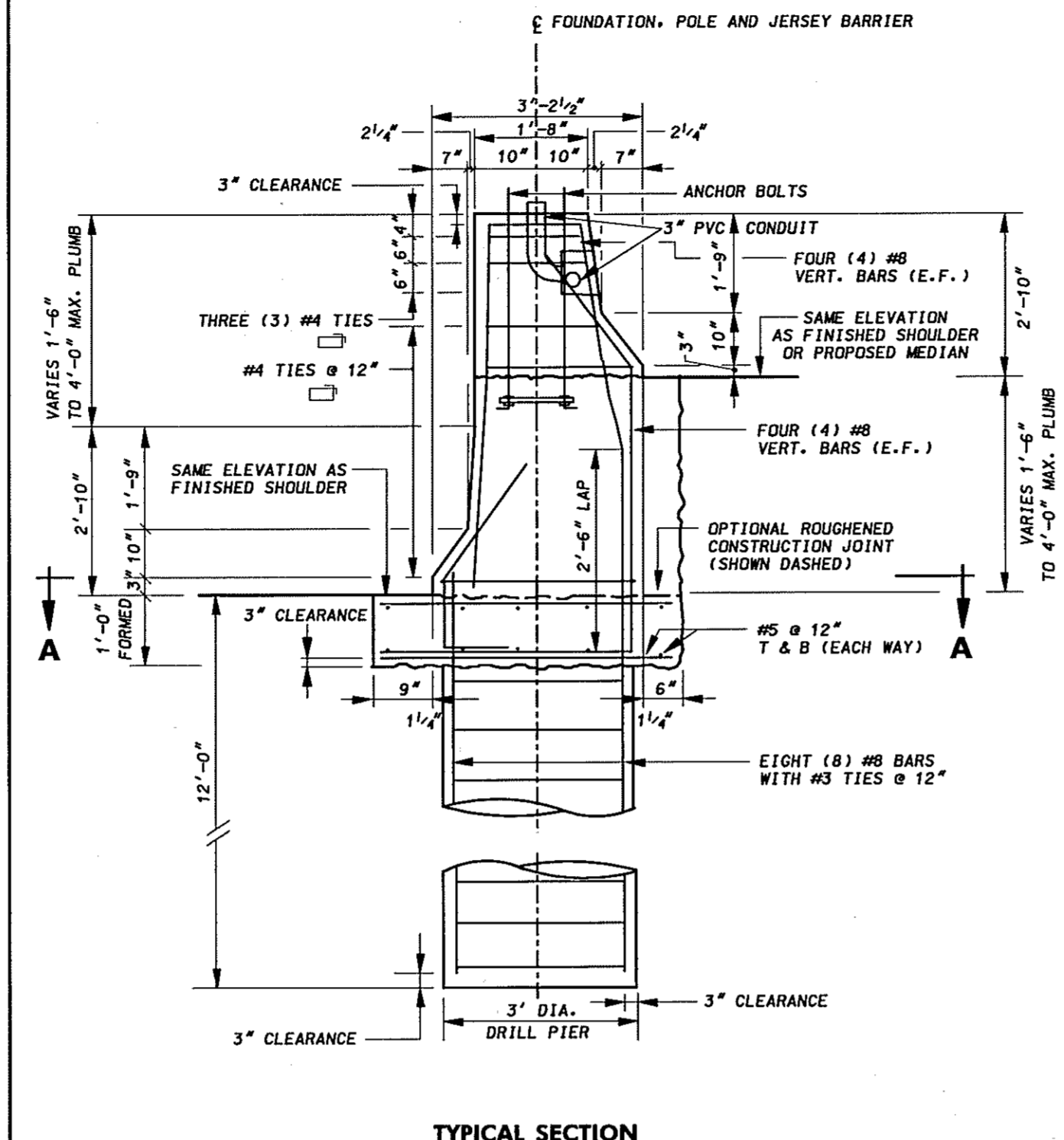
REVISIONS
2 REDLINE NO. 2 DATE: 7/30/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD				
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 18 OF 320
PREL. TRAC. BY		FINAL TRAC. BY		



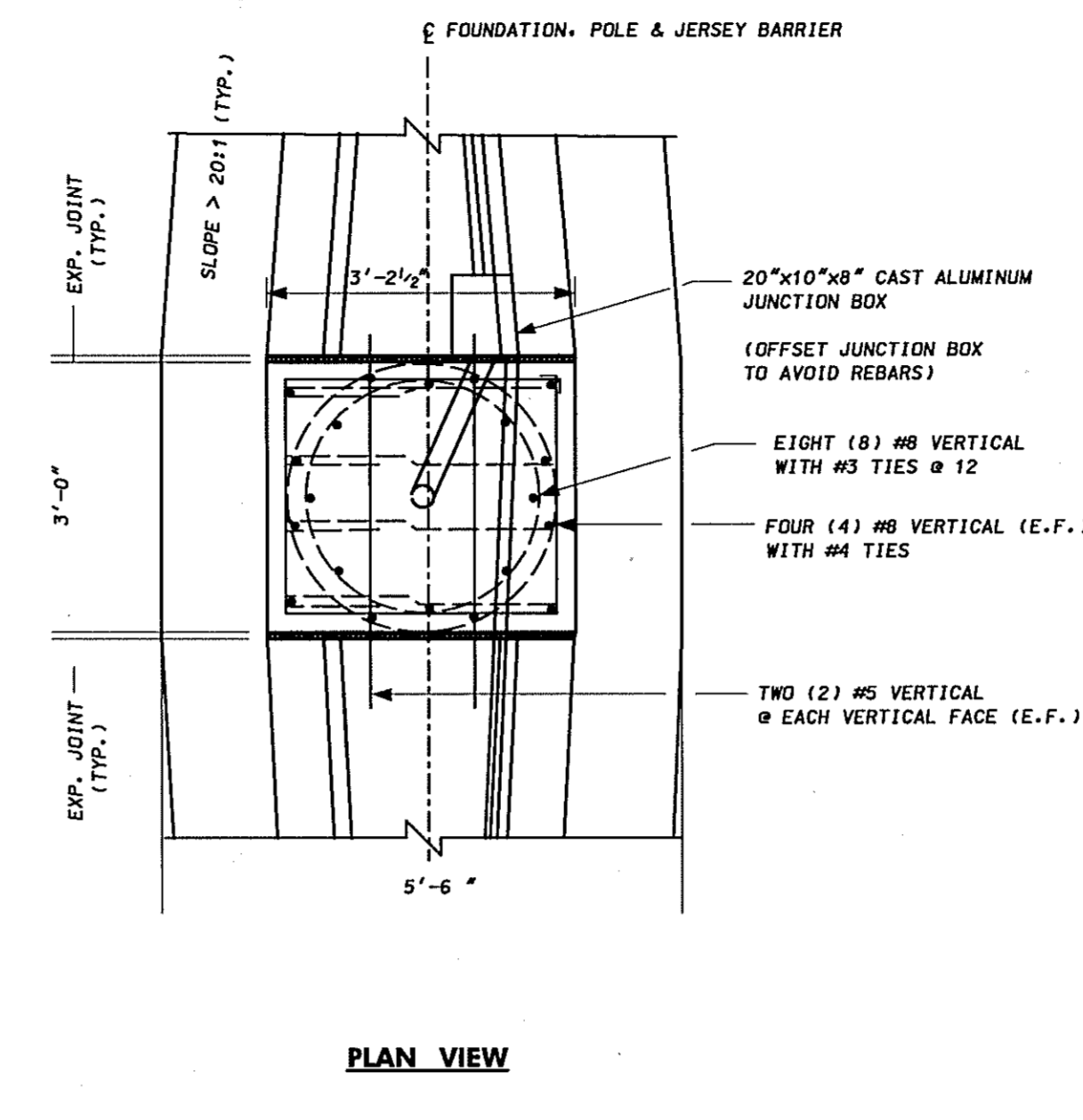
PLAN VIEW

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
TYPICAL FOR
LIGHT POLE BASE AT MEDIAN BARRIER
TYPE D



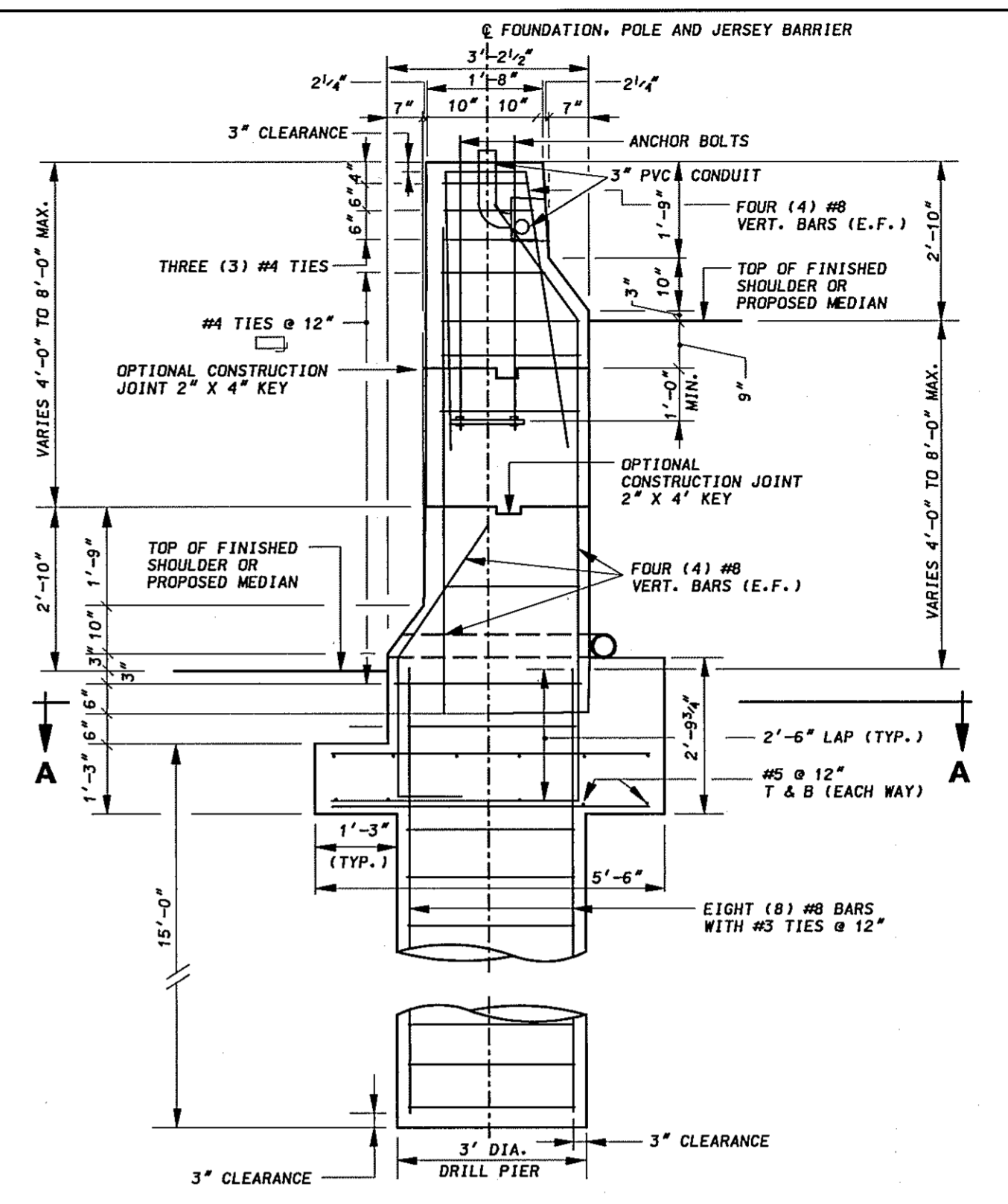
TYPICAL SECTION

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
TYPICAL FOR
LIGHT POLE BASE AT MEDIAN BARRIER
TYPE D



PLAN VIEW

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
TYPICAL FOR
LIGHT POLE BASE AT MEDIAN BARRIER
TYPE E



TYPICAL SECTION

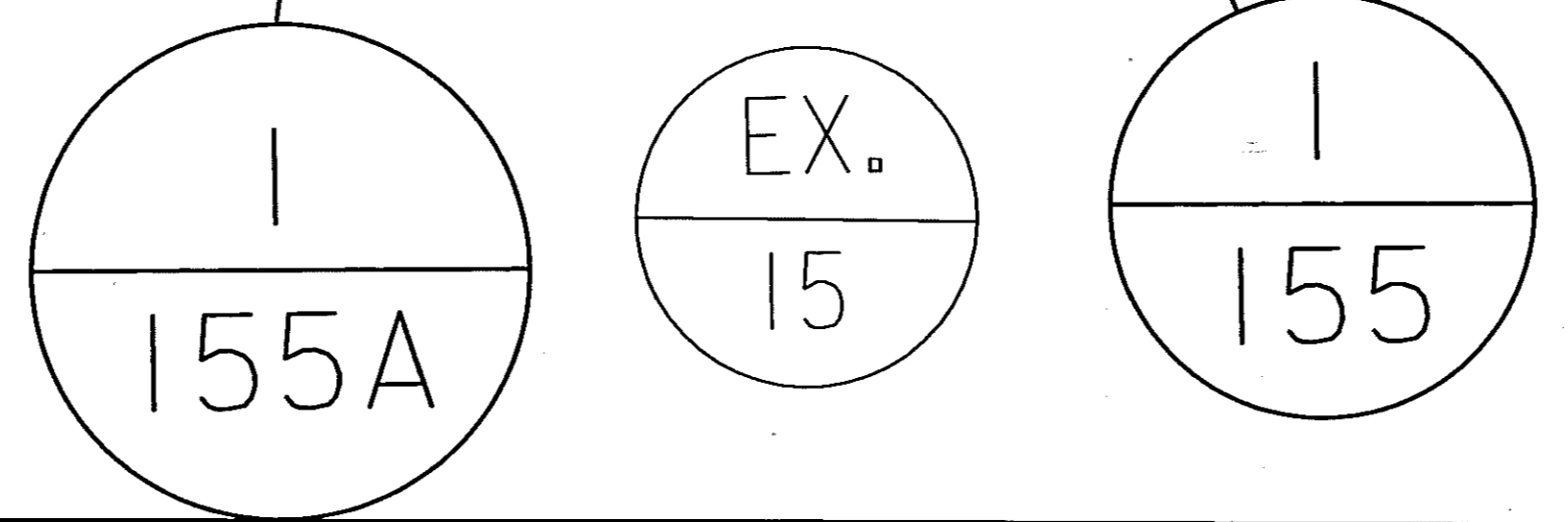
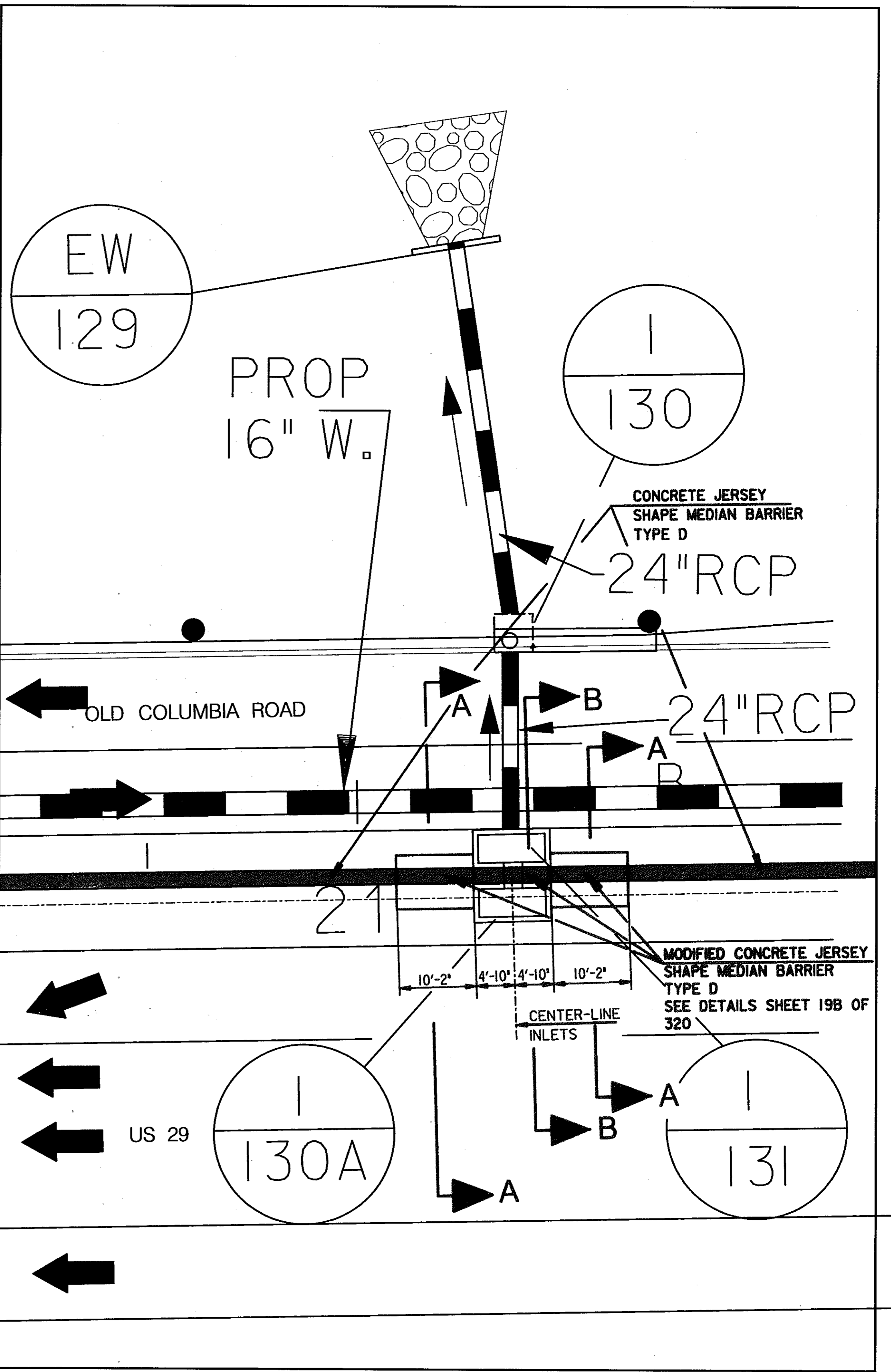
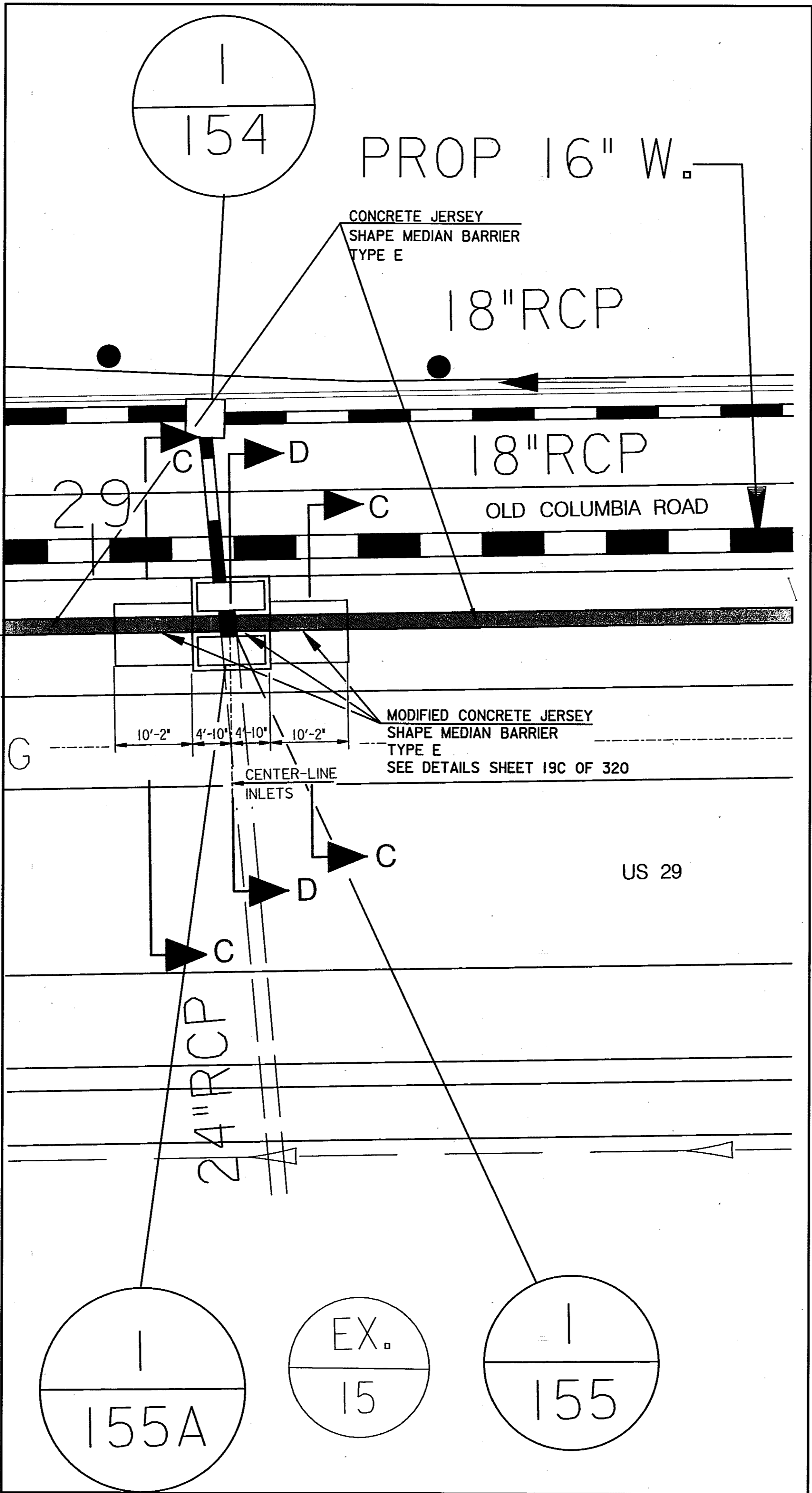
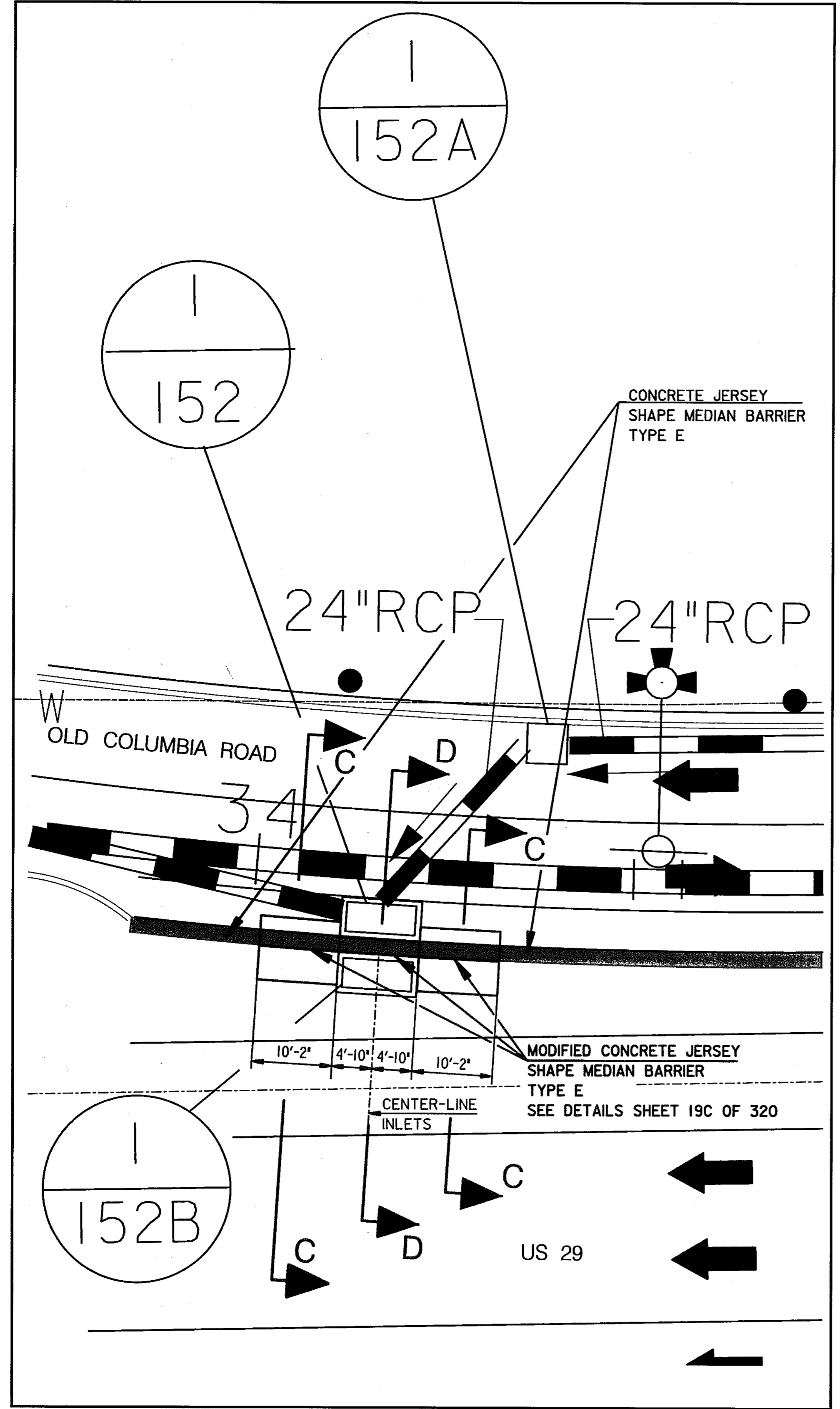
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
TYPICAL FOR
LIGHT POLE BASE AT MEDIAN BARRIER
TYPE E

SCALE: NOT TO SCALE

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

CONCRETE MEDIAN TRAFFIC BARRIER DETAILS

REVISIONS		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
		SHEET NO.	19 OF 320



SCALE: PLAN: 1"=10'

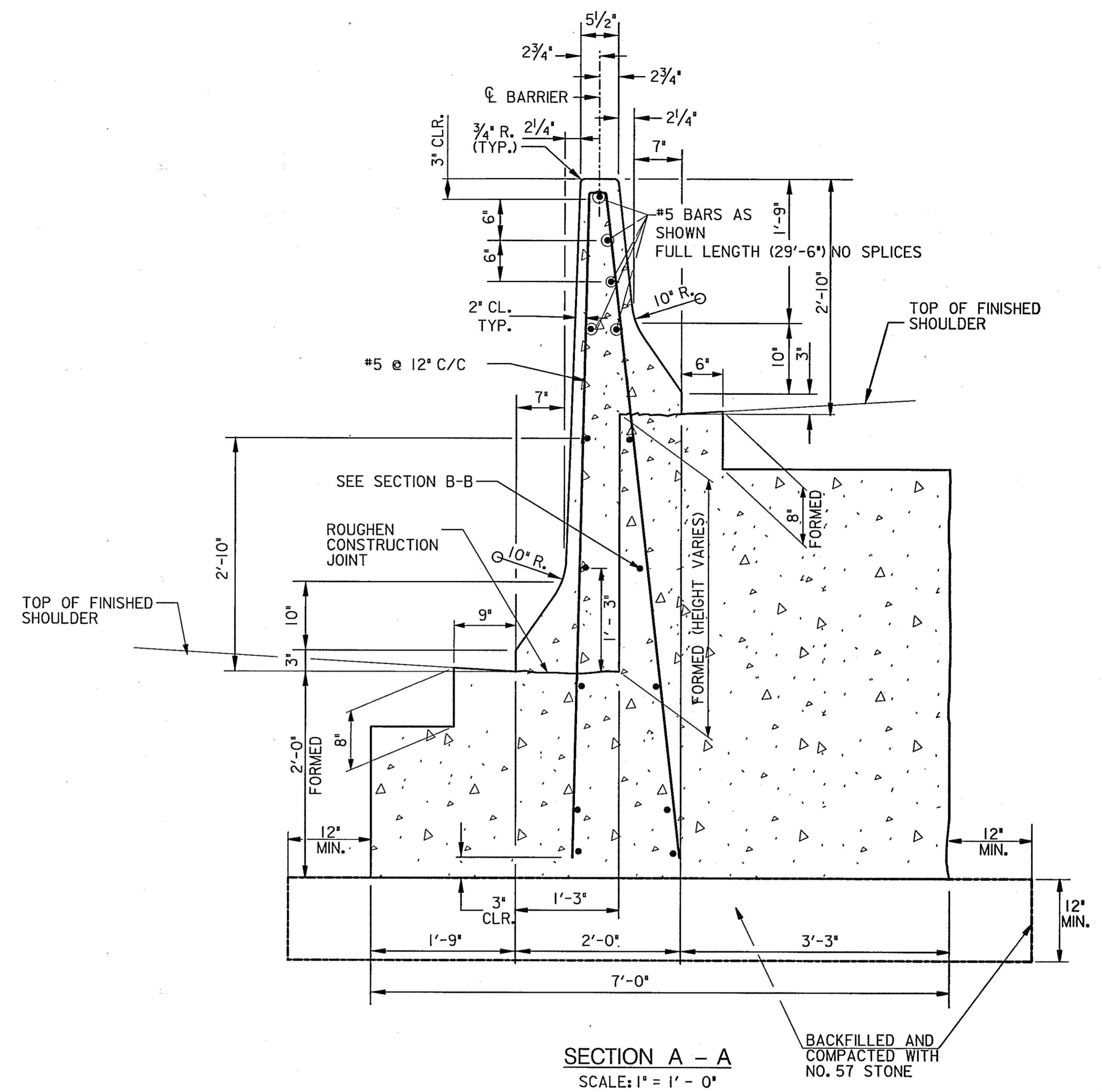
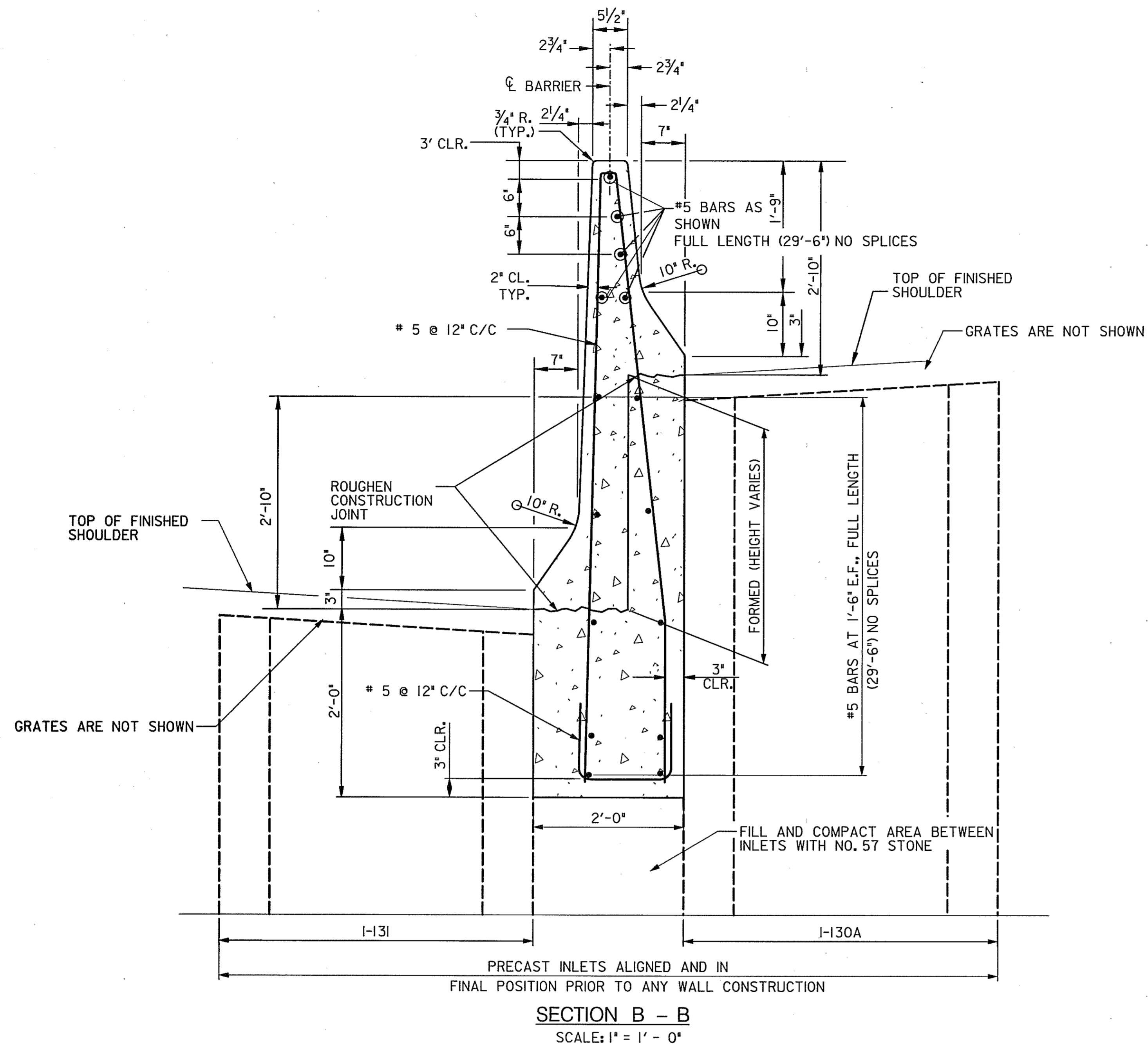
3 ADD ENTIRE SHEET

REVISIONS	
3	REDLINE NO. 3 DATE: 1/31/02

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 19A OF 320
PREL. TRAC. BY FINAL TRAC. BY



NOTES:

1. THE BARRIER AND FOOTER SHALL BE CAST SEPARATELY USING CONCRETE MIX NO. 6 (4,500 p.s.i.). MONOLITHIC PLACEMENT NOT PERMITTED
2. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT THE BARRIER FOOTER AND BARRIER AFTER CONSTRUCTION OF THE PAVEMENT FOOTER FORM SHALL BE REMOVED BEFORE PLACING PAVEMENT
3. ALL REINFORCEMENT BARS, INCLUDING ENDS, SHALL BE EPOXY COATED. TIE BARS ALL BARS TOGETHER.
4. COST OF CONCRETE FOOTER, ALL REINFORCEMENT, AND EXCAVATION SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR CONCRETE MEDIAN TRAFFIC BARRIER TYPE D.
5. TOLERANCES IN DIMENSIONS SHOWN SHALL BE WITHIN 1/4".

SCALE: AS SHOWN

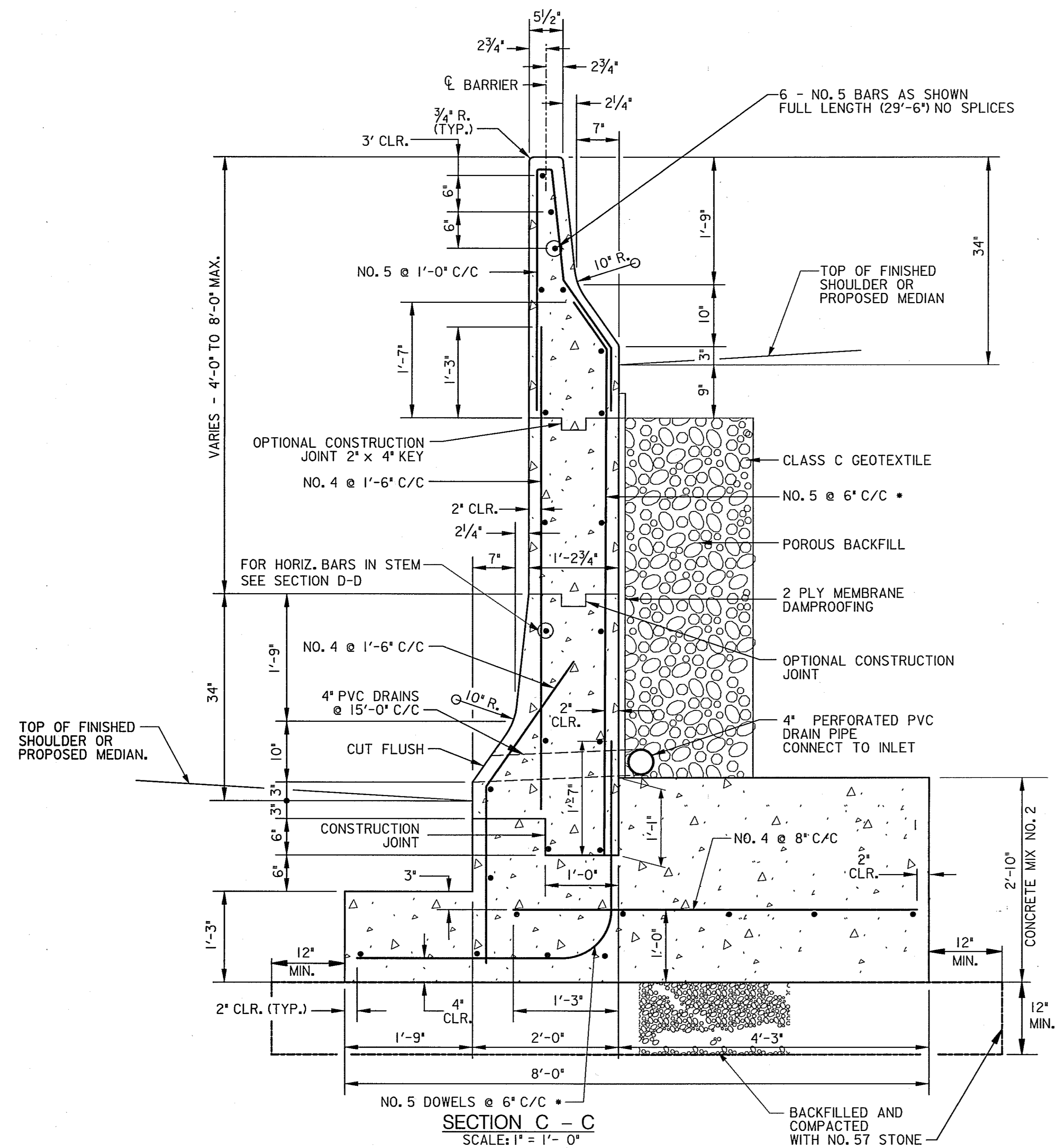
3 ADD ENTIRE SHEET

REVISIONS	
3	REDLINE NO. 3 DATE: 1/31/02

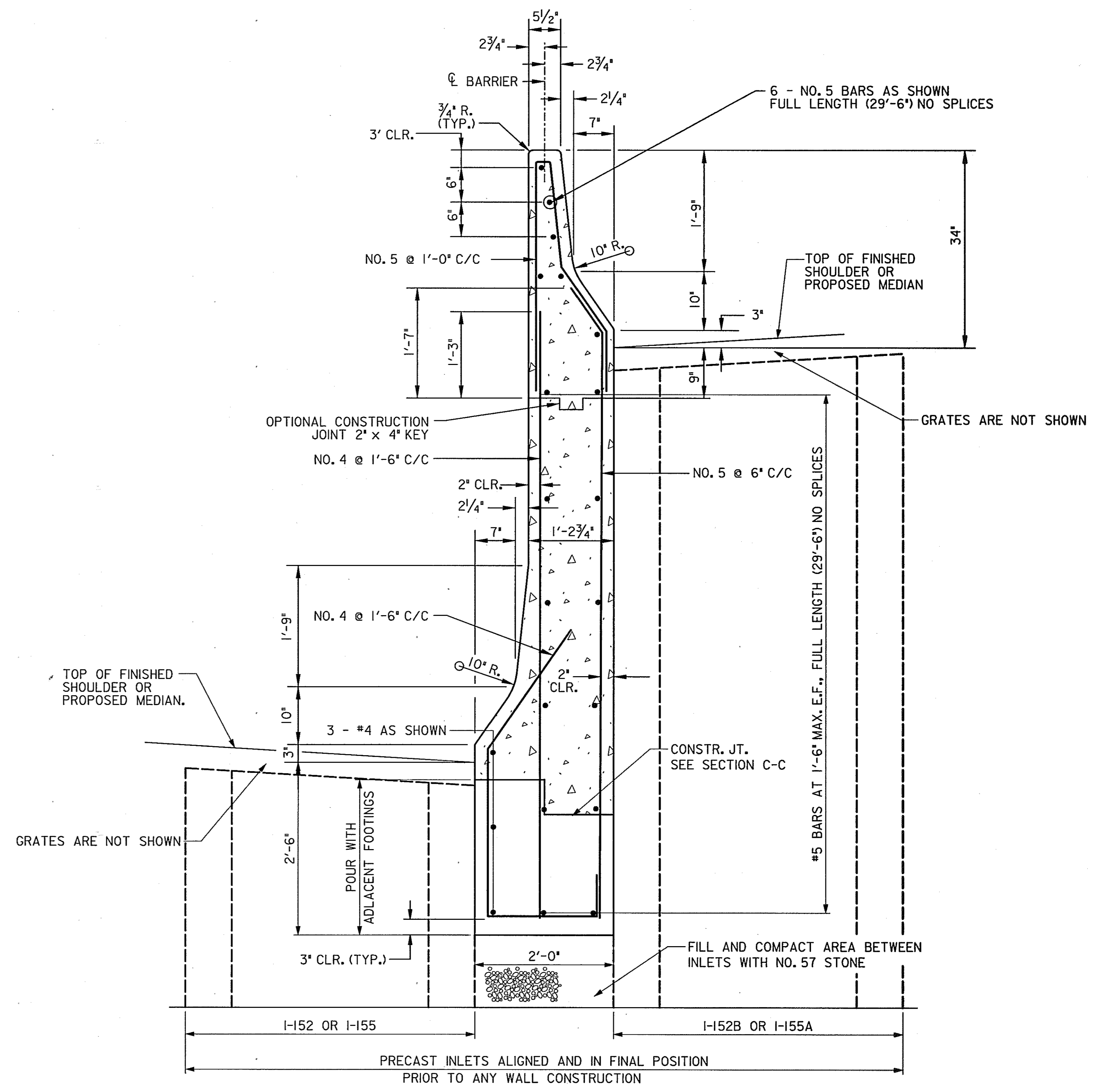
HURST-ROSCHE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD
MODIFIED CONCRETE JERSEY SHAPE MEDIAN BARRIER - TYPE D

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 19B OF 320
PREL. TRAC. BY FINAL TRAC. BY



SECTION C - C
SCALE: 1" = 1'-0"



SECTION D - D
SCALE: 1" = 1'-0"

NOTES:

1. BARRIER SHALL BE CONSTRUCTED USING CONCRETE MIX NO. 6 (4,500 p.s.i.) AND THE FOOTER SHALL BE CONSTRUCTED USING CONCRETE MIX NO. 2 (3,000 p.s.i.). BARRIER AND FOOTER SHALL BE CAST SEPARATELY. MONOLITHIC PLACEMENT NOT PERMITTED.
2. ALL LONGITUDINAL BARS SHOWN WITHOUT SIZE SPECIFIED SHALL BE NO. 4 BARS AT 1'-6" C/C.
3. ALL REINFORCEMENT BARS, INCLUDING ENDS, SHALL BE EPOXY COATED. ALL BARS SHALL BE BENT BEFORE APPLYING EPOXY COATING. ALL BAR LAPS TO BE 30 BAR DIAMETERS. TIE BARS TOGETHER. ALL BARS SHALL BE ASTM A 615, GRADE 60.
4. SEE STANDARD NO. MD 648.26 FOR CONTRACTION AND EXPANSION JOINTS.
5. COST OF CONCRETE FOOTER, ALL REINFORCEMENT, DRAINAGE APPURTENANCES, JOINT MATERIAL, EXCAVATION AND BACKFILLING SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR CONCRETE MEDIAN TRAFFIC BARRIER TYPE E.
6. TOLERANCES IN DIMENSIONS SHOWN SHALL BE WITHIN 1/4".

SCALE: AS SHOWN

3 ADD ENTIRE SHEET

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
3	REDLINE NO. 3 DATE: 1/31/02

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION			
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD MODIFIED CONCRETE JERSEY SHAPE MEDIAN BARRIER - TYPE E			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 19C		OF 320	

CURVE NO. 1	CURVE NO. 2	CURVE NO. 6	CURVE NO. 9	CURVE NO. 11	CURVE NO. 12	CURVE NO. 13	CURVE NO. 14	CURVE NO. 15	CURVE NO. 16	CURVE NO. 18
P.I. STA. = 631+37.68 Δ=16°16'00.0" RT. Dc=0°30'00.0" R=11459.16' T=1637.68' L=3253.33' E=116.43'	P.I. STA. = 39+45.77 Δ=34°40'01.8" LT. Dc=11°30'00.0" R=498.22' T=155.50' L=301.45' E=23.70'	P.I. STA. = 1004+20.81 Δ=44°42'57.3" LT. Dc=8°00'00.0" R=716.20' T=294.58' L=558.95' E=58.22'	P.I. STA. = N/A Δ=278°15'26.1" RT. Dc=20°00'00.0" R=286.48' T=247.91' L=1391.29' E=665.33'	P.I. STA. = 511+40.12 Δ=48°50'02.0" LT. Dc=11°15'00.0" R=509.30' T=231.21' L=434.09' E=50.02'	P.I. STA. = 3000+99.15 Δ=65°36'09.7" RT. Dc=5°06'31.8" R=88.00' T=56.72' L=100.76' E=16.69'	P.I. STA. = 3002+69.83 Δ=12°36'44.2" RT. Dc=5°00'00.0" R=145.92' T=126.63' L=252.25' E=6.98'	P.I. STA. = 3004+55.34 Δ=77°13'28.1" LT. Dc=16°23'39.7" R=75.00' T=59.90' L=101.09' E=20.98'	P.I. STA. = 3005+72.25 Δ=30°03'44.3" LT. Dc=38°11'49.9" R=150.00' T=40.28' L=78.70' E=5.31'	P.I. STA. = 3007+02.23 Δ=14°14'21.6" RT. Dc=17°48'59.8" R=73.00' T=91.56' L=182.17' E=5.70'	P.I. STA. = 2001+09.73 Δ=72°27'10.9" LT. Dc=19°21'58.4" R=48.00' T=35.16' L=60.70' E=11.50'
CURVE NO. 20	CURVE NO. 21	CURVE NO. 26	CURVE NO. 27	CURVE NO. 28	CURVE NO. 29	CURVE NO. 36	CURVE NO. 37			
P.I. STA. = 55+50.62 Δ=9°00'00.0" LT. Dc=1°30'00.0" R=3819.72' T=300.62' L=600.00' E=11.81'	P.I. STA. = 60+98.54 Δ=9°54'59.8" LT. Dc=2°00'00.0" R=2964.78' T=248.54' L=486.899' E=10.76'	P.I. STA. = 116+08.43 Δ=53°59'43.5" RT. Dc=11°45'00.0" R=449.38' T=248.43' L=459.54' E=59.64'	P.I. STA. = 1101+18.93 Δ=29°38'51.3" LT. Dc=12°45'00.0" R=449.38' T=118.93' L=232.53' E=15.47'	P.I. STA. = 406+00.47 Δ=110°28'55.8" RT. Dc=13°45'00.0" R=416.70' T=600.47' L=803.51' E=314.19'	P.I. STA. = 1403+93.39 Δ=11°00'04.2" RT. Dc=2°30'00.0" R=2291.83' T=220.70' L=440.05' E=10.60'	P.I. STA. = 2408+62.32 Δ=11°00'04.2" RT. Dc=2°30'00.0" R=2291.83' T=220.70' L=440.05' E=10.60'	P.I. STA. = 2410+14.57 Δ=11°13'55.16" RT. Dc=13°44'60.0" R=416.70' T=52.02' L=103.51' E=3.24'			

POINT	COORDINATES		ELEVATIONS
	NORTH	EAST	
JMT CADD-13	543,496.1282	1,343,159.9730	406.47
JMT CADD-14	543,410.9322	1,343,494.3305	399.56
JMT CADD-15	543,058.4259	1,345,209.6258	406.78
JMT CADD-16	542,940.4526	1,345,269.4731	405.02
JMT CADD-17	543,054.4610	1,345,042.4168	0.00
JMT CADD-18	543,045.7140	1,344,622.8223	405.56
JMT CADD-100	543,170.9640	1,343,822.1580	402.88
JMT CADD-101	543,336.5583	1,343,877.8872	403.07
JMT CADD-102	543,075.9727	1,344,480.4367	402.41
JMT CADD-103	543,069.9928	1,344,793.7506	406.72
JMT CADD-104	543,276.9928	1,344,803.7109	394.02
JMT CADD-105	543,486.0614	1,344,849.1652	382.41
JMT CADD-106	543,597.2596	1,344,917.7783	369.26
JMT CADD-107	543,777.4576	1,344,737.7566	376.75
JMT CADD-108	543,858.9701	1,344,500.1080	390.04
JMT CADD-109	543,724.2082	1,344,231.6732	407.62
JMT CADD-202	543,731.5126	1,343,492.3809	422.53
JMT CADD-203	543,814.2382	1,343,144.5926	419.38
JMT FLY-266	543,329.3353	1,343,300.2684	408.97



POINT	COORDINATES		ELEVATIONS
	NORTH	EAST	
JMT CADD-255	542,746.1331	1,343,960.5666	396.07
JMT CADD-256	542,763.0631	1,344,114.2459	404.52
JMT CADD-258	543,044.9159	1,344,362.1001	406.19
JMT CADD-259	543,124.9747	1,344,115.3269	407.84
JMT CADD-260	543,255.3572	1,343,884.0629	407.99
JMT FLY-150	543,323.5420	1,344,627.8812	392.05
JMT FLY-151	543,643.7491	1,344,747.4261	357.72
JMT FLY-152	543,688.7664	1,345,023.3765	354.34
JMT FLY-153	543,492.6004	1,344,101.4848	417.91
JMT FLY-263	542,950.5766	1,344,027.3103	400.52
JMT FLY-267	542,939.4156	1,343,869.6444	390.49
JMT POL-261	543,000.3968	1,343,702.4191	397.22
JMT POL-262	542,792.7444	1,344,178.1603	403.30

NOTES: SEE SHEET GL 2 FOR COORDINATES.
FOR ROUNDABOUT GEOMETRY, SEE SHEET 27.

GEOMETRIC LAYOUT

GL 1 OF 6

SCALE: PLAN: 1" = 100'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 20		OF 320	

CURVE NO. 24

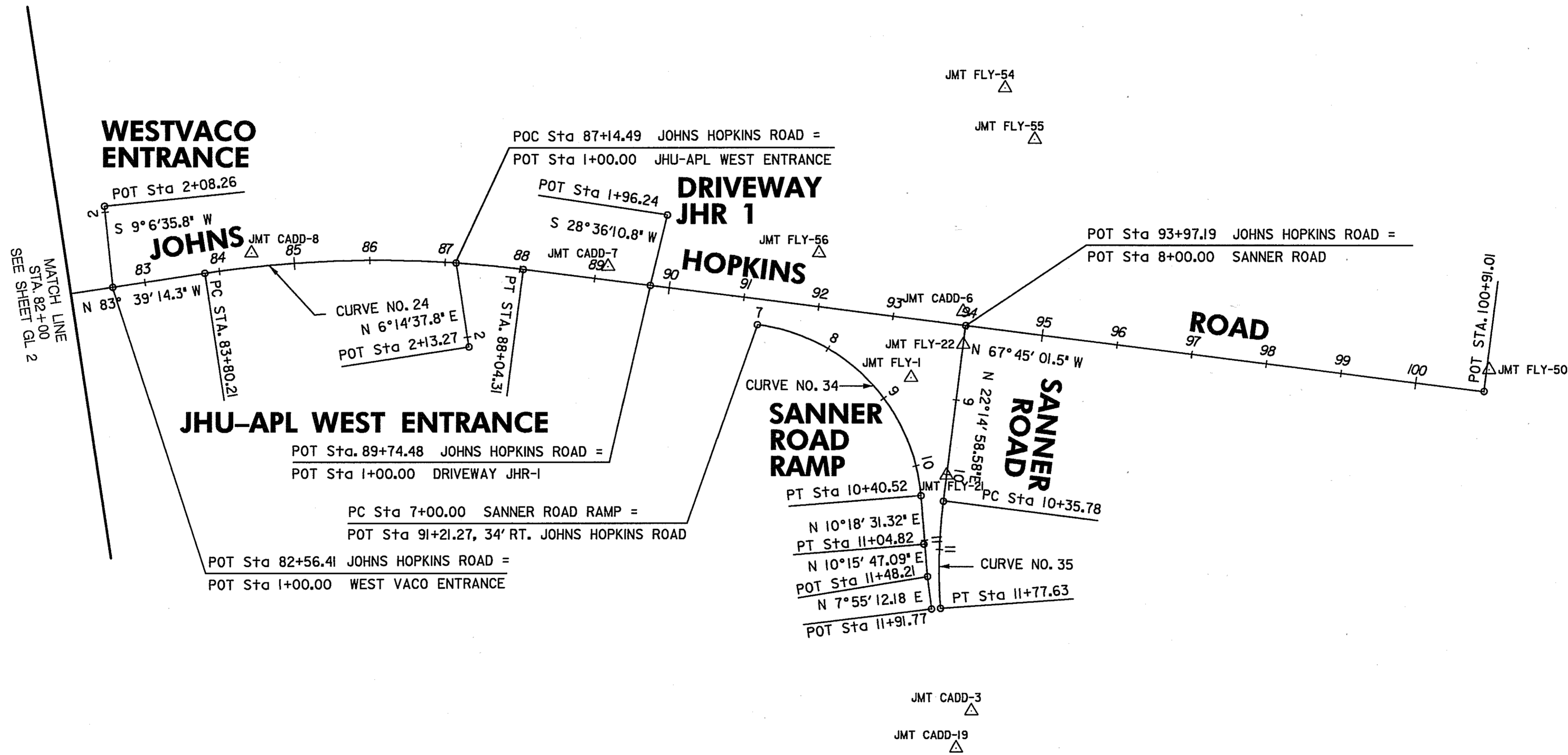
P.I. STA. = 85+93.63
 $\Delta = 15^\circ 54' 12.8''$ RT.
 $D = 3^\circ 45' 00.0''$
 $R = 1527.89'$
 $T = 213.42'$
 $L = 424.09'$
 $E = 14.83'$

CURVE NO. 34

P.I. STA. = 9+02.58
 $\Delta = 78^\circ 02' 13.60''$ RT.
 $D = 22^\circ 55' 05.92''$
 $R = 250.00'$
 $T = 202.58'$
 $L = 340.50'$
 $E = 71.77'$

CURVE NO. 35

P.I. STA. = 11+06.94
 $\Delta = 11^\circ 28' 18.20''$ LT.
 $D = 08^\circ 00' 00.00''$
 $R = 716.20'$
 $T = 71.94'$
 $L = 143.40'$
 $E = 3.60'$



CONSTRUCTION JOHNS HOPKINS ROAD

POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	83+80.21	544,124.2364	1,341,079.6962
P.I.	85+93.63	544,147.8262	1,340,867.5845
P.T.	88+04.31	544,228.6357	1,340,670.0556
P.O.T.	100+91.01	544,715.8330	1,349,479.1615

CONSTRUCTION WEST VACO ENTRANCE

POINT	STATION	COORDINATES	
		NORTH	EAST
P.O.T.	1+00.00	544,110.5526	1,341,202.7369
P.O.T.	2+08.26	544,003.6570	1,341,185.5960

CONSTRUCTION SANNER ROAD RAMP

POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	7+00.00	544,380.3542	1,340,388.9929
P.I.	9+02.58	544,457.0897	1,340,201.4226
P.T.	10+40.52	544,656.4780	1,340,237.6888
P.O.T.	11+04.82	544,719.7407	1,340,249.956
P.O.T.	11+48.21	544,762.4354	1,340,256.9261
P.O.T.	11+91.77	544,805.5780	1,340,262.9280

CONSTRUCTION JHU-APL WEST ENTRANCE

POINT	STATION	COORDINATES	
		NORTH	EAST
P.O.T.	1+00.00	544,197.0904	1,340,754.1340
P.O.T.	2+13.27	544,309.6860	1,340,766.4530

CONSTRUCTION SANNER ROAD

POINT	STATION	COORDINATES	
		NORTH	EAST
P.O.T.	8+00.00	544,453.1247	1,340,121.3198
P.C.	10+35.78	544,671.3496	1,340,210.5962
P.I.	11+06.94	544,737.2097	1,340,237.5398
P.T.	11+77.63	544,807.0839	1,340,250.9974

CONSTRUCTION DRIVEWAY JHR-1

POINT	STATION	COORDINATES	
		NORTH	EAST
P.O.T.	1+00.00	544,293.0711	1,340,512.5511
P.O.T.	1+96.24	544,208.5740	1,340,466.4760

TRAVERSE POINTS

POINT	COORDINATES		ELEVATIONS
	NORTH	EAST	
JMT FLY-1	544,501.3021	1,340,209.4755	418.79
JMT CADD-3	544,950.4742	1,340,246.6669	440.42
JMT CADD-6	544,434.0331	1,340,119.7985	415.98
JMT CADD-7	544,254.0102	1,340,560.2550	427.49
JMT CADD-8	544,114.0101	1,341,012.8932	412.18
JMT FLY-19	544,993.9491	1,340,279.3030	440.04
JMT FLY-21	544,638.8106	1,340,197.4877	0.00
JMT FLY-22	544,476.7953	1,340,130.9508	0.00
JMT FLY-50	544,689.1583	1,339,464.9231	403.11
JMT FLY-54	544,161.5060	1,339,989.2531	407.44
JMT FLY-55	544,237.7832	1,339,968.9232	405.30
JMT POL-56	544,309.4867	1,340,284.9591	423.03

SCALE: PLAN: 1" = 100'

GEOMETRIC LAYOUT

GL 3 OF 6

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS

NO.	DESCRIPTION

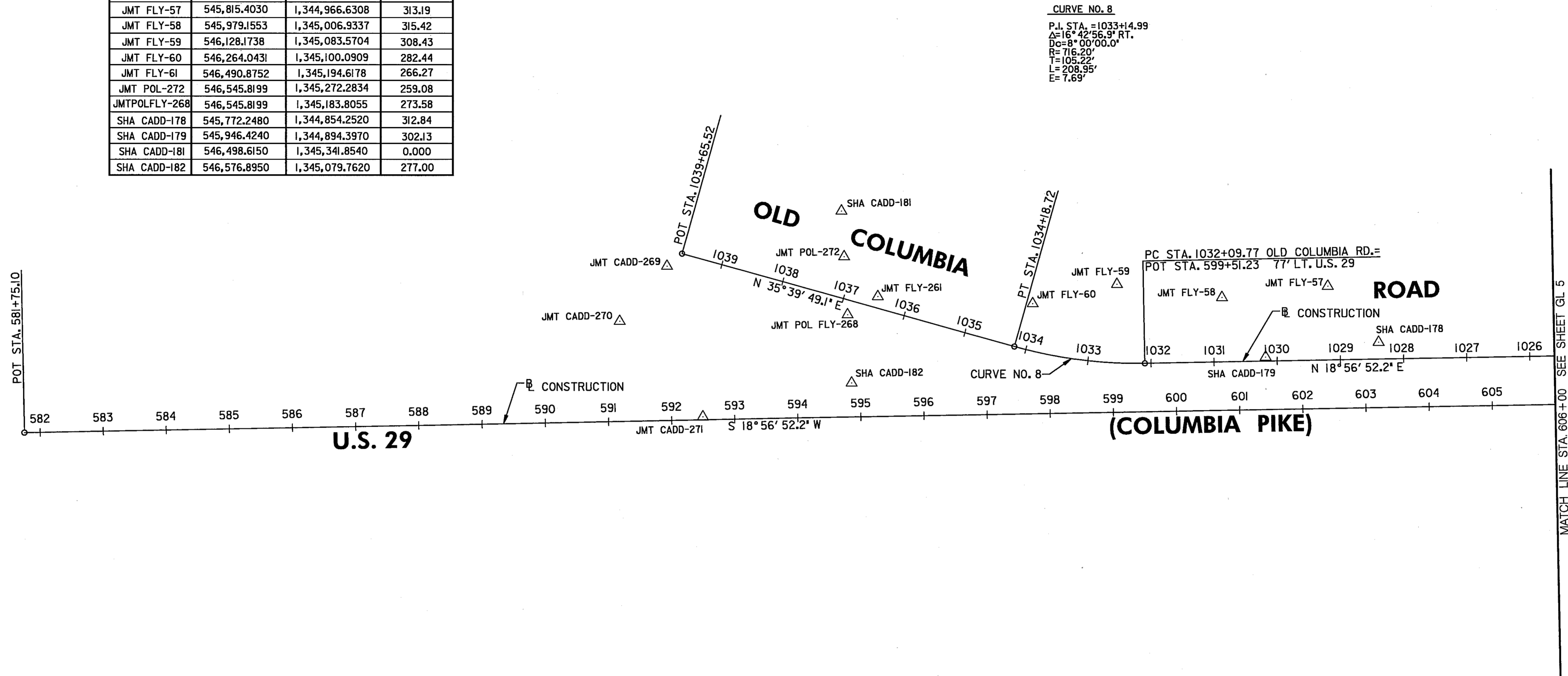
STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 22 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

TRAVERSE POINTS			
POINT	COORDINATES		ELEVATIONS
	NORTH	EAST	
JMT CADD-269	546,788.2747	1,345,354.3346	252.18
JMT CADD-270	546,888.5608	1,345,297.8616	251.07
JMT CADD-271	546,816.8503	1,345,109.9800	268.41
JMT FLY-57	545,815.4030	1,344,966.6308	313.19
JMT FLY-58	545,979.1553	1,345,006.9337	315.42
JMT FLY-59	546,128.1738	1,345,083.5704	308.43
JMT FLY-60	546,264.0431	1,345,100.0909	282.44
JMT FLY-61	546,490.8752	1,345,194.6178	266.27
JMT POL-272	546,545.8199	1,345,272.2834	259.08
JMTPOLFLY-268	546,545.8199	1,345,183.8055	273.58
SHA CADD-178	545,772.2480	1,344,854.2520	312.84
SHA CADD-179	545,946.4240	1,344,894.3970	302.13
SHA CADD-181	546,498.6150	1,345,341.8540	0.000
SHA CADD-182	546,576.8950	1,345,079.7620	277.00

CONSTRUCTION OLD COLUMBIA ROAD			
POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	1032+09.77	546,129.7204	1,344,950.6169
P.L.	1033+14.99	546,229.2401	1,344,984.7830
P.T.	1034+18.72	546,314.7273	1,345,046.1296
P.O.T.	1039+65.52	546,758.9810	1,345,364.9310

CONSTRUCTION U.S. 29 (COLUMBIA PIKE)			
POINT	STATION	COORDINATES	
		NORTH	EAST
P.O.T.	581+75.10	547,834.6126	1,345,454.5118



GEOMETRIC LAYOUT

GL 4 OF 6

SCALE: PLAN: 1" = 100'

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
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50 SCOTT ADAM ROAD, SUITE 103
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(410) 683-1683

REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 23 OF 320
PREL. TRAC. BY FINAL TRAC. BY

CURVE NO. 1	CURVE NO. 5	CURVE NO. 7	CURVE NO. 13	CURVE NO. 25	CURVE NO. 38	CURVE NO. 39
P.I. STA. = 631+37.68 A=16°16'00.0" RT. Dc=0°30'00.0" R=11459.16' T=1637.68' L=3253.33' E=116.43'	P.I. STA. = 210+60.08 A=29°34.01" RT. Dc=6°30'00.0" R=881.47' T=392.48' L=454.88' E=30.18'	P.I. STA. = 1014+40.67 A=52°49'14.2" RT. Dc=7°15'00.0" R=790.29' T=392.48' L=728.56' E=92.09'	P.I. STA. = 5000+51.66 A=33°09'23.6" RT. Dc=11°43'29.6" R=50.00' T=14.89' L=28.93' E=2.17'	P.I. STA. = 104+14.30 A=175°58'42.44" LT. Dc=2°30'00.0" R=52.00' T=1.48110' L=159.71' E=1.43010'	P.I. STA. = N/A A=175°58'42.44" LT. Dc=2°30'00.0" R=52.00' T=1.48110' L=159.71' E=1.43010'	P.I. STA. = 3+04.40 A=2°13'41.83" RT. Dc=2°29'37.34" R=2297.62' T=44.68' L=89.36' E=0.4345'

TEMP. U-TURN TO RAMP 1			
POINT	STATION	COORDINATES	
		NORTH	EAST
P.O.T.	0+00.00	544,686.9515	1,344,384.4046
P.C.	1+00.00	544,781.5329	1,344,415.8753
P.L.	N/A	546,182.3796	1,344,896.7996
P.R.C.	2+59.71	544,818.7102	1,344,318.8158
P.I.	3+04.40	544,777.5692	1,344,301.3785
P.T.	3+49.07	544,737.1373	1,344,282.3546

CONSTRUCTION OLD COLUMBIA ROAD			
POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	1010+48.19	544,077.2722	1,344,576.6128
P.L.	1014+40.67	544,403.1385	1,344,357.8645
P.T.	1017+76.75	544,774.3507	1,344,485.3053

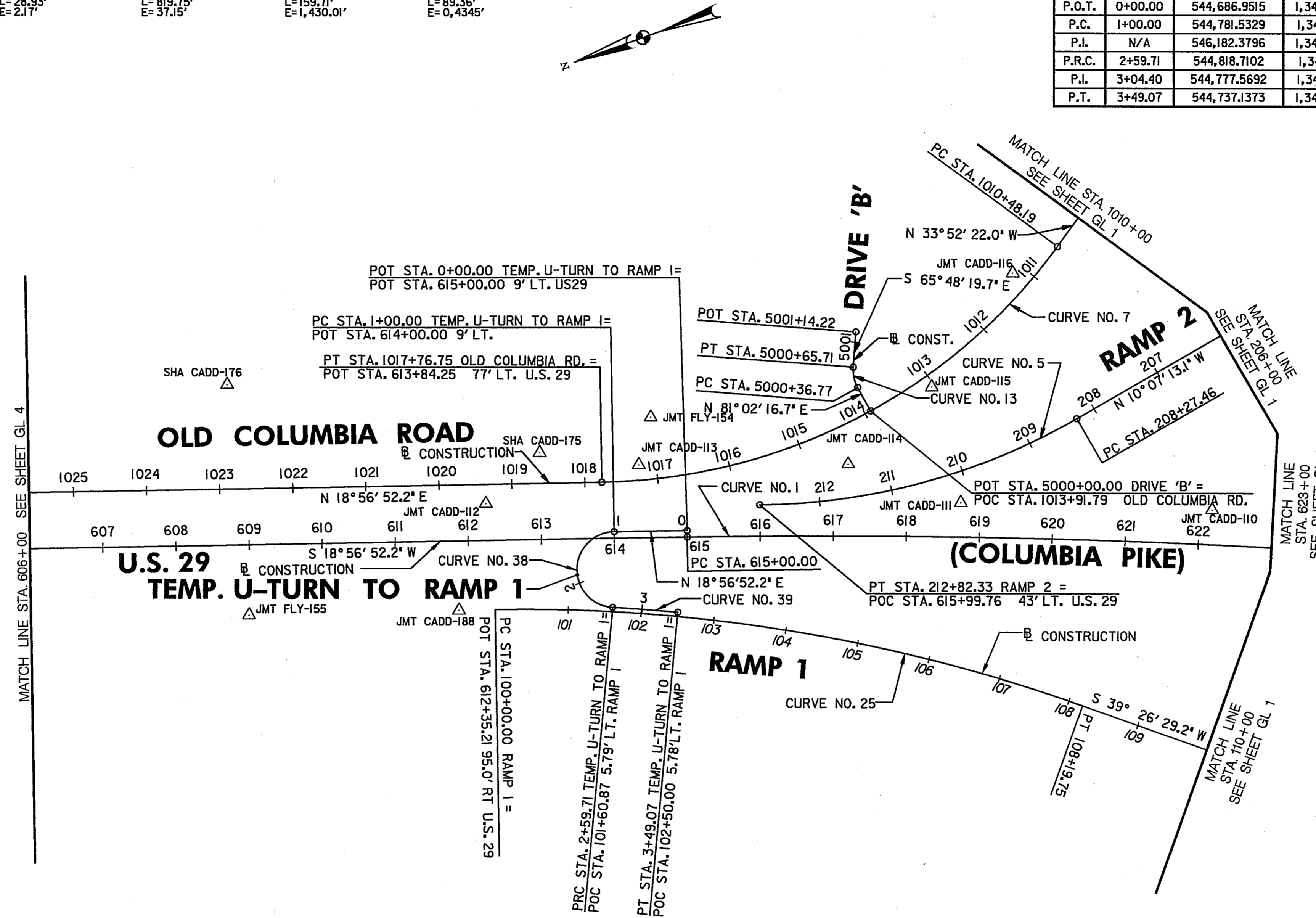
CONSTRUCTION DRIVE 'B'			
POINT	STATION	COORDINATES	
		NORTH	EAST
P.O.T.	5000+00.00	544,394.6280	1,344,452.1312
P.C.	5000+36.77	544,400.3564	1,344,488.4545
P.L.	5000+51.66	544,402.6752	1,344,503.1578
P.T.	5000+65.71	544,396.5748	1,344,516.7353
P.O.T.	5001+14.22	544,376.6910	1,344,560.9900

CONSTRUCTION RAMP 2			
POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	208+27.46	544,132.9888	1,344,346.0646
P.L.	210+60.08	544,361.9929	1,344,305.1890
P.T.	212+82.33	544,581.3456	1,344,382.6361

CONSTRUCTION U.S. 29 (COLUMBIA PIKE)			
POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	615+00.00	544,689.8739	1,344,374.8922
P.O.C.	620+00.00	544,220.6581	1,344,202.2745
P.L.	631+37.68	543,140.9302	1,343,843.1247
P.T.	647+53.33	541,802.9457	1,342,898.7728

CONSTRUCTION RAMP 1			
POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	100+00.00	544,971.1623	1,344,371.0188
P.L.	104+14.30	544,579.3090	1,344,236.4930
P.T.	108+19.75	544,259.3542	1,343,973.2912

TRAVERSE POINTS			
POINT	COORDINATES		ELEVATIONS
	NORTH	EAST	
JMT CADD-110	544,001.3949	1,344,165.2362	398.88
JMT CADD-111	544,321.3723	1,344,291.7772	390.73
JMT CADD-112	544,933.6219	1,344,511.9878	363.49
JMT CADD-113	544,718.6738	1,344,490.6837	361.49
JMT CADD-114	545,979.1553	1,345,006.9337	315.42
JMT CADD-115	544,304.8259	1,344,454.8197	383.48
JMT CADD-116	544,147.4930	1,344,563.4778	383.48
JMT CADD-188	545,017.9140	1,344,387.2350	360.71
JMT FLY-154	544,681.1139	1,344,546.5396	360.19
JMT FLY-155	545,290.1170	1,344,479.4371	346.19
SHA CADD-175	544,840.9060	1,344,552.5480	360.05
SHA CADD-176	545,210.7590	1,344,786.9530	343.58



GEOMETRIC LAYOUT GL 5 OF 6

SCALE: PLAN: 1"=100'

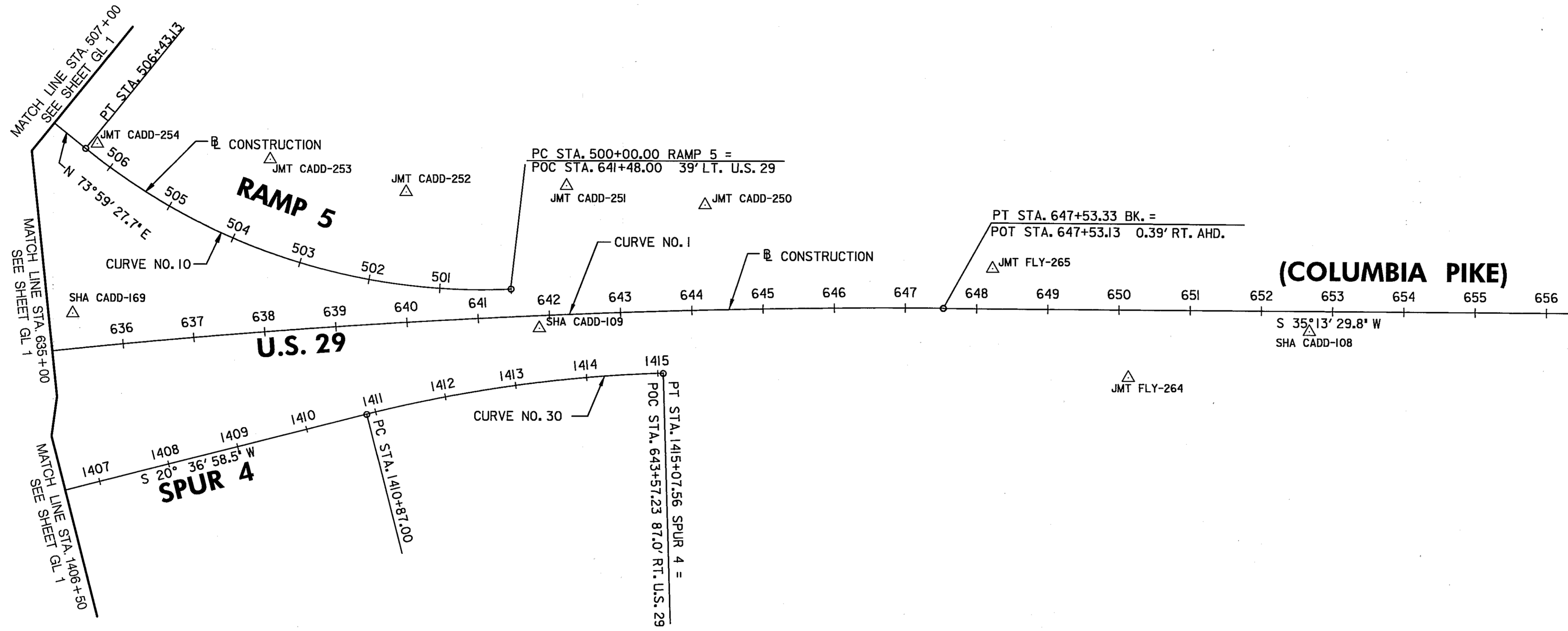
HURST-ROSCHKE ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 24 OF 320
PREL. TRAC. BY FINAL TRAC. BY

CURVE NO. 1	CURVE NO. 10	CURVE NO. 30
P.I. STA. = 631+37.68 Δ=16°16'00.0" RT. Dc=0°30'00.0" R=11459.16' T=1637.68' L=3253.33' E=116.43'	P.I. STA. = 503+36.63 Δ=4°48'11.4" RT. Dc=5°30'00.0" R=881.47' T=336.63' L=643.13' E=62.09'	P.I. STA. = 1412+98.13 Δ=12°37'01.1" RT. Dc=3°00'00.0" R=1909.86' T=211.14' L=420.57' E=11.64'



CONSTRUCTION U.S. 29 (COLUMBIA PIKE)

POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	615+00.00	544,689.8739	1,344,374.8922
P.I.	631+37.68	543,140.9302	1,343,843.1247
P.O.C.	635+00.00	542,864.3623	1,343,564.1124
P.O.C.	640+00.00	542,432.2497	1,343,312.6387
P.O.C.	645+00.00	542,011.5175	1,343,042.5558
P.T.	647+53.33	541,802.9457	1,342,898.7728
P.O.T.	647+53.13	541,803.1665	1,342,898.4522
P.O.T.	668+52.97	540,087.8190	1,341,687.2884

CONSTRUCTION RAMP 5

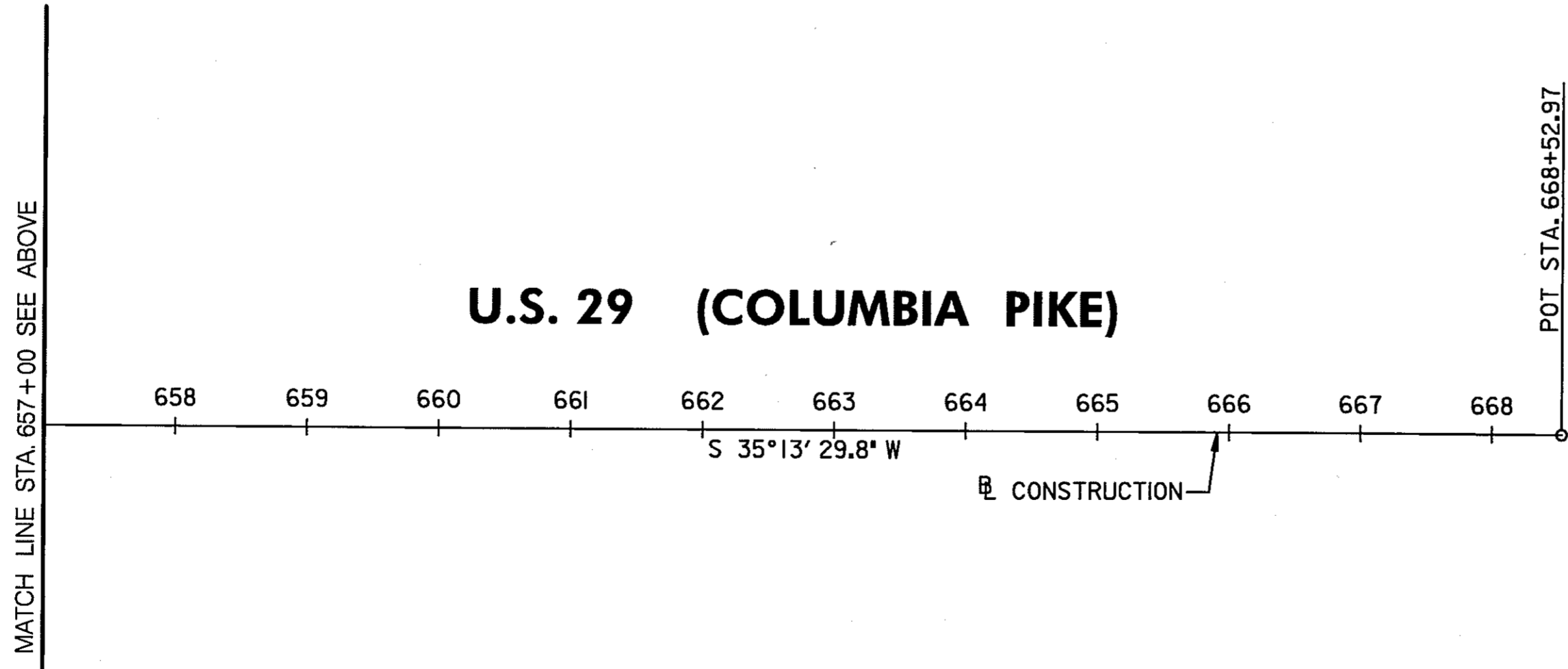
POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	500+00.00	542,285.7156	1,343,267.6165
P.I.	503+36.63	542,570.6076	1,343,446.9382
P.O.C.	505+00.00	542,613.0024	1,343,636.7393
P.T.	506+43.13	542,663.4462	1,343,770.5132

CONSTRUCTION SPUR 4

POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	1410+87.00	542,552.3495	1,343,238.8315
P.I.	1412+98.13	542,354.7341	1,343,164.4888
P.T.	1415+07.56	542,224.8243	1,341,451.2800

TRAVERSE POINTS

POINT	COORDINATES		ELEVATIONS
	NORTH	EAST	
JMT CADD-250	541,995.1037	1,343,208.8762	358.91
JMT CADD-251	542,139.1712	1,343,342.3457	362.51
JMT CADD-252	542,328.6983	1,343,463.4806	367.02
JMT CADD-253	542,459.0469	1,343,609.9756	379.45
JMT CADD-254	542,646.1945	1,343,766.6465	385.15
JMT FLY-264	541,645.1213	1,342,670.4390	352.46
JMT FLY-265	541,714.1174	1,342,904.8220	351.14
SHA CADD-108	543,858.9701	1,344,500.1080	390.04
SHA CADD-109	543,724.2082	1,344,231.6732	407.62
SHA CADD-169	542,810.5980	1,343,590.9990	391.34



GEOMETRIC LAYOUT

GL 6 OF 6

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		SHEET NO.	25 OF 320
		FINAL TRAC. BY	

SCALE: PLAN: 1" = 100'

TO I-95

TO PINDELL SCHOOL ROAD

N 542950
E 1344950

N 543150
E 1344550

POT STA. 44+14.79 JOHNS HOPKINS RD. =
POT STA. 1000+18.63 OLD COLUMBIA RD. =
POT STA. 3000+00.00 HAMMOND PKWY.
CONNECTOR

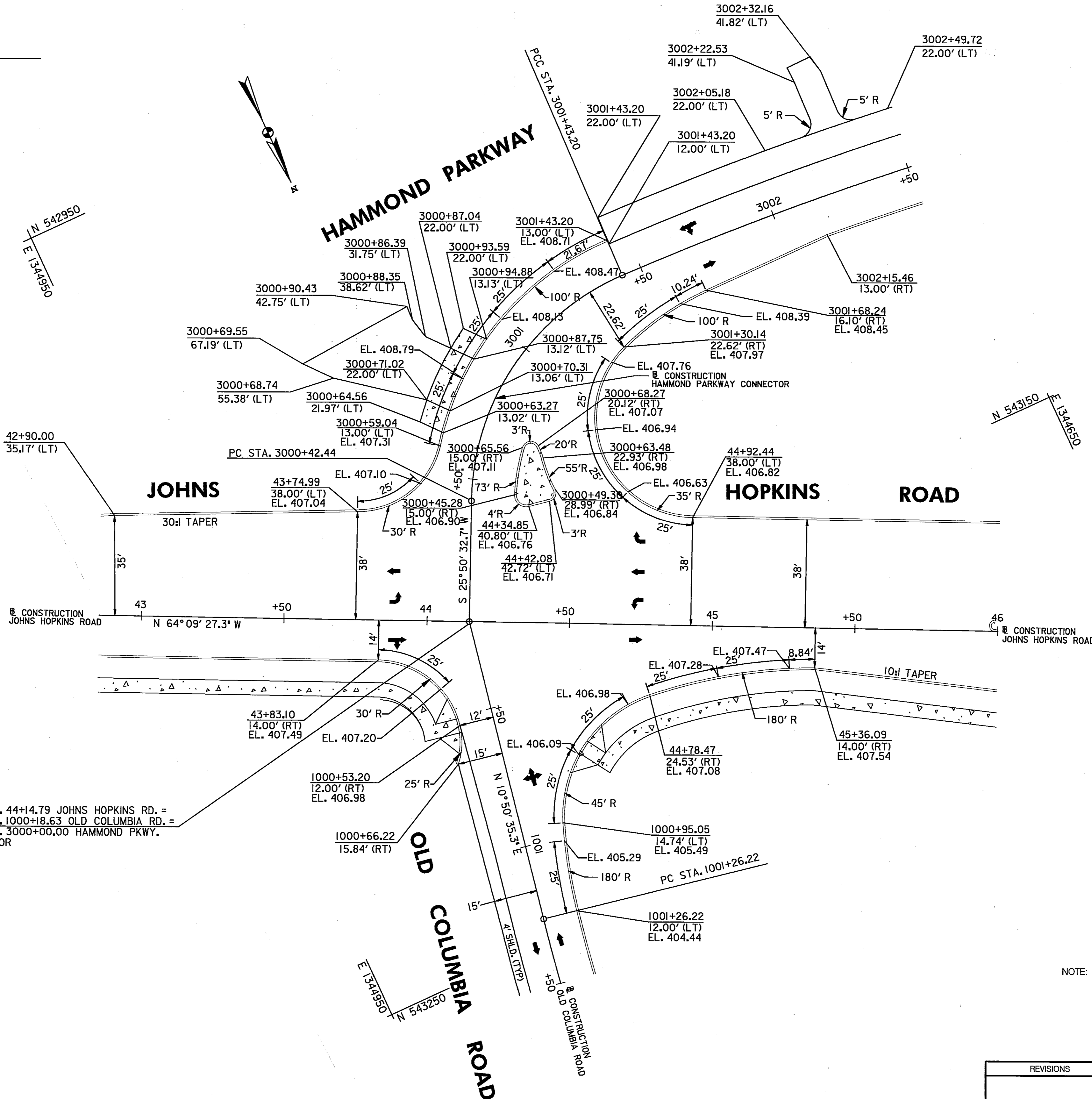
NOTE: ALL ELEVATIONS SHOWN ON THIS PLAN ARE FLOW LINE ELEVATIONS.

HAMMOND PARKWAY

JOHNS

HOPKINS ROAD

OLD COLUMBIA ROAD



SCALE PLAN: 1" = 20'

INTERSECTION DETAIL

DE 1 OF 6

HURST-ROSCHE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

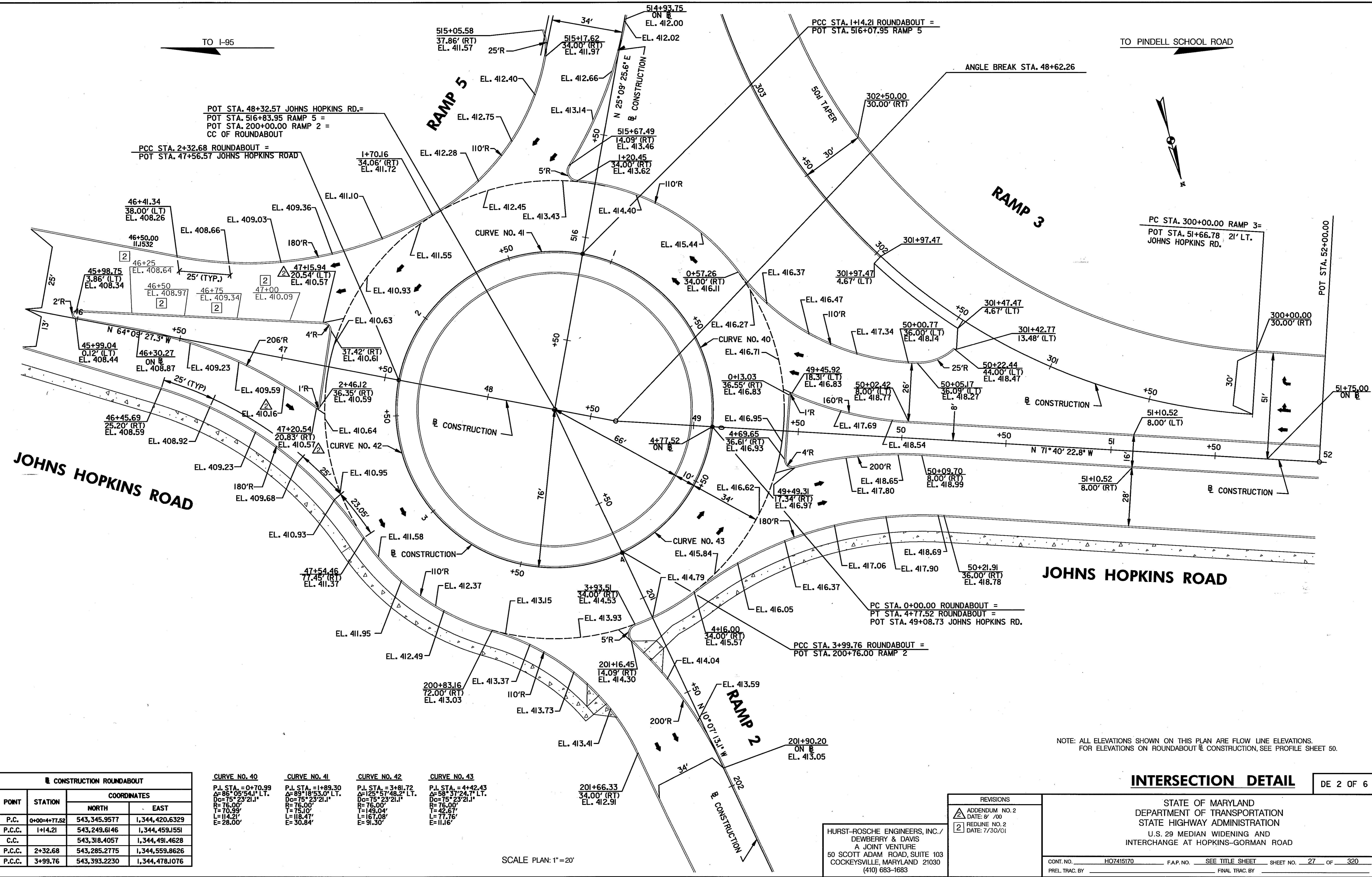
REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 26 OF 320
PREL. TRAC. BY FINAL TRAC. BY

TO I-95

TO PINDELL SCHOOL ROAD



CONSTRUCTION ROUNDABOUT			
POINT	STATION	COORDINATES	
		NORTH	EAST
P.C.	0+00+477.52	543,345.9577	1,344,420.6329
P.C.C.	1+14.21	543,249.6146	1,344,459.1551
C.C.		543,318.4057	1,344,491.4628
P.C.C.	2+32.68	543,285.2775	1,344,559.8626
P.C.C.	3+99.76	543,393.2230	1,344,478.1076

CURVE NO.	P.I. STA.	A	D	T	L	E
CURVE NO. 40	0+70.99	86° 05' 54.1\"	75° 23' 21.1\"	76.00'	70.39'	114.21'
CURVE NO. 41	1+89.30	125° 57' 48.2\"	75° 23' 21.1\"	76.00'	75.10'	118.47'
CURVE NO. 42	3+81.72	125° 57' 48.2\"	75° 23' 21.1\"	76.00'	149.04'	167.08'
CURVE NO. 43	4+42.43	58° 37' 24.7\"	75° 23' 21.1\"	76.00'	42.67'	77.76'

SCALE PLAN: 1"=20'

NOTE: ALL ELEVATIONS SHOWN ON THIS PLAN ARE FLOW LINE ELEVATIONS. FOR ELEVATIONS ON ROUNDABOUT CONSTRUCTION, SEE PROFILE SHEET 50.

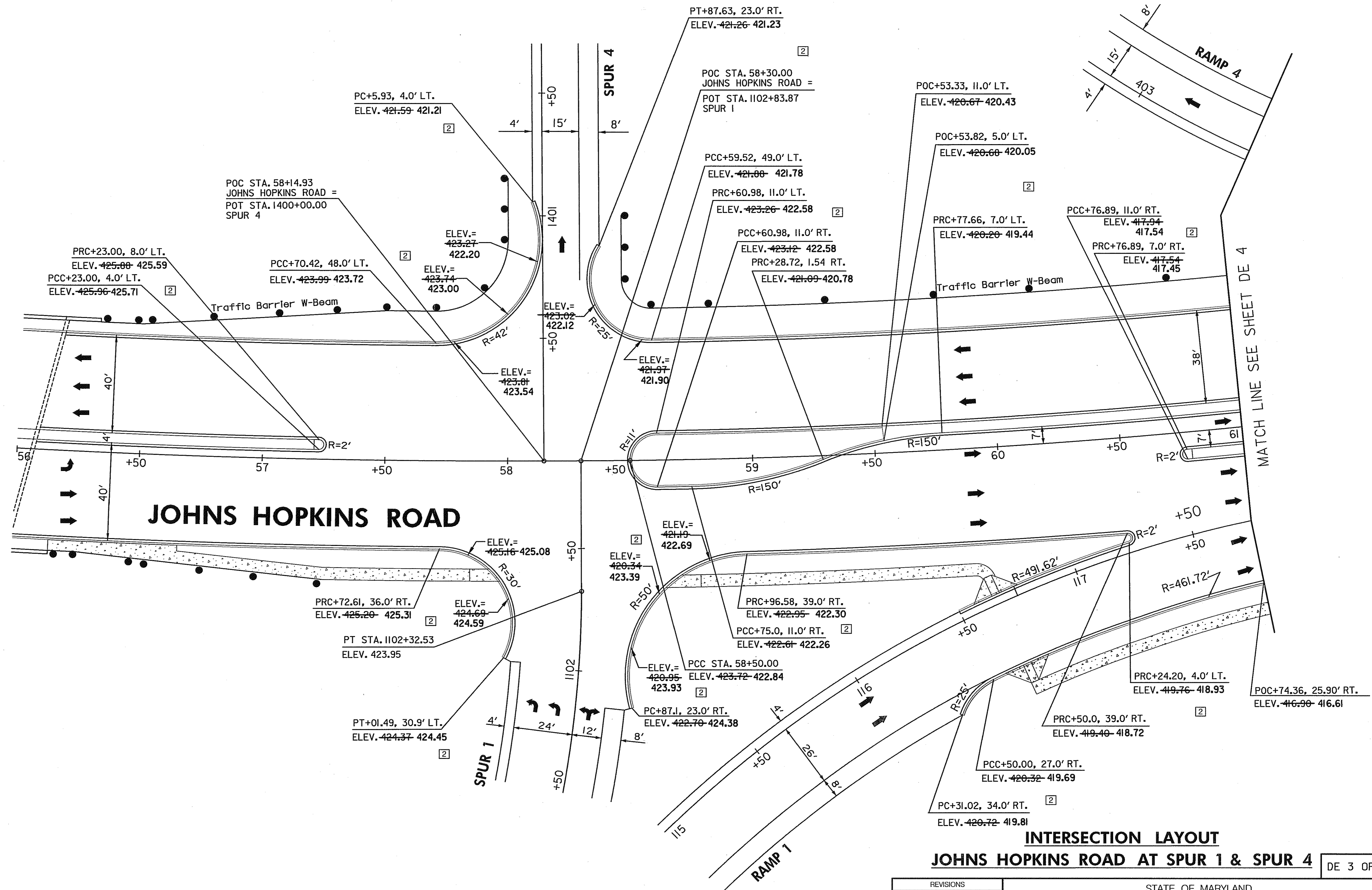
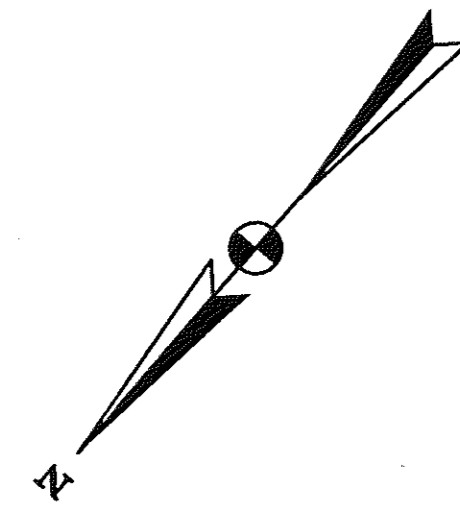
INTERSECTION DETAIL

DE 2 OF 6

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2	DATE: 8/7/00
REDLINE NO. 2	DATE: 7/30/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
		SHEET NO.	27 OF 320



JOHNS HOPKINS ROAD

**INTERSECTION LAYOUT
JOHNS HOPKINS ROAD AT SPUR 1 & SPUR 4**

DE 3 OF 6

NOTE: ALL ELEVATIONS SHOWN ON THIS PLAN ARE FLOW LINE ELEVATIONS.

SCALE: PLAN: 1"=20'

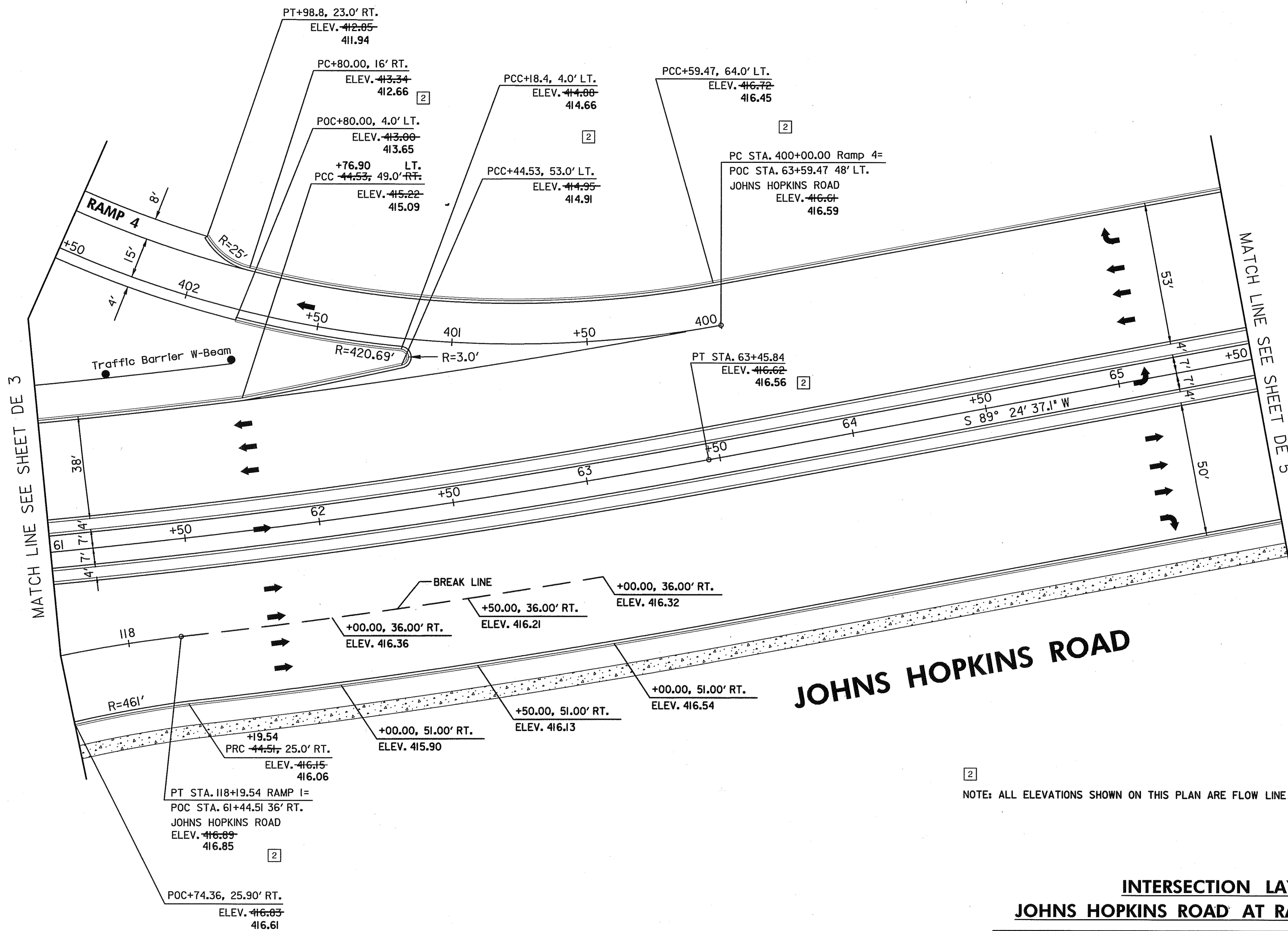
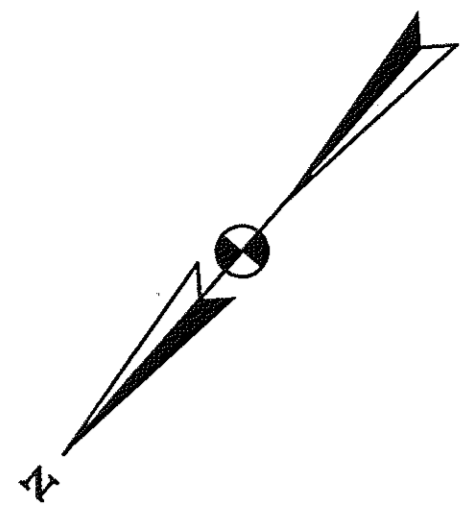
HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
2 REDLINE NO. 2 DATE: 7/30/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONF. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO.	28	OF	320
PREL. TRAC. BY		FINAL TRAC. BY					

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NOTE: ALL ELEVATIONS SHOWN ON THIS PLAN ARE FLOW LINE ELEVATIONS.

INTERSECTION LAYOUT
JOHNS HOPKINS ROAD AT RAMP 1 & RAMP 4

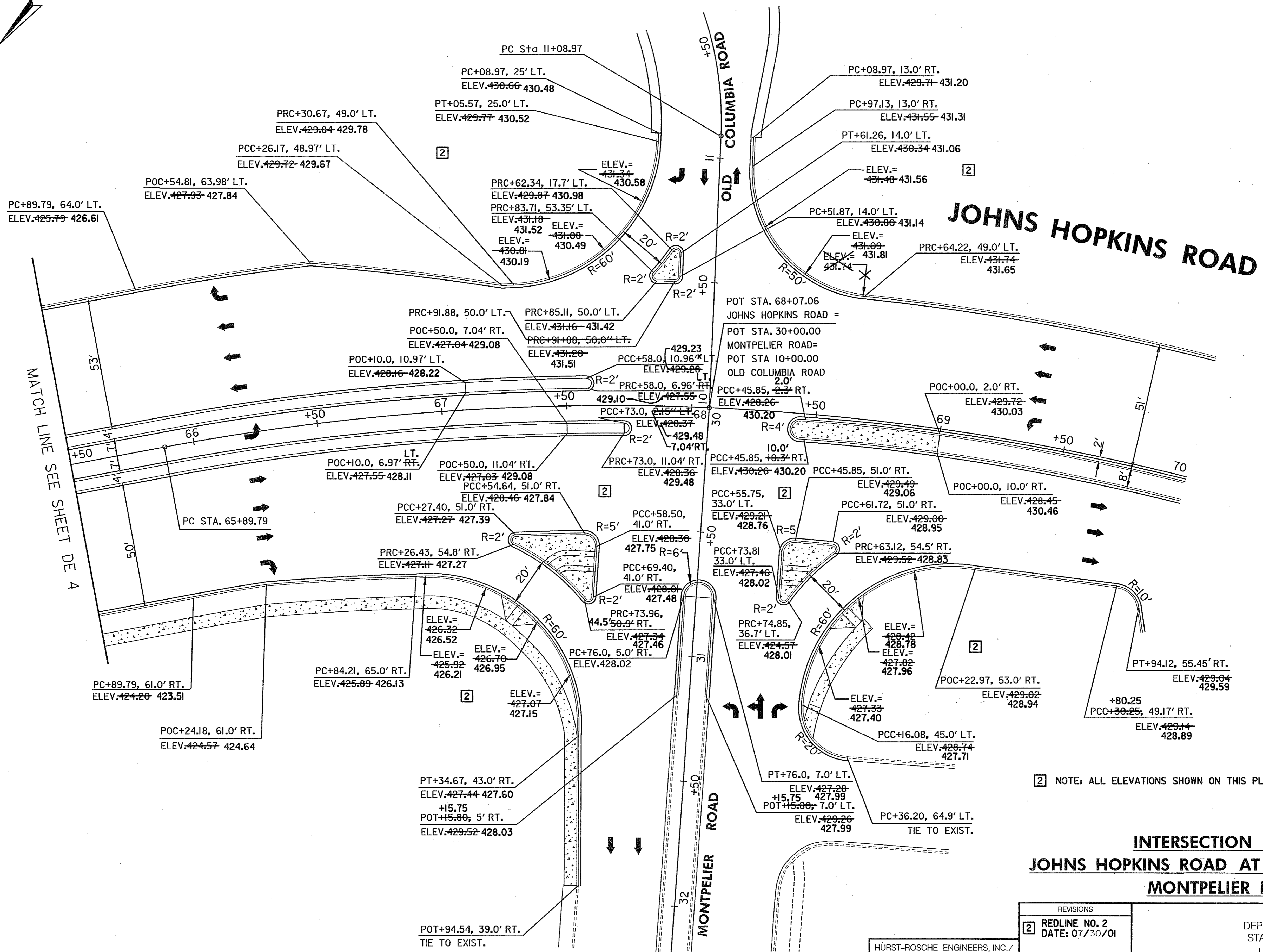
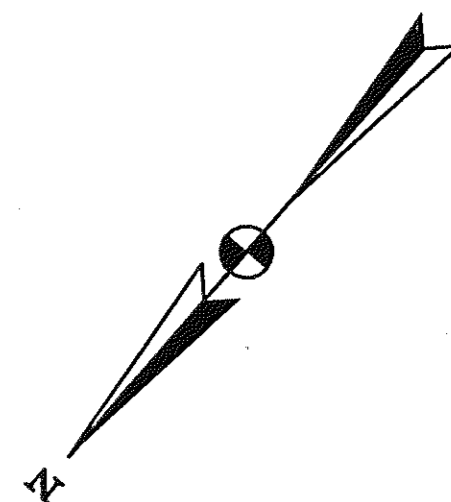
DE 4 OF 6

SCALE: PLAN: 1" = 20'

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
2	REDLINE NO. 2 DATE: 07/30/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 29		OF 320	



MATCH LINE SEE SHEET DE 4

JOHNS HOPKINS ROAD

NOTE: ALL ELEVATIONS SHOWN ON THIS PLAN ARE FLOW LINE ELEVATIONS.

INTERSECTION LAYOUT JOHNS HOPKINS ROAD AT OLD COLUMBIA & MONTPELIER ROADS

DE 5 OF 6

SCALE: PLAN: 1" = 20'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

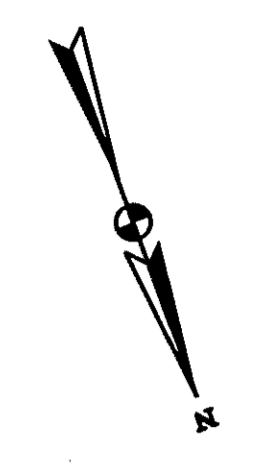
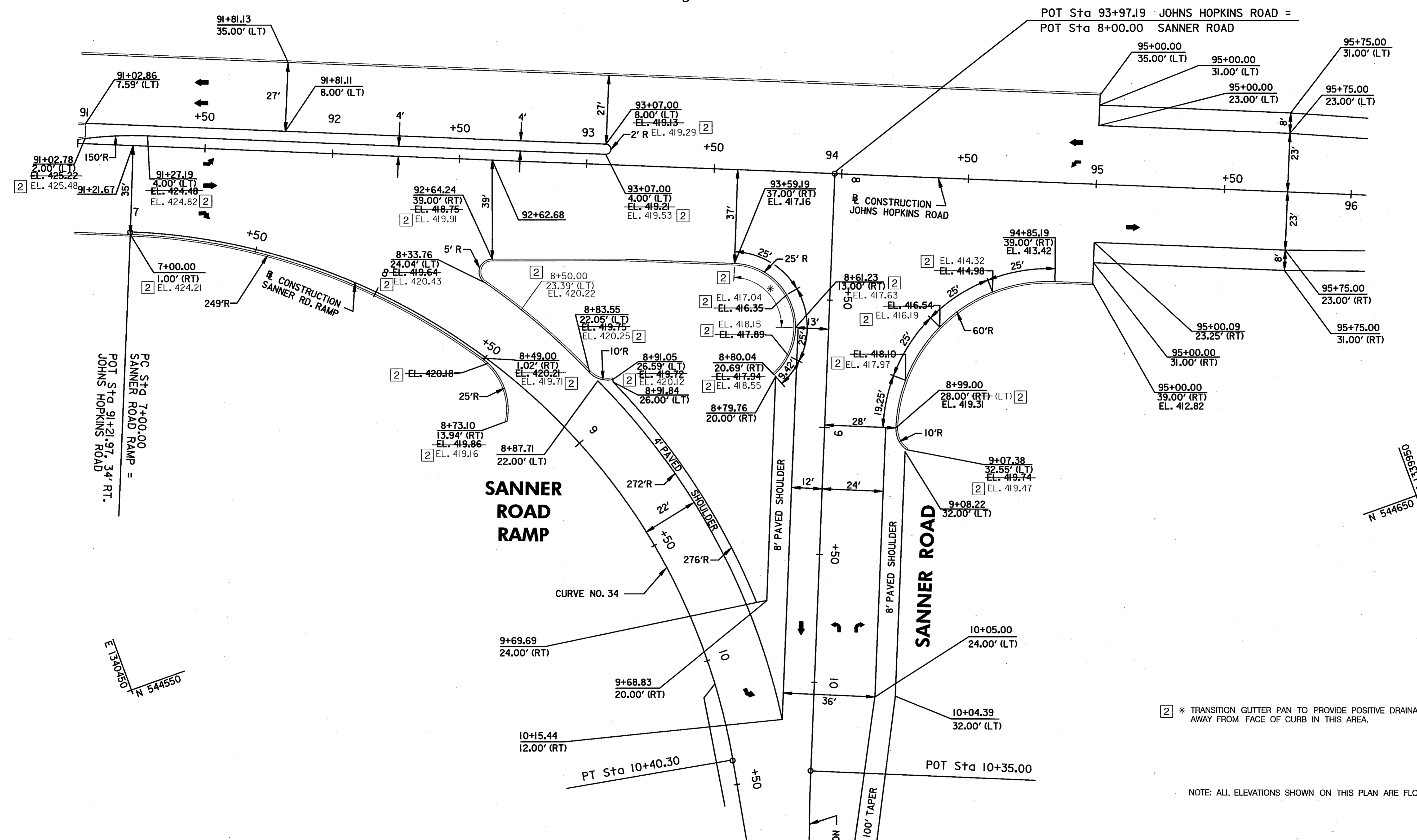
REVISIONS	
2	REDLINE NO. 2 DATE: 07/30/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO.	30	OF	320

TO U.S. RTE. 29

TO PINDELL SCHOOL ROAD

N 544350
E 130100



N 544650
E 066363

N 544550
E 130375

2 * TRANSITION GUTTER PAN TO PROVIDE POSITIVE DRAINAGE AWAY FROM FACE OF CURB IN THIS AREA.

NOTE: ALL ELEVATIONS SHOWN ON THIS PLAN ARE FLOW LINE ELEVATIONS.

INTERSECTION DETAIL

DE 6 OF 6

* SIDEWALK RAMP STD. MD-665.11

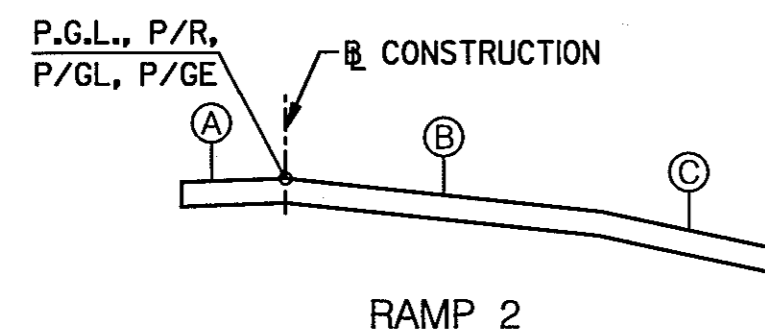
SCALE PLAN: 1" = 20'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
2	REDLINE NO. 2 DATE: 7/30/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 31		OF 320	

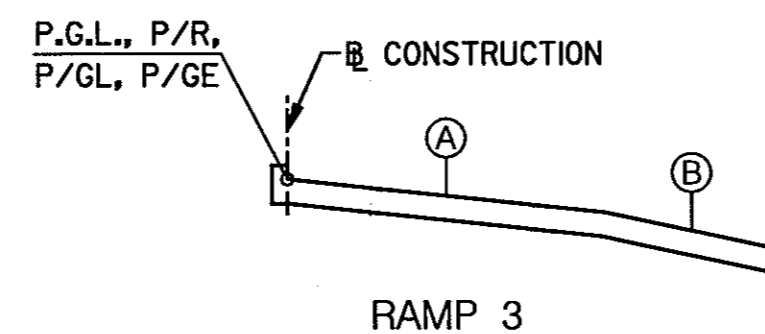
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RAMP 2

CURVE NO. 5 STA. 207+60.79 TO STA. 614+88.76, U.S. 29
 CURVE RIGHT S.E.=0.06 % D.S.=50 MPH
 S.E. MAX.=0.06 % C=0.0004

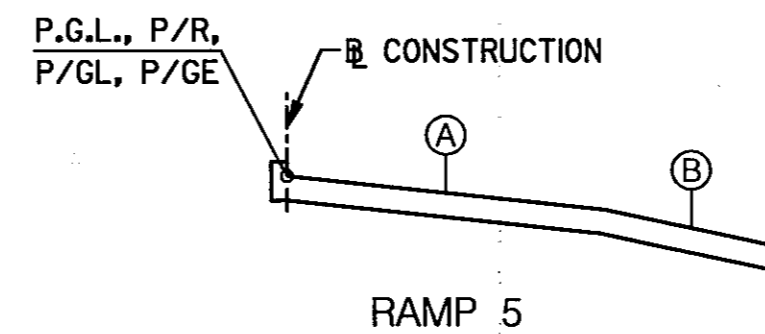
REMARKS	A	B STATION RAMP 2	C	D
BEGIN TRANSITION	-0.05	207+60.79	-0.02	-0.06
BEGIN FULL SUPER	-0.01	208+60.79	-0.06	-0.06
BEGIN TRANSITION	-	212+82.33	-0.06	-0.06
END TRANSITION	-	614+88.76, US 29	-0.0156	-0.06



RAMP 3

CURVE NO. 9 STA. 642+74, U.S. 29 TO STA. 507+09.80
 CURVE RIGHT S.E.=0.08 % D.S.=30 MPH
 S.E. MAX.=0.08 % C=0.0004

REMARKS	B STATION RAMP 3	A	B
NORMAL SECTION	300+00	-0.02	-
BEGIN TRANSITION	300+50	-0.02	-
FULL SUPER	302+00	-0.08	-
BEGIN TRANSITION	312+41.29	-0.08	-0.06
PT	313+91.29	-0.02	-0.06
LEVEL	629+77.33, US 29	-0.00	-0.06
END TRANSITION	629+77.33, US 29	+0.0156	-0.0444



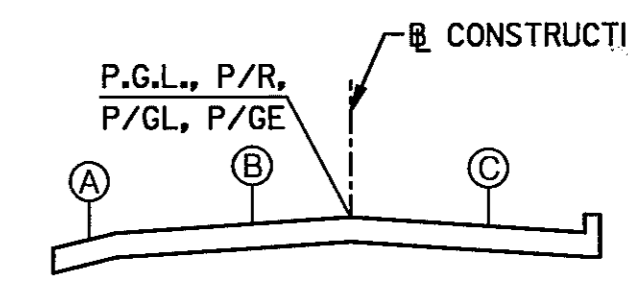
RAMP 5

CURVE NO. 10 STA. 642+74, U.S. 29 TO STA. 507+09.80
 CURVE RIGHT S.E.=0.06 % D.S.=50 MPH
 S.E. MAX.=0.06 % C=0.0004

REMARKS	B STATION RAMP 5	A	B
BEGIN TRANSITION - U.S. 29	642+74	0.0156	-0.0544
LEVEL SECTION - U.S. 29	642+35	0.00	-0.06
PC	500+00	-0.0348	-0.06
BEGIN FULL SUPER	500+63	-0.06	-0.06
BEGIN TRANSITION	506+09.80	-0.06	-0.06
END TRANSITION	507+09.80	-0.02	-0.06

CURVE NO. 11 STA. 507+92.24 TO STA. 514+59.66
 CURVE LEFT S.E.=0.05 % D.S.=30 MPH
 S.E. MAX.=0.06 % C=0.0004

REMARKS	B STATION RAMP 5	A	B
BEGIN TRANSITION	507+92.24	-0.02	-0.06
LEVEL SECTION	508+42.24	0.00	-0.06
BEGIN FULL SUPER	509+67.24	0.05	-0.02
BEGIN TRANSITION	512+84.66	0.05	-0.02
LEVEL SECTION	514+09.66	0.00	-0.06
END TRANSITION	514+59.66	-0.02	-0.06



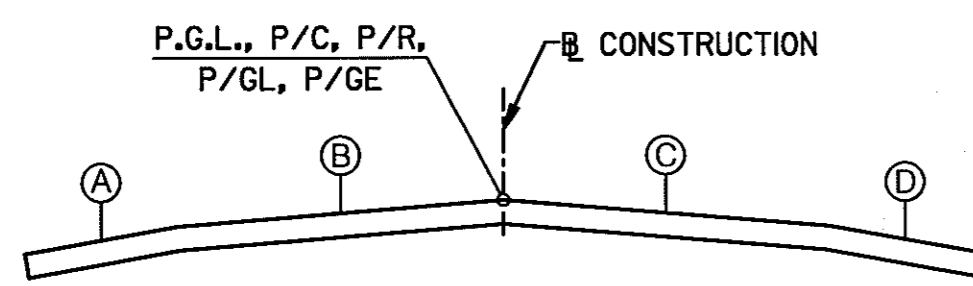
HAMMOND PARKWAY

CURVE NO. 13 STA. 3000+38 TO STA. 3002+09.87
 CURVE RIGHT S.E.=0.02, D.S.=25 MPH
 S.E. MAX.=0.04, C=0.0004

REMARKS	A	B	B STATION HAMMOND	C
BEGIN TRANSITION, RT.	-	+0.0046	3000+38	-0.0019
BEGIN TRANSITION, LT.	-	+0.0046	3000+44.75	-0.0046
FULL SUPER	-	+0.02	3000+83.25	-0.02
BEGIN TRANSITION	-0.05	+0.02	3001+09.87	-0.02
HALF LEVEL	-0.06	+0.00	3001+59.87	-0.02
END TRANSITION	-0.06	-0.02	3002+09.87	-0.02

CURVE NO. 14 STA. 3003+28.77 TO STA. 3006+77.35
 CURVE LEFT S.E.=0.02, D.S.=25 MPH
 S.E. MAX.=0.04, C=0.0004

REMARKS	A	B	B STATION HAMMOND	C
BEGIN TRANSITION	-0.06	-0.02	3003+28.77	-0.02
HALF LEVEL	-0.06	-0.02	3003+78.77	+0.00
FULL SUPER	-0.06	-0.02	3004+28.77	+0.02
BEGIN TRANSITION	-0.06	-0.02	3005+77.35	+0.02
HALF LEVEL	-	-0.02	3006+27.35	0.00
END TRANSITION	-	-0.02	3006+77.35	-0.02



OLD COLUMBIA ROAD

CURVE NO. 6 STA. 1000+38.72 TO STA. 1008+11.84
 CURVE LEFT S.E.=0.056 % D.S.=40 MPH
 S.E. MAX.=0.06 % C=0.0004

REMARKS	A	B	B STATION OLD COLUMBIA RD.	C	D
BEGIN TRANSITION	-	+0.0035	1000+38.72	+0.0035	-
FULL SUPER	-	-0.056	1001+69.97	+0.056	-0.014
BEGIN TRANSITION	-	-0.056	1006+21.84	+0.056	-0.014
PLANE INCLINED	-0.06	-0.02	1007+11.84	+0.02	-0.05
HALF LEVEL	-0.06	-0.02	1007+61.84	0.00	-0.06
END TRANSITION	-0.06	-0.02	1008+11.84	-0.02	-0.06

CURVE NO. 7 STA. 1009+24.86 TO STA. 1019+00.08
 CURVE RIGHT S.E.=0.054 % D.S.=40 MPH
 S.E. MAX.=0.06 % C=0.0004

REMARKS	A	B	B STATION OLD COLUMBIA RD.	C	D
BEGIN TRANSITION	-0.06	-0.02	1009+24.86	-0.02	-0.06
HALF LEVEL	-0.06	0.00	1009+74.86	-0.02	-0.06
PLANE INCLINED	-0.04	+0.02	1010+24.86	-0.02	-0.06
FULL SUPER	-0.016	+0.054	1011+09.86	-0.054	-0.06
BEGIN TRANSITION	-0.016	+0.054	1017+15.08	-0.054	-
PLANE INCLINED	-0.05	+0.02	1018+00.08	-0.02	-
HALF LEVEL	-0.06	0.00	1018+50.08	-0.02	-
END TRANSITION	-0.06	-0.02	1019+00.08	-0.02	-

CURVE NO. 8 STA. 1030+83.10 TO STA. 1035+45.39
 CURVE RIGHT S.E.=0.056 % D.S.=40 MPH
 S.E. MAX.=0.06 % C=0.0004

REMARKS	A	B	B STATION OLD COLUMBIA RD.	C	D
BEGIN TRANSITION	-0.06	-0.02	1030+83.10	-0.02	-0.06
HALF LEVEL	-0.06	0.00	1031+33.10	-0.02	-0.06
PLANE INCLINED	-0.04	+0.02	1031+83.10	-0.02	-0.06
FULL SUPER	-0.014	+0.056	1032+73.10	-0.056	-0.06
BEGIN TRANSITION	-	+0.056	1033+55.39	-0.056	-
PLANE INCLINED	-	+0.02	1034+45.39	-0.02	-
HALF LEVEL	-	0.00	1034+95.39	-0.02	-
END TRANSITION	-	-0.02	1035+45.39	-0.02	-

SCALE: NOT TO SCALE

SUPERELEVATION TRANSITION DETAILS

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS

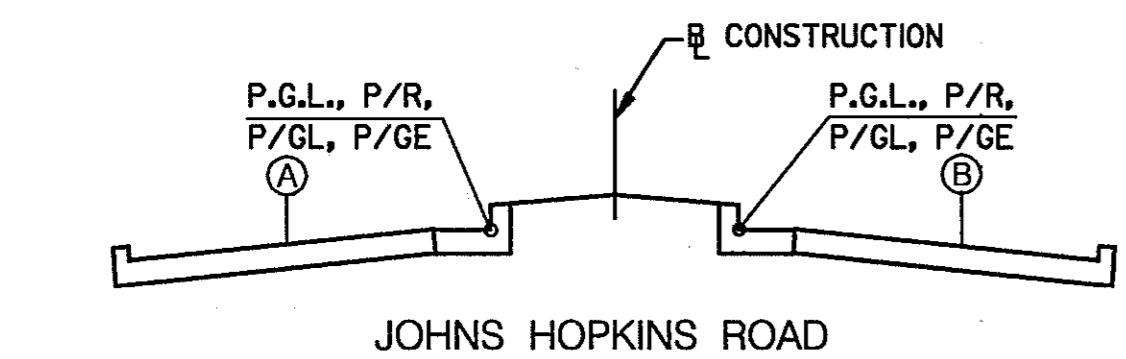
STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 32 OF 320
 PREL. TRAC. BY JMJ FINAL TRAC. BY

CONSTRUCTION

JOHNS HOPKINS ROAD

CURVE NO. 2 STA. 40+42.79 TO STA. 41+47.97 CURVE LEFT S.E.=NA, D.S.=40 MPH S.E. MAX.=NA, C=0.0004			
REMARKS	A	B STATION NE RAMP	B
BEGIN TRANSITION, LT.	-0.074	40+42.79	0.022
END TRANSITION, LT.	-0.02	41+47.97	-0.06



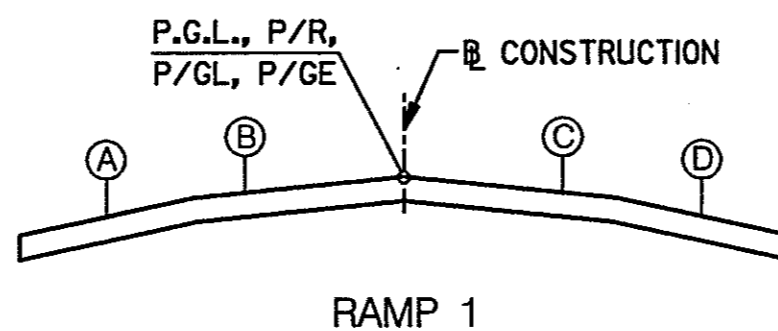
CURVE NO. 20 STA. 50+50 TO STA. 52+50 CURVE LEFT S.E.=0.02' /', D.S.=40 MPH S.E. MAX.=0.04' /', C=0.0002			
REMARKS	A	B STATION JOHNS HOPKINS RD.	B
BEGIN TRANSITION, RT.	-0.02	50+50	-0.02
HALF LEVEL	-0.02	51+50	0.00
PLANE INCLINE/FULL SUP.	-0.02	52+50	+0.02

CURVE NO. 21 STA. 58+25 TO STA. 64+23.74 CURVE LEFT S.E.=0.022' /', D.S.=40 MPH S.E. MAX.=0.04' /', C=0.0001			
REMARKS	A	B STATION JHR	B
BEGIN TRANSITION	-0.02	58+25	+0.02
PC	-0.021	58+50	+0.021
BEGIN FULL SUPER	-0.022	58+75	+0.022
BEGIN TRANSITION	-0.022	62+03.74	+0.022
LEVEL SECTION	0.00	64+23.74	0.00

CURVE NO. 22 STA. 64+23.74, TO STA. 72+66 CURVE RIGHT S.E.=0.035' /', D.S.=40 MPH S.E. MAX.=0.04' /', C=0.0001			
REMARKS	A	B STATION JHR	B
LEVEL SECTION	0.00	64+23.74	0.00
BEGIN FULL SUPER	+0.035	67+73.74	-0.035
BEGIN TRANSITION	+0.035	69+16	-0.035
LEVEL SECTION	0.00	72+66	0.00

CURVE NO. 23 STA. 72+66 TO STA. 81+85.72 CURVE LEFT S.E.=0.03' /', D.S.=40 MPH S.E. MAX.=0.04' /', C=0.0001			
REMARKS	A	B STATION JHR	B
LEVEL SECTION	0.00	72+66	0.00
BEGIN FULL SUPER	-0.03	75+66	+0.03
BEGIN TRANSITION	-0.03	78+85.72	+0.03
LEVEL SECTION	0.00	81+85.72	0.00

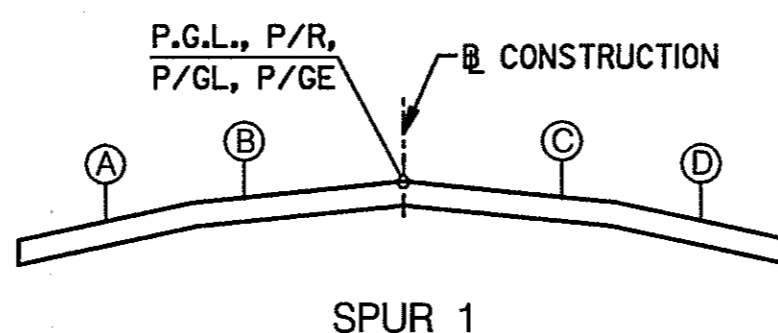
CURVE NO. 24 STA. 81+75.72 TO STA. 91+33.01 CURVE RIGHT S.E.=0.029' /', D.S.=40 MPH S.E. MAX.=0.04' /', C=0.0001			
REMARKS	A	B STATION JHR	B
LEVEL SECTION	0.00	81+85.72	0.00
BEGIN FULL SUPER	+0.029	84+75.72	-0.029
BEGIN TRANSITION	+0.029	86+43.01	-0.029
INCLINED PLANE	+0.02	87+33.01	-0.02
HALF LEVEL	0.00	89+33.01	-0.02
END TRANSITION	-0.02	91+33.01	-0.02



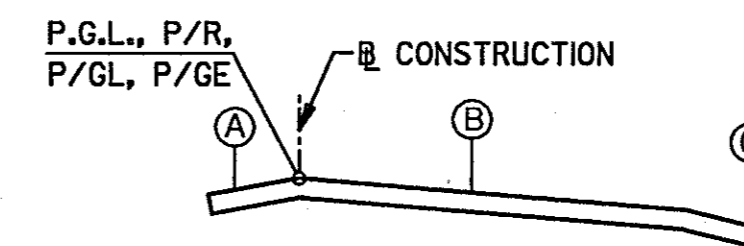
CURVE NO. 25 STA. 612+35.21, U.S. 29 TO STA. 110+03.08 CURVE RIGHT S.E.=0.035' /', D.S.=50 MPH S.E. MAX.=0.06' /', C=0.0002					
REMARKS	A	B	B STATION RAMP 1	C	D
BEGIN TRANSITION - U.S. 29	-	-0.0067	611+40.54 (99+05.33)	-0.0067	-0.06
PC	-	-0.0255	100+00.00	-0.0255	-0.06
BEGIN FULL SUPER	-	-0.035	100+47.33	-0.0348	-0.06
P/R MOVED FROM LT EDGE TO B AT STA. 100+47.33					
BEGIN TRANSITION	-0.035	+0.035	107+28.08	-0.035	-0.06
PLANE INCLINED	-0.05	+0.02	108+03+08	-0.002	-0.06
HALF LEVEL	-0.06	-0.00	109+03.08	-0.02	-0.06
END TRANSITION	-0.06	-0.02	110+03.08	-0.02	-0.06

CURVE NO. 26 STA. 112+56.67 TO STA. 63+41.84, JHR CURVE RIGHT S.E.=0.051' /', D.S.=30 MPH S.E. MAX.=0.06' /', C=0.0002					
REMARKS	A	B	B STATION RAMP 1	C	D
BEGIN TRANSITION	-0.06	-0.02	112+56.67	-0.02	-0.06
BEGIN FULL SUPER	-	-	114+11.67	-0.051	-0.06
BEGIN TRANSITION	-	-	117+20.88	-0.051	-
PT	-	-	118+19.53	-0.0313	-
END TRANSITION - JHR	-	-	63+41.84	+0.082	-

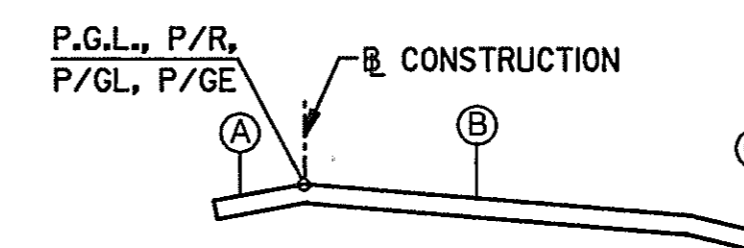
• ONLY THE RIGHT SIDE



CURVE NO. 27 STA. 113+10.95 RAMP 1 TO STA. 1102+35.72 CURVE LEFT S.E.=0.037' /', D.S.=20 MPH S.E. MAX.=0.04' /', C=0.0004					
REMARKS	A	B	B STATION RAMP 1	C	D
BEGIN TRANSITION, RAMP 1	-0.06	-0.02	113+10.95	-	-
BEGIN FULL SUPER	-0.06	-0.037	1100+16.67	-	-
BEGIN TRANSITION	-0.06	-0.037	1100+84.72	+0.037	-
LEVEL	-0.06	0.00	1101+77.22	0.00	-0.06
END TRANSITION	-	+0.0234	1102+35.72	-0.0234	-



CURVE NO. 28 STA. 64+97.98, JHR TO STA. 1406+61.80, SPUR 4 CURVE RIGHT S.E.=0.055' /', D.S.=30 MPH S.E. MAX.=0.06' /', C=0.0003				
REMARKS	A	B STATION RAMP 4	B	C
BEGIN TRANSITION - JHR	-	64+97.98	+0.074	-
LEVEL SECTION - JHR	-	64+73.31	0.00	-
PC	-	400+00	-0.0342	-
BEGIN FULL SUPER	-0.015	400+69.36	-0.055	-
BEGIN TRANSITION	-	407+64.51	-0.055	-0.06
END TRANSITION - SPUR 4	-	1406+61.80	-0.02	-0.06



CURVE NO. 29 STA. 1400+60, TO STA. 1401+10 CURVE RIGHT S.E.=0.02' /', D.S.=30 MPH S.E. MAX.=0.06' /', C=0.0003				
REMARKS	A	B STATION SPUR 4	B	C
BEGIN TRANSITION	-	1400+60.00	-0.234	-
NORMAL SECTION	-0.05	1401+10.00	-0.02	-0.06

CURVE NO. 30 STA. 1410+42.33 TO STA. 644+17.90, US 29 CURVE RIGHT S.E.=0.04' /', D.S.=45 MPH S.E. MAX.=0.06' /', C=0.0003				
REMARKS	A	B STATION SPUR 4	B	C
BEGIN TRANSITION	-0.05	1410+42.33	-0.02	-0.06
BEGIN FULL SUPER	-0.03	1411+09.33	-0.04	0.06
BEGIN TRANSITION	-	1414+77.23	-0.04	0.06
END TRANSITION - US 29	-	644+17.90	-0.0128	0.06

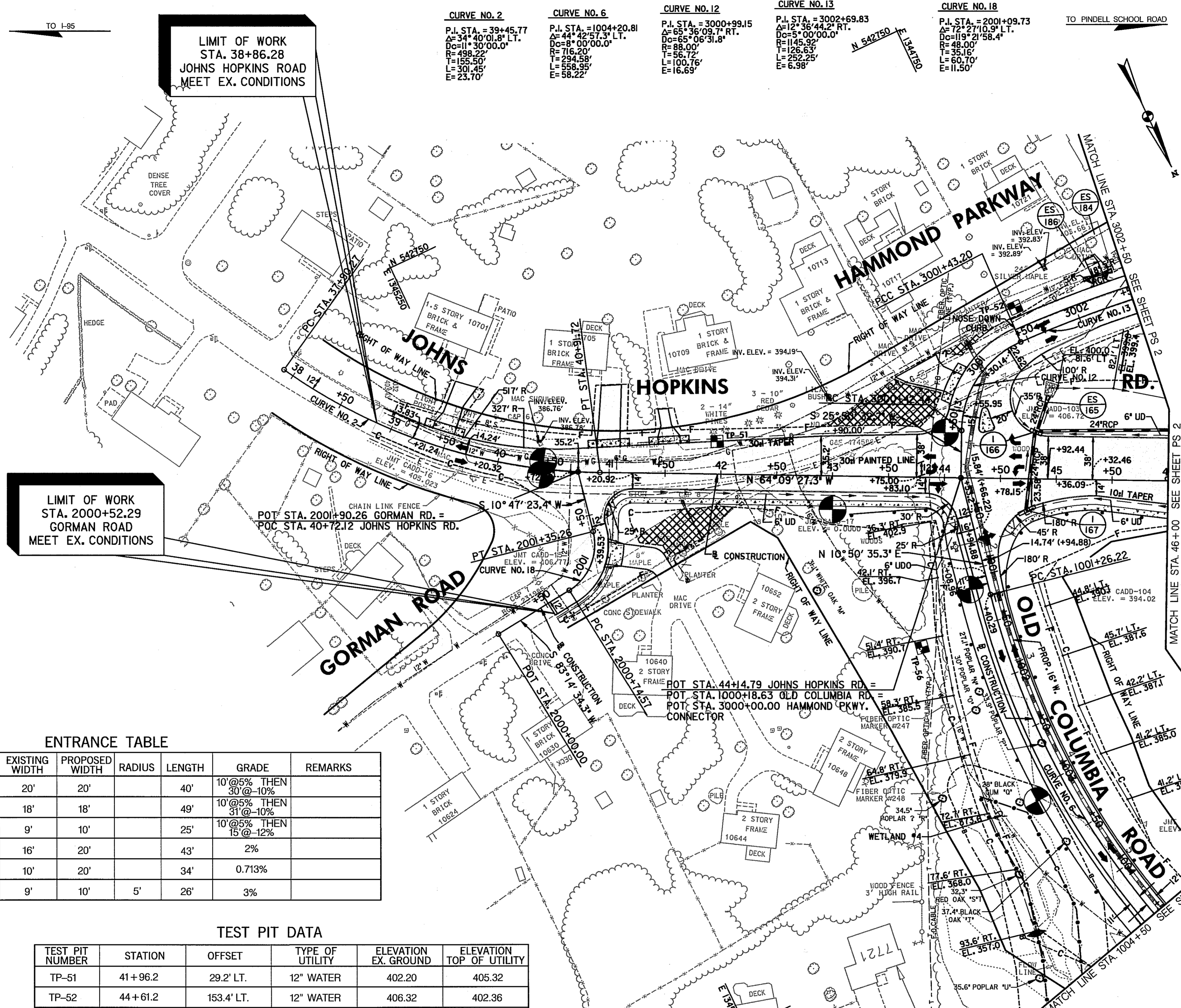
SUPERELEVATION TRANSITION DETAILS

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

SCALE: NOT TO SCALE



LIMIT OF WORK
STA. 38+86.28
JOHNS HOPKINS ROAD
MEET EX. CONDITIONS

LIMIT OF WORK
STA. 2000+52.29
GORMAN ROAD
MEET EX. CONDITIONS

CURVE NO.	P.I. STA.	Δ	DC	R	T	L	E
CURVE NO. 2	39+45.77	34° 40' 01.8" LT.	11° 30' 00.0"	498.22'	155.50'	301.45'	23.70'
CURVE NO. 6	1004+20.81	42° 57' 31.1" LT.	8° 00' 00.0"	716.20'	294.58'	558.95'	58.22'
CURVE NO. 12	3000+99.15	65° 36' 09.7" RT.	6° 06' 31.8"	88.00'	56.72'	100.76'	16.69'
CURVE NO. 13	3002+69.83	12° 36' 44.2" RT.	5° 00' 00.0"	1145.32'	226.63'	252.25'	6.98'
CURVE NO. 18	2001+09.73	19° 21' 58.4" LT.	11° 51' 21.5" LT.	48.00'	35.16'	60.70'	11.50'

STD. TYPE "A" COMBINATION CURB AND GUTTER - MD-620.02
 STA. 2000+52.29, RT. - GORMAN RD. TO STA. 1000+66.77, RT. - OLD COLUMBIA RD. 461 L.F.
 STA. 1004+50, LT. - OLD COLUMBIA RD. TO STA. 46+00, RT. - JOHNS HOPKINS RD. 531 L.F.
 STA. 38+86.29, LT. - JOHNS HOPKINS RD. TO STA. 3001+43.20, LT. - HAMMOND PKWY. - 620 L.F.
 STA. 3002+50, RT. - HAMMOND PKWY. TO STA. 46+00, LT. - JOHNS HOPKINS RD. - 306 L.F.

STD. TYPE "C" CONCRETE CURB - STD. MD-620.02
 STA. 44+29.83 TO STA. 44+44.31, LT. - JOHNS HOPKINS ROAD - 61 L.F.
 6 INCH PORTLAND CEMENT PAVEMENT FOR DRIVEWAY RESIDENTIAL MD-630.01
 STA. 3000+67.94 TO STA. 3000+90.12, LT. - HAMMOND PARKWAY - 37 S.Y.
 STA. 39+34.99 TO STA. 39+55.57, LT. - JOHNS HOPKINS ROAD - 29 S.Y.
 STA. 41+09.92 TO STA. 40+88.97, LT. - JOHNS HOPKINS ROAD - 29 S.Y.
 STA. 41+43.48 TO STA. 41+63.43, LT. - JOHNS HOPKINS ROAD - 28 S.Y.
 STD. TYPE "G" TRAFFIC BARRIER END TREATMENT - MD-605.08
 STA. 43+15.00, RT. - JOHNS HOPKINS ROAD - 1 EA.
 STD. TRAFFIC BARRIER W BEAM - MD-605.22
 STA. 43+15.00, RT. JOHNS HOPKINS RD. TO STA. 1004+50, RT. - OLD COLUMBIA RD. - 500 L.F.
 STA. 46+00, RT. JOHNS HOPKINS RD. TO STA. 1004+50, RT. - OLD COLUMBIA RD. - 495 L.F.
 4 INCH CONCRETE SIDEWALK
 STA. 2000+52.29, RT. GORMAN ROAD TO STA. 2001+09.04, RT. GORMAN ROAD - 285 S.F.
 STA. 2001+25.50, RT. GORMAN ROAD TO STA. 1000+55.70, RT. OLD COLUMBIA RD. - 1625 S.F.
 STA. 44+60.08 TO STA. 46+00, RT. JOHNS HOPKINS ROAD - 1,690 S.F.
 STD. TYPE 2 SIDEWALK RAMP - STD. MD-655.11
 STA. 1000+53.00, RT. - OLD COLUMBIA ROAD
 STA. 1000+70.00, LT. - OLD COLUMBIA ROAD
 STA. 2001+52.29, RT. - GORMAN ROAD

REMOVAL OF EXISTING PAVEMENT
 STA. 41+23.88 JOHNS HOPKINS ROAD TO STA. 2002+50 HAMMOND PARKWAY, 591 C.Y.
 STA. 43+00 TO STA. 43+75, LT. JOHNS HOPKINS ROAD - 96 C.Y.
 STA. 3000+90 TO STA. 3001+37, LT. HAMMOND PARKWAY - 11 C.Y.
 6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN - FOR
 DETAIL SEE SPECIAL PROVISIONS.
 STA. 2000+52.29, RT. - GORMAN RD. TO STA. 1000+46.15, RT. OLD COLUMBIA RD. - 432 L.F.
 STA. 3001+09.02, RT. - HAMMOND PKWY. TO STA. 46+00, LT. JOHNS HOPKINS RD. - 128 L.F.
 STA. 44+74.62 TO STA. 46+00, RT. JOHNS HOPKINS ROAD - 168 L.F.
 STA. 44+60.00 TO STA. 46+00, LT. JOHNS HOPKINS ROAD - 168 L.F.
 REMOVAL OF EXISTING SIDEWALK
 STA. 2000+44.00 TO STA. 2001+18.00, RT. GORMAN ROAD - 484 S.F.
 6 INCH PORTLAND CEMENT PAVEMENT FOR DRIVEWAY - MD-630.02
 STA. 2001+09.18 TO STA. 2001+25.26, RT. GORMAN RD - 33 S.F.
 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD-387.01
 STA. 1000+46.15 TO STA. 1000+93.41, RT. OLD COLUMBIA ROAD - 56 L.F.

TYPE "A" SOIL STABILIZATION MATTING FLAT BOTTOM DITCH - SEE DETAIL ON SHEET NO. 4
 STA. 1000+50 TO STA. 1004+00, RT. OLD COLUMBIA ROAD - 234 S.Y.
 TYPE "A" SOIL STABILIZATION MATTING 'V' DITCH - SEE DETAIL ON SHEET NO. 4
 STA. 1000+50 TO STA. 1004+00, LT. OLD COLUMBIA ROAD - 312 S.Y.
 STA. 3001+00 TO STA. 3002+50, LT. OLD COLUMBIA ROAD - 90 S.Y.
 STA. 42+50 TO STA. 43+50, LT. JOHNS HOPKINS ROAD - 90 S.Y.

ENTRANCE TABLE

LOCATION	STD. NO.	EXISTING WIDTH	PROPOSED WIDTH	RADIUS	LENGTH	GRADE	REMARKS
39+45.28, LT.	MD. - 630.01	20'	20'	40'	40'	10'@5% THEN 30'@-10%	
40+91.72, LT.	MD. - 630.01	18'	18'	49'	49'	10'@5% THEN 31'@-10%	
41+53.46, LT.	MD. - 630.01	9'	10'	25'	25'	10'@5% THEN 15'@-12%	
2000+74.56, RT.	MD. - 630.02	16'	20'		43'	2%	
3000+79.03, LT.	MD. - 630.01	10'	20'		34'	0.713%	
3002+29.08, LT.	MD. - 630.01	9'	10'	5'	26'	3%	

TEST PIT DATA

TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-51	41+96.2	29.2' LT.	12" WATER	402.20	405.32
TP-52	44+61.2	153.4' LT.	12" WATER	406.32	402.36
TP-56	1001+54.4	71.6' RT.	16" WATER	392.36	388.21

ROADWAY LEGEND

[Solid Box]	FULL DEPTH PAVEMENT
[Hatched Box]	RESURFACE EXISTING PAVEMENT
[Dotted Box]	CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
[Cross-hatched Box]	PAVEMENT REMOVAL

NOTE:
WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.

SCALE: PLAN: 1" = 50'

CROSS REFERENCES THIS SHEET

ITEM	SHEET NO.
TYPICAL SECTIONS	4, 10 & 11
GEOMETRIC LAYOUT	20
SUPERELEVATION CHART	32 & 33
ROADWAY PROFILES	50 & 58
TRAFFIC CONTROL	64, 65, 81, 82, 98, 99, 115 & 116
STORM DRAIN DETAILS	143 & 147
EROSION & SEDIMENT CONTROL	150-155
SIGNING & LIGHTING	283 & 284
PAVEMENT MARKING DETAILS	283 & 284
LANDSCAPE / REFORESTATION	302
UTILITIES	319A

REVISIONS

ADDENDUM NO. 2	DATE: 8/1/00
REDLINE NO. 1	DATE: 2/20/01

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

ROADWAY PLAN PS 01 OF 16

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 34 OF 320
PREL. TRAC. BY FINAL TRAC. BY

TEST PIT DATA

TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-01	513+62.7	41.2' RT.	16" WATER	405.04	399.28
TP-02	513+75.1	39.2' RT.	6" GAS	404.63	401.53
TP-03	513+48.7	33.8' RT.	6" GAS	405.12	402.16
TP-04	513+95.7	34.4' RT.	16" WATER	403.11	398.07
TP-05	514+76.6	20.9' RT.	16" WATER	400.14	394.73
TP-42	514+56.8	98.3' RT.	ELECTRIC DUCT	402.48	399.23
TP-47	513+72.8	106.9' RT.	12" WATER	405.54	400.42
TP-48	514+06.3	110.6' RT.	6" GAS	404.85	402.23
TP-49	513+41.1	72.1' LT.	6" GAS	406.68	403.66

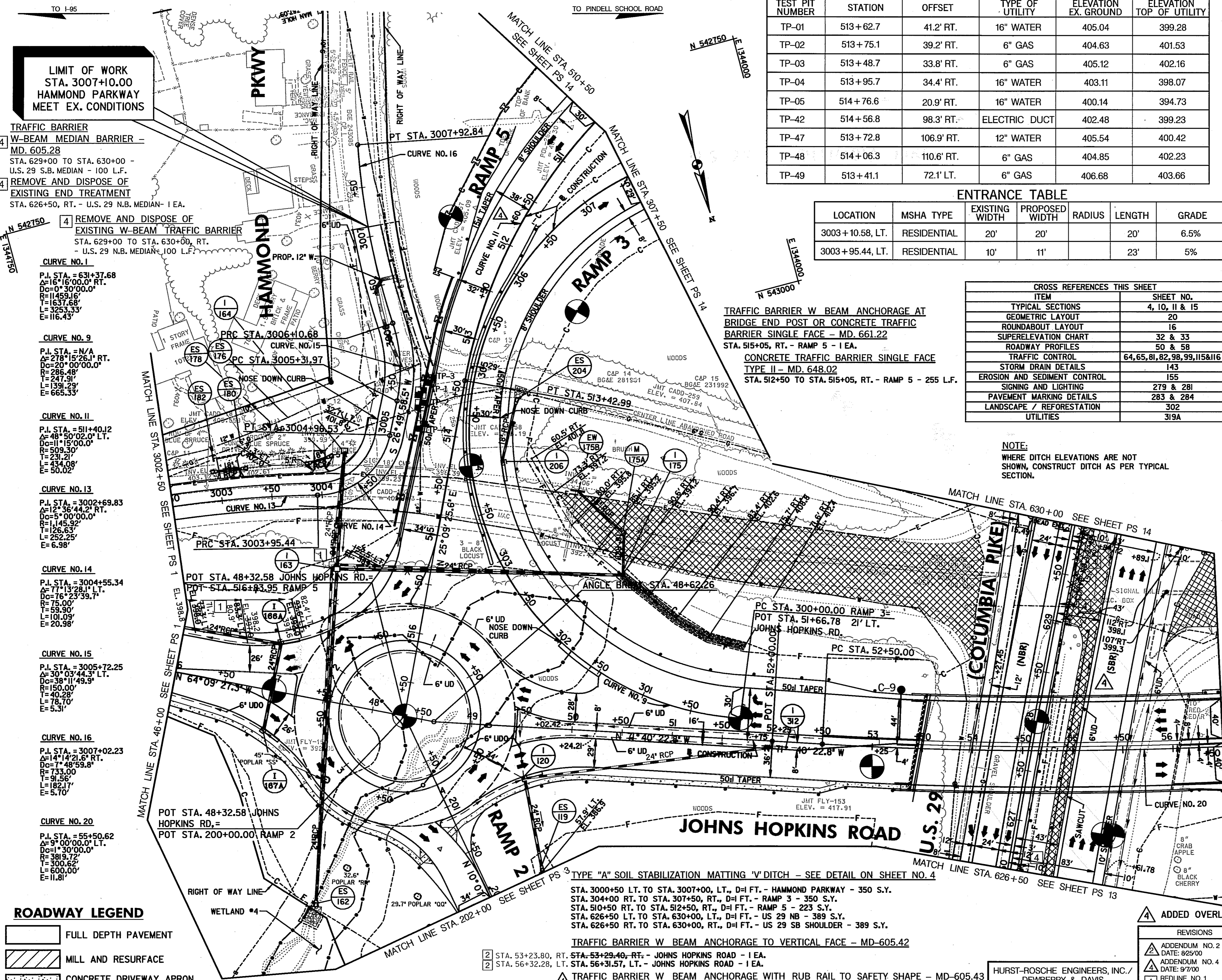
ENTRANCE TABLE

LOCATION	MSHA TYPE	EXISTING WIDTH	PROPOSED WIDTH	RADIUS	LENGTH	GRADE
3003+10.58, LT.	RESIDENTIAL	20'	20'		20'	6.5%
3003+95.44, LT.	RESIDENTIAL	10'	11'		23'	5%

CROSS REFERENCES THIS SHEET

ITEM	SHEET NO.
TYPICAL SECTIONS	4, 10, 11 & 15
GEOMETRIC LAYOUT	20
ROUNDABOUT LAYOUT	16
SUPERELEVATION CHART	32 & 33
ROADWAY PROFILES	50 & 58
TRAFFIC CONTROL	64, 65, 81, 82, 98, 99, 115 & 116
STORM DRAIN DETAILS	143
EROSION AND SEDIMENT CONTROL	155
SIGNING AND LIGHTING	279 & 281
PAVEMENT MARKING DETAILS	283 & 284
LANDSCAPE / REFORESTATION	302
UTILITIES	319A

NOTE:
WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.



LIMIT OF WORK
STA. 3007+10.00
HAMMOND PARKWAY
MEET EX. CONDITIONS

TRAFFIC BARRIER
W-BEAM MEDIAN BARRIER - MD. 605.28
STA. 629+00 TO STA. 630+00 - U.S. 29 S.B. MEDIAN - 100 L.F.
REMOVE AND DISPOSE OF EXISTING END TREATMENT
STA. 626+50, RT. - U.S. 29 N.B. MEDIAN - 1 EA.

REMOVE AND DISPOSE OF EXISTING W-BEAM TRAFFIC BARRIER
STA. 629+00 TO STA. 630+00, RT. - U.S. 29 N.B. MEDIAN - 100 L.F.

CURVE NO. 1
P.I. STA. = 631+37.68
A=16°16'00.0" RT.
D=0°30'00.0"
R=149.16'
T=137.68'
L=325.33'
E=116.43'

CURVE NO. 9
P.I. STA. = N/A
A=27°15'26.1" RT.
D=20°00'00.0"
R=286.48'
T=247.91'
L=591.29'
E=665.53'

CURVE NO. 11
P.I. STA. = 511+40.12
A=48°50'02.0" LT.
D=15°00'00.0"
R=145.92'
T=291.30'
L=434.08'
E=50.02'

CURVE NO. 13
P.I. STA. = 3002+69.83
A=12°36'44.2" RT.
D=5°00'00.0"
R=145.92'
T=126.63'
L=252.25'
E=6.98'

CURVE NO. 14
P.I. STA. = 3004+55.34
A=77°13'28.1" LT.
D=16°23'59.7"
R=15.00'
T=59.90'
L=101.09'
E=20.98'

CURVE NO. 15
P.I. STA. = 3005+72.25
A=30°03'44.3" LT.
D=38°11'49.9"
R=150.00'
T=40.28'
L=78.70'
E=5.31'

CURVE NO. 16
P.I. STA. = 3007+02.23
A=14°42'15.8" RT.
D=7°48'59.8"
R=733.00'
T=91.56'
L=192.17'
E=5.70'

CURVE NO. 20
P.I. STA. = 55+50.62
A=9°00'00.0" LT.
D=1°30'00.0"
R=383.72'
T=300.62'
L=600.00'
E=11.81'

ROADWAY LEGEND

[Symbol]	FULL DEPTH PAVEMENT
[Symbol]	MILL AND RESURFACE
[Symbol]	CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
[Symbol]	PAVEMENT REMOVAL

MEDIAN BARRIER W BEAM ANCHORAGE TO TRAIL END VERTICAL WALL - MD-605.45
 2 STA. 53+37.83, LT. STA. 53+29.40, RT. - JOHN HOPKINS ROAD - 1 EA.
 2 STA. 56+14.36, RT. STA. 56+31.57, LT. - JOHN HOPKINS ROAD - 1 EA.

TYPE "A" SOIL STABILIZATION MATTING 'V' DITCH - SEE DETAIL ON SHEET NO. 4
 STA. 3000+50 LT. TO STA. 3007+00, LT., D=1 FT. - HAMMOND PARKWAY - 350 S.Y.
 STA. 3004+00 RT. TO STA. 307+50, RT., D=1 FT. - RAMP 3 - 350 S.Y.
 STA. 510+50 RT. TO STA. 512+50, RT., D=1 FT. - RAMP 5 - 223 S.Y.
 STA. 626+50 LT. TO STA. 630+00, RT., D=1 FT. - U.S. 29 NB - 389 S.Y.
 STA. 626+50 RT. TO STA. 630+00, RT., D=1 FT. - U.S. 29 SB SHOULDER - 389 S.Y.

TRAFFIC BARRIER W BEAM ANCHORAGE TO VERTICAL FACE - MD-605.42
 2 STA. 53+23.80, RT. STA. 53+29.40, RT. - JOHN HOPKINS ROAD - 1 EA.
 2 STA. 56+32.28, LT. STA. 56+31.57, LT. - JOHN HOPKINS ROAD - 1 EA.

TRAFFIC BARRIER W BEAM ANCHORAGE WITH RUB RAIL TO SAFETY SHAPE - MD-605.43
 STA. 512+23 TO 512+50, RT. - RAMP 5 - 27 L.F.

SCALE: PLAN: 1"=50'

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

TYPE "A" COMBINATION CURB AND GUTTER - MD-620.02
 STA. 46+00, RT. - JOHN HOPKINS RD. TO STA. 202+00, RT. - RAMP 2 - 380 L.F.
 STA. 202+00, LT. - RAMP 2 TO STA. 53+30.20, RT. - JOHN HOPKINS RD. - 564 L.F.
 STA. 304+50, RT. - RAMP 3 TO STA. 53+38.00, LT. - JOHN HOPKINS RD. - 564 L.F.
 STA. 56+00.00 TO STA. 56+50, RT. - JOHN HOPKINS RD. - 50 L.F.
 STA. 301+97.47.00 TO STA. 307+50, LT. - RAMP 3 - 553 L.F.
 STA. 510+50, LT. - RAMP 5 TO STA. 53+22.44, LT. - JOHN HOPKINS RD. - 750 L.F.
 STA. 46+00, LT. - JOHN HOPKINS RD. TO STA. 515+05.58, RT. - RAMP 5 - 285 L.F.
 STA. 3002+50 TO STA. 3007+10.00, RT. - HAMMOND PARKWAY - 460 L.F.
 STA. 3005+10.00 TO STA. 3007+10.00, LT. - HAMMOND PARKWAY - 200 L.F.
 STA. 49+44.10.00 TO STA. 53+43.60.00, RT. & LT. - JOHN HOPKINS RD. - 440 L.F.
 STA. 56+17.00 TO STA. 56+50, LT. - JOHN HOPKINS RD. - 33 L.F.

MONOLITHIC CONCRETE MEDIAN TYPE A-1, W=4.0' - STD. MD-645.01
 STA. 56+20.00 TO STA. 56+50, LT. - JOHN HOPKINS RD. - 30 L.F.

TYPE "C" CONCRETE CURB AND GUTTER - STD. MD-620.02
 STA. 47+56.57 TO STA. 49+08.72, LT. & RT. - JOHN HOPKINS RD. - 480 L.F.
 STA. 46+00 TO STA. 47+21.18, LT. & RT. - JOHN HOPKINS RD. - 200 L.F.

TYPE "A" CONCRETE CURB - STD. MD-620.02
 STA. 47+66.57 TO STA. 48+98.72, LT. & RT. - JOHN HOPKINS RD. - 415 L.F.

TRAFFIC BARRIER W BEAM ANCHORAGE AT STRUCTURES - STD. MD-660.41
 STA. 512+50, RT. - RAMP 5 - 1 EA.

TYPE 'A' TRAFFIC BARRIER END TREATMENT - MD-601.01
 STA. 305+37.50, LT. - RAMP 3 - 1 EA.
 STA. 511+00, RT. - RAMP 5 - 1 EA.

TYPE 'G' TRAFFIC BARRIER END TREATMENT - MD-605.08
 STA. 46+29.00, LT. - JOHN HOPKINS RD. - 1 EA.

TYPE 'H' TRAFFIC BARRIER END TREATMENT - MD-605.09
 STA. 303+15, LT. - RAMP 3 - 1 EA.

TYPE 'I' TRAFFIC BARRIER END TREATMENT - MD-605.10
 STA. 626+50, RT. - US 29 NB MEDIAN - 1 EA.
 STA. 629+00, RT. - US 29 SB MEDIAN - 1 EA.

TRAFFIC BARRIER W BEAM MEDIAN BARRIER - MD-605.28
 STA. 303+15 TO STA. 305+37.50, LT. - RAMP 3 - 223 L.F.

TRAFFIC BARRIER W BEAM - MD-605.22
 STA. 46+00, RT. JOHN HOPKINS ROAD TO STA. 202+00, RT. - RAMP 2 - 380 L.F.
 STA. 2002+00, LT. RAMP 2 TO STA. 53+29.40, RT. - JOHN HOPKINS RD. - 505 L.F.
 STA. 304+45.25, RT. RAMP 3 TO STA. 53+41.00, LT. - JOHN HOPKINS RD. - 550 L.F.
 STA. 46+29.00, LT. JOHN HOPKINS RD. TO STA. 515+05.50, RT. - RAMP 5 - 235 L.F.
 STA. 512+10 TO STA. 512+23, RT. - RAMP 5 - 13 L.F.
 STA. 626+50 TO STA. 630+00, RT. - US 29 NB MEDIAN - 350 L.F.
 STA. 626+50 TO STA. 629+00, RT. - US 29 SB MEDIAN - 250 L.F.
 STA. 56+14 TO STA. 56+50, RT. - JOHN HOPKINS ROAD - 36 L.F.

4 INCH CONCRETE SIDEWALK
 STA. 46+00, RT. JOHN HOPKINS RD. TO STA. 201+28.21, RT. RAMP 2 - 1475 S.F.
 STA. 201+41.81, RT. RAMP 2 TO STA. 53+28.70, RT. JOHN HOPKINS RD. - 2324 S.F.
 STA. 56+00 TO STA. 56+50, RT. JOHN HOPKINS ROAD - 250 S.F.
 STA. 56+17 TO STA. 56+50, LT. JOHN HOPKINS ROAD - 165 S.F.

TYPE 2 SIDEWALK RAMP - MD-655.11
 STA. 201+20.71, RT. - RAMP 2
 STA. 201+35.70, RT. - RAMP 2

REMOVAL OF EXISTING PAVEMENT
 STA. 49+76.50 TO STA. 53+93.50, LT. - JOHN HOPKINS RD. - 969 C.Y.
 STA. 626+50 TO STA. 630+00, RT. - U.S. 29 - 375 C.Y.

6 INCH PORTLAND CEMENT PAVEMENT RESIDENTIAL MD-630.01
 STA. 3002+97.87 TO STA. 3003+23.55, LT. - HAMMOND PARKWAY - 50 S.Y.
 REMOVAL OF OLD PIPE CULVERTS 12 INCH OR LARGER
 STA. 302+68.78 TO STA. 303+44.42, RT. - RAMP 3 - 68 L.F.

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN - FOR DETAIL SEE SPECIAL PROVISIONS.
 STA. 46+00 TO STA. 48+37.80, RT. - JOHN HOPKINS ROAD - 261 L.F.
 STA. 48+74.85 TO STA. 49+55.11, RT. - JOHN HOPKINS ROAD - 90 L.F.
 STA. 49+55.11 TO STA. 52+25, RT. - JOHN HOPKINS ROAD - 314 L.F.
 STA. 46+00 TO STA. 49+50, LT. - JOHN HOPKINS ROAD - 370 L.F.
 STA. 49+55.11 TO STA. 52+50, LT. - JOHN HOPKINS ROAD - 335 L.F.
 STA. 47+69.00 TO STA. 48+96.00, ROUNDABOUT - JOHN HOPKINS ROAD - 400 L.F.
 STA. 306+50 TO STA. 307+50, RT. - RAMP 3 - 84 L.F.
 STA. 626+50 TO STA. 630+50, RT. - US 29 SB SHOULDER - 350 L.F.
 STA. 626+50 TO STA. 630+50, RT. - US 29 SB MEDIAN - 350 L.F.
 STA. 626+50 TO STA. 630+50, RT. - US 29 NB MEDIAN - 350 L.F.

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD 387.01
 STA. 48+90.70 TO STA. 49+55.11, RT. - JOHN HOPKINS ROAD - 70 L.F.
 STA. 49+50 TO STA. 49+55.11, RT. - JOHN HOPKINS ROAD - 35 L.F.

TYPE "A" SOIL STABILIZATION MATTING FLAT BOTTOM DITCH - SEE DETAIL ON SHEET NO. 4
 STA. 302+00 RT. TO STA. 304+00, RT. - RAMP 3 - 135 S.Y.
 STA. 515+50 RT. TO STA. 516+00, RT. - RAMP 5 - 34 S.Y.
 STA. 201+75 LT. TO STA. 202+00, LT. - RAMP 2 - 50 S.Y.

TYPE "B" SOIL STABILIZATION MATTING FLAT BOTTOM DITCH - SEE DETAIL ON SHEET NO. 4
 STA. 301+00 RT. TO STA. 302+00, RT. - RAMP 3 - 92 S.Y.

ADDED OVERLAY ON US 29 SBR ROADWAY PLAN PS 02 OF 16

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

REVISIONS
 ADDENDUM NO. 2 DATE: 8/25/00
 ADDENDUM NO. 4 DATE: 9/7/00
 1 REDLINE NO. 1 DATE: 2/20/01
 2 REDLINE NO. 2 DATE: 7/30/01
 4 REDLINE NO. 4 DATE: 8/5/02

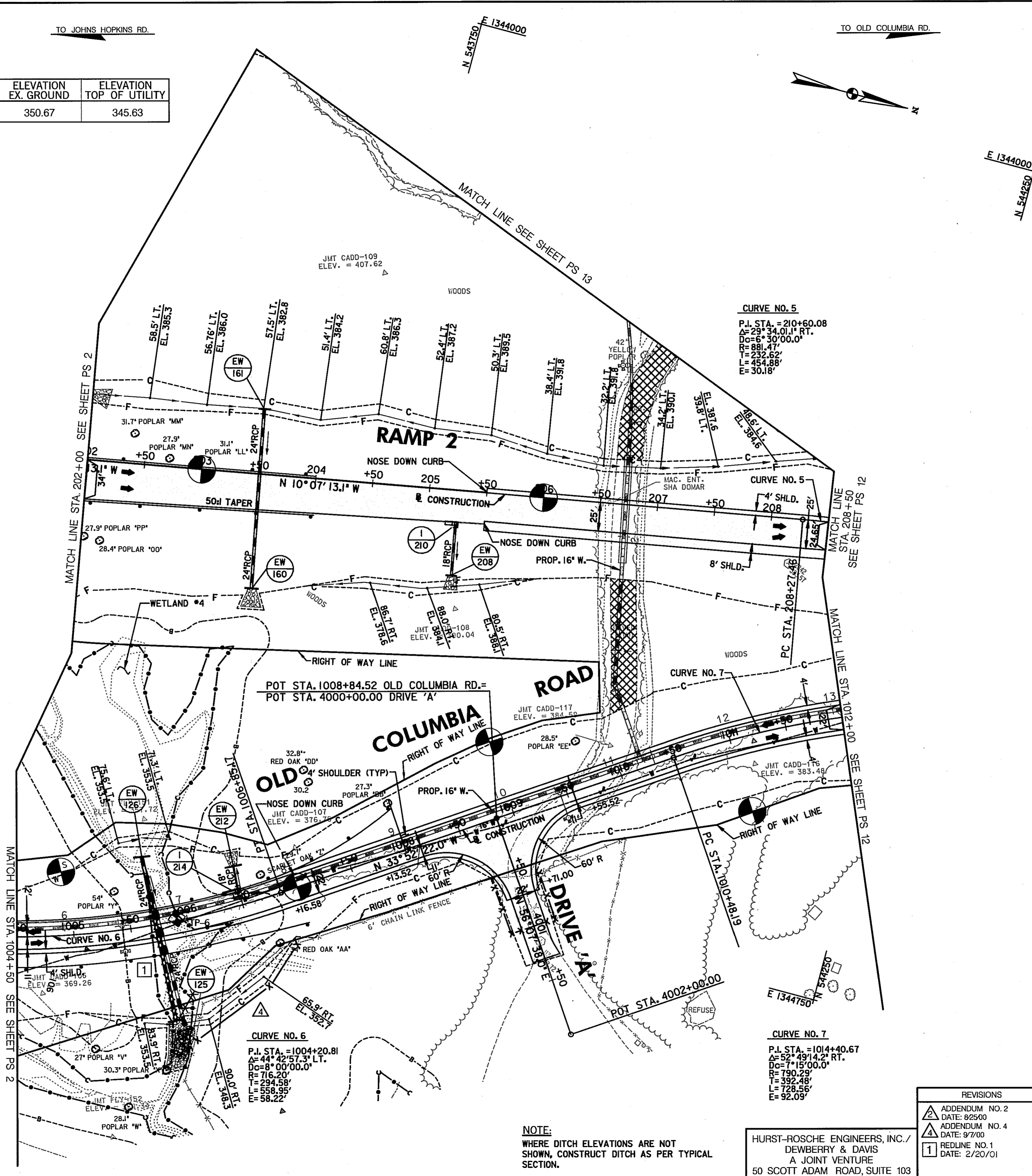
CONTRACT NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 35 OF 320
 PREL. TRAC. BY _____ FINAL TRAC. BY _____

TO JOHNS HOPKINS RD.

TO OLD COLUMBIA RD.

TEST PIT DATA

TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-06	1005+91.1	2.3' LT.	16" WATER	350.67	345.63



STD. TYPE "A" COMBINATION CURB AND GUTTER - MD-620.02
 STA. 1004+50 TO STA. 1007+11.65, LT. - OLD COLUMBIA RD - 260 L.F.
 STA. 202+00 TO STA. 205+63.57, LT. - RAMP 2 - 356.5 L.F.
 STA. 202+00 TO STA. 205+66.25, RT. - RAMP 2 - 349.5 L.F.

STD. TYPE 'G' TRAFFIC BARRIER END TREATMENT - MD-605.08
 STA. 1007+00, RT. - OLD COLUMBIA RD. - 1 EA.
 STA. 1008+00, LT. - OLD COLUMBIA RD. - 1 EA.

STD. TYPE 'I' TRAFFIC BARRIER END TREATMENT - MD-605.10
 STA. 204+00, LT. - RAMP 2 - 1 EA.
 STA. 204+00, RT. - RAMP 2 - 1 EA.

STD. TRAFFIC BARRIER W BEAM - MD-605.22
 STA. 202+00 TO STA. 204+00, LT. - RAMP 2 - 200 L.F.
 STA. 202+00 TO STA. 204+00, RT. - RAMP 2 - 200 L.F.
 STA. 1004+50 TO STA. 1008+00, LT. OLD COLUMBIA RD. - 350 L.F.
 STA. 1004+50 TO STA. 1007+00, RT. OLD COLUMBIA RD. - 250 L.F.

REMOVAL OF EXISTING PAVEMENT
 STA. 1009+81.25 TO STA. 1010+25, LT. - OLD COLUMBIA RD. - 92 C.Y.
 STA. 206+61.30 TO STA. 206+83.00, LT. - RAMP 2 - 84 C.Y.

REMOVE AND DISPOSE OF EXISTING FENCE
 STA. 1008+61.00 TO STA. 1009+05.00, RT. - OLD COLUMBIA RD. - 45 L.F.

6 FOOT GALVANIZED CHAIN LINK FENCE - STD. MD-690.01
 STA. 1005+86 TO STA. 1006+86, RT. - OLD COLUMBIA RD. 127 L.F.
 STA. 1008+61.62 TO STA. 1008+72.52, RT. - OLD COLUMBIA RD. - 62 L.F.
 STA. 1008+96.56 TO STA. 1009+04.21, RT. - OLD COLUMBIA RD. - 51 L.F.

12 FOOT GATE FOR 6 FOOT GALVANIZED CHAIN LINK FENCE
 STA. 4001+00 - DRIVE 'A' - 2 EA.

TYPE "A" SOIL STABILATION MATTING FLAT BOTTOM DITCH - SEE DETAIL ON SHEET NO. 4
 STA. 202+00 TO STA. 208+50, LT. RAMP #2 - 434 S.Y.
 STA. 1005+50 TO STA. 1006+50, RT. - OLD COLUMBIA ROAD - 67 S.Y.
 STA. 1006+50 TO STA. 1011+50, RT. - OLD COLUMBIA ROAD - 57 S.Y.
 STA. 1005+50 TO STA. 1006+50, LT. - OLD COLUMBIA ROAD - 67 S.Y.

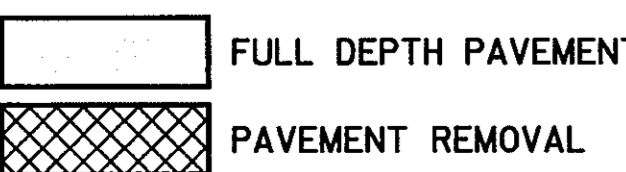
TYPE "A" SOIL STABILATION MATTING 'V' DITCH - SEE DETAIL ON SHEET NO. 4
 STA. 1006+50 TO STA. 1012+00, LT. OLD COLUMBIA ROAD - 611 S.Y.

TYPE "B" SOIL STABILATION MATTING 'V' DITCH - SEE DETAIL ON SHEET NO. 4
 STA. 1011+50 TO STA. 1012+00, RT. OLD COLUMBIA ROAD - 65 S.Y.

TERMINAL POST FOR 6 FOOT CHAIN LINK FENCE
 STA. 4000+50 - 4001+00, DRIVE 'A'. - 4 EA
 STA. 1005+86 - 1006+86, OLD COLUMBIA RD. - 3 EA

CROSS REFERENCES THIS SHEET	
ITEM	SHEET NO.
TYPICAL SECTIONS	8 & 11
GEOMETRIC LAYOUT	20 & 24
SUPERELEVATION CHART	32
ROADWAY PROFILES	54 & 58
TRAFFIC CONTROL	64, 67, 81, 84, 98, 101, 115 & 118
STORM DRAIN DETAILS	139
EROSION AND SEDIMENT CONTROL	157 & 173
PAVEMENT MARKING DETAILS	284 & 289
LANDSCAPE / REFORESTATION	304
UTILITIES	319A & 319F

ROADWAY LEGEND



REVISIONS	
ADDENDUM NO. 2	DATE: 8/25/00
ADDENDUM NO. 4	DATE: 9/7/00
REDLINE NO. 1	DATE: 2/20/01

ROADWAY PLAN PS 03 OF 16

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 36 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

NOTE:
 WHERE DITCH ELEVATIONS ARE NOT
 SHOWN, CONSTRUCT DITCH AS PER TYPICAL
 SECTION.

SCALE: PLAN: 1"=50'

TYPE 'A' COMBINATION CURB AND GUTTER - MD-620.02 4 INCH CONCRETE SIDEWALK

STA. 56+50 TO STA. 58+15, LT. - JOHNS HOPKINS ROAD - 203 L.F.
 STA. 58+33 TO STA. 62+43, LT. - JOHNS HOPKINS ROAD - 435 L.F.
 STA. 401+15 TO STA. 401+80, RT. - RAMP 4 - 67 L.F.
 STA. 400+00 TO STA. 402+00, LT. - RAMP 4 - 194 L.F.
 STA. 63+59 TO STA. 67+85, LT. - JOHNS HOPKINS ROAD - 476 L.F.
 STA. 68+18 TO STA. 69+50, LT. - JOHNS HOPKINS ROAD - 179 L.F.
 STA. 67+82 TO STA. 67+95, LT. - JOHNS HOPKINS ROAD - 47 L.F.
 STA. 69+00 TO STA. 69+50, RT. - JOHNS HOPKINS ROAD - 50 L.F.
 STA. 69+00 TO STA. 69+50, RT. - JOHNS HOPKINS ROAD - 50 L.F.
 STA. 68+39 TO STA. 68+76, RT. - JOHNS HOPKINS ROAD - 84 L.F.
 STA. 67+24 TO STA. 67+63, RT. - JOHNS HOPKINS ROAD - 109 L.F.
 STA. 68+69 TO STA. 69+50, RT. - JOHNS HOPKINS ROAD - 84 L.F.
 STA. 30+77 TO STA. 31+36, RT. - MONTPELIER ROAD - 74 L.F.
 STA. 30+70 TO STA. 31+16, RT. - MONTPELIER ROAD - 48 L.F.
 STA. 30+70 TO STA. 31+16, LT. - MONTPELIER ROAD - 50 L.F.
 STA. 30+80 TO STA. 31+94, LT. - MONTPELIER ROAD - 133 L.F.
 STA. 61+44 TO STA. 67+21, RT. - JOHNS HOPKINS ROAD - 574 L.F.
 STA. 116+30 TO STA. 118+20, RT. - RAMP 1 - 181 L.F.
 STA. 116+50 TO STA. 117+27, LT. - RAMP 1 - 79 L.F.
 STA. 58+47 TO STA. 60+53, RT. - JOHNS HOPKINS ROAD - 252 L.F.
 STA. 56+50 TO STA. 58+03, RT. - JOHNS HOPKINS ROAD - 188 L.F.
 STA. 58+49 TO STA. 59+37, RT. - JOHNS HOPKINS ROAD - 96 L.F.
 STA. 59+37 TO STA. 59+54, RT. - JOHNS HOPKINS ROAD - 18 L.F.
 STA. 58+49 TO STA. 59+53, LT. - JOHNS HOPKINS ROAD - 111 L.F.

MONOLITHIC CONCRETE MEDIAN 4 FT. WIDE
 TYPE C-1 SP-SP MD - 645.03

STA. 67+10 TO STA. 67+60, LT. - JOHNS HOPKINS ROAD - 50 L.F.
 STA. 67+50 TO STA. 67+75, RT. - JOHNS HOPKINS ROAD - 25 L.F.

TYPE 'C' COMBINATION CURB AND GUTTER - MD-620.02
 STA. 68+40 TO STA. 69+00, RT. - JOHNS HOPKINS ROAD - 61 L.F.
 STA. 68+40 TO STA. 69+00, RT. - JOHNS HOPKINS ROAD - 61 L.F.

MEDIAN & ISLAND OPENING MD-655-21
 STA. 67+41 TO STA. 67+62, RT. - JHR
 STA. 68+40 TO STA. 68+55, RT. - JHR

TRAFFIC BARRIER W BEAM - MD-605.22

STA. 56+50 TO STA. 57+99, RT. - JOHNS HOPKINS ROAD - 805 S.F.
 STA. 59+57 TO STA. 60+94, RT. - JOHNS HOPKINS ROAD - 832 S.F.
 STA. 59+57 TO STA. 67+53, RT. - JOHNS HOPKINS ROAD - 4322 S.F.
 STA. 68+58 TO STA. 68+79, RT. - JOHNS HOPKINS ROAD - 249 S.F.
 STA. 67+24.27 TO STA. 67+63.62, RT. - JOHNS HOPKINS ROAD ISLAND - 434 S.F.
 STA. 67+82.66 TO STA. 67+95.80, LT. - JOHNS HOPKINS ROAD ISLAND - 76 L.F.
 STA. 68+38.83 TO STA. 68+58.29, RT. - JOHNS HOPKINS ROAD ISLAND - 260 L.F.
 STA. 68+38.83 TO STA. 69+00, RT. - JOHNS HOPKINS ROAD MEDIAN - 390 L.F.

MONOLITHIC CONCRETE MEDIAN 4 FT. WIDE
 TYPE A-1 - MD-645.01

STA. 56+50 TO STA. 57+26, LT. - JOHNS HOPKINS ROAD - 76 L.F.
 STA. 59+75 TO STA. 67+10, LT. - JOHNS HOPKINS ROAD - 735 L.F.
 STA. 60+74 TO STA. 67+50, RT. - JOHNS HOPKINS ROAD - 676 L.F.

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN -
 FOR DETAIL SEE SPECIAL PROVISIONS

STA. 58+50 TO STA. 62+33, LT. - JHR - EBR - 383 L.F.
 STA. 63+59.47 TO STA. 64+50, LT. - JHR - EBR - 91 L.F.
 STA. 64+00 TO STA. 67+00, RT. - JHR - WBR - 300 L.F.
 STA. 116+00 TO STA. 117+75, RT. - RAMP 1 - 175 L.F.
 STA. 400+00 TO STA. 401+75, RT. - RAMP 4 - 175 L.F.
 STA. 68+40 TO STA. 69+50, RT. - JHR - WBR - 90 L.F.
 STA. 68+40 TO STA. 69+50, RT. - JHR - EBR - 90 L.F.
 STA. 12+00 TO STA. 13+50, LT. - OCR - 150 L.F.

MONOLITHIC CONCRETE MEDIAN VARIABLE WIDTH
 (4' TO 6') TYPE A-1 - MD-645.01

STA. 59+53 TO STA. 59+75 - JOHNS HOPKINS ROAD - 22 L.F.

TYPE 'I' TRAFFIC BARRIER END TREATMENT
 OPTION 1 ANCHORAGE - MD-605.10

STA. 1401+00, RT. - SPUR 4 - IEA.
 STA. 1401+15, LT. - SPUR 4 - IEA.
 STA. 57+25, RT. - JOHNS HOPKINS ROAD - IEA.

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET-
 FOR DETAIL SEE SPECIAL PROVISIONS

STA. 63+50 TO STA. 64+00, RT. - JHR - WBR - 50 L.F.
 STA. 117+75 TO STA. 118+25, RT. - RAMP 1 - 50 L.F.
 STA. 402+25 TO STA. 401+75, RT. - RAMP 4 - 50 L.F.
 STA. 13+50 TO STA. 14+00, LT. - OCR - 50 L.F.

MONOLITHIC CONCRETE MEDIAN 4 FT. WIDE
 TYPE C-1 SP-SP MD - 645.03

STA. 67+10 TO STA. 67+60, LT. - JOHNS HOPKINS ROAD - 50 L.F.
 STA. 67+50 TO STA. 67+75, RT. - JOHNS HOPKINS ROAD - 25 L.F.

CURVE NO. 22
 P.I. STA. = 68+36.75
 Δ=29°10'00.2" LT.
 Dc=6°00'00.0"
 R=954.93'
 T=248.44'
 L=486.11'
 E=31.79'

CURVE NO. 26
 P.I. STA. = 116+08.43
 Δ=53°59'43.3" RT.
 Dc=11°45'00.0"
 R=487.62'
 T=248.83'
 L=459.54'
 E=59.64'

CURVE NO. 27
 P.I. STA. = 1101+20.75
 Δ=30°04'53.6" LT.
 Dc=12°45'00.0"
 R=449.38'
 T=120.75'
 L=235.93'
 E=15.94'

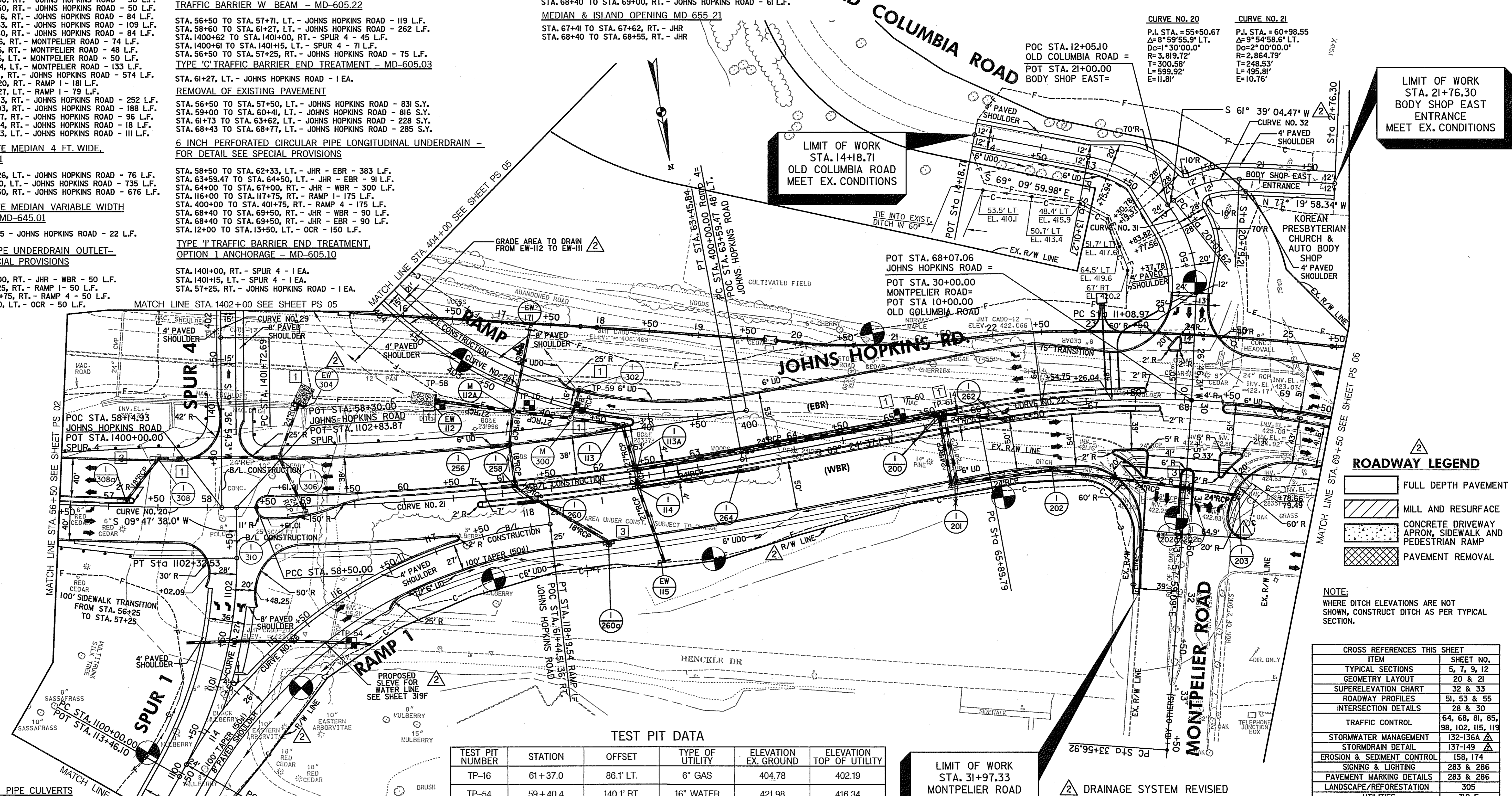
CURVE NO. 28
 P.I. STA. = 406+00.47
 Δ=11°00'04.2" RT.
 Dc=13°45'00.0"
 R=416.70'
 T=600.47'
 L=803.51'
 E=314.19'

CURVE NO. 29
 P.I. STA. = 1403+93.39
 Δ=81°00'04.2" RT.
 Dc=2°30'00.0"
 R=2,291.83'
 T=220.70'
 L=440.05'
 E=10.60'

CURVE NO. 30
 P.I. STA. = 12+25.53
 Δ=81°36'46.3" RT.
 Dc=42°26'28.7"
 R=135.00'
 T=116.56'
 L=192.30'
 E=43.35'

CURVE NO. 31
 P.I. STA. = 20+45.02
 Δ=41°00'57.4" RT.
 Dc=57°17'44.8"
 R=100.00'
 T=37.40'
 L=71.59'
 E=6.77'

CURVE NO. 32
 P.I. STA. = 60+98.55
 Δ=9°54'58.6" LT.
 Dc=2°00'00.0"
 R=2,864.79'
 T=248.53'
 L=495.81'
 E=10.76'



REMOVAL OF OLD PIPE CULVERTS
 12 INCH OR LARGER

STA. 1401+15 TO STA. 1402+00, LT. - SPUR 4 - 85 L.F.

TYPE 2 SIDEWALK RAMP - MD - 655.11

STA. 116+66, LT. - RAMP 1
 STA. 116+66, RT. - RAMP 1
 STA. 67+21, LT. - JOHNS HOPKINS ROAD
 STA. 68+66, LT. - JOHNS HOPKINS ROAD
 STA. 1102+40, LT. - SPUR 1
 STA. 1102+37, RT. - SPUR 1
 STA. 31+20, RT. - MONTPELIER ROAD

TEST PIT DATA

TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-16	61+37.0	86.1' LT.	6" GAS	404.78	402.19
TP-54	59+40.4	140.1' RT.	16" WATER	421.98	416.34
TP-58	60+43.60	96.2' LT.	6" GAS	402.39	399.72
TP-59	61+89.12	77.7' LT.	6" GAS	406.34	403.28
TP-60	65+11.4	15.3' LT.	6" GAS	417.86	414.98
TP-61	65+50.1	5.2' LT.	6" GAS	419.14	416.35

LIMIT OF WORK
 STA. 31+97.33
 MONTPELIER ROAD
 MEET EX. CONDITIONS

△ DRAINAGE SYSTEM REVISED

ROADWAY LEGEND

- ▭ FULL DEPTH PAVEMENT
- ▨ MILL AND RESURFACE
- ▤ CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
- ▧ PAVEMENT REMOVAL

NOTE:
 WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.

CROSS REFERENCES THIS SHEET	
ITEM	SHEET NO.
TYPICAL SECTIONS	5, 7, 9, 12
GEOMETRY LAYOUT	20 & 21
SUPERELEVATION CHART	32 & 33
ROADWAY PROFILES	51, 53 & 55
INTERSECTION DETAILS	28 & 30
TRAFFIC CONTROL	64, 68, 81, 85, 98, 102, 115, 119
STORMWATER MANAGEMENT	132-136A
STORMDRAIN DETAIL	137-149
EROSION & SEDIMENT CONTROL	158, 174
SIGNING & LIGHTING	283 & 286
PAVEMENT MARKING DETAILS	283 & 286
LANDSCAPE/REFORESTATION	305
UTILITIES	319 F.

ROADWAY PLAN PS 04 OF 16

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

REVISIONS

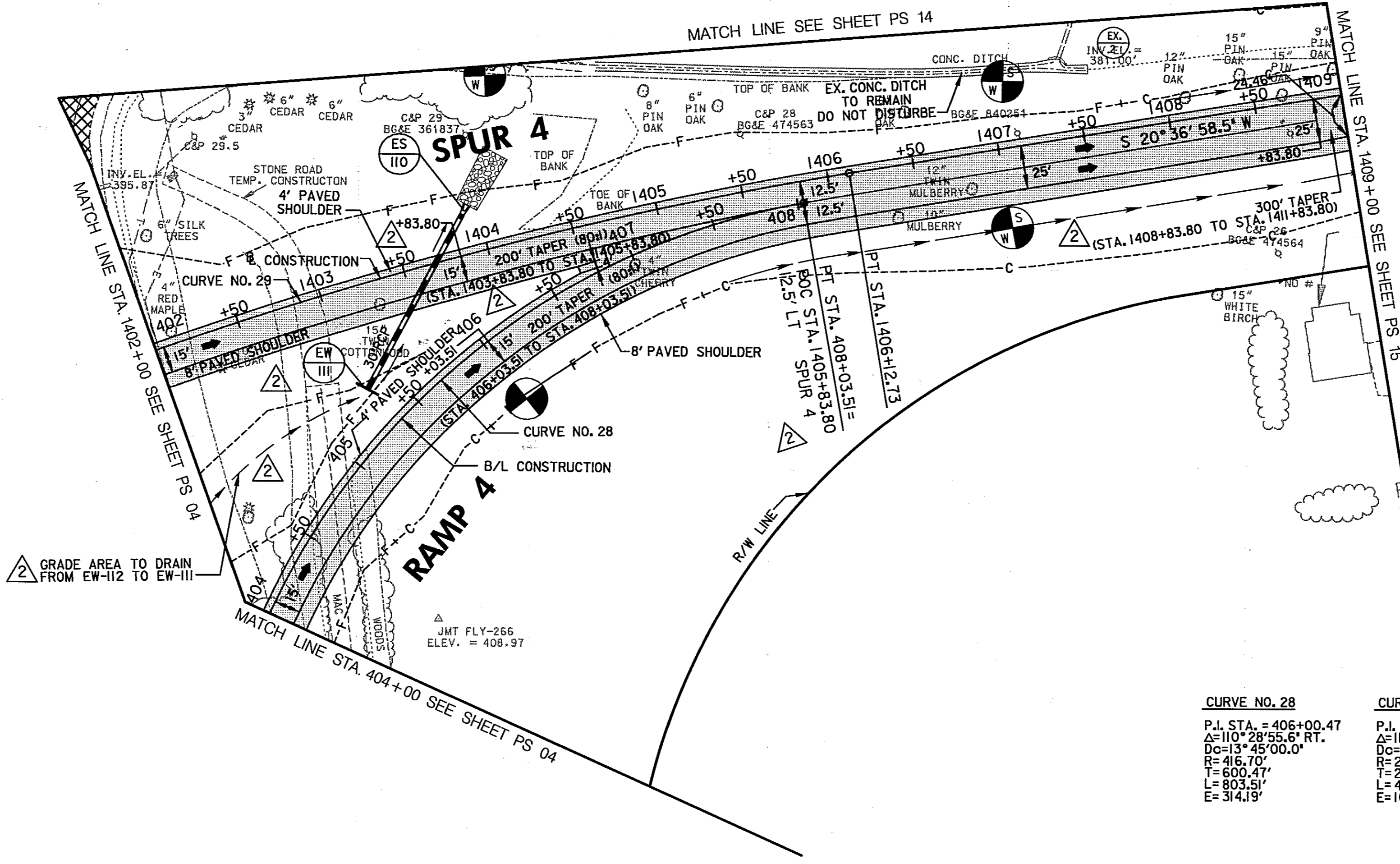
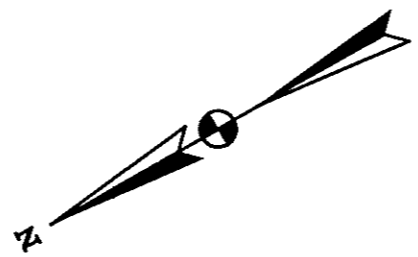
ADDENDUM NO. 2-08/25/00

REDLINE NO. 1 DATE: 2/20/01

REDLINE NO. 3 DATE: 1/31/02

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 37 OF 320
 PREL. TRAC. BY SBP FINAL TRAC. BY AP



REMOVAL OF EXISTING PAVEMENT
 STA. 1402+00 TO STA. 1402+17, RT. - SPUR 4 - 46 S.Y.

SOIL STABILIZATION MATTING 'V' DITCH -
SEE DETAIL ON SHEET NO. 4

STA. 407+50.00 TO STA. 408+03.00, RT. - RAMP 4 - 53 L.F.
 STA. 1405+81.00 TO STA. 1409+00.00, RT. - SPUR 4 - 319 L.F.
 STA. 1408+00.00 TO STA. 1409+00.00, LT. - SPUR 4 - 100 L.F.

REMOVAL OF OLD PIPE CULVERTS
12 INCH OR LONGER

STA. 1402+00 TO STA. 1402+07, LT. - SPUR 4 - 7 L.F.

GRADE AREA TO DRAIN FROM EW-112 TO EW-111

CURVE NO. 28
 P.I. STA. = 406+00.47
 $\Delta = 110^\circ 28' 55.6''$ RT.
 $D_c = 13^\circ 45' 00.0''$
 $R = 416.70'$
 $T = 600.47'$
 $L = 803.51'$
 $E = 314.19'$

CURVE NO. 29
 P.I. STA. = 1403+93.39
 $\Delta = 11^\circ 00' 04.2''$ RT.
 $D_c = 2^\circ 30' 00.0''$
 $R = 2,291.83'$
 $T = 220.70'$
 $L = 440.05'$
 $E = 10.60'$

CROSS REFERENCES THIS SHEET	
ITEM	SHEET NO.
TYPICAL SECTIONS	9
GEOMETRIC LAYOUT	20
SUPERELEVATION CHART	33
ROADWAY PROFILES	55, 56, 61
TRAFFIC CONTROL	69, 86, 103, 120, 64, 81, 115
STORMWATER MANAGEMENT	132 - 136A
STORM DRAIN DETAILS	137-149
EROSION & SEDIMENT CONTROL	159, 175
SIGNING & LIGHTING	283 & 286
PAVEMENT MARKING DETAILS	283 & 286
LANDSCAPE / REFORESTATION	306

ROADWAY LEGEND

- FULL DEPTH PAVEMENT
- MILL AND RESURFACE
- CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
- PAVEMENT REMOVAL

NOTE:
 WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.

SCALE: PLAN: 1" = 50'

ROADWAY PLAN

PS 05 OF 16

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 38 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

CURVE NO. 22
 P.I. STA. = 68+36.75
 Δ = 29° 10'00.02" LT.
 Dc = 6' 00'00.0"
 R = 954.93'
 T = 248.44'
 L = 486.11'
 E = 31.79'

CURVE NO. 23
 P.I. STA. = 77+05.35
 Δ = 21° 12'25.66" LT.
 Dc = 4' 00'00.0"
 R = 1,432.39'
 T = 281.12'
 L = 555.18'
 E = 27.32'

CURVE NO. 33
 P.I. STA. = 1+57.96
 Δ = 31° 30'24.6"
 Dc = 31' 49'51.6"
 R = 180.00'
 T = 50.78'
 L = 98.98'
 E = 7.02'

CURVE NO. 40
 P.I. STA. = 1+57.96
 Δ = 31° 11'16.58"
 Dc = 24' 02'59.60"
 R = 236.272'
 T = 66.45'
 L = 129.66'
 E = 9.10'

TEST PIT DATA

TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-17	71+52.1	33.3' RT.	16" WATER	426.27	420.88
TP-18	71+58.6	41.8' RT.	6" GAS	426.48	424.43
TP-19	74+36.9	21.2' LT.	3.5" TELEPHONE	419.14	416.71
TP-19A	74+36.4	17.9' LT.	6-4" TELEPHONE	419.21	415.20
TP-20	74+42.3	21.0' RT.	12" WATER	419.65	414.90
TP-21	74+44.1	27.8' RT.	6" GAS	420.12	417.32
TP-22	74+38.4	40.0' LT.	24" ELECTRIC	419.87	416.95
TP-23	75+99.7	19.0' LT.	3.5" TELEPHONE	414.99	412.43
TP-23A	75+98.1	14.7' LT.	6-4" TELEPHONE	415.39	411.19
TP-24	76+01.1	36.9' LT.	24" ELECTRIC	416.58	413.38
TP-25	75+96.1	20.9' RT.	16" WATER	415.47	410.95
TP-26	75+96.4	26.3' RT.	6" GAS	414.80	412.46

TEST PIT DATA

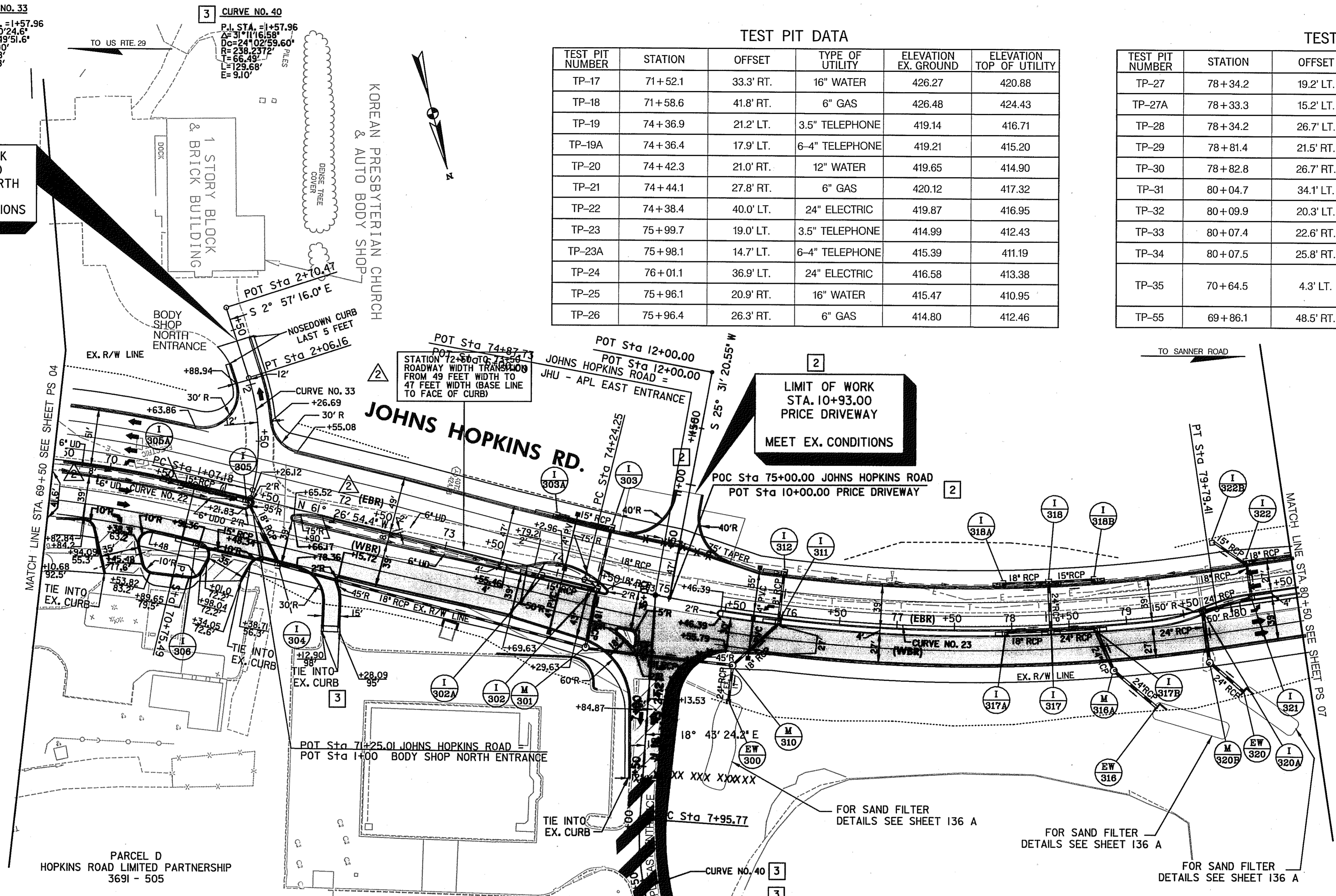
TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-27	78+34.2	19.2' LT.	3.5" TELEPHONE	412.04	408.94
TP-27A	78+33.3	15.2' LT.	6-4" TELEPHONE	412.12	406.68
TP-28	78+34.2	26.7' LT.	24" ELECTRIC	411.41	407.85
TP-29	78+81.4	21.5' RT.	16" WATER	412.40	407.06
TP-30	78+82.8	26.7' RT.	6" GAS	411.76	409.60
TP-31	80+04.7	34.1' LT.	24" ELECTRIC	411.57	408.51
TP-32	80+09.9	20.3' LT.	3.5" TELEPHONE	414.24	410.28
TP-33	80+07.4	22.6' RT.	16" WATER	413.78	409.29
TP-34	80+07.5	25.8' RT.	6" GAS	413.38	411.70
TP-35	70+64.5	4.3' LT.	6-4" TELEPHONE 3.5" TELEPHONE	428.01	424.02
TP-55	69+86.1	48.5' RT.	16" WATER	429.20	424.44

**LIMIT OF WORK
 STA. 2+40.00
 BODY SHOP NORTH
 ENTRANCE
 MEET EX. CONDITIONS**

**LIMIT OF WORK
 STA. 10+93.00
 PRICE DRIVEWAY
 MEET EX. CONDITIONS**

**LIMIT OF WORK
 STA. 9+25.00
 JHU - APL EAST
 ENTRANCE
 MEET EX. CONDITIONS**

NOTE:
 WHERE DITCH ELEVATIONS ARE NOT
 SHOWN, CONSTRUCT DITCH AS PER TYPICAL
 SECTION.



TYPE 'A' COMBINATION CURB & GUTTER - MD-620.02

- STA. 69+50 TO STA. 70+64, LT. - JOHNS HOPKINS ROAD - 210 L.F.
- STA. 69+50 TO STA. 71+33, RT. - JOHNS HOPKINS ROAD - 180 L.F.
- STA. 69+50 TO STA. 71+33, RT. - JOHNS HOPKINS ROAD - 177 L.F.
- STA. 69+50 TO STA. 70+44, RT. - JOHNS HOPKINS ROAD - 43 L.F.
- STA. 70+37 TO STA. 70+01, RT. - JOHNS HOPKINS ROAD - 80 L.F.
- STA. 71+26 TO STA. 80+50, LT. - JOHNS HOPKINS ROAD - 99 L.F.
- STA. 71+39 TO STA. 72+08, RT. - JOHNS HOPKINS ROAD - 83 L.F.
- STA. 71+63 TO STA. 73+75, RT. - JOHNS HOPKINS ROAD - 213 L.F.
- STA. 71+63 TO STA. 74+38, RT. - JOHNS HOPKINS ROAD - 355 L.F.
- STA. 72+16 TO STA. 74+85, RT. - JOHNS HOPKINS ROAD - 307 L.F.
- STA. 73+75 TO STA. 74+38, LT. - JOHNS HOPKINS ROAD - 66 L.F.
- STA. 74+61 TO STA. 74+79, RT. - JOHNS HOPKINS ROAD - 50 L.F.
- STA. 75+43 TO STA. 80+50, RT. - JOHNS HOPKINS ROAD - 574 L.F.
- STA. 75+44 TO STA. 79+58, RT. - JOHNS HOPKINS ROAD - 418 L.F.
- STA. 75+44 TO STA. 79+72, RT. - JOHNS HOPKINS ROAD - 428 L.F.
- STA. 79+58 TO STA. 80+50, LT. - JOHNS HOPKINS ROAD - 88 L.F.
- STA. 79+72 TO STA. 80+50, LT. - JOHNS HOPKINS ROAD - 74 L.F.
- STA. 6+51 TO STA. 7+62, LT. - JHU-APL EAST ENTRANCE - 61 L.F.
- STA. 6+41 TO STA. 7+62, LT. - JHU-APL EAST ENTRANCE - 71 L.F.
- STA. 1+77 TO STA. 2+29, LT. - BODY SHOP N-ENTRANCE - 80 L.F.
- STA. 1+76 TO STA. 2+40, RT. - BODY SHOP N-ENTRANCE - 76 L.F.
- TEXACO STATION INSIDE - 58 L.F.
- TEXACO STATION EAST ENTRANCE - 67 L.F.
- TEXACO STATION WEST ENTRANCE - 38 L.F.
- CREDIT UNION DRIVEWAY - 76 L.F.
- PRICE DRIVEWAY - 136 L.F.

TYPE 'B' COMBINATION CURB & GUTTER - MD-620.02

- STA. 6+90.76 TO STA. 9+25.00' LT. - JHU-APL EAST ENTRANCE - 237 L.F.

MONOLITHIC CONCRETE MEDIAN 4 FT WIDE TYPE A-1 - MD-645.01

- STA. 74+43 TO STA. 79+54, RT. - JOHNS HOPKINS ROAD - 412 L.F.
- STA. 79+54 TO STA. 80+50, LT. - JOHNS HOPKINS ROAD - 98 L.F.

INSTALL 4" PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED PRIOR TO THE INSTALLATION OF ROADWAY BASE COURSE

- STA. 74+05 54' LT. TO STA. 74+05 5' LT. - JOHNS HOPKINS RD. - 49 L.F.
- STA. 74+05 5' LT. TO STA. 74+05 52' RT. - JOHNS HOPKINS RD. - 57 L.F.
- STA. 75+75 39' LT. TO STA. 75+80 6' RT. - JOHNS HOPKINS RD. - 45 L.F.
- STA. 75+75 6' RT. TO STA. 75+80 4' RT. - JOHNS HOPKINS RD. - 35 L.F.

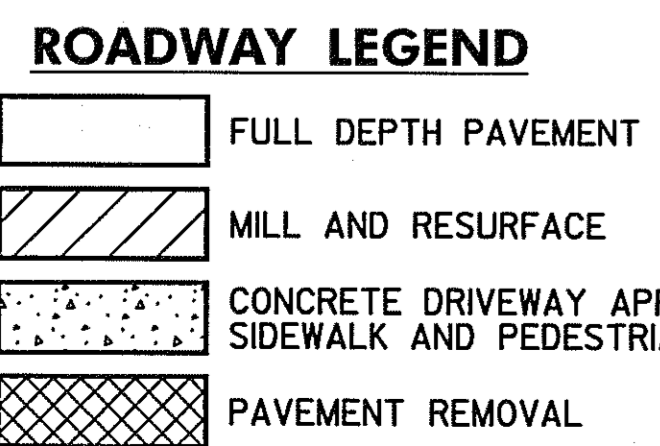
- INSTALL HANDHOLE**
- STA. 74+05.00 54' LT. - JOHNS HOPKINS ROAD - 1 EA.
 - STA. 74+05.00 5' LT. - JOHNS HOPKINS ROAD - 1 EA.
 - STA. 74+05.00 52' RT. - JOHNS HOPKINS ROAD - 1 EA.
 - STA. 75+75.00 39' LT. - JOHNS HOPKINS ROAD - 1 EA.
 - STA. 75+75.00 6' RT. - JOHNS HOPKINS ROAD - 1 EA.
 - STA. 75+75.00 4' RT. - JOHNS HOPKINS ROAD - 1 EA.

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN FOR DETAIL SEE SPECIAL PROVISIONS

- STA. 69+50.00 TO STA. 73+85.00, RT. - JHR - WBR - 435 L.F.
- STA. 73+85.00 TO STA. 74+40.00, RT. - JHR - WBR - 55 L.F.
- STA. 69+50.00 TO STA. 70+65.00, RT. - JHR - EBR - 115 L.F.
- STA. 70+65.00 TO STA. 71+10.00, RT. - JHR - EBR - 45 L.F.
- STA. 71+10.00 RT. TO STA. 72+00.00, LT. - JHR - EBR - 90 L.F.
- STA. 72+00.00 LT. TO STA. 74+40.00, RT. - JHR - EBR - 240 L.F.

CROSS REFERENCES THIS SHEET

ITEM	SHEET NO.
TYPICAL SECTIONS	5,12
GEOMETRIC LAYOUT	21
SUPERELEVATION CHART	33
ROADWAY PROFILES	51,61,62
TRAFFIC CONTROL	70,87,104,121,64, 81, 115
STORMWATER MANAGEMENT	132 - 136A
STORM DRAIN DETAILS	137-149
EROSION & SEDIMENT CONTROL	160,176
SIGNING & LIGHTING	283 & 286
PAVEMENT MARKING DETAILS	283 & 286
LANDSCAPE / REFORESTATION	307



REVISIONS

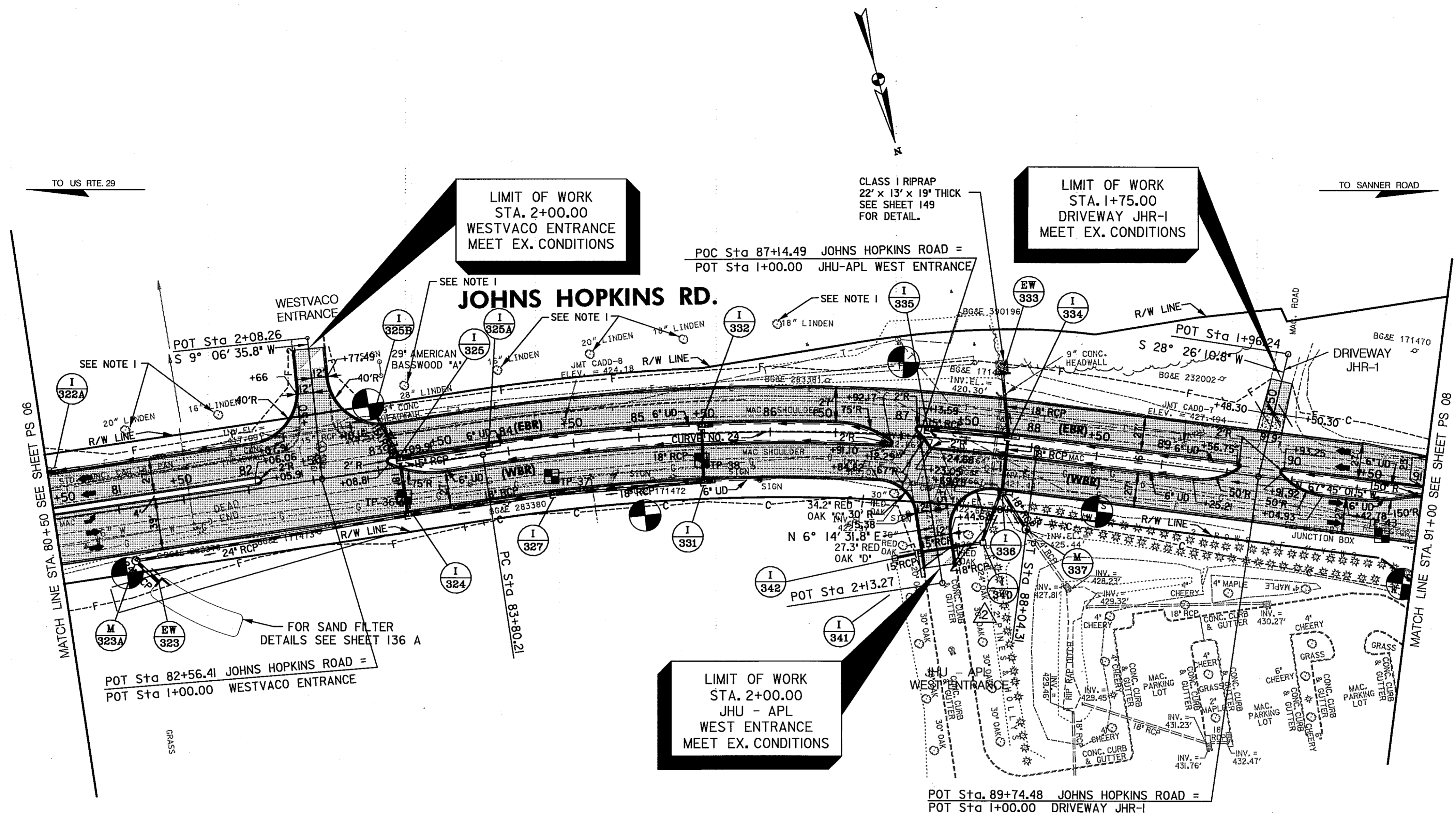
2	ADDENDUM NO. 2-08/25/00
2	REDLINE NO. 2-DATE: 7/30/01
3	REDLINE NO. 3-DATE: 1/31/02

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

ROADWAY PLAN

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CURVE NO. 24
 P.I. STA. = 85+95.56
 $\Delta = 15^\circ 54' 43.00''$ RT.
 $D_c = 3^\circ 45' 00.0''$
 $R = 1,527.89'$
 $L = 213.53'$
 $E = 424.32'$
 $E = 14.85'$



- NOTE:**
1. THE CONTRACTOR SHALL NOT DISTURB THESE TREES. THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCE AT THE APPROXIMATE DRIP LINE OF THE TREES. THE ENGINEER AND THE CONTRACTOR SHALL DETERMINE THE LOCATION OF THE FENCE IN THE FIELD.
 2. WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.

- STANDARD BITUMINUS CONCRETE CURB - MD-615.01**
 STA. 90+50 TO STA. 91+50, LT. - JOHNS HOPKINS ROAD - 50 L.F.
- TYPE 'A' COMBINATION CURB & GUTTER - MD-620.02**
 STA. 80+50 TO STA. 82+50, LT. - JOHNS HOPKINS ROAD - 220 L.F.
 STA. 82+71 TO STA. 91+00, LT. - JOHNS HOPKINS ROAD - 858 L.F.
 STA. 83+07 TO STA. 86+87, LT. - JOHNS HOPKINS ROAD - 394 L.F.
 STA. 83+14 TO STA. 86+94, RT. - JOHNS HOPKINS ROAD - 391 L.F.
 STA. 87+11 TO STA. 89+60, LT. - JOHNS HOPKINS ROAD - 269 L.F.
 STA. 87+16 TO STA. 89+54, RT. - JOHNS HOPKINS ROAD - 244 L.F.
 STA. 89+90 TO STA. 91+00, LT. - JOHNS HOPKINS ROAD - 120 L.F.
 STA. 89+96 TO STA. 90+97, RT. - JOHNS HOPKINS ROAD - 107 L.F.
 STA. 87+43 TO STA. 91+00, RT. - JOHNS HOPKINS ROAD - 404 L.F.
 STA. 80+50 TO STA. 87+26, RT. - JOHNS HOPKINS ROAD - 713 L.F.
- MONOLITHIC CONCRETE MEDIAN 4-FT WIDE, TYPE A-1 - MD-645.01**
 STA. 80+50 TO STA. 82+12 - JOHNS HOPKINS ROAD - 161 L.F.
- 6 IN. PORTLAND CEMENT PAVEMENT FOR DRIVEWAY RESIDENTIAL - MD-630.01**
 STA. 89+65.30 TO STA. 89+91.46 - JOHNS HOPKINS ROAD - 30 S.Y.
- 6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN FOR DETAIL SEE SPECIAL PROVISIONS**

ROADWAY LEGEND

	FULL DEPTH PAVEMENT
	MILL AND RESURFACE
	CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
	PAVEMENT REMOVAL

TEST PIT DATA

TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-36	83+16.3	23.1' RT.	6" GAS	421.57	419.21
TP-37	84+30.4	23.6' RT.	6" GAS	422.90	420.56
TP-38	85+47.2	20.5' RT.	4" GAS	424.05	420.76
TP-43	90+73.3	32.7' RT.	24" ELECTRIC	425.22	422.02

CROSS REFERENCES THIS SHEET

ITEM	SHEET NO.
TYPICAL SECTIONS	5,12,15
GEOMETRIC LAYOUT	2,22
SUPERELEVATION CHART	33
ROADWAY PROFILES	51,52,62
TRAFFIC CONTROL	71,88,105,122, 64,81,115
STORMWATER MANAGEMENT	132-136A
STORM DRAIN DETAILS	137-149
EROSION & SEDIMENT CONTROL	161,177
SIGNING & LIGHTING	283 & 287
PAVEMENT MARKING DETAILS	283 & 287
LANDSCAPE / REFORESTATION	308

SCALE: PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

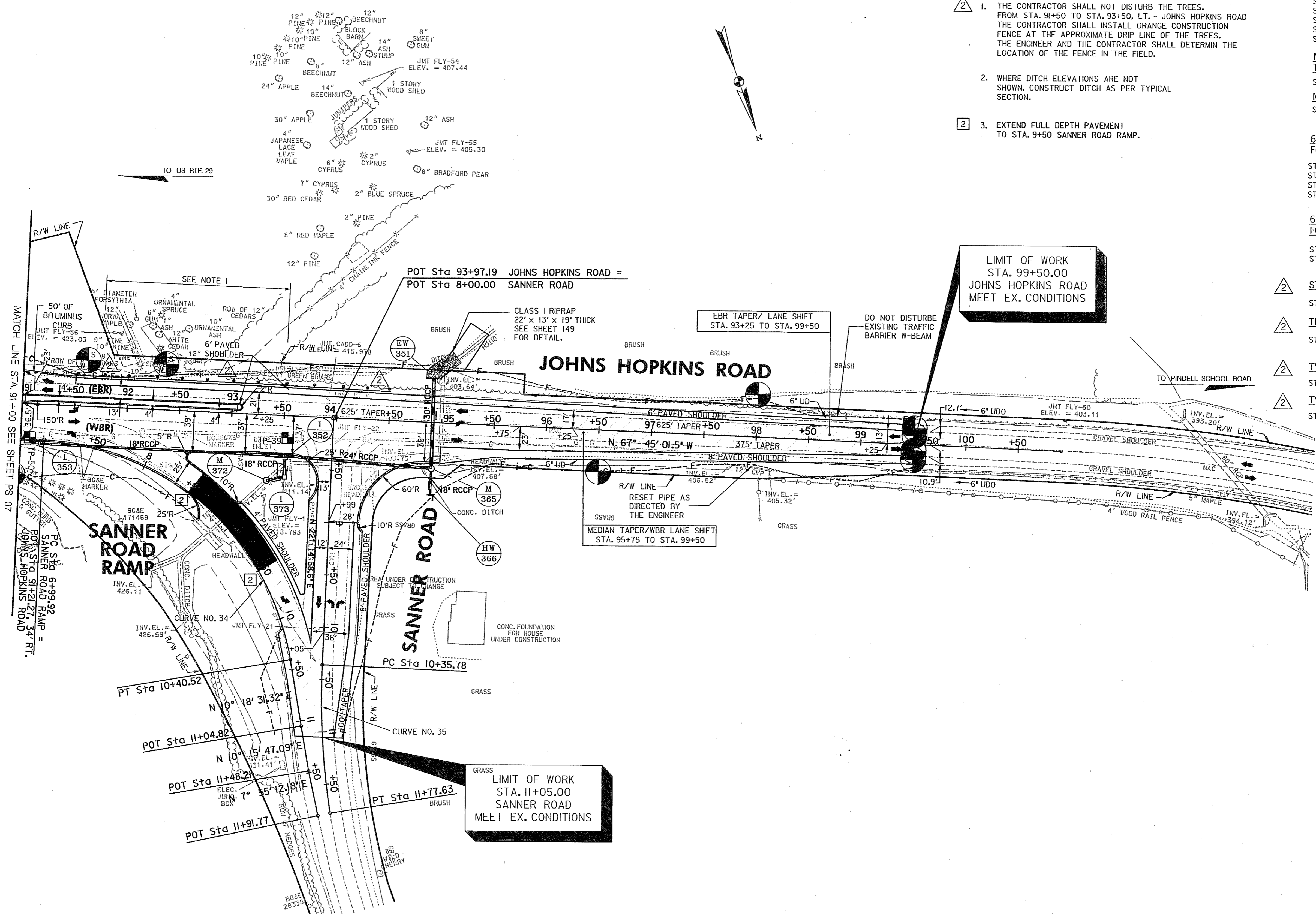
REVISIONS

ADDENDUM NO. 2-08/25/00

ROADWAY PLAN PS 07 OF 16

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 40 OF 320
 PREL. TRAC. BY FINAL TRAC. BY



NOTES

1. THE CONTRACTOR SHALL NOT DISTURB THE TREES. FROM STA. 91+50 TO STA. 93+50, LT. - JOHNS HOPKINS ROAD THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCE AT THE APPROXIMATE DRIP LINE OF THE TREES. THE ENGINEER AND THE CONTRACTOR SHALL DETERMIN THE LOCATION OF THE FENCE IN THE FIELD.
2. WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.
3. EXTEND FULL DEPTH PAVEMENT TO STA. 9+50 SANNER ROAD RAMP.

TYPE "A" COMBINATION CURB AND GUTTER - MD-620.02

STA. 91+00 TO STA. 92+74, RT. - JOHNS HOPKINS ROAD - 200 L.F.
 STA. 8+29 TO STA. 8+91, RT. - SANNER ROAD RAMP - 73 L.F.
 STA. 92+59 TO STA. 93+82, RT. - JOHNS HOPKINS ROAD - 131 L.F.
 STA. 8+50 TO STA. 8+81, RT. - SANNER ROAD - 33 L.F.
 STA. 94+24 TO STA. 95+00, RT. - JOHNS HOPKINS ROAD - 122 L.F.

MONOLITHIC CONCRETE MEDIAN VARIABLE WIDTH (4' TO 6') TYPE A-1 - MD-645.01

STA. 91+05 TO STA. 91+25 - JOHNS HOPKINS ROAD - 20 L.F.
 STA. 91+25 TO STA. 93+10, LT. - JOHNS HOPKINS ROAD - 185 L.F.

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN FOR DETAIL SEE SPECIAL PROVISIONS

STA. 96+00 TO STA. 99+50, RT. - JHR - 350 L.F.
 STA. 96+00 TO STA. 99+50, LT. - JHR - 350 L.F.
 STA. 10+00 AT SANNER ROAD TO STA. 95+00, RT. - JHR - 220 L.F.
 STA. 93+50 RT. - JHR TO STA. 9+75 LT. - SANNER ROAD - 150 L.F.

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET FOR DETAIL SEE SPECIAL PROVISIONS

STA. 99+50 TO STA. 100+00, RT. - JHR - 50 L.F.
 STA. 99+50 TO STA. 100+00, LT. - JHR - 50 L.F.

STD BITUMINUS CONCRETE CURB - MD-615.01

STA. 91+00 TO STA. 91+50, LT. - JHR - 50 L.F.

TRAFFIC BARRIER W-BEAM LONG POST - MD-605.22

STA. 91+50 TO STA. 94+00, LT. - JHR - 250 L.F.

TYPE "I" TRAFFIC BARRIER END TREATMENT OPTION 1 - MD-605.10

STA. 91+50, LT. - JHR - 1 EA.

TYPE "C" TRAFFIC BARRIER END TREATMENT - MD-605.03

STA. 94+00 TO STA. 94+50, LT. - JHR - 1 EA.

ROADWAY LEGEND

	FULL DEPTH PAVEMENT
	MILL AND RESURFACE
	CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
	PAVEMENT REMOVAL

TEST PIT DATA

TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-39	93+54.2	20.9' RT.	4" GAS	417.15	413.89
TP-50	91+08.6	30.0' RT.	24" ELECTRIC	423.91	420.67

SCALE: PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS

ADDENDUM NO. 2-08/25/00
REDLINE NO. 2 DATE: 07/30/01

ROADWAY PLAN

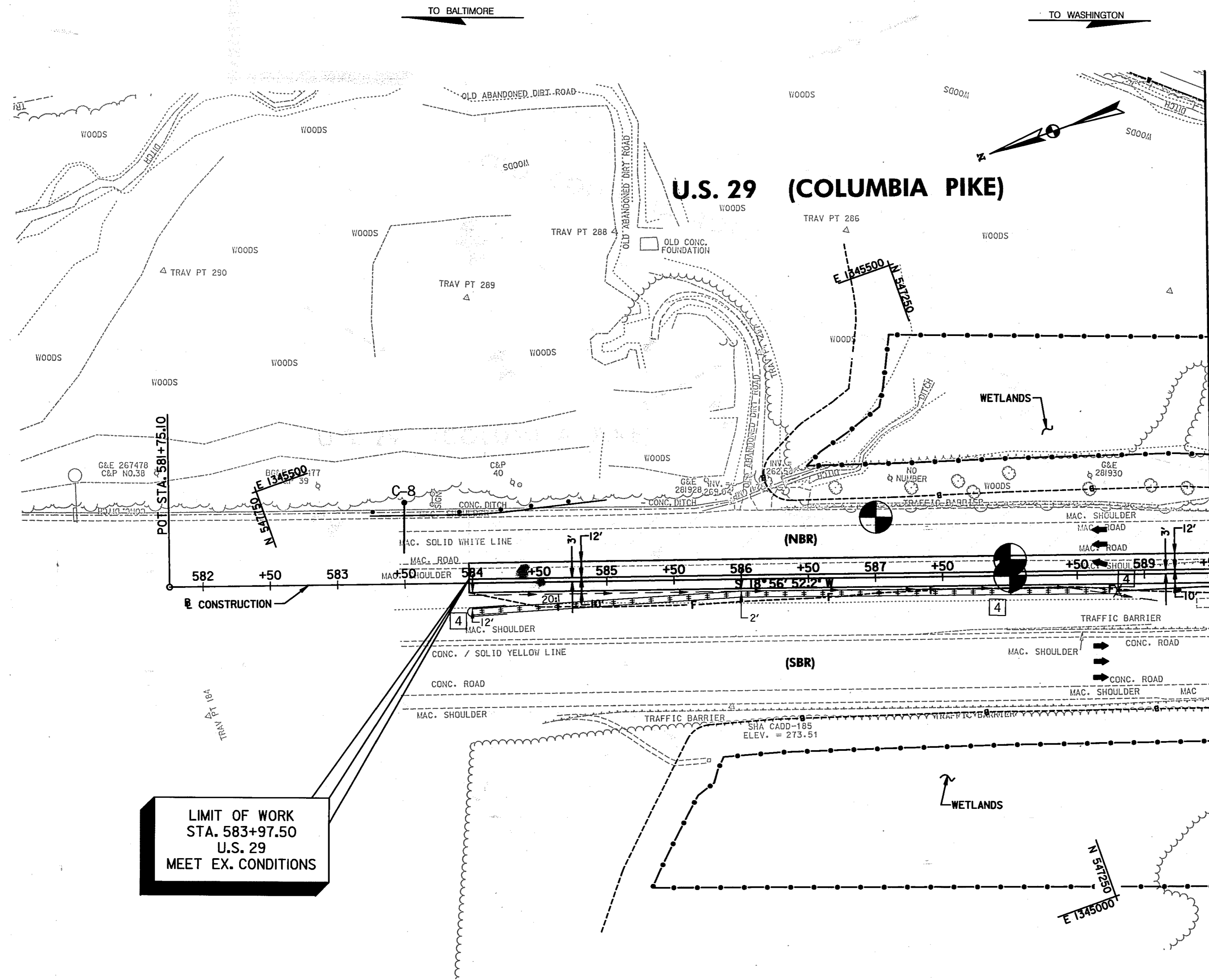
STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 41 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

PS 08 OF 16

CROSS REFERENCES THIS SHEET

ITEM	SHEET NO.
TYPICAL SECTIONS	5, 6, 15
GEOMETRIC LAYOUT	22
SUPERELEVATION CHART	33
ROADWAY PROFILES	52, 62
TRAFFIC CONTROL	72, 89, 106, 123, 64, 81, 115
STORMWATER MANAGEMENT	132-136A
STORM DRAIN DETAILS	137-149
EROSION & SEDIMENT CONTROL	162, 178
SIGNING & LIGHTING	283+287
PAVEMENT MARKING DETAILS	283+287
LANDSCAPE / REFORESTATION	309



LIMIT OF WORK
 STA. 583+97.50
 U.S. 29
 MEET EX. CONDITIONS

- STD. TYPE 'G' TRAFFIC BARRIER END TREATMENT - MD-605.08
 STA. 588+79.00, RT. - U.S. 29 - 1 EA.
- STD. TRAFFIC BARRIER W BEAM - MD-605.22
 STA. 588+79.00 TO STA. 588+95.60, RT. - U.S. 29 - 25 L.F.
 STA. 583+25 TO STA. 584+87.5, LT. - U.S. 29 - 163 L.F.
- REMOVE AND DISPOSE OF EXISTING TRAFFIC BARRIER
 STA. 589+05.70 TO STA. 589+50, LT. - U.S. 29 - 45 L.F.
- REMOVE AND DISPOSE OF EXISTING END TREATMENT
 STA. 589+05.70, LT. - U.S. 29 - 1 EA.
- 6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN - FOR DETAIL SEE SPECIAL PROVISIONS
 STA. 583+97.50 TO STA. 588+41.25, RT. - U.S. 29 - 444 L.F.
- 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD-387.01
 STA. 588+41.25 TO STA. 589+09.72, RT. - U.S. 29 - 69 L.F.
- TYPE 'I' TRAFFIC BARRIER END TREATMENT OPTION 1 ANCHORAGE - MD-605.10
 STA. 583+25, LT. - U.S. 29 - 1 EA.
- TYPE 'A' TRAFFIC BARRIER END TREATMENT (SINGLE RAIL) - MD-605.01
 STA. 584+87.5 TO STA. 585+00, LT. - U.S. 29 - 1 EA.
- MODIFIED TRAFFIC BARRIER W-BEAM MEDIAN BARRIER - FOR DETAIL SEE SHEET 14
 STA. 584+31 TO STA. 588+75, RT. - U.S. 29 N.B. MEDIAN - 444 L.F.
- TYPE 'D' TRAFFIC BARRIER END TREATMENT - MD-605.05
 STA. 584+00 TO STA. 584+31, RT. - U.S. 29 S.B. MEDIAN - 1 EA.
- REMOVE AND DISPOSE OF EXISTING END TREATMENT
 STA. 588+75, RT. - U.S. 29 N.B. MEDIAN - 1 EA.

ROADWAY LEGEND

	FULL DEPTH PAVEMENT
	MILL AND RESURFACE

NOTE:
 WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.

SCALE: PLAN: 1" = 50'

CROSS REFERENCES THIS SHEET

ITEM	SHEET NO.
TYPICAL SECTIONS	14
GEOMETRIC LAYOUT	23
EROSION AND SEDIMENT CONTROL	163 & 179
PAVEMENT MARKING DETAILS	288
LANDSCAPE / REFORESTATION	310

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS

2	ADDENDUM NO. 2 DATE: 8/25/00
4	REDLINE NO. 4 DATE: 8/5/02

ROADWAY PLAN

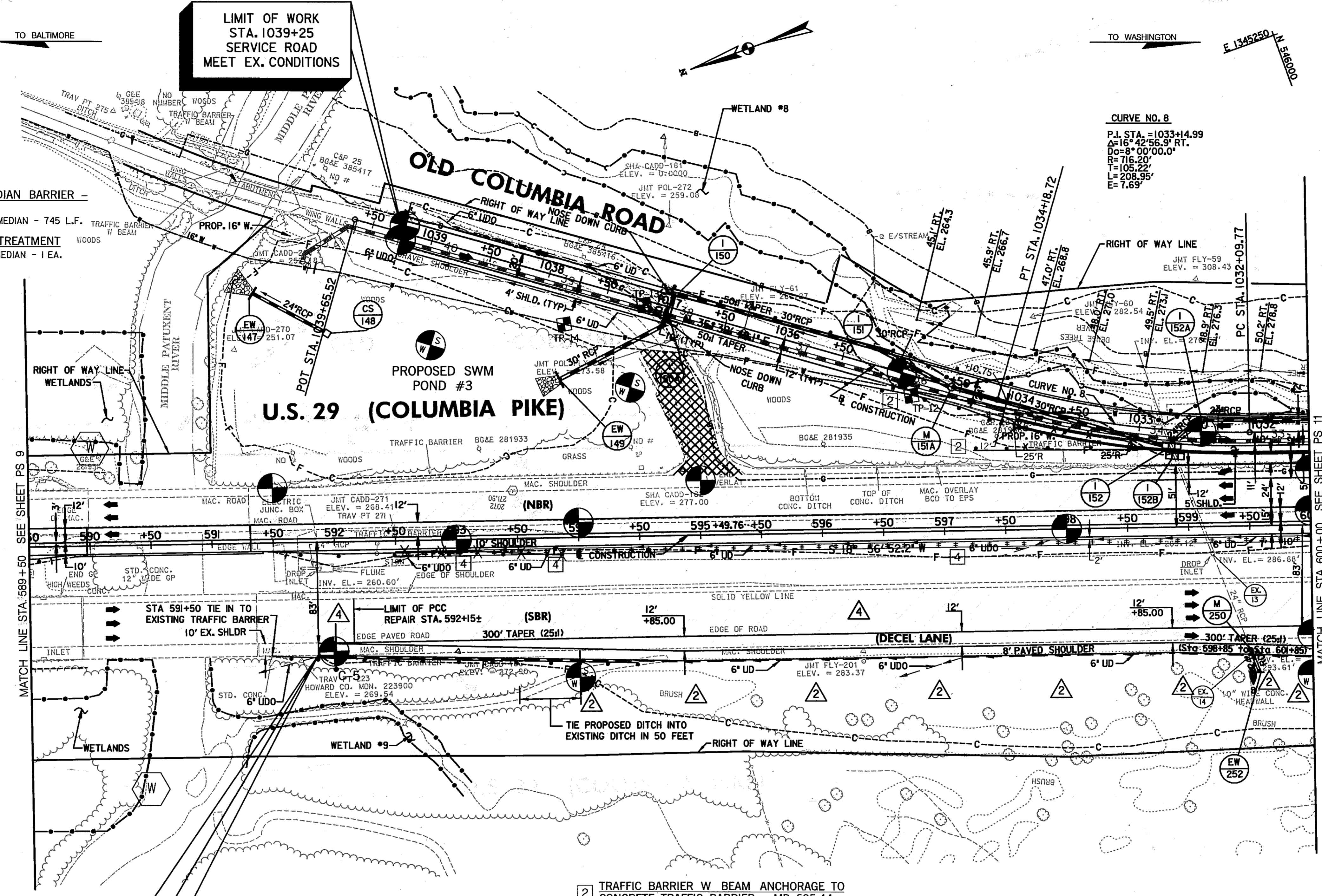
PS 09 OF 16

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO.	42	OF	320
PREL. TRAC. BY		FINAL TRAC. BY					

- 2 TRAFFIC BARRIER W BEAM - MD-605.22
STA. 597+25 TO STA. 598+63, LT. - U.S. 29 NB - 138 L.F.
- 2 CONCRETE MEDIAN TRAFFIC BARRIER
TYPE "D" - MD-648.20
STA. 597+95.34 TO STA. 598+20.48, LT. -
U.S. 29 NB - 25 L.F.
- 2 CONCRETE MEDIAN TRAFFIC BARRIER
TYPE "C" - MD-648.14
STA. 597+78.36 TO STA. 597+95.34, LT. -
U.S. 29 NB - 17 L.F.
- 2 CONCRETE MEDIAN TRAFFIC BARRIER
TYPE "A" - MD-648.12
STA. 597+73.38 TO STA. 597+78.36, LT. -
U.S. 29 NB - 5 L.F.
- 4 MODIFIED TRAFFIC BARRIER W-BEAM MEDIAN BARRIER -
FOR DETAIL SEE SHEET 14
STA. 592+55 TO STA. 600+00, RT. - U.S. 29 N.B. MEDIAN - 745 L.F.
- 4 REMOVE AND DISPOSE OF EXISTING END TREATMENT
STA. 593+38 TO STA. 593+88, RT. - U.S. 29 N.B. MEDIAN - 1 EA.
- 4 REMOVE AND DISPOSE OF EXISTING
TRAFFIC BARRIER W-BEAM
STA. 592+55 TO STA. 593+38, RT.
- U.S. 29 N.B. MEDIAN - 83 L.F.

LIMIT OF WORK
STA. 1039+25
SERVICE ROAD
MEET EX. CONDITIONS



- TYPE "A" COMBINATION CURB AND GUTTER - MD-620.02
STA. 1033+00 TO STA. 1037+00, LT. - OLD COLUMBIA ROAD - 400 L.F.
STA. 1031+61.00 TO STA. 1037+00, RT. - OLD COLUMBIA ROAD - 539 L.F.
- 2 TYPE "I" TRAFFIC BARRIER END TREATMENT
OPTION 1 ANCHORAGE - MD-605.10
STA. 594+50, RT. - U.S. 29 - 1 EA. STA. 597+25, LT. - U.S. 29 NB - 1 EA.
- 2 TYPE "G" TRAFFIC BARRIER END TREATMENT - MD-605.08
STA. 1037+00, RT. - OLD COLUMBIA ROAD - 1 EA.
STA. 1033+41.23, LT. - OLD COLUMBIA ROAD - 1 EA.
- TRAFFIC BARRIER W BEAM - MD-605.22
STA. 591+50 TO STA. 594+50, RT. - U.S. 29 SB DECAL LANE - 300 L.F.
STA. 1037+00 TO STA. 1031+60.95, RT. - OLD COLUMBIA ROAD - 540 L.F.
STA. 591+20 TO STA. 593+88.00, RT. - U.S. NB MEDIAN 23 - 218 L.F.
- 2 REMOVE AND DISPOSE OF EXISTING TRAFFIC BARRIER
STA. 1034+22.67 TO STA. 1035+35.67, LT. - OLD COLUMBIA RD. - 113 L.F.
- STA. 589+51.70 TO STA. 589+95.00, LT. - U.S. 29 - 43 L.F.
STA. 591+32.20 TO STA. 593+87.06, LT. - U.S. 29 - 254 L.F.
STA. 591+50 TO STA. 593+75, RT. - U.S. 29 - 275 L.F.
STA. 598+50 TO STA. 600+00, LT. - U.S. 29 - 150 L.F.
- TRAFFIC BARRIER THREE BEAM ANCHORAGE AT CONCRETE
TRAFFIC BARRIER SINGLE FACE TERMINAL END - MD-661.21
STA. 1033+12.67, LT. - OLD COLUMBIA ROAD - 1 EA.
- REMOVE AND DISPOSE OF EXISTING END TREATMENT
STA. 591+50, RT. - U.S. 29 - 1 EA.
STA. 598+50, RT. - U.S. 29 - 1 EA.
STA. 589+51.70, LT. - U.S. 29 - 1 EA.
STA. 593+87.06, LT. - U.S. 29 - 1 EA.
- REMOVAL OF EXISTING PAVEMENT
STA. 594+51.22 TO STA. 595+34.74, LT. - U.S. 29 - 136 C.Y.
CONCRETE MEDIAN TRAFFIC BARRIER TYPE "E" - MD-648.24
STA. 598+58.97 TO STA. 600+00, LT. - U.S. 29 - 141 L.F.
STA. 598+20.48 TO STA. 600+00, RT. - U.S. 29 - 177 L.F.
- DELETED DIAMOND GRINDING PCC PAVEMENT CHART
6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN -
FOR DETAIL SEE SPECIAL PROVISIONS
STA. 592+78.15 TO STA. 597+00.56, RT. - U.S. 29 - 214 L.F.
STA. 591+86.51 TO STA. 600+00, RT. - U.S. 29 - 423 L.F.
STA. 591+85.00 TO STA. 596+85.00, RT. - U.S. 29 SB DECAL LANE - 500 L.F.
STA. 596+85.00 TO STA. 600+00, RT. - U.S. 29 SB DECAL LANE - 315 L.F.
STA. 1037+25 TO STA. 1038+87.44, LT. - OLD COLUMBIA ROAD - 163 L.F.
STA. 1037+25 TO STA. 1038+87.44, RT. - OLD COLUMBIA ROAD - 163 L.F.
- 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD-387.01
STA. 592+39.23 TO STA. 592+78.15, RT. - U.S. 29 - 41 L.F.
STA. 597+44.17 TO STA. 597+86.51, RT. - U.S. 29 - 44 L.F.
STA. 591+45.00 TO STA. 591+85.00, RT. - U.S. 29 SB DECAL LANE - 40 L.F.
STA. 596+45.00 TO STA. 596+85.00, RT. - U.S. 29 SB DECAL LANE - 40 L.F.
STA. 1038+87.44 TO STA. 1039+10.11, LT. - OLD COLUMBIA ROAD - 21 L.F.
STA. 1038+87.44 TO STA. 1039+08.01, RT. - OLD COLUMBIA ROAD - 22 L.F.
- TYPE "A" SOIL STABILIZATION MATTING 'V' DITCH
SEE DETAIL ON SHEET NO. 4
STA. 1037+50 TO STA. 1039+50, RT. D=2 FT. - OLD COLUMBIA ROAD - 222 S.Y.
STA. 597+00 TO STA. 600+00, RT., D=1 FT. - U.S. 29 SB DECAL LANE - 688 S.Y.
- 2 CONCRETE TRAFFIC BARRIER SINGLE FACE TERMINAL END
STA. 1033+00, LT. - OLD COLUMBIA ROAD - 1 EA.
TRAFFIC BARRIER THREE BEAM ANCHORAGE AT BRIDGE
END POSTS - MD-661.01
STA. 591+41.50, TO 591+70.50 RT. - U.S. 29 NB MEDIAN - 1 EA.
- TYPE "C" TRAFFIC BARRIER END TREATMENT - MD-605.03
STA. 593+88.00, RT. - U.S. 29 - 1 EA.
- TRAFFIC BARRIER W BEAM ANCHORAGE
AT STRUCTURES - MD-660.41
STA. 584+37.5, RT. - U.S. 29 NB MEDIAN - 1 EA.
- TYPE "B" SOIL STABILIZATION MATTING 'V' DITCH
SEE DETAIL ON SHEET NO. 4
STA. 594+00 TO STA. 597+00, RT., D=1 FT. - U.S. 29 SB DECAL LANE - 668 S.Y.

LIMIT OF WORK
STA. 591+85.00
S.B. ROUTE 29
MEET EX. CONDITIONS

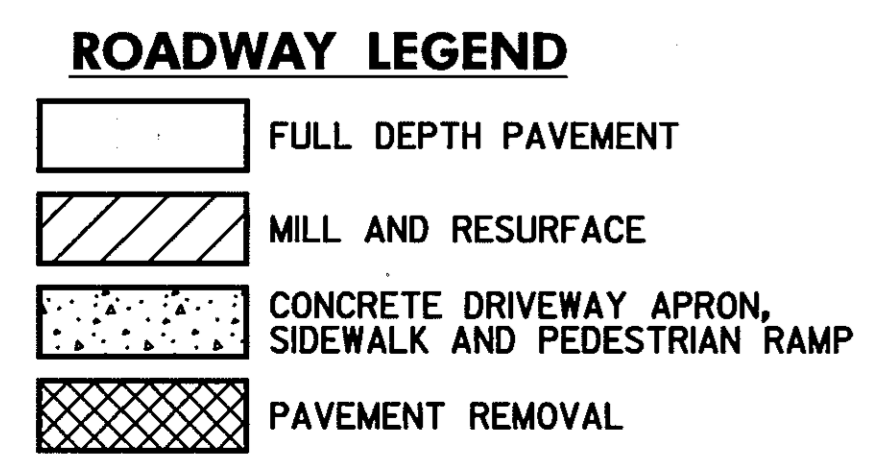
NOTE:
WHERE DITCH ELEVATIONS ARE NOT
SHOWN, CONSTRUCT DITCH AS PER TYPICAL
SECTION.

- 2 TRAFFIC BARRIER W BEAM ANCHORAGE TO
CONCRETE TRAFFIC BARRIER - MD-605.44
STA. 598+63, LT. - U.S. 29 NB. - 1 EA.

- 2 CHECK DAM
STA. 599+50, 121.6' RT. - U.S. 29
BOTTOM ELEVATION = 296.88
TOP ELEVATION = 297.48

- 2 TRAFFIC BARRIER THREE BEAM MEDIAN BARRIER ANCHORAGE
AT CONCRETE MEDIAN TRAFFIC BARRIER TERMINAL END MD-661.42
STA. 1033+97.67, LT. - OLD COLUMBIA RD. - 1 EA.
- 2 CONCRETE MEDIAN TRAFFIC BARRIER END TRANSITION
STA. 1033+85, LT. - OLD COLUMBIA RD. - 1 EA.
- 2 TRAFFIC BARRIER THREE BEAM
STA. 1033+97.67 TO STA. 1034+22.67, LT. - OLD COLUMBIA RD. - 25 L.F.
- 2 TYPE "A" TRAFFIC BARRIER END TREATMENT
MD-605.01
STA. 1035+35.67, LT. - OLD COLUMBIA RD. - 1 EA.

TEST PIT DATA					
TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-12	596+74.9	111.7' LT.	16" WATER	272.46	269.24
TP-13	594+56.9	189.9' LT.	8" GAS	271.85	268.01
TP-14	593+91.2	175.0' LT.	16" WATER	266.14	261.56
TP-44	1040+05.1	49.0' LT.	16" WATER	249.34	240.54
TP-45	1032+54.3	16.5' RT.	16" WATER	280.79	276.39



SCALE: PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2-08/25/00
4	ADDENDUM NO. 4-9/7/00
2	REDLINE NO. 2 DATE: 7/30/01
4	REDLINE NO. 4 DATE: 8/5/02

CROSS REFERENCES THIS SHEET	ITEM	SHEET NO.
TYPICAL SECTIONS		11 & 13
GEOMETRIC LAYOUT		4
SUPERELEVATION CHART		32
ROADWAY PROFILES		60
TRAFFIC CONTROL	64, 74, 81, 91, 98, 108, 115 & 125	
STORMWATER MANAGEMENT	132-136A	
STORM DRAIN DETAILS	137-149	
EROSION & SEDIMENT CONTROL	150-154 & 164	
SIGNING & LIGHTING	283 & 288	
PAVEMENT MARKING DETAILS	283 & 288	
LANDSCAPE / REFORESTATION	302	
UTILITIES	319A	

ROADWAY PLAN

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

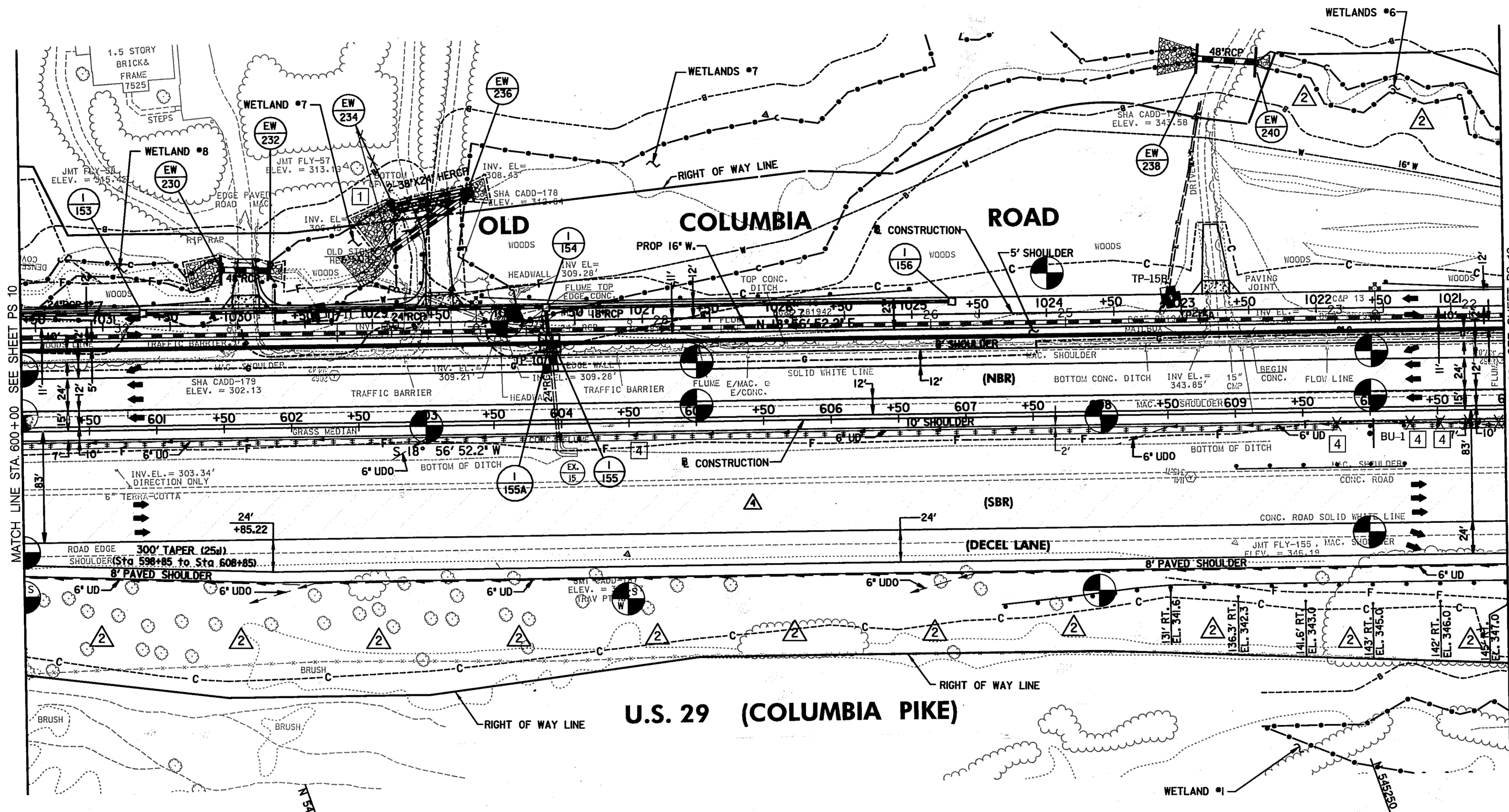
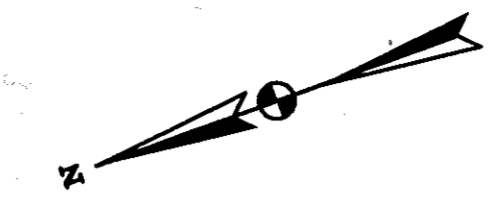
TO BALTIMORE

TO WASHINGTON

ENTRANCE TABLE

LOCATION	MSHA TYPE	EXISTING WIDTH	PROPOSED WIDTH	RADIUS	LENGTH	GRADE	REMARKS
1022 + 77.86, RT.	RESIDENTIAL	10'	11'		42'	8%	
1028 + 50.00, RT.	RESIDENTIAL	20'	20'		65'	-3%	
1029 + 93.63, RT.	RESIDENTIAL	10'	11'		27'	9%	

E 1345250
N 536000



- TYPE "A" COMBINATION CURB AND GUTTER - MD-620.02
STA. 1031+60.95 TO STA. 1020+60.95, LT. - OLD COLUMBIA ROAD - 1,100 L.F.
- CONCRETE MEDIAN TRAFFIC BARRIER TYPE "C" - MD-648.14
2 STA. 607+60.00 TO STA. 610+60.00, LT. - U.S. 29 - 300 L.F.
STA. 607+73.00 TO STA. 610+48.00, LT. - U.S. 29 - 275 L.F.
- CONCRETE MEDIAN TRAFFIC BARRIER TYPE "D" - MD-648.20
2 STA. 605+60.00 TO STA. 607+60.00, LT. - U.S. 29 - 200 L.F.
2 STA. 610+60.00 TO STA. 611+00.00, LT. - U.S. 29 - 40 L.F.
2 STA. 604+48.00 TO STA. 607+73.00, LT. - U.S. 29 - 325 L.F.
STA. 610+48.00 TO STA. 611+00.00, LT. - U.S. 29 - 52 L.F.
- CONCRETE MEDIAN TRAFFIC BARRIER TYPE "E" - MD-648.24
2 STA. 600+00.00 TO STA. 604+48.00, LT. - U.S. 29 - 48 L.F.
6 INCH PORTLAND CEMENT PAVEMENT FOR DRIVEWAY RESIDENTIAL MD-630.01
STA. 1022+56.21 TO STA. 1022+92.21, RT. - OLD COLUMBIA ROAD - 29 S.Y.
STA. 1028+31.84 TO STA. 1028+67.90, RT. - OLD COLUMBIA ROAD - 31 S.Y.
STA. 1029+75.63 TO STA. 1030+11.63, RT. - OLD COLUMBIA ROAD - 31 S.Y.
- TYPE "G" TRAFFIC BARRIER END TREATMENT - MD-605.08
STA. 1028+20.00, RT. - OLD COLUMBIA ROAD - 1 EA.
STA. 1028+62.00, RT. - OLD COLUMBIA ROAD - 1 EA.
STA. 1029+86.00, RT. - OLD COLUMBIA ROAD - 1 EA.
- TYPE "A" TRAFFIC BARRIER END TREATMENT (SINGLE RAIL) - MD-605.01
STA. 1025+00.00, RT. - OLD COLUMBIA ROAD - 1 EA.
TRAFFIC BARRIER W BEAM - MD-605.22
STA. 1025+00.00 TO STA. 1028+20.00, RT. - OLD COLUMBIA ROAD - 320 L.F.
STA. 1028+61.24 TO STA. 1029+86.47, RT. - OLD COLUMBIA ROAD - 175 L.F.
STA. 1030+20.00 TO STA. 1031+60.95, RT. - OLD COLUMBIA ROAD - 140 L.F.
STA. 1020+60.95 TO STA. 1021+50.00, RT. - OLD COLUMBIA ROAD - 90 L.F.
STA. 607+37.50 TO STA. 611+00.00, RT. - US 29 SB DECEL LANE - 362.5 L.F.
STA. 607+37.50 TO STA. 608+50.00, RT. - US 29 SB DECEL LANE - 112.5 L.F.
STA. 609+50 TO STA. 610+50, RT. - US 29 - 75 L.F.
STA. 609+75 TO STA. 610+50.00, RT. - US 29 - 75 L.F.
REMOVE AND DISPOSE OF EXISTING TRAFFIC BARRIER
STA. 600+00.00 TO STA. 601+58.59, LT. - U.S. 29 - 160 L.F.
STA. 601+99.21 TO STA. 602+99.21, LT. - U.S. 29 - 130 L.F.
STA. 603+26.06 TO STA. 605+36.26, LT. - U.S. 29 - 210 L.F.
- REMOVE AND DISPOSE OF EXISTING END TREATMENT
STA. 601+58.59, LT. - U.S. 29 - 1 EA.
STA. 601+83.16, LT. - U.S. 29 - 1 EA.
STA. 602+99.21, LT. - U.S. 29 - 1 EA.
STA. 603+26.06, LT. - U.S. 29 - 1 EA.
STA. 605+36.26, LT. - U.S. 29 - 1 EA.
- DELETED DIAMOND GRINDING PCC PAVEMENT CHART
- 6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN - FOR DETAIL SEE SPECIAL PROVISIONS
STA. 608+50.64 TO STA. 611+00.00, RT. - U.S. 29 - 250 L.F.
STA. 600+00.00 TO STA. 602+46.60, RT. - U.S. 29 - 247 L.F.
STA. 602+99.84 TO STA. 607+50.43, RT. - U.S. 29 - 450 L.F.
STA. 600+00.00 TO STA. 601+85.00, RT. - U.S. 29 SB DECEL LANE - 185 L.F.
STA. 601+85.00 TO STA. 606+85.00, RT. - U.S. 29 SB DECEL LANE - 500 L.F.
STA. 606+85.00 TO STA. 611+00.00, RT. - U.S. 29 SB DECEL LANE - 415 L.F.
- 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD-387.01
STA. 602+74.47 TO STA. 602+50.64, RT. - U.S. 29 - 30 L.F.
STA. 608+11.90 TO STA. 608+50.64, RT. - U.S. 29 - 41 L.F.
STA. 601+45.00 TO STA. 601+85.00, RT. - U.S. 29 SB DECEL LANE - 40 L.F.
STA. 606+45.00 TO STA. 606+85.00, RT. - U.S. 29 SB DECEL LANE - 40 L.F.
- TYPE "A" TRAFFIC BARRIER END TREATMENT (DOUBLE RAIL) - MD-605.01-01
STA. 607+25.00 TO STA. 607+37.50, RT. - US 29 SB DECEL LANE - 1 EA.
- TYPE "A" SOIL STABILIZATION MATTING 'V' DITCH - SEE DETAIL ON SHEET NO. 4
STA. 600+00 TO STA. 611+00, RT., D=1 FT. - U.S. 29 SB DECEL LANE - 980 S.Y.
- TYPE "C" TRAFFIC BARRIER END TREATMENT - MD-605.03
STA. 609+00 TO STA. 609+50, RT. - U.S. 29 - 1 EA.
STA. 610+50 TO STA. 611+00, RT. - U.S. 29 - 1 EA.
- TYPE "I" TRAFFIC BARRIER END TREATMENT - MD-605.10
STA. 610+25, RT. - U.S. 29 - 1 EA.
STA. 609+75, RT. - U.S. 29 - 1 EA.

- NOTE:
- WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.
 - RIPRAP APRONS AT CROSS CULVERTS WILL UTILIZE A 10 TO 1 "V" DITCH CROSS SECTION TO CREATE LOW FLOW FOR FISH PASSAGE.

- 4 REMOVE AND DISPOSE OF EXISTING END TREATMENT
STA. 609+75, RT. - U.S. 29 N.B. MEDIAN - 1 EA.
STA. 610+50 TO 611+00, RT. - U.S. 29 N.B. MEDIAN - 1 EA.
- 4 MODIFIED TRAFFIC BARRIER W-BEAM MEDIAN BARRIER - FOR DETAIL SEE SHEET 14
STA. 600+00 TO STA. 609+75, RT. - U.S. 29 N.B. MEDIAN - 975 L.F.
STA. 610+25 TO STA. 611+00, RT. - U.S. 29 N.B. MEDIAN - 75 L.F.
- 4 REMOVE AND DISPOSE OF EXISTING TRAFFIC BARRIER W-BEAM
STA. 610+25 TO STA. 610+50, RT. - U.S. 29 N.B. MEDIAN - 25 L.F.

TEST PIT DATA

TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-10	603+92.0	44.6' LT.	8" GAS	322.17	316.63
TP-11	602+21.0	86.5' LT.	8" WATER	304.03	298.43
TP-15A	608+51.7	89.4' LT.	1.5" ELECTRIC	355.94	353.46
TP-15B	608+55.2	85.3' LT.	1" TELEPHONE	355.29	353.13
TP-44	1040+05.1	49.0' LT.	16" WATER	249.34	240.54
TP-57	1021+48.4	105.9' RT.	16" WATER	344.98	339.98

ITEM	SHEET NO.
TYPICAL SECTIONS	11 & 13
GEOMETRIC LAYOUT	4 & 5
SUPERELEVATION CHART	32
ROADWAY PROFILES	59 & 60
TRAFFIC CONTROL	64, 75, 81, 92, 98, 109, 115 & 126
STORMWATER MANAGEMENT	132-136A
STORM DRAIN DETAILS	137-149
EROSION AND SEDIMENT CONTROL	165 & 181
SIGNING AND LIGHTING	288 & 289
PAVEMENT MARKING DETAILS	288 & 289
LANDSCAPE / REFORESTATION	312
UTILITIES	319D & 319E

ROADWAY LEGEND

- FULL DEPTH PAVEMENT
- MILL AND RESURFACE
- CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
- PAVEMENT REMOVAL

SCALE: PLAN: 1" = 50'

DELETED CHECK DAM CHART

ADDED OVERLAY ON US 29 SBR

ROADWAY PLAN

PS 11 OF 16

HURST-ROSCHE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 2-08/25/00
ADDENDUM NO. 4-9/7/00
1 REDLINE NO. 1 DATE: 2/20/01
2 REDLINE NO. 2 DATE: 7/30/01
4 REDLINE NO. 4 DATE: 8/5/02

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 44 OF 320
PREL. TRAC. BY FINAL TRAC. BY

E 1345000
N 535000

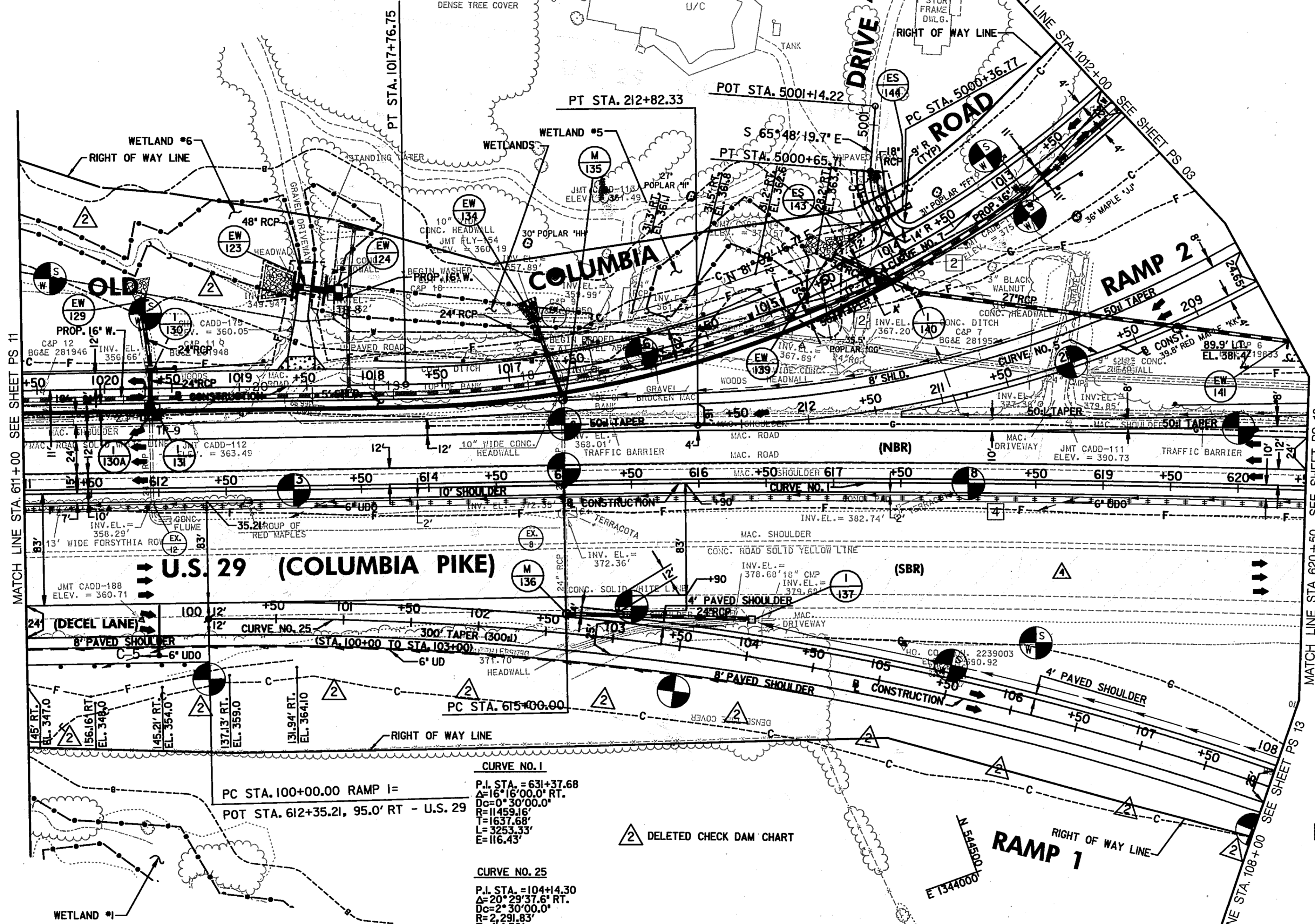
TO BALTIMORE

TO WASHINGTON

- 2 CONCRETE MEDIAN TRAFFIC BARRIER END TRANSITION
STA. 1014+12.67, LT. - OLD COLUMBIA RD. - 1 EA.
- 2 TRAFFIC BARRIER THRIE BEAM MEDIAN ANCHORAGE AT CONCRETE MEDIAN TRAFFIC BARRIER TERMINAL END - MD-661.42
STA. 1014+00, LT. - OLD COLUMBIA RD. - 1 EA.
- 2 TRAFFIC BARRIER THRIE BEAM
STA. 1013+75 TO STA. 1014+00, LT. - OLD COLUMBIA RD. - 25 L.F.

CURVE NO. 7
P.I. STA. = 1014+40.67
A=52.49/14.2° RT.
D=7°15'00.0"
R=790.29'
T=392.48'
L=728.56'
E=92.09'

CURVE NO. 5
P.I. STA. = 210+60.08
A=28°34.01° RT.
D=6°30'00.0"
R=881.47'
T=232.62'
L=454.88'
E=30.18'



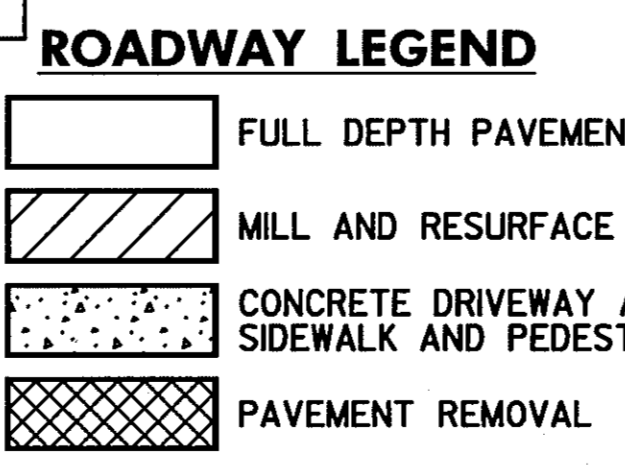
- TYPE "A" COMBINATION CURB AND GUTTER - MD-620.02
STA. 1014+25 TO STA. 1020+61.00, RT. - OLD COLUMBIA ROAD - 636 L.F.
CONCRETE MEDIAN TRAFFIC BARRIER TYPE "D" - MD-648.20
- 2 STA. 611+00 TO STA. 612+60.00, LT. - U.S. 29 - 160 L.F.
STA. 611+00 TO STA. 612+23, LT. - U.S. 29 - 123 L.F.
STA. 616+47.68 TO STA. 616+71.35, LT. - U.S. 29 - 25 L.F.
CONCRETE MEDIAN TRAFFIC BARRIER TYPE "E" - MD-648.24
- 2 STA. 612+60.00 TO STA. 616+04.00, LT. - U.S. 29 - 424 L.F.
STA. 612+23.00 TO STA. 616+47.68, LT. - U.S. 29 - 425 L.F.
6 INCH PORTLAND CEMENT PAVEMENT FOR DRIVEWAY RESIDENTIAL MD-630.01
STA. 1018+35.80 TO STA. 1018+71.80, RT. - OLD COLUMBIA ROAD - 31 S.Y.
- TYPE 'G' TRAFFIC BARRIER END TREATMENT - MD-605.08
STA. 1018+80.00, RT. - OLD COLUMBIA ROAD - 1 EA.
STA. 1018+00, RT. - OLD COLUMBIA ROAD - 1 EA.
- 2 STA. 1014+34.00, LT. - OLD COLUMBIA ROAD - 1 EA.
TYPE 'A' TRAFFIC BARRIER END TREATMENT - MD-605.01
- 2 STA. 1020+50, RT. - OLD COLUMBIA ROAD - 1 EA.
2 STA. 1012+62.5, LT. - OLD COLUMBIA ROAD - 1 EA.
- TRAFFIC BARRIER W BEAM - MD-605.22
STA. 1018+00 TO STA. 1020+60.95, RT. - OLD COLUMBIA ROAD - 185 L.F.
STA. 1015+00 TO STA. 1018+00, RT. - OLD COLUMBIA ROAD - 300 L.F.
STA. 611+00 TO STA. 612+30.77, RT. - US 29 SB DECEL LANE - 132 L.F.
STA. 1012+62.5 TO STA. 1013+75, LT. - OLD COLUMBIA ROAD - 113 L.F.
- 2 REMOVE AND DISPOSE OF EXISTING TRAFFIC BARRIER
STA. 614+51.40 TO STA. 618+57.14, LT. - U.S. 29 - 435 L.F.
STA. 618+71.76 TO STA. 620+50, LT. - U.S. 29 - 210 L.F.
- REMOVE AND DISPOSE OF EXISTING END TREATMENT
STA. 614+51.40, LT. - U.S. 29 - 1 EA.
STA. 618+57.14, LT. - U.S. 29 - 1 EA.
STA. 618+71.76, LT. - U.S. 29 - 1 EA.
- △ DELETED DIAMOND GRINDING PCC PAVEMENT CHART
- 6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN - FOR DETAIL SEE SPECIAL PROVISIONS
STA. 618+82.52 TO STA. 620+50, RT. - U.S. 29 - 167 L.F.
STA. 613+24.03 TO STA. 618+00.30, RT. - U.S. 29 - 476 L.F.
STA. 611+00 TO STA. 613+00.15, RT. - U.S. 29 - 200 L.F.
STA. 617+93.42 TO STA. 620+50, LT. - U.S. 29 - 257 L.F.
STA. 611+00 TO STA. 611+85.00, RT. - US 29 SB DECEL LANE - 85 L.F.
STA. 611+85.00 TO STA. 612+35.00, RT. - US 29 SB DECEL LANE - 50 L.F.
STA. 100+00 TO STA. 104+00, RT. - RAMP 1 - 400 L.F.
- △ 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD-387.01
STA. 618+52.90 TO STA. 618+82.52, RT. - U.S. 29 - 32 L.F.
STA. 612+97.21 TO STA. 613+24.03, RT. - U.S. 29 - 29 L.F.
STA. 617+73.42, LT. - U.S. 29 TO STA. 211+02.13, RT. - RAMP 2 - 95 L.F.
STA. 611+45.00 TO STA. 611+85.00, RT. - US 29 SB DECEL LANE - 40 L.F.
- TYPE 'A' SOIL STABILIZATION MATTING FLAT BOTTOM DITCH - SEE DETAIL ON SHEET NO. 4
STA. 1014+10 RT. TO STA. 1016+50 RT. - OLD COLUMBIA ROAD - 160 S.Y.
- TYPE 'A' SOIL STABILIZATION MATTING 'V' DITCH - SEE DETAIL ON SHEET NO. 4
STA. 1012+00 LT. TO STA. 1012+50 LT., D=1 FT. - OLD COLUMBIA ROAD - 45 S.Y.
STA. 1016+00 RT. TO STA. 1015+00 RT., D=1 FT. - US 29 SB DECEL LANE - 355 S.Y.
STA. 102+50 RT. TO STA. 108+00 RT., D=1 FT. - RAMP 1 - 611 S.Y.
STA. 103+50 LT. TO STA. 108+00 LT., D=1 FT. - RAMP 1 - 500 S.Y.
STA. 618+50 LT. TO STA. 620+50 LT., D=1 FT. - US 29 NB - 222 S.Y.
- △ TYPE 'B' SOIL STABILIZATION MATTING 'V' DITCH - SEE DETAIL ON SHEET NO. 4
STA. 1012+00 RT. TO STA. 1013+50 RT. - OLD COLUMBIA ROAD - 194 S.Y.
STA. 1012+50 LT. TO STA. 1014+00 LT. - OLD COLUMBIA ROAD - 160 S.Y.
- 2 CONCRETE TRAFFIC BARRIER SINGLE FACE TERMINAL END -
STA. 1014+75, LT. - OLD COLUMBIA ROAD - 1 EA.
- 2 TRAFFIC BARRIER THRIE BEAM ANCHORAGE AT CONCRETE TRAFFIC BARRIER SINGLE FACE TERMINAL END - MD-661.21
STA. 1014+62.33, LT. - OLD COLUMBIA ROAD - 1 EA.
- TYPE 'I' TRAFFIC BARRIER END TREATMENT OPTION I ANCHORAGE - MD-605.10
STA. 612+30.77, RT. - US 29 SB DECEL LANE - 1 EA.
- 2 CONCRETE MEDIAN TRAFFIC BARRIER TYPE "A" - MD-648.12
STA. 616+71.35 TO STA. 617+40.55, LT. - U.S. 29 - 76 L.F.
- 4 MODIFIED TRAFFIC BARRIER W-BEAM MEDIAN BARRIER - FOR DETAIL SEE SHEET 14
STA. 611+00 TO STA. 620+50, RT. - U.S. 29 N.B. MEDIAN - 950 L.F.

ENTRANCE TABLE

LOCATION	MSHA TYPE	EXISTING WIDTH	PROPOSED WIDTH	RADIUS	LENGTH	GRADE	REMARKS
1018+52.94, RT.	RESIDENTIAL	10'	10'		70'		PROPOSED GRADE EQUALS EXISTING GRADE

TEST PIT DATA

TEST PIT NUMBER	STATION	OFFSET	TYPE OF UTILITY	ELEVATION EX. GROUND	ELEVATION TOP OF UTILITY
TP-7	1014+18.5	6.2' LT.	16" WATER	370.89	366.67
TP-8	613+33.0	145.9' LT.	8" WATER	351.81	349.13
TP-9	611+96.3	59.9' LT.	8" GAS	361.57	356.11
TP-40	1016+68.1	31.5' RT.	16" WATER	361.94	356.10



NOTE:

- WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.
- RIPRAP APRONS AT CROSS CULVERTS WILL UTILIZE A 10 TO 1 "V" DITCH CROSS SECTION TO CREATE LOW FLOW FOR FISH PASSAGE.

SCALE: PLAN: 1" = 50'

CROSS REFERENCES THIS SHEET

ITEM	SHEET NO.
TYPICAL SECTIONS	7, 8, 11 & 14
GEOMETRIC LAYOUT	24
SUPERELEVATION CHART	32
ROADWAY PROFILES	53, 54, 58 & 59
TRAFFIC CONTROL	64, 76, 81, 93, 98, 110, 115 & 127
STORMWATER MANAGEMENT	132-136A
STORM DRAIN DETAILS	137-149
EROSION AND SEDIMENT CONTROL	166 & 182
SIGNING AND LIGHTING	289
PAVEMENT MARKING DETAILS	283 & 289
LANDSCAPE / REFORESTATION	313
UTILITIES	319C

REVISIONS

NO.	DATE	DESCRIPTION
1	08/25/00	ADDENDUM NO. 2-
2	09/07/00	ADDENDUM NO. 4-
3	09/07/00	REDLINE NO. 2
4	07/30/01	DATE: 7/30/01
5	08/05/02	DATE: 8/5/02

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

ROADWAY PLAN

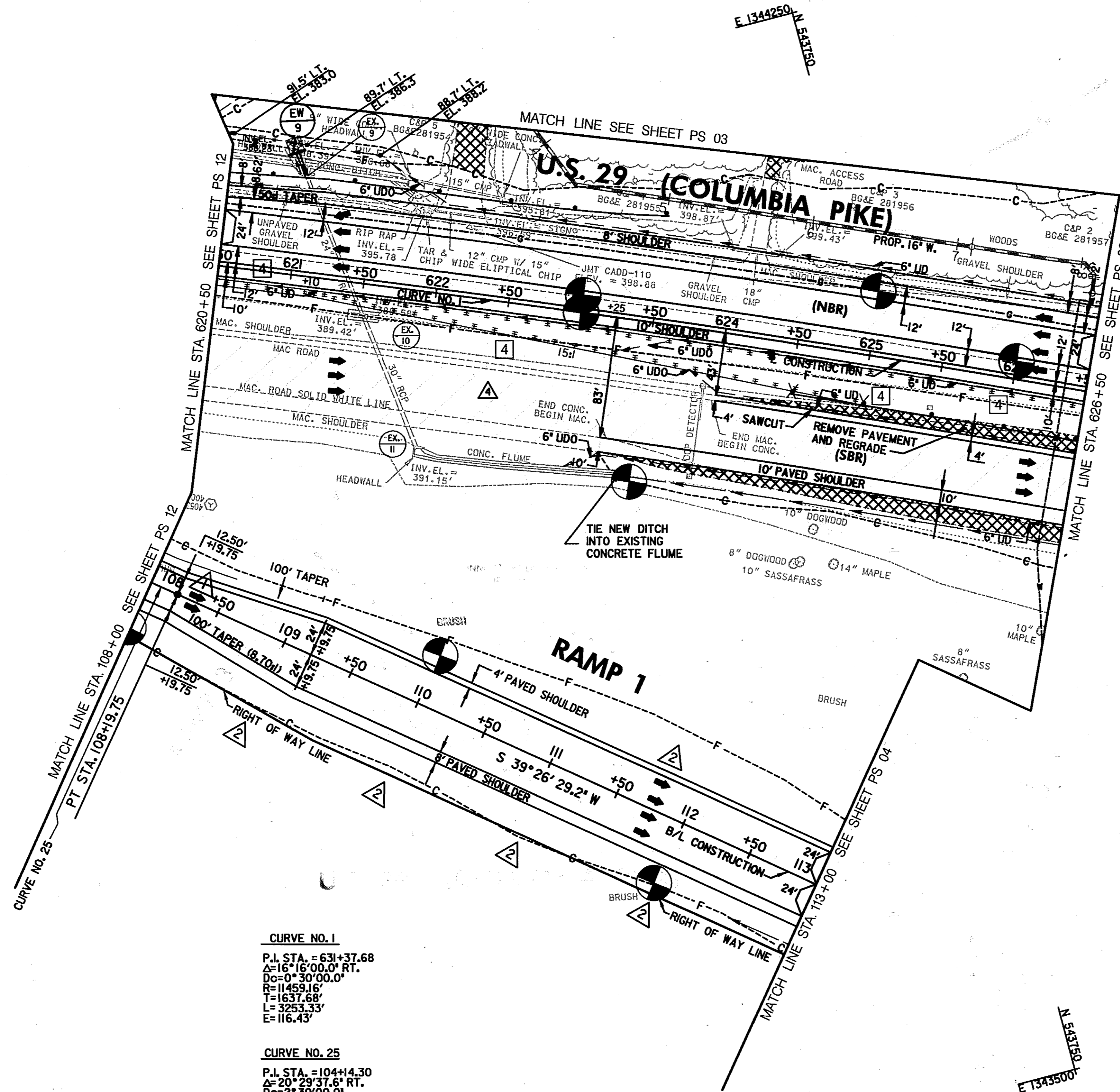
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 45 OF 320
PREL. TRAC. BY FINAL TRAC. BY

PS 12 OF 16

TO BALTIMORE

TO WASHINGTON



CURVE NO. 1
 P.I. STA. = 631+37.68
 $\Delta = 16^\circ 16' 00.0''$ RT.
 $D_c = 0^\circ 30' 00.0''$
 $R = 11459.16'$
 $T = 1637.68'$
 $L = 3253.33'$
 $E = 116.43'$

CURVE NO. 25
 P.I. STA. = 104+14.30
 $\Delta = 20^\circ 29' 37.6''$ RT.
 $D_c = 2^\circ 30' 00.0''$
 $R = 2291.83'$
 $T = 414.30'$
 $L = 819.75'$
 $E = 37.15'$

ROADWAY LEGEND

- FULL DEPTH PAVEMENT
- MILL AND RESURFACE
- CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
- PAVEMENT REMOVAL

NOTE:
 WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.

SCALE: PLAN: 1" = 50'

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

ADDED OVERLAY ON US 29 SBR

REVISIONS	
	ADDENDUM NO. 2-08/25/00
	ADDENDUM NO. 4 9/7/00
	REDLINE NO. 4 DATE: 8/5/02

ROADWAY PLAN

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO741517D F.A.P. NO. SEE TITLE SHEET SHEET NO. 46 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

- TYPE 'A' TRAFFIC BARRIER END TREATMENT - MD-605.01
 STA. 623+50, LT. - U.S. 29 - 1 EA.
- TYPE 'C' TRAFFIC BARRIER END TREATMENT - MD-605.03
 STA. 624+50 TO STA. 625+00, RT. - U.S. 29 SB MEDIAN - 1 EA
- TRAFFIC BARRIER W-BEAM - MD-605.22
 STA. 620+50 TO STA. 623+50, LT. - U.S. 29 - 300 L.F.
 STA. 625+00 TO STA. 626+50, RT. - U.S. 29 SB MEDIAN - 150 L.F.
- REMOVE AND DISPOSE OF EXISTING TRAFFIC BARRIER
 STA. 620+50 TO STA. 621+84.00, LT. - U.S. 29 - 134 L.F.
- REMOVE AND DISPOSE OF EXISTING END TREATMENT
 STA. 621+84.00, LT. - U.S. 29 - 1 EA.
- REMOVAL OF EXISTING PAVEMENT
 STA. 622+00 TO STA. 622+25, LT. - U.S. 29 - 26 C.Y.
 STA. 624+10.00 TO STA. 624+20.00, LT. - U.S. 29 - 6.3 C.Y.
 STA. 624+11.00 TO STA. 626+50, RT. - U.S. 29 SB MEDIAN - 61.6 C.Y.

DELETED DIAMOND GRINDING PCC PAVEMENT CHART

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN - FOR DETAIL SEE SPECIAL PROVISIONS

- STA. 623+69.10 TO STA. 626+50, RT. - U.S. 29 - 281 L.F.
- STA. 620+50 TO STA. 623+27.13, RT. - U.S. 29 - 276 L.F.
- STA. 622+01.13 TO STA. 626+41.37, LT. - U.S. 29 - 443 L.F.
- STA. 620+00 TO STA. 621+16.91, LT. - U.S. 29 - 67 L.F.
- STA. 623+25 TO STA. 626+50, RT. - U.S. 29 SB MEDIAN - 325 L.F.
- STA. 624+00 TO STA. 626+50, RT. - U.S. 29 SB SHOULDER - 250 L.F.

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD-387.01

- STA. 623+24.89 TO STA. 623+69.10, RT. - U.S. 29 - 47 L.F.
- STA. 621+49.87 TO STA. 622+01.13, LT. - U.S. 29 - 59 L.F.
- STA. 623+00 TO STA. 623+25, RT. - U.S. 29 SB SHOULDER - 25 L.F.
- STA. 623+75 TO STA. 624+00, RT. - U.S. 29 SB MEDIAN - 25 L.F.

TYPE "A" SOIL STABILIZATION MATTING 'V' DITCH
 SEE DETAIL ON SHEET NO. 4

- STA. 108+00 TO STA. 113+00, RT., D=1 FT. - RAMP 1 - 555 S.Y.
- STA. 620+50 TO STA. 626+50, LT., D=1 FT. - U.S. 29 NB - 667 S.Y.
- STA. 625+50 TO STA. 626+50, RT., D=1 FT. - U.S. 29 NB - 111 S.Y.
- STA. 623+50 TO STA. 626+50, RT., D=1 FT. - U.S. 29 SB - 333 S.Y.

DELETED CHECK DAM CHART

MODIFIED TRAFFIC BARRIER W-BEAM MEDIAN BARRIER - FOR DETAIL SEE SHEET 14

- STA. 620+50 TO STA. 621+10, RT. - U.S. 29 N.B. MEDIAN - 60 L.F.

TRAFFIC BARRIER W-BEAM - MD 605.21

- STA. 621+10 TO STA. 626+50, RT. - U.S. 29 N.B. MEDIAN - 540 L.F.
- STA. 621+10 TO STA. 625+00, RT. - U.S. 29 S.B. MEDIAN - 390 L.F.

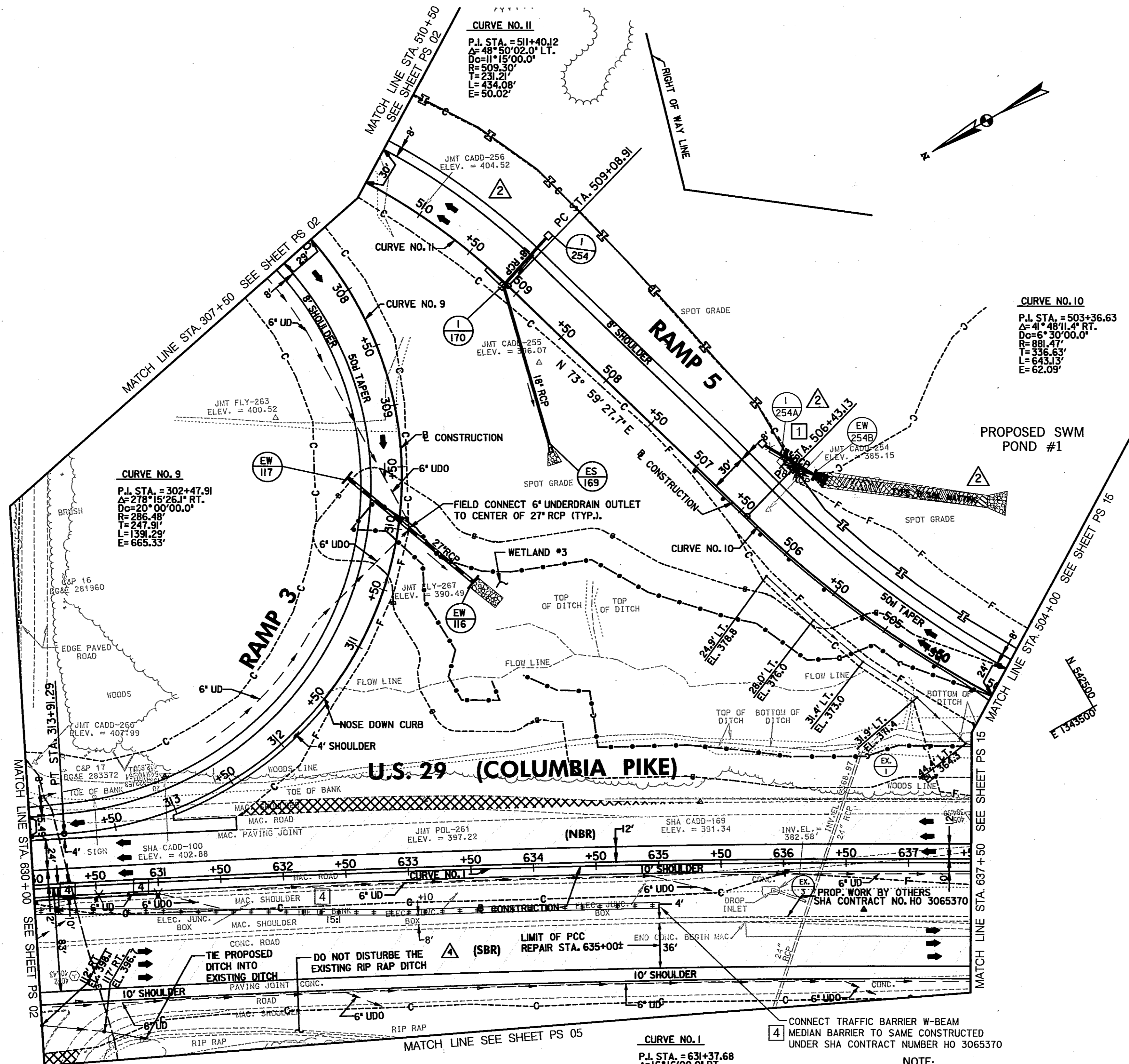
REMOVE AND DISPOSE OF EXISTING END TREATMENT

- STA. 624+50 TO STA. 625+00, RT. - U.S. 29 S.B. MEDIAN - 1 EA.

CROSS REFERENCES THIS SHEET	
ITEM	SHEET NO.
TYPICAL SECTIONS	7, 14 & 15
GEOMETRIC LAYOUT	20 & 24
SUPERELEVATION CHART	32
ROADWAY PROFILES	53, 54, 58 & 59
TRAFFIC CONTROL	64, 76, 81, 93, 98, 110, 115 & 127
STORMWATER MANAGEMENT	132-136A
STORM DRAIN DETAILS	137-149
EROSION AND SEDIMENT CONTROL	166 & 182
SIGNING AND LIGHTING	289
PAVEMENT MARKING DETAILS	283 & 289
LANDSCAPE / REFORESTATION	313
UTILITIES	319C

TO BALTIMORE

TO WASHINGTON



- TYPE "A" COMBINATION CURB AND GUTTER - MD-620.02
STA. 307+50 TO STA. 311+50, LT. - RAMP 3 - 400 L.F.
STA. 504+00 TO STA. 510+50, LT. - RAMP 5 - 650 L.F.
- TYPE "A" TRAFFIC BARRIER END TREATMENT - MD-605.01
STA. 509+00, LT. - RAMP 5 - 1 EA.
- TRAFFIC BARRIER W BEAM - MD-605.22
STA. 504+00 TO STA. 509+00, LT. - RAMP 5 - 500 L.F.
STA. 630+00 TO STA. 630+50, RT. - US 29 NB MEDIAN - 50 L.F.
- REMOVAL OF EXISTING PAVEMENT
STA. 631+65.00 TO STA. 635+35.50, LT. - U.S. 29 - 119 C.Y.
STA. 630+00 TO STA. 630+30.00, RT. - U.S. 29 - 10 C.Y.

- DELETED DIAMOND GRINDING PCC PAVEMENT CHART
- 6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN - FOR DETAIL SEE SPECIAL PROVISIONS
STA. 307+50 TO STA. 308+53.10, RT. - RAMP 3 - 85 L.F.
STA. 312+50 TO STA. 311+00, RT. - RAMP 3 - 132 L.F.
STA. 632+50 TO STA. 632+90.00, RT. - US 29 SB - 40 L.F.
STA. 636+50 TO STA. 636+90.00, RT. - US 29 SB - 40 L.F.

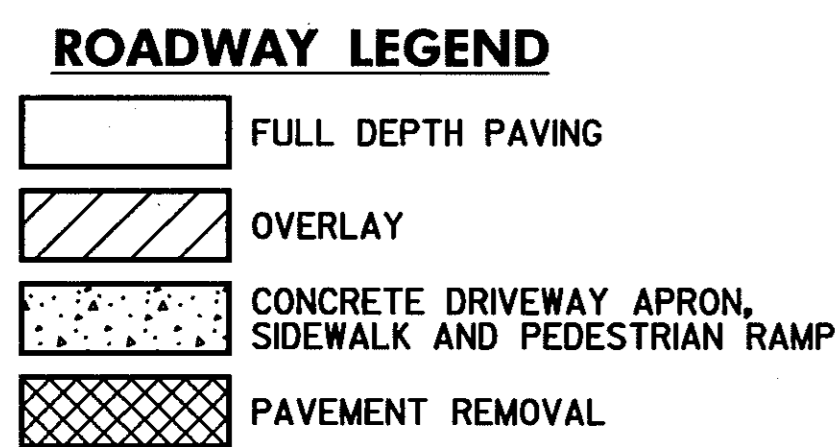
- 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD-387.01
STA. 308+53.10, RT. TO STA. 309+98.16, LT. - RAMP 3 - 148 L.F.
STA. 311+00, RT. TO STA. 309+99.52, LT. - RAMP 3 - 121 L.F.
STA. 630+00 TO STA. 632+50, RT. - US 29 SB - 250 L.F.
STA. 632+50 TO STA. 636+50, RT. - US 29 SB - 400 L.F.
STA. 636+50 TO STA. 637+50, RT. - US 29 SB - 100 L.F.

- TYPE "A" SOIL STABILIZATION MATTING 'V' DITCH
SEE DETAIL ON SHEET NO. 4
STA. 307+50 RT. TO STA. 310+00 RT., D=1 FT. - RAMP 3 - 222 S.Y.
STA. 311+50 RT. TO STA. 313+91.00 RT., D=1 FT. - RAMP 3 - 214 S.Y.
STA. 312+00 LT. TO STA. 312+50 LT., D=1 FT. - RAMP 3 - 50 S.Y.
STA. 506+50 RT. TO STA. 510+50 RT., D=1 FT. - RAMP 5 - 445 S.Y.
STA. 603+00 RT. TO STA. 630+75 RT., D=1 FT. - US 29 SB - 40 S.Y.
- TYPE "A" SOIL STABILIZATION MATTING FLAT BOTTOM DITCH
SEE DETAIL ON SHEET NO. 4
STA. 504+00 LT. TO STA. 506+00 LT. - RAMP #5 - 134 S.Y.
STA. 505+50 RT. TO STA. 506+50 RT. - RAMP #5 - 67 S.Y.

- TYPE "B" SOIL STABILIZATION MATTING FLAT BOTTOM DITCH
SEE DETAIL ON SHEET NO. 4
STA. 310+00 RT. TO STA. 311+50 RT. - RAMP 3 - 214 S.Y.
- TYPE "C" TRAFFIC BARRIER END TREATMENT - MD-605.03
STA. 630+50 TO STA. 631+00 RT. - US 29 NB MEDIAN - 1 EA

- TRAFFIC BARRIER W-BEAM MEDIAN BARRIER MD. 605.28
STA. 630+00 TO STA. 635+00, RT. - U.S. 29 MEDIAN - 500 L.F.
- REMOVE AND DISPOSE OF EXISTING TRAFFIC BARRIER W-BEAM
STA. 630+00 TO STA. 630+50, RT. - U.S. 29 N.B. MEDIAN - 50 L.F.
- REMOVE AND DISPOSE OF EXISTING END TREATMENT
STA. 630+50 TO STA. 631+00, RT. - U.S. 29 N.B. MEDIAN - 1 EA.

CROSS REFERENCES THIS SHEET	
ITEM	SHEET NO.
TYPICAL SECTIONS	8, 10, 14 & 15
GEOMETRIC LAYOUT	20 & 25
SUPERELEVATION CHART	32
ROADWAY PROFILES	54 & 57
TRAFFIC CONTROL	64, 78, 81, 95, 98, 112, 115 & 129
STORMWATER MANAGEMENT	132-136A
STORM DRAIN DETAILS	137-149
EROSION AND SEDIMENT CONTROL	168 & 184
PAVEMENT MARKING DETAILS	283, 284 & 290
LANDSCAPE / REFORESTATION	315



SCALE: PLAN: 1" = 50'

NOTE:
WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.

4 ADDED OVERLAY ON US 29 SBR

ROADWAY PLAN

PS 14 OF 16

REVISIONS	
ADDENDUM NO. 2-08/25/00	ADDENDUM NO. 4-9/7/00
REDLINE NO. 1 DATE: 2/20/01	REDLINE NO. 4 DATE: 8/5/02

HURST-ROSCH ENGINEERS, INC./
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

TO BALTIMORE

TO WASHINGTON

CURVE NO. 10

P.I. STA. = 503+36.63
A=41°48'11.4" RT.
D=6°30'00.0"
R=881.47'
T=336.63'
L=643.13'
E=62.09'

PROPOSED SWM POND NO. 1

PC STA. 500+00.00

U.S. 29 (COLUMBIA PIKE)

LIMIT OF WORK
STA. 648+98
NORTHBOUND U.S. 29
MEET EX. CONDITIONS

DELETED CHECK DAM CHART

TYPE 'I' TRAFFIC BARRIER END TREATMENT
OPTION 1 ANCHORAGE - MD-602.10
STA. 641+23, LT. - U.S. 29 - 1 EA.

TYPE 'B' TRAFFIC BARRIER END TREATMENT - MD-605.02
STA. 641+82.00, LT. - U.S. 29 - 1 EA.

TRAFFIC BARRIER W BEAM (6'-3" POST SPACING, EXTRA POST
ARE INCIDENTAL TO THE COST OF TRAFFIC BARRIER W BEAM)
STA. 641+23 TO STA. 641+98, LT. - U.S. 29 - 75 L.F.

TYPE "A" COMBINATION CURB AND GUTTER - MD-620.02
STA. 502+48.25 TO STA. 504+00, LT. - RAMP 5 - 152 L.F.

TYPE 'C' TRAFFIC BARRIER END TREATMENT - MD-605.03
STA. 641+98 TO STA. 642+48, LT. - U.S. 29 - 1 EA.

TYPE 'G' TRAFFIC BARRIER END TREATMENT - MD-605.08
STA. 503+81.5, LT. - RAMP 5 - 1 EA.

TRAFFIC BARRIER W BEAM - MD-605.22
STA. 648+00 TO STA. 649+00, RT. - U.S. 29 - 100 L.F.
STA. 641+7.00 TO STA. 641+82.00, LT. - U.S. 29 - 63 L.F.

REMOVE AND DISPOSE OF EXISTING TRAFFIC BARRIER
STA. 639+0.00 TO STA. 648+06.00, LT. - U.S. 29 - 896 L.F.
STA. 637+98.00 TO STA. 640+40.00 RT. - U.S. 29 - 242 L.F.
STA. 648+50 TO STA. 649+00, RT. - U.S. 29 - 50 L.F.

REMOVE AND DISPOSE OF EXISTING END TREATMENT
STA. 647+75 TO STA. 648+50 RT. - U.S. 29 - 1 EA.
STA. 637+60 TO STA. 637+98 RT. - U.S. 29 - 1 EA.

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN -
FOR DETAIL SEE SPECIAL PROVISIONS

STA. 641+48.68 TO STA. 646+04.58, LT. - U.S. 29 - 456 L.F.
STA. 637+50 TO STA. 640+03.32, RT. - U.S. 29 - 260 L.F.
STA. 639+97.44 TO STA. 640+82.67, RT. - U.S. 29 - 87 L.F.
STA. 503+38.02 TO STA. 504+00, RT. - U.S. 29 - 60 L.F.
STA. 1411+00 TO STA. 1415+07.56, RT. - RAMP 4 - 408 L.F.
STA. 643+57.23 TO STA. 644+25, RT. - U.S. 29 ACCEL LANE - 68 L.F.
STA. 644+25 TO STA. 648+75, RT. - U.S. 29 SB ACCEL LANE - 450 L.F.
STA. 637+50 TO STA. 639+85.00, RT. - U.S. 29 SB - 235 L.F.

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD-387.01

STA. 500+00.13 TO STA. 500+67.90, RT. - RAMP 5 - 70 L.F.
STA. 640+0.32 TO STA. 640+52.41, RT. - U.S. 29 - 41 L.F.
STA. 646+04.58 TO STA. 646+41.64, RT. - U.S. 29 - 39 L.F.
STA. 639+85 TO STA. 640+00, RT. - U.S. 29 SB - 20 L.F.
STA. 644+25 TO STA. 644+65.00, RT. - U.S. 29 SB ACCEL LANE - 40 L.F.
STA. 648+75 TO STA. 649+00, RT. - U.S. 29 SB ACCEL LANE - 25 L.F.

TYPE "A" SOIL STABILIZATION MATTING 'V' DITCH -
SEE DETAIL ON SHEET NO. 4

STA. 502+00 TO STA. 504+00, LT. - D=1 FT. - RAMP 5 - 178 S.Y.
STA. 1409+00 TO STA. 1415+50 RT. - D=1 FT. - SPUR 4 - 667 S.Y.
STA. 643+50 TO STA. 648+00 RT. - D=1 FT. - U.S. 29 SB ACCEL LANE - 500 S.Y.

TYPE "A" SOIL STABILIZATION MATTING FLAT BOTTOM DITCH -
SEE DETAIL ON SHEET NO. 4

STA. 645+50 LT. TO STA. 646+00 LT. - U.S. 29 NB - 100 S.Y.
STA. 648+00 LT. TO STA. 648+50 LT. - U.S. 29 NB - 34 S.Y.

CROSS REFERENCES THIS SHEET	
ITEM	SHEET NO.
TYPICAL SECTIONS	9, 10, 13, 14 & 15
GEOMETRIC LAYOUT	25
SUPERELEVATION CHART	32 & 33
ROADWAY PROFILES	56 & 57
TRAFFIC CONTROL	64, 79, 81, 96, 98, 113, 115 & 130
STORMWATER MANAGEMENT	132-136A
STORM DRAIN DETAILS	137-149
EROSION AND SEDIMENT CONTROL	169 & 185
PAVEMENT MARKING DETAILS	290
LANDSCAPE / REFORESTATION	316

ROADWAY LEGEND

- FULL DEPTH PAVEMENT
- MILL AND RESURFACE
- CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
- PAVEMENT REMOVAL

CURVE NO. 1

P.I. STA. = 631+37.68
A=16°16'00.0" RT.
D=0°30'00.0"
R=11459.16'
T=1637.68'
L=3253.33'
E=116.43'

CURVE NO. 30

P.I. STA. = 1412+98.13
A=124°37'01.1" RT.
D=3°00'00.0"
R=1,909.86'
T=211.14'
L=420.57'
E=11.64'

NOTE:
WHERE DITCH ELEVATIONS ARE NOT
SHOWN, CONSTRUCT DITCH AS PER TYPICAL
SECTION.

SCALE: PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2- 08/25/00
4	ADDENDUM NO. 4- 9/7/00

ROADWAY PLAN

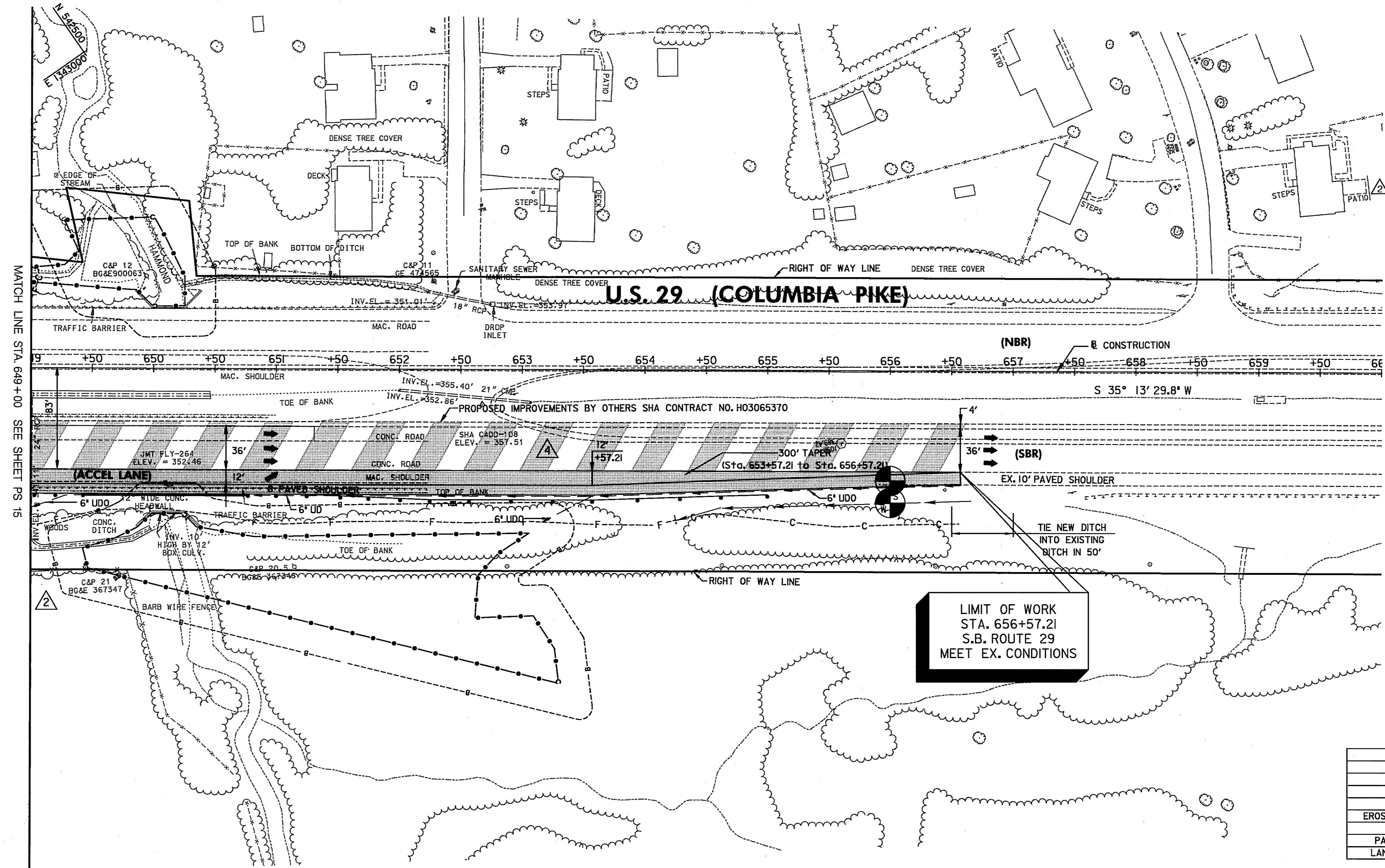
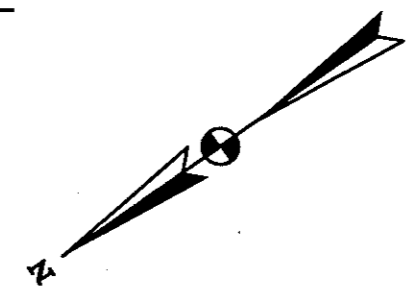
PS 15 OF 16

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 48 OF 320
PREL. TRAC. BY FINAL TRAC. BY

TO BALTIMORE

TO WASHINGTON



MATCH LINE STA. 649+00 SEE SHEET PS. 15

- TYPE "I" TRAFFIC BARRIER END TREATMENT**
OPTION 1 ANCHORAGE - MD-605.10
STA. 655+00, RT. - U.S. 29 ACCEL LANE - 1 EA.
- TRAFFIC BARRIER W BEAM - MD-605.22**
STA. 649+00 TO STA. 649+16.00, RT. - U.S. 29 ACCEL LANE - 16 L.F.
STA. 650+75 TO STA. 655+00, RT. - U.S. 29 ACCEL LANE - 425 L.F.
- REMOVE AND DISPOSE OF EXISTING TRAFFIC BARRIER**
STA. 649+00 TO STA. 652+25, RT. - U.S. 29 ACCEL LANE - 325 L.F.
- CONCRETE TRAFFIC BARRIER SINGLE FACE TYPE II - MD648.02**
STA. 649+45.00 TO STA. 650+75, RT. - U.S. 29 ACCEL LANE - 130 L.F.
- 6 INCH CIRCULAR PIPE LONGITUDINAL UNDERDRAIN**
FOR DETAIL SEE SPECIAL PROVISIONS
STA. 649+25 TO STA. 653+57.00, LT. - U.S. 29 ACCEL LANE - 432 L.F.
STA. 653+57.00 TO STA. 656+57.00, RT. - U.S. 29 ACCEL LANE - 300 L.F.
- 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLET - MD-387.01**
STA. 649+00 TO STA. 649+25, RT. - U.S. 29 ACCEL LANE - 25 L.F.
STA. 653+17.00 TO STA. 653+57.00, RT. - U.S. 29 ACCEL LANE - 40 L.F.

- TYPE "A" SOIL STABILIZATION MATTING 'V' DITCH -**
SEE DETAIL ON SHEET NO. 4
STA. 655+00 TO STA. 656+00 RT., D=1 FT. - U.S. 29 SB ACCEL LANE - 112 S.Y.

- TRAFFIC BARRIER W BEAM ANCHORAGE**
TO TRAIL END OF SAFETY SHAPE - MD 605.40
STA. 650+75, RT. - U.S. 29 ACCEL LANE - 1 EA.

- TRAFFIC BARRIER THRIE BEAM ANCHORAGE AT CONCRETE**
TRAFFIC BARRIER SINGLE FACE TERMINAL END - MD 661.21
STA. 649+16 TO STA. 649+45, RT. - U.S. 29 ACCEL LANE - 1 EA.

CROSS REFERENCES THIS SHEET	
ITEM	SHEET NO.
TYPICAL SECTIONS	13
GEOMETRIC LAYOUT	25
TRAFFIC CONTROL	64,80,81,97,98,114,115&131
EROSION AND SEDIMENT CONTROL	170 & 186
SIGNING AND LIGHTING	280
PAVEMENT MARKING DETAILS	283, 290 & 291
LANDSCAPE / REFORESTATION	317

NOTE:
WHERE DITCH ELEVATIONS ARE NOT SHOWN, CONSTRUCT DITCH AS PER TYPICAL SECTION.

ROADWAY LEGEND

	FULL DEPTH PAVEMENT
	MILL AND RESURFACE
	CONCRETE DRIVEWAY APRON, SIDEWALK AND PEDESTRIAN RAMP
	PAVEMENT REMOVAL

SCALE: PLAN: 1"=50'

4 ADDED OVERLAY ON US 29 SBR

ROADWAY PLAN

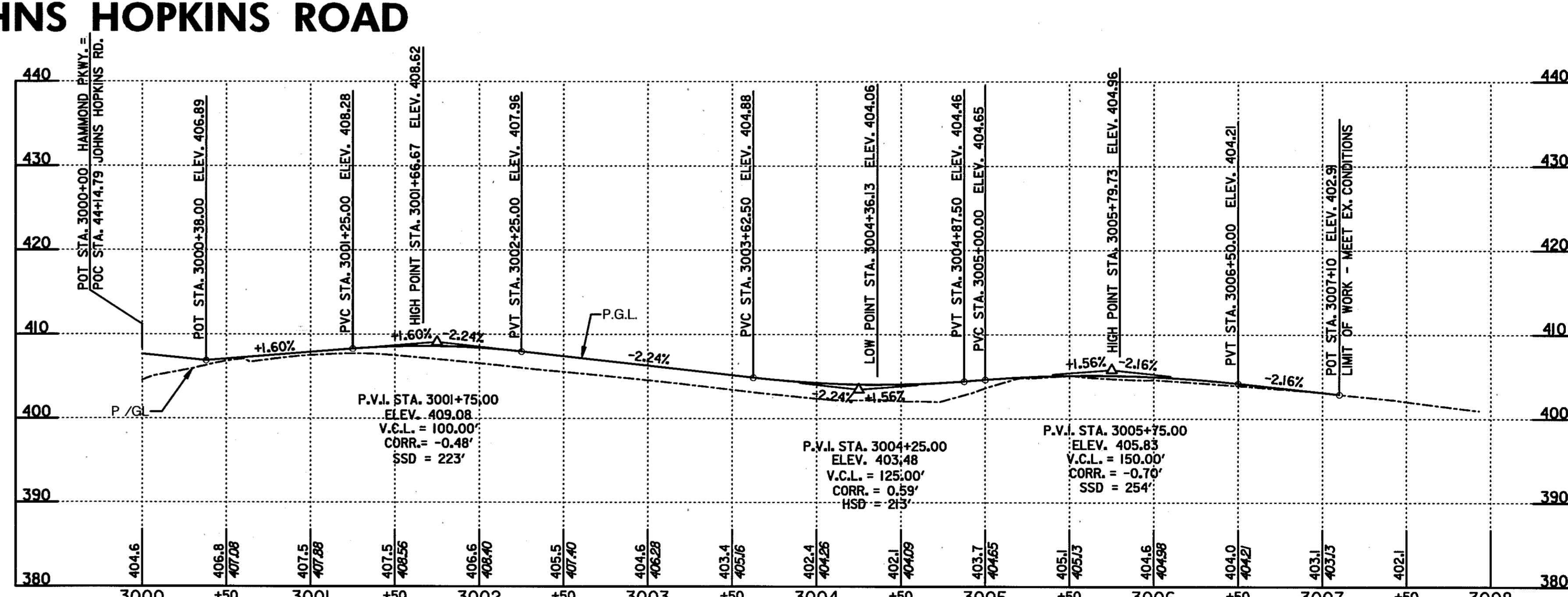
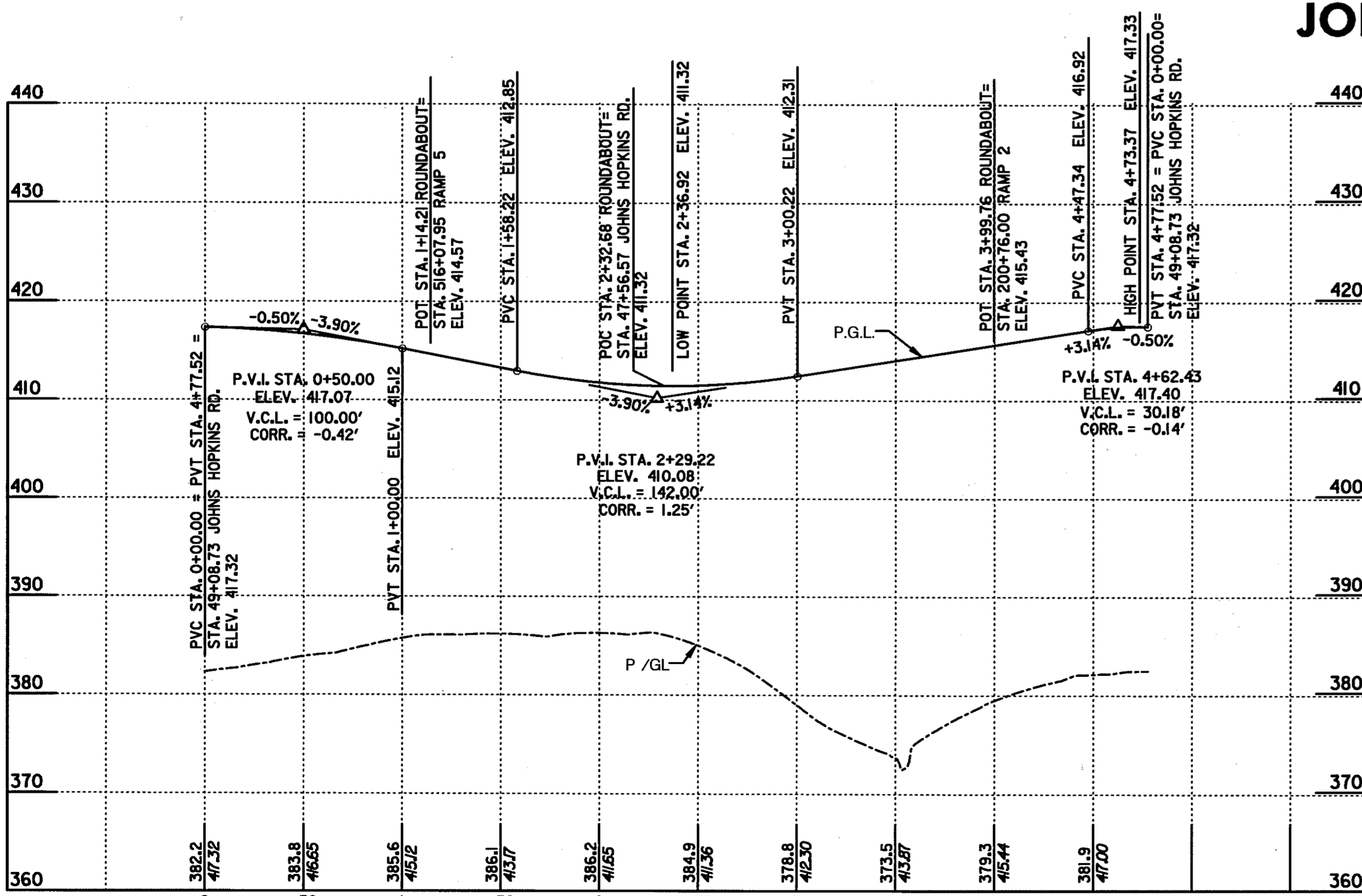
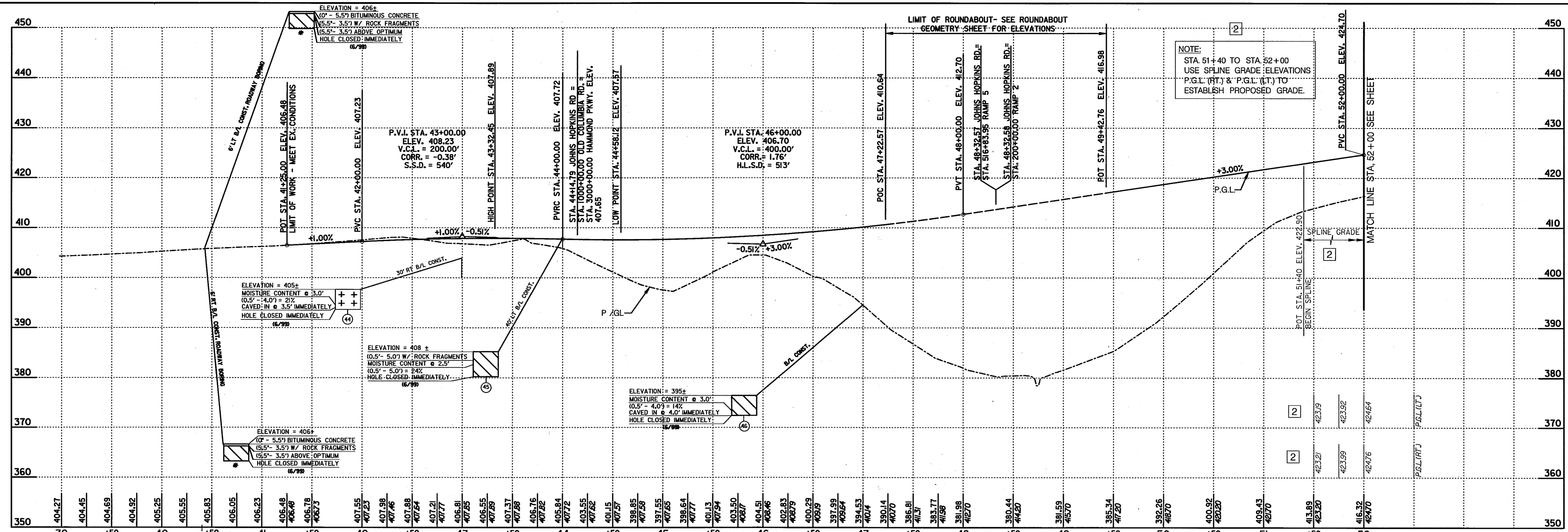
PS 16 OF 16

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
	ADDENDUM NO. 2-08/25/00
	ADDENDUM NO. 4-9/7/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 49 OF 320
PREL. TRAC. BY FINAL TRAC. BY



SOILS TEST DATA

NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
47	17				
50	18				
NP	NP				

HAMMOND PARKWAY ROADWAY PROFILE

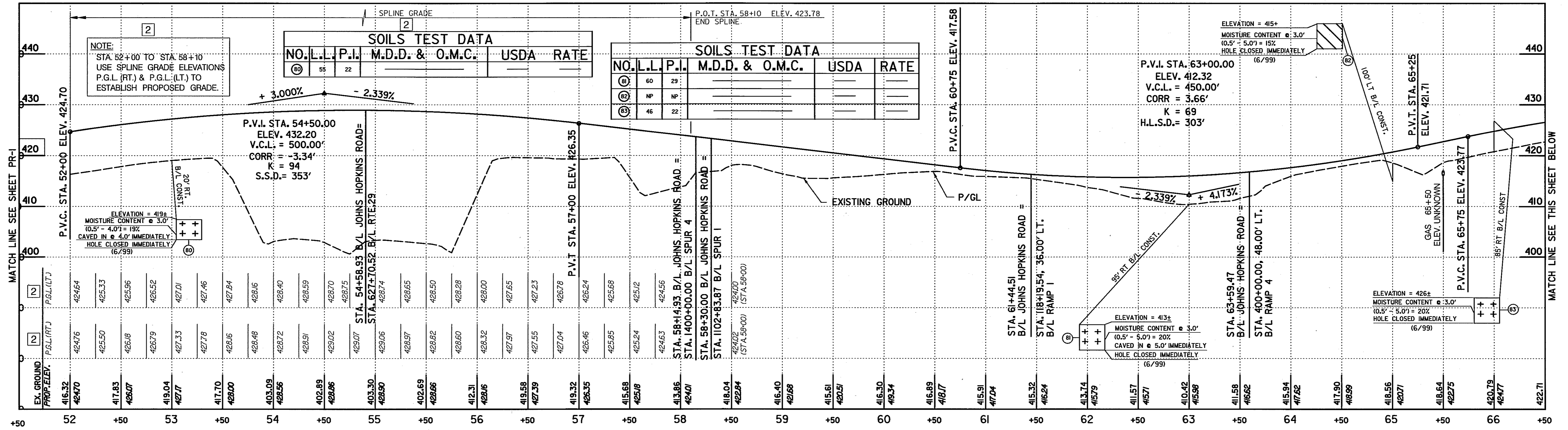
HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

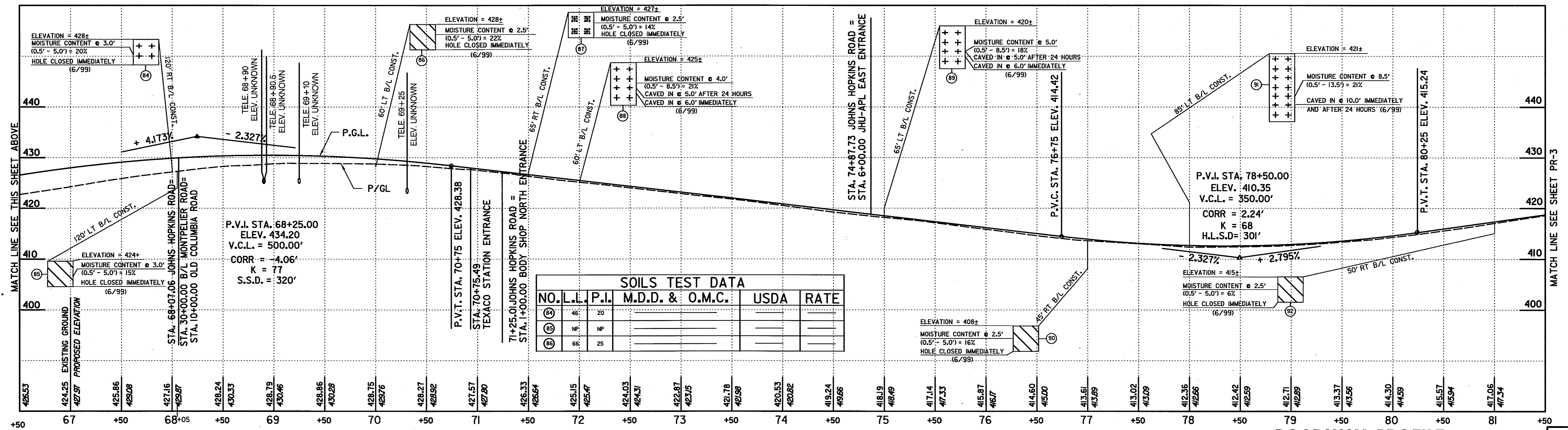
2	REDLINE NO. 2 DATE: 7/30/01
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

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



JOHNS HOPKINS ROAD



JOHNS HOPKINS ROAD

ROADWAY PROFILE

SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
57	51	24			
58	59	30			
59	56	28			

SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
60	49	NP			
61	57	24			
62	NP	NP			

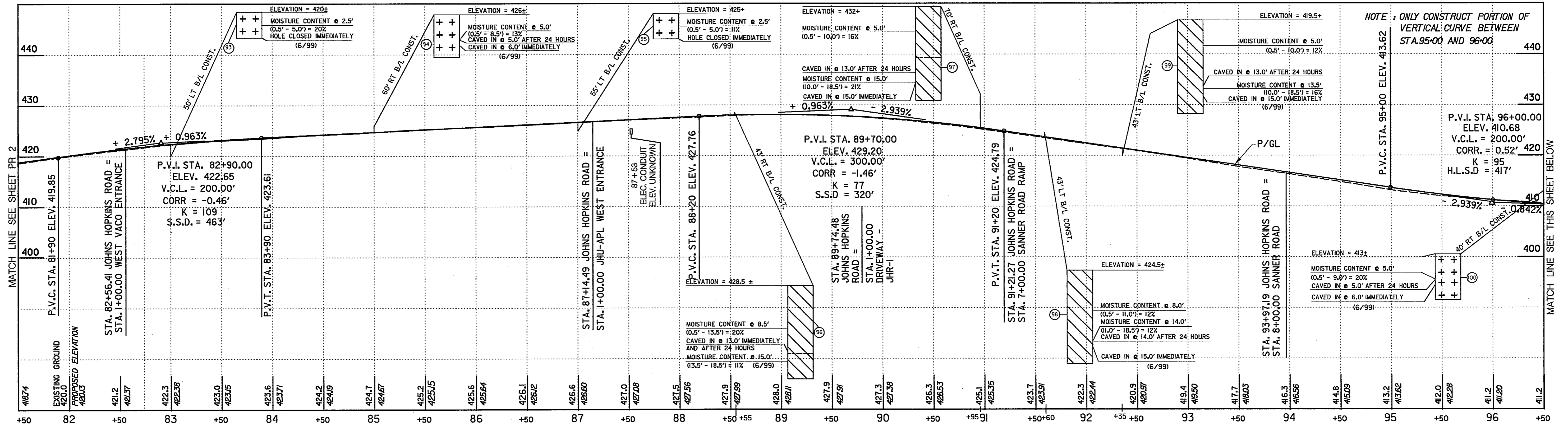
REVISIONS	
2	REDLINE NO. 2 DATE: 7/30/01

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
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COCKEYSVILLE, MARYLAND 21030
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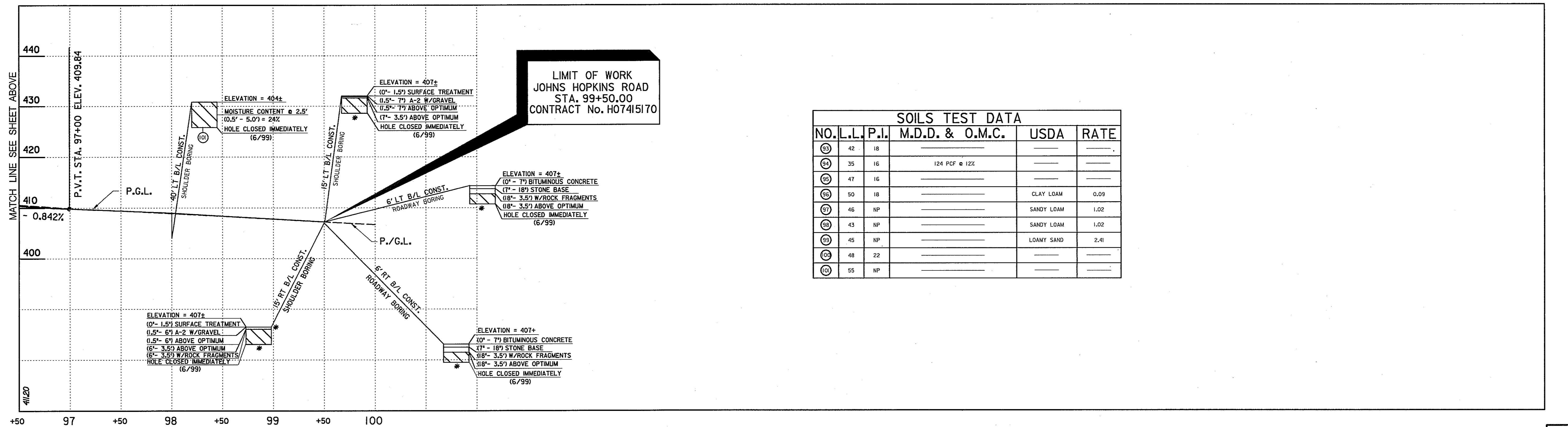
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 51 OF 320
PREL. TRAC. BY FINAL TRAC. BY

SCALE: HOR.: 1" = 50'
VERT.: 1" = 10'



JOHNS HOPKINS ROAD



JOHNS HOPKINS ROAD

ROADWAY PROFILE

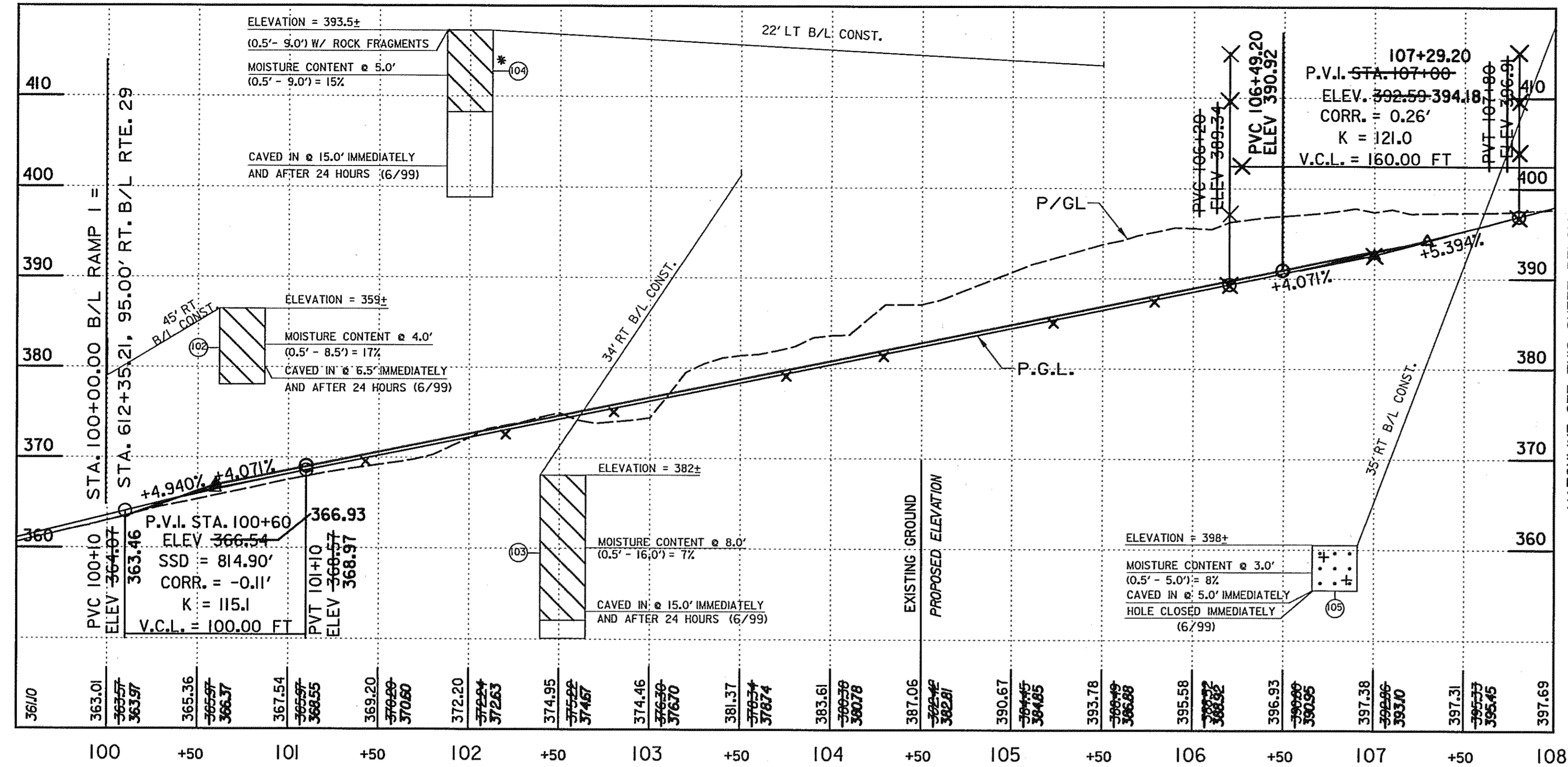
SCALE: HOR.: 1" = 50'
 VERT.: 1" = 10'

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
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 (410) 683-1683

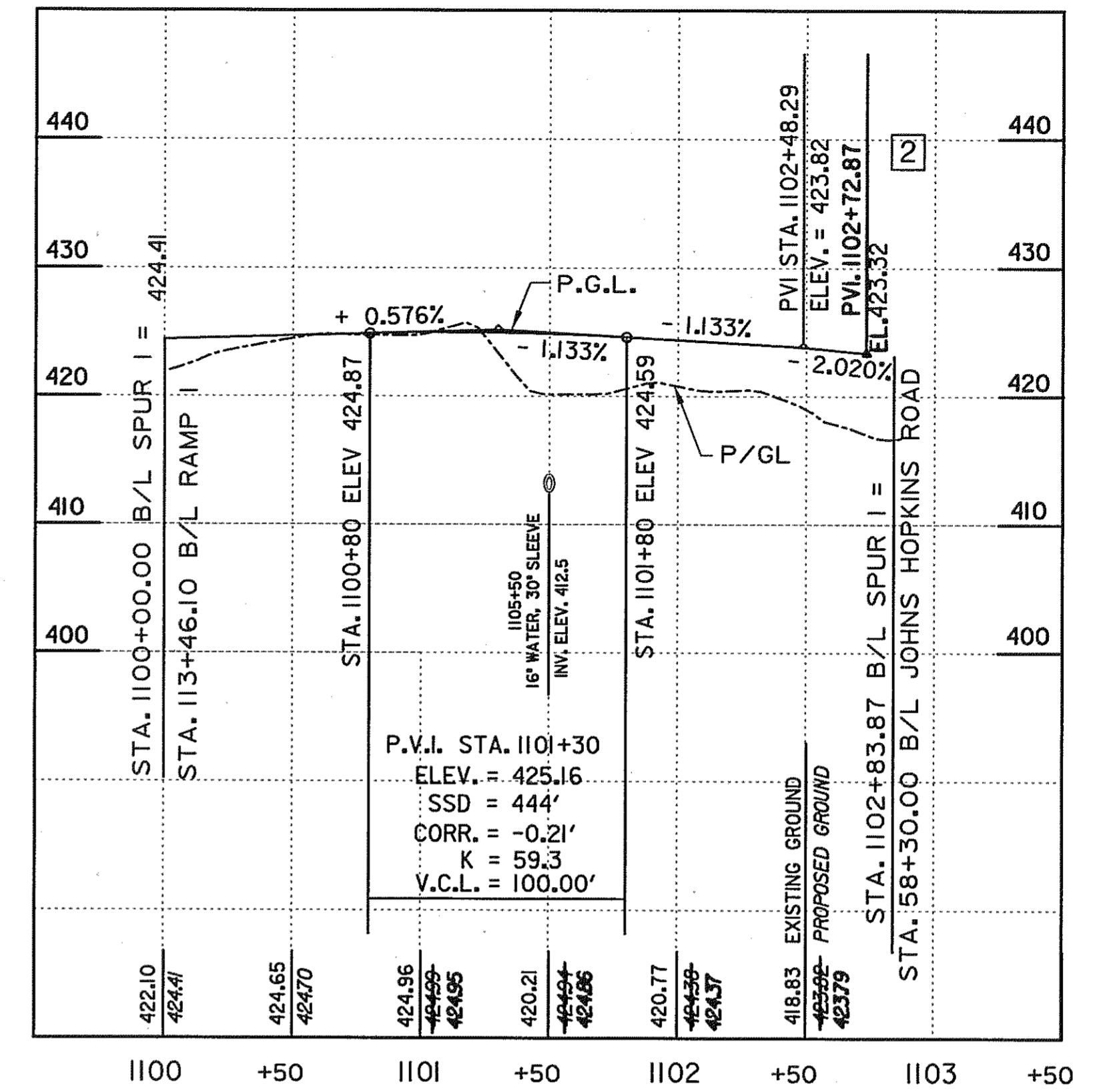
REVISIONS

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

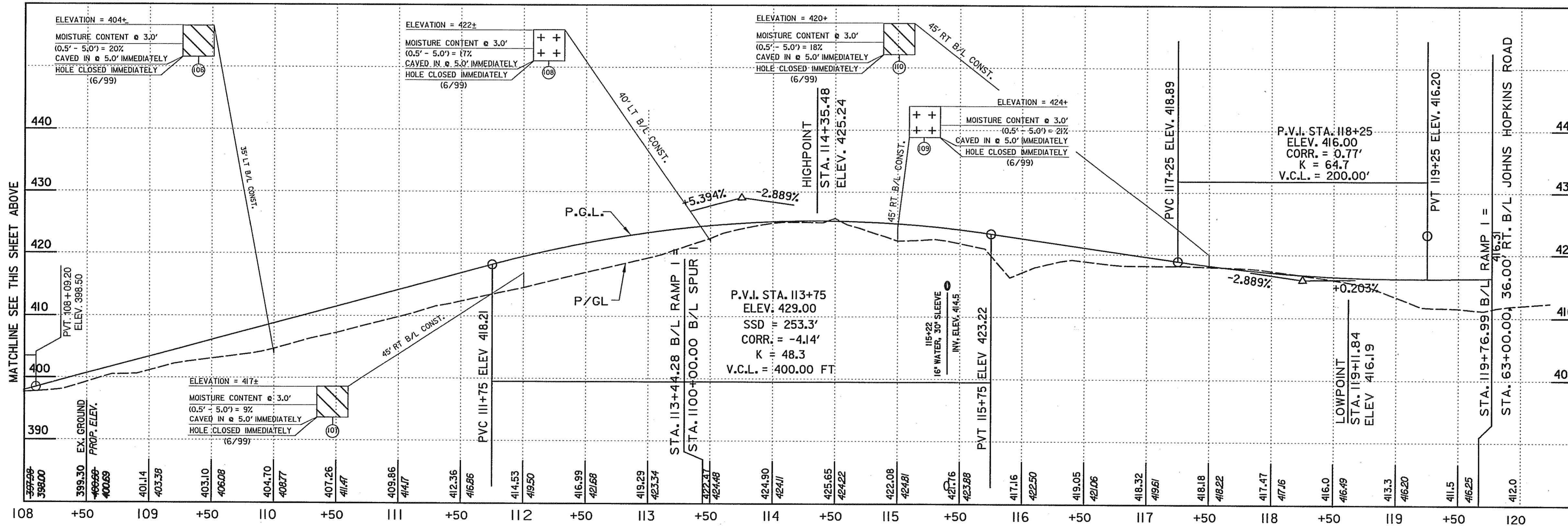
CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 52 OF 320
 PREL. TRAC. BY FINAL TRAC. BY



RAMP 1 [2]



SPUR 1 [2]



RAMP 1 [2]

SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
104	NP	NP	115 PCF @ 14%		
105	NP	NP	119 PCF @ 12%	LOAMY SAND	2.41
106	30	NP	124 PCF @ 12%	LOAMY SAND	2.41
107	39	10			
108	47	14			
109	46	NP			
110	44	14			
111	48	19			
112	57	22			

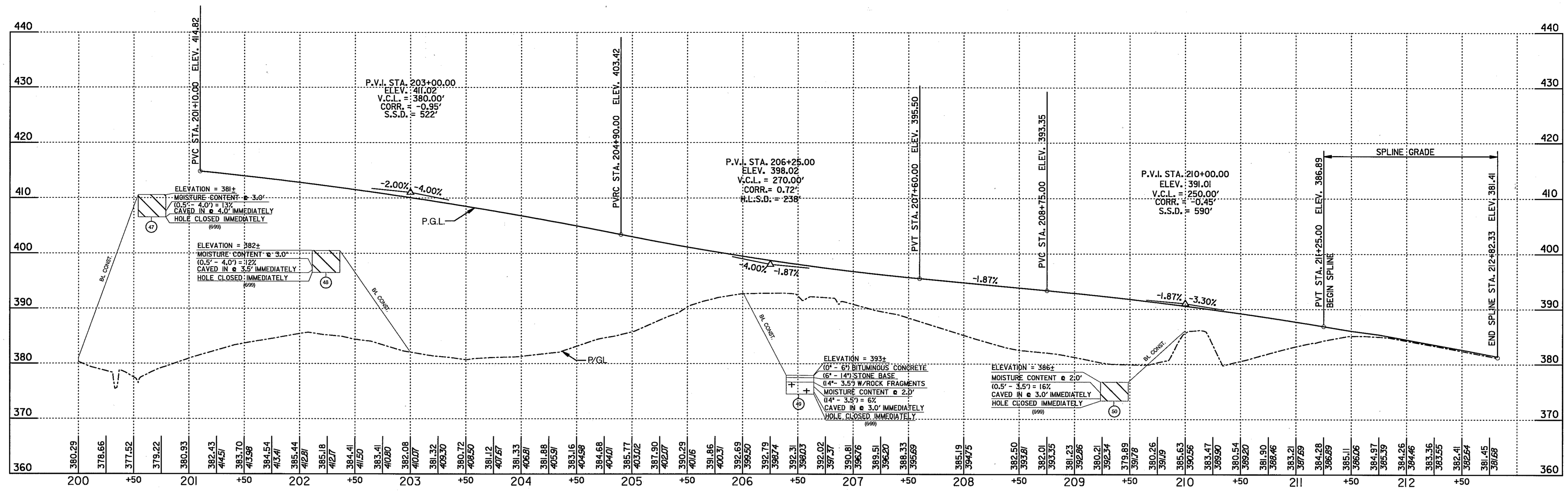
ROADWAY PROFILE

SCALE: HOR.: 1" = 50'
VERT.: 1" = 10'

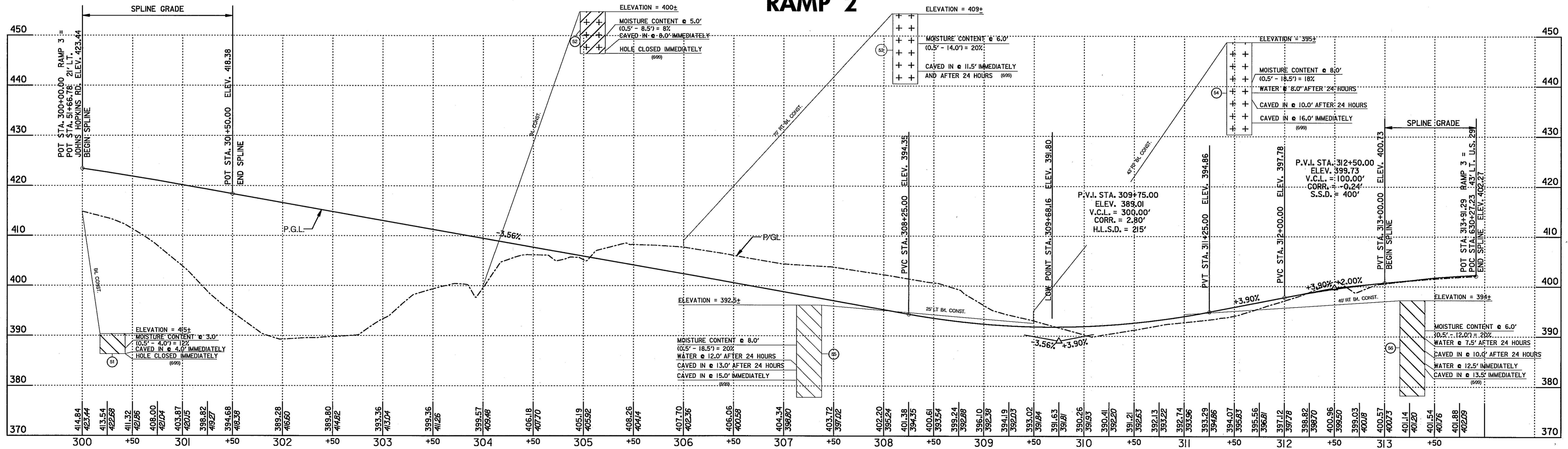
HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
2	REDLINE NO. 2 DATE: 07/30/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD					
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO.	53 OF 320
PREL. TRAC. BY		FINAL TRAC. BY			



RAMP 2



RAMP 3

ROADWAY PROFILE

SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
41	NP	NP			
42	NP	NP			
43	NP	NP			
44	NP	NP			
45	NP	NP			
46	NP	NP			

SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
42	42	13			
43	56	31	115 PCF @ 15%		
44	53	23		CLAY LOAM	0.09
45	61	25		CLAY LOAM	0.09
46	51	13		LOAM	0.52

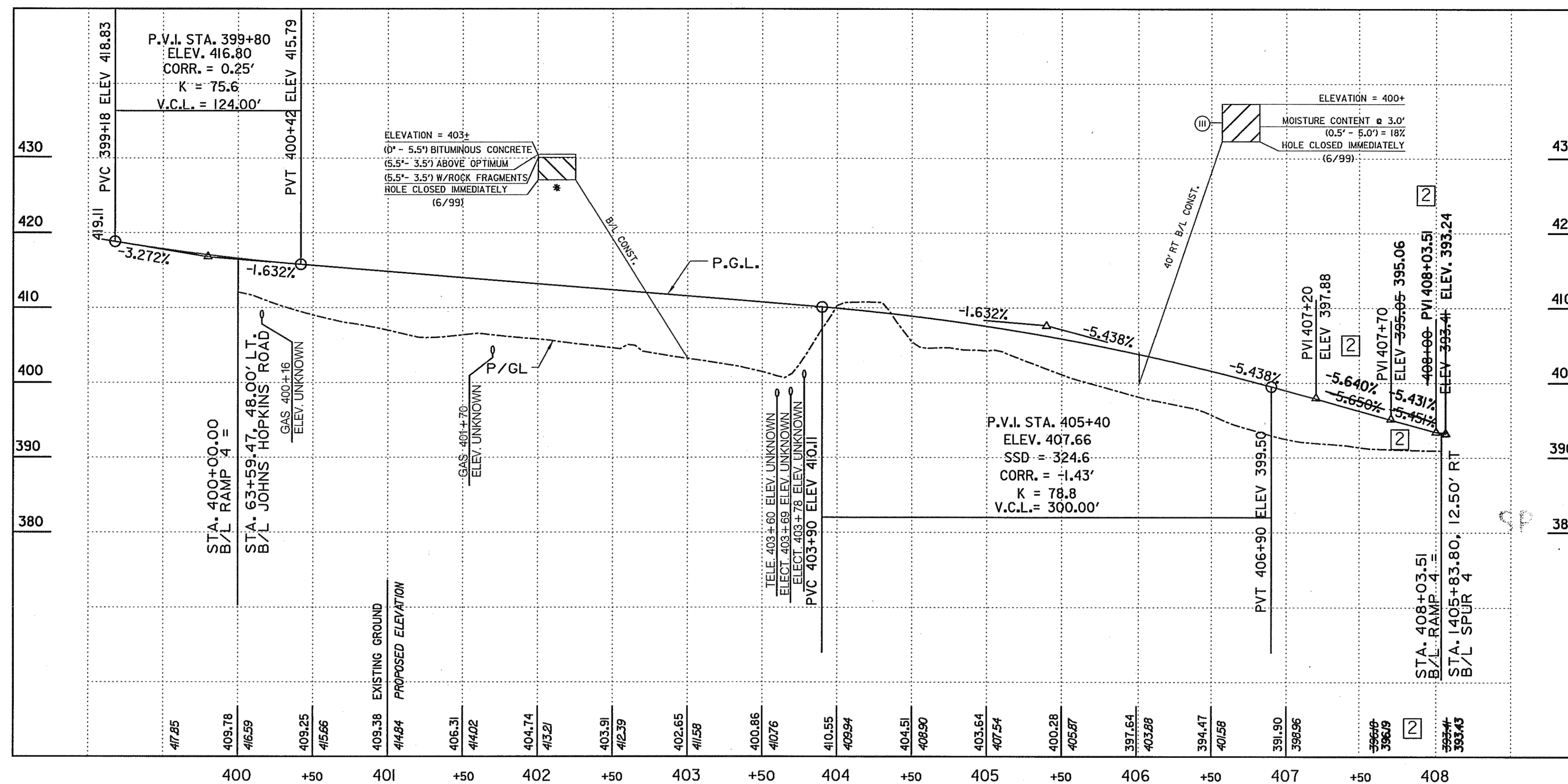
REVISIONS	

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 54 OF 320
PREL. TRAC. BY FINAL TRAC. BY

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



RAMP 4

SOILS TEST DATA				
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA RATE
③	NP	NP		

SCALE: HOR.: 1" = 50'
VERT.: 1" = 10'

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

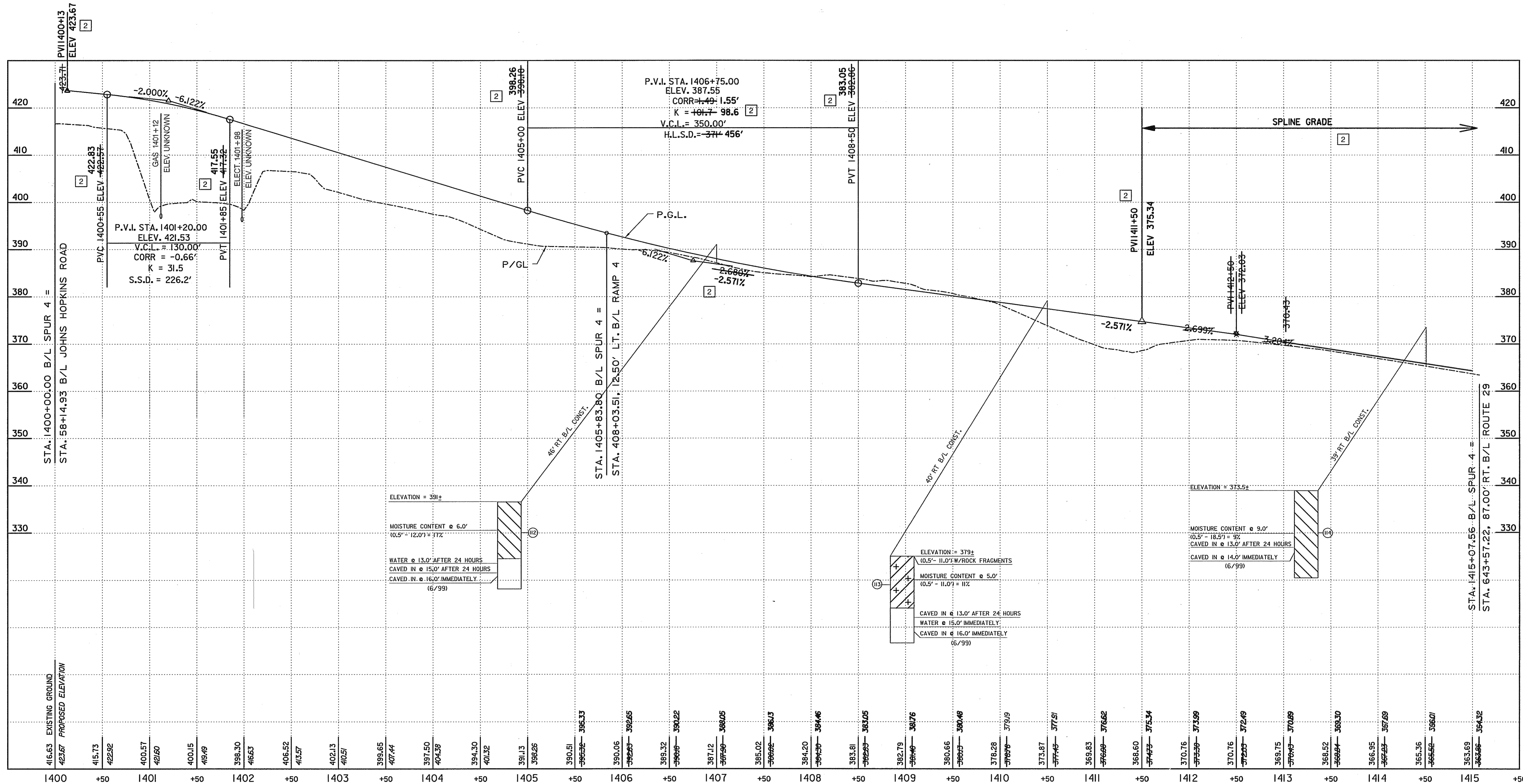
REVISIONS	
2	REDLINE NO. 2 DATE: 07/30/01

ROADWAY PROFILE

PR 06 OF 13

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 55 OF 320
PREL. TRAC. BY FINAL TRAC. BY



STA. 1400+00.00 B/L SPUR 4 =
 STA. 58+14.93 B/L JOHNS HOPKINS ROAD

416.63 EXISTING GROUND
 423.67 PROPOSED ELEVATION

SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
12	45	NP		SANDY CLAY LOAM	0.17
13	40	II		SANDY CLAY LOAM	0.17
14	38	NP		LOAMY SAND	2.41

SPUR 4

SCALE: HOR.: 1" = 50'
 VERT.: 1" = 10'

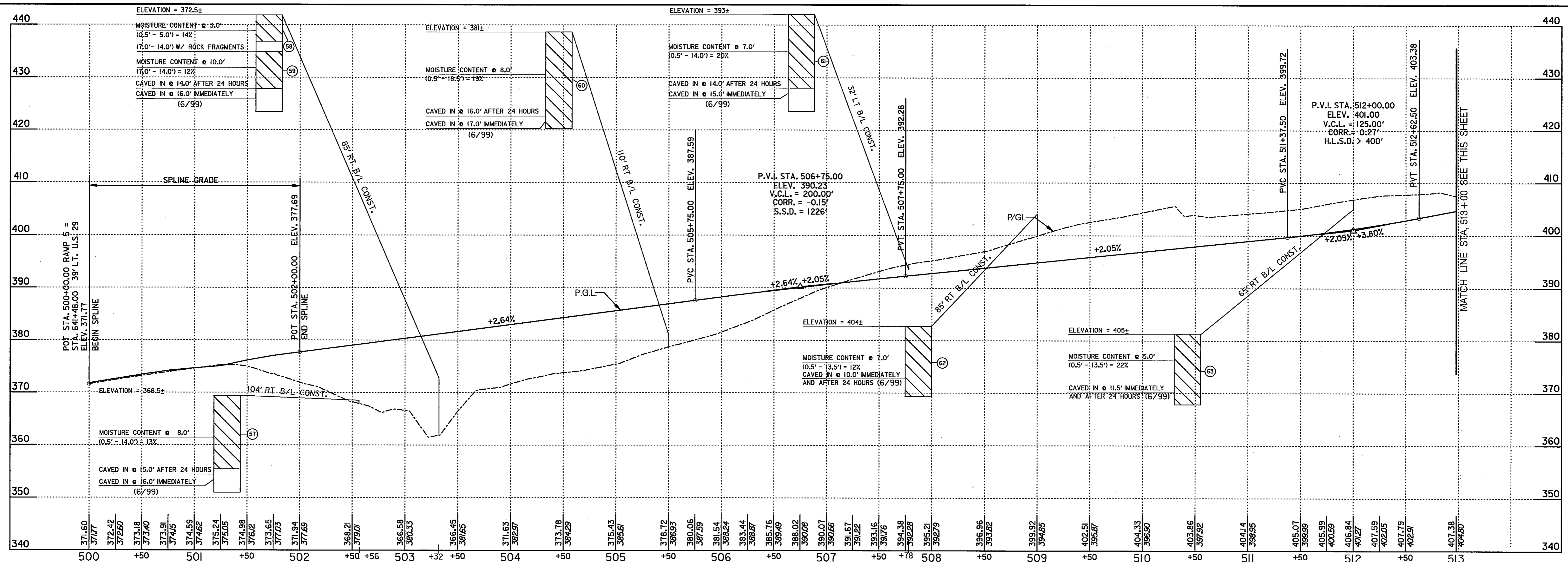
HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
2	REDLINE NO. 2 DATE: 07/30/01

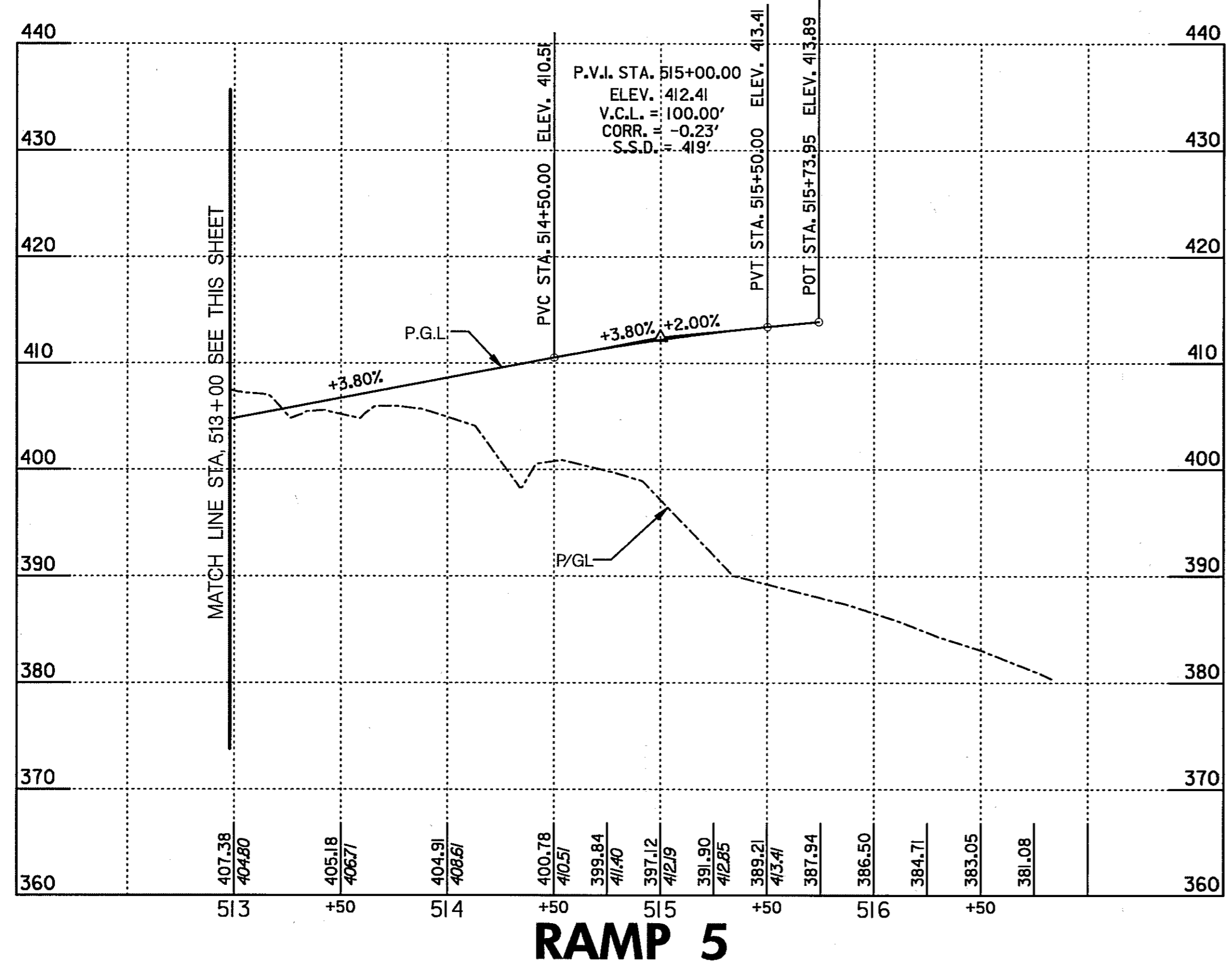
ROADWAY PROFILE

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 56 OF 320
 PREL. TRAC. BY FINAL TRAC. BY



RAMP 5



RAMP 5

SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
57	NP	NP		SANDY LOAM	102
58	NP	NP		LOAMY SAND	2.41
59	NP	NP		LOAMY SAND	2.41
60	40	NP		SANDY LOAM	1.02
61	56	14		SANDY CLAY LOAM	0.17
62	NP	NP	116 PCF @ 14%		
63	37	9	121 PCF @ 13%		

ROADWAY PROFILE

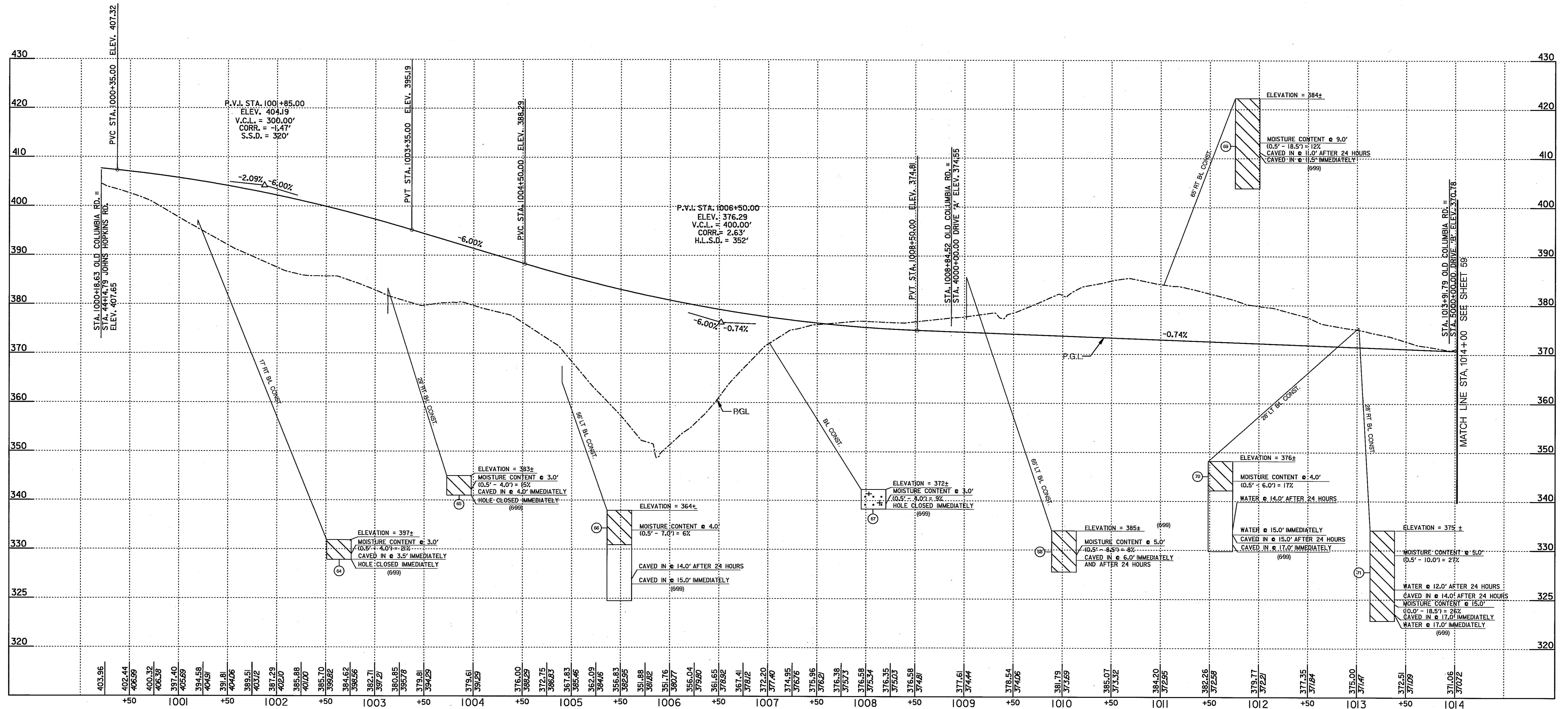
HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 57 OF 320
PREL. TRAC. BY FINAL TRAC. BY

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



SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
30	NP	NP			
31	NP	NP			
32	NP	NP		LOAMY SAND	2-41
33	NP	NP			
34	NP	NP	121 PCF @ 12%		
35	NP	NP	113 PCF @ 12%		
36	NP	NP		LOAM	0.52
37	NP	NP		SANDY LOAM	1.02

OLD COLUMBIA ROAD

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

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

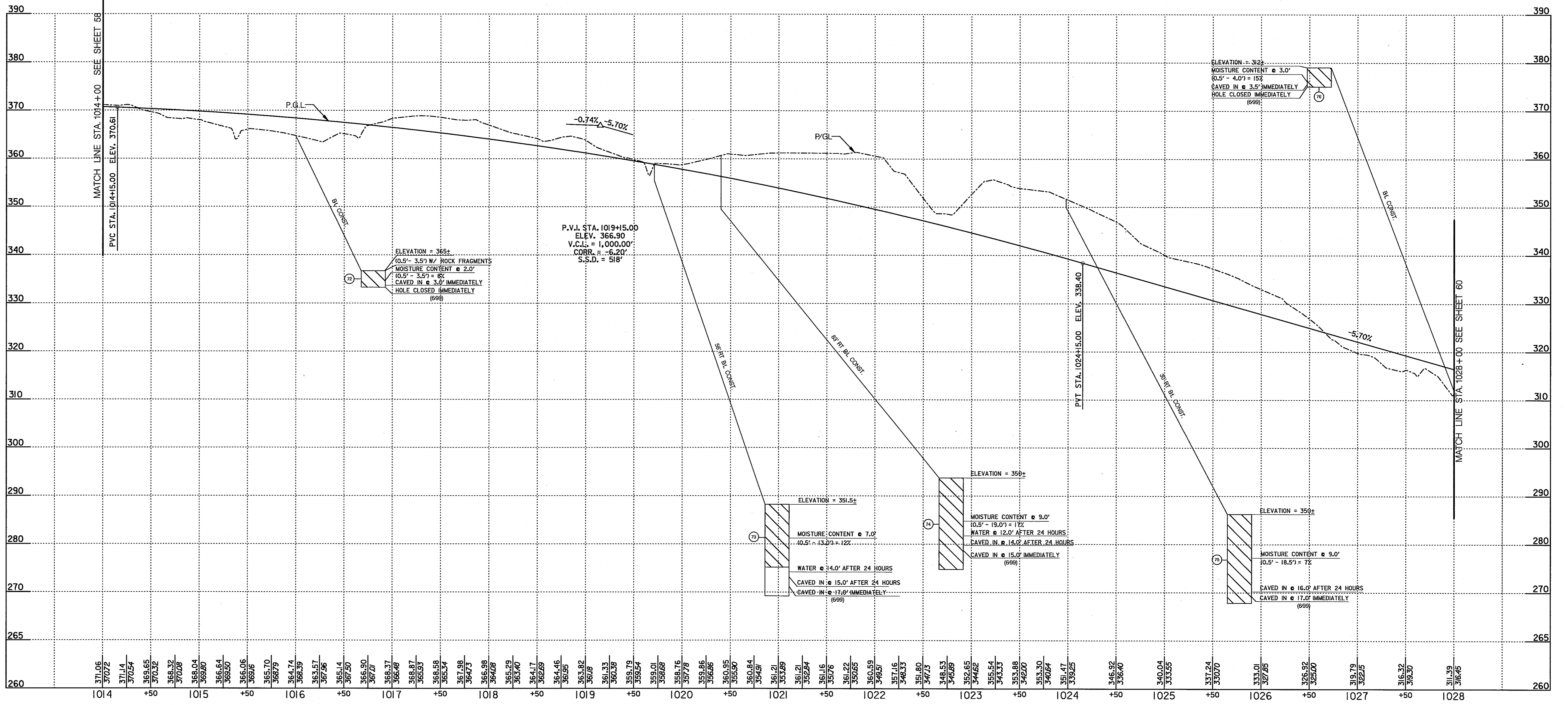
REVISIONS	

ROADWAY PROFILE

PR 9 OF 13

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 58 OF 320
PREL. TRAC. BY FINAL TRAC. BY



OLD COLUMBIA ROAD

SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
12	NP	NP			
13	NP	NP		LOAMY SAND	2.41
14	NP	NP	124 PCF @ 11%	SANDY LOAM	1.02
15	NP	NP	114 PCF @ 13%		
16	NP	NP			

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

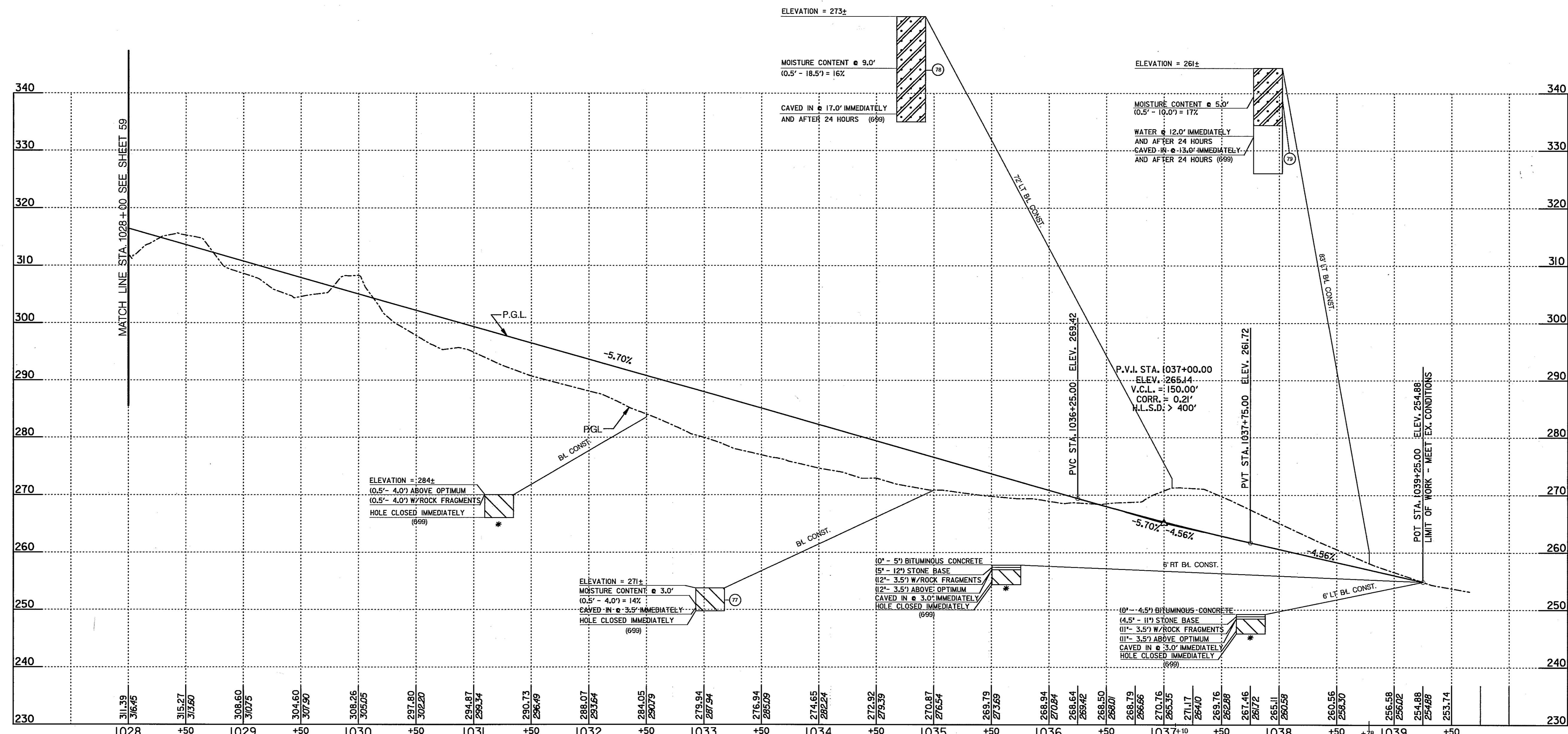
HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

ROADWAY PROFILE

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONF. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 59 OF 320
PREL. TRAC. BY FINAL TRAC. BY



OLD COLUMBIA ROAD

SOILS TEST DATA					
NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
77	27	NP			
78	33	NP		SANDY LOAM	102
79	31	NP		SANDY LOAM	102

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

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

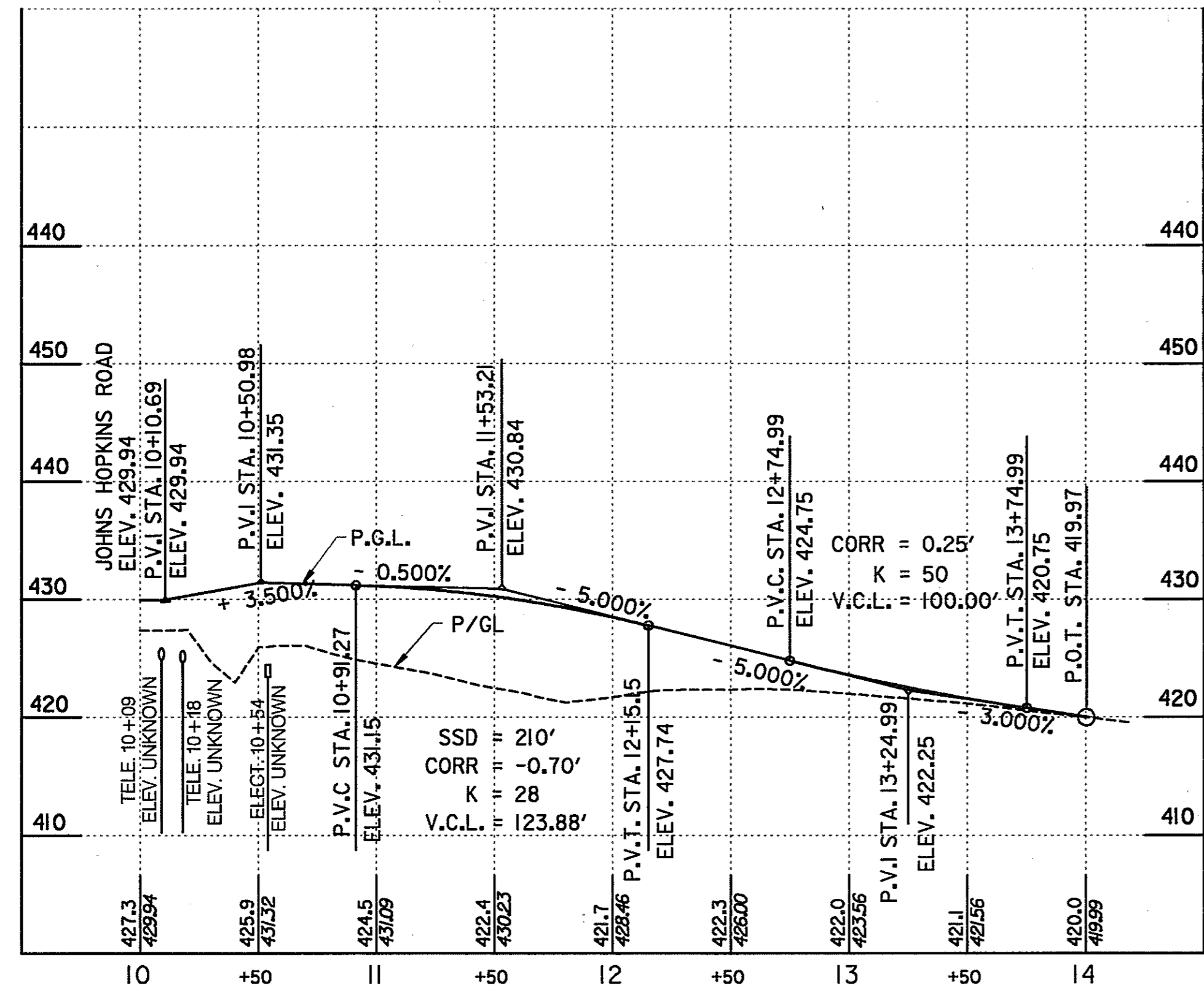
REVISIONS

ROADWAY PROFILE

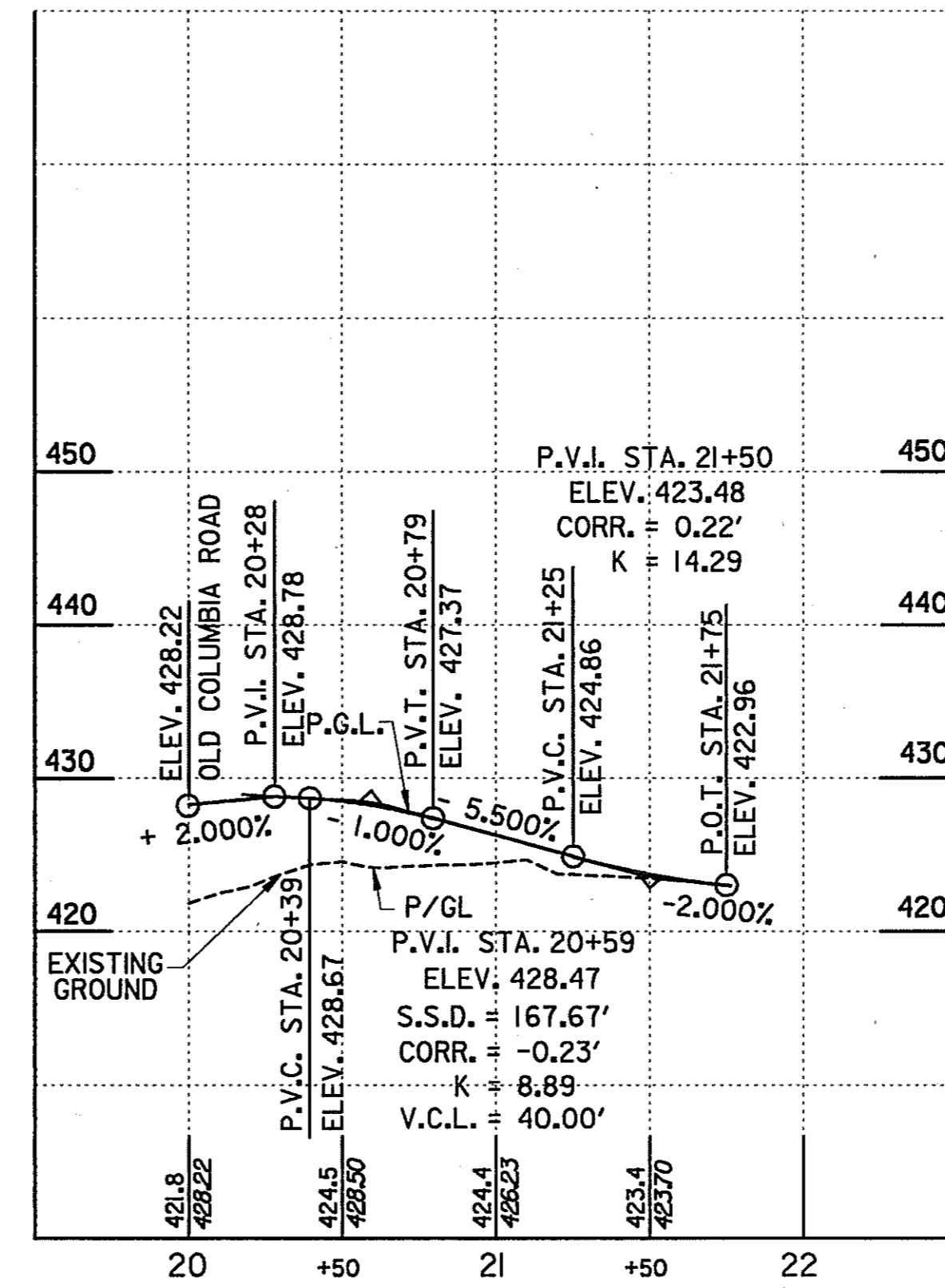
PR 11 OF 13

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

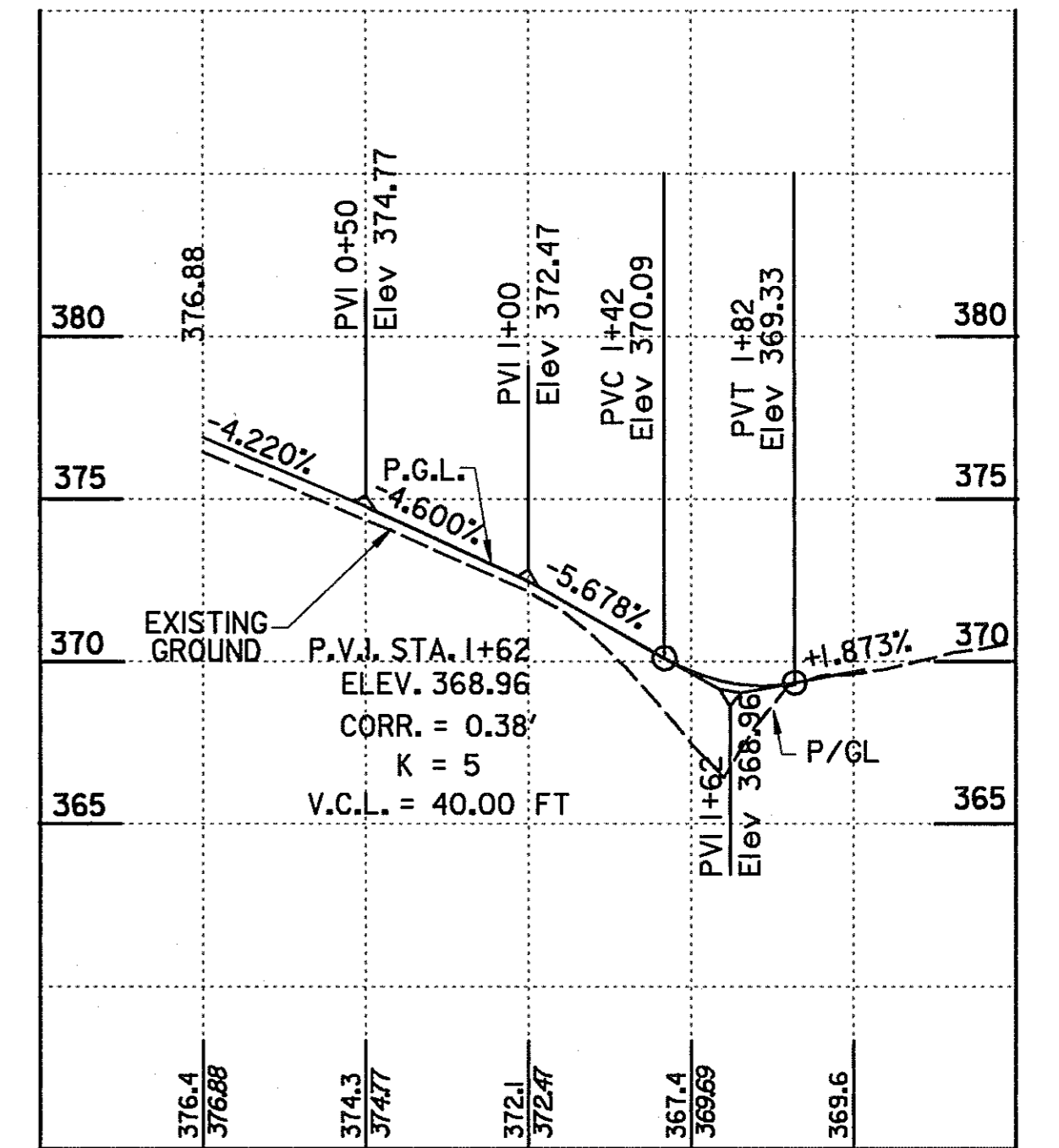
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 60 OF 320
PREL. TRAC. BY FINAL TRAC. BY



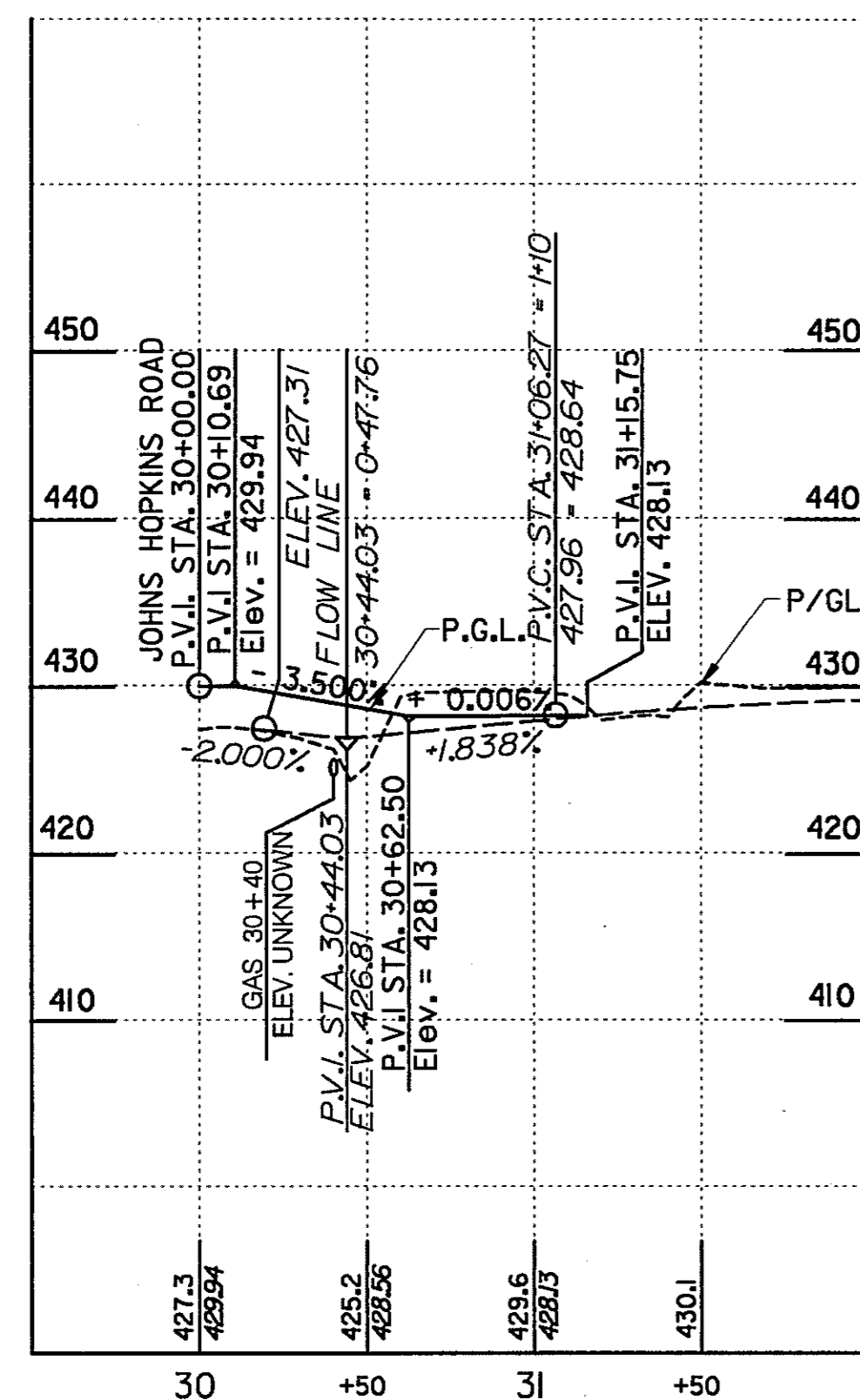
OLD COLUMBIA ROAD



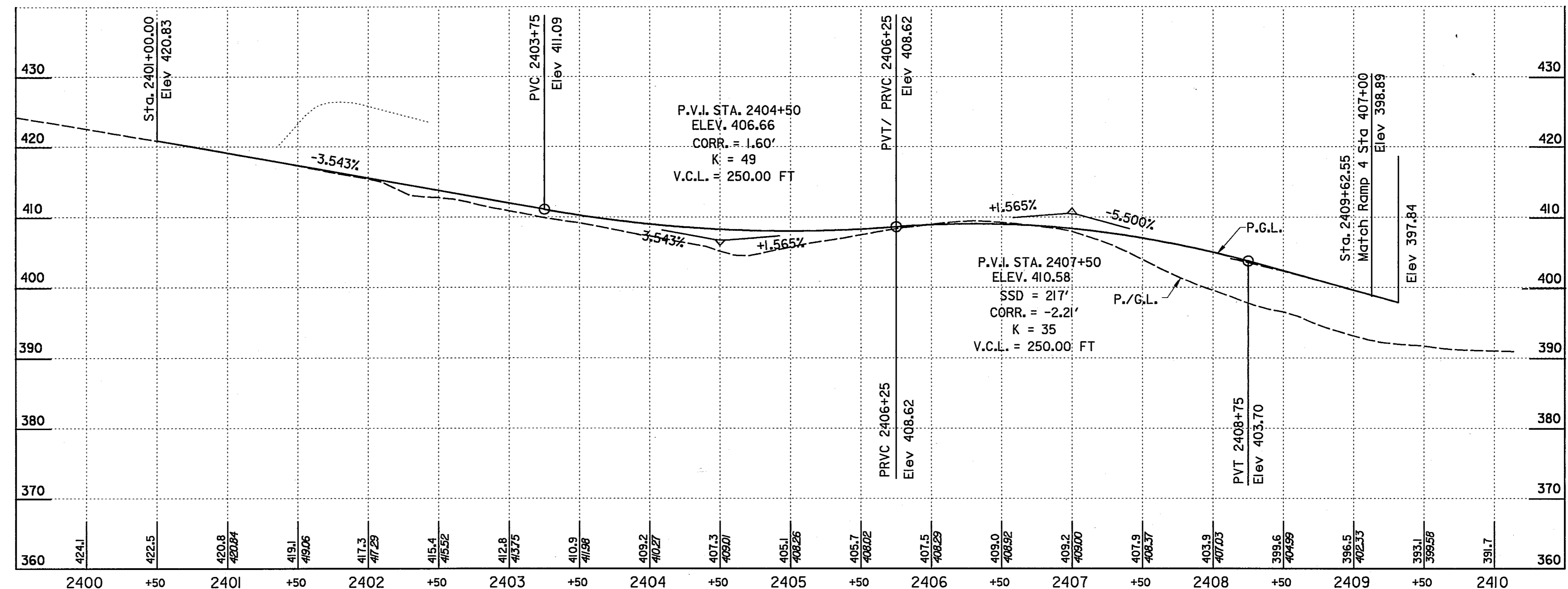
BODY SHOP EAST ENTRANCE



TEMPORARY U-TURN TO RAMP 1



MONTPELIER ROAD



TEMPORARY RAMP 4

ROADWAY PROFILE

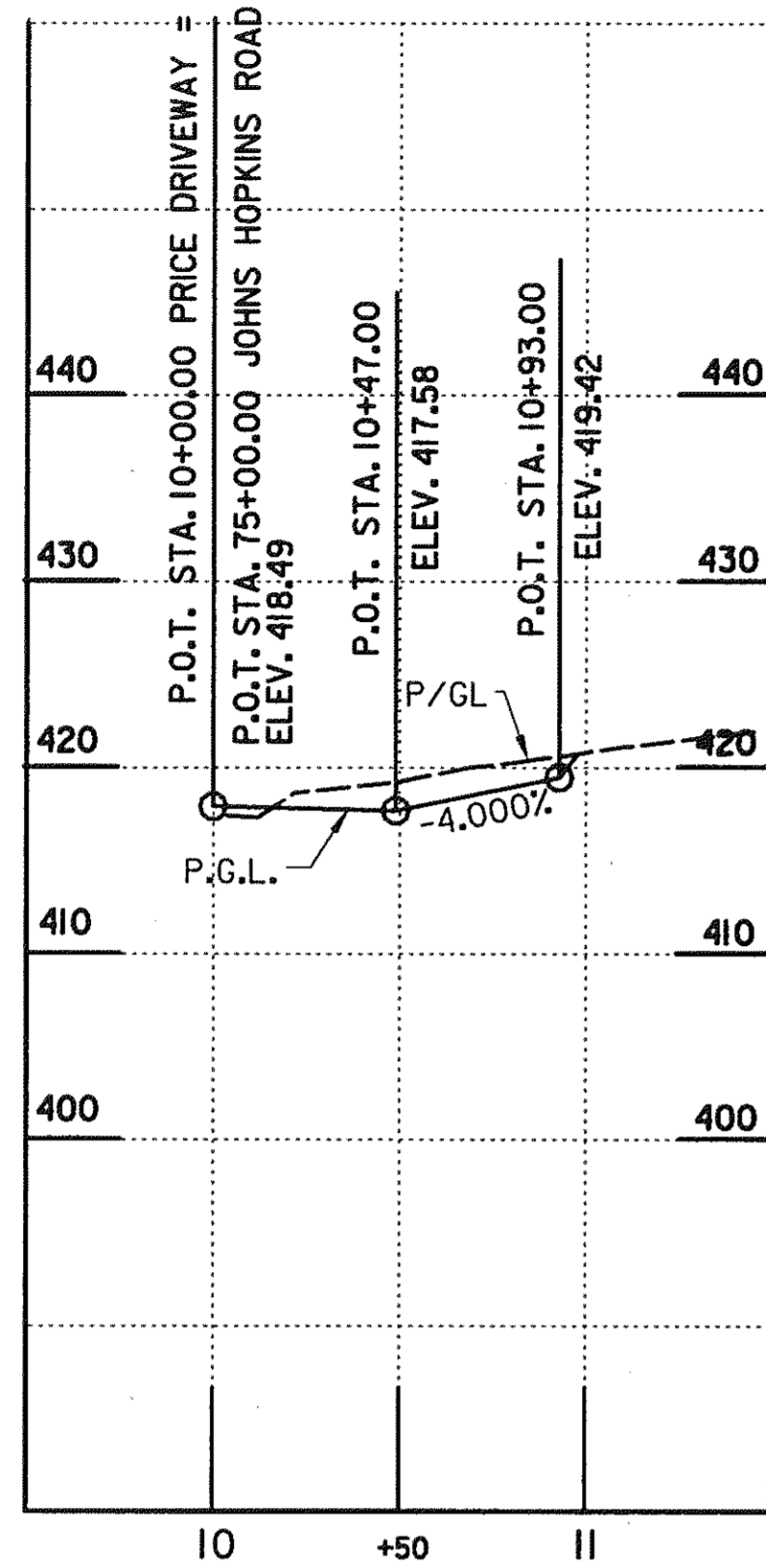
SCALE: HOR.: 1" = 50'
VERT.: 1" = 10'

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

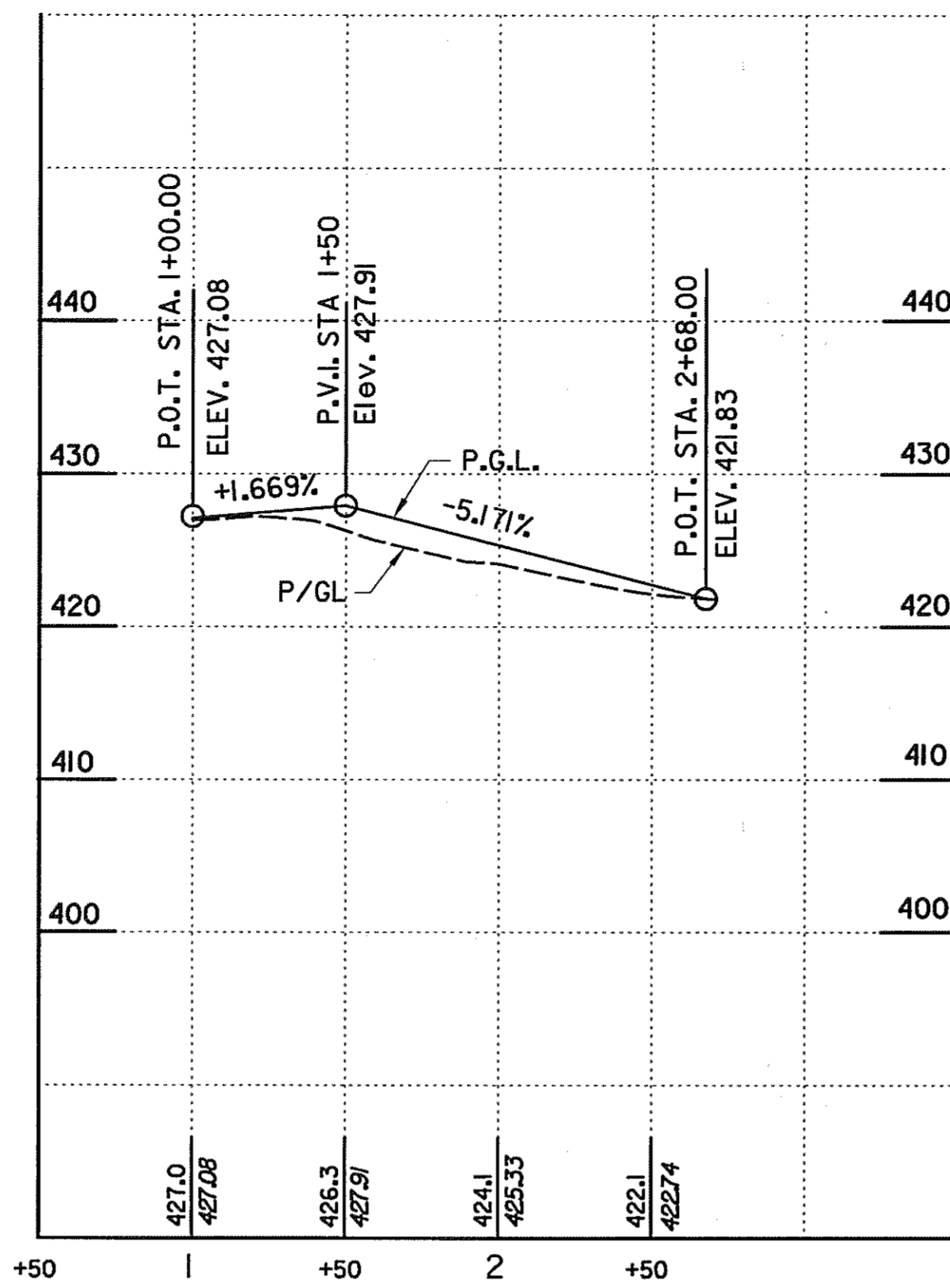
REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

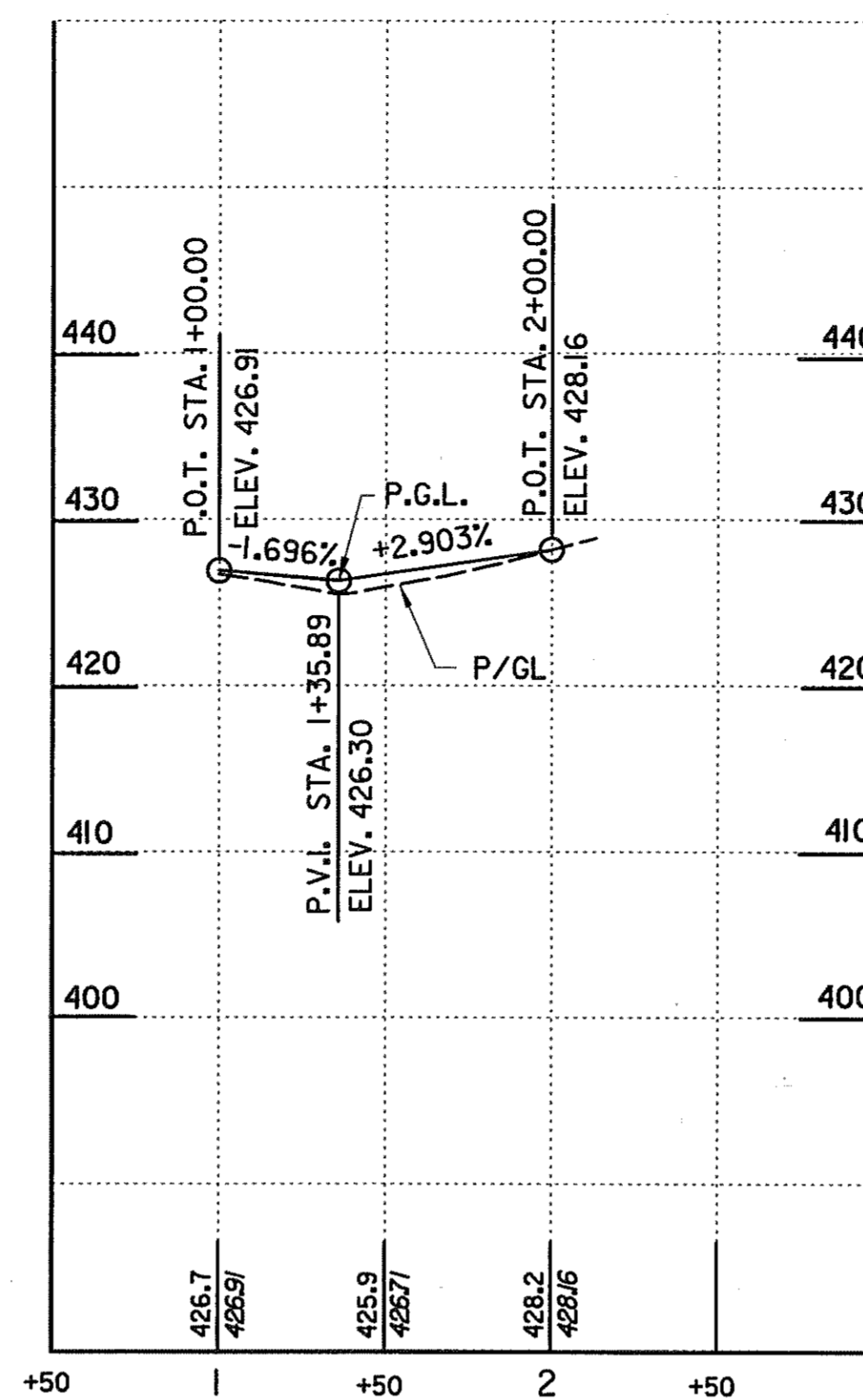
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 61 OF 320
PREL. TRAC. BY FINAL TRAC. BY



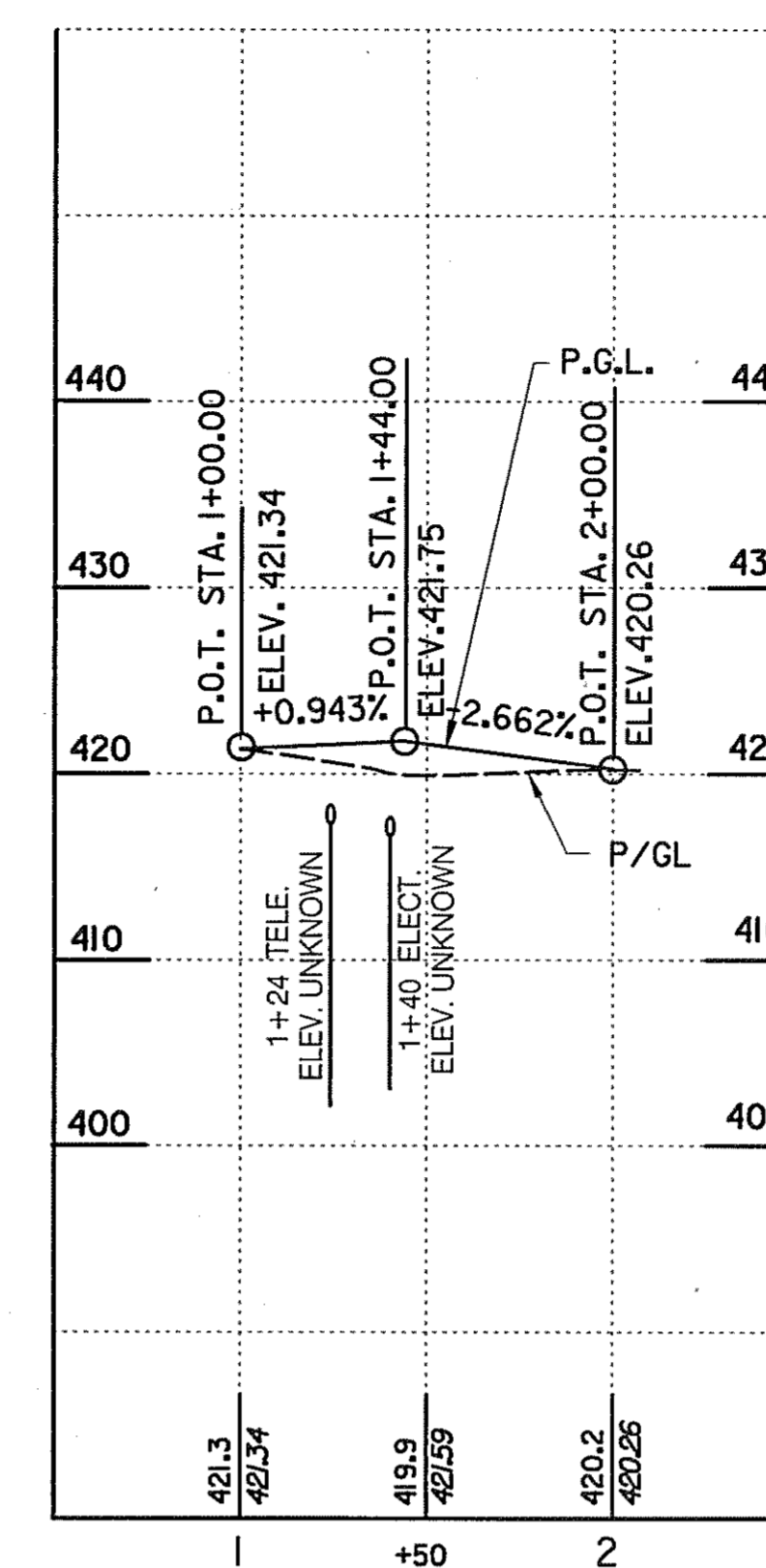
PRICE DRIVEWAY 2



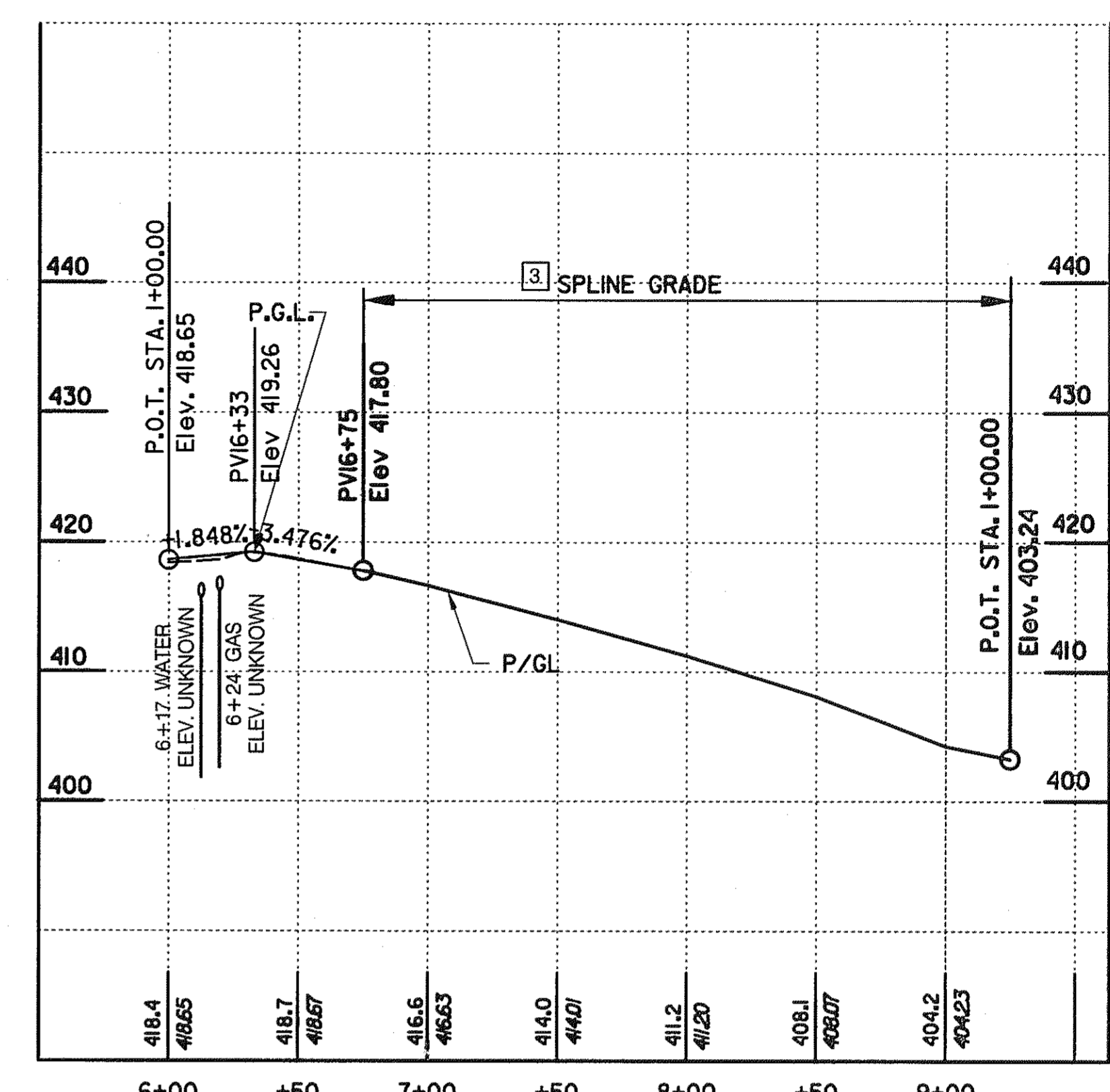
BODY SHOP NORTH ENTRANCE 2



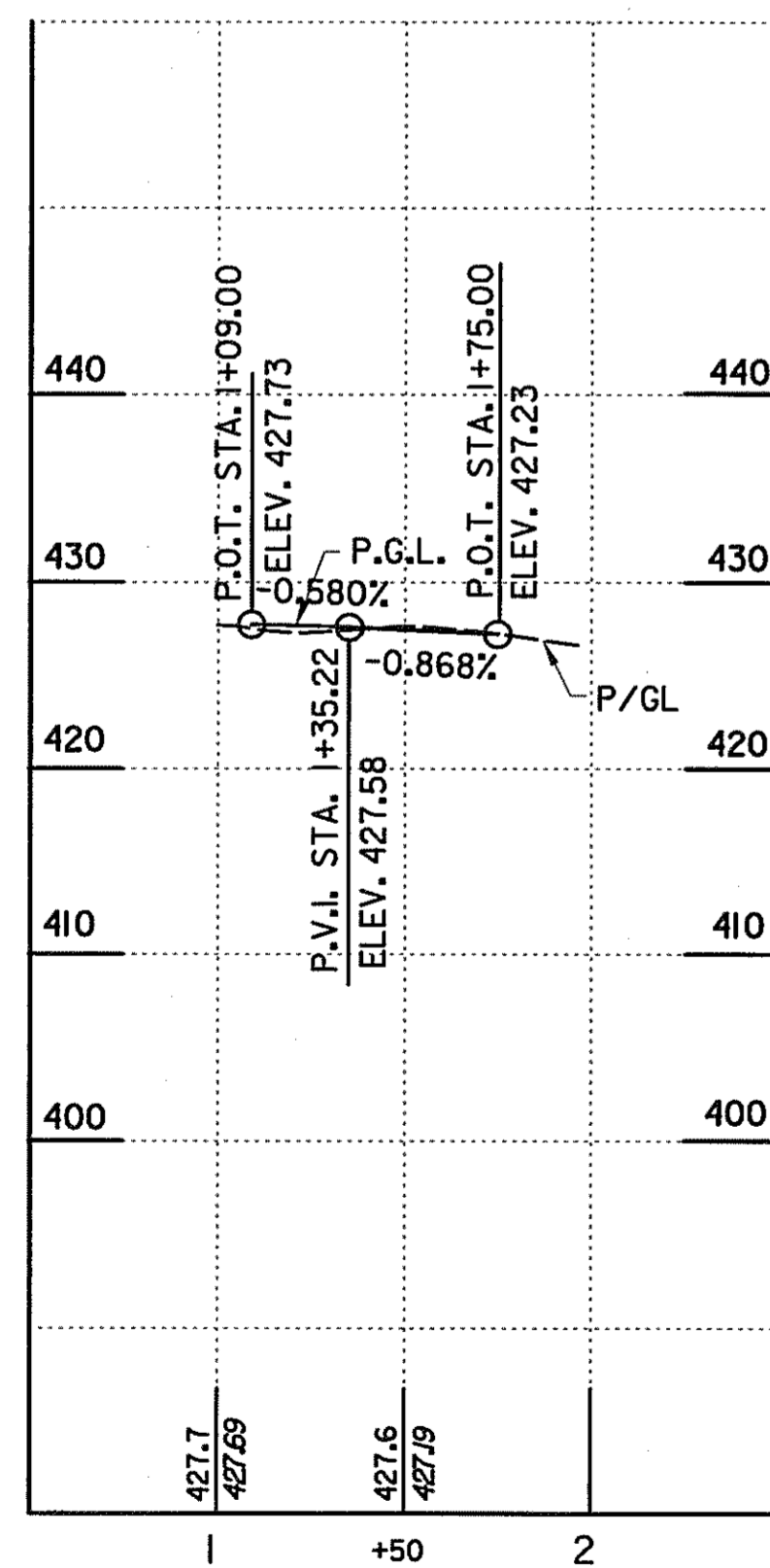
JHU-APL WEST ENTRANCE



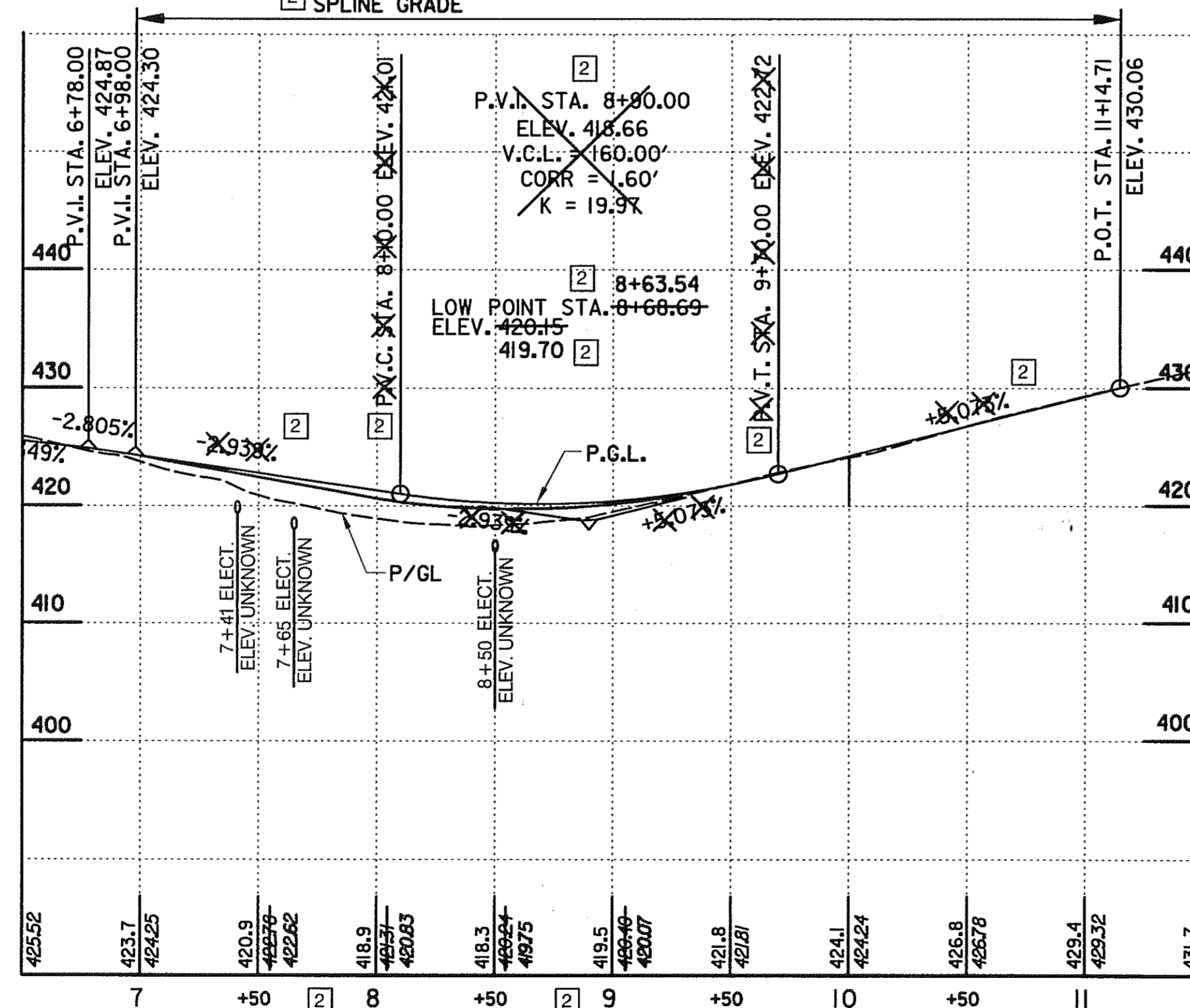
WESTVACO ENTRANCE



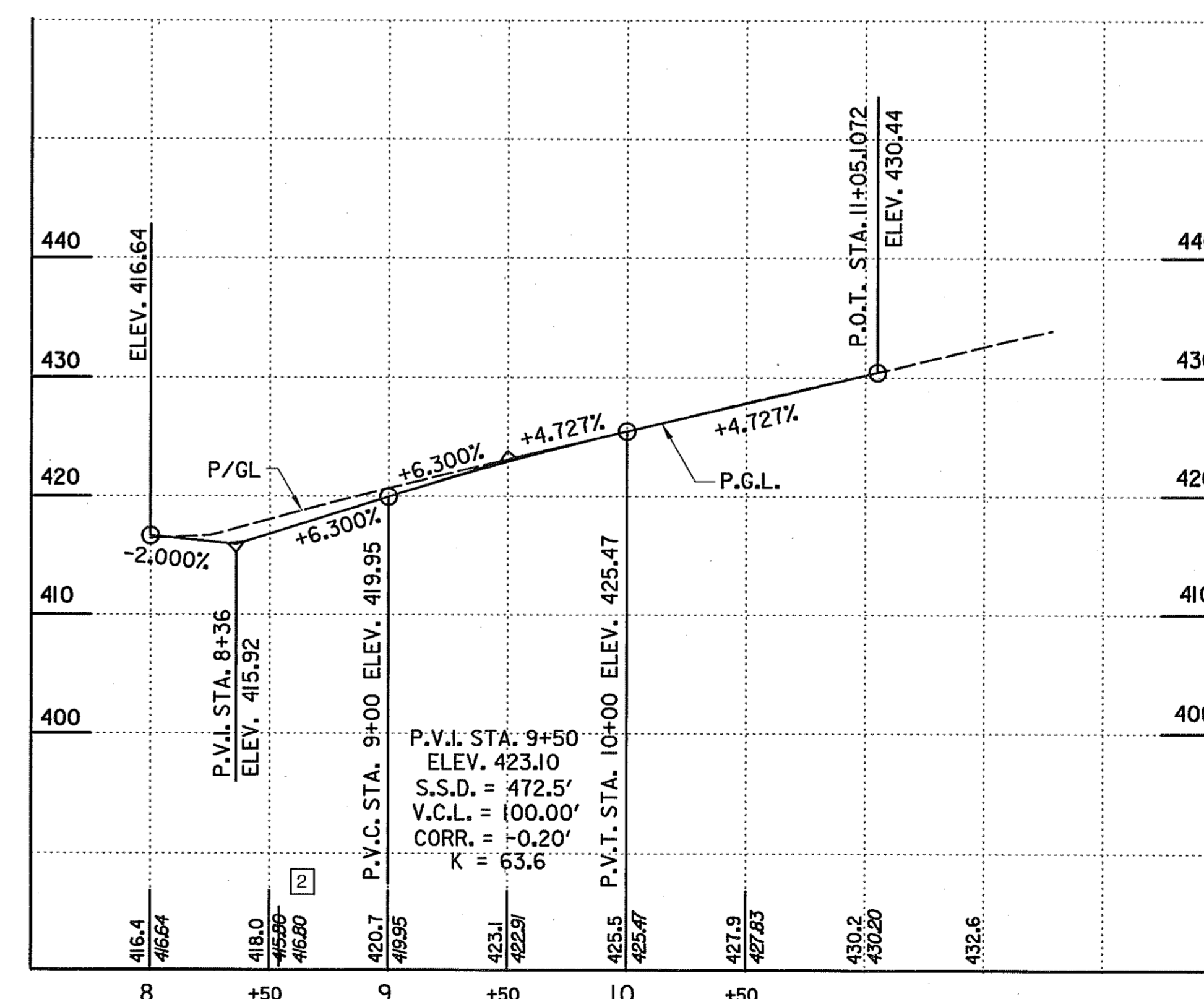
JHU-APL EAST ENTRANCE 3



DRIVEWAY JHR-1



SANNER ROAD RAMP



SANNER ROAD

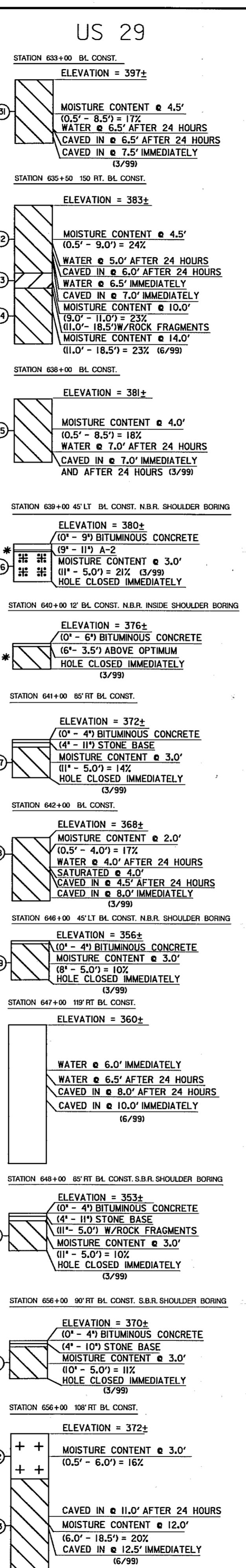
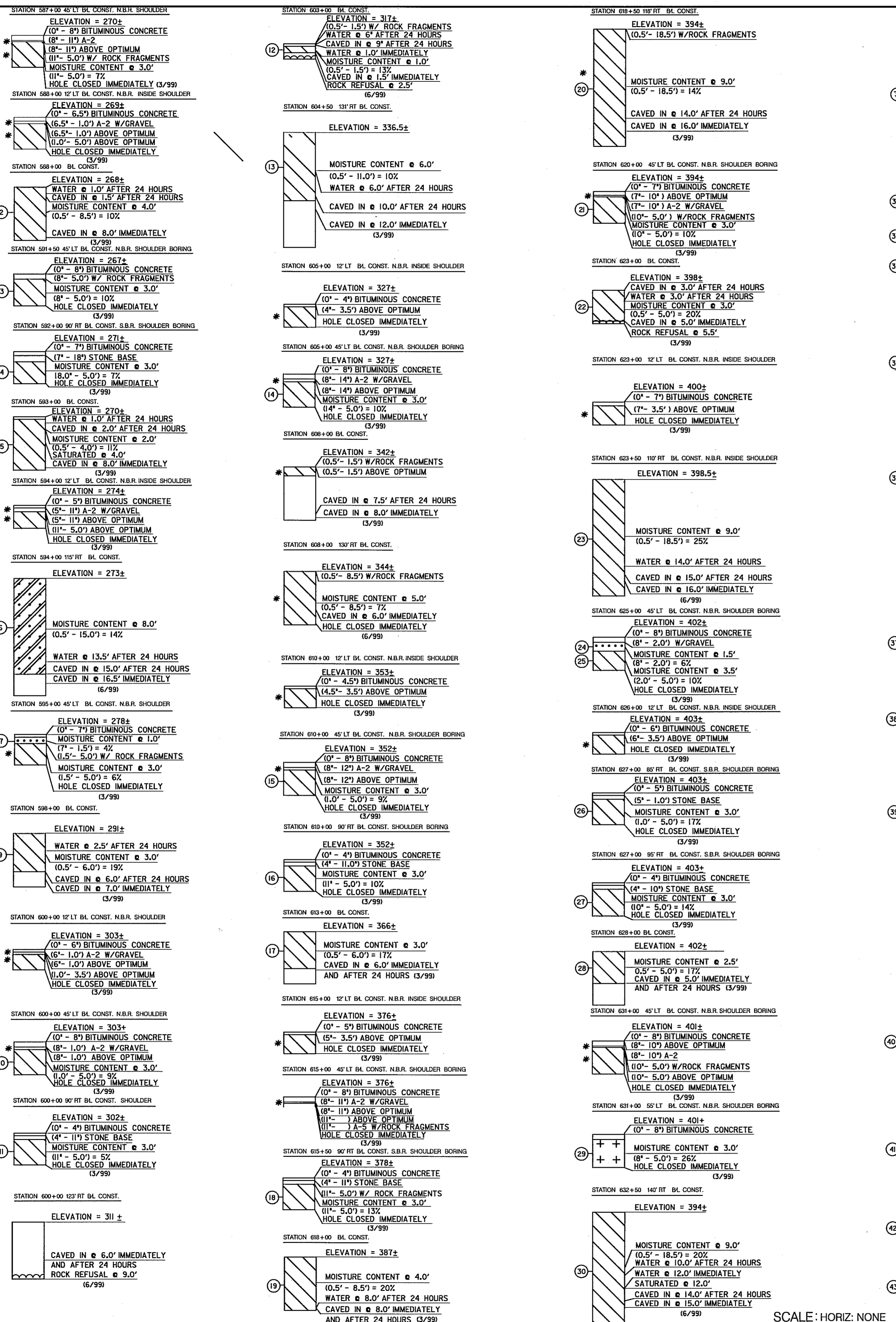
ROADWAY PROFILE

SCALE: HOR.: 1" = 50'
VERT.: 1" = 10'

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

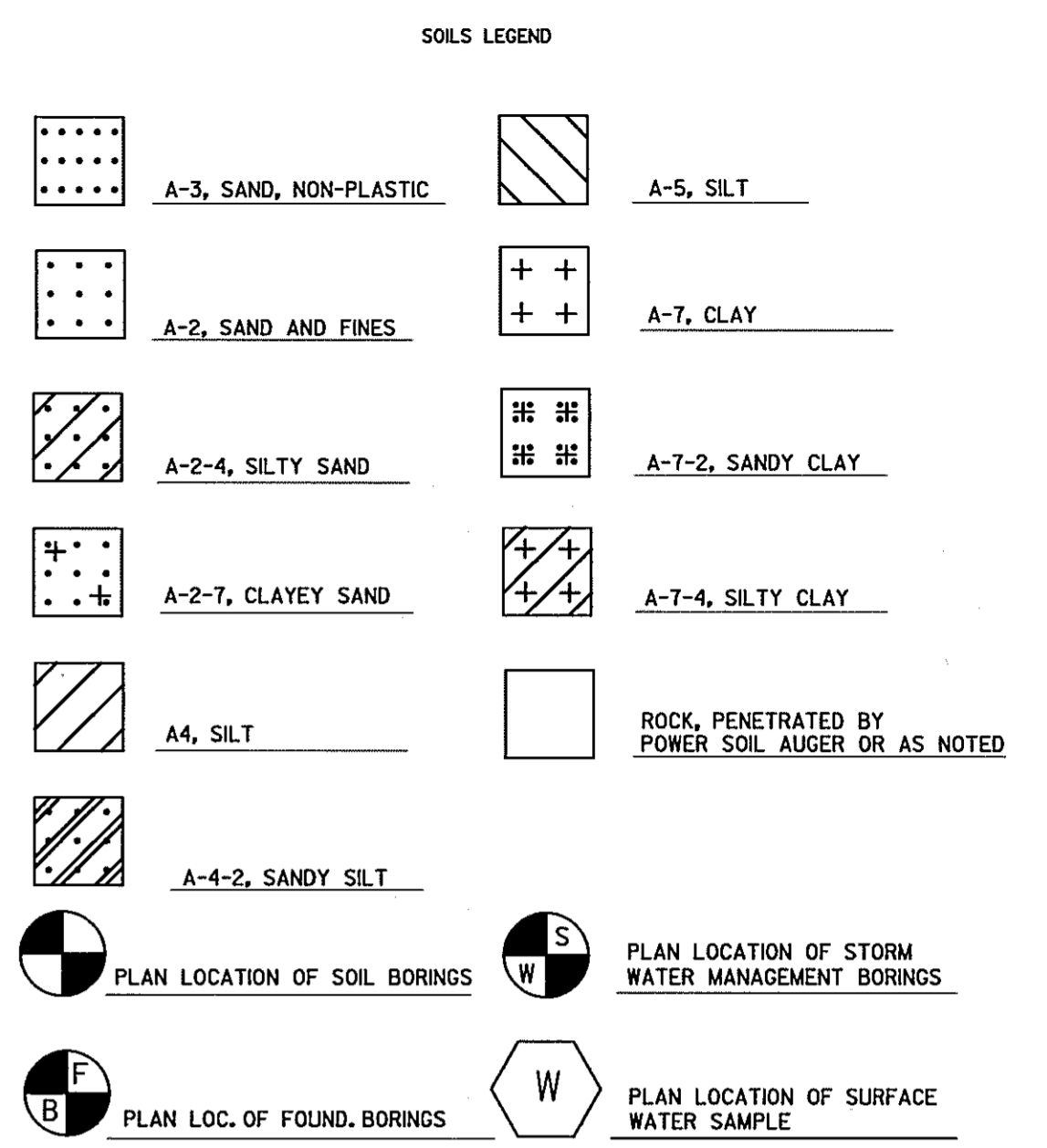
REVISIONS	
2	REDLINE NO. 2 DATE: 05/ /01
3	REDLINE NO. 3 DATE: 1/31/02

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 62		OF 320	



SOILS TEST DATA

NO.	L.L.	P.I.	M.D.D. & O.M.C.	USDA	RATE
2	NP	NP			
3	NP	NP			
4	NP	NP			
5	NP	NP			
6	32	NP		SANDY LOAM	1.02
7	NP	NP			
9	NP	NP			
10	NP	NP	129 P.C.F. @ 9%		
11	NP	NP			
12	NP	NP			
13	31	NP		LOAMY SAND	2.41
14	NP	NP			
15	NP	NP			
16	NP	NP			
17	NP	NP			
18	NP	NP			
19	45	12			
20	NP	NP		SANDY LOAM	1.02
21	NP	NP			
22	NP	NP			
23	52	18		LOAM	0.52
24	NP	NP			
25	NP	NP			
26	NP	NP			
27	NP	NP			
28	43	NP			
29	58	30			
30	NP	NP		SANDY LOAM	1.02
31	NP	NP			
32	34	NP		SANDY LOAM	1.02
33	33	9		LOAM	0.52
34	36	NP		SANDY LOAM	1.02
35	43	12			
36	44	19			
37	35	NP			
38	40	NP			
39	NP	NP			
40	39	NP			
41	NP	NP			
42	38	16		CLAY LOAM	0.09
43	54	NP		SANDY CLAY LOAM	0.17



* SOIL VISUALLY CLASSIFIED BY DRILLER
L.L.-LIQUID LIMIT N.P.-NON-PLASTIC O.M.C.-OPTIMUM MOISTURE CONTENT
P.I.-PLASTICITY INDEX M.D.D.-MAXIMUM DRY DENSITY P.C.F.-POUNDS PER CUBIC FOOT
M.D.D. & O.M.C. PER A.A.S.H.T.O. DESIGNATION T-180, METHOD C
UNLESS OTHERWISE NOTED ON PLANS, ALL SOIL SURVEY BORINGS FOR ROADWAY CONSTRUCTION WERE LEFT OPEN FOR 24 HOURS WITH NO EXCESS MOISTURE OR FREE WATER ENCOUNTERED DURING TIME OF SOIL SURVEY (3/99)

WATER SAMPLES	pH	ALUMINUM (µg/l)	IRON (Fe ⁺⁺) (µg/l)	SODIUM (Na ⁺) (mg/l)	CALCIUM (Ca ⁺⁺) (mg/l)	MAGNESIUM (Mg ⁺⁺) (mg/l)	POTASSIUM (K ⁺) (mg/l)	SODIUM CHLORIDE (NaCl) (mg/l)	CHLORIDES (Cl ⁻) (mg/l)	FLUORIDES (F ⁻) (mg/l)	SULFATES (SO ₄ ⁼⁼) (mg/l)	PHOSPHATES (PO ₄ ⁻³) (mg/l)	NITRATES (NO ₃ ⁻) (mg/l)	HOT ACIDITY (CaCO ₃) (mg/l)	HARDNESS as CaCO ₃ (mg/l)	DETERGENT (mg/l)	DISSOLVED SOLIDS (mg/l)	SUSPENDED SOLIDS (mg/l)	COLOUR (PCU)	TURBIDITY (mg/l)	MANGANESE (µg/l)
STATION 502+50 45' RT B/L CONST. RAMP 5	6.7	0.0	0.2	10.1	10.6			25.7	17.7		2.5	0	2.0			0.25	115	13	29	0.0	
STATION 503+50 15' LT B/L CONST. RAMP 5	6.6	0.0	0.2	8.9	10.4			22.6	15.6		1.6	0	1.8			<0.25	127	7	33	0.0	
STATION 590+00 80' LT B/L CONST. US 29	6.9	0.0	0.1	13.1	16.1			33.3	25.0		5.9	0	1.6			0.25	164	2	18	0.0	
STATION 590+50 200' RT B/L CONST. US 29	7.0	0.0	0.1	13.7	16.3			34.6	25.4		6.0	0	1.4			0.25	173	2	21	0.0	

SCALE: HORIZ: NONE
VERT: 1" = 5'

BORING LOGS
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

NO.	DESCRIPTION

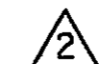
Phase 1A Construction

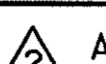
- 01) Place Project Limit Signs (MD 104.00-14 and MD 104.00-15) at the northerly and southerly project limits of US 29, at the easterly and westerly project limits of Johns Hopkins and Gorman Roads and the northerly project limit on Sanner Road.
- 02) Construct the median widening on US 29 NB from Sta. 583+97 to Sta. 627+50.
- 03) Construct the widening of the US 29 NB bridge over the Middle Patuxent River.
- 04) Construct the following east of US 29:
 - A. Johns Hopkins Road from Sta. 43+00 to the east bridge abutment including the roundabout and a portion of Ramp 3 from Sta. 300+00 to Sta. 302+00 ±
 - B. Old Columbia Road from Sta. 1000+00 and Sta. 1001+26 ±.
 - C. New Hammond Pkwy from Sta. 300+00 to Sta. 3000+75± at the temporary connection to the existing John Hopkins Road.
 - D. Ramp 2 from Sta. 200+00 to Sta. 205+50
 - E. Ramp 5 from Sta. 500+00 to Sta. 512+50
- 05) Construct the following west of US 29:
 - A. Johns Hopkins Road, for its full width, from the west abutment to Sta. 62+50 and as shown on the plans from Sta. 62+50 to Montpelier Road. Do not construct the islands at Montpelier Road or the median on Johns Hopkins Road from Sta. 61+00 to Montpelier Road at this time. Use temporary pavement in three locations.
 - B. John Hopkins Road from Montpelier Road west to Sta. 99+50. Move traffic to the southern side of Johns Hopkins Road, using the existing shoulder and construct the northern half of the roadway as shown on the plans. Do not construct any medians at this time. Access must be maintained to all existing driveways and intersecting roads.

At Sanner Road construct Sanner Road widening before working on the Sanner Road ramp. This will allow room for a temporary right turn at Sanner Road during the ramp construction. The JHU-APL east and west entrances may be closed at certain times with the approval of JHU-APL and the Engineer. See special provisions for conditions.
 - C. Ramp 1 and Spur 1 for their full length and width.
 - D. Ramp 4 from Sta. 407+00 to Sta. 408+03 and Spur 4 from Sta. 1400+50 to 1400+75 and from Sta. 1403+00 to Sta. 1415+07.
- 06) Construct Ramp 1 deceleration lane on US 29 SB from Sta. 591+85 to Sta. 612+35 and Spur 4 acceleration lane along US 29 SB from Sta. 643+57 to Sta. 656+57.
- 07) Construct the new bridge to carry Johns Hopkins Road over US 29.
- 08) Construct Ramp 5 deceleration lane on US 29 NB from Sta. 638+00 to Sta. 649+00.
- 09) Construct the noise wall along US 29 NB from Sta. 641+50 to Sta. 648+52 ± and along Ramp 5 from Sta. 500+00 to Sta. 512+50.
- 10) Install all permanent signs adjacent to roadway constructed in this phase and cover them until their messages are needed. All signs shall be available for installation, prior to the start of phase 2A.
- 11) Items above must be done in phase 1A. If there are items in any other phase that the contractor wants to do, he shall be allowed to only with the approval of the Engineer and as long as it does not interfere with future construction phases.

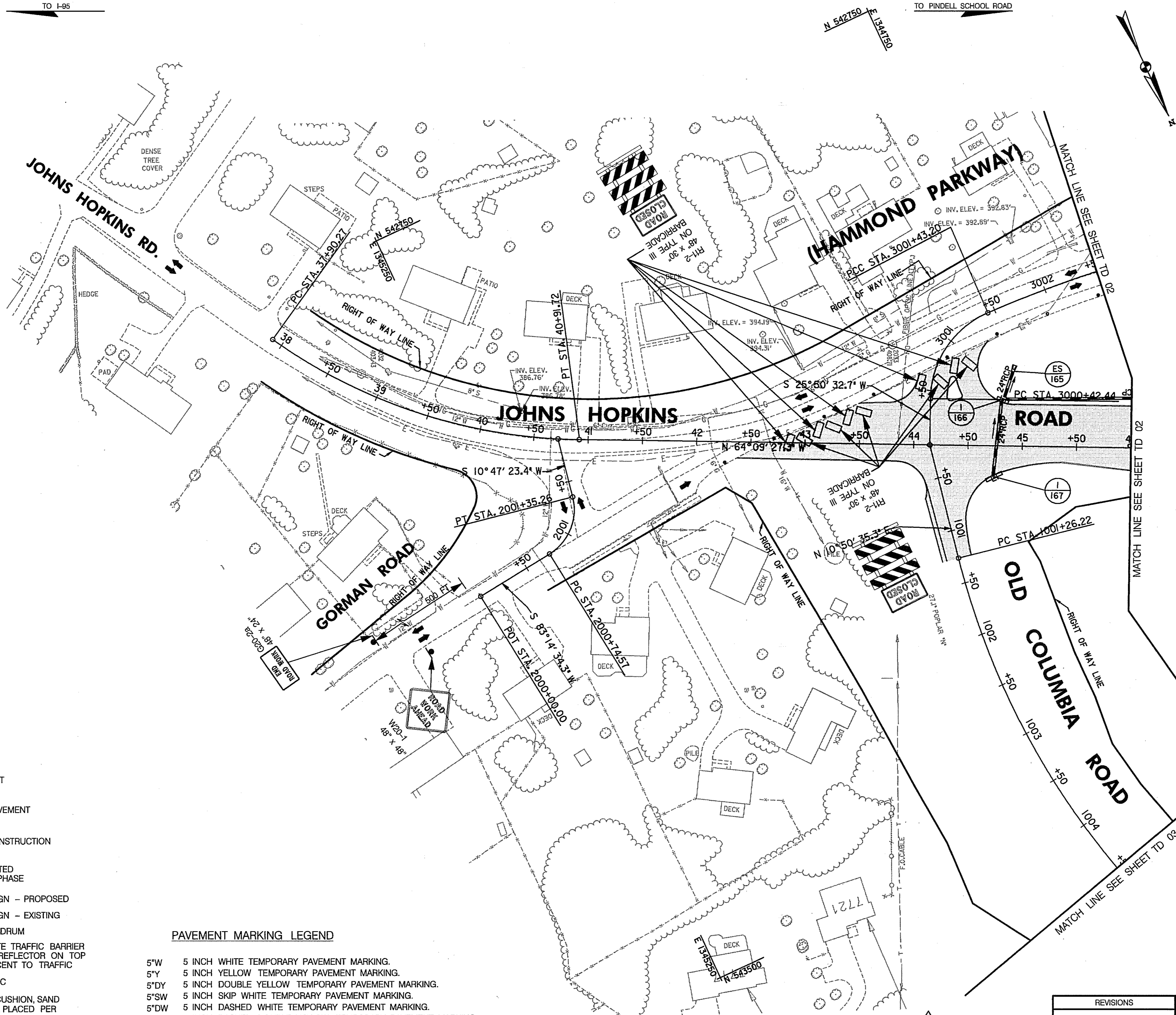
TRAFFIC CONTROL PLAN
PHASE 1A

TD 00 OF 16

 REPLACE SHEET
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
 ADDENDUM NO. 2- 08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 64 OF 320
PREL. TRAC. BY		FINAL TRAC. BY	



CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

I-167 TO I-166 TO ES-165

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERNS.
- ② PROVIDE SHOULDER WORK SIGNAGE ON JOHNS HOPKINS ROAD AS SHOWN ON STANDARD NO. MD - 104.04 - 02.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

TRAFFIC CONTROL PLAN
PHASE 1A

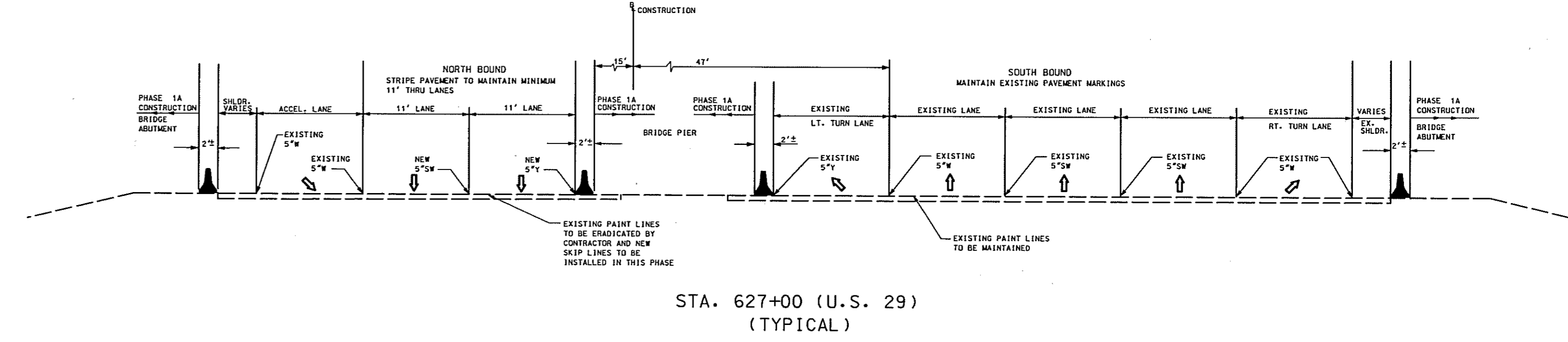
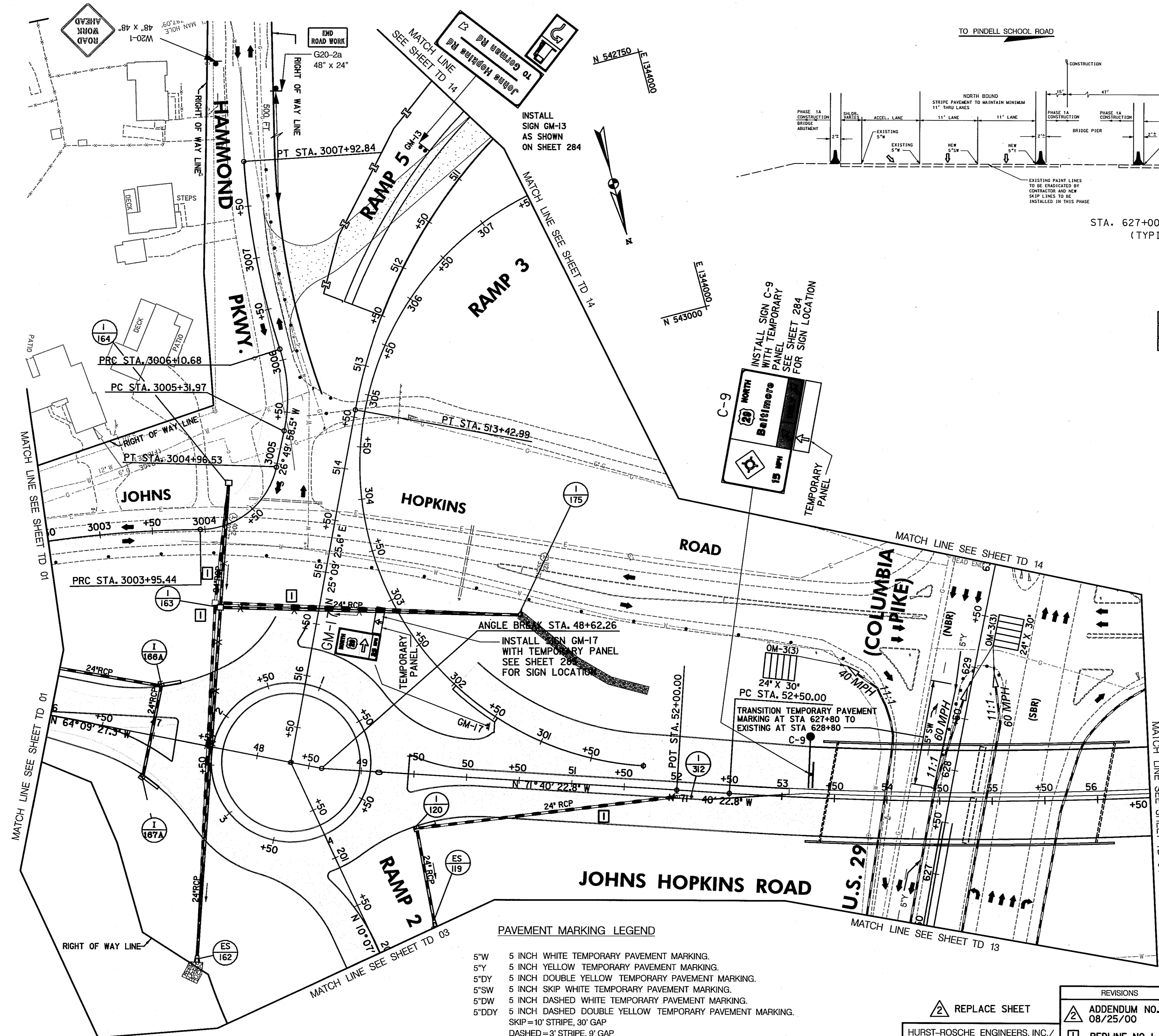
TD 01 OF 16

REPLACE SHEET
HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 65 OF 320
PREL. TRAC. BY FINAL TRAC. BY



STA. 627+00 (U.S. 29)
(TYPICAL)

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

- I-175 TO I-163
- I-164 TO I-163 TO ES-162
- I-312 TO I-120 TO ES-119
- I-167A TO I-166A TO I-166

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERNS.
- ② TRANSITION PAVEMENT MARKINGS AS SHOWN.
- ③ INSTALL ALL PERMANENT SIGNS ADJACENT TO THE CONSTRUCTED ROADWAY BY THE END OF PHASE 1B. COVER THE SIGNS OR PORTION OF THEIR MESSAGE NOT USED FOR PHASE 2A. SEE SHEETS 284 & 285 FOR PERMANENT SIGNS THAT ARE NOT BEING MODIFIED AND ARE NOT SHOWN.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION SAND CONTAINER (XX MPH), PLACED PER MANUFACTURES RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

- PAVEMENT MARKING LEGEND**
- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
DASHED=3' STRIPE, 9' GAP
TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

REPLACE SHEET

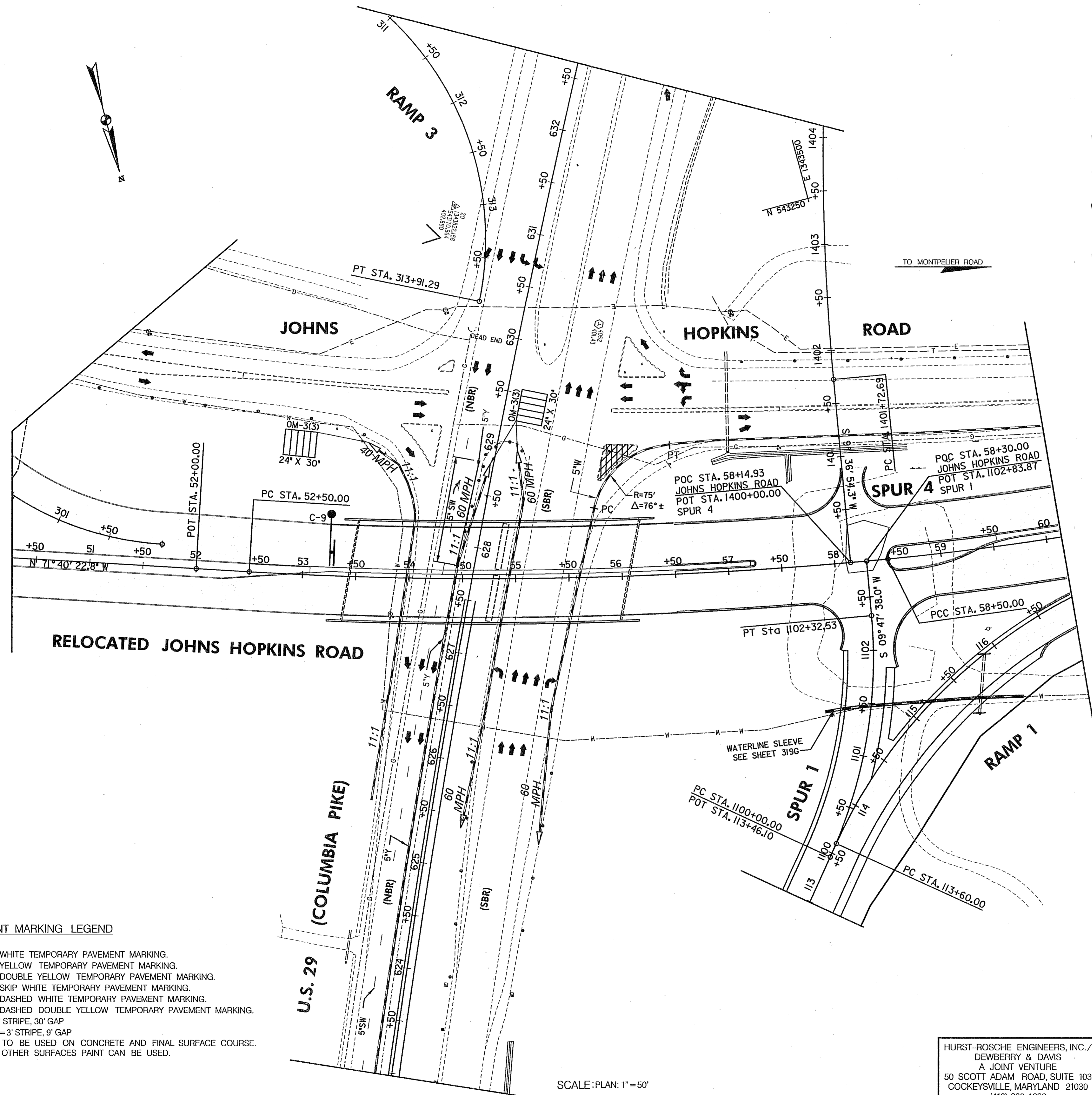
HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
	ADDENDUM NO. 2-08/25/00
	REDLINE NO. 1-2/20/01

**TRAFFIC CONTROL PLAN
PHASE 1A**

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 66 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____



CONSTRUCTION NOTES:

- ① WITH RIGHT TURN LANE OF US 29 SBR AND RIGHT LANE OF JOHNS HOPKINS ROAD WBR TEMPORARILY CLOSED, REMOVE EXISTING ISLAND IN NORTHWEST QUADRANT OF THE EXISTING INTERSECTION. SEE SPECIAL PROVISIONS FOR TEMPORARY LANE OR SHOULDER CLOSURE SCHEDULE.
- ② PAVE ISLAND AREA USING 5" HMA FOR MOT ON 6" GRADED AGGREGATE BASE FOR MOT.
- ③ RESET PRECAST TEMPORARY CONCRETE TRAFFIC BARRIER FOR MOT AS SHOWN.
- ④ PROVIDE 5" WHITE TEMPORARY PAVEMENT MARKING ALONG EDGE OF RESET PRECAST TEMPORARY CONCRETE TRAFFIC BARRIER.
- ⑤ RELOCATE EXISTING YIELD SIGN (R1-2) AND "SOUTH US 29" GUIDE SIGN ASSEMBLY AS DIRECTED BY THE ENGINEER.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5'SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5'DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5'DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE. ON ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 1A-1**

TD 02A OF 16

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
2	NEW SHEET REDLINE NO. 2 DATE: 07/30/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 66A		OF 320	

SCALE: PLAN: 1" = 50'

TO HOPKINS-GORMAN RD.

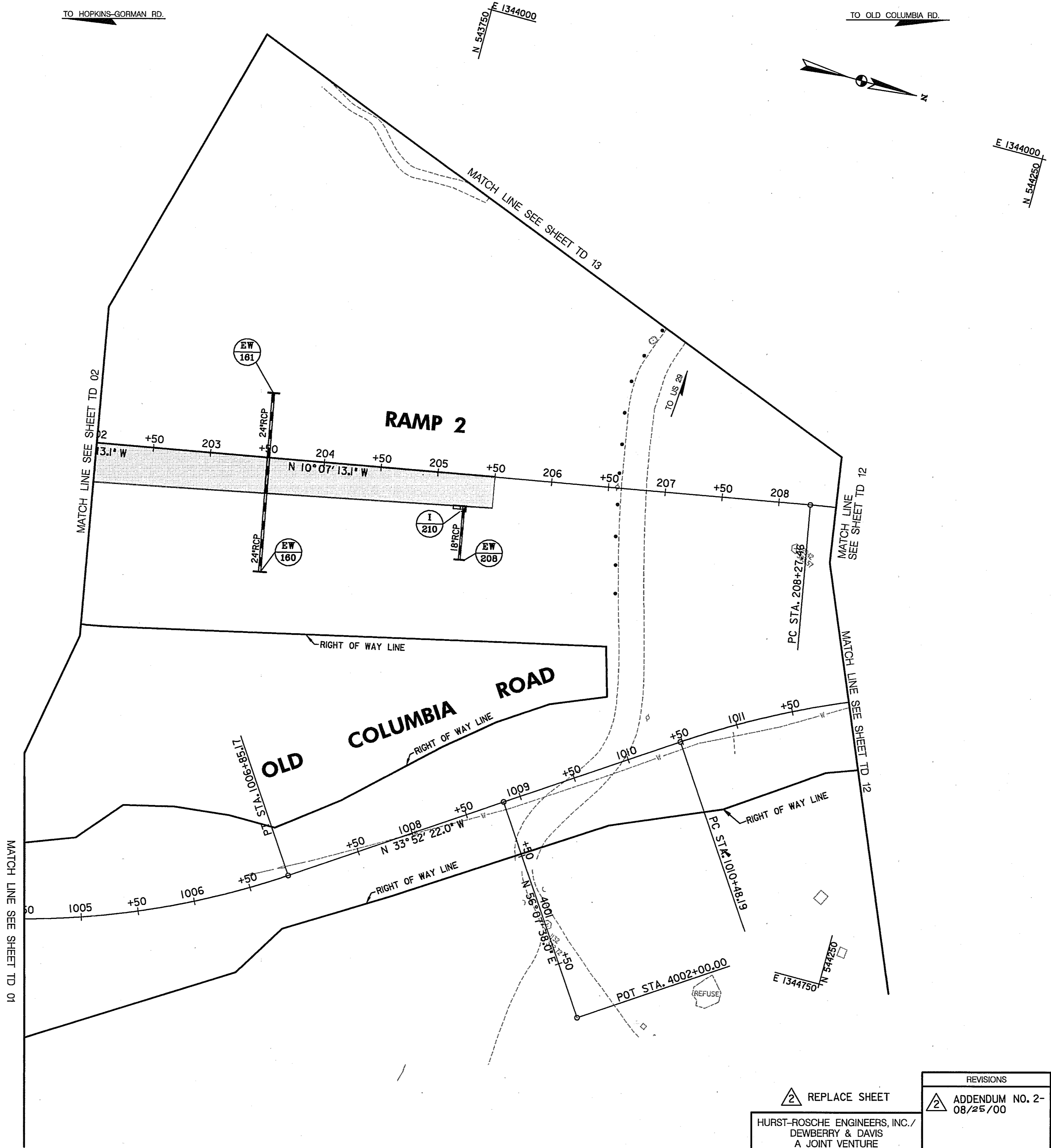
N 543750 E 1344000

TO OLD COLUMBIA RD.

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

EW-161 TO EW-160
I-210 TO EW-208

E 1344000
N 544250



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

TRAFFIC CONTROL PLAN
PHASE 1A

TD 03 OF 16

REPLACE SHEET

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 67		OF 320	

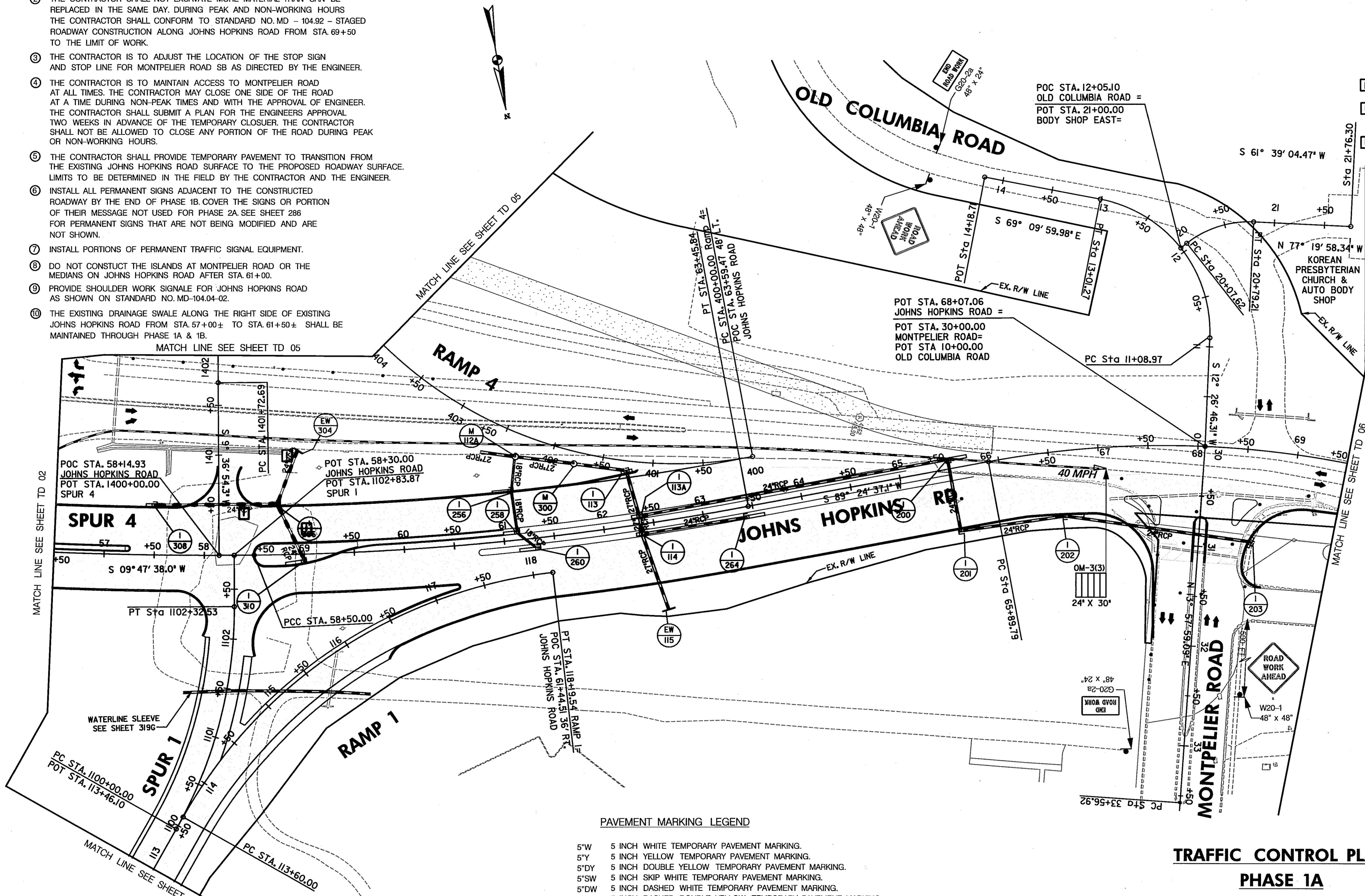
SCALE: PLAN: 1" = 50'

CONSTRUCTION NOTES:

- 1 MAINTAIN EXISTING TRAFFIC PATTERN ON JOHNS HOPKINS ROAD.
- 2 THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN CAN BE REPLACED IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS THE CONTRACTOR SHALL CONFORM TO STANDARD NO. MD - 104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS HOPKINS ROAD FROM STA. 69+50 TO THE LIMIT OF WORK.
- 3 THE CONTRACTOR IS TO ADJUST THE LOCATION OF THE STOP SIGN AND STOP LINE FOR MONTPELIER ROAD SB AS DIRECTED BY THE ENGINEER.
- 4 THE CONTRACTOR IS TO MAINTAIN ACCESS TO MONTPELIER ROAD AT ALL TIMES. THE CONTRACTOR MAY CLOSE ONE SIDE OF THE ROAD AT A TIME DURING NON-PEAK TIMES AND WITH THE APPROVAL OF ENGINEER. THE CONTRACTOR SHALL SUBMIT A PLAN FOR THE ENGINEERS APPROVAL TWO WEEKS IN ADVANCE OF THE TEMPORARY CLOSURE. THE CONTRACTOR SHALL NOT BE ALLOWED TO CLOSE ANY PORTION OF THE ROAD DURING PEAK OR NON-WORKING HOURS.
- 5 THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT TO TRANSITION FROM THE EXISTING JOHNS HOPKINS ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. LIMITS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.
- 6 INSTALL ALL PERMANENT SIGNS ADJACENT TO THE CONSTRUCTED ROADWAY BY THE END OF PHASE 1B. COVER THE SIGNS OR PORTION OF THEIR MESSAGE NOT USED FOR PHASE 2A. SEE SHEET 286 FOR PERMANENT SIGNS THAT ARE NOT BEING MODIFIED AND ARE NOT SHOWN.
- 7 INSTALL PORTIONS OF PERMANENT TRAFFIC SIGNAL EQUIPMENT.
- 8 DO NOT CONSTRUCT THE ISLANDS AT MONTPELIER ROAD OR THE MEDIANS ON JOHNS HOPKINS ROAD AFTER STA. 61+00.
- 9 PROVIDE SHOULDER WORK SIGNALS FOR JOHNS HOPKINS ROAD AS SHOWN ON STANDARD NO. MD-104.04-02.
- 10 THE EXISTING DRAINAGE SWALE ALONG THE RIGHT SIDE OF EXISTING JOHNS HOPKINS ROAD FROM STA. 57+00± TO STA. 61+50± SHALL BE MAINTAINED THROUGH PHASE 1A & 1B.

CONSTRUCT THE FOLLOWING PORTION OF THE DRAINAGE SYSTEM

- EW-115 TO I-114 (BASE ONLY COVER WITH STEEL PLATE) TO I-113A (BASE ONLY COVER WITH STEEL PLATE) TO I-113 TO ~~M-112~~ M-300 TO M-112A 1
- I-203 TO I-202 TO I-201 TO I-200 (BASE ONLY TO GRADE COVER WITH STEEL PLATE) TO I-113A
- I-260 (BASE ONLY COVER WITH STEEL PLATE) TO I-258 (BASE ONLY COVER WITH STEEL PLATE) TO I-256 TO M-112A FOR THE PIPE FROM M-112A TO EW-112 SEE SHEET ~~174~~ 1
- FOR THE ~~LENGTH~~ LENGTH NEEDED. FLOW FROM THIS PIPE SHALL BE DIRECTED TO THE EXISTING DRAINAGE ALONG JOHNS HOPKINS ROAD
- 1 I-310 TO I-306 TO EW-304 SEE SHEET 174 FOR SEQUENCE OF STORM DRAIN.
- I-308 TO I-306.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- T TRAFFIC CONTROL SIGN - PROPOSED
- T TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

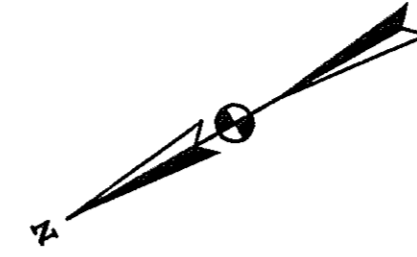
- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

**TRAFFIC CONTROL PLAN
PHASE 1A**

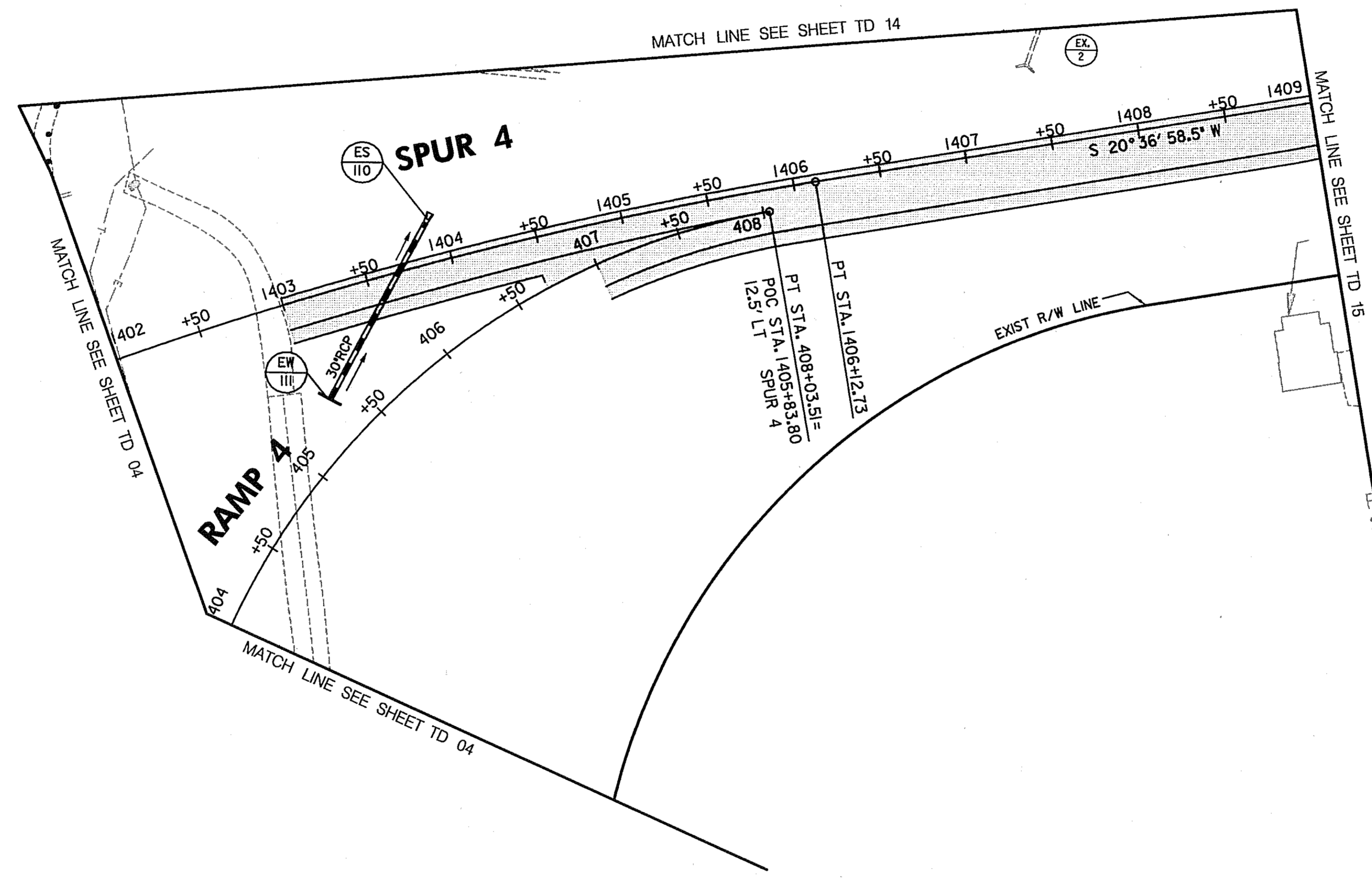
TD 04 OF 16

<p>REVISIONS</p> <ul style="list-style-type: none"> 1 ADDENDUM NO. 2-08/25/00. 1 REDLINE NO. 1-2/20/01 	<p>REPLACE SHEET</p> <p>HURST-ROSCH ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683</p>	<p>STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD</p> <p>CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 68 OF 320 PREL. TRAC. BY FINAL TRAC. BY</p>
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CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

EW-111 TO ES-110



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE. ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 1A**

TD 05 OF 16

REPLACE SHEET
 HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

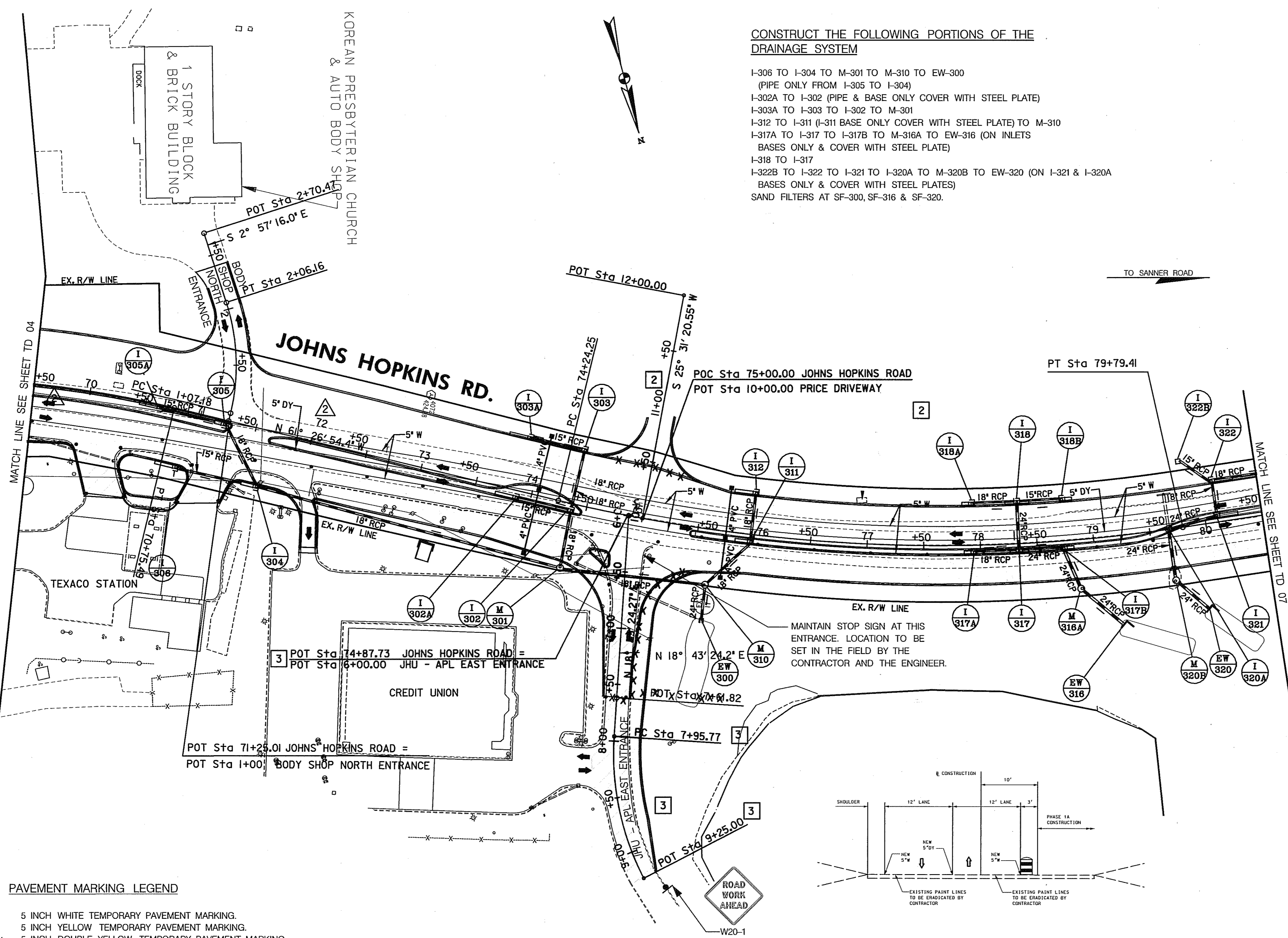
REVISIONS	
	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 69		OF 320	

SCALE: PLAN: 1" = 50'

TO US RTE. 29

TO SANNER ROAD



CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

- I-306 TO I-304 TO M-301 TO M-310 TO EW-300 (PIPE ONLY FROM I-305 TO I-304)
- I-302A TO I-302 (PIPE & BASE ONLY COVER WITH STEEL PLATE)
- I-303A TO I-303 TO I-302 TO M-301
- I-312 TO I-311 (I-311 BASE ONLY COVER WITH STEEL PLATE) TO M-310
- I-317A TO I-317 TO I-317B TO M-316A TO EW-316 (ON INLETS BASES ONLY & COVER WITH STEEL PLATE)
- I-318 TO I-317
- I-322B TO I-322 TO I-321 TO I-320A TO M-320B TO EW-320 (ON I-321 & I-320A BASES ONLY & COVER WITH STEEL PLATES)
- SAND FILTERS AT SF-300, SF-316 & SF-320.

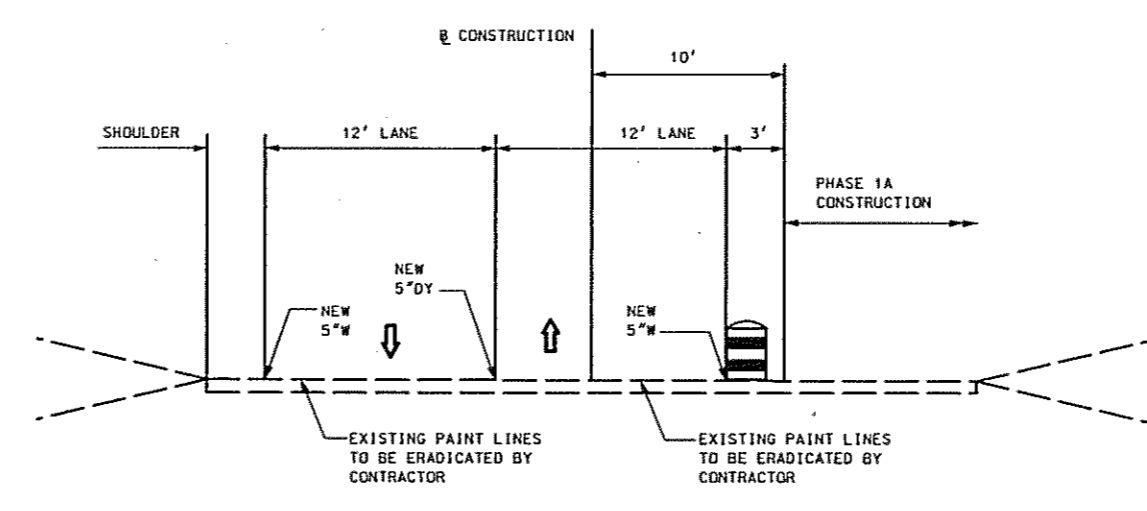
- CONSTRUCTION NOTES:**
- ① THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN CAN BE REPLACED IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS THE CONTRACTOR SHALL CONFORM TO STANDARD NO. MD-104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS HOPKINS ROAD FROM STA. 69+50 TO THE LIMIT OF WORK.
 - ② TEXACO STATION - CONTRACTOR MUST MAINTAIN ACCESS TO THIS STATION AT ALL TIMES. HE MUST MAINTAIN BOTH ENTRANCES DURING PEAK AND NON-WORKING HOURS. DURING WORKING HOURS HE MAY CLOSE ONE ENTRANCE. THE CONTRACTOR SHALL SUBMIT A CLOSURE SCHEDULE TO THE ENGINEER AND THE TEXACO STATION OWNER FOR THERE APPROVAL.
 - ③ JHU-APL CREDIT UNION - CONTRACTOR SHALL COORDINATE THE WORK AROUND THE RIGHT IN AT STA. 72+00± WITH THE CREDIT UNION.
 - ④ JHU-APL EAST ENTRANCE - CONTRACTOR SHALL COORDINATE ANY TEMPORARY CLOSURE OF THIS ENTRANCE WITH JHU-APL, THE JHU-APL CREDIT UNION AND THE ENGINEER. SEE THE SPECIAL PROVISIONS FOR GENERAL TIMES AND CONDITIONS FOR CLOSURE AND CONTACT PERSON.
 - ⑤ EXISTING TRAFFIC PATTERNS TO BE MAINTAINED.
 - ⑥ TO CONSTRUCT THE MEDIAN INLETS THE CONTRACTOR SHALL TEMPORARILY MOVE THE WEST BOUND TRAFFIC TO THE NEW WEST BOUND LANE DURING WORKING HOURS, EAST BOUND TRAFFIC SHALL BE MAINTAINED AS SHOWN. DURING PEAK AND NON-WORKING TRAFFIC PATTERN SHALL REMAIN AS SHOWN.
 - ⑦ DO NOT CONSTRUCT THE ISLAND AT THE JHU-APL EAST ENTRANCE UNTIL PHASE 2.
 - ⑧ AS DIRECTED BY THE ENGINEER RELOCATE EXISTING GROUND MOUNTED SIGNS TO AID IN THE FLOW OF TRAFFIC.
 - ⑨ PROVIDE STEEL PLATE AHEAD AND NEW TRAFFIC PATTERN SIGNS AS DIRECTED BY THE ENGINEER.
 - ⑩ THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT TO TRANSITION FROM THE EXISTING JOHNS HOPKINS ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. LIMITS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



STA. 74+24 TO STA. 80+50 (JOHNS HOPKINS ROAD) (TYPICAL)

TRAFFIC CONTROL PLAN PHASE 1A

TD 06 OF 16

REPLACE SHEET

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
1	ADDENDUM NO. 2-08/25/00
2	REDLINE NO. 2-DATE: 7/30/01
3	REDLINE NO. 3-DATE: 1/31/02

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. H07415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 70 OF 320
PREL. TRAC. BY		FINAL TRAC. BY	

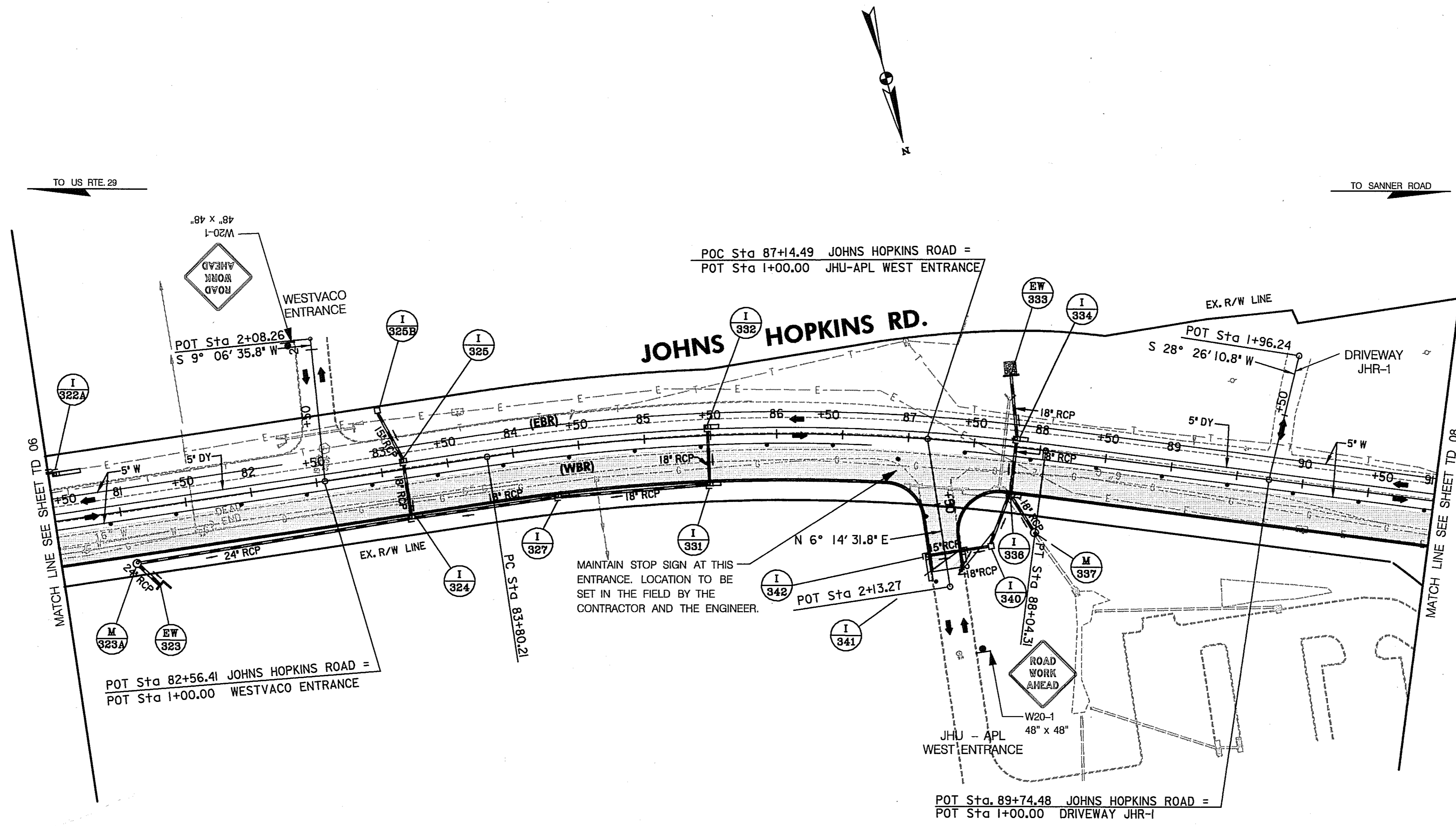
SCALE: PLAN: 1" = 50'

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

I-331 TO I-327 TO I-324 TO M-323A TO EW-323
 I-332 TO I-331 (I-332 BASE ONLY & COVER WITH STEEL PLATE)
 I-322A TO I-322 (I-322A BASE ONLY & COVER WITH STEEL PLATE)
 I-325B TO I-325 TO I-324 (I-325 BASE ONLY & COVER STEEL PLATE)
 I-342 TO I-341 TO I-340 TO I-336 TO I-334 TO EW-333 (I-334 BASE ONLY & COVER STEEL PLATE)
 M-337 TO I-336
 SAND FILTER SF-323.

CONSTRUCTION NOTES:

- ① THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN CAN BE REPLACED IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS CONTRACTOR SHALL CONFORM TO STANDARD NO. MD-104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS HOPKINS ROAD FROM STA. 69+50 TO THE LIMIT OF WORK.
- ② JHU-APL EAST ENTRANCE - CONTRACTOR SHALL COORDINATE ANY TEMPORARY CLOSURE OF THIS ENTRANCE WITH JHU-APL AND THE ENGINEER. SEE THE SPECIAL PROVISIONS FOR GENERAL TIMES AND CONDITIONS FOR TEMPORARY CLOSURES AND CONTACT PERSON.
- ③ EXISTING TRAFFIC PATTERNS TO BE MAINTAINED.
- ④ TO CONSTRUCT THE MEDIAN INLETS THE CONTRACTOR SHALL TEMPORARILY MOVE THE WEST BOUND TRAFFIC TO THE NEW WEST BOUND LANE DURING WORKING HOURS, EAST BOUND TRAFFIC SHALL BE MAINTAINED AS SHOWN. DURING PEAK AND NON-WORKING TRAFFIC PATTERN SHALL REMAIN, AS SHOWN.
- ⑤ THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT TO TRANSITION FROM THE EXISTING JOHNS HOPKINS ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. LIMITS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.

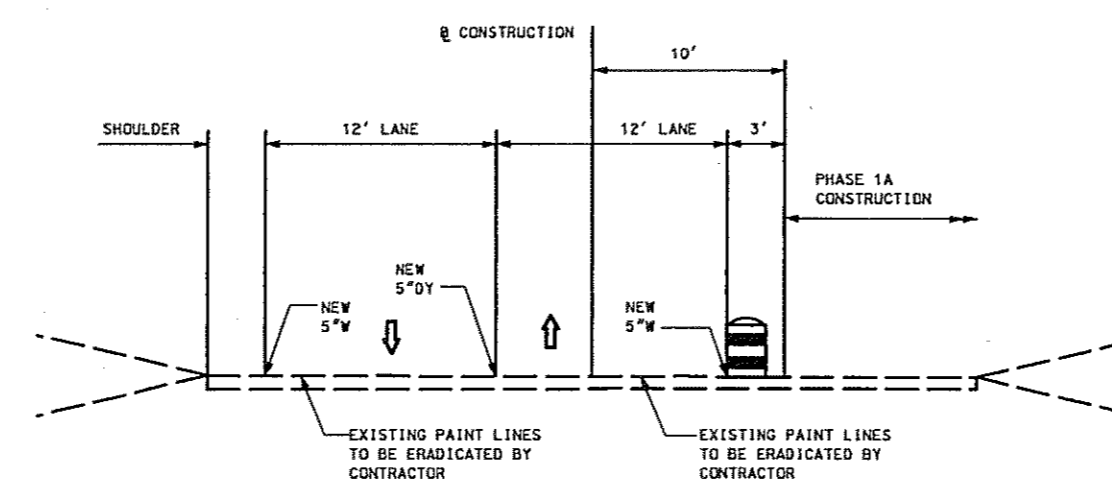


LEGEND

- ==== NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



STA. 80+50 TO STA. 91+00 (JOHNS HOPKINS ROAD)
(TYPICAL)

SCALE: PLAN: 1" = 50'

TRAFFIC CONTROL PLAN

PHASE 1A

TD 07 OF 16

REPLACE SHEET
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2-08/25/00

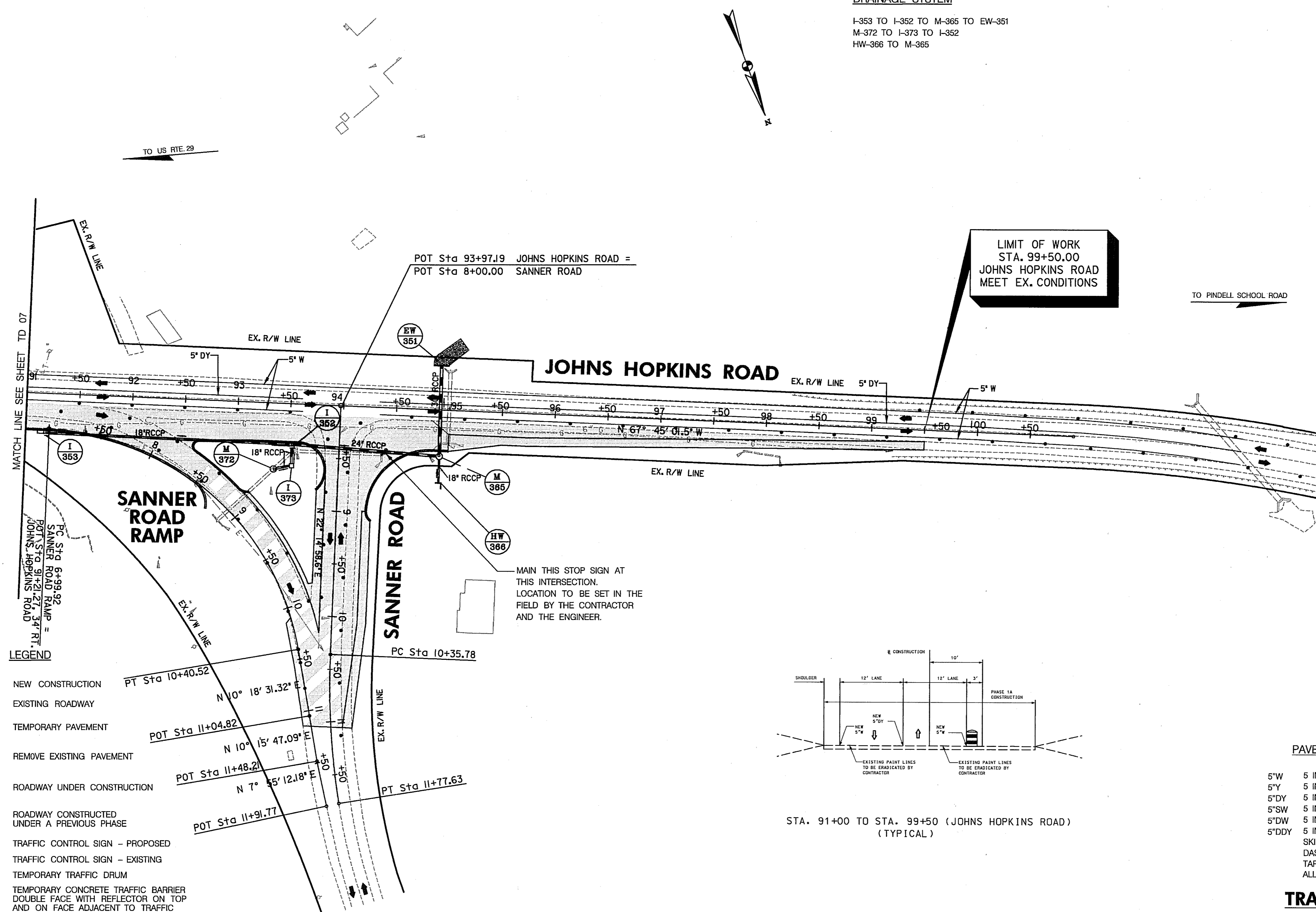
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 71		OF 320	

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

I-353 TO I-352 TO M-365 TO EW-351
 M-372 TO I-373 TO I-352
 HW-366 TO M-365

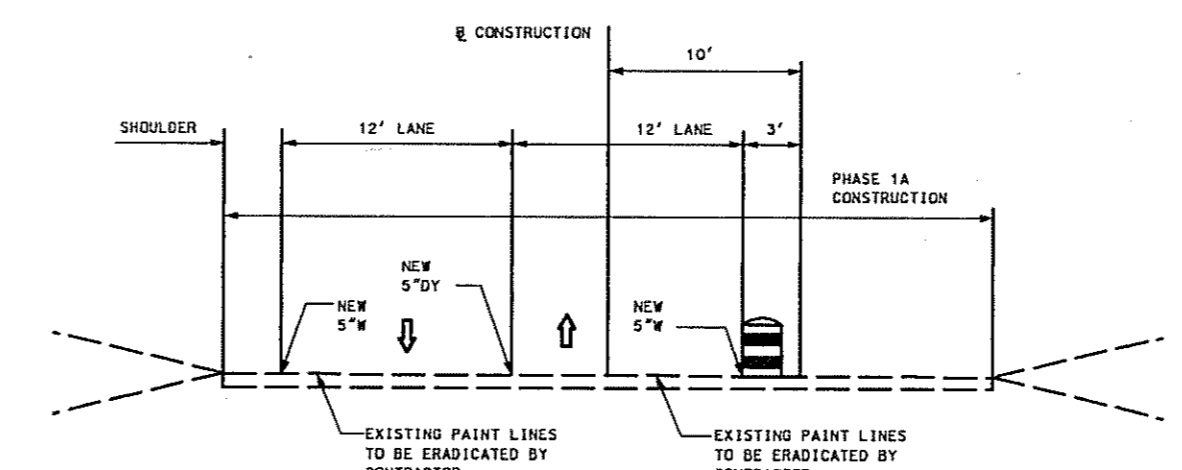
CONSTRUCTION NOTES:

- ① THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN CAN BE REPLACED IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS THE CONTRACTOR SHALL CONFORM TO STANDARD NO. MD-104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS HOPKINS ROAD FROM STA. 69+50 TO THE LIMIT OF WORK.
- ② CONTRACTOR SHALL CONSTRUCT SANNER ROAD BEFORE HE WORKS ON THE SANNER ROAD RAMP AND THE AREA ALONG JOHNS HOPKINS ROAD THAT APPROACHES THE RAMP. THE CONTRACTOR IS TO CONSTRUCT SANNER ROAD IN PHASES SO THAT DURING PEAK AND NON-WORKING HOURS TWO 11' LANES ARE MAINTAINED. DURING WORKING HOURS ONE LANE CAN BE CLOSED WITH THE PROPER FLAGGING OPERATIONS AS CALLED FOR IN STD. NO. MD-104.31-02 AND APPROVED BY THE ENGINEER. IF THE CONTRACTOR WANTS TO TEMPORARILY CLOSE SANNER ROAD, FOR ANY LENGTH OF TIME, THIS CAN ONLY BE DONE WITH THE APPROVAL OF THE ENGINEER AND HOWARD COUNTY. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAIL PLAN.
- ③ ONCE SANNER ROAD IS COMPLETED AND WITH THE APPROVAL OF THE ENGINEER THE CONTRACTOR MAY START WORK ON THE SANNER ROAD RAMP. DURING WORKING HOURS THE RAMP MAY BE CLOSED WITH THE RIGHT TURN MOVEMENT MOVED TO THE SANNER ROAD INTERSECTION WITH THE APPROVED WARNING SIGNS AND TEMPORARY PAVEMENT MARKINGS. THE RAMP MAY ONLY BE CLOSED OVER THE WEEKEND FOR CONSTRUCTION TO THE BITUMINOUS BASE COURSE. DURING PEAK AND NON-WORKING HOURS IT SHALL REMAIN OPEN. THE CONTRACTOR SHALL COORDINATE THE WEEKEND CLOSURE WITH THE ENGINEER, HOWARD COUNTY AND THE LOCAL BUSINESS AND HOMEOWNERS. THE CONTRACTOR SHALL SUPPLY TO THE ENGINEER, FOR HIS APPROVAL, A CLOSURES PLAN THAT WILL INDICATE, AT A MINIMUM, THE SIGN LAYOUT, THE DURATION OF THE CLOSURES, CONTACT PERSON, WORKING TIMES, HOW HE PLANS TO NOTIFY THE PUBLIC AND ANY OTHER THINGS THE AGENCIES MAY REQUIRE.
- ④ PROVIDE SHOULDER WORK SIGNAGE FOR JOHNS HOPKINS ROAD AS SHOWN ON STANDARD NO. MD - 104.04 - 02
- ⑤ PROVIDE SHOULDER WORK SIGNAGE FOR SANNER ROAD AS SHOWN ON STANDARD NO. MD - 104.04 - 02
- ⑥ PROVIDE LANE SHIFT SIGNS FOR JOHNS HOPKINS ROAD AS SHOWN ON STANDARD NO. MD-104.35
- ⑦ THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT TO TRANSITION FROM THE EXISTING JOHNS HOPKINS ROAD OR SANNER ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. LIMITS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



STA. 91+00 TO STA. 99+50 (JOHNS HOPKINS ROAD) (TYPICAL)

PAVEMENT MARKING LEGEND

- 5" W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5" Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5" DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5" SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5" DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5" DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
 PHASE 1A**

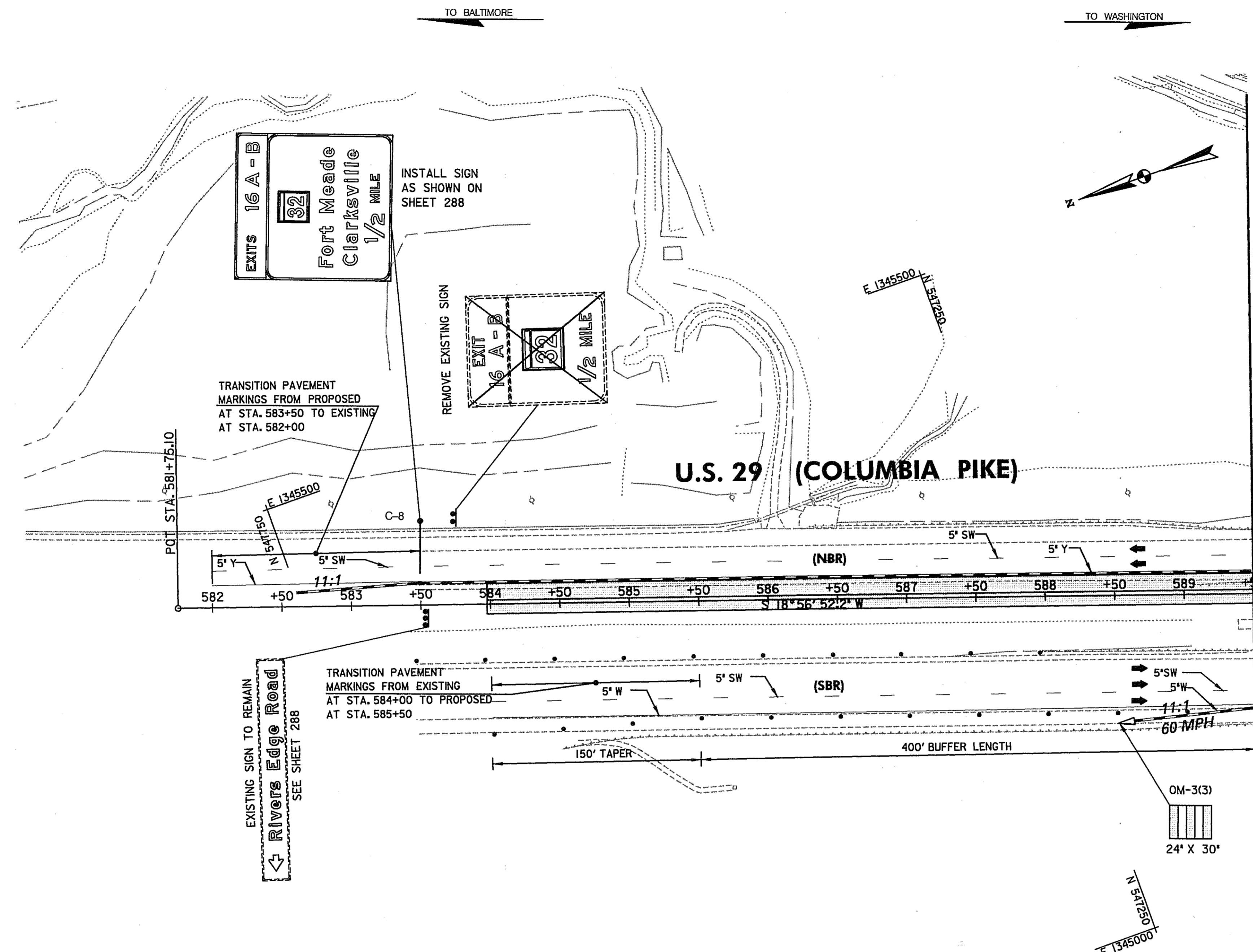
TD 08 OF 16

REPLACE SHEET
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
2 ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 72 OF 320
PREL. TRAC. BY	FINAL TRAC. BY		

SCALE: PLAN: 1" = 50'



CONSTRUCTION NOTES:

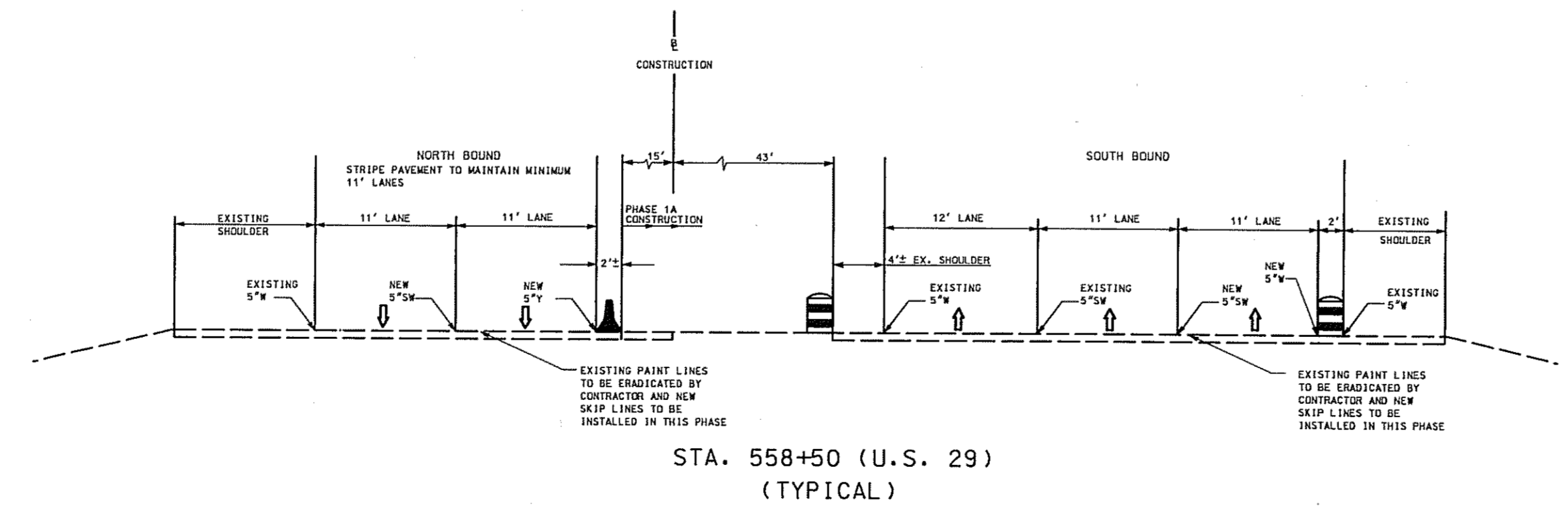
- ① ON US 29 SB AND US 29 NB PROVIDE SHOULDER CLOSED (W21-5(1)) SIGNS. USE STANDARD NO. MD-104.27.01 AND REPLACE "SHOULDER WORK" SIGNS WITH "SHOULDER CLOSED" SIGNS.
- ② MAINTAIN EXISTING TRAFFIC PATTERN.
- ③ TRANSITION PAVEMENT MARKINGS AS SHOWN.

LEGEND

- ==== NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- ▨ REMOVE EXISTING PAVEMENT
- ▩ ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- ⊠ TRAFFIC CONTROL SIGN - PROPOSED
- ⊡ TRAFFIC CONTROL SIGN - EXISTING
- ⊞ TEMPORARY TRAFFIC DRUM
- ▬ TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- △ TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VMS VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



**TRAFFIC CONTROL PLAN
PHASE 1A**

TD 09 OF 16

REPLACE SHEET
HURST-ROSCHER ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		SHEET NO.	73 OF 320
		FINAL TRAC. BY	

SCALE: PLAN: 1" = 50'

TO BALTIMORE

TO WASHINGTON

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERN.

PAVEMENT MARKING LEGEND

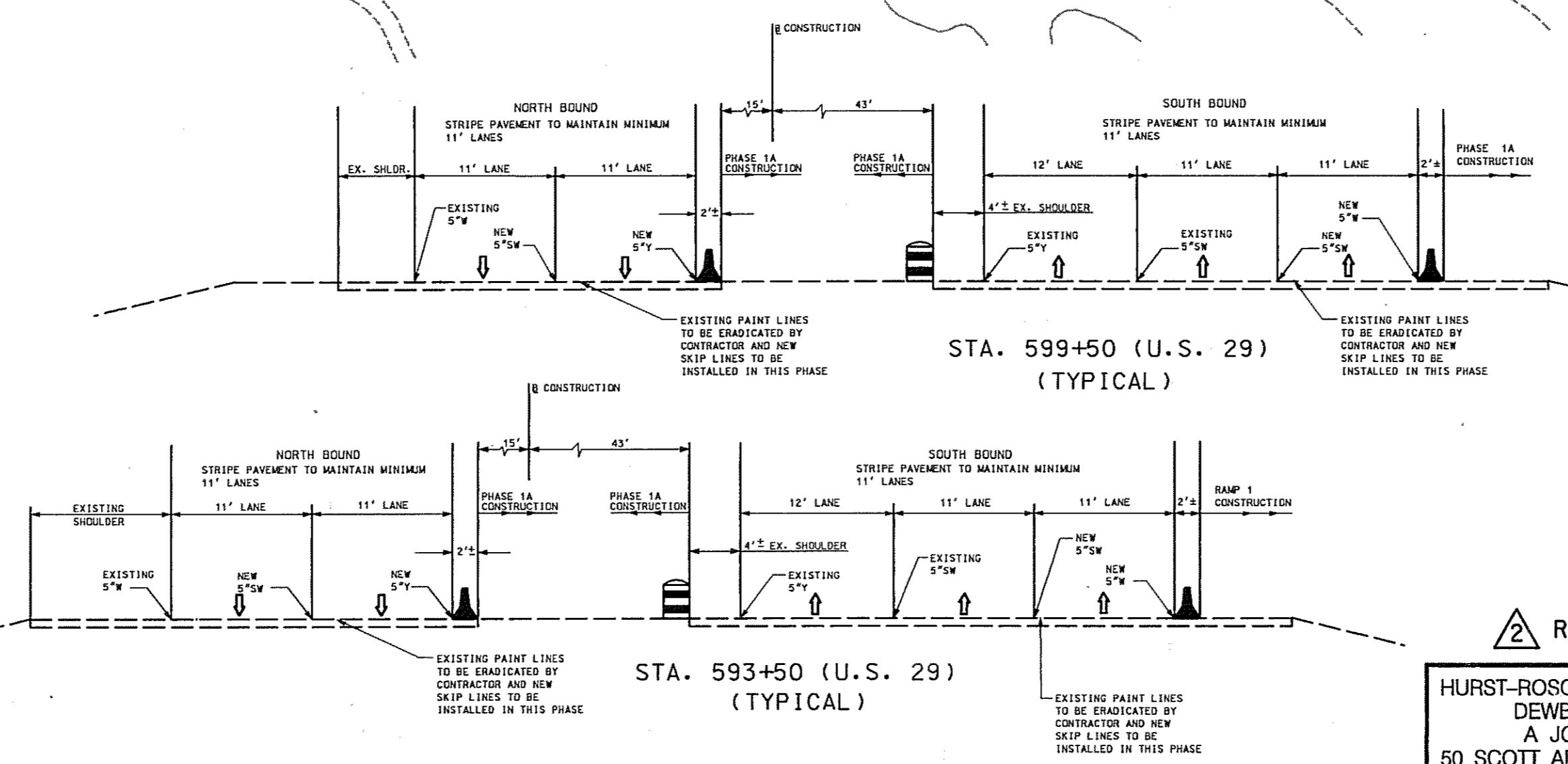
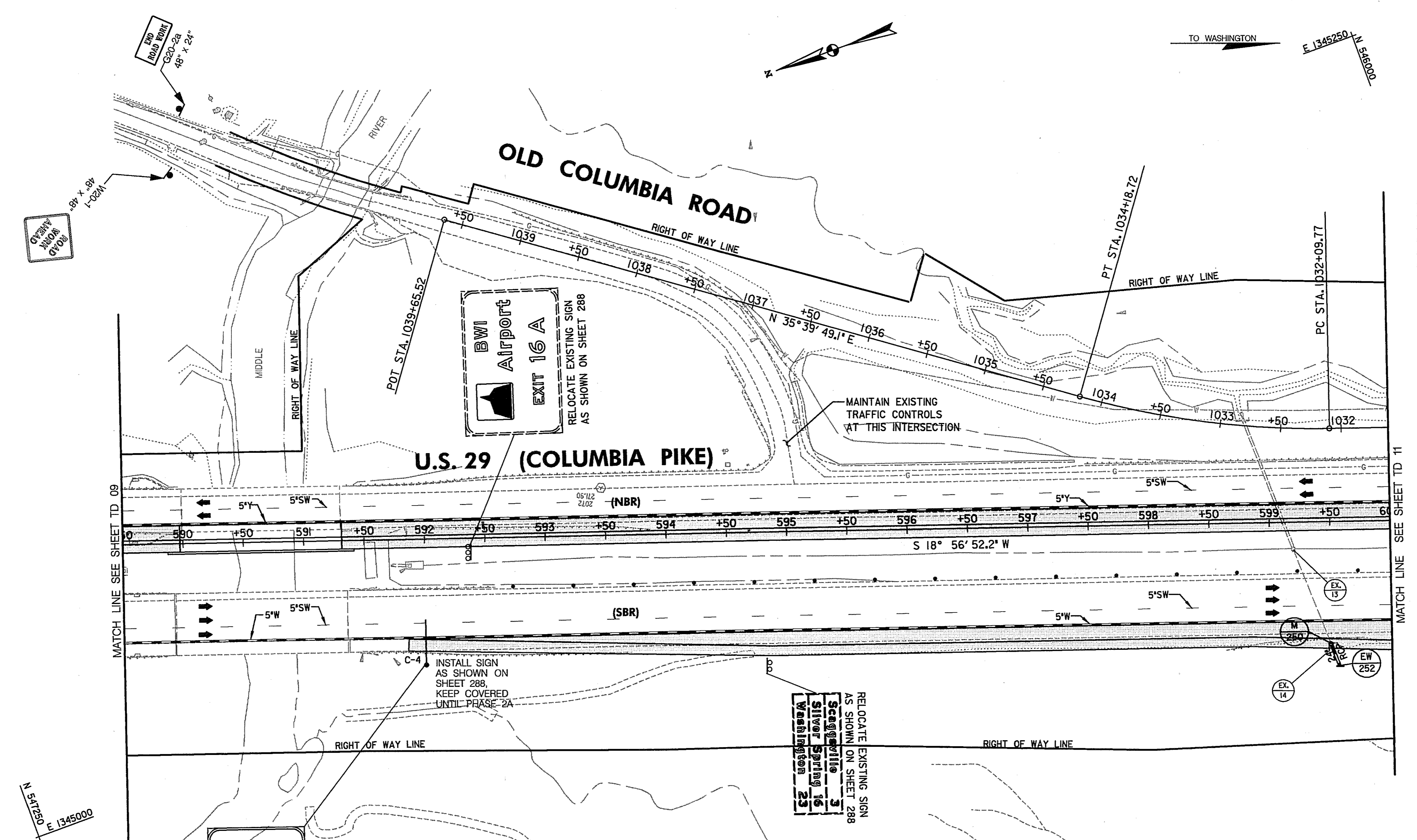
- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM.

EW-252 TO M-250, INCLUDING CHECK DAM

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VMS VARIABLE MESSAGE SIGN
- FLEXIBLE POST



TRAFFIC CONTROL PLAN PHASE 1A

TD 10 OF 16

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 74 OF 320
PREL. TRAC. BY FINAL TRAC. BY

REVISIONS

② ADDENDUM NO. 2-08/25/00

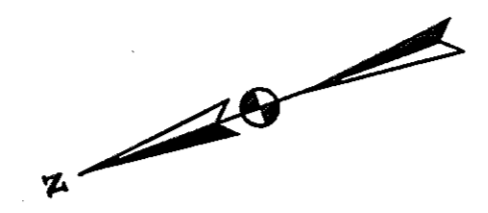
REPLACE SHEET

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

SCALE: PLAN: 1" = 50'

N 549000
E 1345250

TO BALTIMORE



EXIT 16

32

Fort Meade
Clarksville
1 MILE

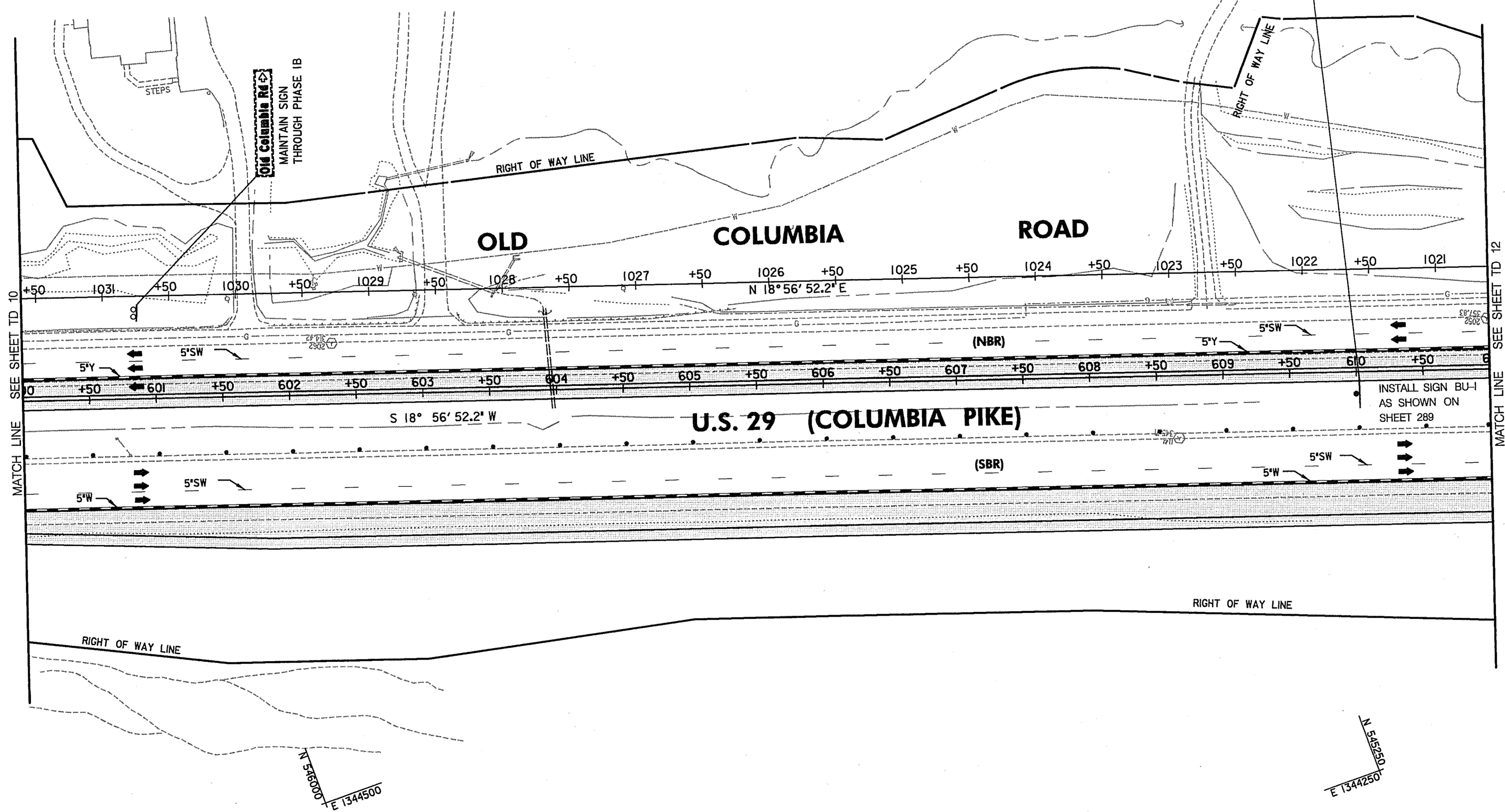
TO WASHINGTON

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERN.
- ② MAINTAIN ACCESS TO ALL DRIVEWAYS ON US 29 NB

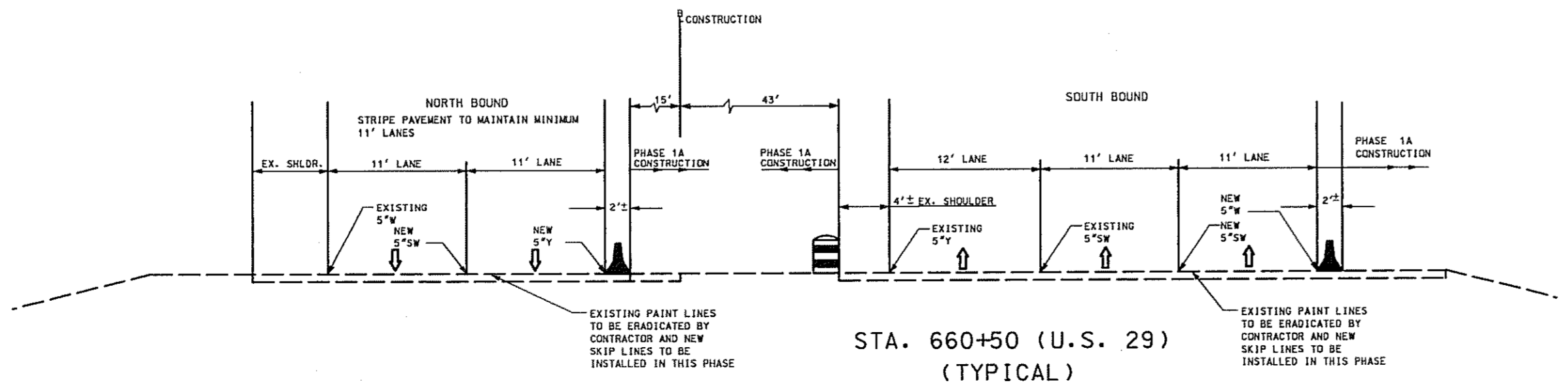
PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
DASHED=3' STRIPE, 9' GAP
TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
ALL OTHER SURFACES PAINT CAN BE USED.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



SCALE: PLAN: 1" = 50'

**TRAFFIC CONTROL PLAN
PHASE 1A**

TD 11 OF 16

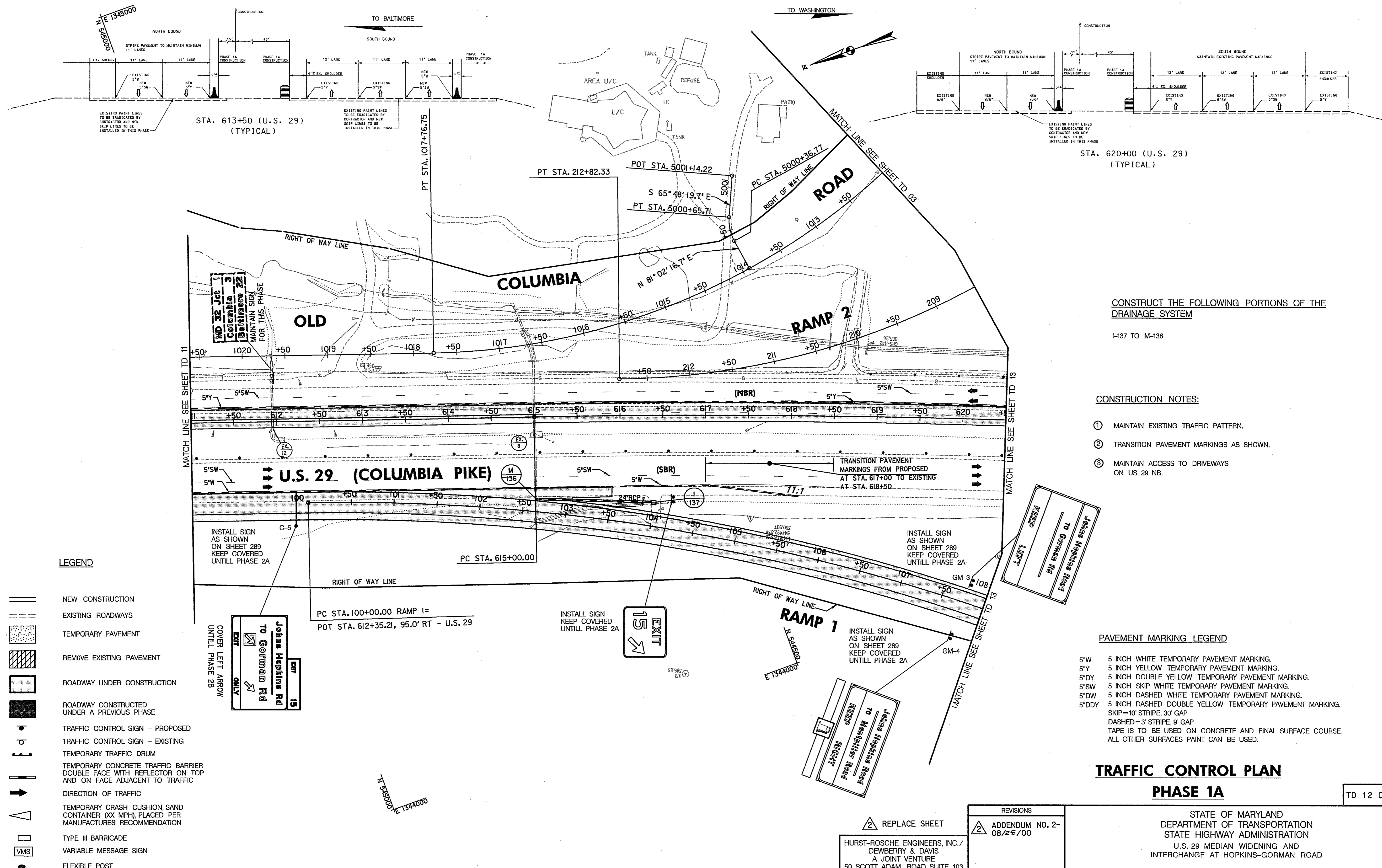
REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 75 OF 320
PREL. TRAC. BY FINAL TRAC. BY



STA. 613+50 (U.S. 29)
(TYPICAL)

STA. 620+00 (U.S. 29)
(TYPICAL)

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM
I-137 TO M-136

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERN.
- ② TRANSITION PAVEMENT MARKINGS AS SHOWN.
- ③ MAINTAIN ACCESS TO DRIVEWAYS ON US 29 NB.

LEGEND

- === NEW CONSTRUCTION
- - - EXISTING ROADWAYS
- ▨ TEMPORARY PAVEMENT
- ▩ REMOVE EXISTING PAVEMENT
- ▧ ROADWAY UNDER CONSTRUCTION
- ▦ ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- ⊠ TRAFFIC CONTROL SIGN - PROPOSED
- ⊡ TRAFFIC CONTROL SIGN - EXISTING
- ⊞ TEMPORARY TRAFFIC DRUM
- ▤ TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- ➔ DIRECTION OF TRAFFIC
- △ TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VMS VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

TRAFFIC CONTROL PLAN

PHASE 1A

TD 12 OF 16

REPLACE SHEET

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

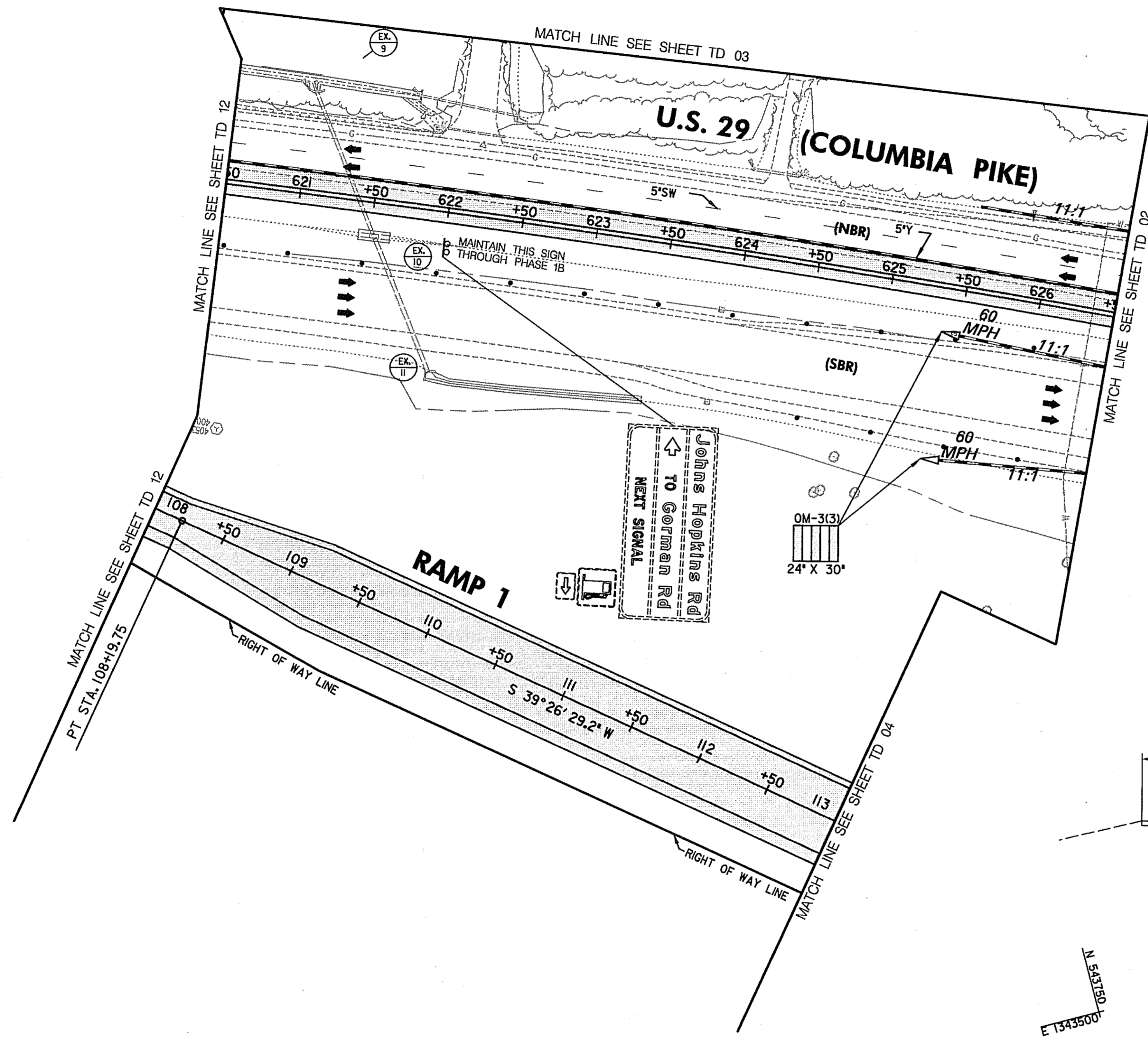
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 76 OF 320
PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1" = 50'

TO BALTIMORE

TO WASHINGTON

E 1344250
N 441530



CONSTRUCTION NOTES:

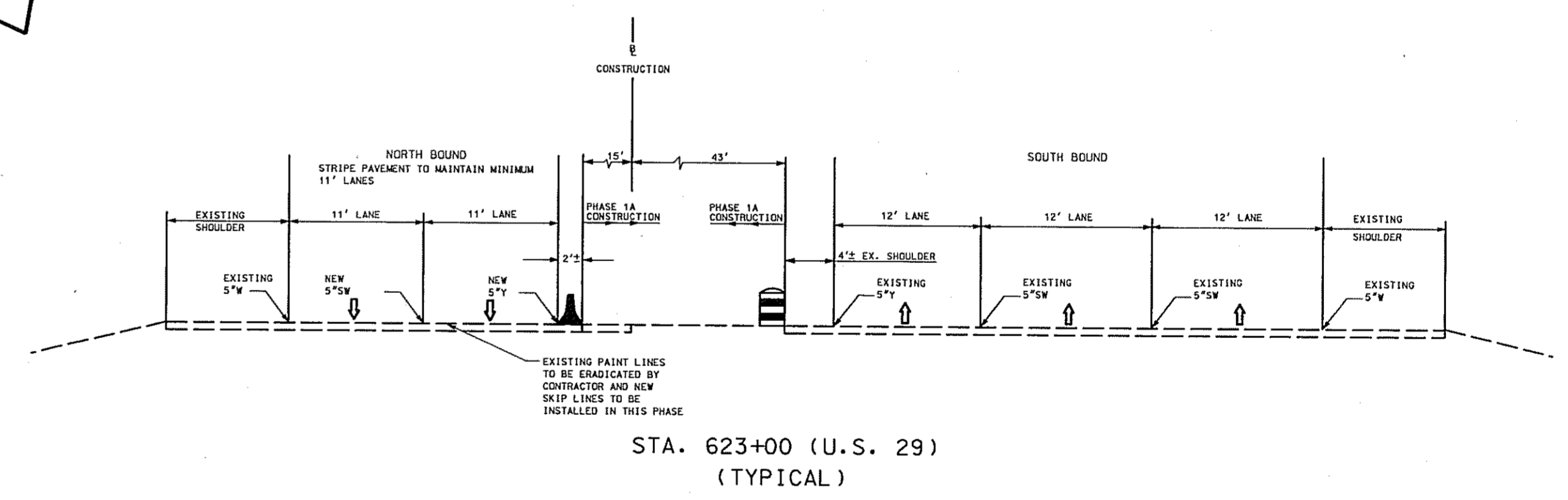
- ① MAINTAIN EXISTING TRAFFIC PATTERNS.
- ② MAINTAIN ACCESS TO ALL DRIVEWAYS ALONG US 29 NB.

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5'SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5'DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5'DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



**TRAFFIC CONTROL PLAN
PHASE 1A**

TD 13 OF 16

REPLACE SHEET
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 77		OF 320	

SCALE: PLAN: 1" = 50'

N 543500
E 1343500

TO BALTIMORE

TO WASHINGTON

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERN.
- ② TRANSITION PAVEMENT MARKINGS AS SHOWN.

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 9' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

- I-254 TO I-170 TO ES-169
- I-254A TO EW-254B

LEGEND

- NEW CONSTRUCTION
- - - EXISTING ROADWAYS
- ▨ TEMPORARY PAVEMENT
- ▩ REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- ⊙ TRAFFIC CONTROL SIGN - PROPOSED
- ⊙ TRAFFIC CONTROL SIGN - EXISTING
- ⊙ TEMPORARY TRAFFIC DRUM
- ⊙ TEMPORARY CONCRETE TRAFFIC BARRIER
- ⊙ DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- ➔ DIRECTION OF TRAFFIC
- △ TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- ◻ VMS
- FLEXIBLE POST

TRAFFIC CONTROL PLAN PHASE 1A

TD 14 OF 16

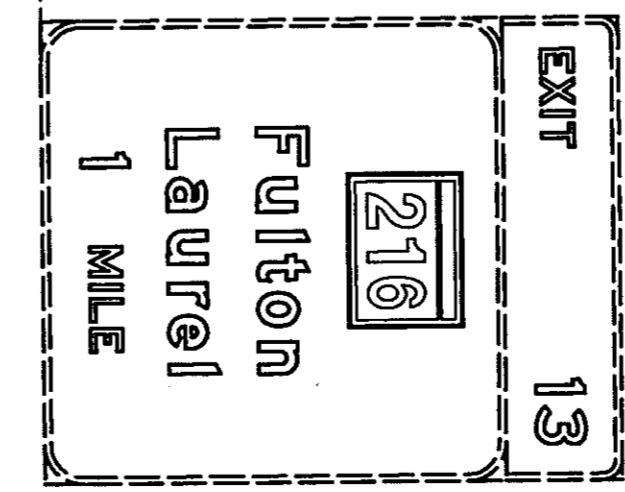
STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 78 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

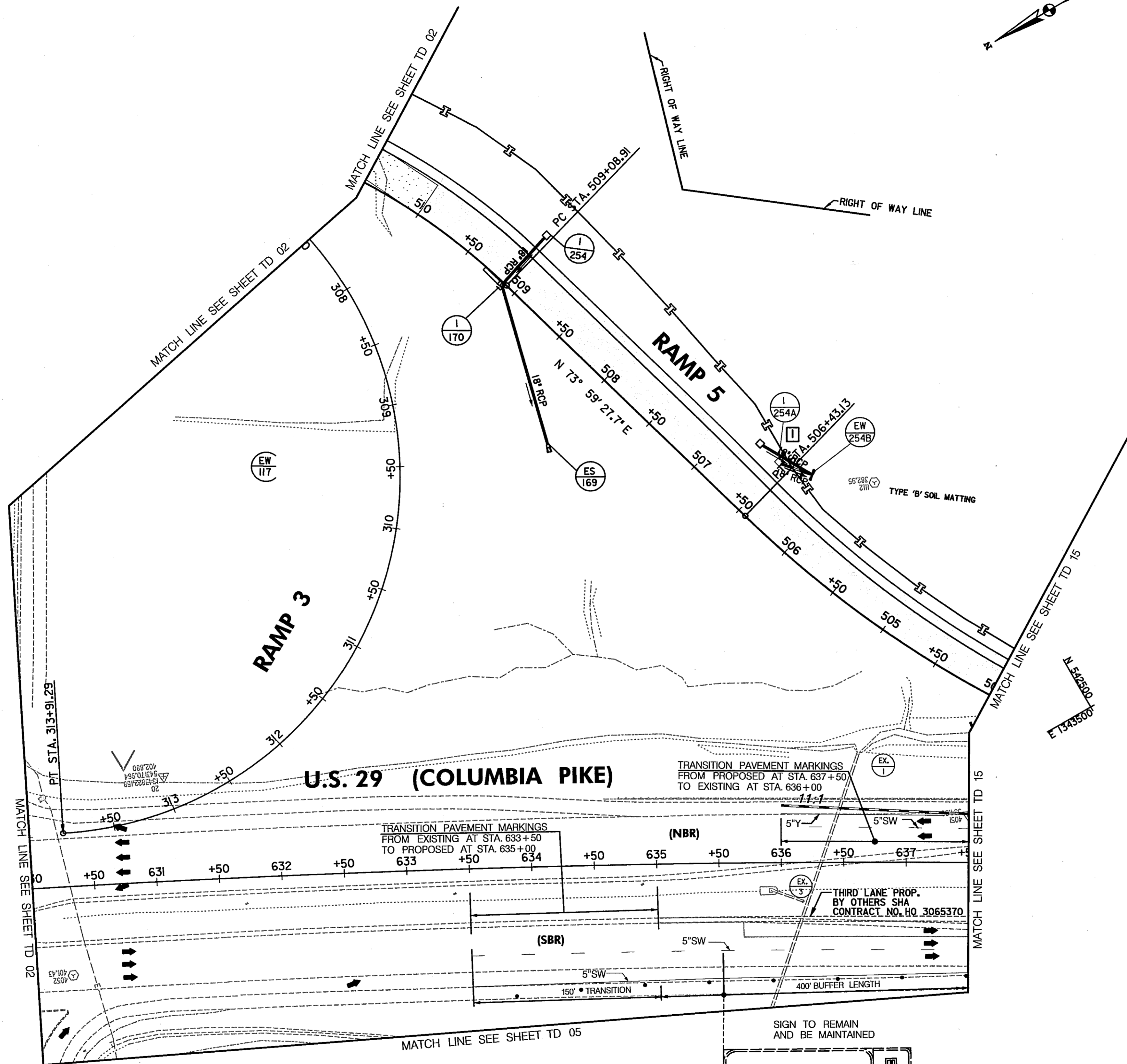
REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
 ② ADDENDUM NO. 2-08/25/00
 ① REDLINE NO. 1-2/20/01



SCALE: PLAN: 1" = 50'



E 1344250
N 513250'

E 1343500
N 513250'

E 1343500
N 5132500'

TO BALTIMORE

TO WASHINGTON

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERN.
- ② TRANSITION PAVEMENT MARKINGS AS SHOWN.

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

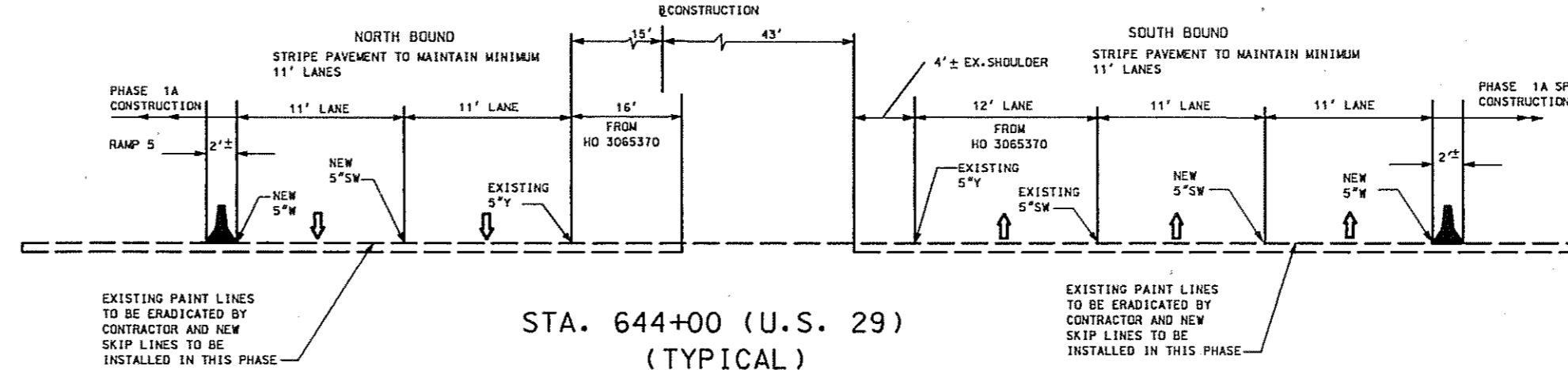
- EW-103 TO M-102 TO EW-101
- M-104 TO M-102
- EW-108 TO I-107
- CS-105 TO EW-106

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

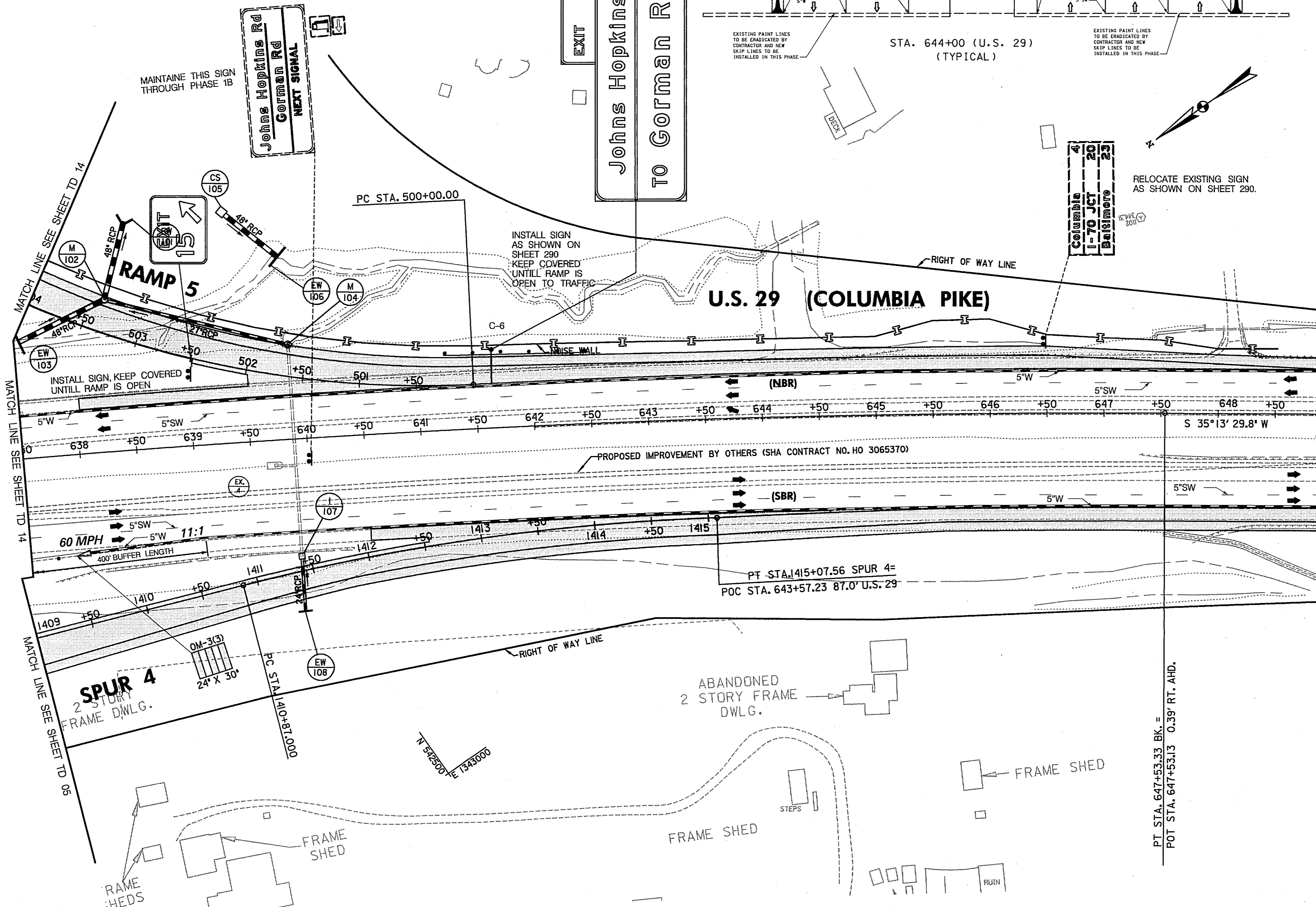
LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



E 1343750
N 522500

N 522500
E 1343000



TRAFFIC CONTROL PLAN
PHASE 1A

TD 15 OF 16

REVISIONS

② REPLACE SHEET

② ADDENDUM NO. 2-08/25/00

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

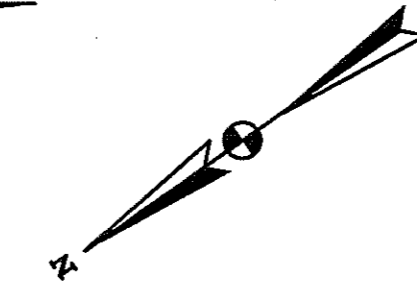
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 79 OF 320
PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1" = 50'

TO BALTIMORE

TO WASHINGTON



CONSTRUCTION NOTES:

- ① ON US 29 SB AND US 29 NB PROVIDE SHOULDER CLOSED (W21-5(1)) SIGNS. USE STANDARD NO. MD - 104.27.01 AND REPLACE "SHOULDER WORK" SIGNS WITH "SHOULDER CLOSED" SIGNS.
- ② MAINTAIN EXISTING TRAFFIC PATTERN.
- ③ TRANSITION PAVEMENT MARKINGS AS SHOWN.

SIGN NOTES:

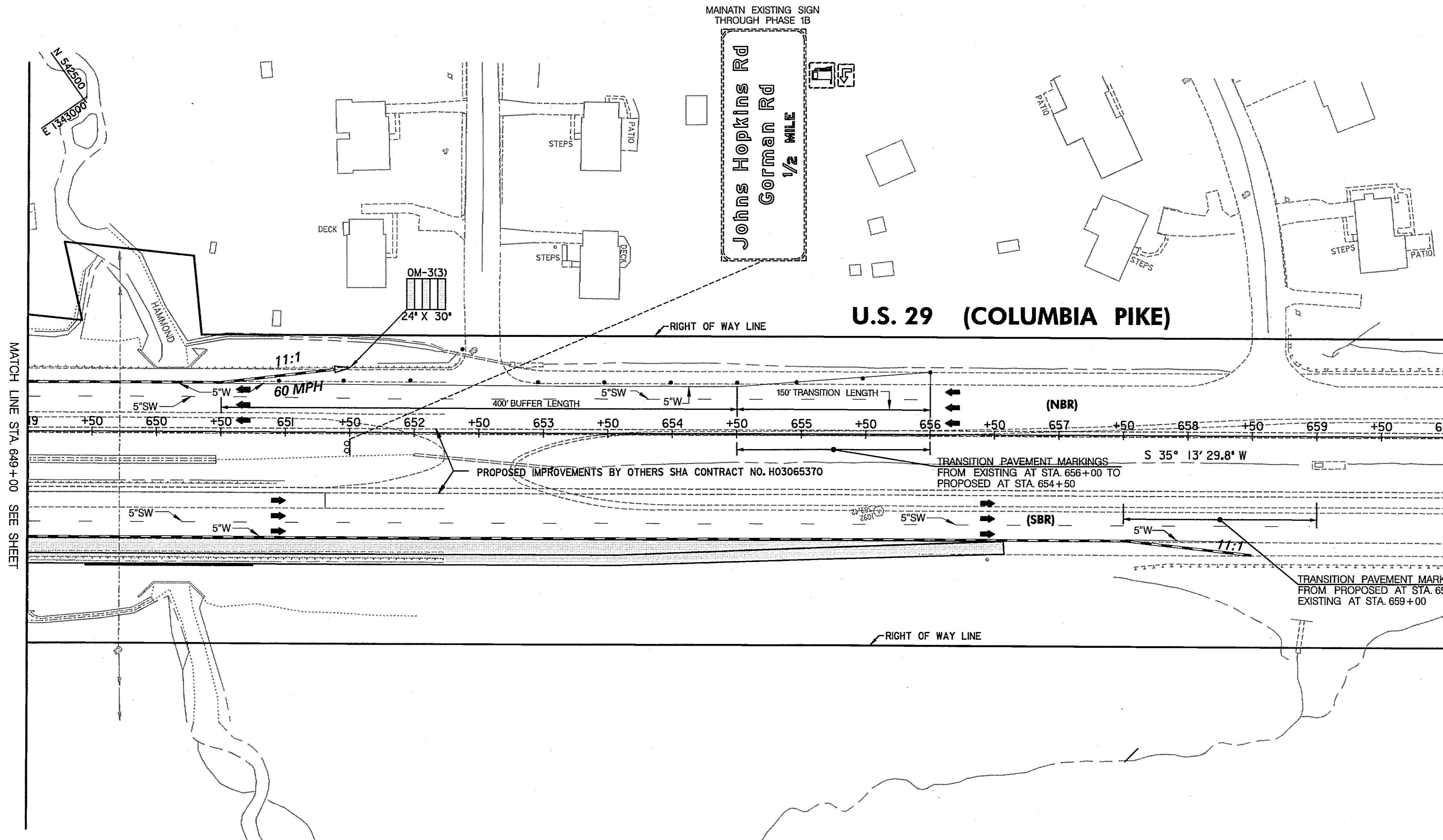
INSTALL EXIT 15 ADVANCE SIGNS FOR 1/2 MILE AND 3/4 MILE AS SHOWN ON SHEETS 291 & 292 AND COVER UNTILL RAMP 5 IS OPEN.

LEGEND

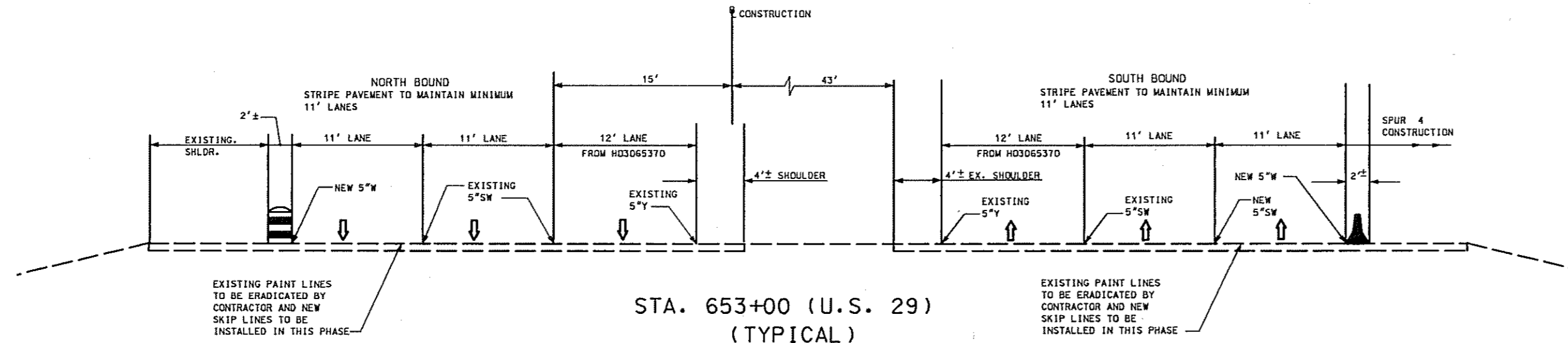
- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



MATCH LINE STA. 649+00 SEE SHEET



SCALE: PLAN: 1" = 50'

TRAFFIC CONTROL PLAN

PHASE 1A

TD 16 OF 16

REPLACE SHEET

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-	08/25/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 80 OF 320
PREL. TRAC. BY FINAL TRAC. BY

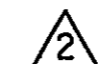
TD28US29.DGN


Phase 1B Construction

- 01) Maintain Project Limit Signs (MD 104.00-14 and MD 104.00-15) at the northerly and southerly project limits of US Rte. 29, at the easterly and westerly project limits of Johns Hopkins and Gorman Roads and the northerly project limit on Sanner Road.
- 02) Prior to any work on Ramp 2 or Ramp 3 acceleration lanes on US 29 NB, the work in the median must be completed and the barrier removed to the limits shown on the plans.
- 03) Construct Old Columbia Road from Sta. 1001+26 to Sta. 1039+65 while maintaining the driveway access to US 29 SB. The construction of Old Columbia Road will need to be coordinated with the construction of the new water line and gas line. The construction shall proceed from north to south unless otherwise approved by the engineer and Howard County. Enough of the roadway needs to be constructed to allow for the installation of the water line and gas line and to maintain driveway access.
 Construct a temporary connection from the existing Old Columbia Road connection to US 29 to the new Old Columbia Road at sta. 1036+50. This will be a driveway type connection.
 Construct the bifurcated barrier between Old Columbia Road and US 29 NB, once the new gas line is installed and operational.
 During this construction activity, the contractor must maintain acceptable access to US 29 NB from the existing driveways.
 During the construction of Old Columbia Road from Sta. 1036+00 to Sta. 1039+65.52, The contractor will place R11-3A, R11-2, R11-4 and no access to US 29 NB signs on Old Columbia Road north of the Middle Patuxent River Bridge as directed by the engineer.
- 04) Construct the Ramp 2 acceleration lane on US 29 NB from Sta. 598+50 to Sta. 615+99.
- 05) Construct the Ramp 3 acceleration lane on US 29 NB from Sta. 618+15 to Sta. 623+00.
- 06) Construct Ramp 2 from Sta. 205+50 to Sta. 212+82.
- 07) Construct temporary road from Johns Hopkins Road to Ramp 4.
- 08) Construct temporary road between US 29 NB and US 29 SB at station 614+00+/-.
- 09) Johns Hopkins Road from Montpelier Road to Sta. 99+50.
 Shift traffic to the northern side of Johns Hopkins Road using the newly completed section and portions of the existing road to maintain traffic and construct the southerly side of the road. Do not construct any medians at this time. Access must be maintained to all existing driveways and intersecting roads unless otherwise approved by the engineer.
 Contact the Body Shop to determine when the entrance may be temporarily closed during construction. Westvaco entrance must be open to traffic at all times unless temporary closure is approved by them and the Engineer.
- 10) As the last items of work, set up traffic control standard (MD 104.02-02) for Flagging Operation on 2 lanes, 2 way roadway and install Johns Hopkins Road at Sta. 42+60+/- and make temporary connection at the west end at the Montpelier Road intersection.
- 11) Traffic flow for the beginning of Phase 2 shall be as followed:
 - A) Through traffic on Johns Hopkins Road in both directions shall be accommodated on the portions of the new road constructed.
 - B) Traffic from US 29 NB to Johns Hopkins Road will make a left turn at US 29 NB, Sta. 614+00.00+/- and take the temporary connector to Ramp 1 and then to the new Johns Hopkins Road.
 - C) Traffic from US 29 SB to Johns Hopkins Road will use Ramp 1 and Spur 1.
 - D) Traffic from EB & WB Johns Hopkins Road to US 29 NB will use Ramp 2.
 - E) Traffic from EB Johns Hopkins Road to US 29 SB will use Spur 4 via the temporary Ramp 4 connection.
 - F) Traffic from WB Johns Hopkins Road to US 29 SB will use the following detour route: Ramp 2 to US 29 NB, US 29 NB to Rivens Edge Road signal and make a u-turn at Rivens Edge Road to US 29 SB.
- 12) Install permanent signs that will be used in Phase 2 and cover until there message are needed. All signs shall be available for installation so they could be used for phase 2a.
- 13) Items above must be done in Phase 1B. If there are items in any other Phase that the contractor wants to do, he shall be allowed to only with the approval of the Engineer and as long as it does not interfere with future construction Phases.

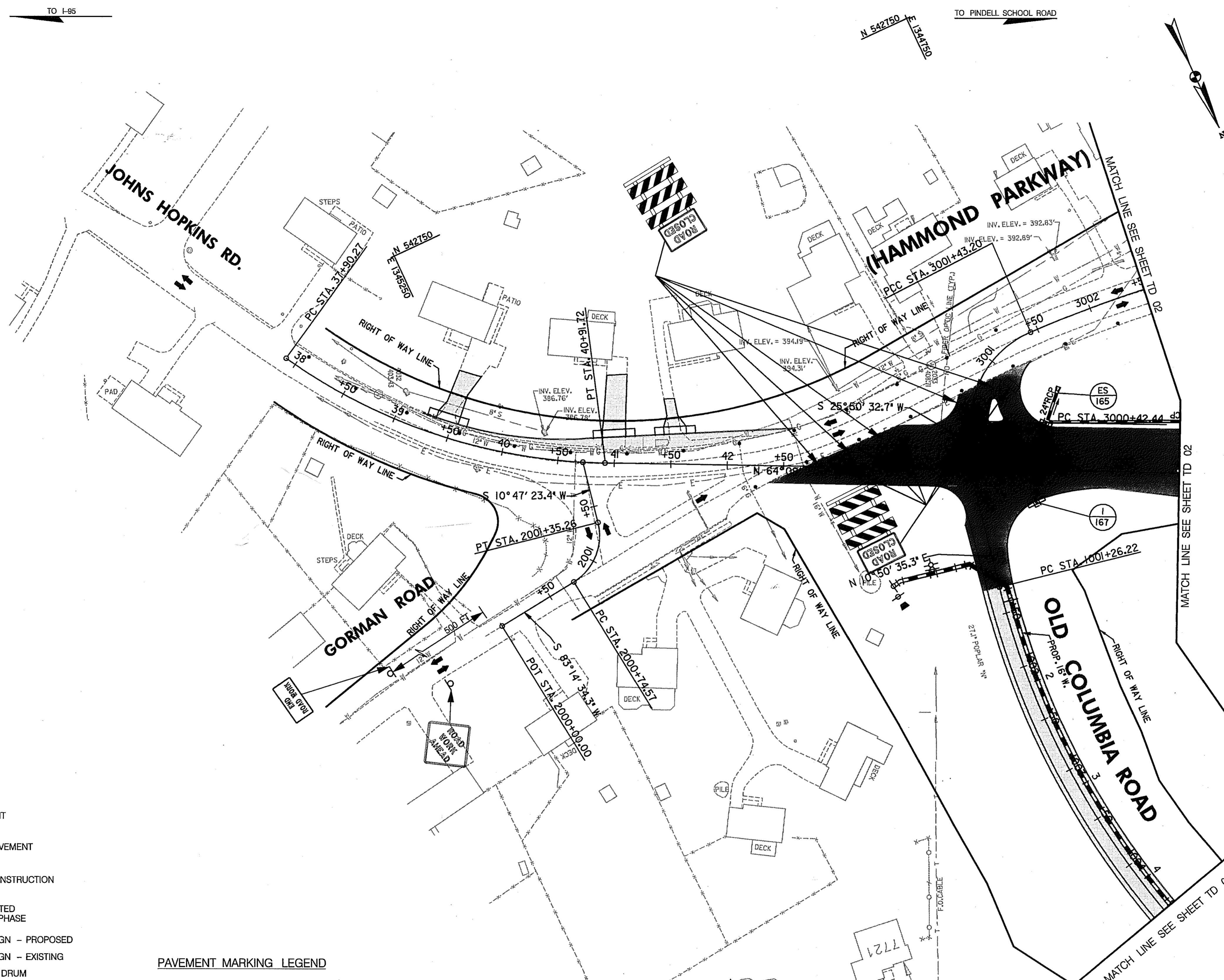
**TRAFFIC CONTROL PLAN
PHASE 1B**

TD 00 OF 16

 REPLACE SHEET
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
 ADDENDUM NO. 2- 08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. HO7415170	F.A.P. NO. SEE TITLE SHEET	SHEET NO. 81	OF 320
PREL. TRAC. BY	FINAL TRAC. BY		



- CONSTRUCTION NOTES:**
- THE CONSTRUCTION OF OLD COLUMBIA ROAD IS TO PROCEED FROM NORTH TO SOUTH. IN DOING THIS, ENOUGH OF THE ROAD MUST BE CONSTRUCTED TO MAINTAIN TWO-WAY TRAFFIC FOR THE DRIVEWAYS DURING NON-WORKING HOURS AND TO BE ABLE TO CONSTRUCT THE NEW 16" WATER LINE AND THE NEW GAS LINE. THE CONTRACTOR SHALL SUBMIT HIS CONSTRUCTION SEQUENCE PLAN, INCLUDING SIGNAGE, TO THE ENGINEER FOR HIS APPROVAL AND COORDINATE HIS PLAN AS STATED IN NOTE Z.
 - FOR OLD COLUMBIA ROAD:

THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION WITH THE INSTALLATION OF THE NEW WATER LINE AND GAS LINE.

THE SECTION FROM STA. 1039+25 TO STA. 1010+00 +/- TO THE END SHALL BE DONE FIRST BECAUSE THE WATER LINE NEEDS TO BE COMPLETED IN THIS AREA BEFORE WORK ON THE WATER LINE IN THE SECTION FROM 1001+26 TO STA. 1010+00 CAN BE DONE.

ENOUGH OF THE ROADWAY TYPICAL, WITHOUT THE WALL, NEEDS TO BE COMPLETED TO BE ABLE TO CONSTRUCT THE WATER LINE AND THE GAS LINE AND MAINTAIN ACCESS TO THE DRIVEWAYS IN THIS AREA. THE BARRIER WALL CAN NOT BE CONSTRUCTED UNTILL THE NEW GAS LINE IS INSTALLED AND OPERATIONAL.

THE CONTRACTOR NEEDS TO ALSO COORDINATE THIS WORK WITH THE PROPERTY OWNERS/RESIDENTS THAT ACCESS US 29 NB WITH DRIVEWAYS. HE SHALL SUBMIT A PLAN TO THE ENGINEER, FOR HIS APPROVAL, AS TO HOW HE WILL ACCOMPLISH THIS TASK. HE SHALL ALSO MEET WITH THE PROPERTY OWNERS/RESIDENTS AND THE ENGINEER TO GO OVER HIS CONSTRUCTION SEQUENCES IN THIS AREA.
 - MAINTAIN EXISTING TRAFFIC PATTERN
 - PROVIDE SHOULDER WORK SIGNAGE ON JOHNS HOPKINS ROAD AS SHOWN ON STANDARD NO. MD - 104.04 - 02.
 - MAINTAIN SIGNS INSTALLED IN PHASE 1A
 - MAINTAIN ACCESS TO THE DRIVEWAYS ON THE LEFT SIDE OF JOHNS HOPKINS ROAD FROM STA. 38+50 TO STA. 42+00.
 - INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.
 - THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT TO TRANSITION FROM THE EXISTING JOHNS HOPKINS ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. LIMITS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

**TRAFFIC CONTROL PLAN
PHASE 1B**

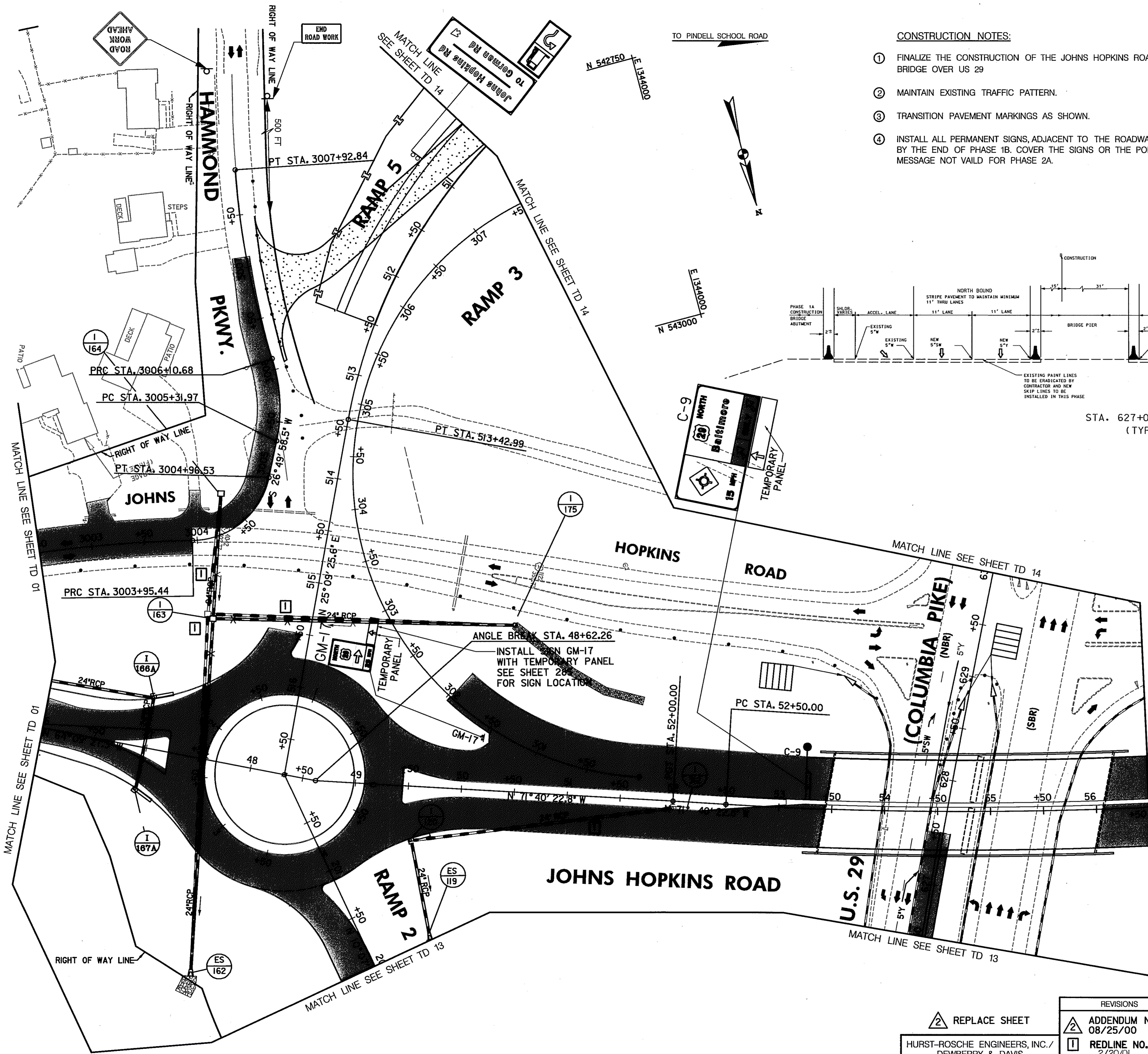
TD 01 OF 16

REPLACE SHEET
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
ADDENDUM NO. 2-08/25/00

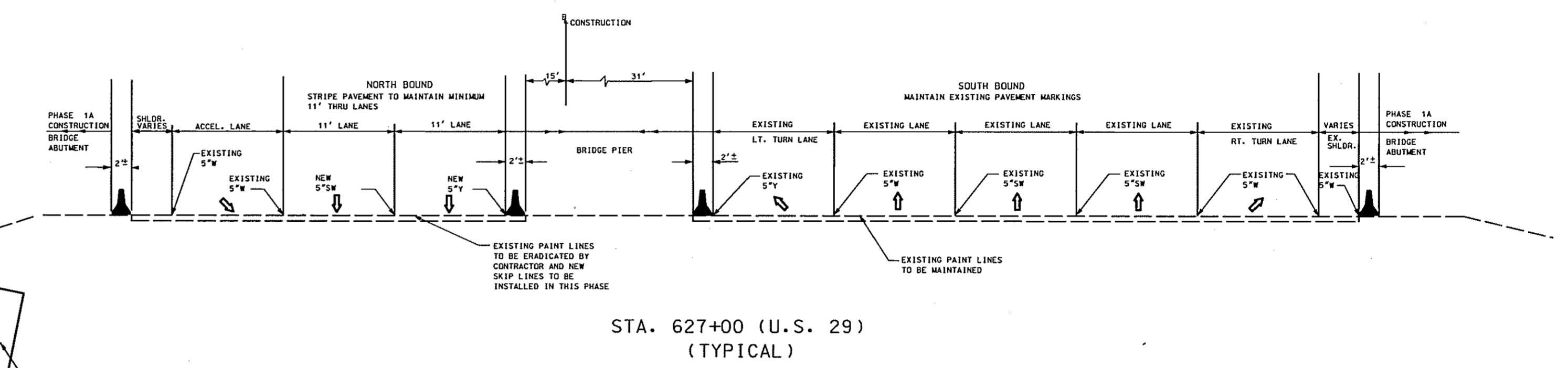
STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170	F.A.P. NO. SEE TITLE SHEET	SHEET NO. 82 OF 320
PREL. TRAC. BY	FINAL TRAC. BY	



- CONSTRUCTION NOTES:**
- FINALIZE THE CONSTRUCTION OF THE JOHNS HOPKINS ROAD BRIDGE OVER US 29
 - MAINTAIN EXISTING TRAFFIC PATTERN.
 - TRANSITION PAVEMENT MARKINGS AS SHOWN.
 - INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.

- PAVEMENT MARKING LEGEND**
- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
 DASHED=3' STRIPE, 9' GAP
 TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
 ALL OTHER SURFACES PAINT CAN BE USED.



- LEGEND**
- NEW CONSTRUCTION
 - EXISTING ROADWAY
 - TEMPORARY PAVEMENT
 - REMOVE EXISTING PAVEMENT
 - ROADWAY UNDER CONSTRUCTION
 - ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
 - TRAFFIC CONTROL SIGN - PROPOSED
 - TRAFFIC CONTROL SIGN - EXISTING
 - TEMPORARY TRAFFIC DRUM
 - TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
 - DIRECTION OF TRAFFIC
 - TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
 - TYPE III BARRICADE
 - VARIABLE MESSAGE SIGN
 - FLEXIBLE POST

**TRAFFIC CONTROL PLAN
 PHASE 1B**

TD 02 OF 16

REVISIONS

REPLACE SHEET	ADDENDUM NO. 2-08/25/00
HURST-ROSCH ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683	REDLINE NO. 1-2/20/01

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 83 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1"=50'

TO HOPKINS-GORMAN RD.

E 1344000
N 543750

TO OLD COLUMBIA RD.

E 1344000
N 544250

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

EW-125 TO EW-126
I-214 TO EW-212

CONSTRUCTION NOTES:

- FOR OLD COLUMBIA ROAD:
- THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION WITH THE INSTALLATION OF THE NEW WATER LINE AND GAS LINE.
 - THE SECTION FROM STA. 1039+25 TO STA. 1010+00 +/- SHALL BE DONE FIRST, BECAUSE THE WATER LINE NEEDS TO BE COMPLETED IN THIS AREA BEFORE WORK ON THE WATER LINE IN THE SECTION FROM STA. 1001+26 TO STA. 1010+00 CAN BE DONE.
 - ENOUGH OF THE ROADWAY TYPICAL, WITHOUT THE WALL NEEDS TO BE COMPLETED TO BE ABLE TO CONSTRUCT THE WATER LINE AND THE DRIVEWAYS. THE BARRIER WALL CAN NOT BE CONSTRUCTED UNTILL THE NEW GAS LINE IS INSTALLED AND OPERATIONAL.
 - THE CONTRACTOR NEEDS TO ALSO COORDINATE THIS WORK WITH PROPERTY OWNERS AND RESIDENTS THAT ACCESS US 29 NB WITH DRIVEWAYS. HE SHALL SUBMIT A PLAN TO THE ENGINEER, FOR HIS APPROVAL, AS TO HOW HE WILL ACCOMPLISH THIS TASK. HE SHALL ALSO MEET WITH PROPERTY OWNERS AND RESIDENTS AND THE ENGINEER TO GO OVER HIS CONSTRUCTION SEQUENCE IN THIS AREA.
 - INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VAILD FOR PHASE 2A.

PAVEMENT MARKING LEGEND

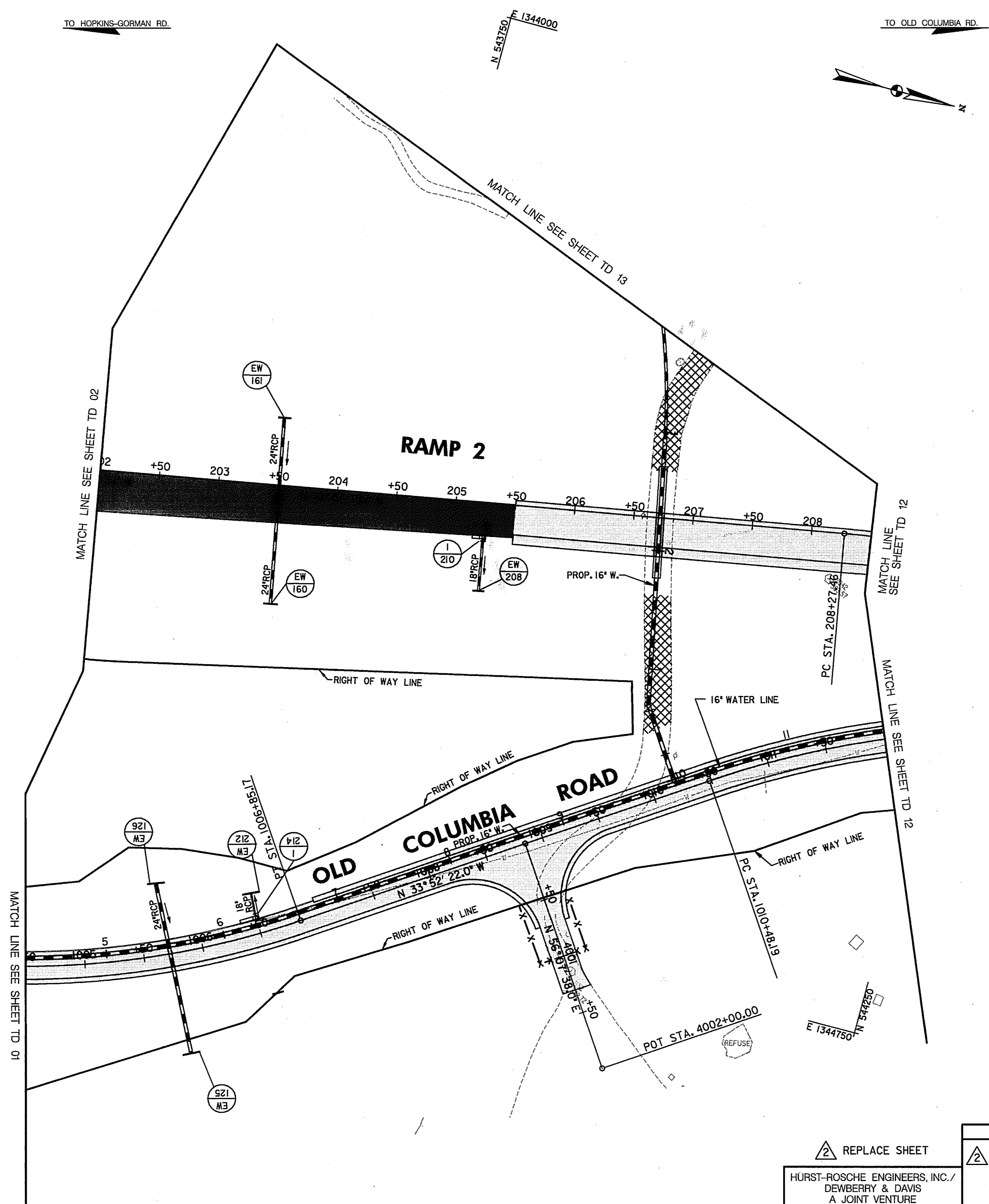
- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5'DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5'DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 1B**

TD 03 OF 16

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURES RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



SCALE: PLAN: 1" = 50'

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2-08/25/00

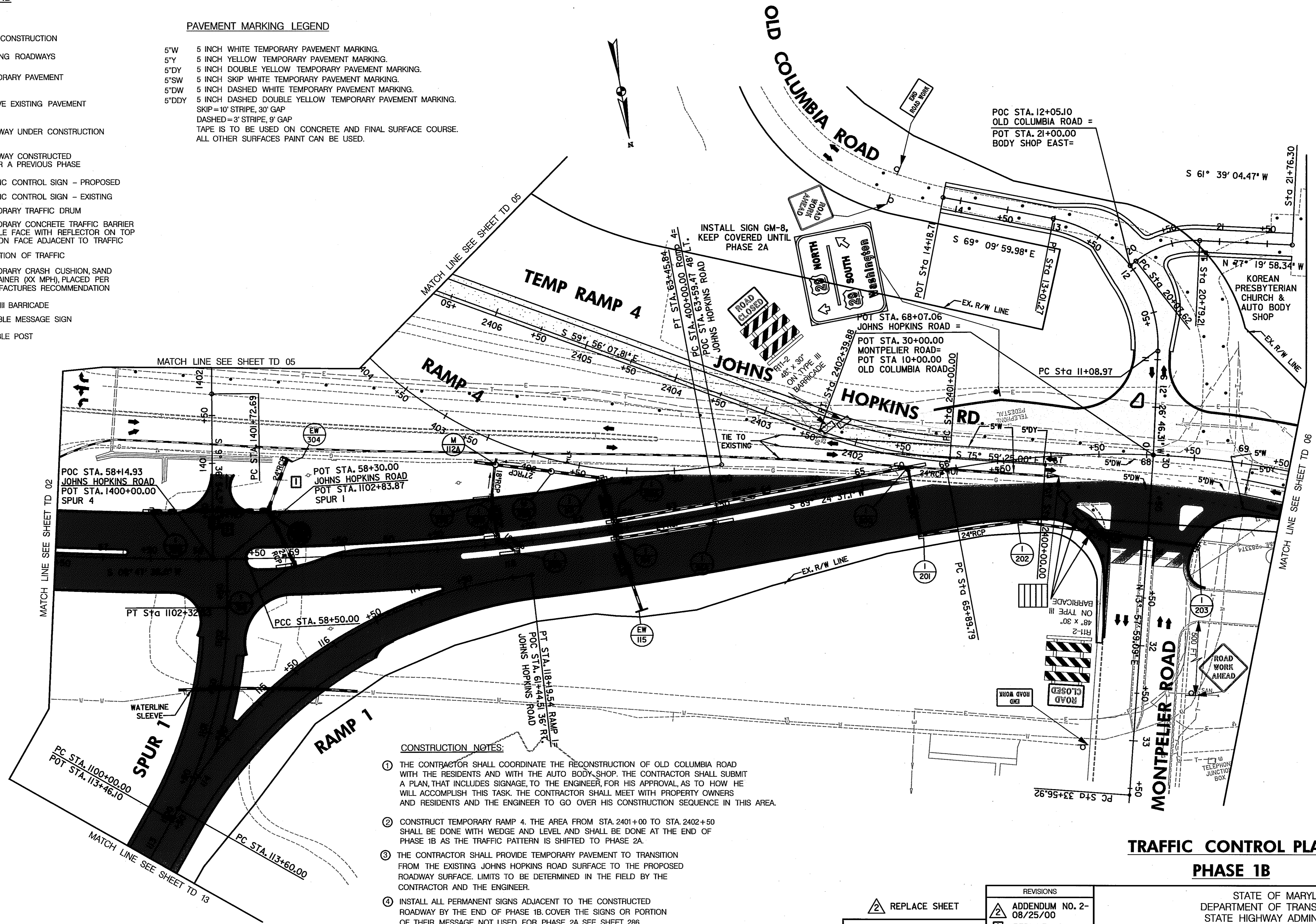
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 84		OF 320	

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER
- DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



- CONSTRUCTION NOTES:**
- ① THE CONTRACTOR SHALL COORDINATE THE RECONSTRUCTION OF OLD COLUMBIA ROAD WITH THE RESIDENTS AND WITH THE AUTO BODY SHOP. THE CONTRACTOR SHALL SUBMIT A PLAN THAT INCLUDES SIGNAGE, TO THE ENGINEER, FOR HIS APPROVAL AS TO HOW HE WILL ACCOMPLISH THIS TASK. THE CONTRACTOR SHALL MEET WITH PROPERTY OWNERS AND RESIDENTS AND THE ENGINEER TO GO OVER HIS CONSTRUCTION SEQUENCE IN THIS AREA.
 - ② CONSTRUCT TEMPORARY RAMP 4. THE AREA FROM STA. 2401+00 TO STA. 2402+50 SHALL BE DONE WITH WEDGE AND LEVEL AND SHALL BE DONE AT THE END OF PHASE 1B AS THE TRAFFIC PATTERN IS SHIFTED TO PHASE 2A.
 - ③ THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT TO TRANSITION FROM THE EXISTING JOHNS HOPKINS ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. LIMITS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.
 - ④ INSTALL ALL PERMANENT SIGNS ADJACENT TO THE CONSTRUCTED ROADWAY BY THE END OF PHASE 1B. COVER THE SIGNS OR TOPS OF THEIR MESSAGE NOT USED FOR PHASE 2A. SEE SHEET 286 FOR PERMANENT SIGNS THAT ARE NOT BEING MODIFIED AND ARE NOT SHOWN.

SCALE: PLAN: 1" = 50'

**TRAFFIC CONTROL PLAN
PHASE 1B**

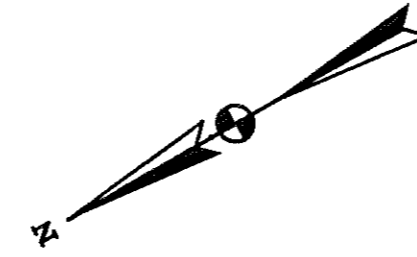
TD 04 OF 16

REPLACE SHEET
 HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
 ADDENDUM NO. 2-
 08/25/00
 REDLINE NO. 1-
 2/20/01

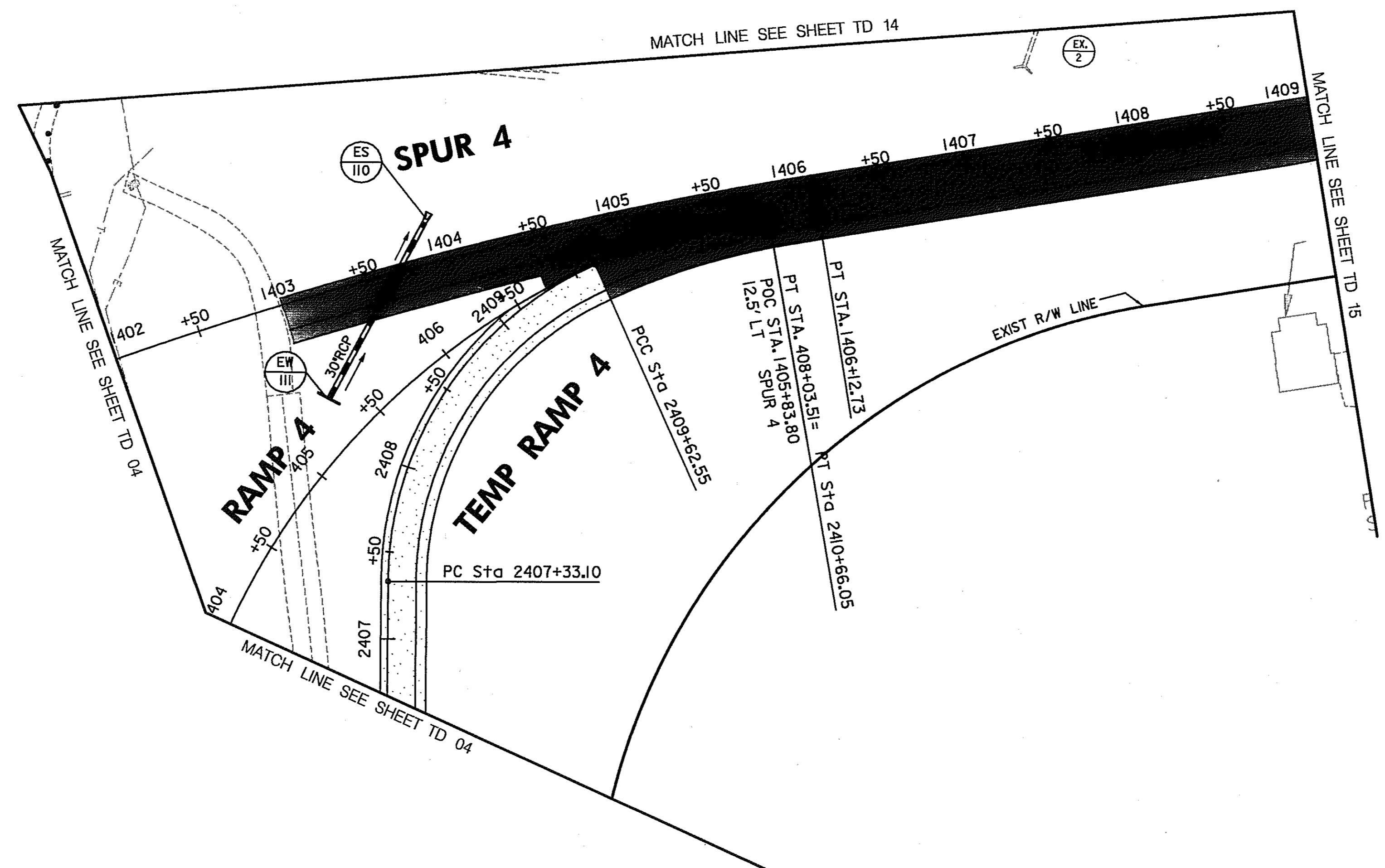
STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 85 OF 320
 PREL. TRAC. BY FINAL TRAC. BY



CONSTRUCTION NOTES:

- ① TEMPORARY RAMP 4 PAVEMENT WITHIN THE AREA OF THE PERMANENT RAMP 4 SHALL BE DONE TO THE RAMP 4 PAVEMENT STRUCTURE.
- ② INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.



LEGEND

- ==== NEW CONSTRUCTION
- EXISTING ROADWAYS
- [Stippled Box] TEMPORARY PAVEMENT
- [Hatched Box] REMOVE EXISTING PAVEMENT
- [Grey Box] ROADWAY UNDER CONSTRUCTION
- [Black Box] ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- [Sign Symbol] TRAFFIC CONTROL SIGN - PROPOSED
- [Sign Symbol] TRAFFIC CONTROL SIGN - EXISTING
- [Sign Symbol] TEMPORARY TRAFFIC DRUM
- [Sign Symbol] TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- [Arrow] DIRECTION OF TRAFFIC
- [Sign Symbol] TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- [Sign Symbol] TYPE III BARRICADE
- [Sign Symbol] VARIABLE MESSAGE SIGN
- [Sign Symbol] FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 1B**

TD 05 OF 16

REPLACE SHEET
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 86		OF 320	

SCALE: PLAN: 1" = 50'

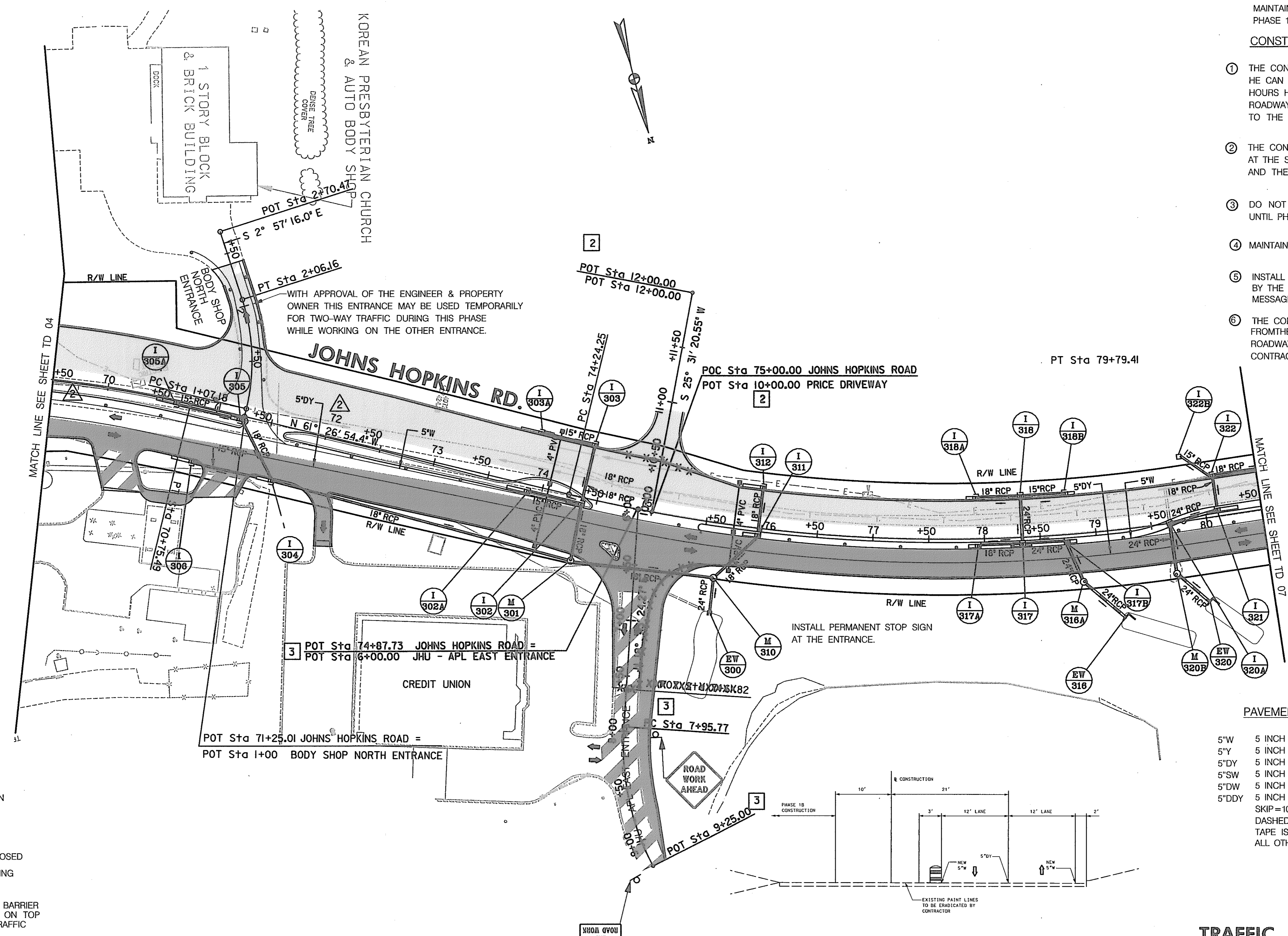
TO US RTE. 29 TO SANNER ROAD

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

CONSTRUCT THE REMAINING PORTIONS OF THE DRAINAGE SYSTEM. MAINTAIN STEEL PLATES OVER THE MEDIAN INLETS INSTALLED IN PHASE 1A AND IN THIS PHASE.

CONSTRUCTION NOTES:

- ① THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN HE CAN REPLACE IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS HE SHALL CONFORM TO STANDARD NO. MD-104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS ROAD FROM STA. 67+50 TO THE LIMIT OF WORK.
- ② THE CONTRACTOR SHALL NOT WORK ON BOTH BODY SHOP ENTRANCES AT THE SAME TIME WITHOUT THE APPROVAL OF THE PROPERTY OWNER AND THE ENGINEER.
- ③ DO NOT CONSTRUCT THE ISLAND AT THE JHU-APL EAST ENTRANCE UNTIL PHASE 2.
- ④ MAINTAIN STEEL PLATE SIGNS.
- ⑤ INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.
- ⑥ THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT TO TRANSITION FROM THE EXISTING JOHNS HOPKINS ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. LIMITS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.

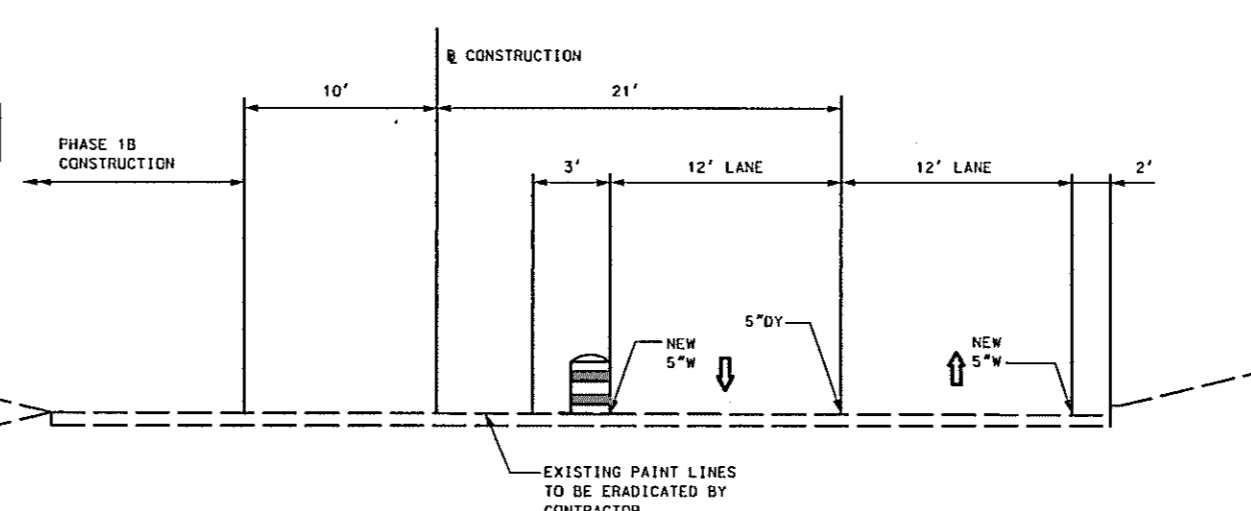


LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



**TRAFFIC CONTROL PLAN
PHASE 1B**

TD 06 OF 16

SCALE: PLAN: 1" = 50'

REPLACE SHEET
HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
①	ADDENDUM NO. 2-08/25/00
②	REDLINE NO. 2-DATE: 7/30/01
③	REDLINE NO. 3-DATE: 1/31/02

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
SHEET NO.	87	OF	320
PREL. TRAC. BY		FINAL TRAC. BY	

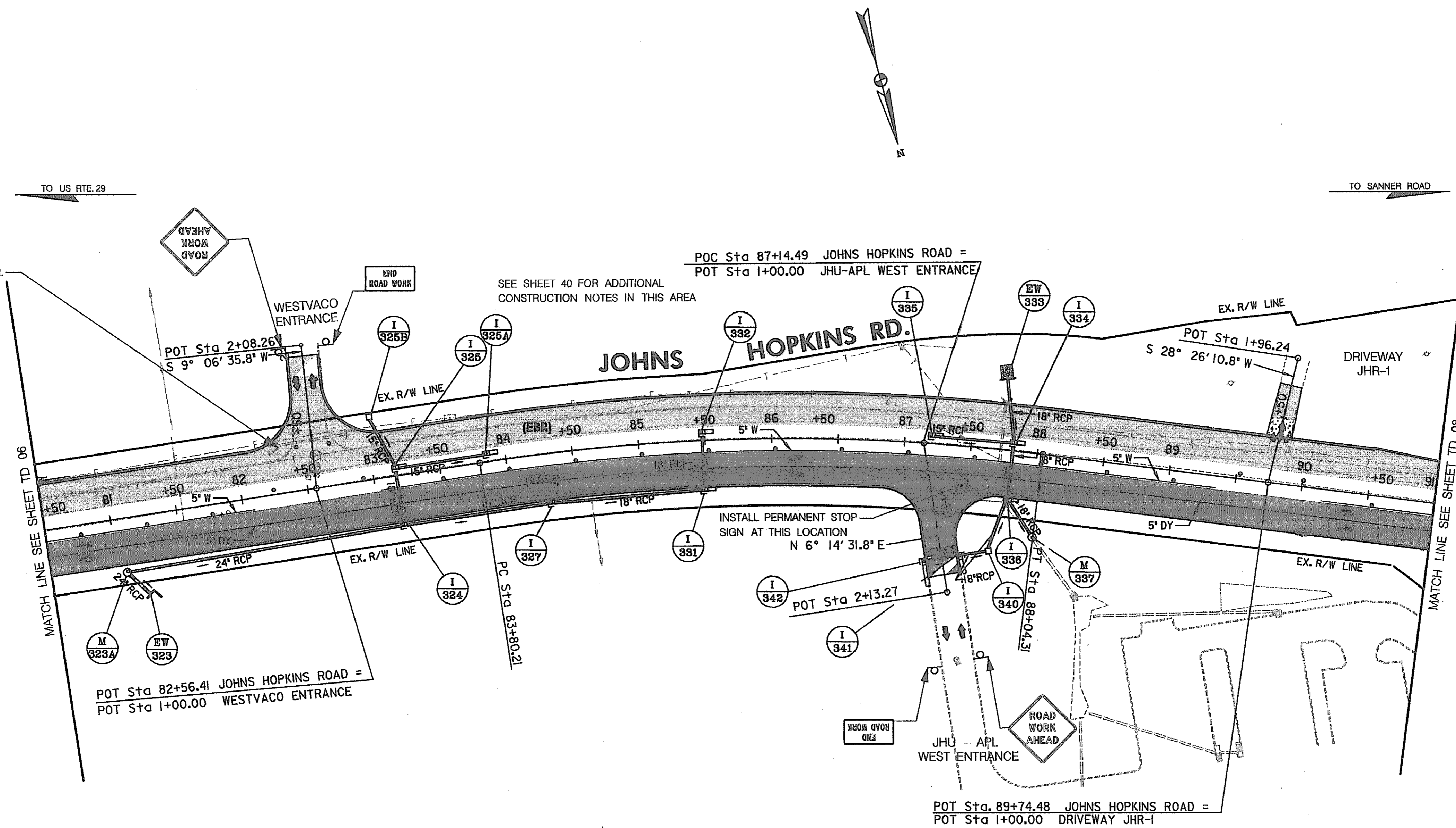
CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

CONSTRUCT THE REMAINING PORTIONS OF THE DRAINAGE SYSTEM. MAINTAIN STEEL PLATES OVER THE MEDIAN INLETS INSTALLED IN PHASE 1A AND THIS PHASE.

CONSTRUCTION NOTES:

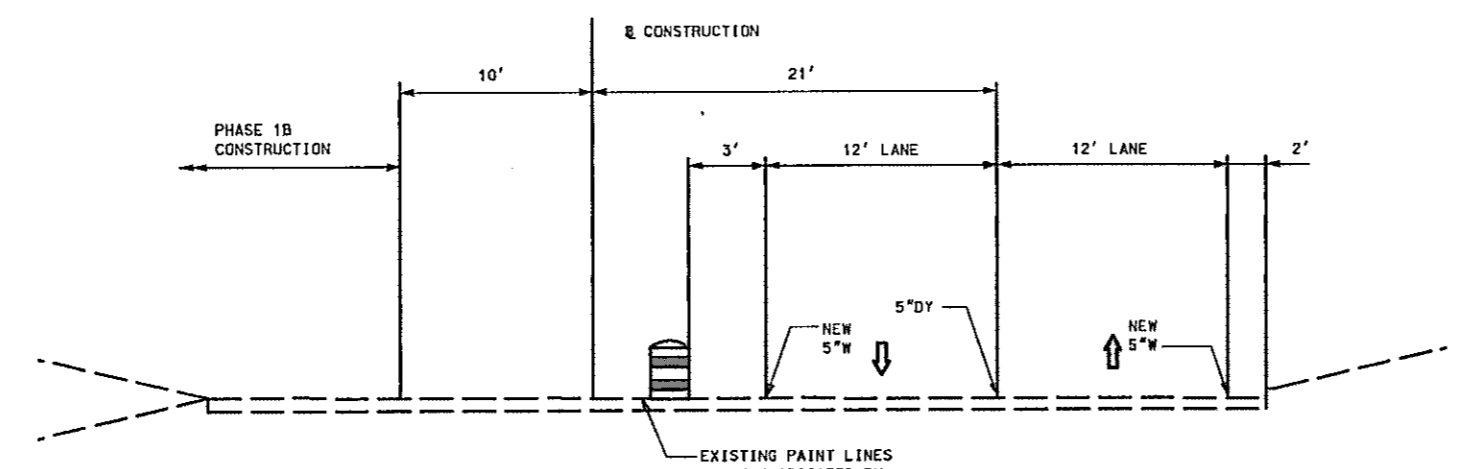
- ① THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN HE CAN REPLACE IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS HE SHALL CONFORM TO STANDARD NO. MD-104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS ROAD FROM STA. 67+50 TO THE LIMIT OF WORK.
- ② WESTVACO ENTRANCE-THE CONTRACTOR MUST MAINTAIN ACCESS TO THIS ENTRANCE AT ALL TIMES UNLESS APPROVED BY THE PROPERTY OWNER AND THE ENGINEER.
- ③ DRIVEWAY AT STA. 89+74 - THE CONTRACTOR MUST MAINTAIN ACCESS TO THIS DRIVEWAY AT ALL TIMES UNLESS APPROVED BY THE PROPERTY OWNER AND THE ENGINEER.
- ④ MAINTAIN STEEL PLATE SIGNS.
- ⑤ INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.
- ⑥ THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT TO TRANSITION FROM THE EXISTING JOHNS HOPKINS ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. LIMITS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.

MAINTAIN STOP SIGN AT THIS ENTRANCE. LOCATION TO BE SET IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.



LEGEND

- ==== NEW CONSTRUCTION
- - - - EXISTING ROADWAY
- ▨ TEMPORARY PAVEMENT
- ▩ REMOVE EXISTING PAVEMENT
- ▧ ROADWAY UNDER CONSTRUCTION
- ▦ ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- ⊙ TRAFFIC CONTROL SIGN - PROPOSED
- ⊙ TRAFFIC CONTROL SIGN - EXISTING
- ⊙ TEMPORARY TRAFFIC DRUM
- ▬ TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND 'ON' FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- △ TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VMS VARIABLE MESSAGE SIGN
- FLEXIBLE POST



STA. 80+50 TO STA. 91+00 (JOHNS HOPKINS ROAD) (TYPICAL)

SCALE: PLAN: 1" = 50'

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

TRAFFIC CONTROL PLAN

PHASE 1B

TD 07 OF 16

REPLACE SHEET
 HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	

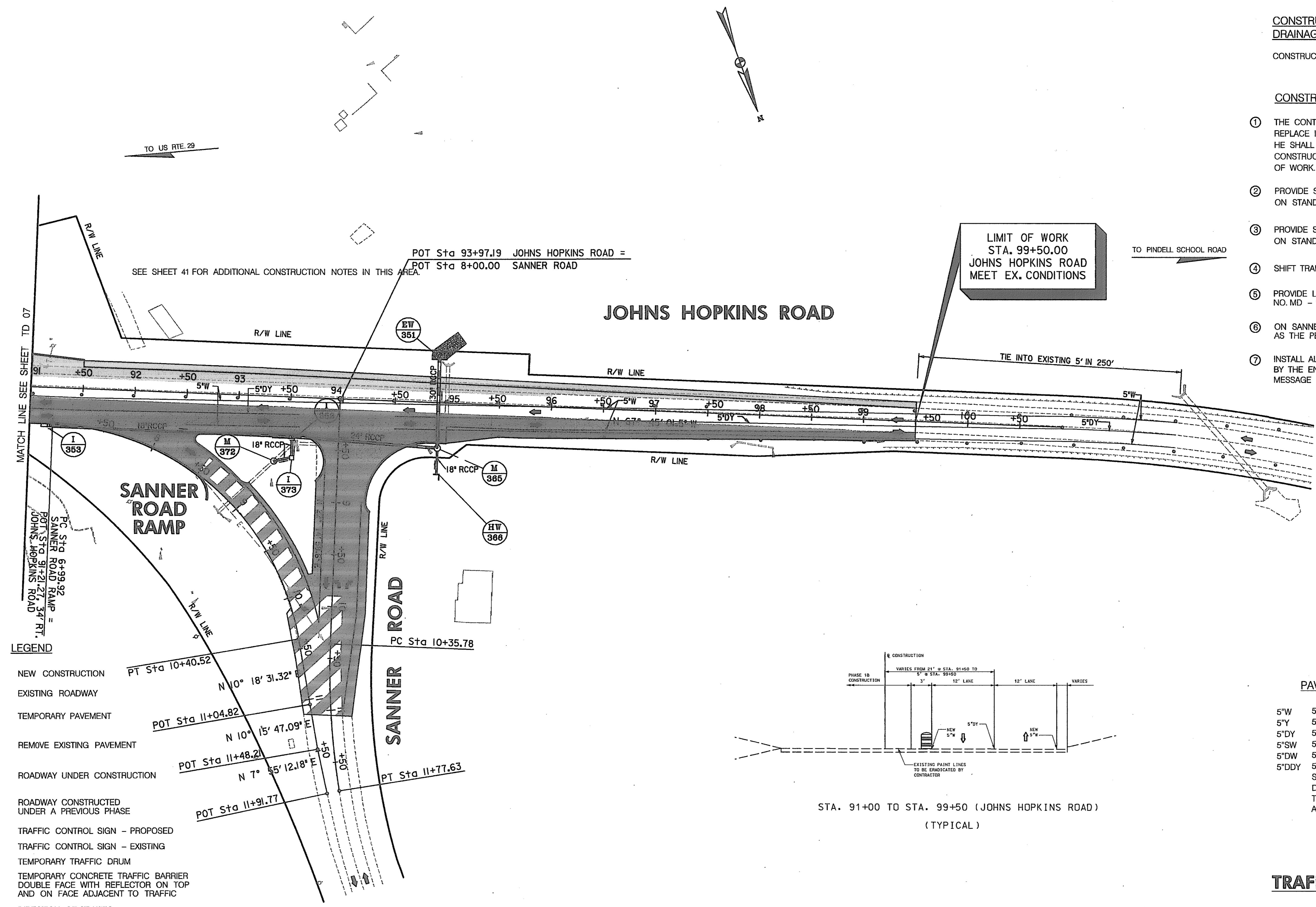
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 88		OF 320	

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

CONSTRUCT THE REMAINING PORTIONS OF THE DRAINAGE SYSTEM.

CONSTRUCTION NOTES:

- ① THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN HE CAN REPLACE IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS HE SHALL CONFORM TO STANDARD NO. MD-104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS ROAD FROM STA. 67+50 TO THE LIMIT OF WORK.
- ② PROVIDE SHOULDER WORK SIGNAGE FOR JOHNS HOPKINS ROAD AS SHOWN ON STANDARD NO. MD - 104.04 - 02
- ③ PROVIDE SHOULDER WORK SIGNAGE FOR SANNER ROAD AS SHOWN ON STANDARD NO. MD - 104.04 - 02
- ④ SHIFT TRAFFIC TO CONSTRUCT THE EASTBOUND ROWAY ON JOHNS HOPKINS ROAD
- ⑤ PROVIDE LANE SHIFT SIGNAGE FOR JOHNS HOPKINS ROAD AS SHOWN ON STANDARD NO. MD - 104.35
- ⑥ ON SANNER ROAD PROVIDE TEMPORARY PAVEMENT MARKS IN THE SAME LOCATION AS THE PERMANENT PAVEMENT MARKINGS AS SHOWN ON SHEET 287.
- ⑦ INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.
- ⑧ THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT TO TRANSITION FROM THE EXISTING JOHNS HOPKINS ROAD OR SANNER ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. LIMITS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 1B**

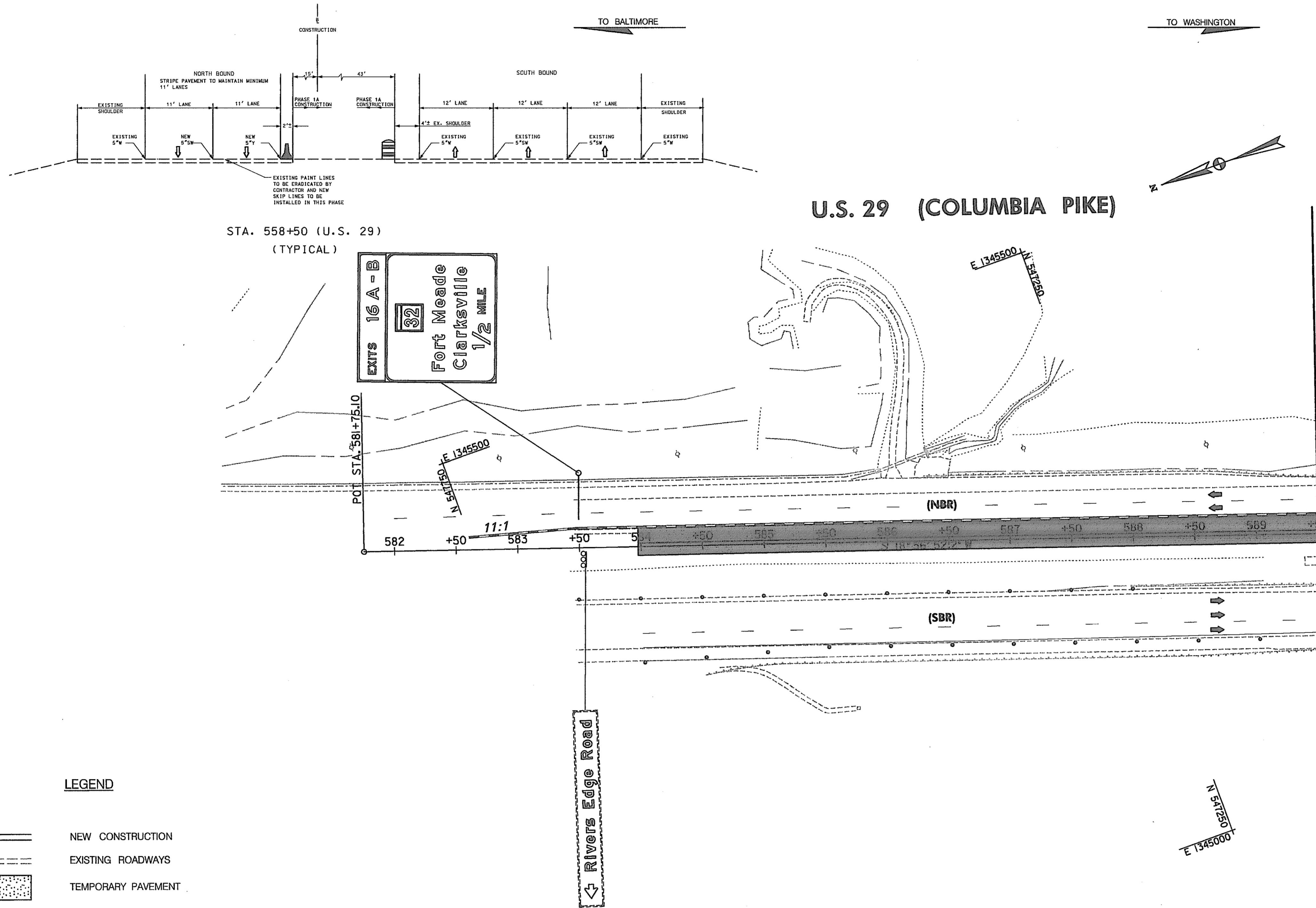
TD 08 OF 16

REPLACE SHEET
HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. H07415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 89 OF 320
PREL. TRAC. BY	FINAL TRAC. BY		

SCALE: PLAN: 1"=50'



STA. 558+50 (U.S. 29)
(TYPICAL)

U.S. 29 (COLUMBIA PIKE)

CONSTRUCTION NOTES:

- ① MAINTAIN TEMPORARY CONCRETE TRAFFIC BARRIER ON US 29 NB AS SHOWN UNTIL THE BRIDGE CONSTRUCTION IS COMPLETE.
- ② ON US 29 SB AND US 29 NB MAINTAIN SIGNS INSTALLED IN PHASE 1A
- ③ MAINTAIN EXISTING TRAFFIC PATTERN.
- ④ ON US 29 SB REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER AND REPLACE IT WITH BARRELS.
- ⑤ INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 1B**

TD 09 OF 16

REPLACE SHEET
HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 633-1683

REVISIONS	
	ADDENDUM NO. 2- 08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 90		OF 320	

SCALE: PLAN: 1"=50'

TO BALTIMORE

TO WASHINGTON

E 1345250 N 134600

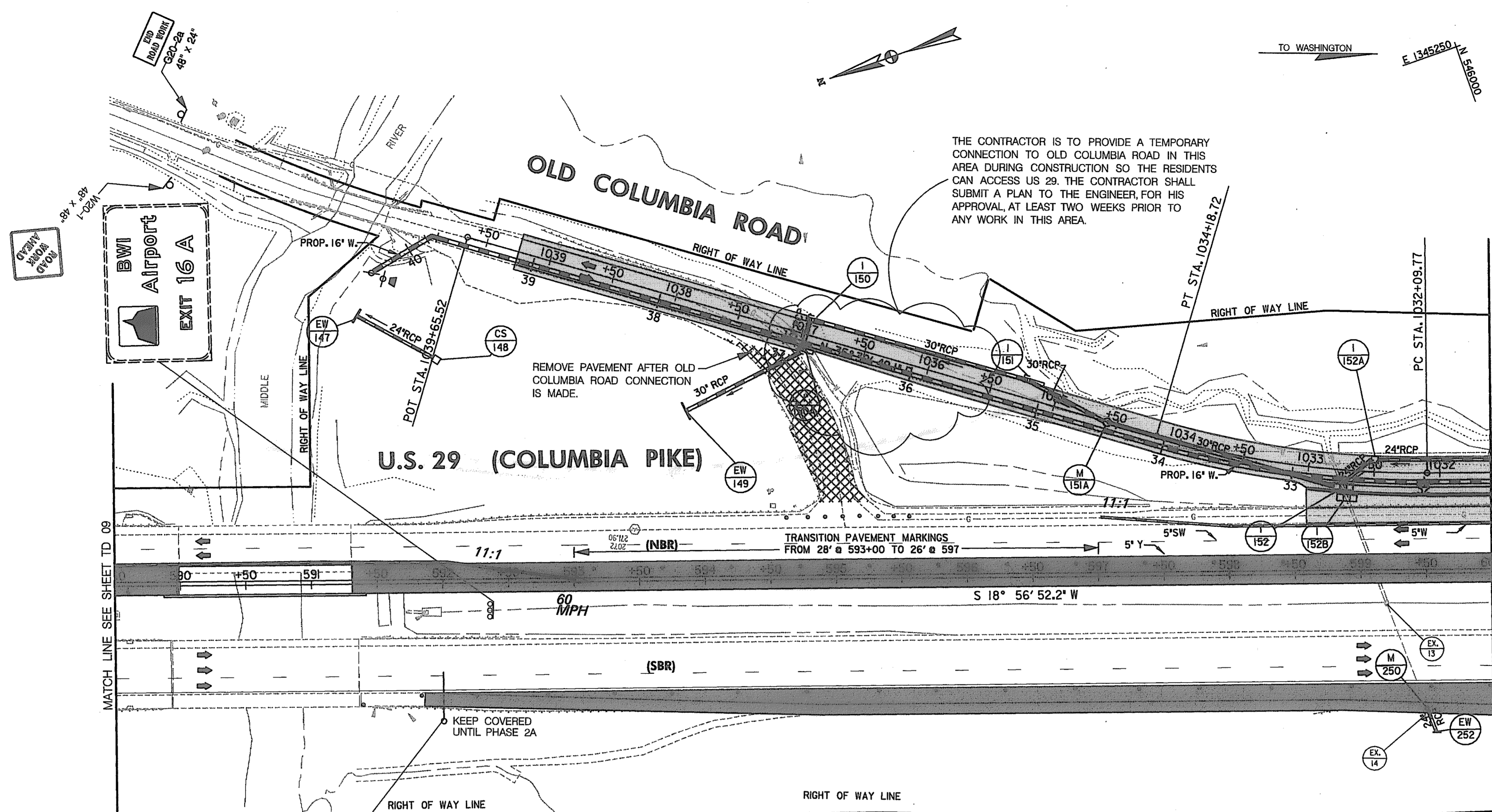
CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

EW-149 TO I-150A TO I-150 TO I-151 TO M-151A TO I-152 TO TO I-152A TO I-153
CS-148 TO EW-147
I-152B TO I-152

CONSTRUCTION NOTES:

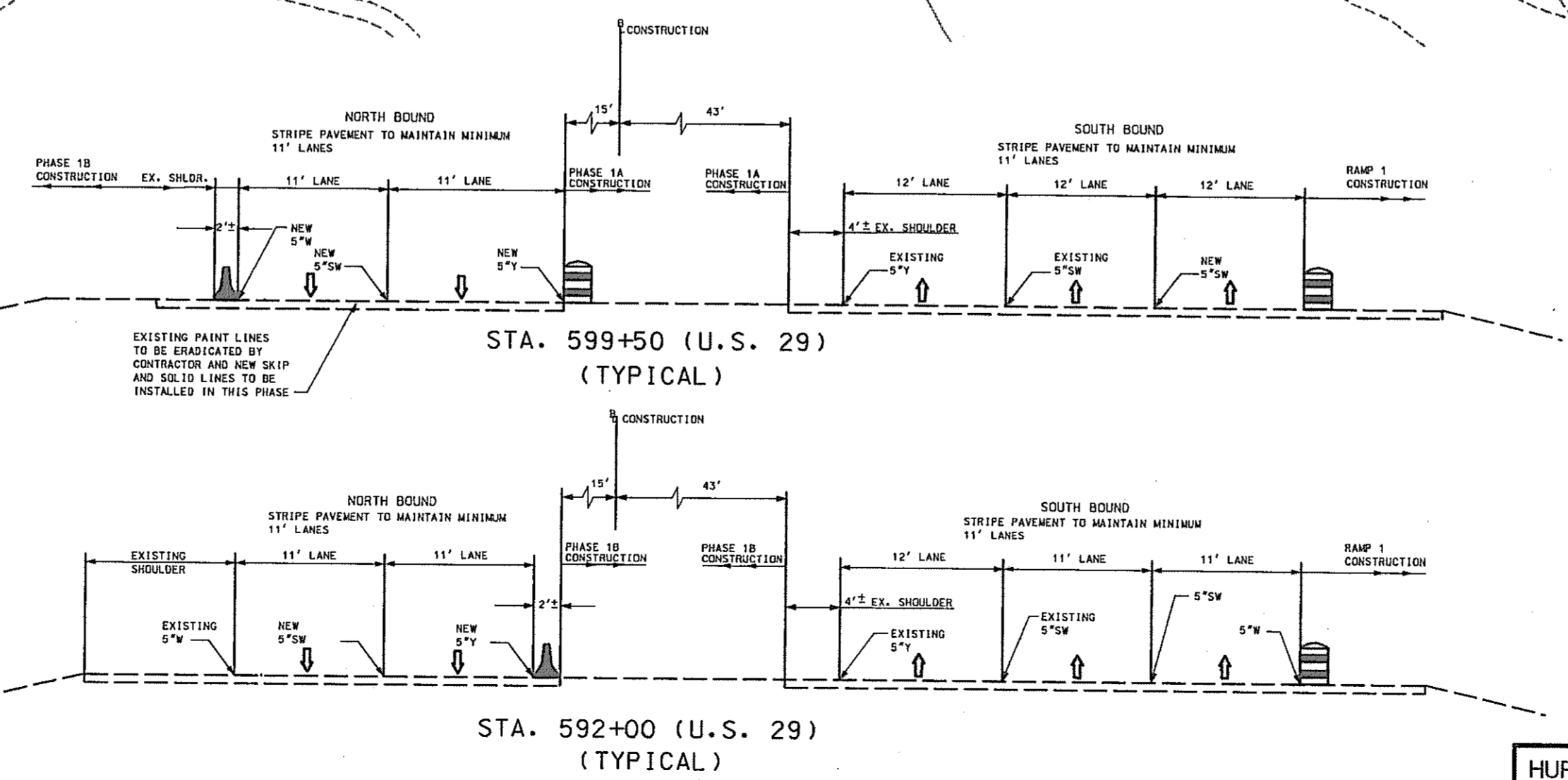
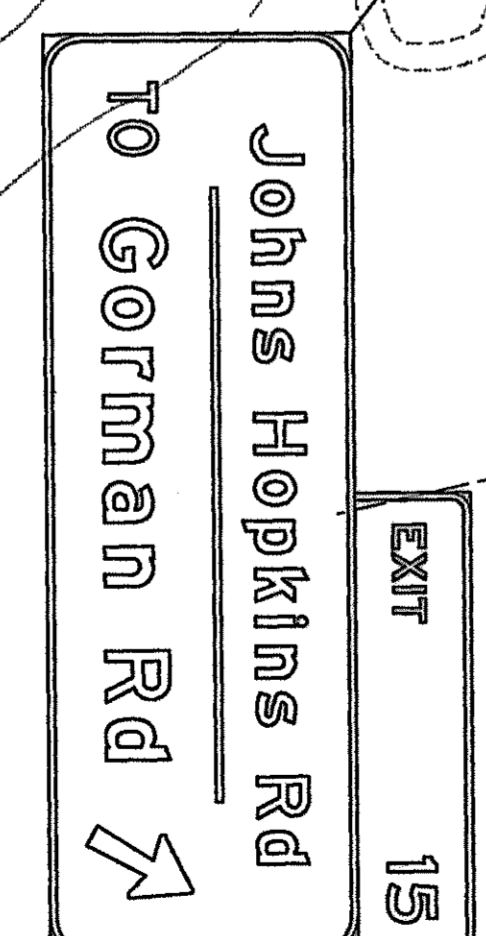
- ① THE CONSTRUCTION OF OLD COLUMBIA ROAD IS TO PROCEED FROM NORTH TO SOUTH. IN DOING THIS, ENOUGH OF THE ROAD MUST BE CONSTRUCTED TO MAINTAIN TWO-WAY TRAFFIC FOR THE DRIVEWAYS DURING NON-WORKING HOURS AND TO BE ABLE TO CONSTRUCT THE NEW 16" WATER LINE AND NEW GAS LINE.
- ② FOR OLD COLUMBIA ROAD:
THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION WITH THE INSTALLATION OF THE NEW WATER LINE AND GAS LINE.
THE SECTION FROM STA. 1039+25 TO STA. 1010+00 +/- SHALL BE DONE FIRST BECAUSE THE WATER LINE NEEDS TO BE COMPLETED IN THIS AREA BEFORE WORK ON THE WATER LINE IN THE SECTION FROM 1001+26 TO STA. 1010+00 CAN BE DONE.
ENOUGH OF THE ROADWAY TYPICAL, WITHOUT THE WALL, NEEDS TO BE COMPLETED TO BE ABLE TO CONSTRUCT THE WATER LINE AND THE GAS LINE AND MAINTAIN ACCESS TO THE DRIVEWAYS IN THIS AREA. THE BARRIER WALL CAN NOT BE CONSTRUCTED UNTILL THE NEW GAS LINE IS INSTALLED AND OPERATIONAL.
THE CONTRACTOR NEEDS TO ALSO COORDINATE THIS WORK WITH THE PROPERTY OWNERS/RESIDENTS THAT ACCESS US 29 NB WITH DRIVEWAYS. HE SHALL SUBMIT A PLAN TO THE ENGINEER, FOR HIS APPROVAL, AS TO HOW HE WILL ACCOMPLISH THIS TASK. HE SHALL ALSO MEET WITH THE PROPERTY OWNERS/RESIDENTS AND THE ENGINEER TO GO OVER HIS CONSTRUCTION SEQUENCES IN THIS AREA.
- ③ INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.
- ④ ON US 29 SB MAINTAIN PAVEMENT MARKINGS INSTALLED IN PHASE 1A. REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER AND REPLACE WITH BARREL.
- ⑤ ON US 29 NB:
MAINTAIN PAVEMENT MARKINGS FROM STA. 593+00 TO STA. 589+50
REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE MEDIAN SIDE AND REPLACE WITH BARRELS.
ADJUST PAVEMENT MARKINGS AS REQUIRED.
WORK REQUIRING THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE OUTSIDE SHOULDER CAN NOT START UNTILL THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE MEDIAN SIDE HAS BEEN REMOVED.

THE CONTRACTOR IS TO PROVIDE A TEMPORARY CONNECTION TO OLD COLUMBIA ROAD IN THIS AREA DURING CONSTRUCTION SO THE RESIDENTS CAN ACCESS US 29. THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER, FOR HIS APPROVAL, AT LEAST TWO WEEKS PRIOR TO ANY WORK IN THIS AREA.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURES RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



SCALE: PLAN: 1" = 50'

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

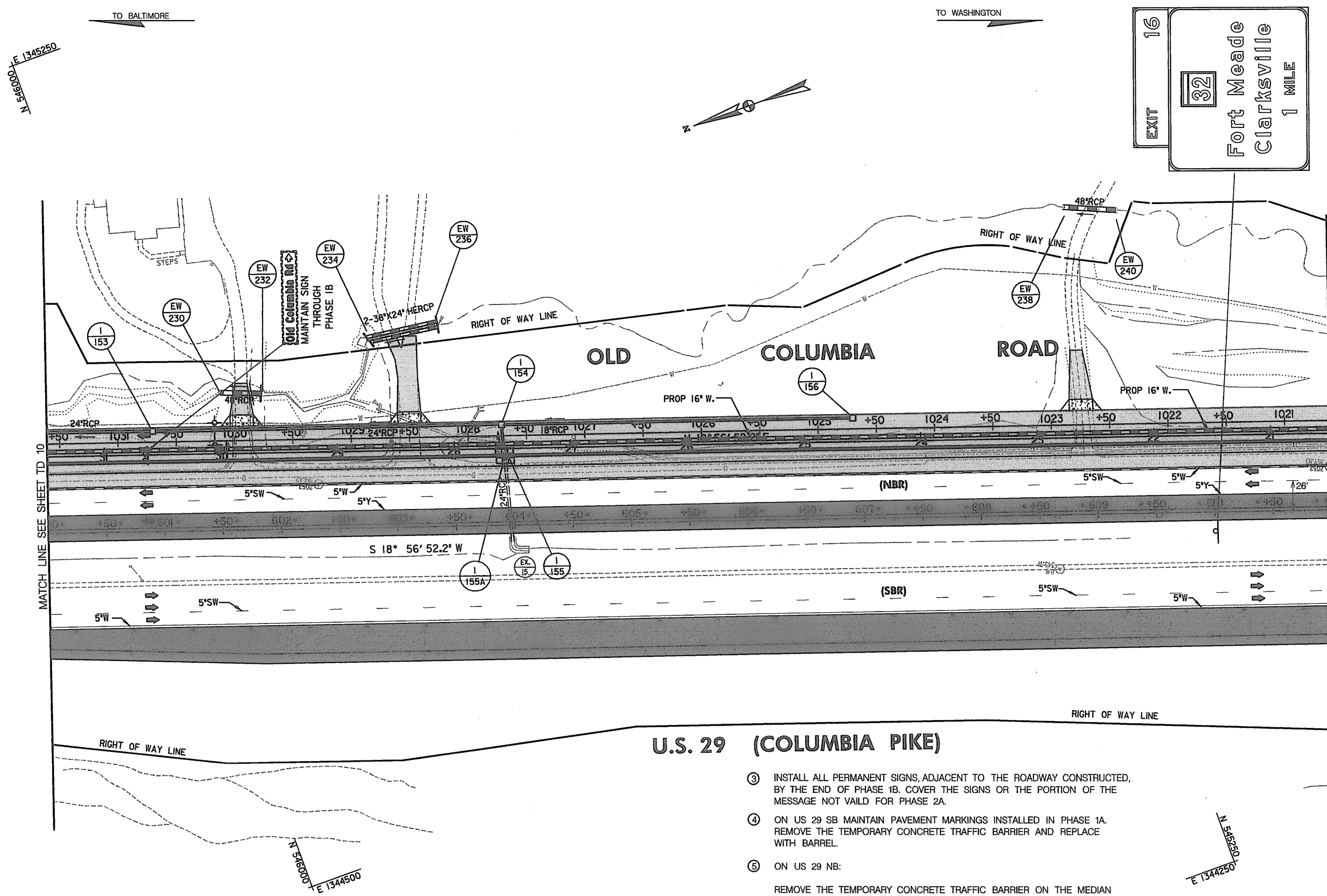
REVISIONS	
ADDENDUM NO. 2-08/25/00	

TRAFFIC CONTROL PLAN
PHASE 1B

TD 10 OF 16

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 91 OF 320
PREL. TRAC. BY FINAL TRAC. BY



LEGEND

	NEW CONSTRUCTION
	EXISTING ROADWAYS
	TEMPORARY PAVEMENT
	REMOVE EXISTING PAVEMENT
	ROADWAY UNDER CONSTRUCTION
	ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
	TRAFFIC CONTROL SIGN - PROPOSED
	TRAFFIC CONTROL SIGN - EXISTING
	TEMPORARY TRAFFIC DRUM
	TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
	DIRECTION OF TRAFFIC
	TEMPORARY CRASH CUSHION SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
	TYPE III BARRICADE
	VARIABLE MESSAGE SIGN
	FLEXIBLE POST

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

- I-155A TO I-155 TO I-154
- I-152A TO I-153 TO I-154 TO I-156
- EW-230 TO EW-232
- EW-234 TO EW-236
- EW-238 TO EW-240

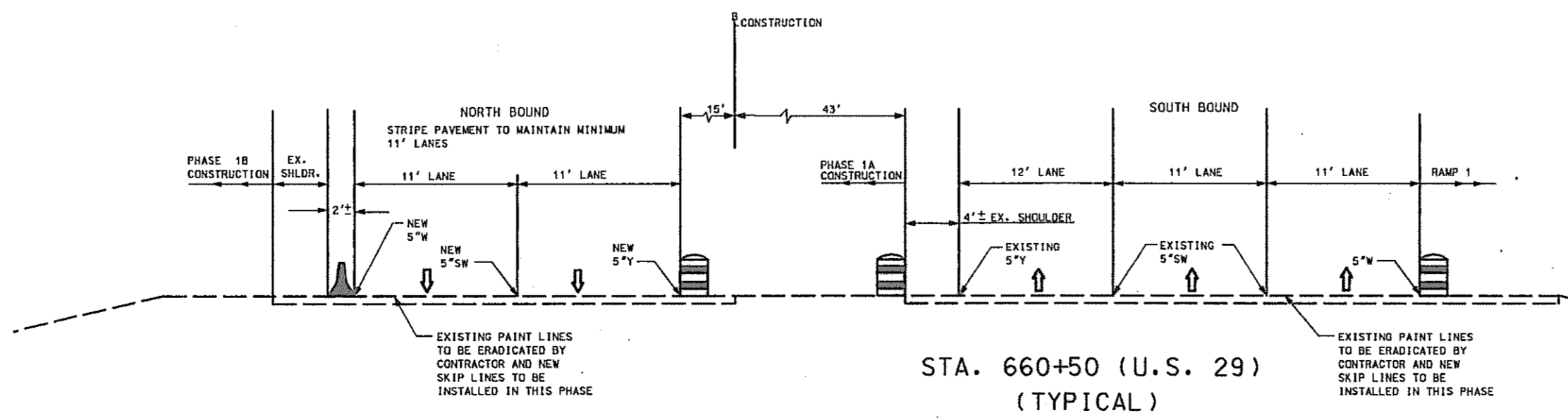
CONSTRUCTION NOTES:

- 1 THE CONSTRUCTION OF OLD COLUMBIA ROAD IS TO PROCEED FROM NORTH TO SOUTH. IN DOING THIS, ENOUGH OF THE ROAD MUST BE CONSTRUCTED TO MAINTAIN TWO-WAY TRAFFIC FOR THE DRIVEWAYS DURING NON-WORKING HOURS AND TO BE ABLE TO CONSTRUCT THE NEW 16" WATER LINE AND NEW GAS LINE.
- 2 FOR OLD COLUMBIA ROAD:
 - THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION WITH THE INSTALLATION OF THE NEW WATER LINE AND GAS LINE.
 - THE SECTION FROM STA. 1039+25 TO STA. 1010+00 +/- SHALL BE DONE FIRST BECAUSE THE WATER LINE NEEDS TO BE COMPLETED IN THIS AREA BEFORE WORK ON THE WATER LINE IN THE SECTION FROM STA. 1001+26 TO STA. 1010+00 CAN BE DONE.
 - ENOUGH OF THE ROADWAY TYPICAL, WITHOUT THE WALL, NEEDS TO BE COMPLETED TO BE ABLE TO CONSTRUCT THE WATER LINE AND THE GAS LINE AND MAINTAIN ACCESS TO THE DRIVEWAYS IN THIS AREA. THE BARRIER WALL CAN NOT BE CONSTRUCTED UNTILL THE NEW GAS LINE IS INSTALLED AND OPERATIONAL.
 - THE CONTRACTOR NEEDS TO ALSO COORDINATE THIS WORK WITH THE PROPERTY OWNERS/RESIDENTS THAT ACCESS US 29 NB WITH DRIVEWAYS. HE SHALL SUBMIT A PLAN TO THE ENGINEER, FOR HIS APPROVAL, AS TO HOW HE WILL ACCOMPLISH THIS TASK. HE SHALL ALSO MEET WITH THE PROPERTY OWNERS/RESIDENTS AND THE ENGINEER TO GO OVER HIS CONSTRUCTION SEQUENCES IN THIS AREA.

- 3 INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.
- 4 ON US 29 SB MAINTAIN PAVEMENT MARKINGS INSTALLED IN PHASE 1A. REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER AND REPLACE WITH BARREL.
- 5 ON US 29 NB:
 - REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE MEDIAN SIDE AND REPLACE WITH BARRELS.
 - ADJUST PAVEMENT MARKINGS AS REQUIRED.
 - WORK REQUIRING THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE OUTSIDE SHOULDER CAN NOT START UNTILL THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE MEDIAN SIDE HAS BEEN REMOVED.

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



SCALE: PLAN: 1" = 50'

TRAFFIC CONTROL PLAN
PHASE 1B

TD 11 OF 16

REVISIONS

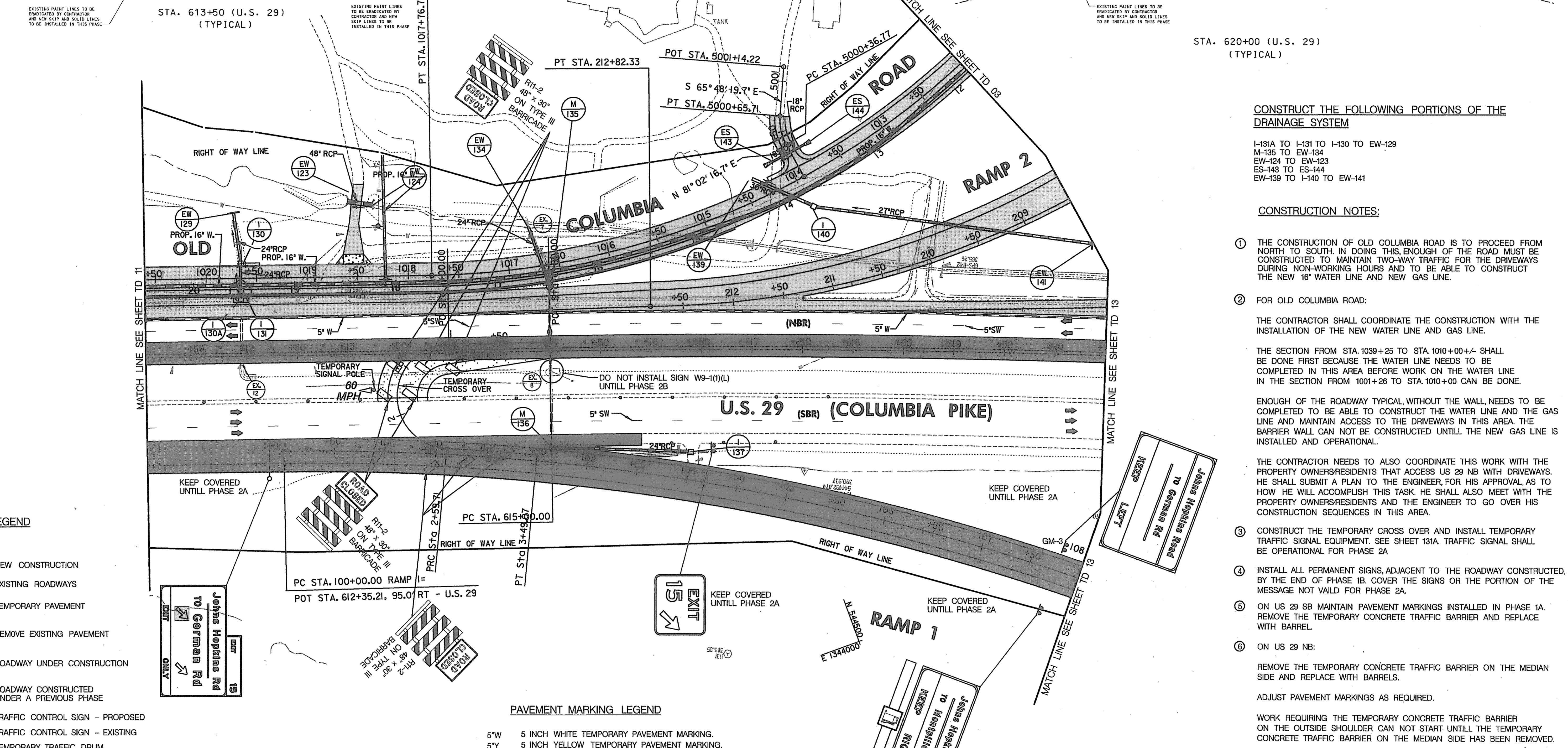
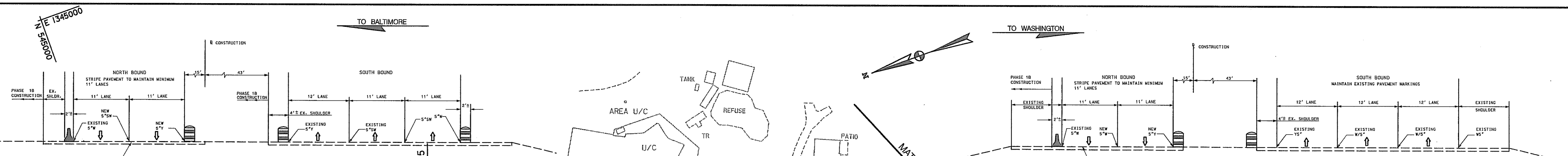
ADDENDUM NO. 2-08/25/00

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 92 OF 320
PREL. TRAC. BY FINAL TRAC. BY



CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

I-131A TO I-131 TO I-130 TO EW-129
 M-135 TO EW-134
 EW-124 TO EW-123
 ES-143 TO ES-144
 EW-139 TO I-140 TO EW-141

- CONSTRUCTION NOTES:**
- THE CONSTRUCTION OF OLD COLUMBIA ROAD IS TO PROCEED FROM NORTH TO SOUTH. IN DOING THIS, ENOUGH OF THE ROAD MUST BE CONSTRUCTED TO MAINTAIN TWO-WAY TRAFFIC FOR THE DRIVEWAYS DURING NON-WORKING HOURS AND TO BE ABLE TO CONSTRUCT THE NEW 16" WATER LINE AND NEW GAS LINE.
 - FOR OLD COLUMBIA ROAD:
 THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION WITH THE INSTALLATION OF THE NEW WATER LINE AND GAS LINE.
 THE SECTION FROM STA. 1039+25 TO STA. 1010+00 +/- SHALL BE DONE FIRST BECAUSE THE WATER LINE NEEDS TO BE COMPLETED IN THIS AREA BEFORE WORK ON THE WATER LINE IN THE SECTION FROM 1001+25 TO STA. 1010+00 CAN BE DONE.
 ENOUGH OF THE ROADWAY TYPICAL, WITHOUT THE WALL, NEEDS TO BE COMPLETED TO BE ABLE TO CONSTRUCT THE WATER LINE AND THE GAS LINE AND MAINTAIN ACCESS TO THE DRIVEWAYS IN THIS AREA. THE BARRIER WALL CAN NOT BE CONSTRUCTED UNTILL THE NEW GAS LINE IS INSTALLED AND OPERATIONAL.
 THE CONTRACTOR NEEDS TO ALSO COORDINATE THIS WORK WITH THE PROPERTY OWNERS/RESIDENTS THAT ACCESS US 29 NB WITH DRIVEWAYS. HE SHALL SUBMIT A PLAN TO THE ENGINEER, FOR HIS APPROVAL, AS TO HOW HE WILL ACCOMPLISH THIS TASK. HE SHALL ALSO MEET WITH THE PROPERTY OWNERS/RESIDENTS AND THE ENGINEER TO GO OVER HIS CONSTRUCTION SEQUENCES IN THIS AREA.
 - CONSTRUCT THE TEMPORARY CROSS OVER AND INSTALL TEMPORARY TRAFFIC SIGNAL EQUIPMENT. SEE SHEET 131A. TRAFFIC SIGNAL SHALL BE OPERATIONAL FOR PHASE 2A
 - INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.
 - ON US 29 SB MAINTAIN PAVEMENT MARKINGS INSTALLED IN PHASE 1A. REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER AND REPLACE WITH BARREL.
 - ON US 29 NB:
 REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE MEDIAN SIDE AND REPLACE WITH BARRELS.
 ADJUST PAVEMENT MARKINGS AS REQUIRED.
 WORK REQUIRING THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE OUTSIDE SHOULDER CAN NOT START UNTILL THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE MEDIAN SIDE HAS BEEN REMOVED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURES RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
 DASHED=3' STRIPE, 9' GAP
 TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
 ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1"=50'

**TRAFFIC CONTROL PLAN
 PHASE 1B**

TD 12 OF 16

REPLACE SHEET
 HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

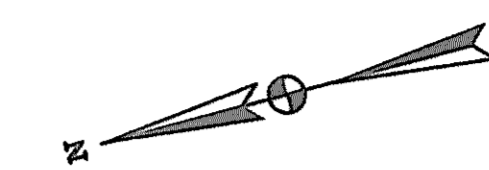
REVISIONS	
2	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 93		OF 320	

TO BALTIMORE

TO WASHINGTON

E 1344250
N 543500

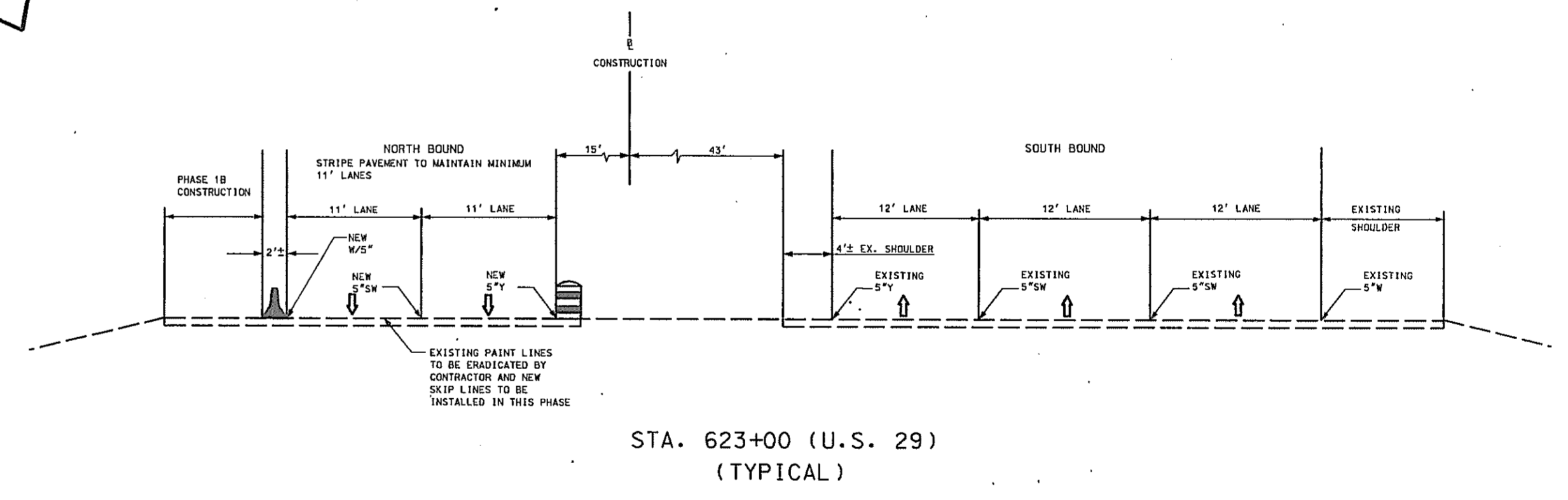
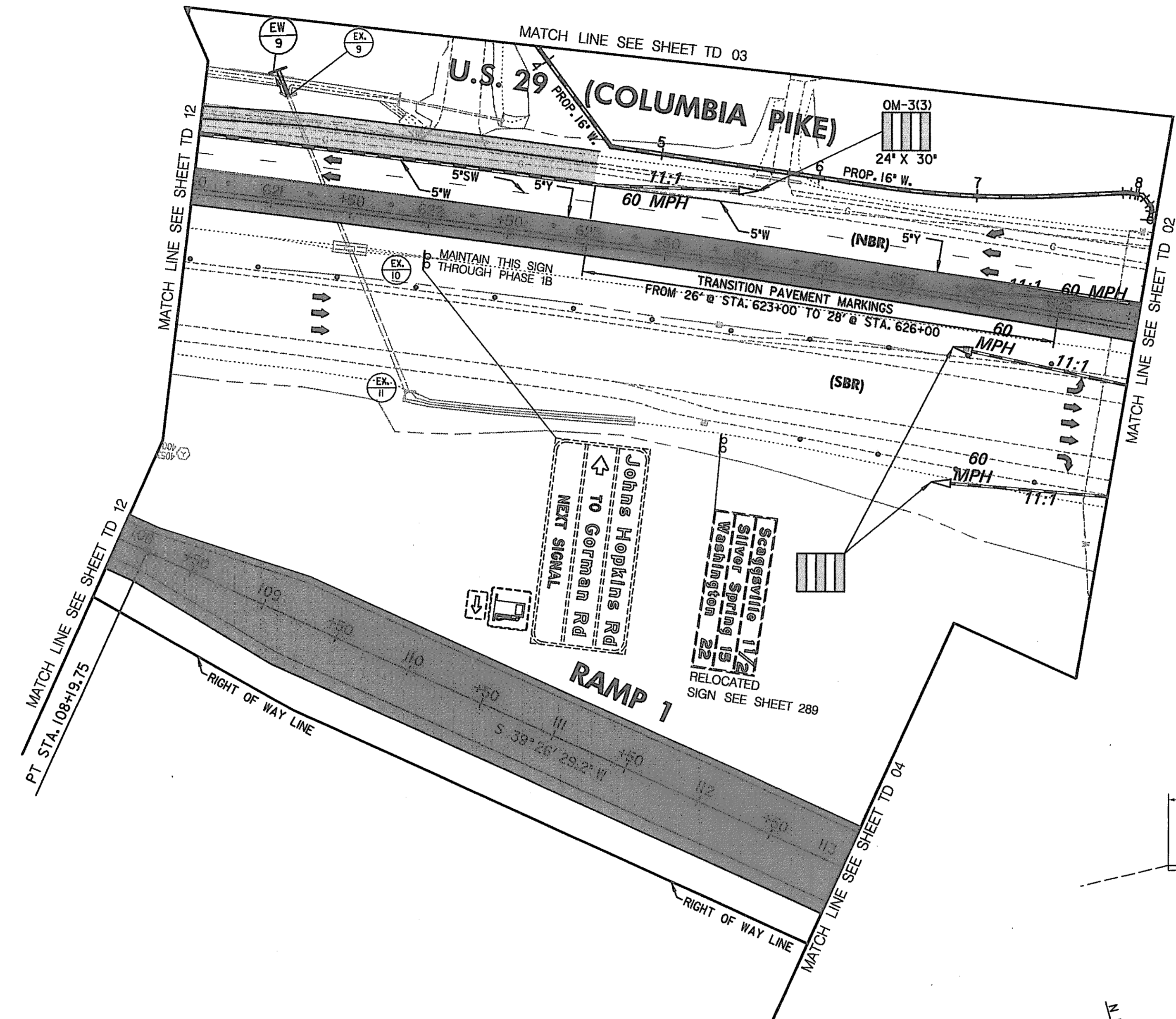


CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

EXTEND PIPE AND INSTALL EW-9

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERNS.
- ② INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.
- ③ ON US 29 SB MAINTAIN PAVEMENT MARKINGS INSTALLED IN PHASE 1A. REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER AND REPLACE WITH BARREL.
- ④ ON US 29 NB:
MAINTAIN PAVEMENT MARKINGS FROM STA. 626+00 TO STA. 626+50
REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE MEDIAN SIDE AND REPLACE WITH BARRELS.
ADJUST PAVEMENT MARKINGS AS REQUIRED.
WORK REQUIRING THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE OUTSIDE SHOULDER CAN NOT START UNTILL THE TEMPORARY CONCRETE TRAFFIC BARRIER ON THE MEDIAN SIDE HAS BEEN REMOVED.
- ⑤ MAINTAIN ACCESS TO DRIVEWAYS ALONG US 29 NB UNTILL THE OLD COLOMBIA ROAD CONNECTION IS MADE.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5'DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

TRAFFIC CONTROL PLAN
PHASE 1B

TD 13 OF 16

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. HO7416170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 94 OF 320
PREL. TRAC. BY		FINAL TRAC. BY	

TO BALTIMORE

TO WASHINGTON

CONSTRUCTION NOTES:

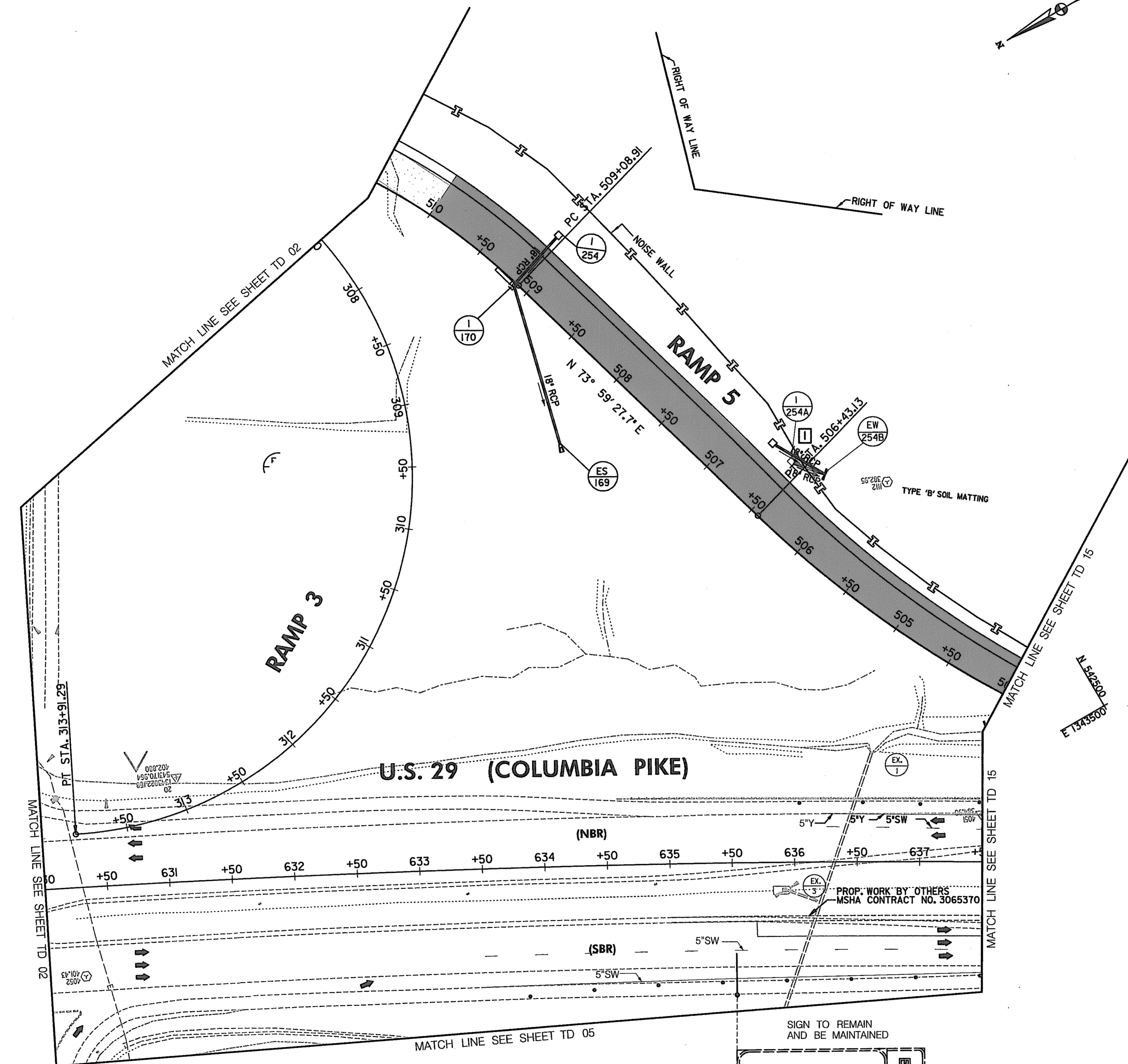
- ① MAINTAIN EXISTING TRAFFIC PATTERN.
- ② MAINTAIN PAVEMENT MARKINGS AS INSTALLED IN PHASE 1A
- ③ ON US 29 SB REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER AND REPLACE WITH BARRELS.
- ④ INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



TRAFFIC CONTROL PLAN PHASE 1B

TD 14 OF 16

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

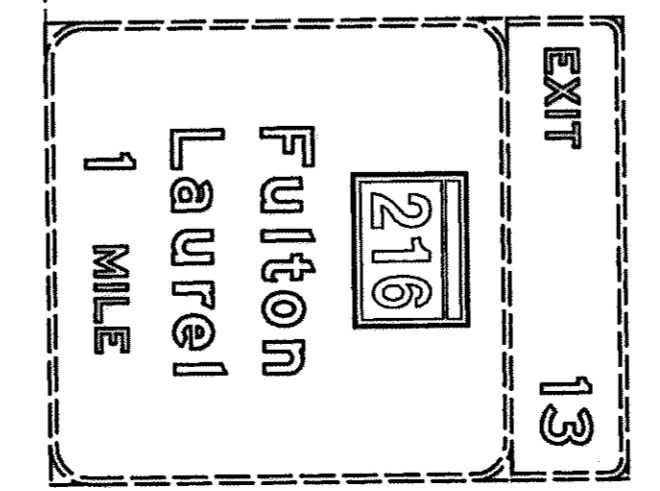
CONT. NO. HO7418170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 95 OF 320
PREL. TRAC. BY FINAL TRAC. BY

REVISIONS

- ② ADDENDUM NO. 2-08/25/00
- ① REDLINE NO. 1-2/20/01

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./ DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683



SCALE: PLAN: 1" = 50'

E 1344250
N 533250

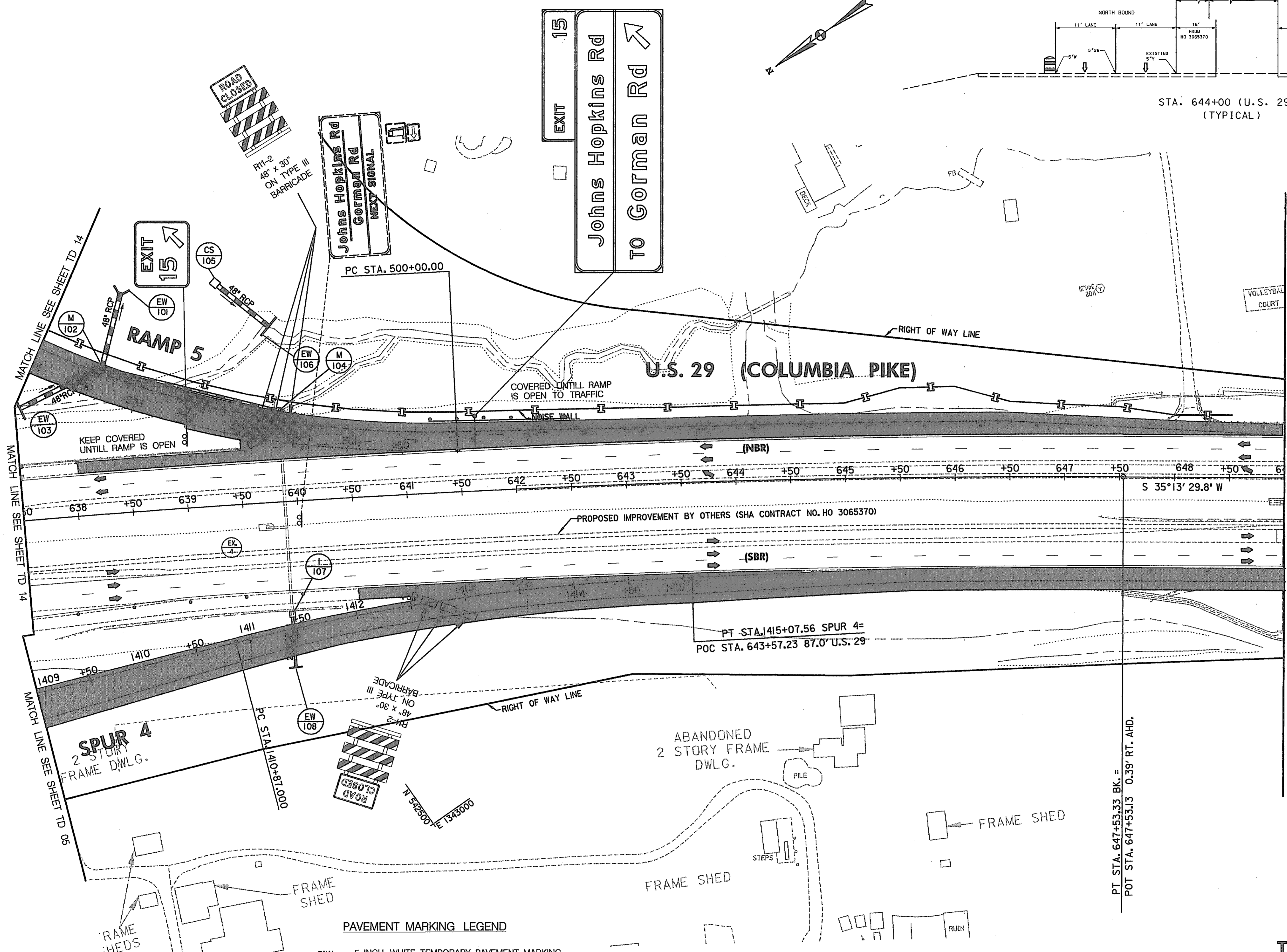
E 1343500
N 533250

E 1343750
N 542500

TO BALTIMORE

TO WASHINGTON

STA. 644+00 (U.S. 29)
(TYPICAL)



- CONSTRUCTION NOTES:**
- MAINTAIN EXISTING TRAFFIC PATTERN.
 - ON US 29 NB & US 29 SB REMOVE TEMPORARY CONCRETE TRAFFIC BARRIER AND REPLACE WITH BARRELS.
 - INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.

- LEGEND**
- NEW CONSTRUCTION
 - EXISTING ROADWAYS
 - TEMPORARY PAVEMENT
 - REMOVE EXISTING PAVEMENT
 - ROADWAY UNDER CONSTRUCTION
 - ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
 - TRAFFIC CONTROL SIGN - PROPOSED
 - TRAFFIC CONTROL SIGN - EXISTING
 - TEMPORARY TRAFFIC DRUM
 - TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
 - DIRECTION OF TRAFFIC
 - TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
 - TYPE III BARRICADE
 - VARIABLE MESSAGE SIGN
 - FLEXIBLE POST

- PAVEMENT MARKING LEGEND**
- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - SKIP=10' STRIPE, 30' GAP
 - DASHED=3' STRIPE, 9' GAP
 - TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE. ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	

**TRAFFIC CONTROL PLAN
PHASE 1B**

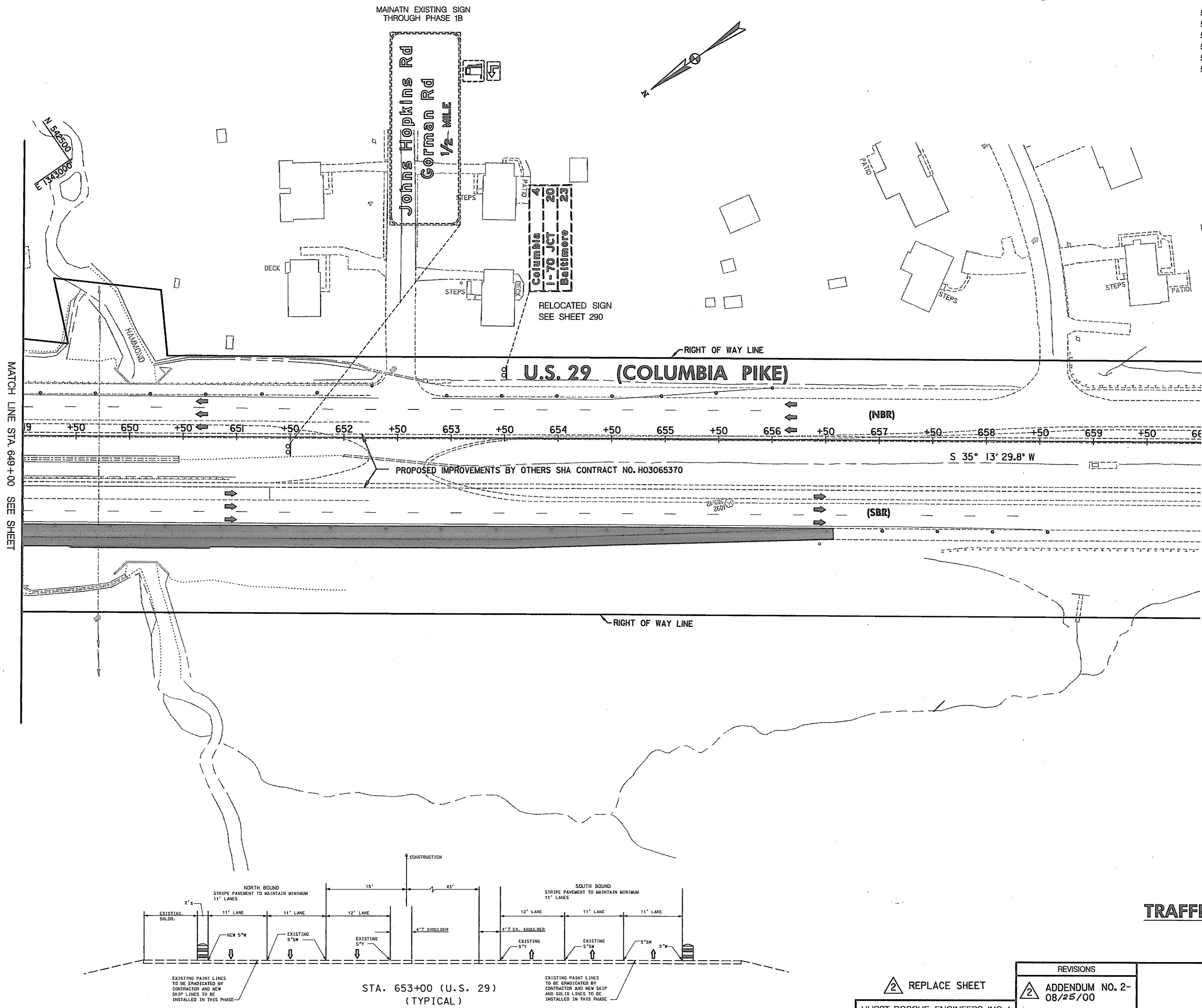
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 96 OF 320
PREL. TRAC. BY FINAL TRAC. BY

TO BALTIMORE

TO WASHINGTON

MAINTAIN EXISTING SIGN THROUGH PHASE 1B



MATCH LINE STA. 649+00 SEE SHEET

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SIGN NOTES :

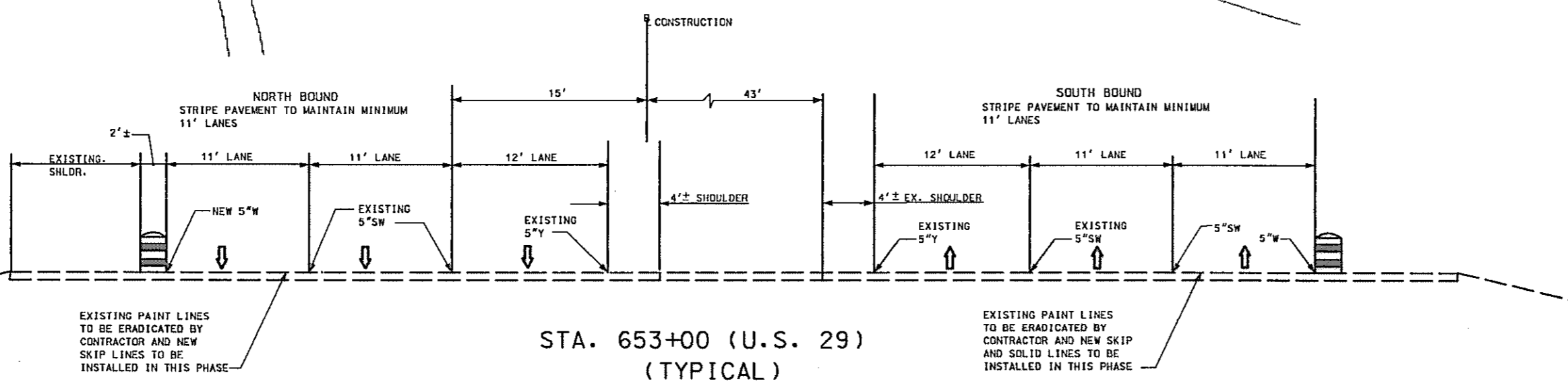
INSTALL EXIT 15 ADVANCE SIGNS FOR 1/2 MILE AND 3/4 MILE AS SHOWN ON SHEETS 291 & 292 AND COVER UNTILL RAMP 5 IS OPEN.

CONSTRUCTION NOTES:

- ① ON US 29 NB AND US 29 SB MAINTAIN SIGNS INSTALLED IN PHASE 1A
- ② MAINTAIN EXISTING TRAFFIC PATTERN.
- ③ ON US 29 NB AND US 29 SB REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER AND REPLACE IT WITH BARRELS.
- ④ INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED, BY THE END OF PHASE 1B. COVER THE SIGNS OR THE PORTION OF THE MESSAGE NOT VALID FOR PHASE 2A.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURES RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



SCALE: PLAN: 1" = 50'

TRAFFIC CONTROL PLAN PHASE 1B

TD 16 OF 16

REPLACE SHEET
 HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

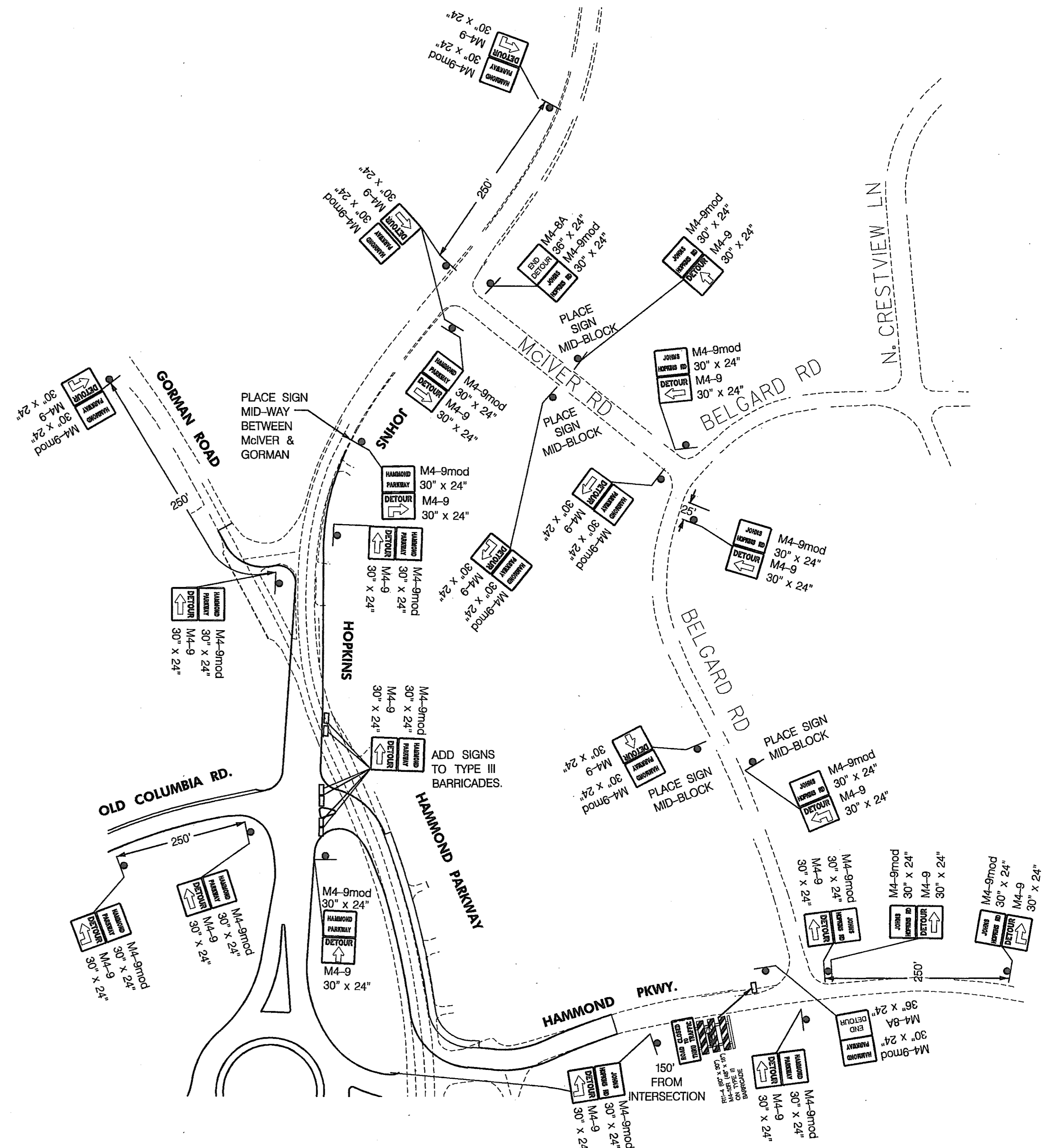
REVISIONS
ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. H07415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 97 OF 320
PREL. TRAC. BY	FINAL TRAC. BY		

TD48US29.DGN

Phase 2A Construction

- 01) Maintain Project Limit Signs (MD 104.00-15) at the northerly and southerly project limits of US Rte. 29, at the easterly and westerly project limits of Johns Hopkins and Gorman Roads and the northerly project limit on Sanner Road.
- 02) Traffic flow for the beginning of Phase 2 shall be as followed:
 - A) Through traffic on Johns Hopkins Road in both directions shall be accommodated on the portions of the new road constructed.
 - B) Traffic from US 29 NB to Johns Hopkins Road will make a left turn at US 29 NB, Sta. 614+00.00 +/- and take the temporary connector to Ramp 1 and then to the new Johns Hopkins Road.
 - C) Traffic from US 29 SB to Johns Hopkins Road will use Ramp 1 and Spur 1.
 - D) Traffic from EB & WB Johns Hopkins Road to US 29 NB will use Ramp 2.
 - E) Traffic from EB Johns Hopkins Road to US 29 SB will use Spur 4 via the temporary Ramp 4 connection.
 - F) Traffic from WB Johns Hopkins Road to US 29 SB will use the following detour route: Ramp 2 to US 29 NB, US 29 NB to Rivers Edge Road signal and make a u-turn at Rivers Edge Road to US 29 SB. (See sheet 115 for detour route.)
- 03) Install detour signs for Hammon Parkway to route traffic onto Johns Hopkins Road. Contractor is to maintain access to driveways at one end of the road. (See this sheet for detour route.)
- 04) Install detour signs for westbound traffic from Johns Hopkins Road to SB US 29 to make a U-Turn at Rivers Edge Road. (See sheet 115 for detour route.)
- 05) Construct the remaining portion of Ramp 3 from Sta. 302+00 to Sta. 313+91.29
- 06) Construct the remaining portion of the Ramp 3 Acceleration Lane on US 29 NB from Sta. 623+00 to Sta. 630+27.
- 07) Construct Hammon Parkway from Sta. 3000+75 to Sta. 3007+91.65.
- 08) Construct the remaining portion of Spur 4 from Sta. 1400+75 to Sta. 1403+00.
- 09) Construct ramp 4 from Sta. 400+00 to Sta. 405+00 and tie into the temporary connection from Sta. 405+00 to Sta. 406+50.
- 10) Construct the remaining portion of Ramp 5 from Sta. 512+50 to Sta. 515+50 including the retaining wall.
- 11) Construct the new outside shoulder on US 29 SB from Sta. 623+00 to Sta. 640+50.
- 12) Construct the southerly side of Johns Hopkins Road from Ramp 4 to Sta. 64+00 +/- to be able to use Ramp 4 in Phase 2B while maintaining traffic on Temporary Ramp 4.
- 13) Construct the median portion of Johns Hopkins Road from Montpelier Road to Sta. 99+50.



**TRAFFIC CONTROL PLAN
PHASE 2A**

TD 00 OF 16

REPLACE SHEET
 2
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 98 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

TO I-85

TO PINDELL SCHOOL ROAD

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

ES-186 TO ES-184

CONSTRUCTION NOTES:

- ① CONSTRUCT THE NEW RIGHT CURB AND ROADWAY ALONG GORMAN ROAD UNDER TRAFFIC CONTRACTOR SHALL MAINTAIN ACCESS TO THE DRIVEWAYS DURING CONSTRUCTION.
- ② RECONSTRUCT HAMMON PARKWAY. CONTRACTORS SHALL MAINTAIN ACCESS TO THE DRIVEWAYS DURING CONSTRUCTION.
- ③ HAMMOND PARKWAY RESIDENTS TO USE DETOUR ROUTE TO ACCESS HAMMOND PARKWAY. SEE DETOUR ON SHEET NO. 98
- ④ RECONSTRUCT PORTION OF JOHNS HOPKINS ROAD UNDER TRAFFIC USING FLAGGER OPERATIONS. DURING NON WORKING HOURS PROVIDE TWO-11 FOOT LANES. BETWEEN STA. 38+00 AND STA. 44+00.
- ⑤ PROVIDE PERMANENT PAVEMENT MARKINGS AND SIGNAGE ON OLD COLUMBIA ROAD.
- ⑥ THE CONTRACTOR SHALL INSTALL "NEW TRAFFIC PATTERN" SIGNS ON THE JOHNS HOPKINS ROAD AND GORMAN ROAD APPROACHES.
- ⑦ MAINTAIN ALL ADVANCED WARNING SIGNS INSTALLED IN PHASE 1.
- ⑧ INSTALL ALL PERMANENT SIGNS, ADJACENT TO THE ROADWAY CONSTRUCTED IN THIS PHASE. COVER THE SIGNS OR THE PORTION OF THE MESSAGE THAT IS NOT VALID FOR THIS PHASE. TYPICAL FOR THIS PHASE.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

TRAFFIC CONTROL PLAN
PHASE 2A

TD 01 OF 16

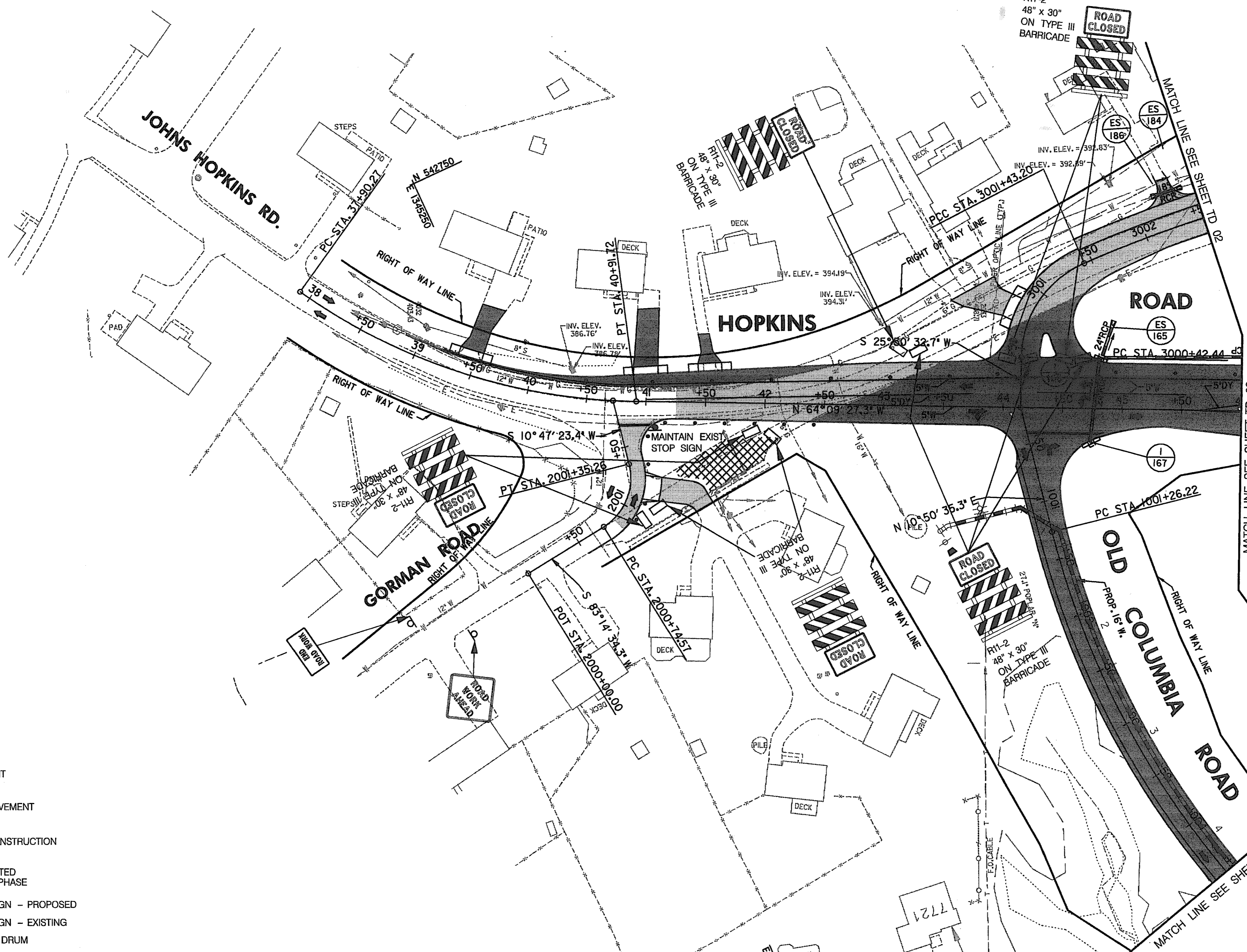
SCALE: PLAN: 1" = 50'

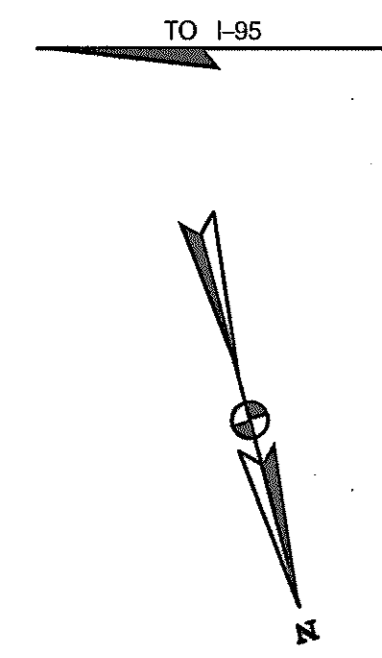
REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

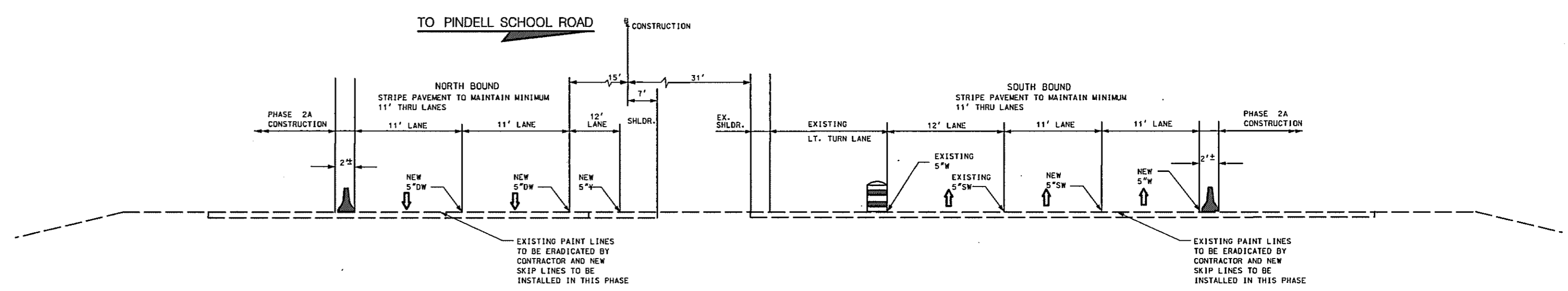
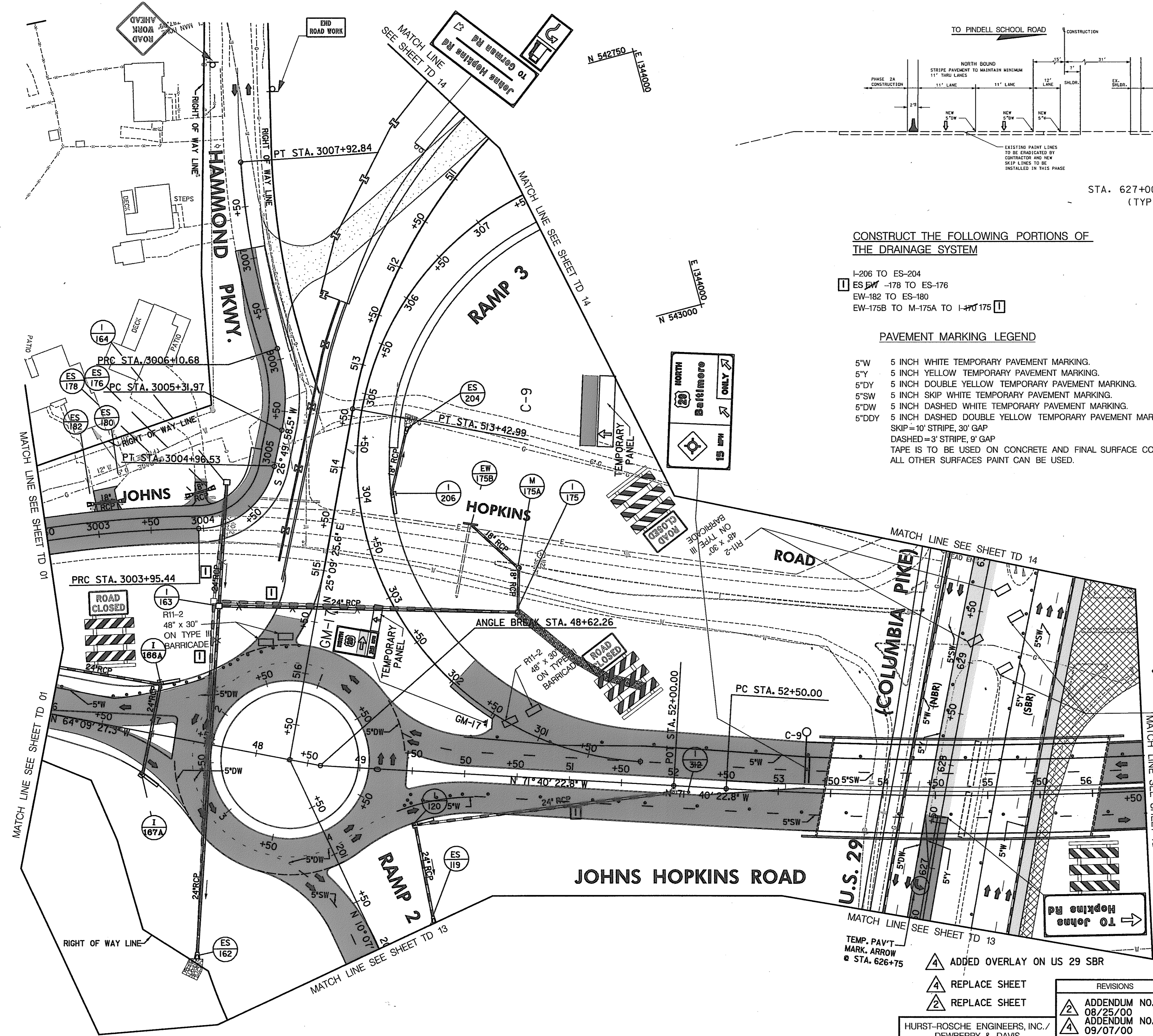
REVISIONS	
ADDENDUM NO. 2-	08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO.	99	OF	320





N 542750
E 1341750



STA. 627+00 (U.S. 29)
(TYPICAL)

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

- I-206 TO ES-204
- ES 178 TO ES-176
- EW-182 TO ES-180
- EW-175B TO M-175A TO I-170 175

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

CONSTRUCTION NOTES:

- 1 RECONSTRUCT HAMMON PARKWAY. CONTRACTOR SHALL MAINTAIN ACCESS TO THE DRIVEWAYS DURING CONSTRUCTION.
- 2 HAMMOND PARKWAY RESIDENTS TO USE DETOUR ROUTE TO ACCESS HAMMOND PARKWAY. SEE DETOUR ON SHEET NO. 98.
- 3 ON JOHNS HOPKINS ROAD FROM AND INCLUDING THE ROUNDABOUT TO STA. 58+00 INSTALL TEMPORARY PAVEMENT MARKINGS AT THE LOCATION OF THE PERMANENT PAVEMENT MARKINGS UNTIL FINAL COURSE IS INSTALLED.
- 4 UNCOVER ALL PERMANENT SIGNS THAT WILL BE USED FOR THE ROUNDABOUT AND RAMP DURING PHASE 2A, THAT WERE INSTALLED BY THE END OF PHASE 1B (SEE SHEETS 284 & 285)
- 5 DEACTIVATE THE TRAFFIC SIGNAL AT THE JOHNS HOPKINS ROAD INTERSECTION WITH US 29 AND REMOVE.
- 6 SEE SHEET 115 FOR THE WB JOHNS HOPKINS ROAD TO SB US 29 DETOUR SIGNAGE.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURES RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

**TRAFFIC CONTROL PLAN
PHASE 2A**

TD 02 OF 16

- 4 ADDED OVERLAY ON US 29 SBR
- 4 REPLACE SHEET
- 4 REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	
ADDENDUM NO. 4-09/07/00	
REDLINE NO. 1-2/20/01	

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 100 OF 320
PREL. TRAC. BY FINAL TRAC. BY

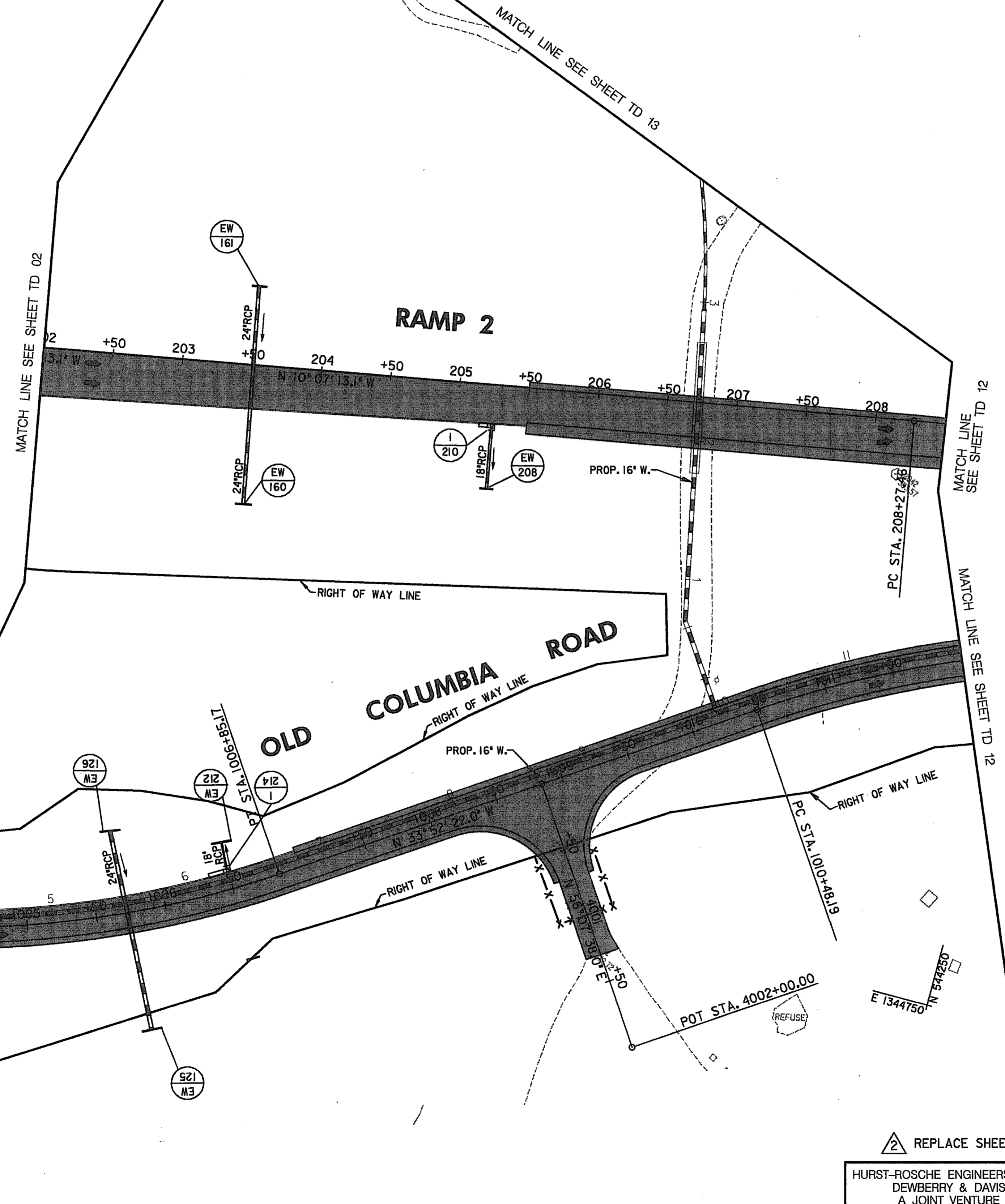
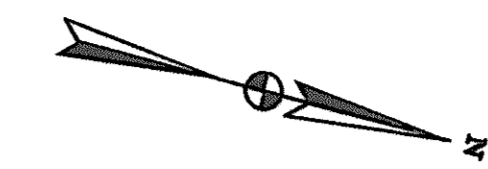
SCALE: PLAN: 1" = 50'

TO HOPKINS-GORMAN RD.

N 543750 E 1344000

TO OLD COLUMBIA RD.

E 1344000
N 544950



CONSTRUCTION NOTES:

- ① INSTALL FINAL PAVEMENT MARKINGS ONCE THE FINAL PAVEMENT COURSE IS INSTALLED. UNTILL THAT TIME INSTALL TEMPORARY PAVEMENT MARKINGS IN THE PERMANENT LOCATION.
- ② OPEN RAMP 2 AND OLD COLUMBIA ROAD TO TRAFFIC.
- ③ UNCOVER ALL SIGNS INSTALLED BY THE END OF PHASE IB.

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

SCALE: PLAN: 1"=50'

**TRAFFIC CONTROL PLAN
PHASE 2A**

TD 03 OF 16

REPLACE SHEET

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 101		OF 320	

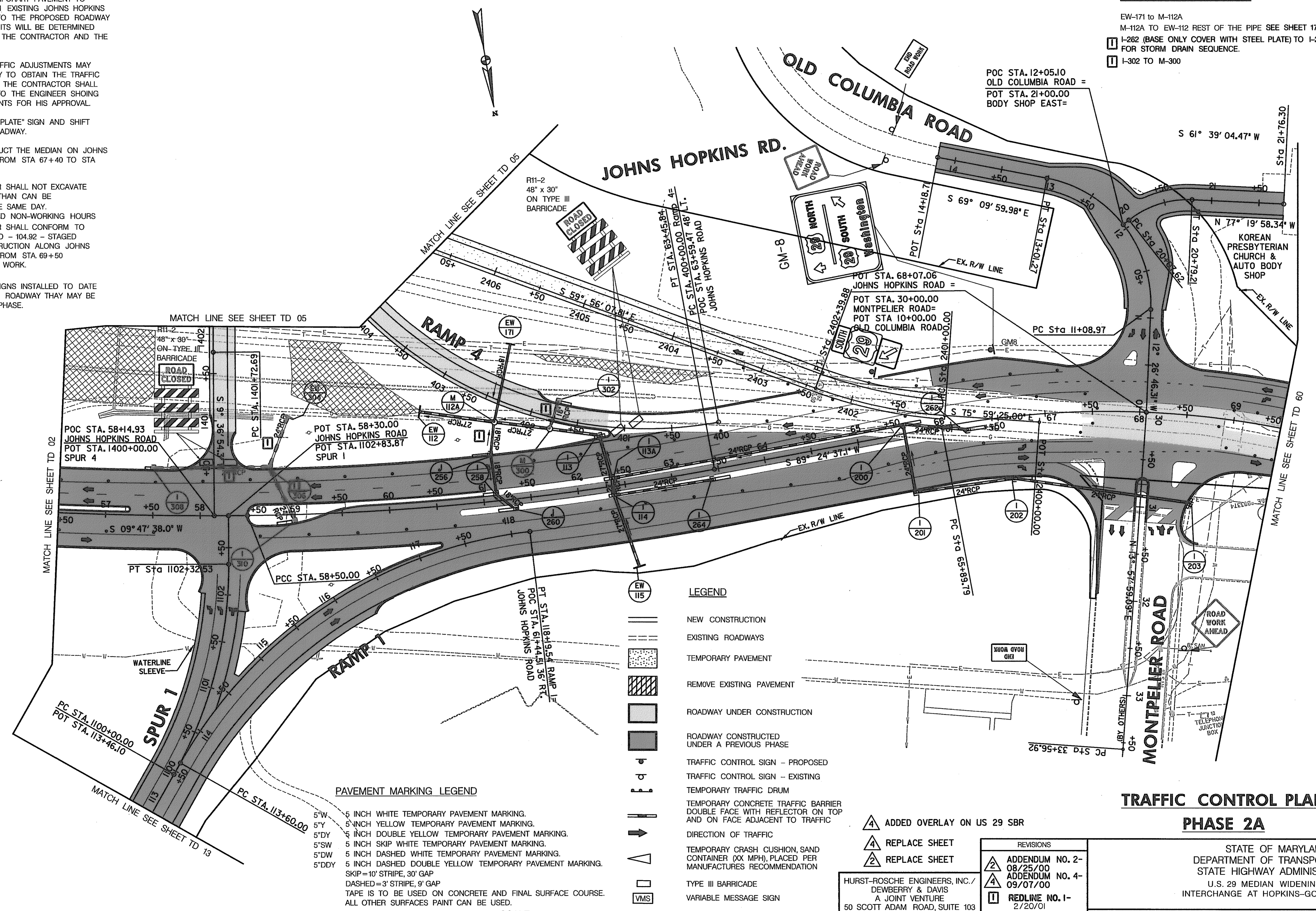
CONSTRUCTION NOTES:

- ① THE CONTRACTOR AT THE END OF PHASE 1B SHALL PLACE TEMPORARY PAVEMENT TO TRANSITION FROM EXISTING JOHNS HOPKINS ROAD SURFACE TO THE PROPOSED ROADWAY SURFACE. THE LIMITS WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.

INTERMEDIATE TRAFFIC ADJUSTMENTS MAY NEED TO BE MADE TO OBTAIN THE TRAFFIC PATTERN SHOWN. THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER SHOWING THESE ADJUSTMENTS FOR HIS APPROVAL.
- ② MAINTAIN "STEEL PLATE" SIGN AND SHIFT TO THE NEW ROADWAY.
- ③ DO NOT CONSTRUCT THE MEDIAN ON JOHNS HOPKINS ROAD FROM STA 67+40 TO STA 69+50.
- ④ THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN CAN BE REPLACED IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS THE CONTRACTOR SHALL CONFORM TO STANDARD NO. MD - 104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS HOPKINS ROAD FROM STA. 69+50 TO THE LIMIT OF WORK.
- ⑤ UNCOVER ALL SIGNS INSTALLED TO DATE ALONG THE NEW ROADWAY THAT MAY BE USED FOR THIS PHASE.

CONSTRUCT THE FOLLOWING PORTION OF THE DRAINAGE SYSTEM

- EW-171 to M-112A
M-112A TO EW-112 REST OF THE PIPE SEE SHEET 174 FOR SEQUENCE
- ① I-262 (BASE ONLY COVER WITH STEEL PLATE) TO I-200 SEE SHEET 174 FOR STORM DRAIN SEQUENCE.
 - ② I-302 TO M-300



- LEGEND**
- NEW CONSTRUCTION
 - EXISTING ROADWAYS
 - TEMPORARY PAVEMENT
 - REMOVE EXISTING PAVEMENT
 - ROADWAY UNDER CONSTRUCTION
 - ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
 - TRAFFIC CONTROL SIGN - PROPOSED
 - TRAFFIC CONTROL SIGN - EXISTING
 - TEMPORARY TRAFFIC DRUM
 - TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
 - DIRECTION OF TRAFFIC
 - TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
 - TYPE III BARRICADE
 - VARIABLE MESSAGE SIGN
 - FLEXIBLE POST

- PAVEMENT MARKING LEGEND**
- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - SKIP=10' STRIPE, 30' GAP
 - DASHED=3' STRIPE, 9' GAP
 - TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
 - ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

**TRAFFIC CONTROL PLAN
PHASE 2A**

TD 04 OF 16

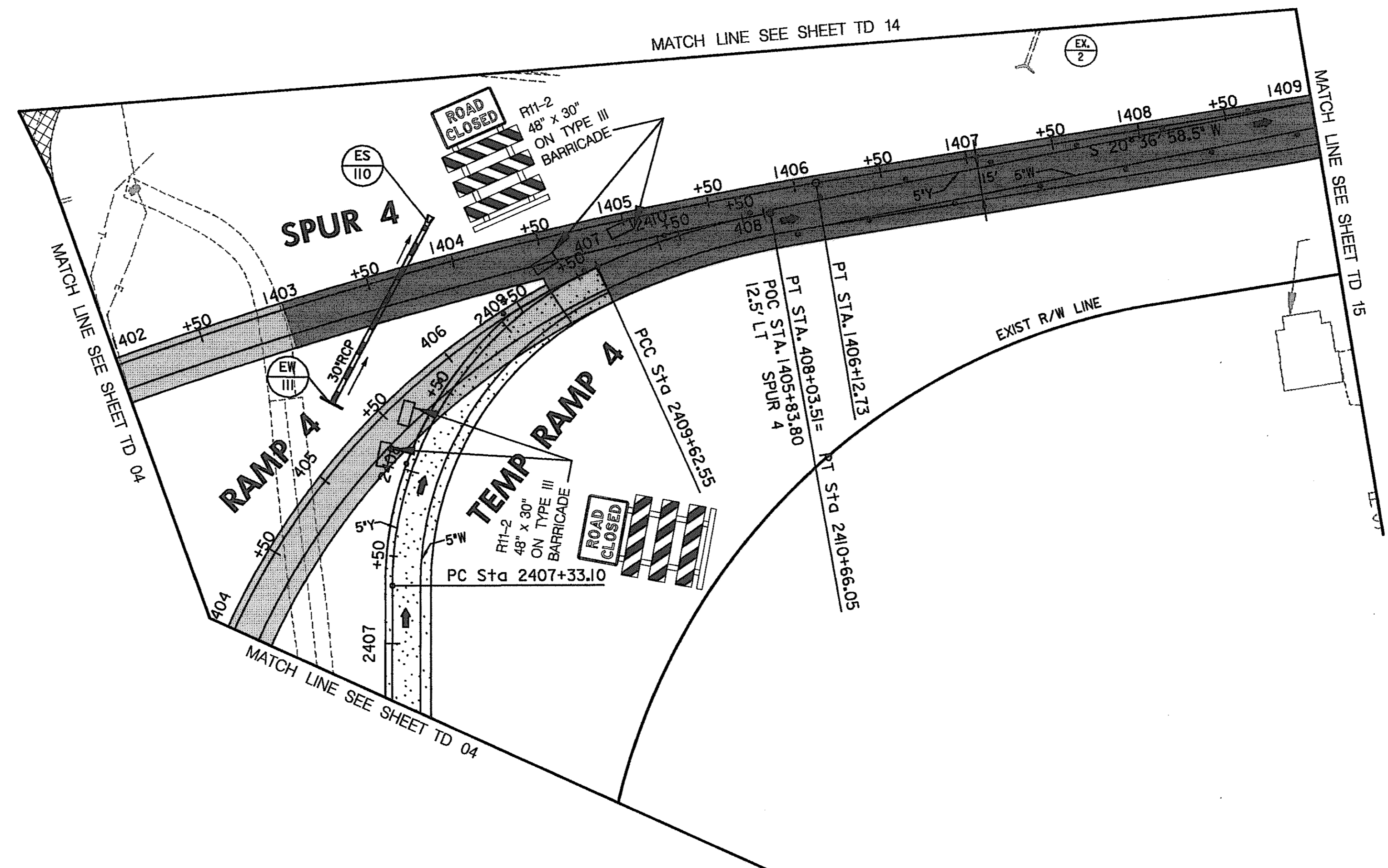
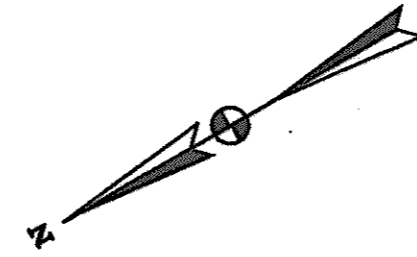
ADDED OVERLAY ON US 29 SBR
 REPLACE SHEET
 REPLACE SHEET
 ADDENDUM NO. 2-08/25/00
 ADDENDUM NO. 4-09/07/00
 REDLINE NO. 1-2/20/01

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
 ADDENDUM NO. 2-08/25/00
 ADDENDUM NO. 4-09/07/00
 REDLINE NO. 1-2/20/01

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 102 OF 320
 PREL. TRAC. BY FINAL TRAC. BY



CONSTRUCTION NOTES:

- ① CONSTRUCT RAMP 4 WHILE MAINTAINING TRAFFIC ON TEMP RAMP 4

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1"=50'

**TRAFFIC CONTROL PLAN
PHASE 2A**

TD 05 OF 16

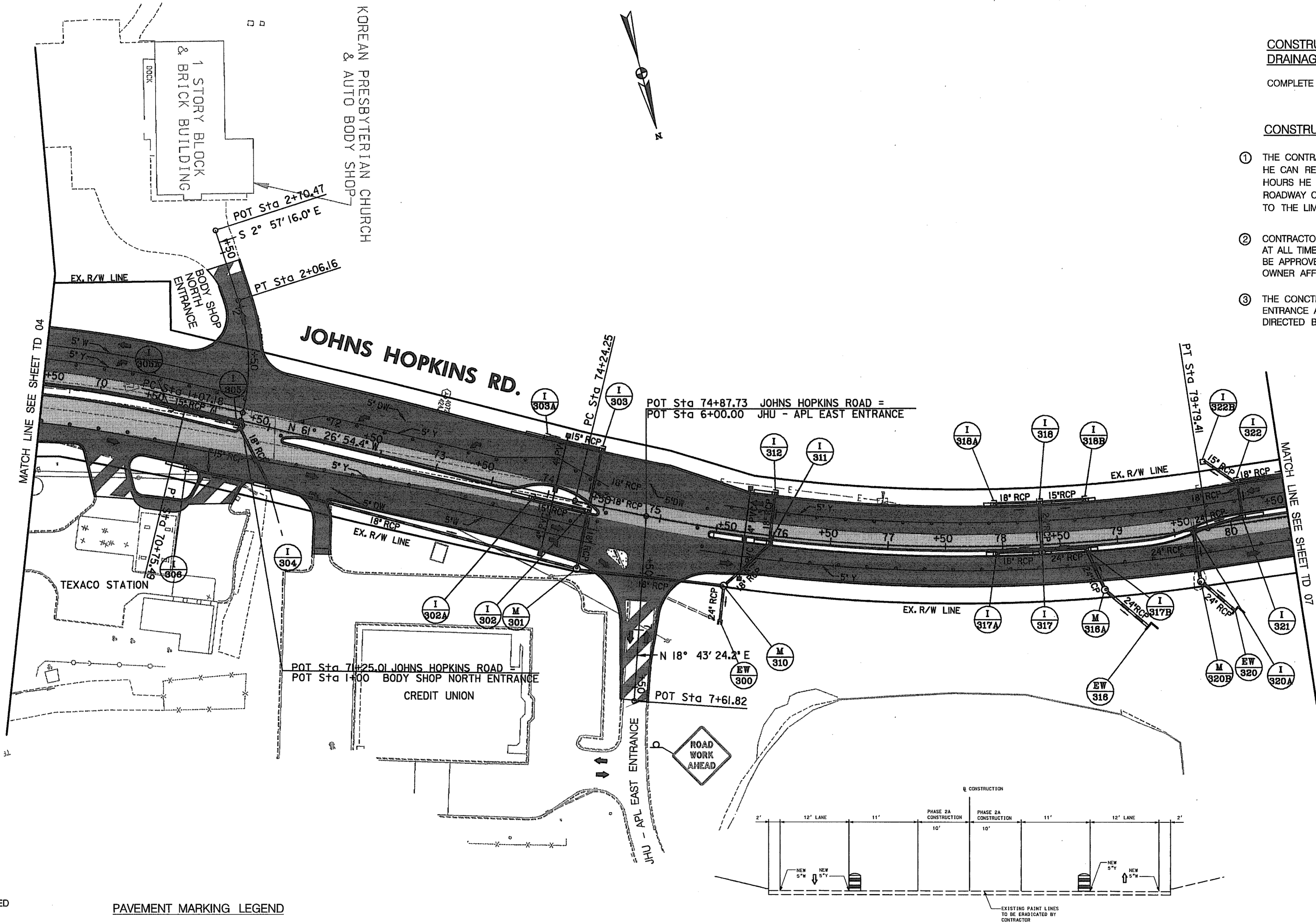
REPLACE SHEET
 HURST-ROSCHE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. HO7416170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 103 OF 320
PREL. TRAC. BY		FINAL TRAC. BY	

TO US RTE. 29

TO SANNER ROAD



CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

COMPLETE THE MEDIAN INLETS

CONSTRUCTION NOTES:

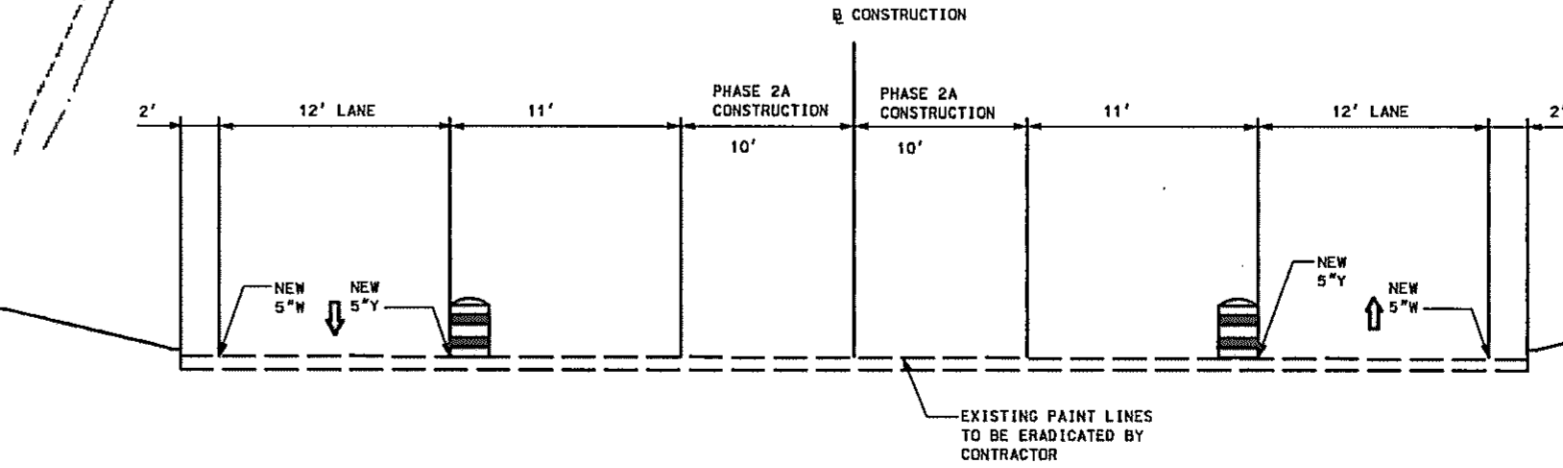
- THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN HE CAN REPLACE IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS HE SHALL CONFORM TO STANDARD NO. MD-104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS HOPKINS ROAD FROM STA. 69+50 TO THE LIMIT OF WORK.
- CONTRACTOR IS TO MAINTAIN ACCESS TO ALL DRIVEWAYS AND ENTRANCES AT ALL TIMES. ANY TEMPORARY CLOSURES TO TURNING MOVEMENTS MUST BE APPROVED BY THE ENGINEER, HOWARD COUNTY AND THE PROPERTY OWNER AFFECTED.
- THE CONTRACTOR SHALL CONSTRUCT THE ISLAND AT THE JHU-APL EAST ENTRANCE AFTER THE MEDIAN WORK IS COMPLETED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER
- DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



STA. 77+00 (JOHNS HOPKINS ROAD) (TYPICAL)

TRAFFIC CONTROL PLAN PHASE 2A

TD 06 OF 16

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 104 OF 320
PREL. TRAC. BY		FINAL TRAC. BY	

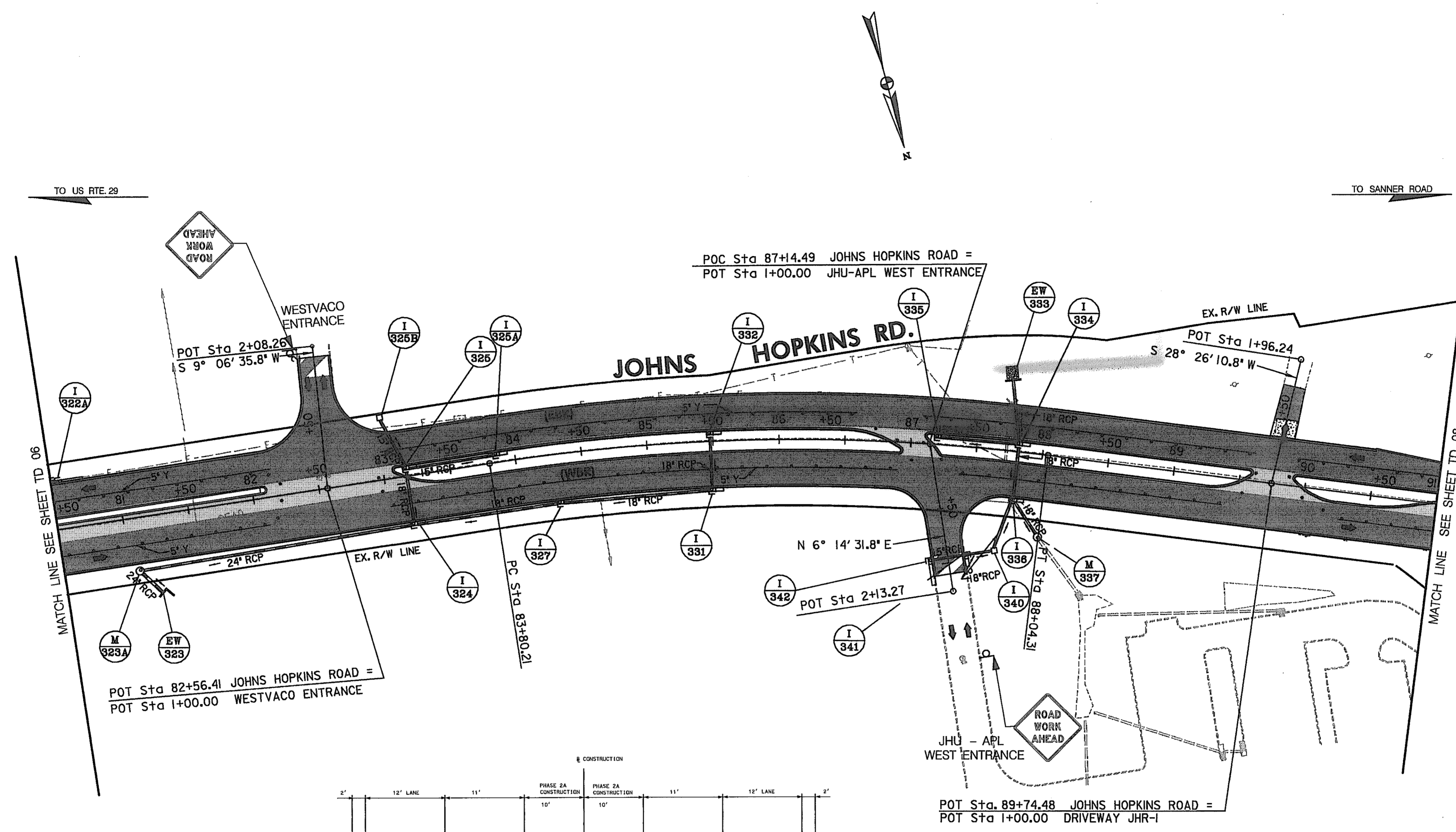
SCALE: PLAN: 1" = 50'

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

COMPLETE THE MEDIAN INLETS

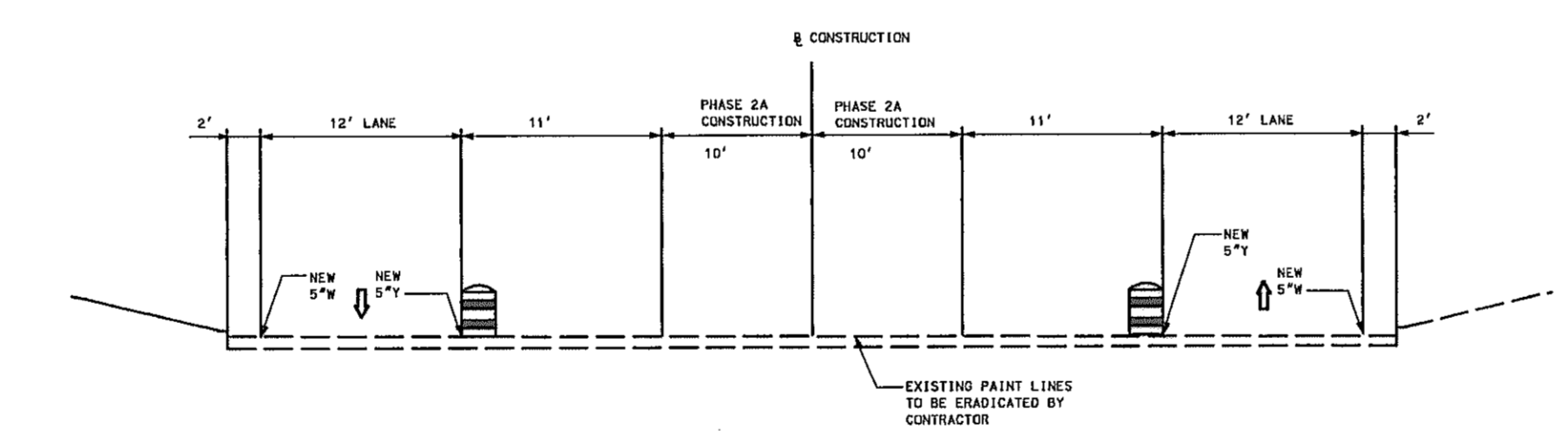
CONSTRUCTION NOTES:

- ① THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN HE CAN REPLACE IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS HE SHALL CONFORM TO STANDARD NO. MD-104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS HOPKINS ROAD FROM STA. 69+50 TO THE LIMIT OF WORK.
- ② CONTRACTOR IS TO MAINTAIN ACCESS TO ALL DRIVEWAYS AND ENTRANCES AT ALL TIMES. ANY TEMPORARY CLOSURES TO TURNING MOVEMENTS MUST BE APPROVED BY THE ENGINEER, HOWARD COUNTY AND THE PROPERTY OWNER AFFECTED.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



STA. 85+00 (JOHNS HOPKINS ROAD)
(TYPICAL)

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING. SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

TRAFFIC CONTROL PLAN

PHASE 2A

TD 07 OF 16

SCALE: PLAN: 1" = 50'

REPLACE SHEET
HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
	ADDENDUM NO. 2- 08/25/00

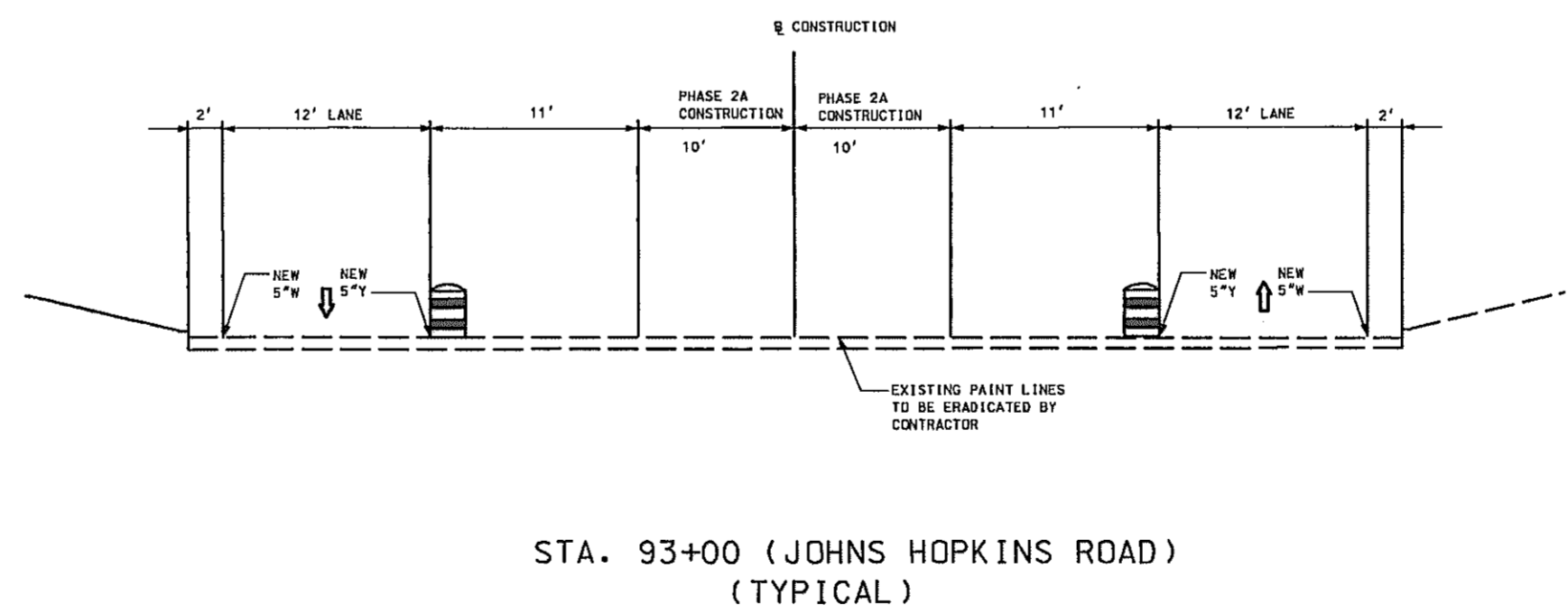
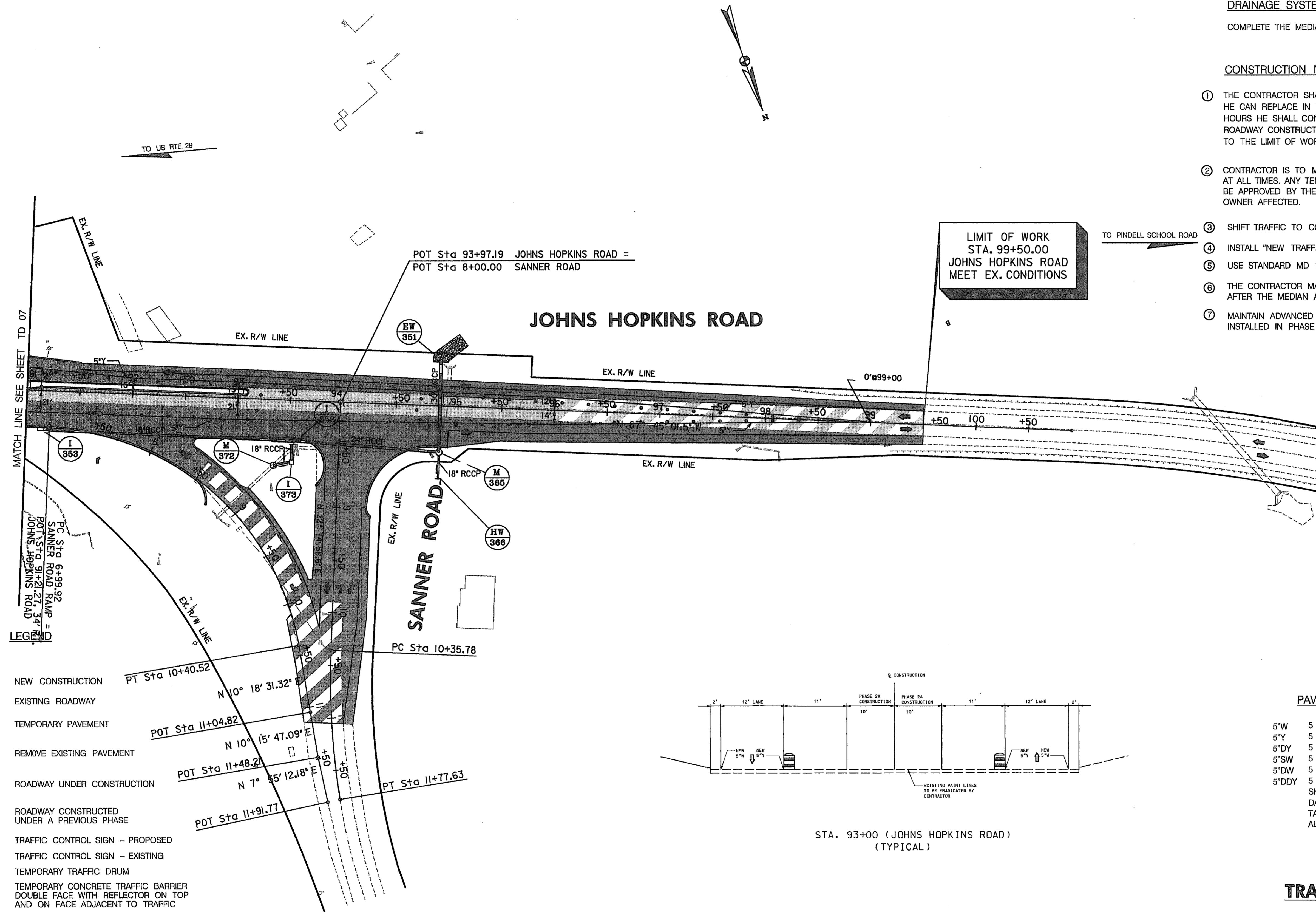
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 105		OF 320	

CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

COMPLETE THE MEDIAN INLETS

CONSTRUCTION NOTES:

- ① THE CONTRACTOR SHALL NOT EXCAVATE MORE MATERIAL THAN HE CAN REPLACE IN THE SAME DAY. DURING PEAK AND NON-WORKING HOURS HE SHALL CONFORM TO STANDARD NO. MD-104.92 - STAGED ROADWAY CONSTRUCTION ALONG JOHNS HOPKINS ROAD FROM STA. 69+50 TO THE LIMIT OF WORK.
- ② CONTRACTOR IS TO MAINTAIN ACCESS TO ALL DRIVEWAYS AND ENTRANCES AT ALL TIMES. ANY TEMPORARY CLOSURES TO TURNING MOVEMENTS MUST BE APPROVED BY THE ENGINEER, HOWARD COUNTY AND THE PROPERTY OWNER AFFECTED.
- ③ SHIFT TRAFFIC TO CONSTRUCT THE MEDIAN PORTION OF JOHNS HOPKINS ROAD.
- ④ INSTALL "NEW TRAFFIC PATERN" SIGNS AS DIRECTED BY THE ENGINEER.
- ⑤ USE STANDARD MD 104.36-01 ON JOHNS HOPKINS ROAD APPROACH.
- ⑥ THE CONTRACTOR MAY CONSTRUCT THE OVERLAY ON JOHN HOPKINS ROAD AFTER THE MEDIAN AREA IS RECONSTRUCTED.
- ⑦ MAINTAIN ADVANCED WARNING SIGNS ON JOHNS HOPKINS ROAD AND SANNER ROAD INSTALLED IN PHASE 1.



PAVEMENT MARKING LEGEND

5"W	5 INCH WHITE TEMPORARY PAVEMENT MARKING.
5"Y	5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
5"DY	5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
5"SW	5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
5"DW	5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
5"DDY	5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
	SKIP=10' STRIPE, 30' GAP
	DASHED=3' STRIPE, 9' GAP
	TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
	ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 2A**

TD 08 OF 16

REPLACE SHEET
HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	

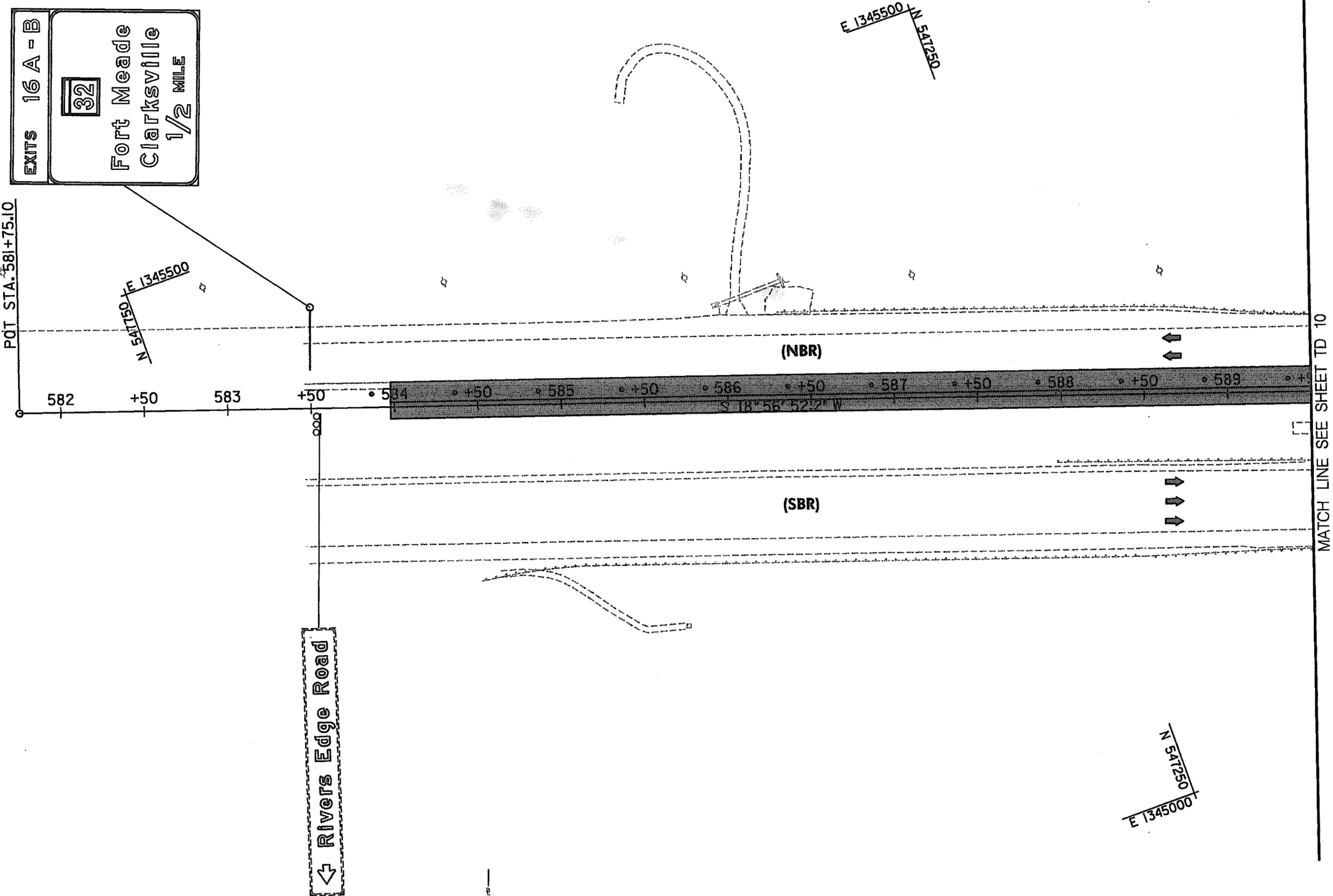
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 106 OF 320
PREL. TRAC. BY		FINAL TRAC. BY	

SCALE: PLAN: 1"=50'

TO BALTIMORE

TO WASHINGTON

U.S. 29 (COLUMBIA PIKE)

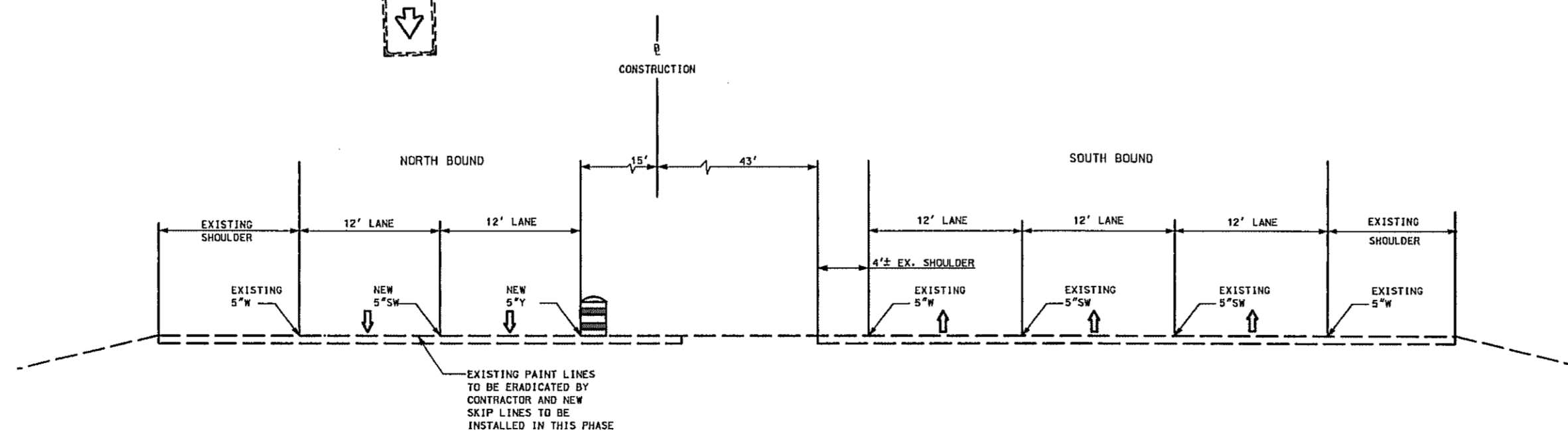


- CONSTRUCTION NOTE**
- INSTALL TEMPORARY PAVEMENT MARKINGS ON US 29 NB & SB AT THE LOCATION OF THE PERMANENT UNTIL THE OVERLAY IS INSTALLED.
 - REMOVE TEMPORARY CONCRETE TRAFFIC BARRIER ON US 29 NB AND INSTALL BARRILES.
 - REMOVE THE BARRILES ON US 29 SB.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

- PAVEMENT MARKING LEGEND**
- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - SKIP=10' STRIPE, 30' GAP
 - DASHED=3' STRIPE, 9' GAP
 - TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
 - ALL OTHER SURFACES PAINT CAN BE USED.



STA. 558+50 (U.S. 29)
(TYPICAL)

SCALE: PLAN: 1" = 50'

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 2- 08/25/00

TRAFFIC CONTROL PLAN PHASE 2A

TD 09 OF 16

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 107 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

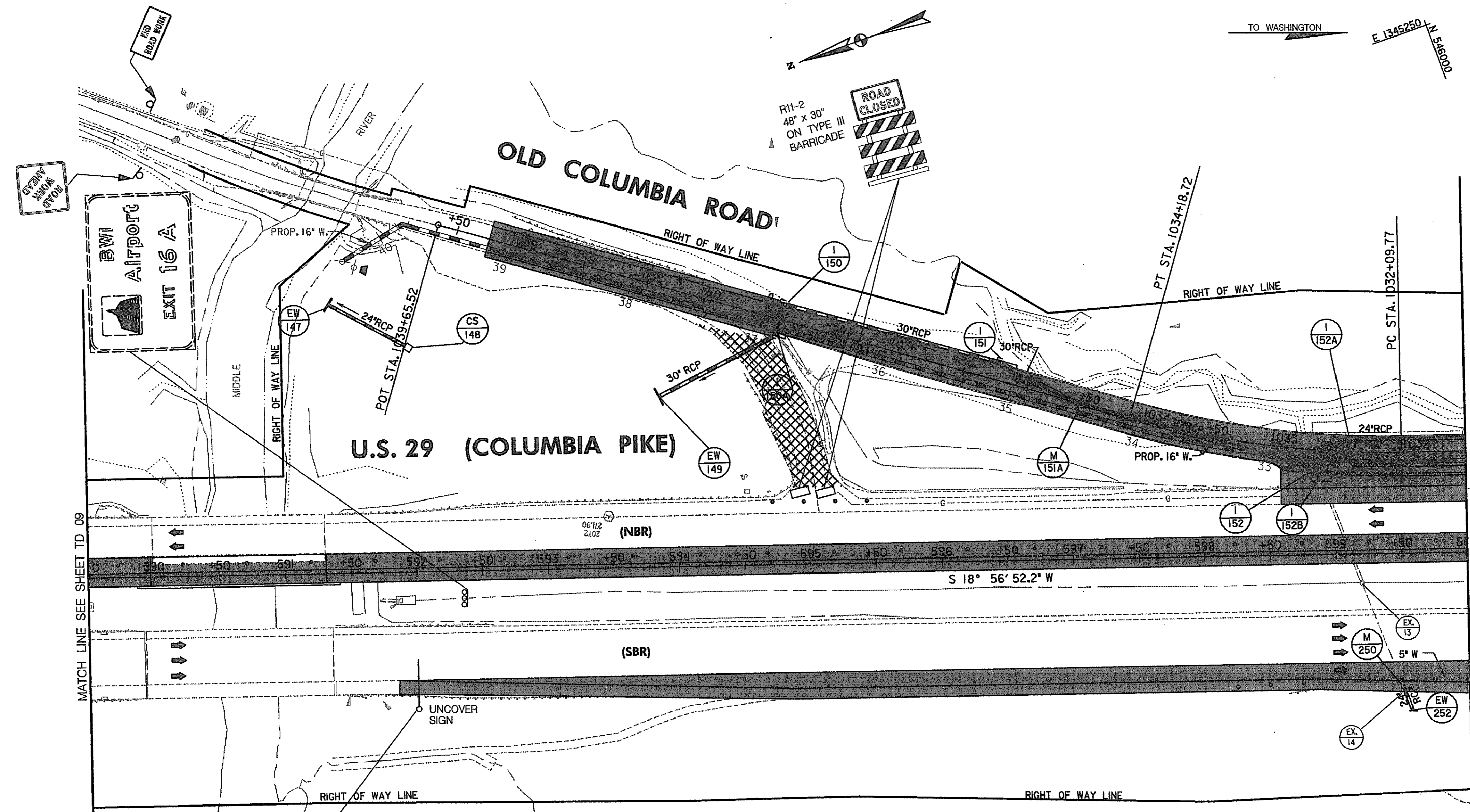
TO BALTIMORE

TO WASHINGTON

N 1345250
E 516500

CONSTRUCTION NOTES:

- ① OPEN OLD COLUMBIA ROAD TO TRAFFIC. REMOVE REMAINING PORTION OF OLD COLUMBIA CONNECTION TO US 29 NB.
- ② INSTALL PERMANENT PAVEMENT MARKINGS ON OLD COLUMBIA ROAD.
- ③ INSTALL TEMPORARY PAVEMENT MARKINGS ON US 29 NB & SB IN THE SAME LOCATION OF THE PERMANENT UNTIL THE FINAL OVERLAY IS INSTALLED.



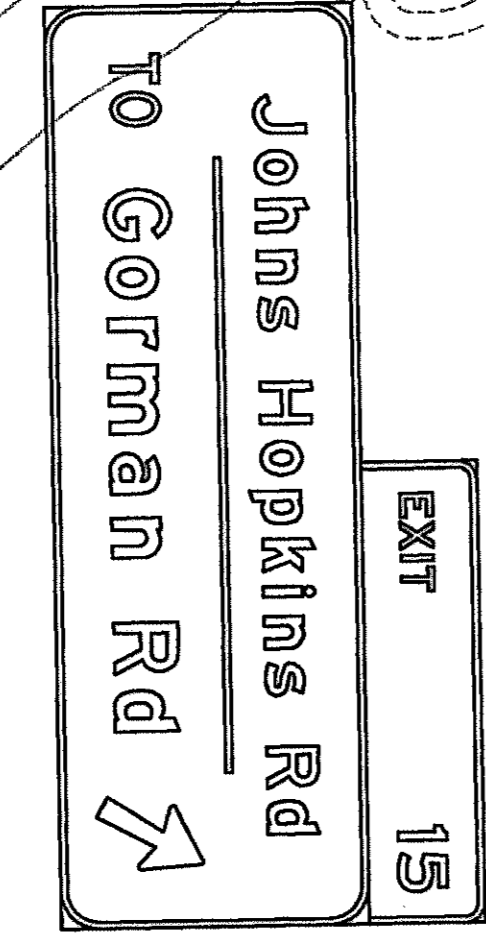
MATCH LINE SEE SHEET TD 09

MATCH LINE STA. 600+00 SEE SHEET PS 11

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

N 517200
E 1345000



PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

TRAFFIC CONTROL PLAN
PHASE 2A

TD 10 OF 16

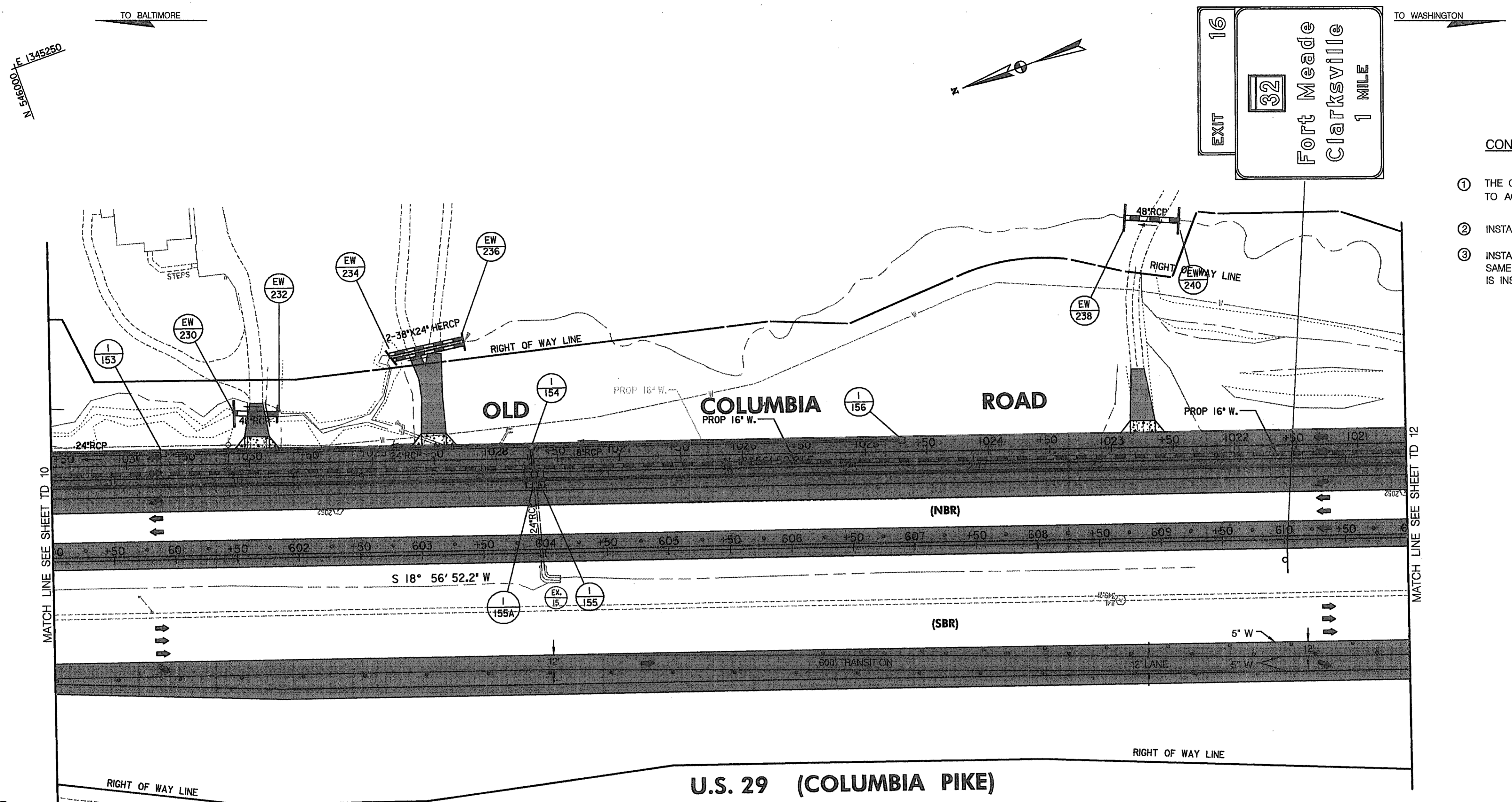
REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO741617D F.A.P. NO. SEE TITLE SHEET SHEET NO. 108 OF 320
PREL. TRAC. BY FINAL TRAC. BY



CONSTRUCTION NOTES:

- ① THE CONTRACTOR SHALL STRIPE RAMP 1 FOR ONE LANE OFF TO ACCOMMODATE THE LEFT TURN FROM US 29 NB.
- ② INSTALL PERMANENT PAVEMENT MARKINGS ON OLD COLUMBIA ROAD.
- ③ INSTALL TEMPORARY PAVEMENT MARKINGS ON US 29 NB & SB IN THE SAME LOCATION OF THE PERMANENT UNTIL THE FINAL OVERLAY IS INSTALLED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 2A**

TD 11 OF 16

SCALE: PLAN: 1" = 50'

REPLACE SHEET
HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

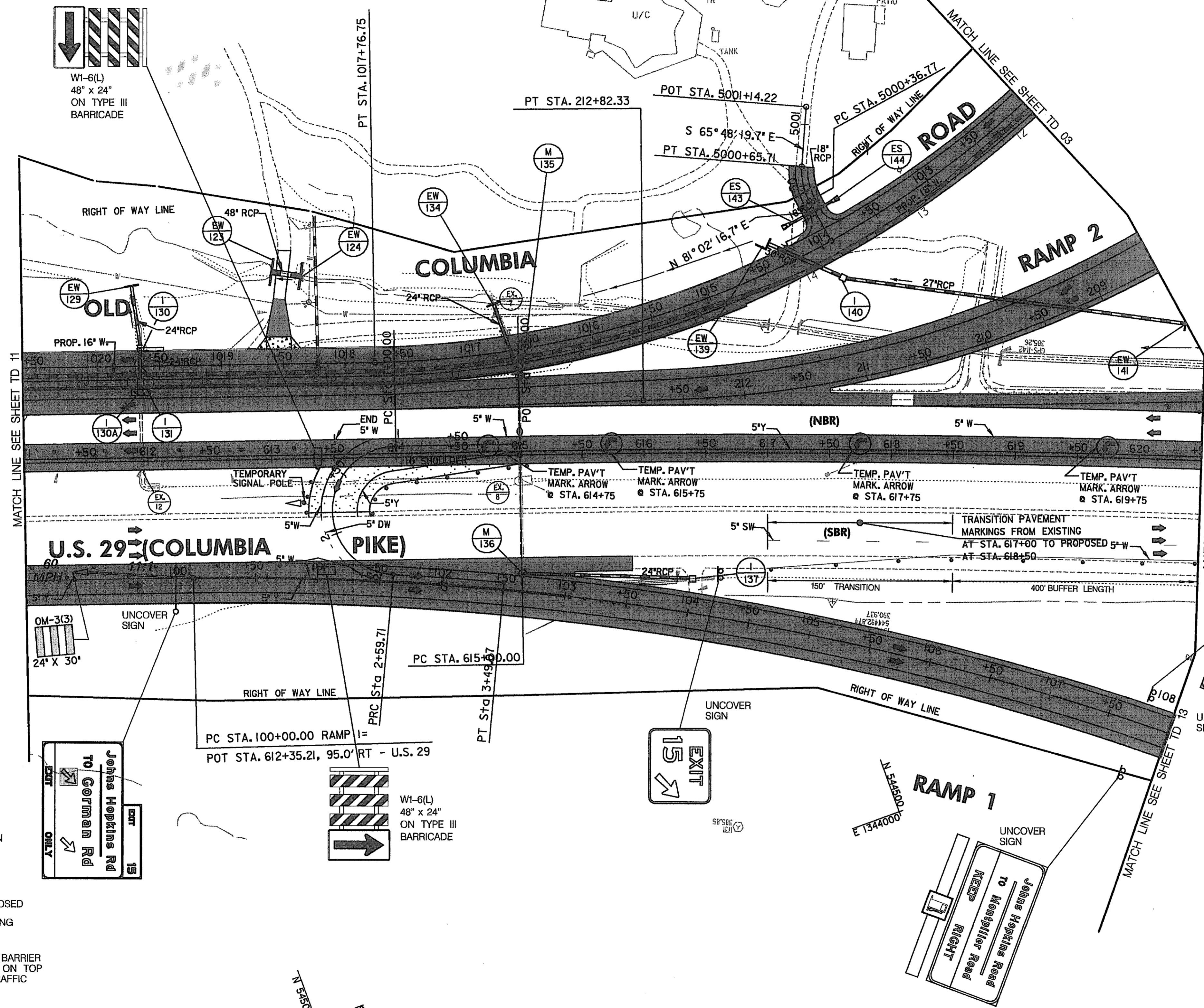
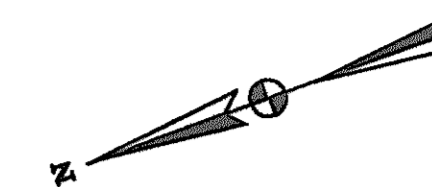
REVISIONS	
	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7416170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 109		OF 320	

00058E N E 1345000

TO BALTIMORE

TO WASHINGTON



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

CONSTRUCTION NOTES:

- ① INSTALL TEMPORARY PAVEMENT MARKINGS ON US 29 NB IN THE LOCATION OF THE PERMANENT MARKINGS UNTIL THE OVERLAY IS INSTALLED.
- ② INSTALL TEMPORARY PAVEMENT MARKINGS ON RAMP 1 (SOUTH OF STA. 103+50), RAMP 2 AND OLD COLUMBIA ROAD WITHIN THE LIMITS OF THIS SHEET UNTIL THE FINAL LEVEL OR OVERLAY IS PLACED.
- ③ THE CONTRACTOR SHALL STRIPE RAMP 1 FOR ONE LANE OFF TO ACCOMMODATE THE LEFT TURN FROM US 29 NB WITH TEMPORARY PAVEMENT MARKINGS.
- ④ SEE SHEET 131A FOR THE TEMPORARY TRAFFIC SIGNAL.

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 2A**

TD 12 OF 16

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2-08/25/00	

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. H07415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 110 OF 320
PREL. TRAC. BY		FINAL TRAC. BY	

SCALE: PLAN: 1"=50'

TDR2US29D04

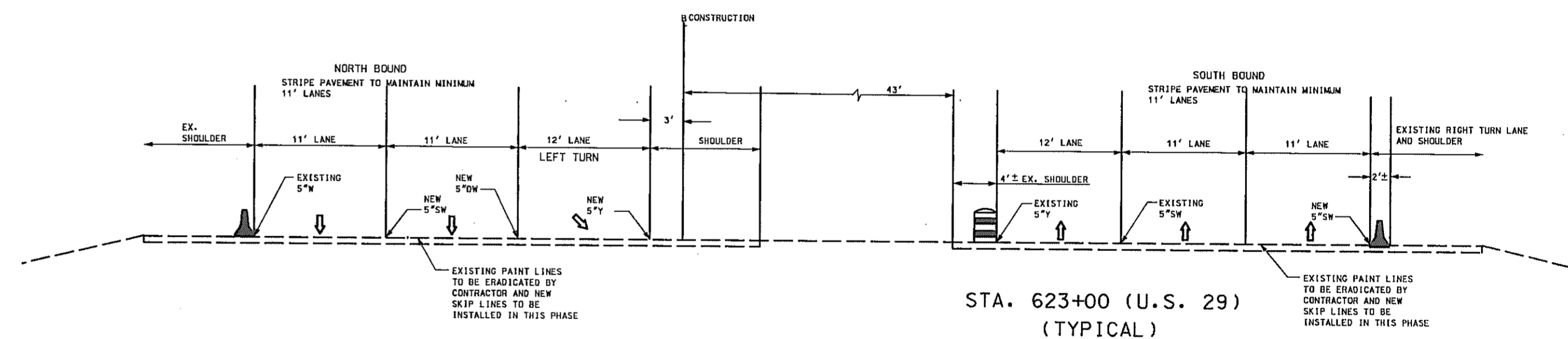
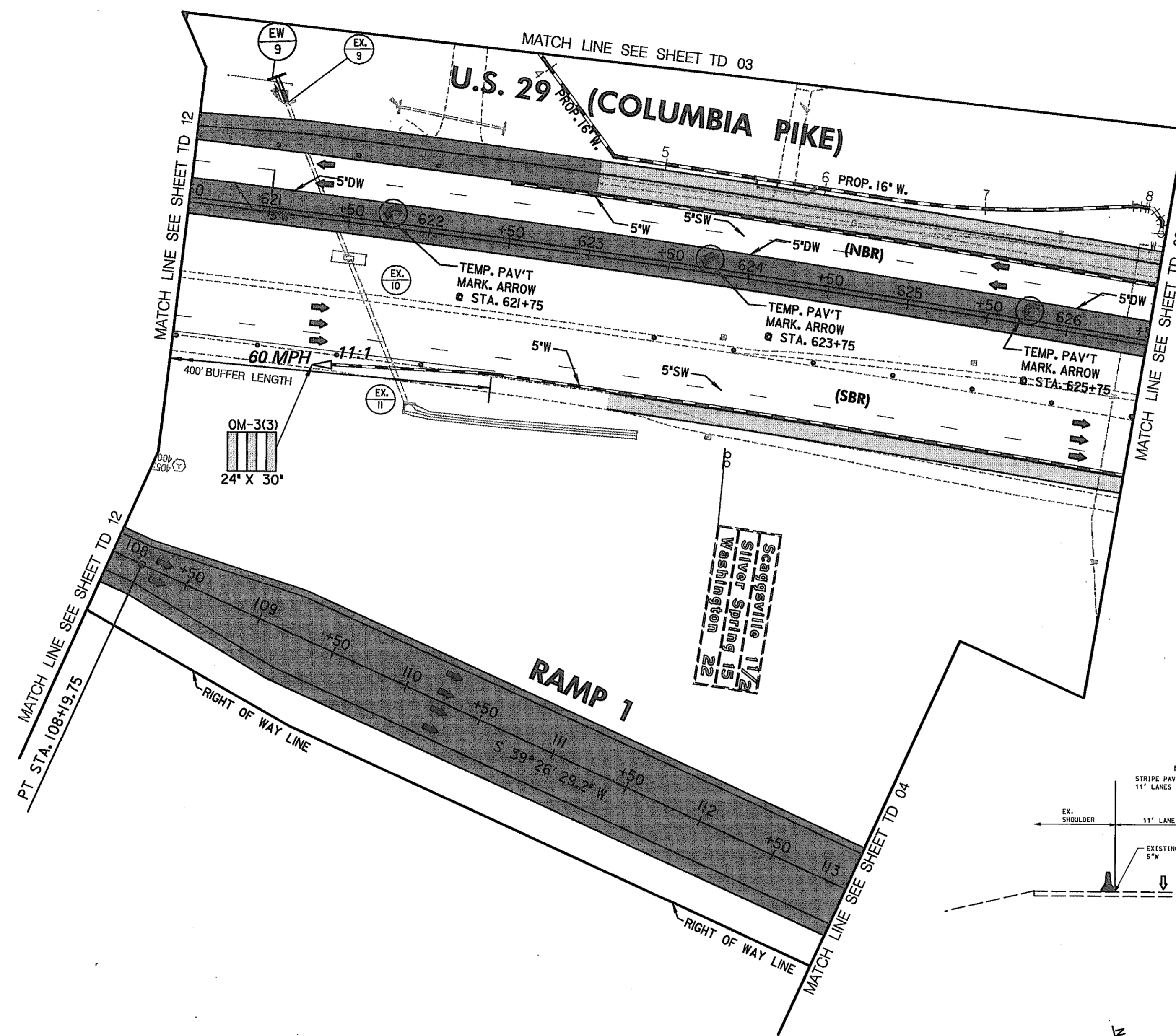
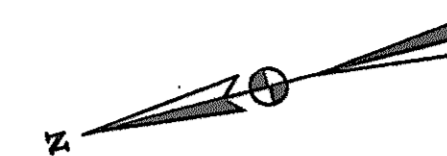
TO BALTIMORE

TO WASHINGTON

E 1344250
N 53510

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERN.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5'DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5'DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1"=50'

TRAFFIC CONTROL PLAN
PHASE 2A

TD 13 OF 16

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

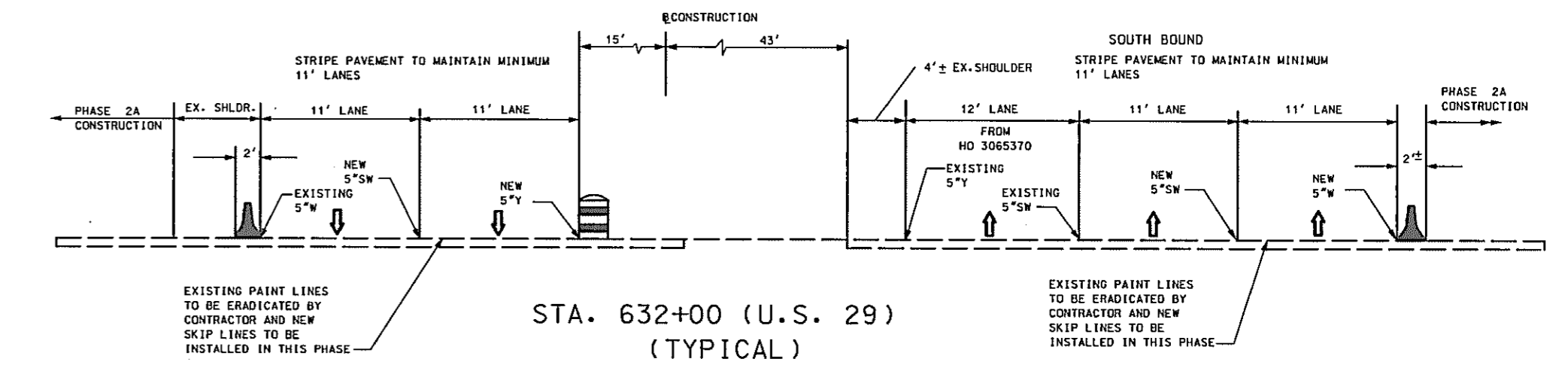
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 111 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

TO BALTIMORE

TO WASHINGTON

CONSTRUCTION NOTES:

- ① MAINTAIN EXISTING TRAFFIC PATTERN.



CONSTRUCT THE FOLLOWING PORTIONS OF THE DRAINAGE SYSTEM

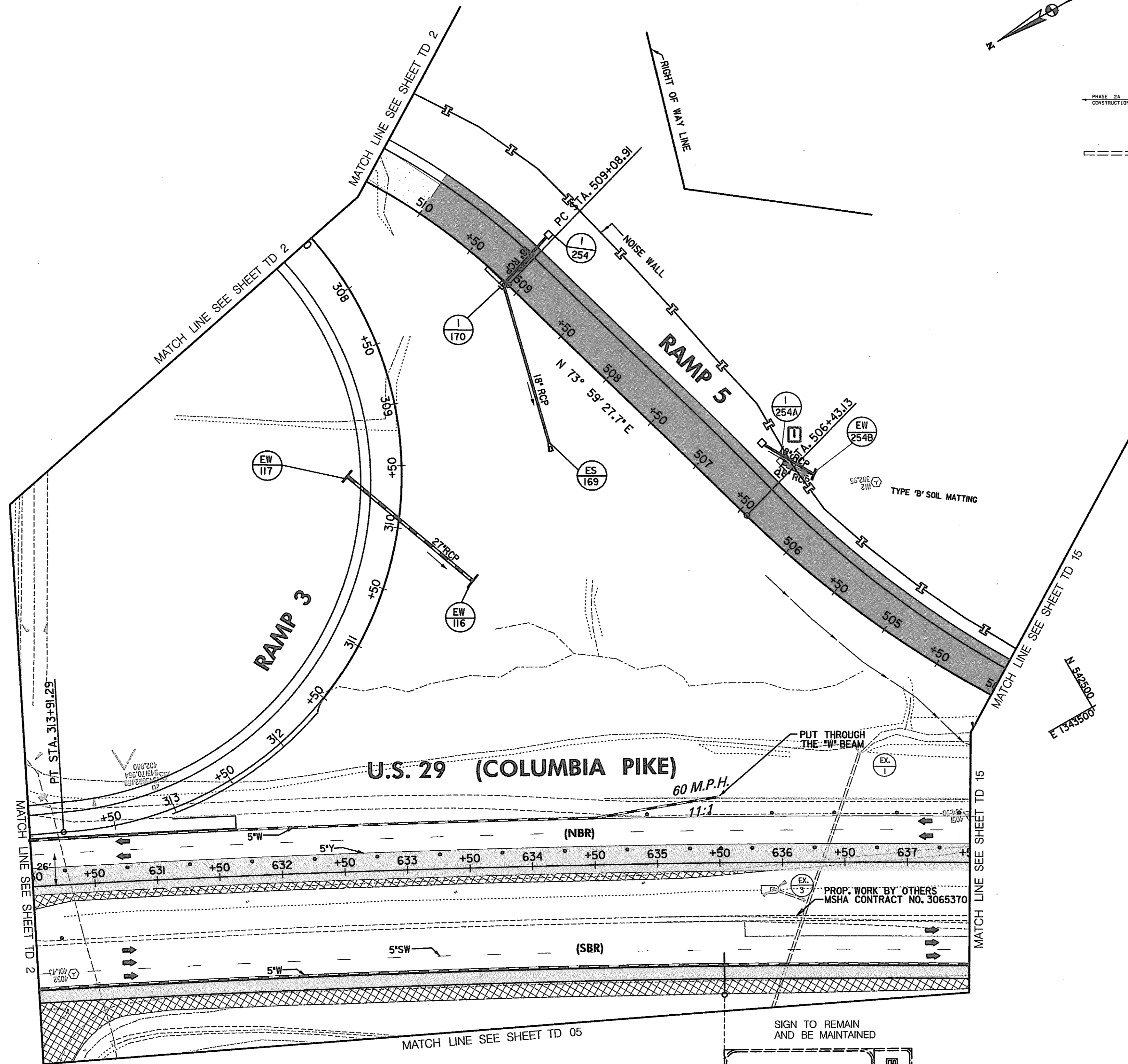
CONSTRUCT THE REMAINING PORTIONS OF THE DRAINAGE SYSTEMS

PAVEMENT MARKING LEGEND

- 5\"/>
- 5\"/>
- 5\"/>
- 5\"/>
- 5\"/>
- 5\"/>
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST



TRAFFIC CONTROL PLAN

PHASE 2A

TD 14 OF 16

- ④ ADDED OVERLAY ON US 29 SBR
- ④ REPLACE SHEET
- ④ REPLACE SHEET

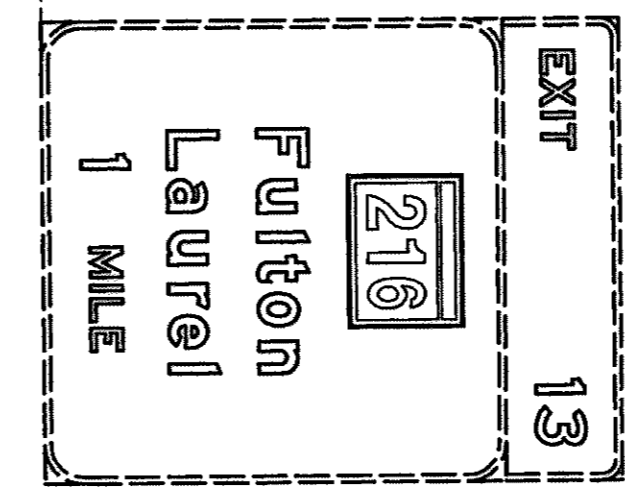
HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
④	ADDENDUM NO. 2-08/25/00
④	ADDENDUM NO. 4-09/07/00
④	REDLINE NO. 1-2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 112 OF 320
PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1" = 50'



E 1344250
N 533250

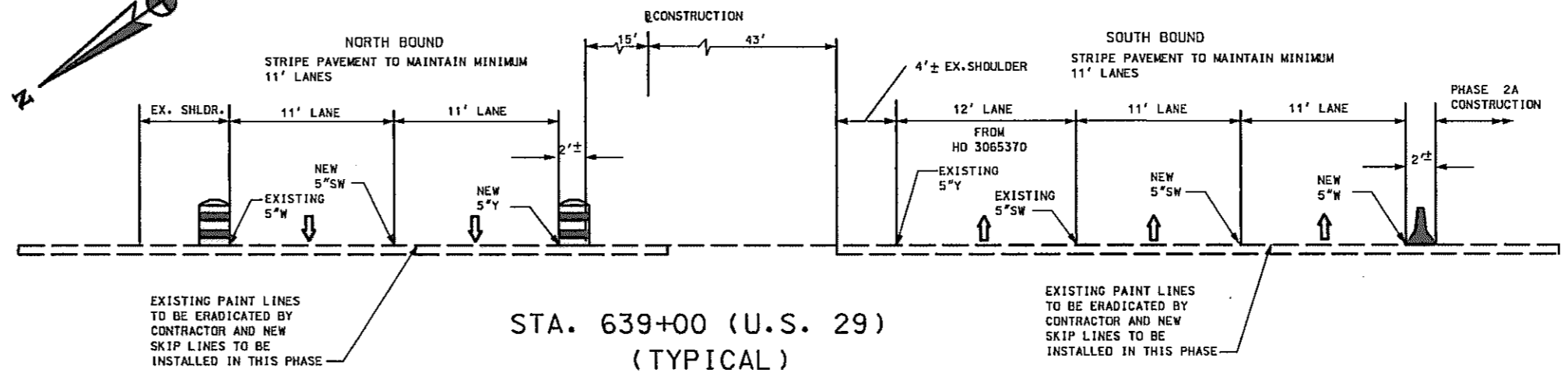
E 1343500
N 533250

TO BALTIMORE

TO WASHINGTON

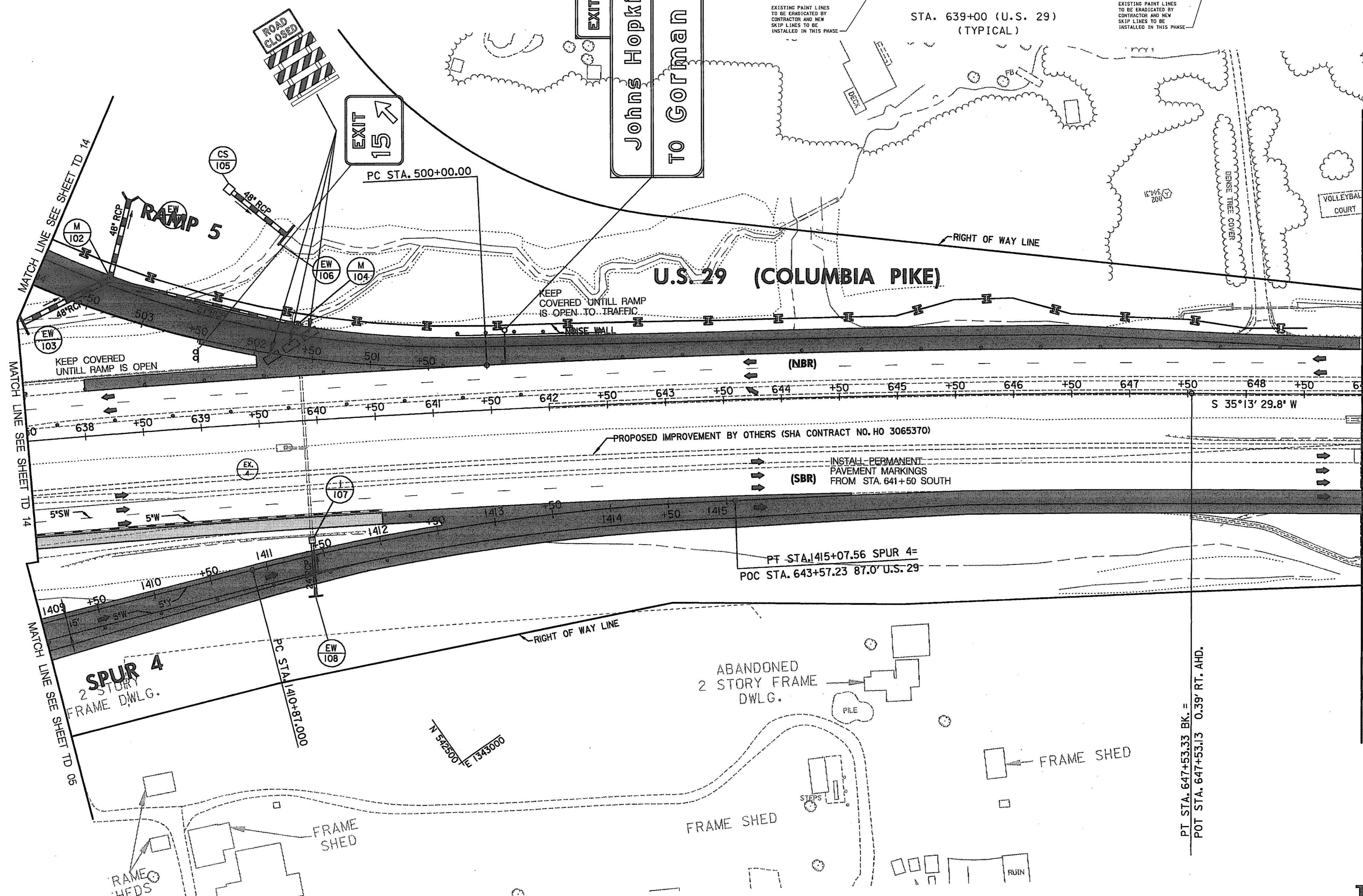
CONSTRUCTION NOTES:

① MAINTAIN EXISTING TRAFFIC PATTERN.



E 1343760
TF 542800

N 542500
E 1343000



PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
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- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
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- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURES RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

TRAFFIC CONTROL PLAN

PHASE 2A

TD 15 OF 16

SCALE: PLAN: 1"=50'

REPLACE SHEET

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 2-
08/25/00

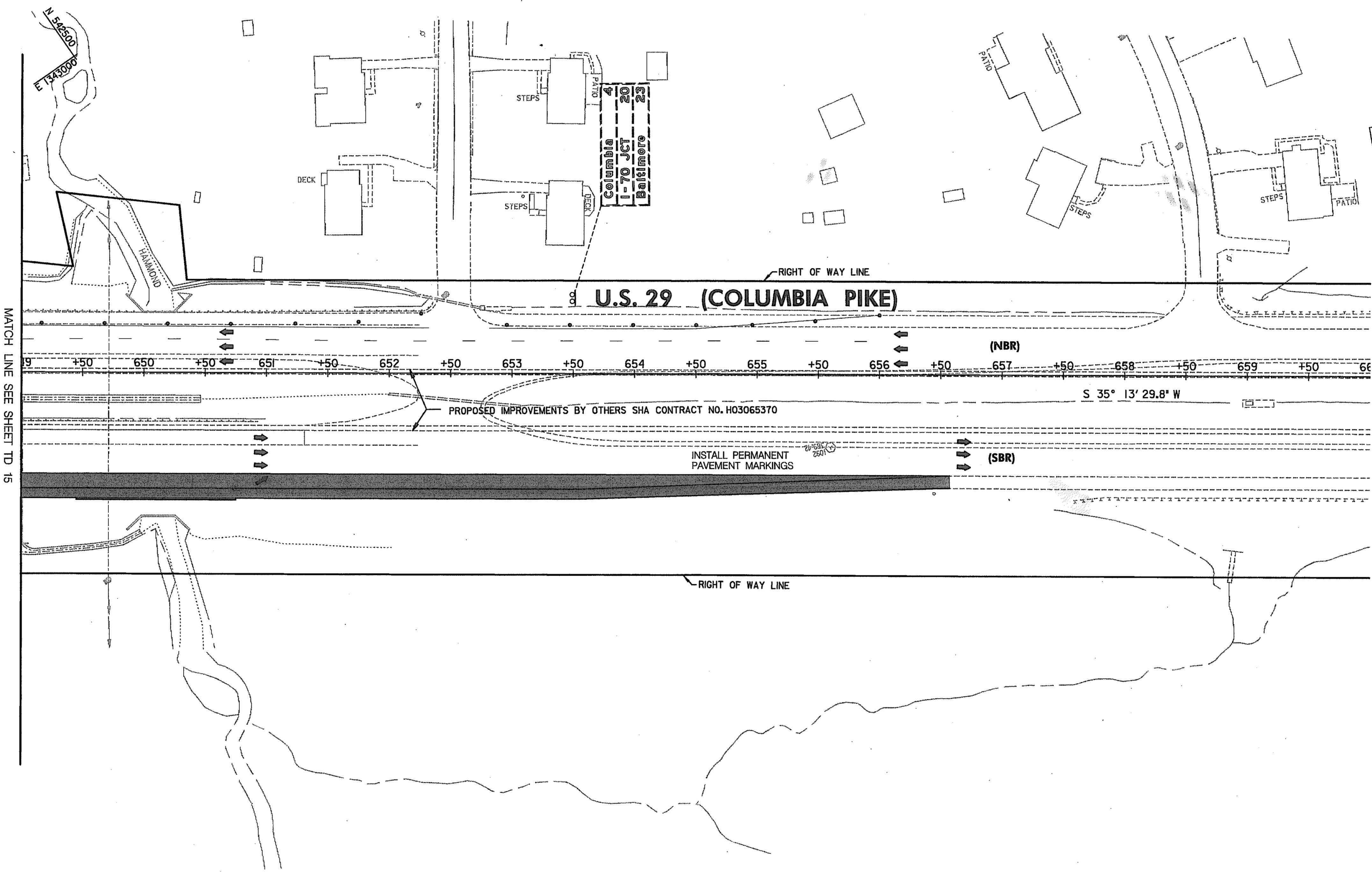
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 113 OF 320
PREL. TRAC. BY FINAL TRAC. BY

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TO BALTIMORE

TO WASHINGTON



SIGN NOTES :

INSTALL EXIT 15 ADVANCE SIGNS FOR 1/2 MILE AND 3/4 MILE AS SHOWN ON SHEETS 291 & 292 AND COVER UNTILL RAMP 5 IS OPEN.

CONSTRUCTION NOTES:

- ① ON US 29 NB AND US 29 SB MAINTAIN SIGNS INSTALLED IN PHASE 1A
- ② MAINTAIN EXISTING TRAFFIC PATTERN.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAYS
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION SAND CONTAINER (XX MPH) PLACED PER MANUFACTURES RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

**TRAFFIC CONTROL PLAN
PHASE 2A**

TD 16 OF 16

REPLACE SHEET

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

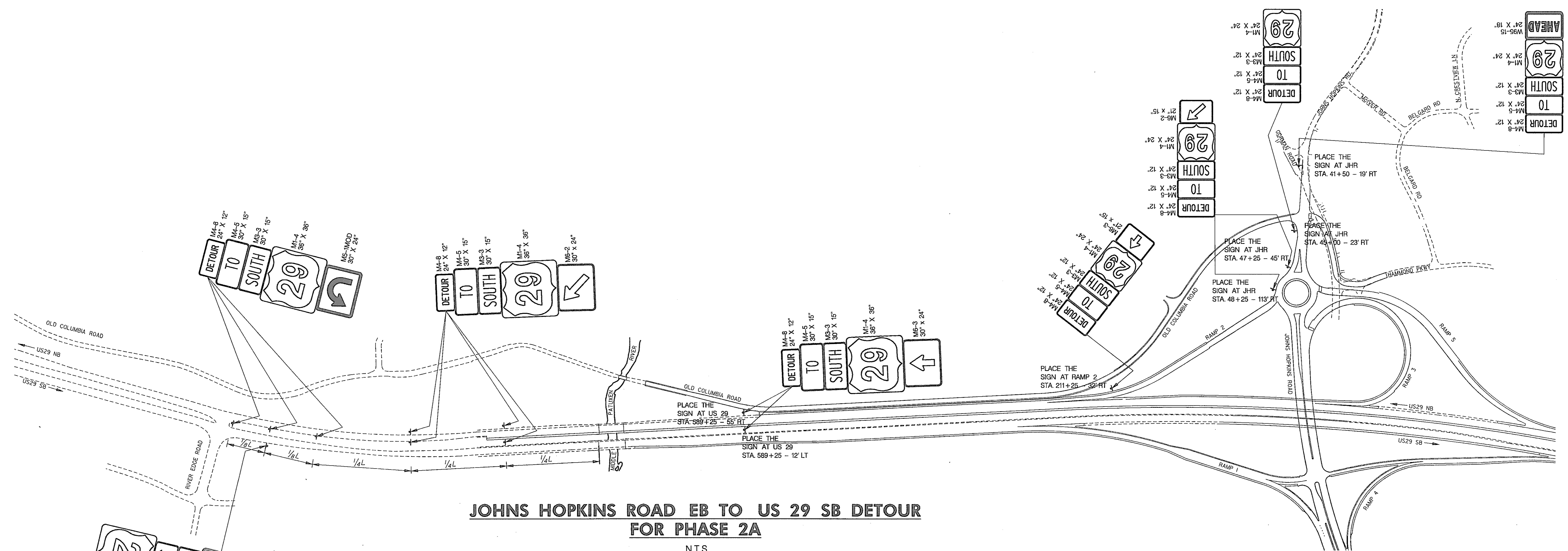
REVISIONS	
	ADDENDUM NO. 2-08/25/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 114 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

Phase 2B Construction

- 01) Maintain Project Limit Signs (MD 104.00-14 and MD 104.00-15) at the northerly and southerly project limits of US Rte. 29, at the easterly and westerly project limits of Johns Hopkins and Gorman Roads and the northerly project limit on Sanner Road.
- 02) Traffic flow for the beginning of Phase 2B shall be as followed:
 - A) Through traffic on Johns Hopkins Road in both directions shall be accommodated on the portions of the new road constructed.
 - B) Traffic from US 29 NB to Johns Hopkins Road will use Ramp 5.
 - C) Traffic from US 29 SB to Johns Hopkins Road will use Ramp 1 and Spur 1.
 - D) Traffic from WB Johns Hopkins Road to US 29 NB will use Ramp 2.
 - E) Traffic from EB Johns Hopkins Road to US 29 NB will use Ramp 3.
 - F) Traffic from EB Johns Hopkins Road to US 29 SB will use Ramp 4.
 - G) Traffic from WB Johns Hopkins Road to US 29 SB will use Spur 4.
- 03) Complete the construction of the median widening on US 29 NB from Sta. 629+00 to Sta. 642+00.
- 04) Complete the portion of Johns Hopkins Road in the area of Temporary Ramp 4.
- 05) Remove the temporary cross over between US 29 NB & SB at Ramp 1.
- 06) Open up Hammon Parkway and remove detour signs.
- 07) Remove detour signs for the EB Johns Hopkins Road to US 29 SB.
- 08) At the end of phase 2B install overlay on US 29 NB & SB.



JOHNS HOPKINS ROAD EB TO US 29 SB DETOUR FOR PHASE 2A
N.T.S.

TRAFFIC CONTROL PLAN PHASE 2B

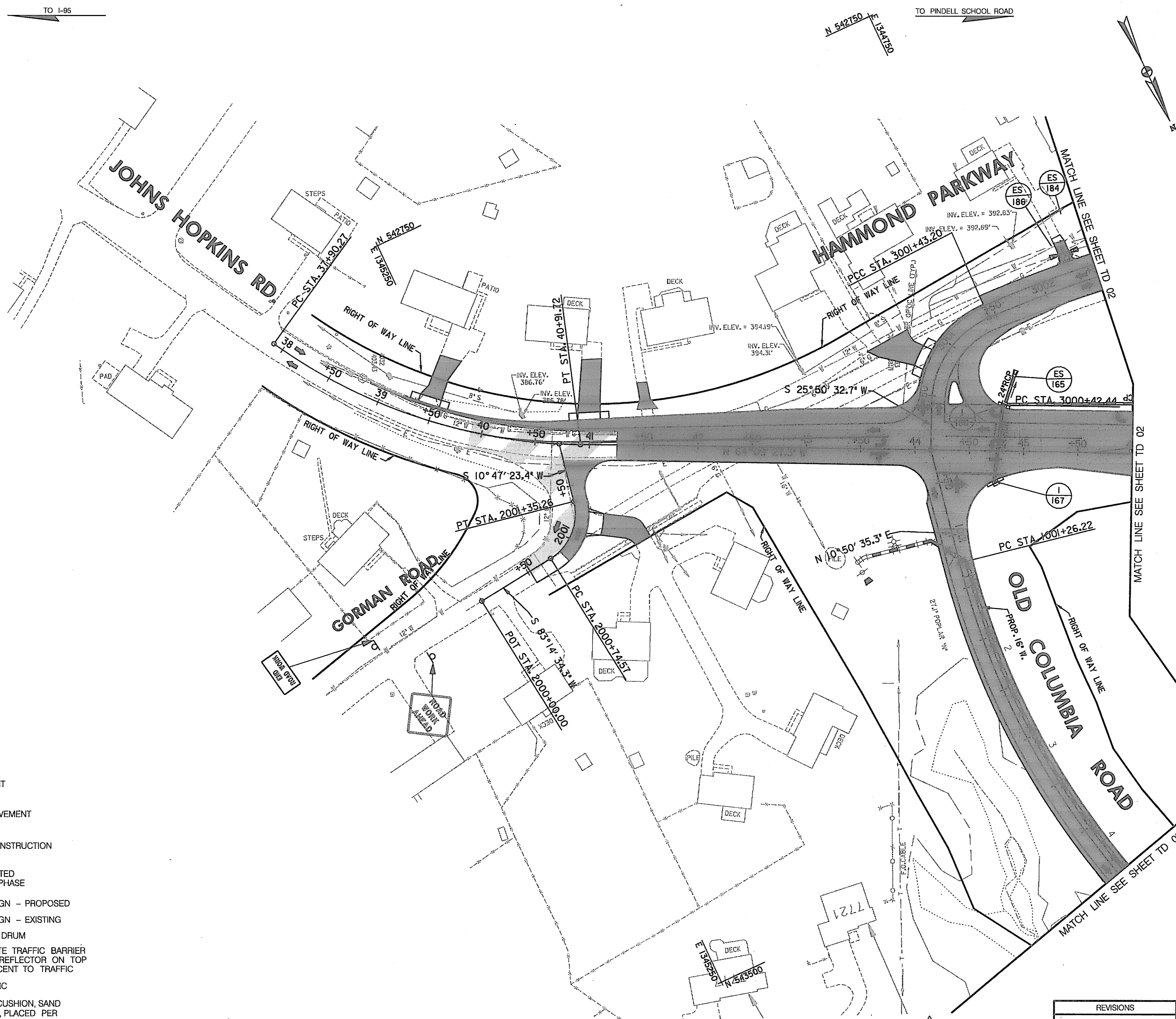
TD 00 OF 16

L - DISTANCE FROM THE NORTH END OF THE US29 NB BRIDGE OVER THE MIDDLE PATUXENT RIVER TO THE RIVERS EDGE ROAD INTERSECTION.

REPLACE SHEET
 HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
4	ADDENDUM NO. 4-09/07/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		SHEET NO.	115 OF 320
		FINAL TRAC. BY	



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP = 10' STRIPE, 30' GAP
- DASHED = 3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

CONSTRUCTION NOTE

- ① OPEN UP HAMMOND PARKWAY AND REMOVE DETOUR SIGNAGE.
- ② INSTALL REMAINING PERMANENT SIGNS AND UNCOVER MESSAGES ON THOSE SIGNS ALREADY INSTALLED THAT ARE NOW APPLICABLE (SEE SHEETS 284 & 285).
- ③ INSTALL FINAL COURSE ON JOHNS HOPKINS ROAD (UP TO STA. 59+50+/-), GORMAN ROAD AND HAMMOND PARKWAY AND THEN INSTALL PERMANENT PAVEMENT MARKINGS. (SEE SHEETS 284 - 286)
- ④ MAINTAIN ADVANCE WARNING SIGNS UNTILL ALL CONSTRUCTION IS COMPLETED.

**TRAFFIC CONTROL PLAN
PHASE 2B**

TD 01 OF 16

REVISIONS

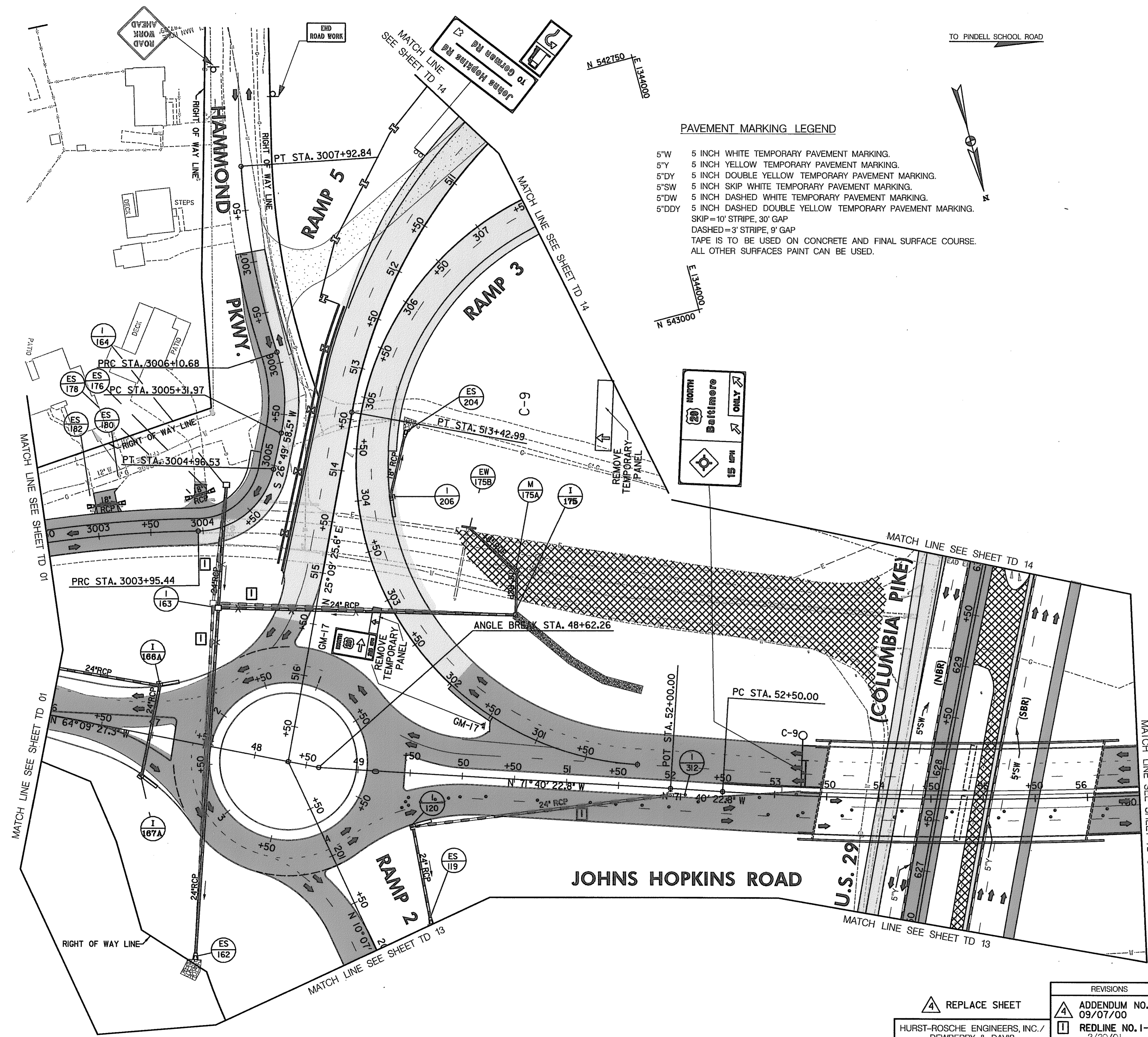
4	REPLACE SHEET
4	ADDENDUM NO. 4-09/07/00

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 116 OF 320
PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1" = 50'



PAVEMENT MARKING LEGEND

5"W	5 INCH WHITE TEMPORARY PAVEMENT MARKING.
5"Y	5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
5"DY	5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
5"SW	5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
5"DW	5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
5"DDY	5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.

SKIP=10' STRIPE, 30' GAP
 DASHED=3' STRIPE, 9' GAP
 TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
 ALL OTHER SURFACES PAINT CAN BE USED.

- CONSTRUCTION NOTES:**
- ① OPEN UP HAMMOND PARKWAY AND REMOVE DETOUR SIGNAGE.
 - ② INSTALL FINAL COURSE ON JOHNS HOPKINS ROAD (UP TO STA. 59+50+/-), HAMMOND PARKWAY, RAMP 2, RAMP 3 & RAMP 5 AND THEN INSTALL PERMANENT PAVEMENT MARKINGS. (SEE SHEETS 284-286)
 - ③ ONCE RAMP 3 IS OPEN REMOVE THE TEMPORARY PANELS ON SIGNS C-9 AND GM-17.
 - ④ ONCE SPUR 4 IS OPEN REMOVE THE DETOUR SIGNAGE FOR THE JOHNS HOPKINS ROAD EB TO US 29 SB DETOUR.
 - ⑤ COMPLETE THE CONSTRUCTION IN THE US 29 MEDIAN.
 - ⑥ ONCE THE US 29 MEDIAN WORK IS COMPLETED, OVERLAY US 29 NB & SB AND INSTALL PERMANENT PAVEMENT MARKINGS ON US 29.
 - ⑦ INSTALL REMAINING PERMANENT SIGNS AND UNCOVER MESSAGES ON THOSE SIGNS ALREADY INSTALLED THAT ARE NOW APPLICABLE (SEE SHEETS 284 & 285).

LEGEND

	NEW CONSTRUCTION
	EXISTING ROADWAY
	TEMPORARY PAVEMENT
	REMOVE EXISTING PAVEMENT
	ROADWAY UNDER CONSTRUCTION
	ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
	TRAFFIC CONTROL SIGN - PROPOSED
	TRAFFIC CONTROL SIGN - EXISTING
	TEMPORARY TRAFFIC DRUM
	TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
	DIRECTION OF TRAFFIC
	TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
	TYPE III BARRICADE
	VARIABLE MESSAGE SIGN
	FLEXIBLE POST

**TRAFFIC CONTROL PLAN
 PHASE 2B**

TD 02 OF 16

REVISIONS

	ADDENDUM NO. 4-09/07/00
	REDLINE NO. 1-2/20/01

REPLACE SHEET

HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 117 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

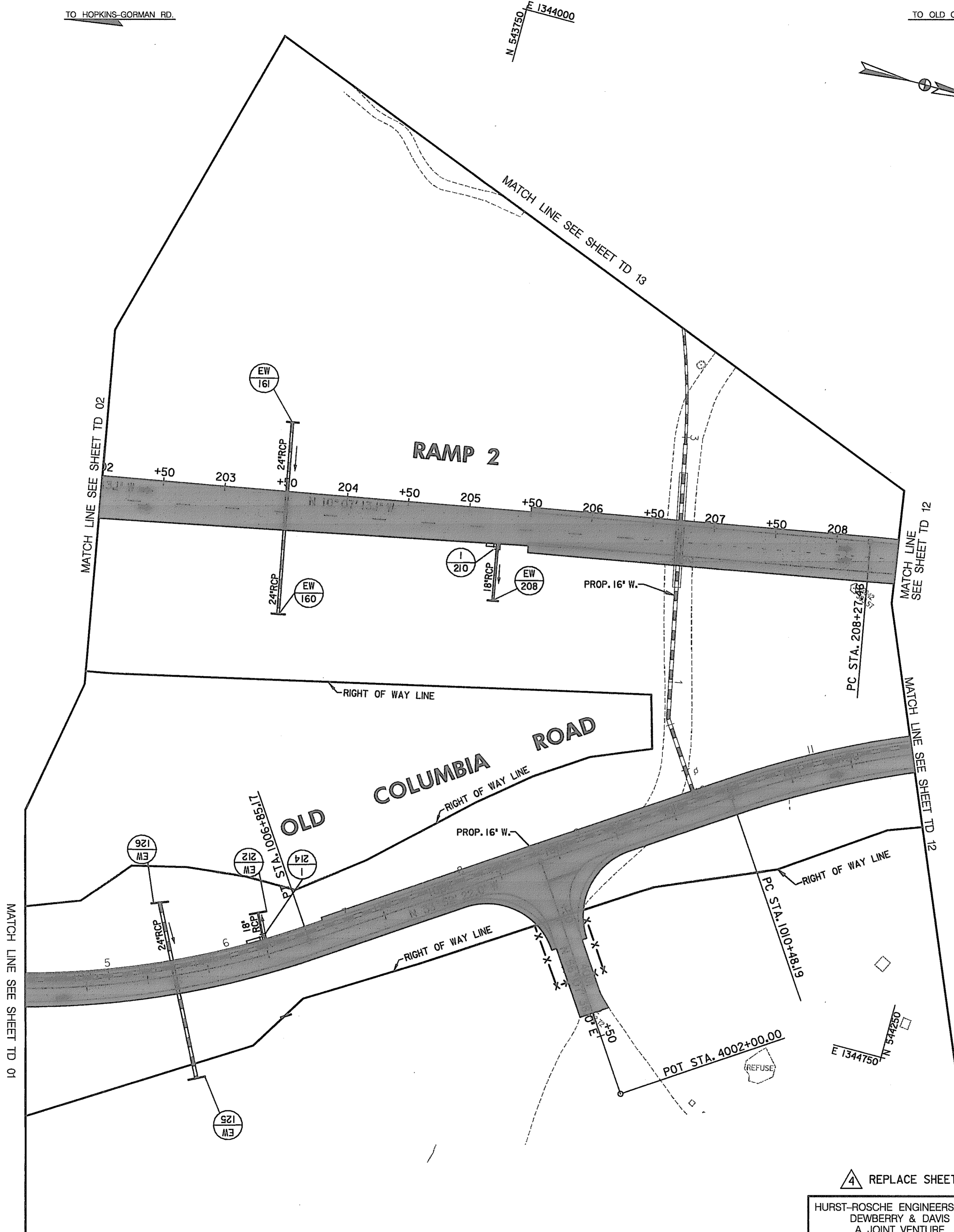
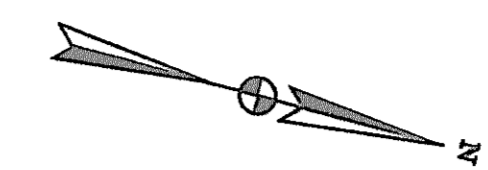
SCALE: PLAN: 1" = 50'

TO HOPKINS-GORMAN RD.

E 1344000
N 544250

TO OLD COLUMBIA RD.

E 1344000
N 544250



CONSTRUCTION NOTES

- ① INSTALL FINAL COURSE ON RAMP 2 & OLD COLUMBIA ROAD AND THEN INSTALL THE PERMANENT PAVEMENT MARKINGS.

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

**TRAFFIC CONTROL PLAN
PHASE 2B**

TD 03 OF 16

SCALE: PLAN: 1" = 50'

4 REPLACE SHEET

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
4	ADDENDUM NO. 4-09/07/00

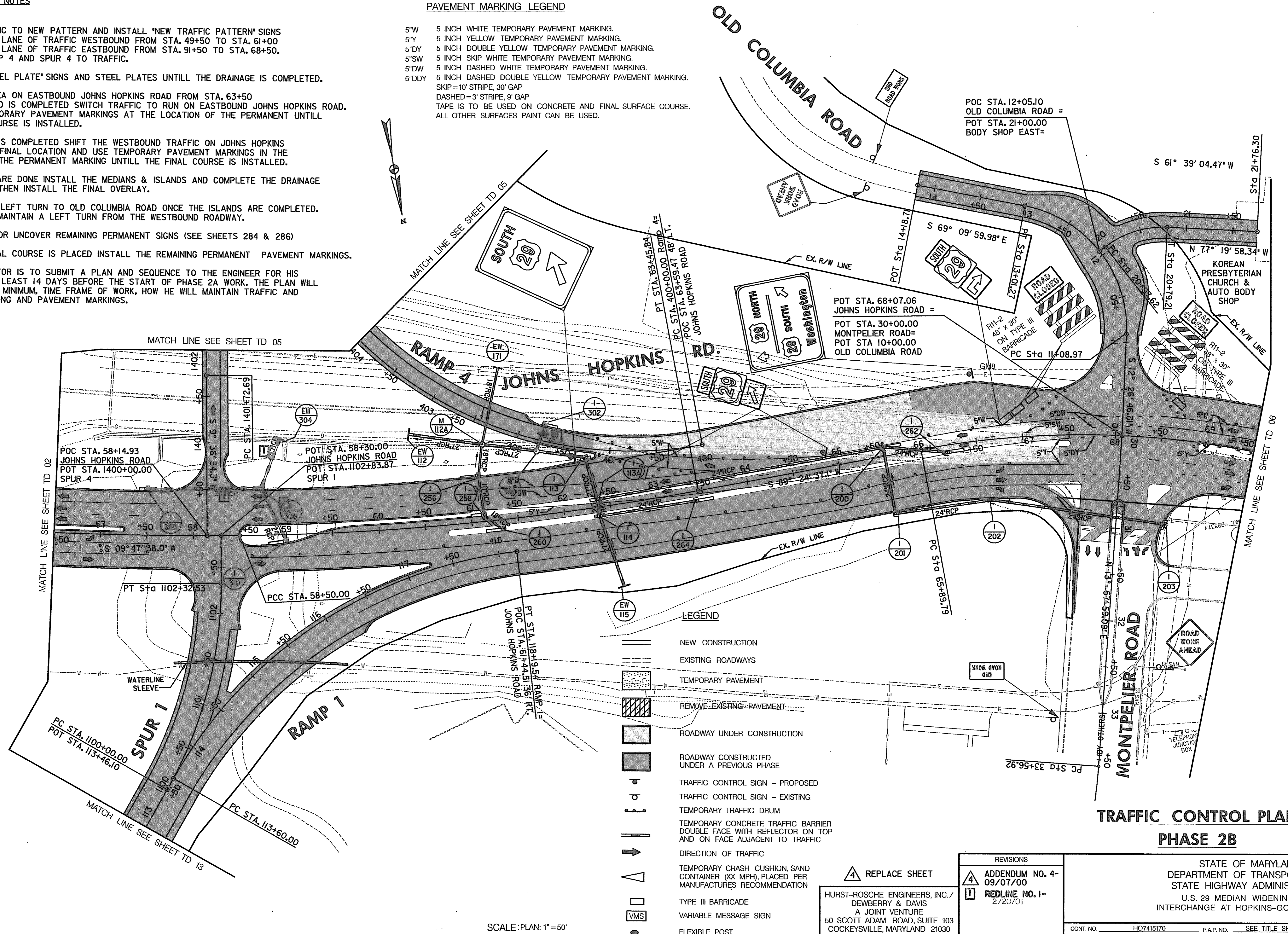
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
SHEET NO.	118	OF	320
PREL. TRAC. BY		FINAL TRAC. BY	

CONSTRUCTION NOTES

- ① SWITCH TRAFFIC TO NEW PATTERN AND INSTALL "NEW TRAFFIC PATTERN" SIGNS
MAINTAIN ONE LANE OF TRAFFIC WESTBOUND FROM STA. 49+50 TO STA. 61+00
MAINTAIN ONE LANE OF TRAFFIC EASTBOUND FROM STA. 91+50 TO STA. 68+50.
OPEN UP RAMP 4 AND SPUR 4 TO TRAFFIC.
- ② MAINTAIN "STEEL PLATE" SIGNS AND STEEL PLATES UNTILL THE DRAINAGE IS COMPLETED.
- ③ ONCE THE AREA ON EASTBOUND JOHNS HOPKINS ROAD FROM STA. 63+50
TO STA. 67+00 IS COMPLETED SWITCH TRAFFIC TO RUN ON EASTBOUND JOHNS HOPKINS ROAD.
INSTALL TEMPORARY PAVEMENT MARKINGS AT THE LOCATION OF THE PERMANENT UNTILL
THE FINAL COURSE IS INSTALLED.
- ④ ONCE ITEM 3 IS COMPLETED SHIFT THE WESTBOUND TRAFFIC ON JOHNS HOPKINS
ROAD TO ITS FINAL LOCATION AND USE TEMPORARY PAVEMENT MARKINGS IN THE
LOCATION OF THE PERMANENT MARKING UNTILL THE FINAL COURSE IS INSTALLED.
- ⑤ ONCE 3 & 4 ARE DONE INSTALL THE MEDIANS & ISLANDS AND COMPLETE THE DRAINAGE
SYSTEM AND THEN INSTALL THE FINAL OVERLAY.
- ⑥ OPEN UP THE LEFT TURN TO OLD COLUMBIA ROAD ONCE THE ISLANDS ARE COMPLETED.
UNTILL THEN MAINTAIN A LEFT TURN FROM THE WESTBOUND ROADWAY.
- ⑦ INSTALL AND/OR UNCOVER REMAINING PERMANENT SIGNS (SEE SHEETS 284 & 286)
- ⑧ ONCE THE FINAL COURSE IS PLACED INSTALL THE REMAINING PERMANENT PAVEMENT MARKINGS.
- ⑨ THE CONTRACTOR IS TO SUBMIT A PLAN AND SEQUENCE TO THE ENGINEER FOR HIS
APPROVAL AT LEAST 14 DAYS BEFORE THE START OF PHASE 2A WORK. THE PLAN WILL
INCLUDE AT A MINIMUM, TIME FRAME OF WORK, HOW HE WILL MAINTAIN TRAFFIC AND
DETAILED SIGNING AND PAVEMENT MARKINGS.

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
SKIP=10' STRIPE, 30' GAP
DASHED=3' STRIPE, 9' GAP
TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
ALL OTHER SURFACES PAINT CAN BE USED.



**TRAFFIC CONTROL PLAN
PHASE 2B**

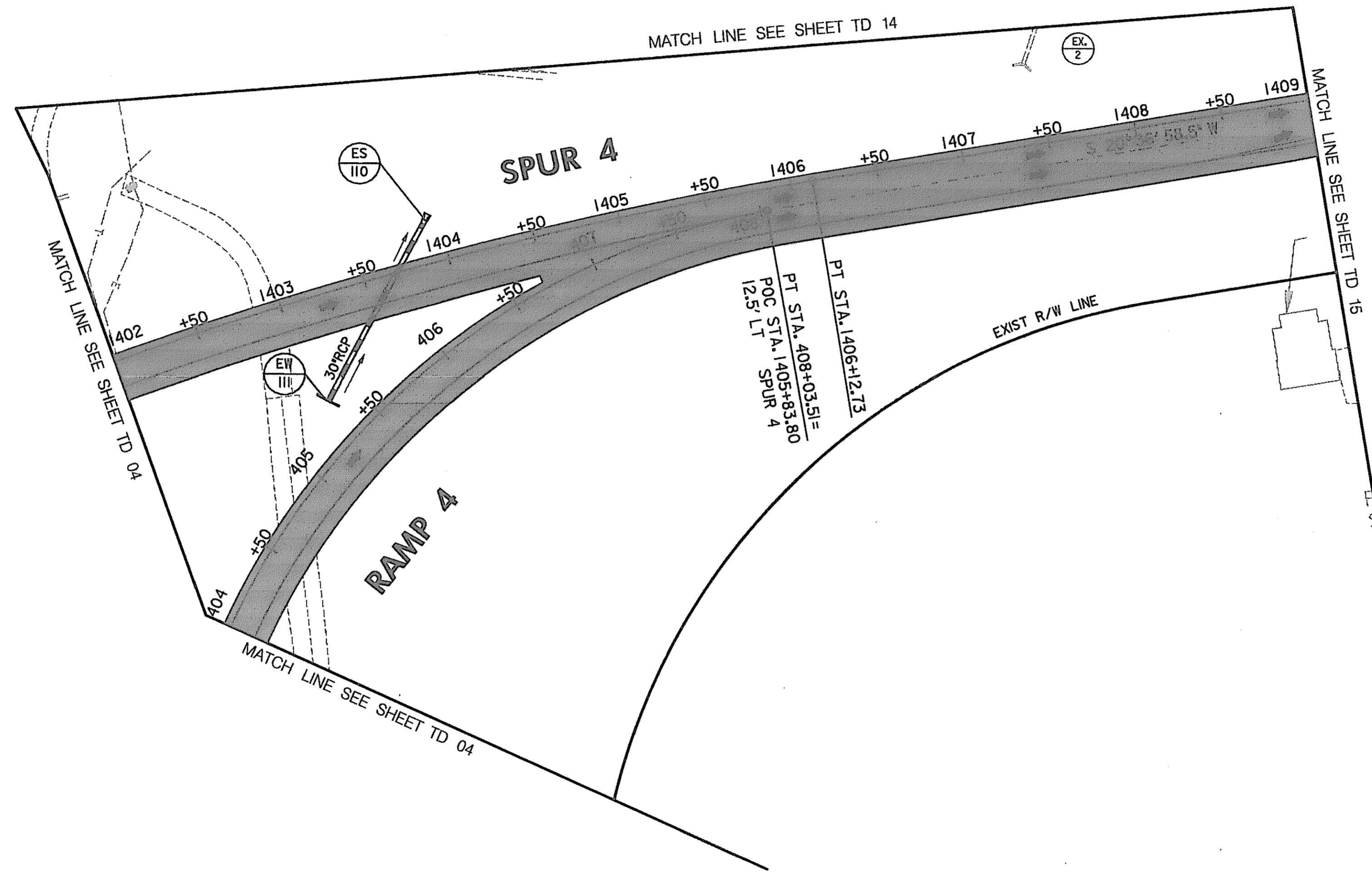
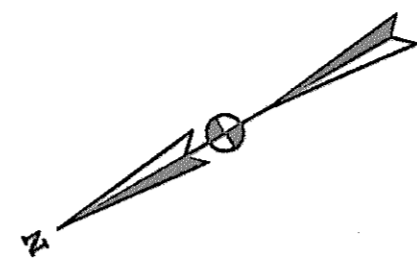
TD 04 OF 16

SCALE: PLAN 1" = 50'

REPLACE SHEET
 HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
④	ADDENDUM NO. 4-09/07/00
①	REDLINE NO. 1-2/20/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO. H07415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 119 OF 320
PREL. TRAC. BY	FINAL TRAC. BY		



CONSTRUCTION NOTES

- ① OPEN UP RAMP 4 AND SPUR 4.
- ② REMOVE TEMPORARY RAMP 4 AND REGRADE.
- ③ INSTALL FINAL COURSE ON RAMP 4 AND SPUR 4.
- ④ INSTALL PERMANENT PAVEMENT MARKINGS ONCE FINAL COURSE IS INSTALLED (UNTILL THEN USE TEMPORARY MARKINGS IN THE SAME LOCATION) (SEE SHEETS 286 & 290).
- ⑤ INSTALL REMAINING PERMANENT SIGNS (SEE SHEETS 286 & 290).

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
 DASHED=3' STRIPE, 9' GAP
 TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
 ALL OTHER SURFACES PAINT CAN BE USED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

SCALE: PLAN: 1" = 60'

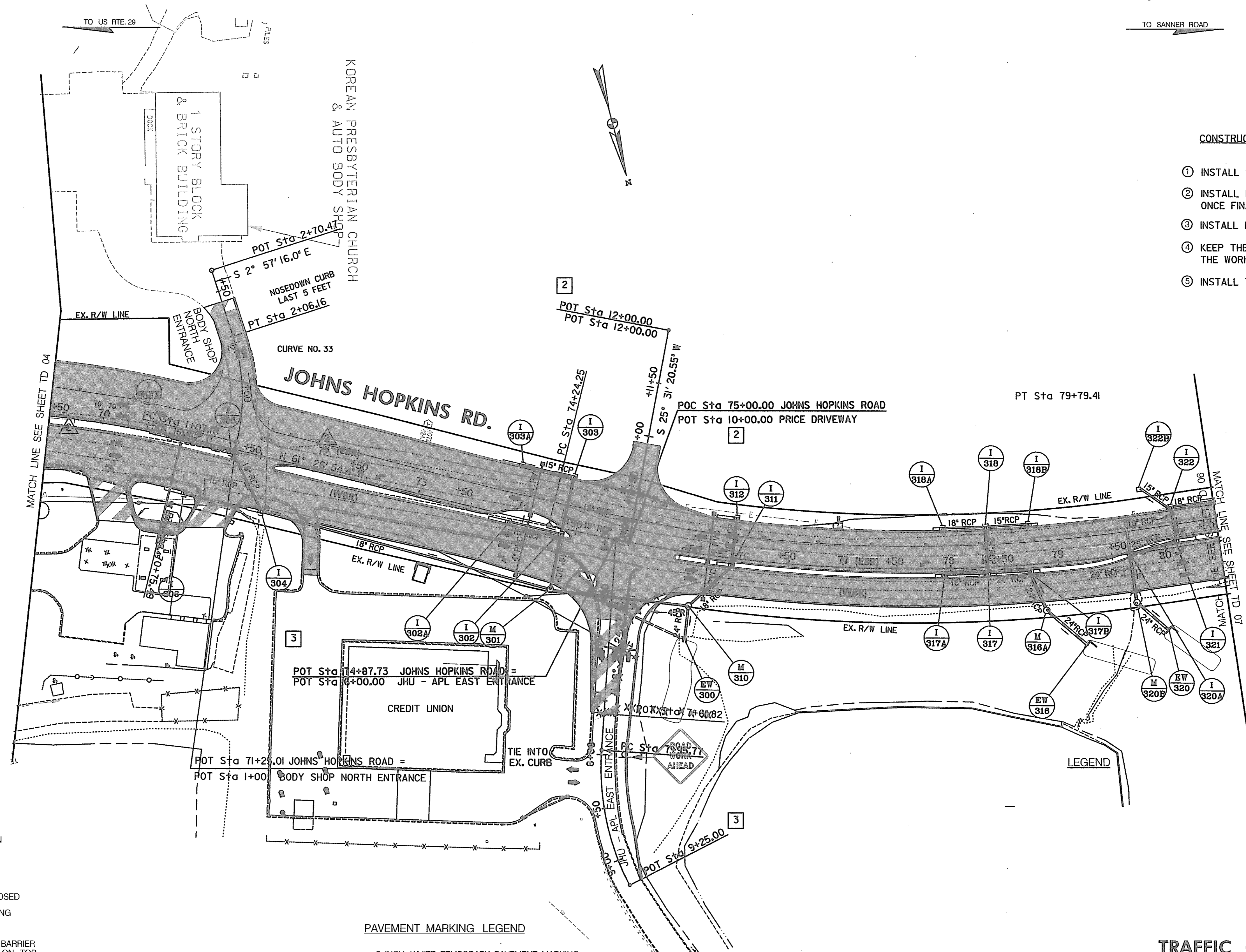
**TRAFFIC CONTROL PLAN
 PHASE 2B**

TD 05 OF 16

REPLACE SHEET
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
	ADDENDUM NO. 4-09/07/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
CONT. NO. HO7415170	F.A.P. NO. SEE TITLE SHEET SHEET NO. 120 OF 320
PREL. TRAC. BY	FINAL TRAC. BY



CONSTRUCTION NOTES

- ① INSTALL FINAL COURSE.
- ② INSTALL PERMANENT PAVEMENT MARKINGS ONCE FINAL COURSE IS INSTALLED (SEE SHEET 286).
- ③ INSTALL REMAINING PERMANENT SIGNS (SEE SHEET 286).
- ④ KEEP THE JOHNS HOPKINS ROAD EBR LEFT LANE CLOSED UNTIL THE WORK FROM STA. 63+50 TO STA. 67+00 IS COMPLETED.
- ⑤ INSTALL THE ISLAND AT THE JHU-APL EAST ENTRANCE.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 2B**

TD 06 OF 16

REPLACE SHEET
 HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

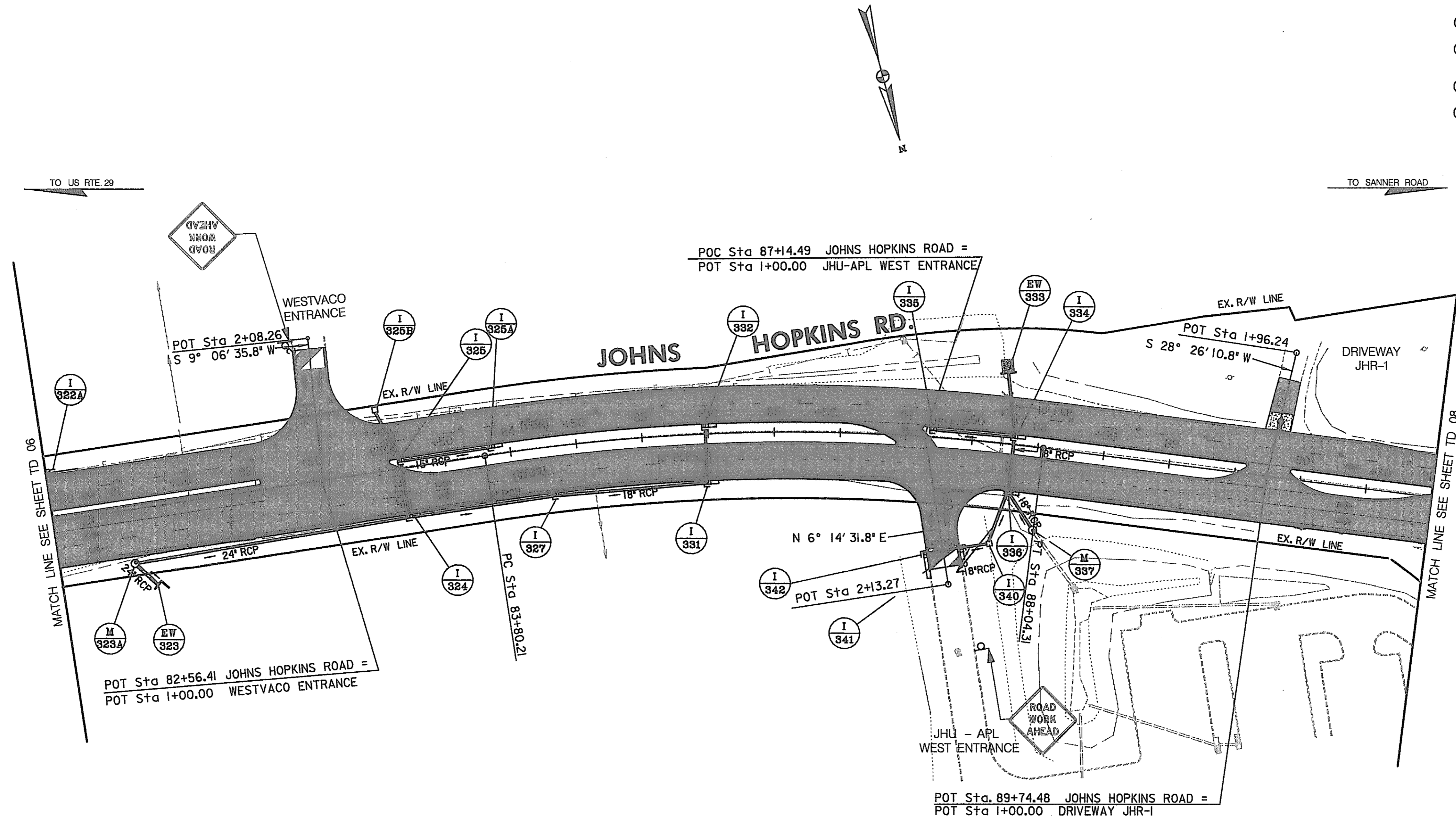
REVISIONS	
4	ADDENDUM NO. 4-09/07/00
2	REDLINE NO. 2-DATE: 7/30/01
3	REDLINE NO. 3-DATE: 1/31/02

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
SHEET NO.	121	OF	320
PREL. TRAC. BY		FINAL TRAC. BY	

SCALE: PLAN: 1" = 50'

CONSTRUCTION NOTES

- ① INSTALL FINAL COURSE.
- ② INSTALL PERMANENT PAVEMENT MARKINGS ONCE FINAL COURSE IS INSTALLED (SEE SHEETS 286 & 287).
- ③ INSTALL REMAINING PERMANENT SIGNS (SEE SHEETS 286 & 287).
- ④ KEEP THE JOHNS HOPKINS ROAD EBR LEFT LANE CLOSED UNTILL THE WORK FROM STA. 63+50 TO STA. 67+00 IS COMPLETED.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

TRAFFIC CONTROL PLAN
PHASE 2B

TD 07 OF 16

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
4 ADDENDUM NO. 4-
09/07/00

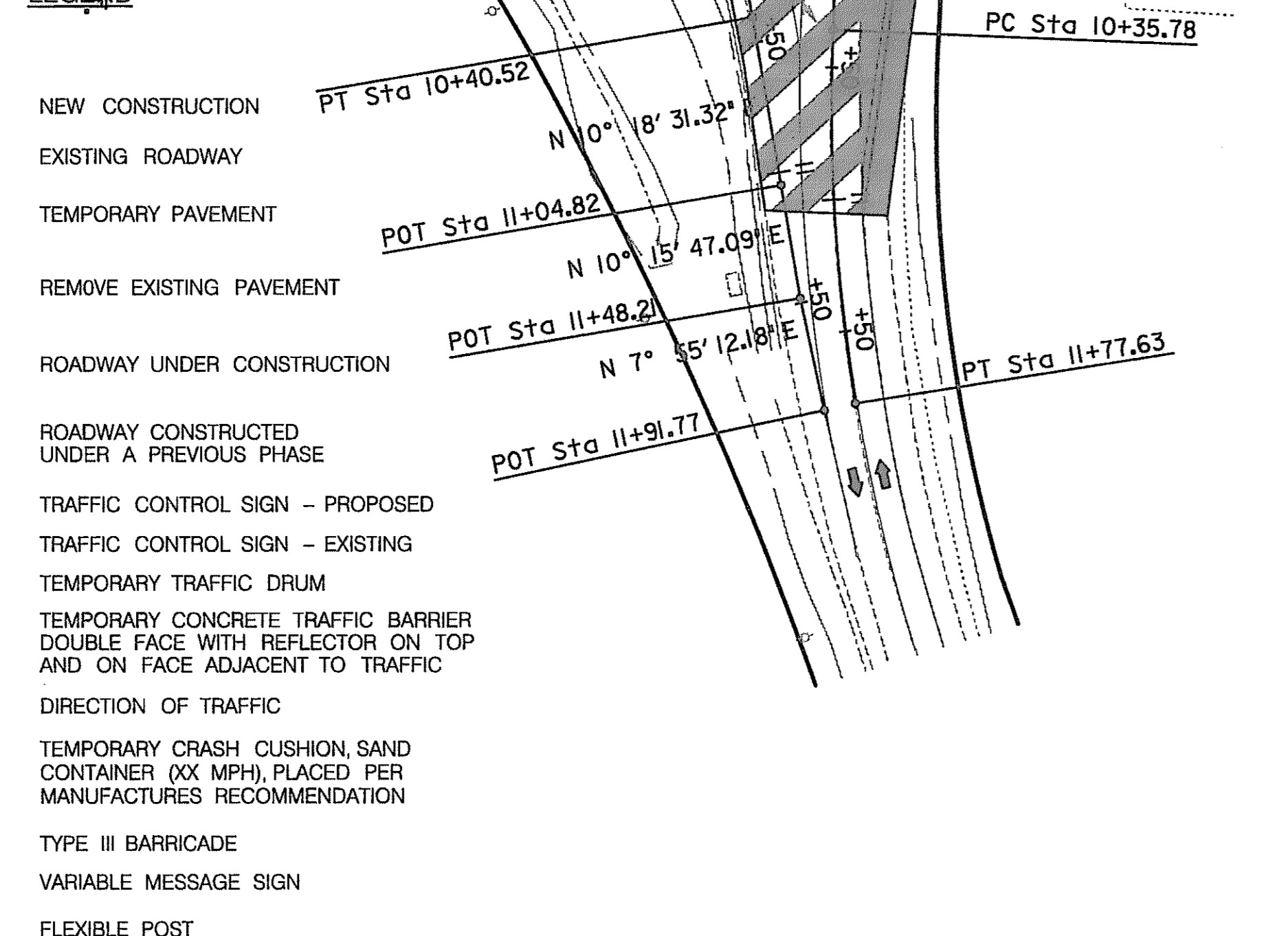
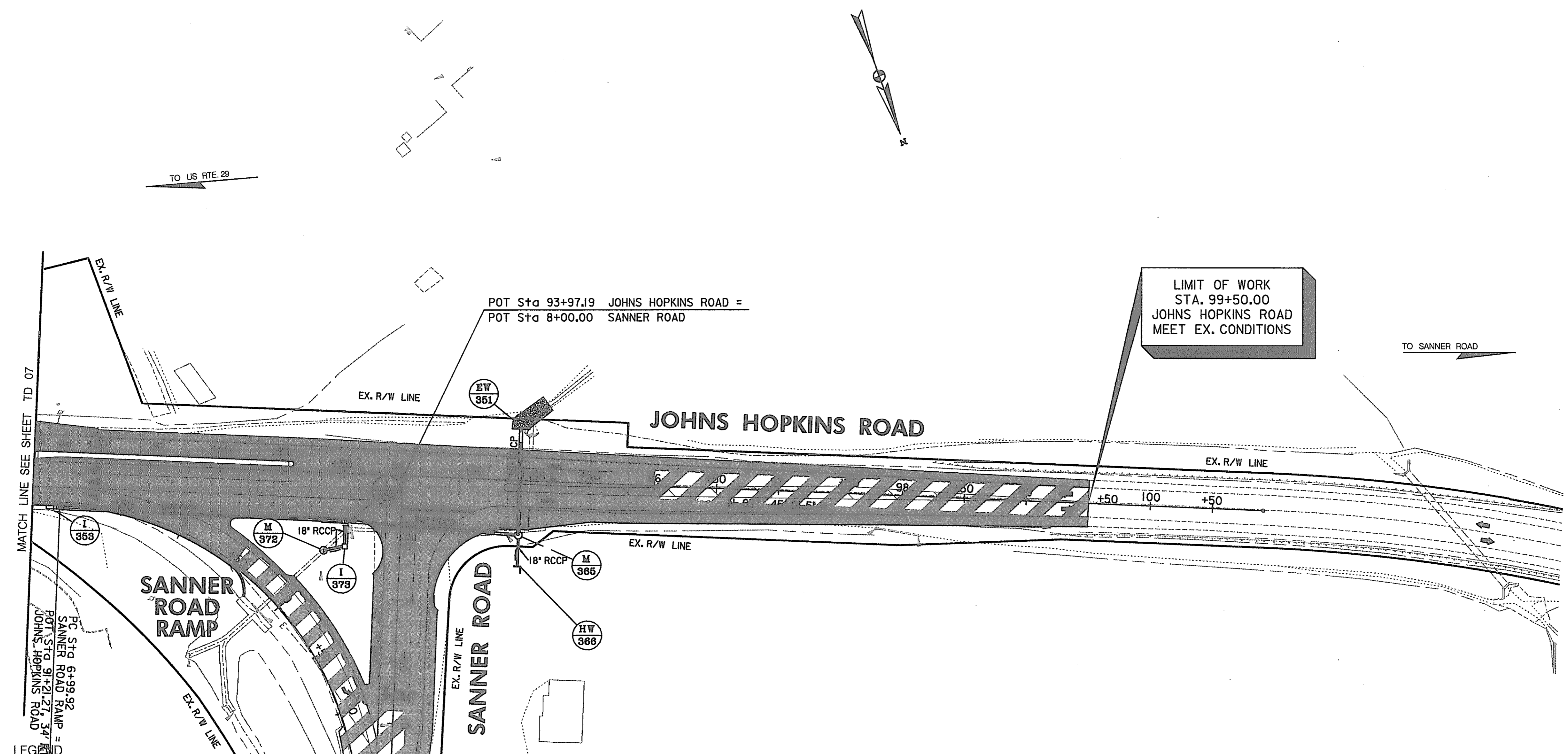
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 122 OF 320
PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1" = 50'

CONSTRUCTION NOTES

- ① INSTALL FINAL COURSE.
- ② INSTALL PERMANENT PAVEMENT MARKINGS ONCE FINAL COURSE IS INSTALLED (SEE SHEET 287).
- ③ INSTALL REMAINING PERMANENT SIGNS (SEE SHEET 287).



PAVEMENT MARKING LEGEND

5"W	5 INCH WHITE TEMPORARY PAVEMENT MARKING.
5"Y	5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
5"DY	5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
5"SW	5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
5"DW	5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
5"DDY	5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
	SKIP=10' STRIPE, 30' GAP
	DASHED=3' STRIPE, 9' GAP
	TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
	ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 2B**

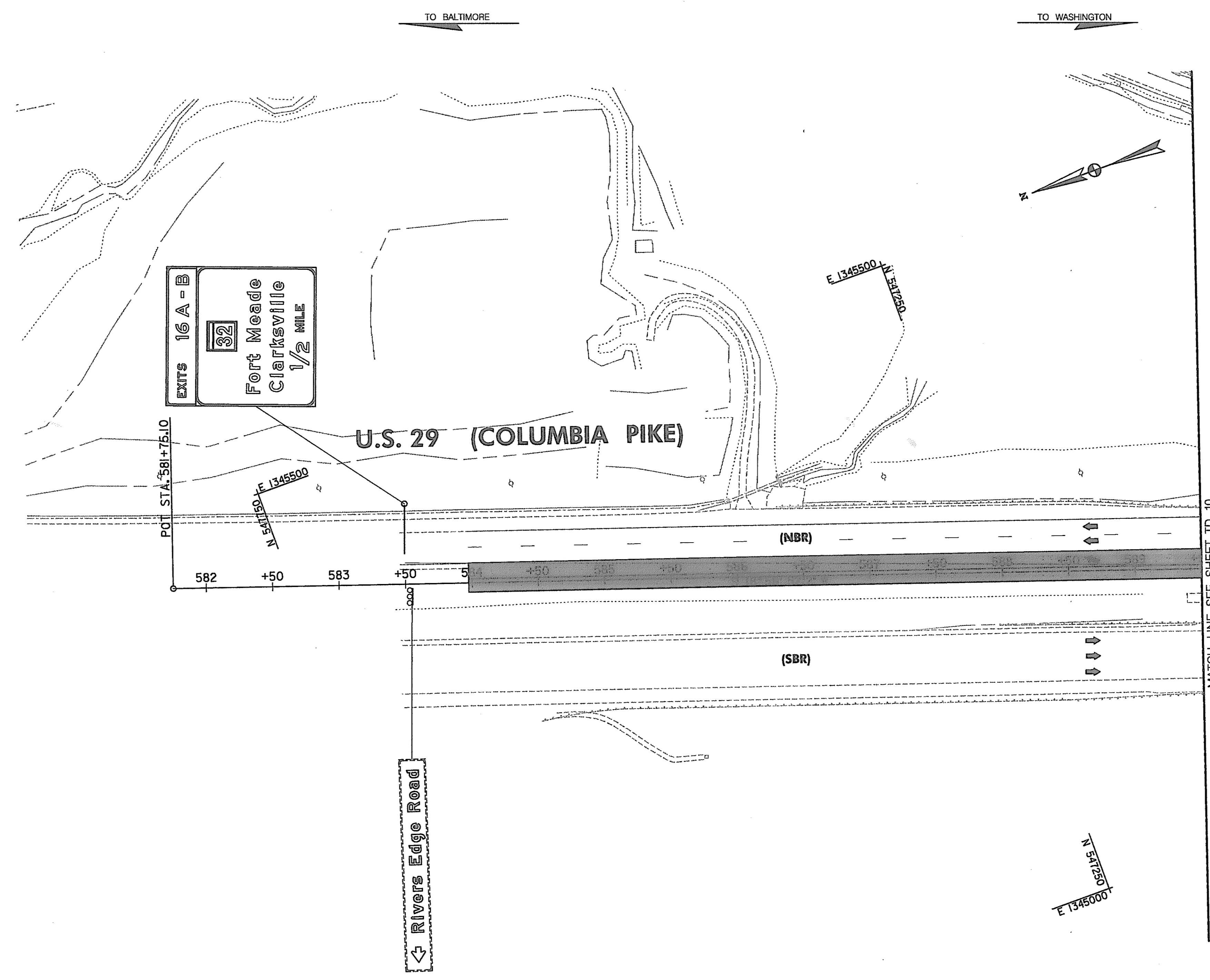
TD 08 OF 16

REPLACE SHEET
 HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
4	ADDENDUM NO. 4-09/07/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 123		OF 320	

SCALE: PLAN: 1" = 50'



- CONSTRUCTION NOTE**
- ① COMPLETE THE US 29 MEDIAN WORK.
 - ② ON US 29 NB REMOVE THE BARRELS WITHIN THE LIMITS OF THIS SHEET AND THEN OPEN UP THE THIRD NB LANE.
 - ③ INSTALL FINAL COURSE OVERLAY ON US 29 NB & SB AND THEN INSTALL PERMANENT PAVEMENT MARKINGS (SEE SHEET 288).
 - ④ INSTALL AND/OR UNCOVER REMAINING SIGNS (SEE SHEETS 288 & 293).
 - ⑤ MAINTAIN ADVANCE WARNING SIGNS UNTILL ALL CONSTRUCTION IS COMPLETED.

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

**TRAFFIC CONTROL PLAN
PHASE 2B**

TD 09 OF 16

SCALE: PLAN: 1"=50'

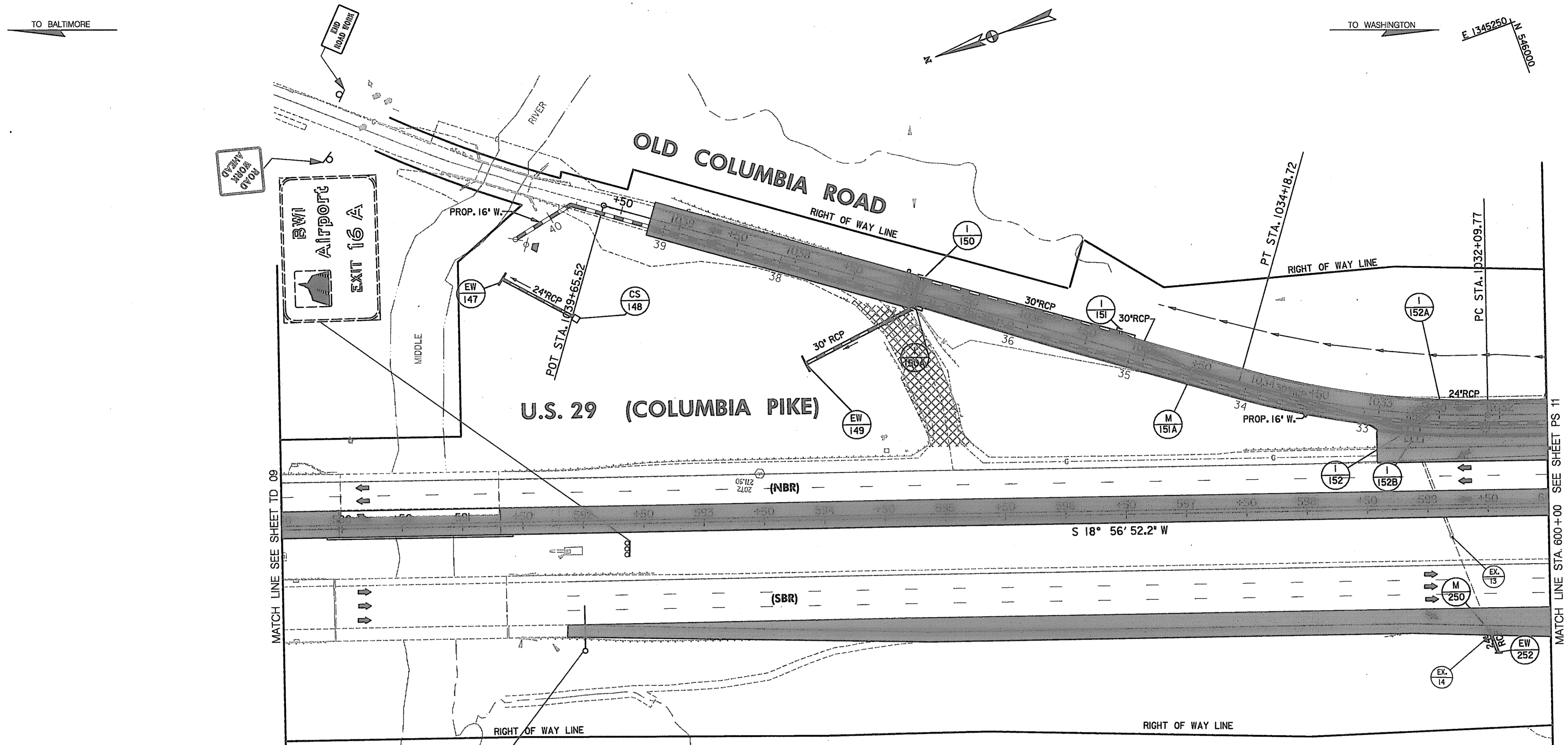
REPLACE SHEET

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
	ADDENDUM NO. 4-09/07/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO.	124	OF	320
PREL. TRAC. BY		FINAL TRAC. BY					



- CONSTRUCTION NOTE**
- ① COMPLETE THE US 29 MEDIAN WORK.
 - ② ON US 29 NB REMOVE THE BARRELS WITHIN THE LIMITS OF THIS SHEET AND THEN OPEN UP THE THIRD NB LANE.
 - ③ ON US 29 SB REMOVE THE BARRELS WITHIN THE LIMITS OF THIS SHEET AND RESTRIPE RAMP 1 FOR TWO LANES OFF.
 - ④ INSTALL FINAL COURSE/OVERLAY ON US 29 NB & SB, OLD COLUMBIA ROAD & RAMP 1 AND THEN INSTALL PERMANENT PAVEMENT MARKINGS (SEE SHEET 288).
 - ⑤ INSTALL AND/OR UNCOVER REMAINING SIGNS (SEE SHEET 288).

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

**TRAFFIC CONTROL PLAN
PHASE 2B**

TD 10 OF 16

REVISIONS

4	REPLACE SHEET
4	ADDENDUM NO. 4-09/07/00

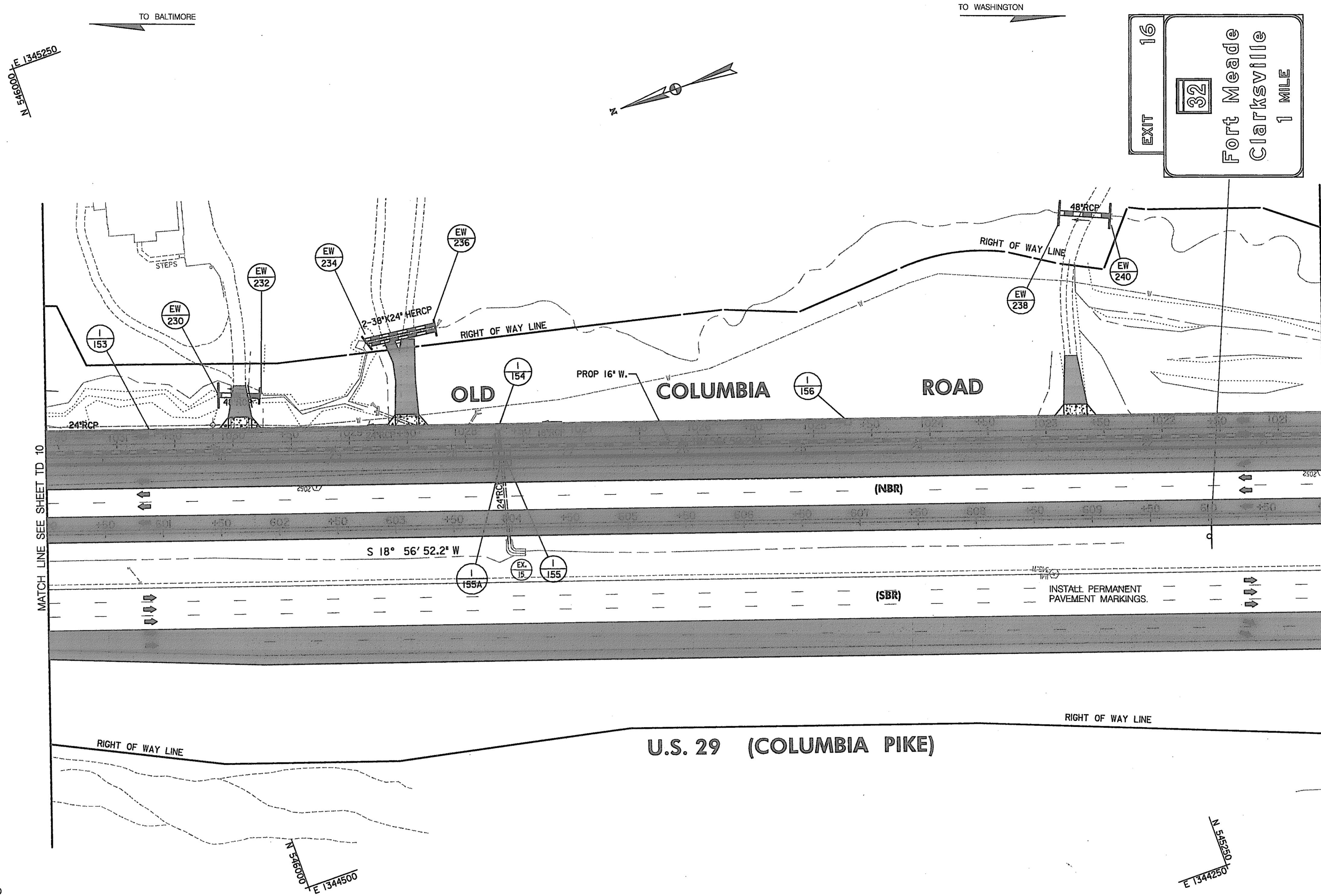
HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
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50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 125 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

CONSTRUCTION NOTE

- ① COMPLETE THE US 29 MEDIAN WORK.
- ② ON US 29 NB REMOVE THE BARRELS WITHIN THE LIMITS OF THIS SHEET AND THEN OPEN UP THE THIRD NB LANE.
- ③ ON US 29 SB REMOVE THE BARRELS WITHIN THE LIMITS OF THIS SHEET AND RESTRIPE RAMP 1 FOR TWO LANES OFF.
- ④ INSTALL FINAL COURSE/OVERLAY ON US 29 NB & SB, OLD COLUMBIA ROAD & RAMP 1 AND THEN INSTALL PERMANENT PAVEMENT MARKINGS (SEE SHEETS 288 & 289).
- ⑤ INSTALL AND/OR UNCOVER REMAINING SIGNS (SEE SHEETS 288 & 289).



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
 DASHED=3' STRIPE, 9' GAP
 TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
 ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1"=50'

TRAFFIC CONTROL PLAN
 PHASE 2B

REPLACE SHEET
 HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
ADDENDUM NO. 4-09/07/00

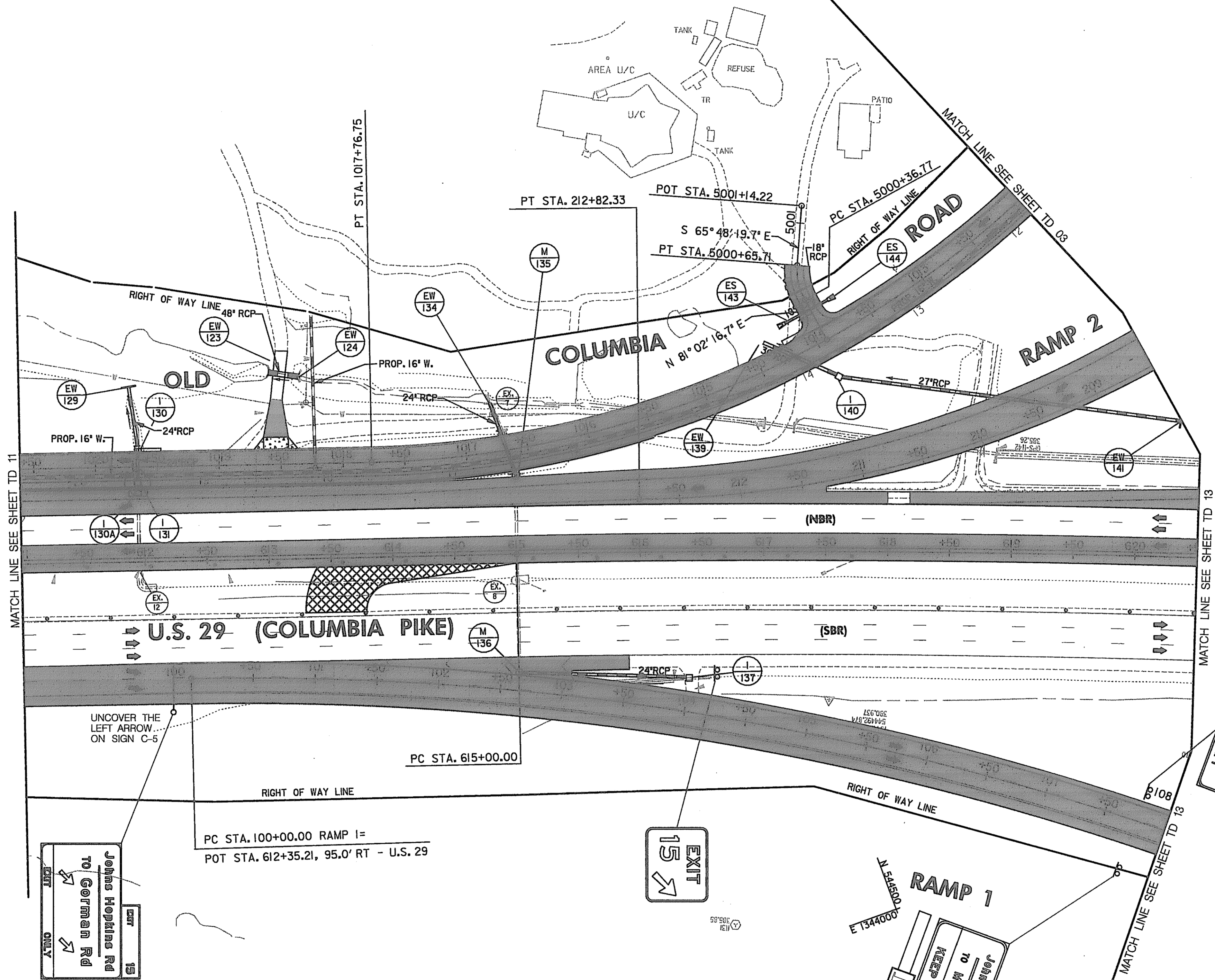
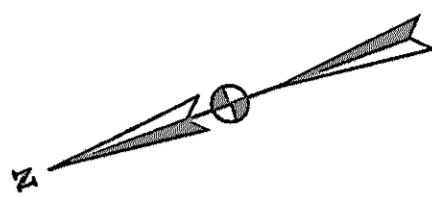
STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 126 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

E 1345000
50000

TO BALTIMORE

TO WASHINGTON



CONSTRUCTION NOTE

- ① REMOVE THE TEMPORARY CONNECTION PAVEMENT FOR THE CROSSOVER, ALL SIGNAL EQUIPMENT AND ASSOCIATED PAVEMENT MARKINGS & SIGNS.
- ② COMPLETE THE US 29 MEDIAN WORK.
- ③ ON US 29 NB MOVE THE BARRELS TO THE SHOULDER WITHIN THE LIMITS OF THIS SHEET AND THEN OPEN UP THE THIRD NB LANE.
- ④ ON THE RAMP 1 SIDE OF US 29 SB REMOVE THE TEMPORARY CONCRETE TRAFFIC BARRIER & THE BARRELS WITHIN THE LIMITS OF THIS SHEET AND RESTRIPE RAMP 1 FOR TWO LANES OFF.
- ⑤ INSTALL FINAL COURSE/OVERLAY ON US 29 NB & SB, OLD COLUMBIA ROAD, RAMP 1 & RAMP 2 AND THEN INSTALL PERMANENT PAVEMENT MARKINGS (SEE SHEET 289).
- ⑥ INSTALL AND/OR UNCOVER REMAINING SIGNS (SEE SHEET 289).

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

TRAFFIC CONTROL PLAN

PHASE 2B

TD 12 OF 16

REPLACE SHEET

REVISIONS
ADDENDUM NO. 4-09/07/00

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 127 OF 320
PREL. TRAC. BY FINAL TRAC. BY

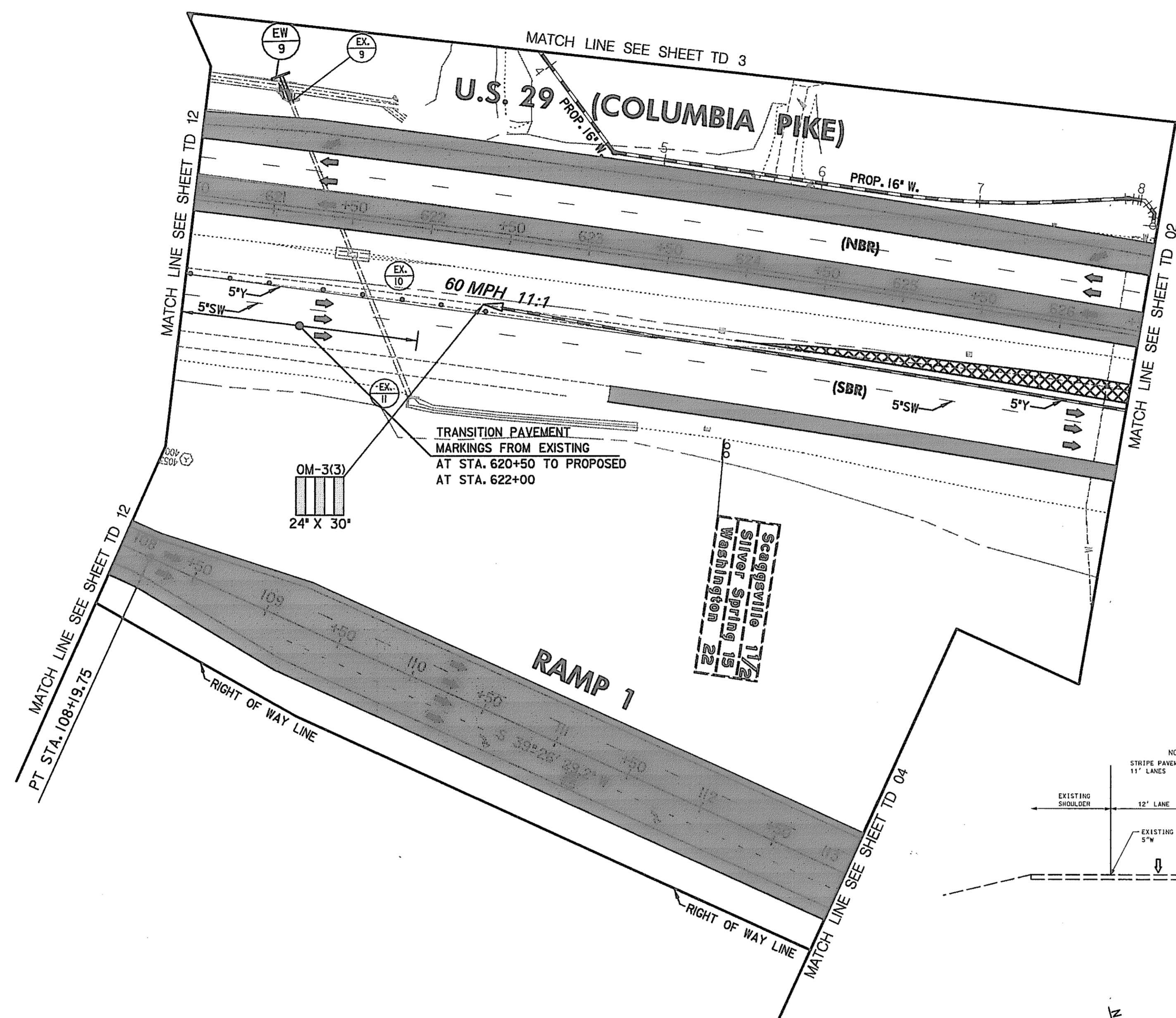
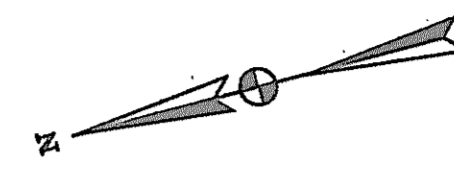
SCALE: PLAN: 1"=50'

E 1344000
50000

TO BALTIMORE

TO WASHINGTON

E 1344250
N 0211100



CONSTRUCTION NOTE

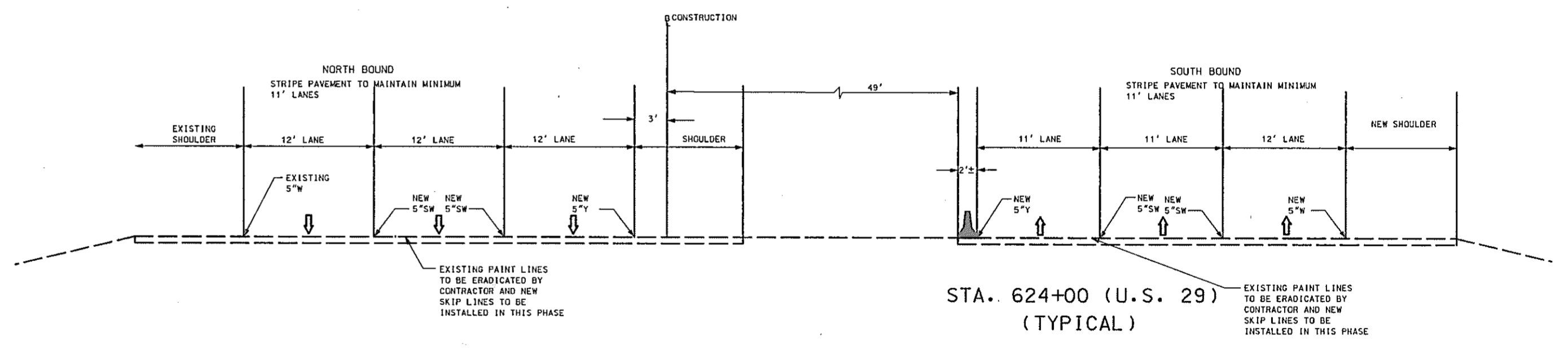
- ① REMOVE THE TEMPORARY CONNECTION PAVEMENT FOR THE CROSSOVER, ALL SIGNAL EQUIPMENT AND ASSOCIATED PAVEMENT MARKINGS & SIGNS.
- ② COMPLETE THE US 29 MEDIAN WORK.
- ③ ON US 29 NB REMOVE THE BARRELS WITHIN THE LIMITS OF THIS SHEET AND THEN OPEN UP THE THIRD NB LANE.
- ④ ON US 29 SB RELOCATE THE TEMPORARY CONCRETE TRAFFIC BARRIER & THE BARRELS WITHIN THE LIMITS OF THIS SHEET TO THE MEDIAN SIDE.
- ⑤ INSTALL FINAL COURSE/OVERLAY ON US 29 NB & SB, RAMP 1 & RAMP 2 AND THEN INSTALL PERMANENT PAVEMENT MARKINGS (SEE SHEETS 286 & 289).
- ⑥ INSTALL AND/OR UNCOVER REMAINING SIGNS (SEE SHEETS 286 & 289).

LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



N 54300
E 1343500

SCALE: PLAN: 1" = 50'

TRAFFIC CONTROL PLAN
PHASE 2B

TD 13 OF 16

REPLACE SHEET
 HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

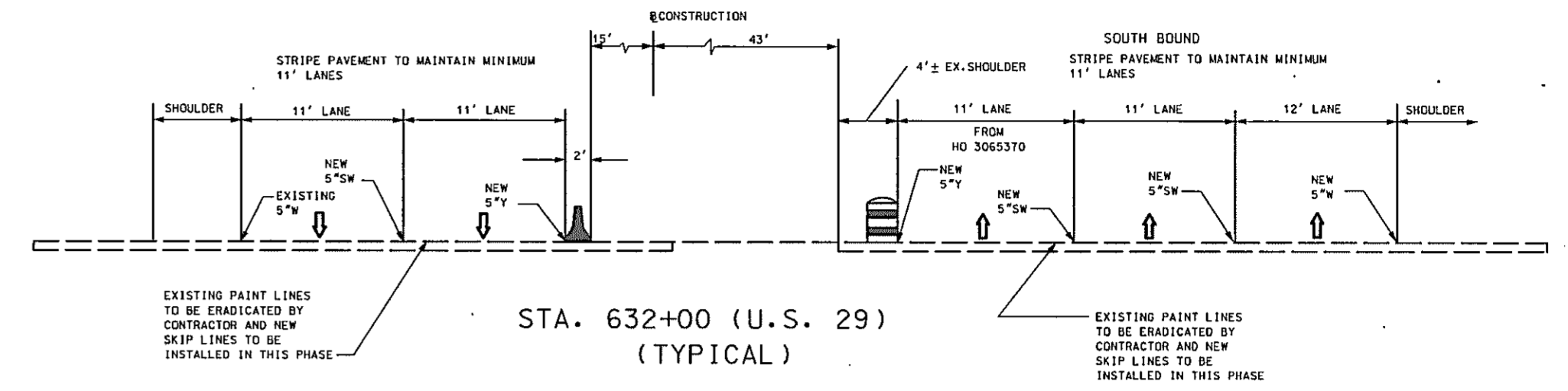
REVISIONS	
ADDENDUM NO. 4-09/07/00	

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 128 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

TO BALTIMORE

TO WASHINGTON



CONSTRUCTION NOTE

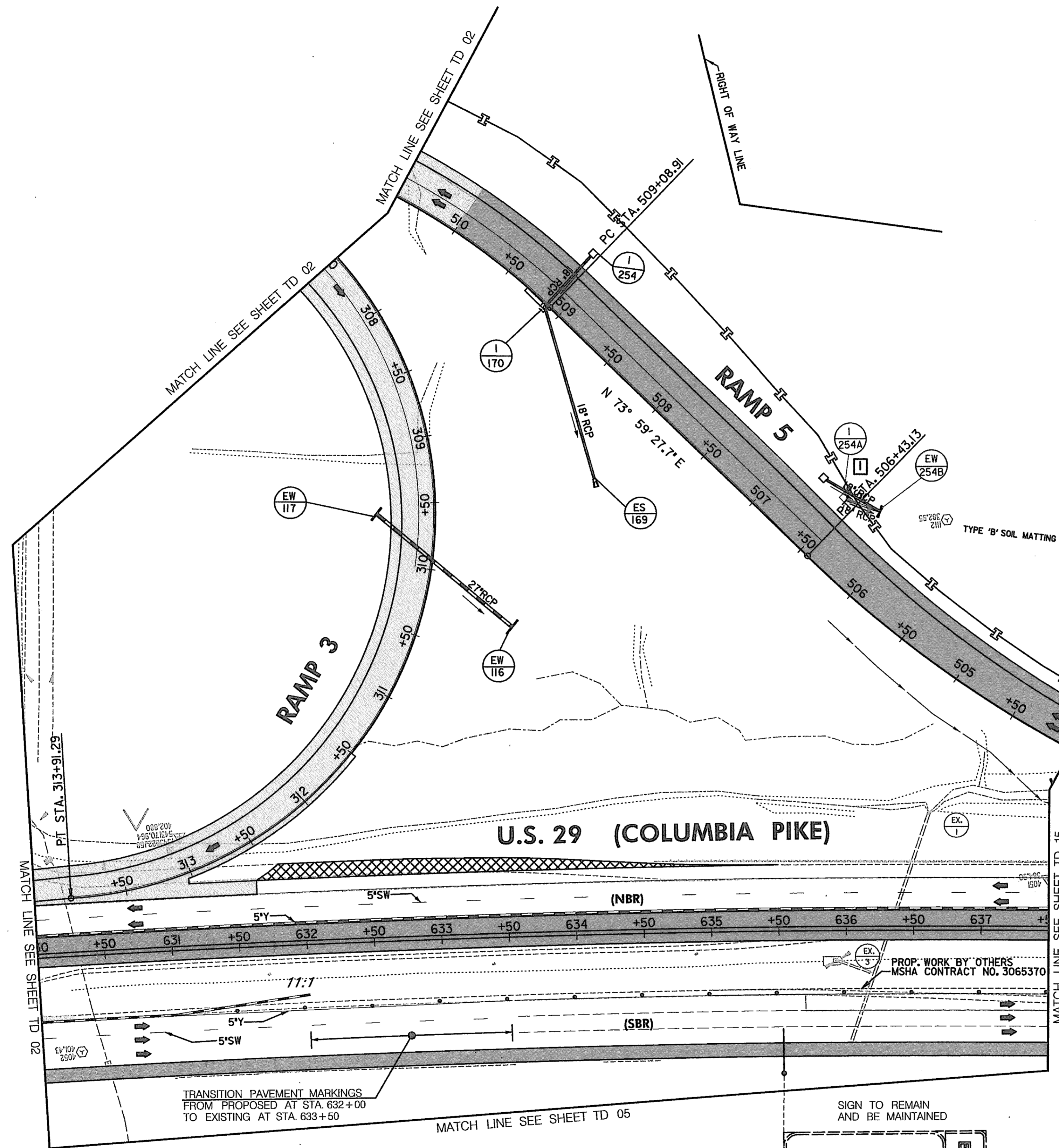
- 1 COMPLETE THE US 29 MEDIAN WORK.
- 2 ON US 29 NB OPEN UP RAMP 3 & RAMP 5.
- 3 INSTALL FINAL COURSE OVERLAY ON US 29 NB & SB (ONCE THE MEDIAN CONSTRUCTION IS COMPLETED), RAMP 3 & RAMP 5 AND THEN INSTALL PERMANENT PAVEMENT MARKINGS (SEE SHEETS 284 & 290).
- 4 INSTALL AND/OR UNCOVER REMAINING SIGNS (SEE SHEETS 284 & 290).

LEGEND

- == NEW CONSTRUCTION
- - - EXISTING ROADWAYS
- ▨ TEMPORARY PAVEMENT
- ▩ REMOVE EXISTING PAVEMENT
- ▭ ROADWAY UNDER CONSTRUCTION
- ▭ ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- ⊕ TRAFFIC CONTROL SIGN - PROPOSED
- ⊕ TRAFFIC CONTROL SIGN - EXISTING
- ⊕ TEMPORARY TRAFFIC DRUM
- ▬ TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- ➔ DIRECTION OF TRAFFIC
- △ TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- ◻ VMS VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5'SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5'DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.



TRAFFIC CONTROL PLAN
PHASE 2B

TD 14 OF 16

REPLACE SHEET

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
4	ADDENDUM NO. 4-09/07/00
1	REDLINE NO. 1-2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 129 OF 320
PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1"=50'

E 1344250
N 53250

E 1343500
N 53250

E 1343500
N 53250

TO BALTIMORE

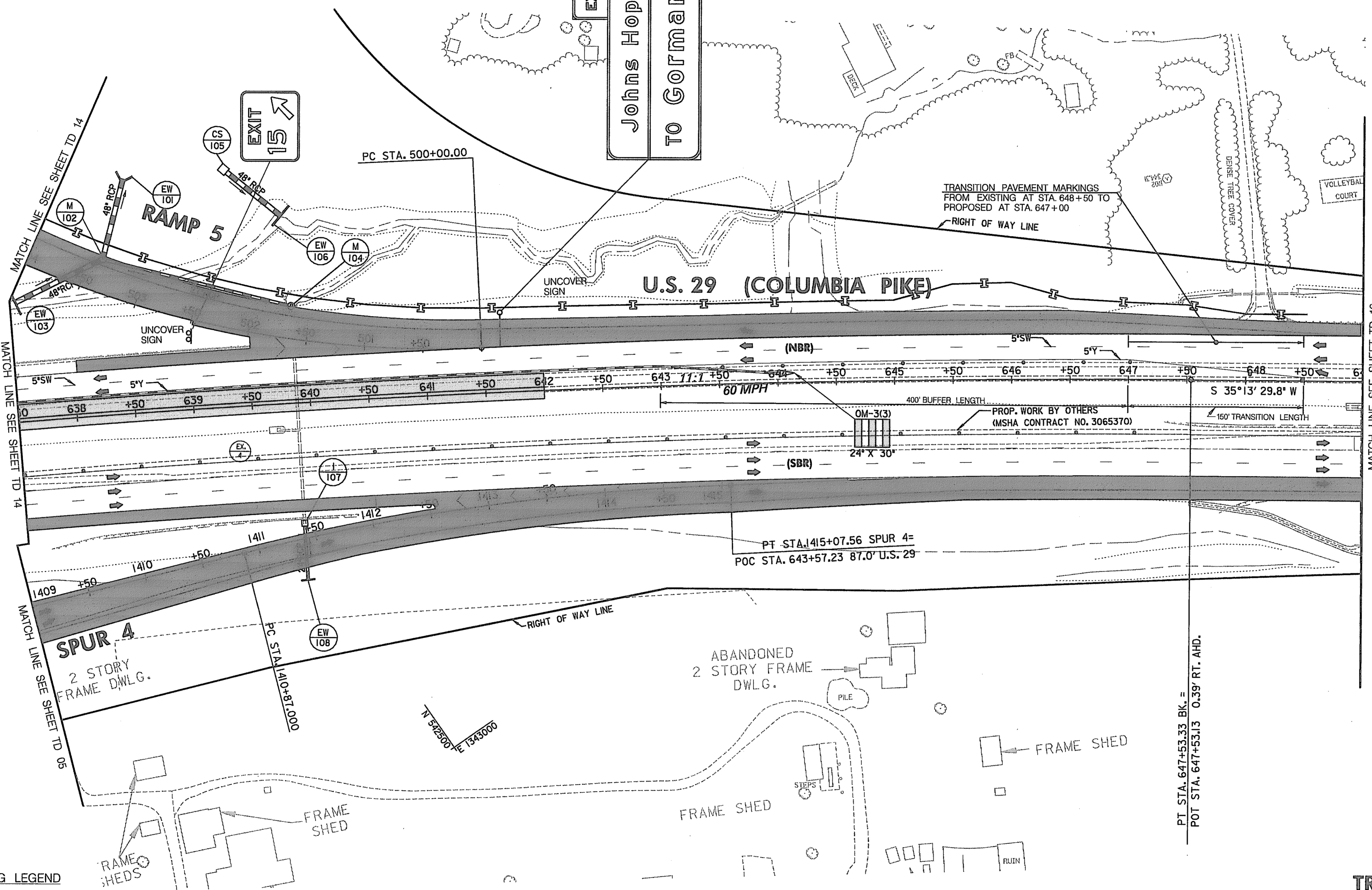
TO WASHINGTON

E 1343750
N 542500

N 542500
E 1343000

EXIT 15
Johns Hopkins Rd
TO Gorman Rd

- CONSTRUCTION NOTE
- OPEN UP RAMP 5.
 - COMPLETE THE US 29 MEDIAN WORK.
 - ON US 29 NB OPEN UP RAMP 3 & RAMP 5.
 - INSTALL FINAL COURSE/OVERLAY ON US 29 NB & SB (ONCE THE MEDIAN CONSTRUCTION IS COMPLETED), SPUR 4 & RAMP 5 AND THEN INSTALL PERMANENT PAVEMENT MARKINGS (SEE SHEET 290).
 - INSTALL AND/OR UNCOVER REMAINING SIGNS (SEE SHEET 290).



- LEGEND
- NEW CONSTRUCTION
 - EXISTING ROADWAY
 - TEMPORARY PAVEMENT
 - REMOVE EXISTING PAVEMENT
 - ROADWAY UNDER CONSTRUCTION
 - ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
 - TRAFFIC CONTROL SIGN - PROPOSED
 - TRAFFIC CONTROL SIGN - EXISTING
 - TEMPORARY TRAFFIC DRUM
 - TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
 - DIRECTION OF TRAFFIC
 - TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
 - TYPE III BARRICADE
 - VARIABLE MESSAGE SIGN
 - FLEXIBLE POST

- PAVEMENT MARKING LEGEND
- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
 - 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
 - 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
 - SKIP=10' STRIPE, 30' GAP
 - DASHED=3' STRIPE, 9' GAP
 - TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
 - ALL OTHER SURFACES PAINT CAN BE USED.

SCALE: PLAN: 1" = 50'

TRAFFIC CONTROL PLAN
PHASE 2B

TD 15 OF 16

REPLACE SHEET

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 4-09/07/00

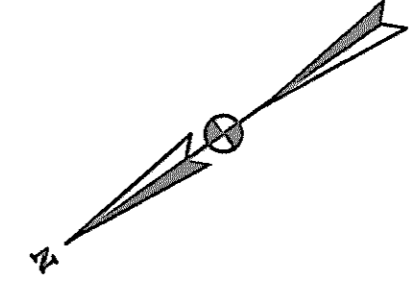
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 130 OF 320
PREL. TRAC. BY FINAL TRAC. BY

Y0805029.DGN

TO BALTIMORE

TO WASHINGTON

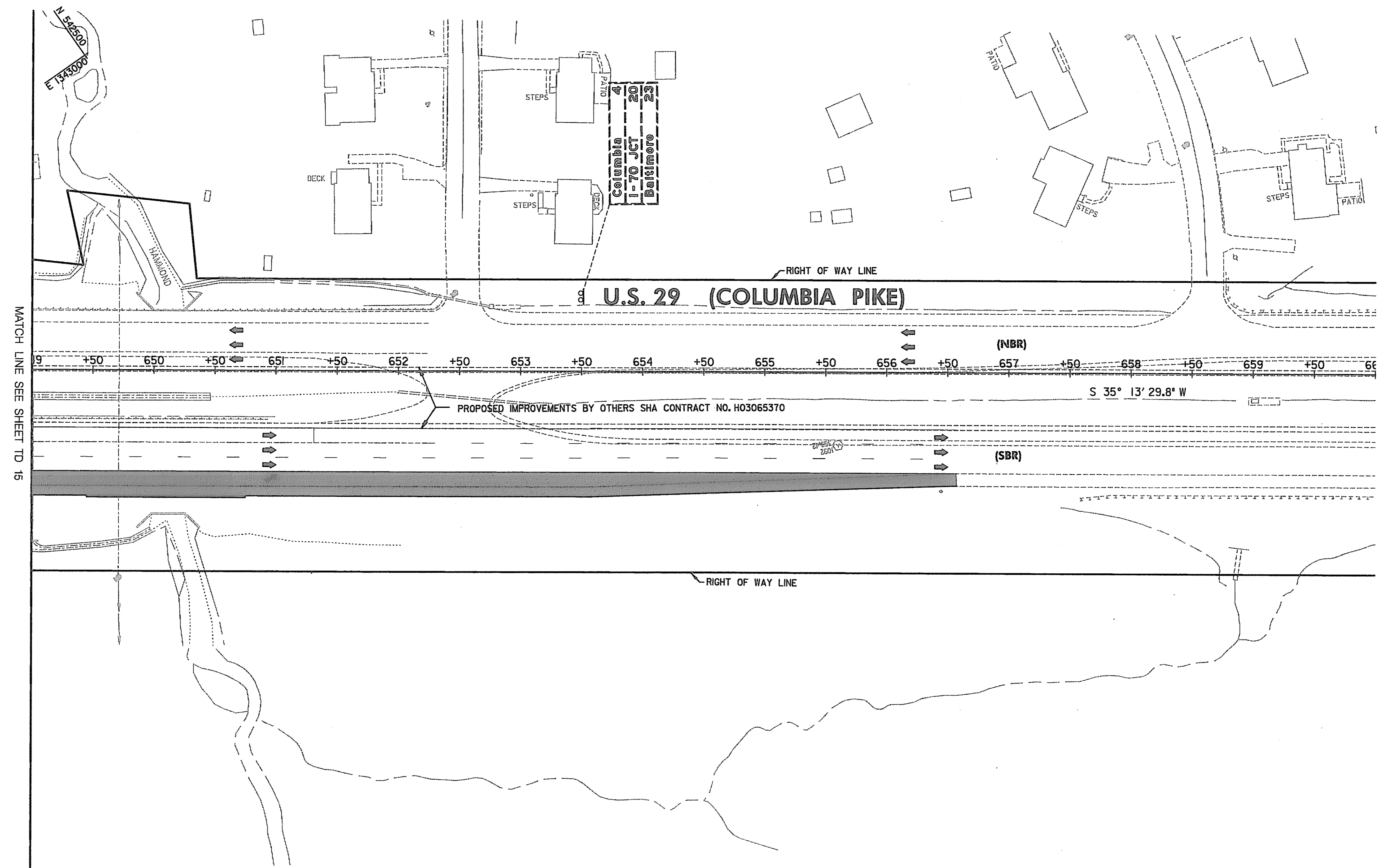


CONSTRUCTION NOTE

- ① OPEN UP RAMP 5.
- ② COMPLETE THE US 29 MEDIAN WORK.
- ③ INSTALL FINAL COURSE/OVERLAY ON US 29 NB & SB (ONCE THE MEDIAN CONSTRUCTION IS COMPLETED), SPUR 4 & RAMP 5 AND THEN INSTALL PERMANENT PAVEMENT MARKINGS (SEE SHEETS 291 & 292).
- ④ INSTALL AND/OR UNCOVER REMAINING SIGNS (SEE SHEETS 291 & 292).

SIGN NOTES :

UNCOVER EXIT 15 ADVANCE SIGNS FOR 1/2 MILE AND 3/4 MILE AS SHOWN ON SHEETS 291 & 292 WHEN RAMP 5 IS OPEN.



LEGEND

- NEW CONSTRUCTION
- EXISTING ROADWAY
- TEMPORARY PAVEMENT
- REMOVE EXISTING PAVEMENT
- ROADWAY UNDER CONSTRUCTION
- ROADWAY CONSTRUCTED UNDER A PREVIOUS PHASE
- TRAFFIC CONTROL SIGN - PROPOSED
- TRAFFIC CONTROL SIGN - EXISTING
- TEMPORARY TRAFFIC DRUM
- TEMPORARY CONCRETE TRAFFIC BARRIER DOUBLE FACE WITH REFLECTOR ON TOP AND ON FACE ADJACENT TO TRAFFIC
- DIRECTION OF TRAFFIC
- TEMPORARY CRASH CUSHION, SAND CONTAINER (XX MPH), PLACED PER MANUFACTURERS RECOMMENDATION
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- FLEXIBLE POST

PAVEMENT MARKING LEGEND

- 5"W 5 INCH WHITE TEMPORARY PAVEMENT MARKING.
- 5"Y 5 INCH YELLOW TEMPORARY PAVEMENT MARKING.
- 5"DY 5 INCH DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- 5"SW 5 INCH SKIP WHITE TEMPORARY PAVEMENT MARKING.
- 5"DW 5 INCH DASHED WHITE TEMPORARY PAVEMENT MARKING.
- 5"DDY 5 INCH DASHED DOUBLE YELLOW TEMPORARY PAVEMENT MARKING.
- SKIP=10' STRIPE, 30' GAP
- DASHED=3' STRIPE, 9' GAP
- TAPE IS TO BE USED ON CONCRETE AND FINAL SURFACE COURSE.
- ALL OTHER SURFACES PAINT CAN BE USED.

TRAFFIC CONTROL PLAN
PHASE 2B

TD 16 OF 16

SCALE: PLAN: 1" = 50'

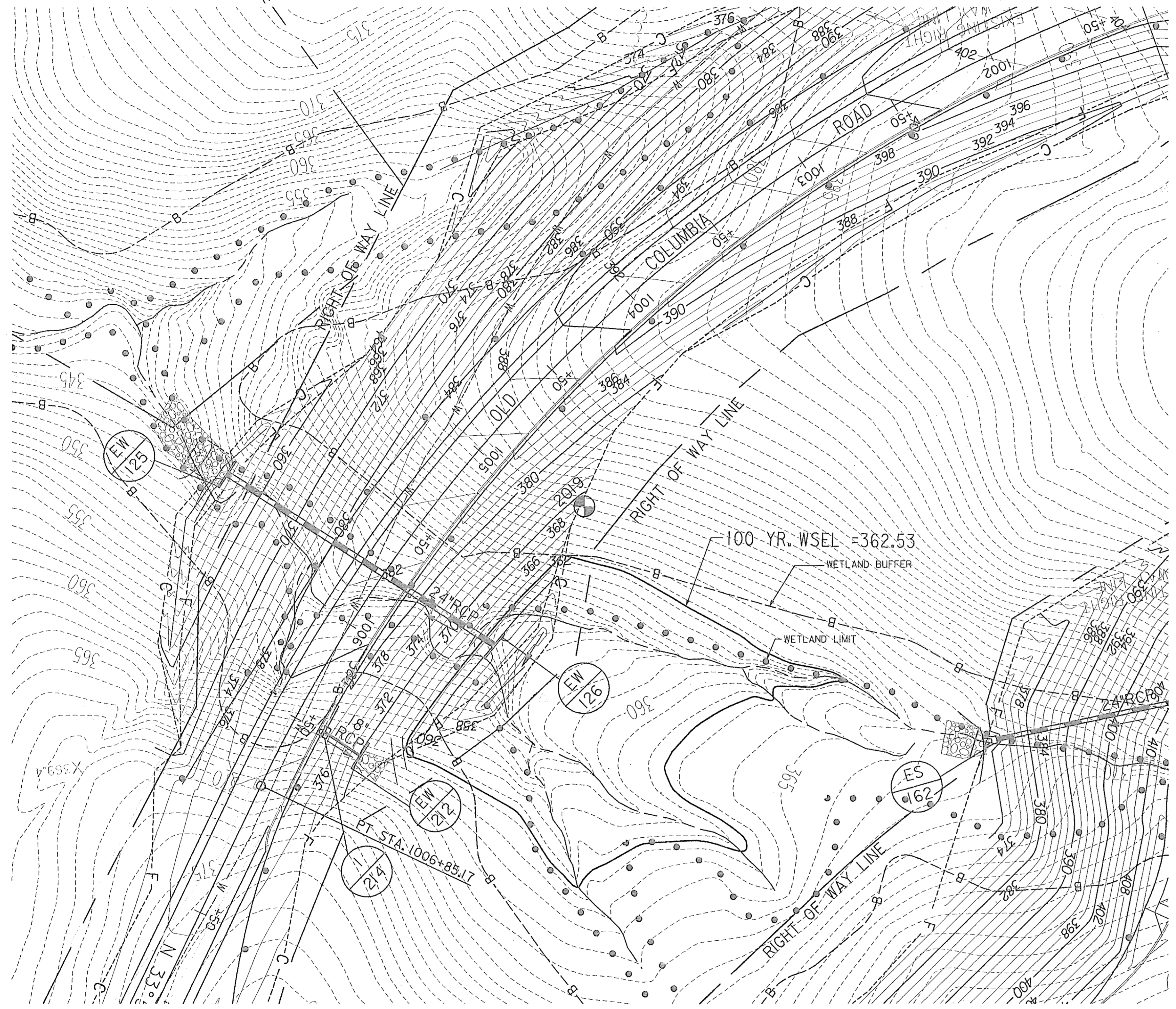
REPLACE SHEET

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
	ADDENDUM NO. 4-09/07/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07416170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		SHEET NO.	131 OF 320
		FINAL TRAC. BY	

SYSTEM NAD 83/91
MARYLAND COORDINATE



PLAN
SCALE: 1"=30'

GENERAL NOTES FOR REINFORCED CONCRETE

1. ALL REINFORCED STEEL SHALL BE REBARS CONFIRMING TO A.S.T.M. A-615 GRADE 60.
2. CONCRETE TO BE $f'c=4000$ PSI @ 28 DAYS FOR CAST IN PLACE OR $f'c = 5000$ PSI @ 28 DAYS FOR PRECAST.
3. CONCRETE CHANNELIZED BOTTOM SHALL BE PROVIDED IN THE FIELD.
4. ALL REINFORCED STEEL OVERLAPS SHALL BE 2'-0" MINIMUM.
5. SHOP DRAWINGS FOR PRECAST STRUCTURE IS REQUIRED BY SHA FOR APPROVAL PRIOR TO MANUFACTURING.
6. MINIMUM SOIL BEARING CAPACITY SHALL BE 2000 PSF.

GENERAL NOTES FOR TRASH RACK

1. ALL STRUCTURAL STEEL (PLATES AND BARS) SHALL MEET THE REQUIREMENTS OF A.S.T.M. $F_y = 36000$ PSI
2. ALL ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF A.S.T.M. A-94.
WASHERS SHALL CONFIRM TO A.S.T.M. F-436
3. TRASH RACK SHALL BE MANUFACTURED IN THE SHOP PRIOR TO INSTALLATION.
ALL AFORMENTIONED STEEL MATERIALS SHALL BE GALVANISED AND COATED WITH BATTLESHIP GRAY PAINT. SEE NOTE 4 BELOW.
NO WELDING SHALL BE PERFORMED IN THE FIELD.
4. APPLY ONE SHOP COAT AND ONE FIELD COAT OF APPROVED BATTLESHIP GRAY PAINT IN ACCORDANCE WITH SECTION 912 OF STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, OCTOBER 1993.
5. MINIMUM SPACING BETWEEN BARS TO BE 6" C.C.

INFILTRATION BASINS NOTES AND SPECIFICATIONS

1. THE SEQUENCE OF BASIN CONSTRUCTION SHALL BE COORDINATED WITH THE OVERALL PROJECT CONSTRUCTION SCHEDULE. A PROGRAM SHOULD SCHEDULE ROUGH EXCAVATION OF THE BASIN WITH THE ROUGH BASIN GRADING PHASE OF THE PROJECT TO PERMIT USE OF THE MATERIAL AS FILL IN EARTHWORK AREAS.
2. INITIAL BASIN EXCAVATION SHOULD BE CARRIED TO WITHIN ONE FOOT OF THE FINAL ELEVATION OF THE BASIN FLOOR. FINAL EXCAVATION TO THE FINISHED GRADE SHOULD BE DEFERRED UNTIL ALL DISTURBED AREAS ON THE WATERSHED HAVE STABILIZED OR PROTECTED. THE FINAL PHASE EXCAVATION SHOULD REMOVE ALL ACCUMULATED SEDIMENT. RELATIVELY LIGHT TRACKED EQUIPMENT IS REQUIRED FOR THIS OPERATION TO AVOID COMPACTION OF THE BASIN FLOOR.

2 PLAN VIEW FOR STUDY POINT # 4

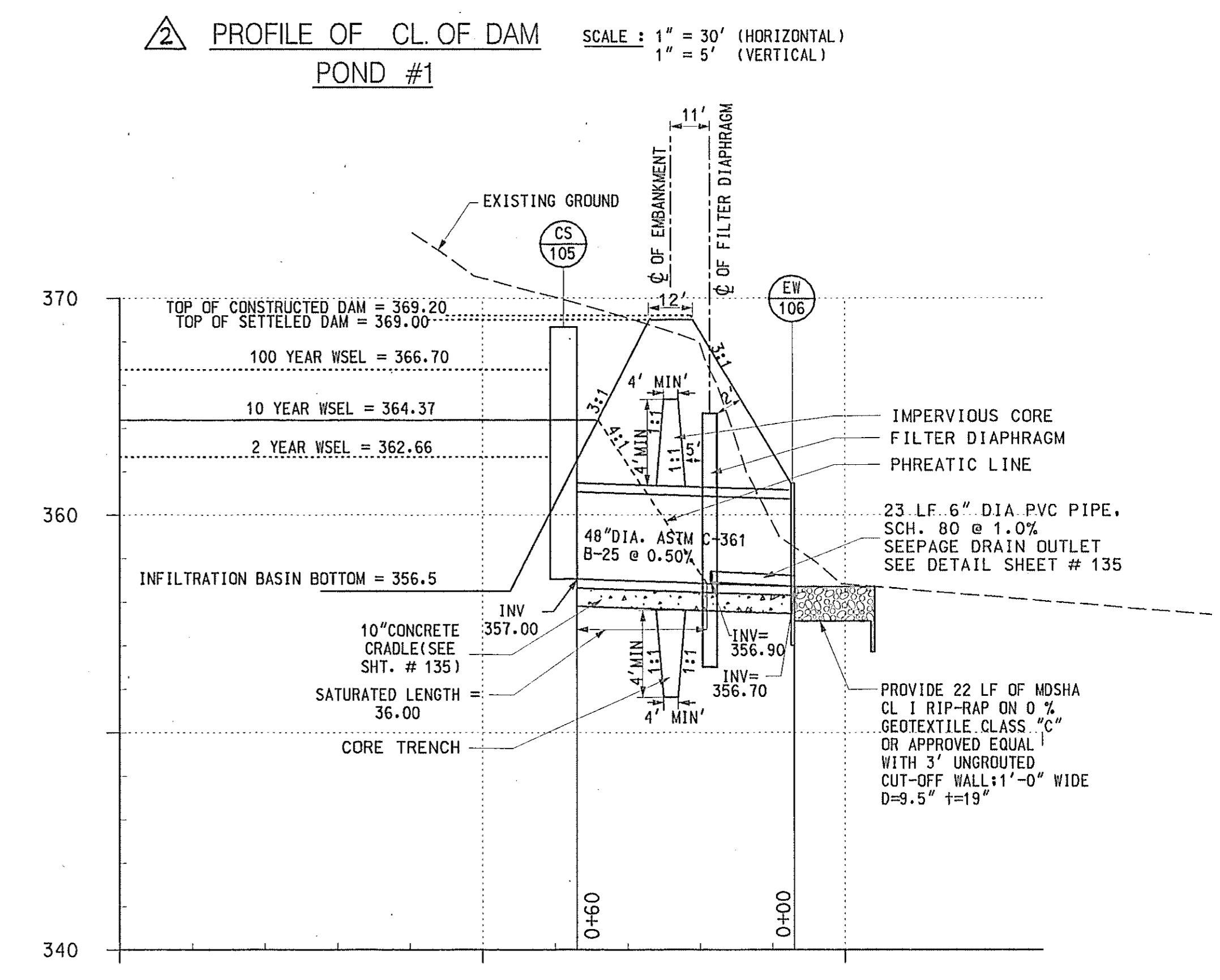
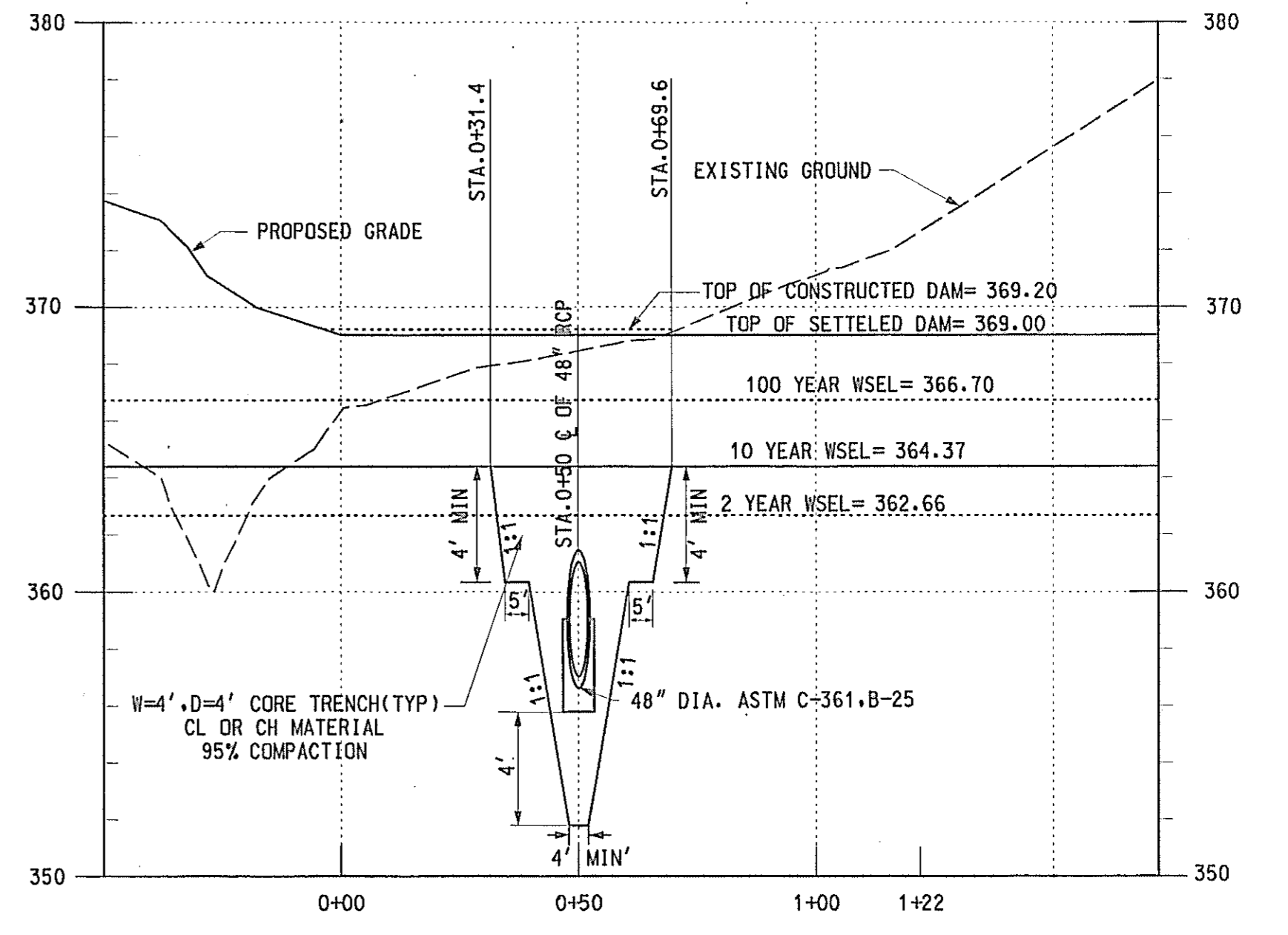
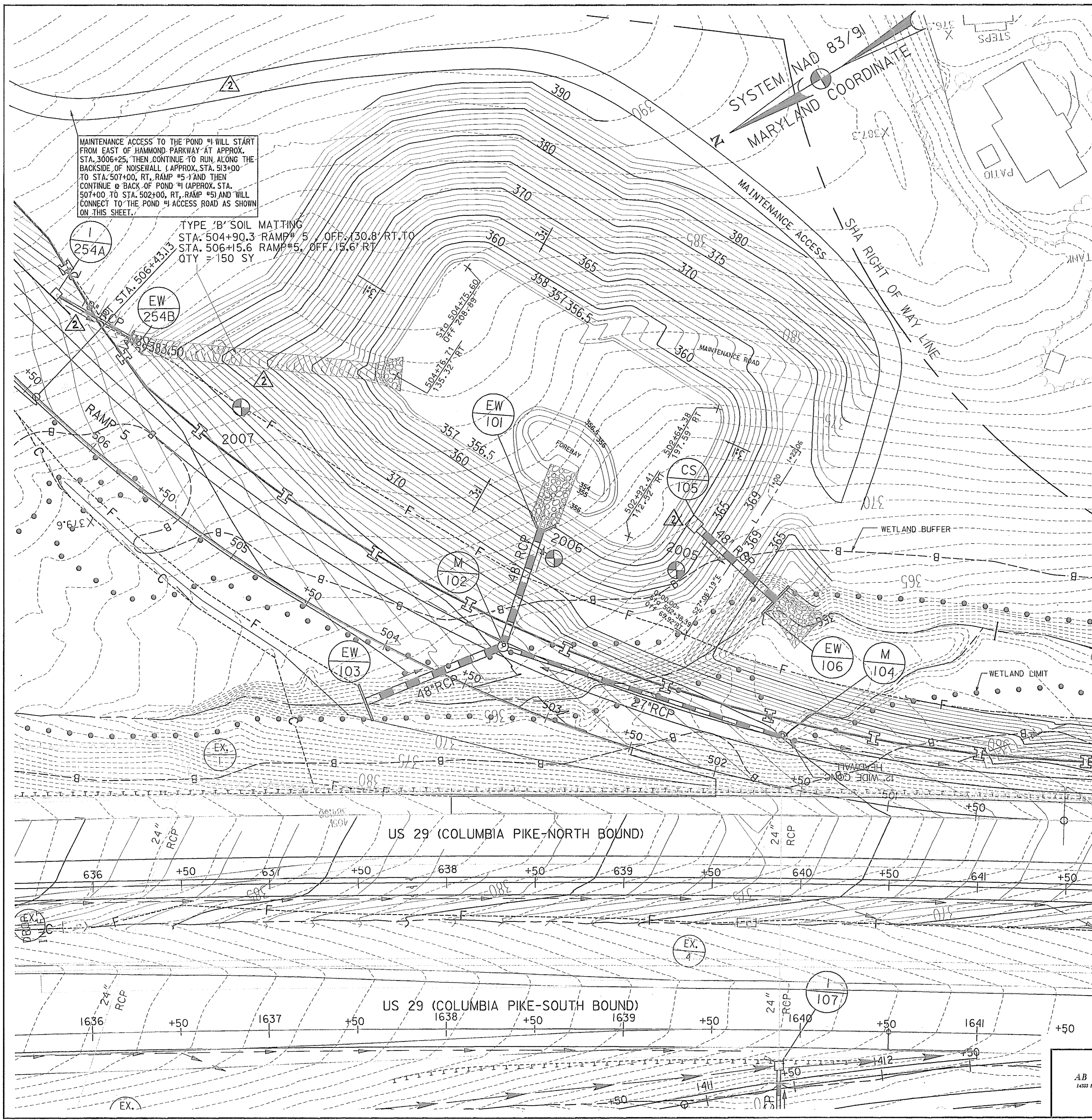
AB CONSULTANTS, INC.
1425 LAUREL BOVIE ROAD, SUITE 108
LAUREL, MARYLAND 20708
(410) 792-0884 (BALT.)
(301) 470-2076 (WASH)

REVISIONS
ADDENDUM NO. 2 8/25/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO.	132	OF	320
PREL. TRAC. BY	SBP	FINAL TRAC. BY	AAP				





REVISIONS

ADDENDUM NO. 2	8/25/00
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 133 OF 320
 PREL. TRAC. BY SBP FINAL TRAC. BY AAP

POND # 1 @ STUDY POINT 2
PLAN AND PROFILES



FOR INSPECTION PURPOSES ONLY

DAM _____	DATE _____	INVESTIGATE	REPAIR	MONITOR	Y/N
OWNER _____	WEATHER _____				
INSPECTED BY _____	POOL LEVEL _____				

ITEM	COMMENTS				
1. CREST					
a. Visual settlement ?					
b. Misalignment ?					
c. Cracking ?					
2. UPSTREAM SLOPE					
a. Erosion ?					
b. Ground cover in good condition ?					
c. Trees, shrubs, or other woody vegetation ?					
d. Longitudinal/Vertical cracks ?					
e. Adequate riprap protection ?					
f. Stone deterioration ?					
g. Settlements, depressions, or bulges ?					
3. DOWNSTREAM SLOPE					
a. Erosion ?					
b. Ground cover in good condition ?					
c. Trees, shrubs, or other woody vegetation ?					
d. Longitudinal/Vertical cracks ?					
e. Riprap protection adequate ?					
f. Settlements, depressions, or bulges ?					
g. Soft spots or boggy areas ?					
h. Movement at or beyond toe ?					
i. Solls at toe ?					
4. DRAINAGE-SEEPAGE CONTROL					
a. Internal drains flowing ?	EST. LEFT _____ gpm. EST. RIGHT _____ gpm				
b. Seepage at toe ?	ESTIMATED _____ gpm				
c. Does seepage contain fines ?					
5. ABUTMENT CONTACTS					
a. Erosion ?					
b. Differential movement ?					
c. Cracks ?					
d. Seepage ?	Estimated _____ gpm				
e. Adequate erosion protection for ditches ?					
6. INLET STRUCTURE Concrete or Metal Pipe (circle one)					
a. Seepage into structure ?					
b. Debris or obstructions ?					
c. If concrete, do surfaces show:					
1. Spalling ?					
2. Cracking ?					
3. Erosion ?					
4. Scaling ?					
5. Exposed reinforcement ?					
6. Other ?					
d. If metal, do surfaces show:					
1. Corrosion ?					
2. Protective Coating deficient ?					
3. Misalignment or split seams ?					
e. Do the joints show :					
1. Displacement or offset ?					
2. Loss of joint material ?					
3. leakage ?					

ITEM	COMMENTS				
f. Are the trash racks:					
1. Broken or bent ?					
2. Corroded or rusted ?					
3. Obstructed ?					
4. Operational ?					
g. Sluice/Drain gates:					
1. Broken or bent ?					
2. Corroded or rusted ?					
3. Leaking ?					
4. Periodically maintained ?					
5. Operational ?					
7. PRINCIPAL SPILLWAY PIPE CONCRETE OR METAL PIPE (circle one)					
a. Seepage into conduit ?					
b. Debris present ?					
c. Do concrete surfaces show:					
1. Spalling ?					
2. Cracking ?					
3. Erosion ?					
4. Scaling ?					
5. Exposed reinforcement ?					
6. Other ?					
d. Do the joints show:					
1. Displacement or offset ?					
2. Loss of joint material ?					
3. Leakage ?					
8. STILLING BASIN/POOL RIPRAP OR CONCRETE (circle one)					
a. If concrete, condition of surfaces ?					
b. Deterioration or displacement of joints ?					
c. Outlet channel obstructed ?					
d. Is released water:					
1. Undercutting the outlet ?					
2. Eroding the embankment ?					
3. Displacing riprap ?					
4. Scouring the plunge pool ?					
e. Tailwater elevation and flow condition:					
9. EMERGENCY SPILLWAY					
a. Is the channel:					
1. Eroding or backcutting ?					
2. Obstructed ?					
b. Trees or shrubs in the channel ?					
c. Seepage present ?					
d. Soft spots or boggy areas ?					
e. Channel slopes eroding or sloughing ?					
10. RESERVOIR					
a. High water marks ?					
b. Erosion/slides into pool area ?					
c. Sediment accumulation ?					
d. Floating debris present ?					
e. Adequate riprap protection for ditches ?					

MD 378 STORMWATER MANAGEMENT POND AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY(S) HAS (HAVE) BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS APPROVED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, EXCEPT AS NOTED ON THESE AS-BUILT DRAWINGS.

SIGNATURE AND MD. REGISTRATION NUMBER
 AMRISH A. PATEL

PRINTED NAME _____ DATE _____ SEAL _____

POND DESIGN CERTIFICATION

"I CERTIFY THAT THIS DESIGN PLAN FOR THE CONSTRUCTION OF THE EMBANKMENT AND/OR EXCAVATED POND(S) REPRESENTS A HAZARD CLASS "A" POND(S) AND WAS DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOIL CONSERVATION SERVICE - MARYLAND STANDARD AND SPECIFICATION FOR PONDS, (MD-378). I HAVE REVIEWED THIS PLAN WITH THE OWNER/DEVELOPER".

SIGNATURE Amr MD P.E. LICENSE # 19372 DATE 8/22/00

NAME (PRINT): AMRISH A. PATEL P.E. SEAL

ADDRESS: 14333 LAUREL-BOWIE ROAD, SUITE #108
LAUREL, MD 20708

TELEPHONE: (301) 470 2476



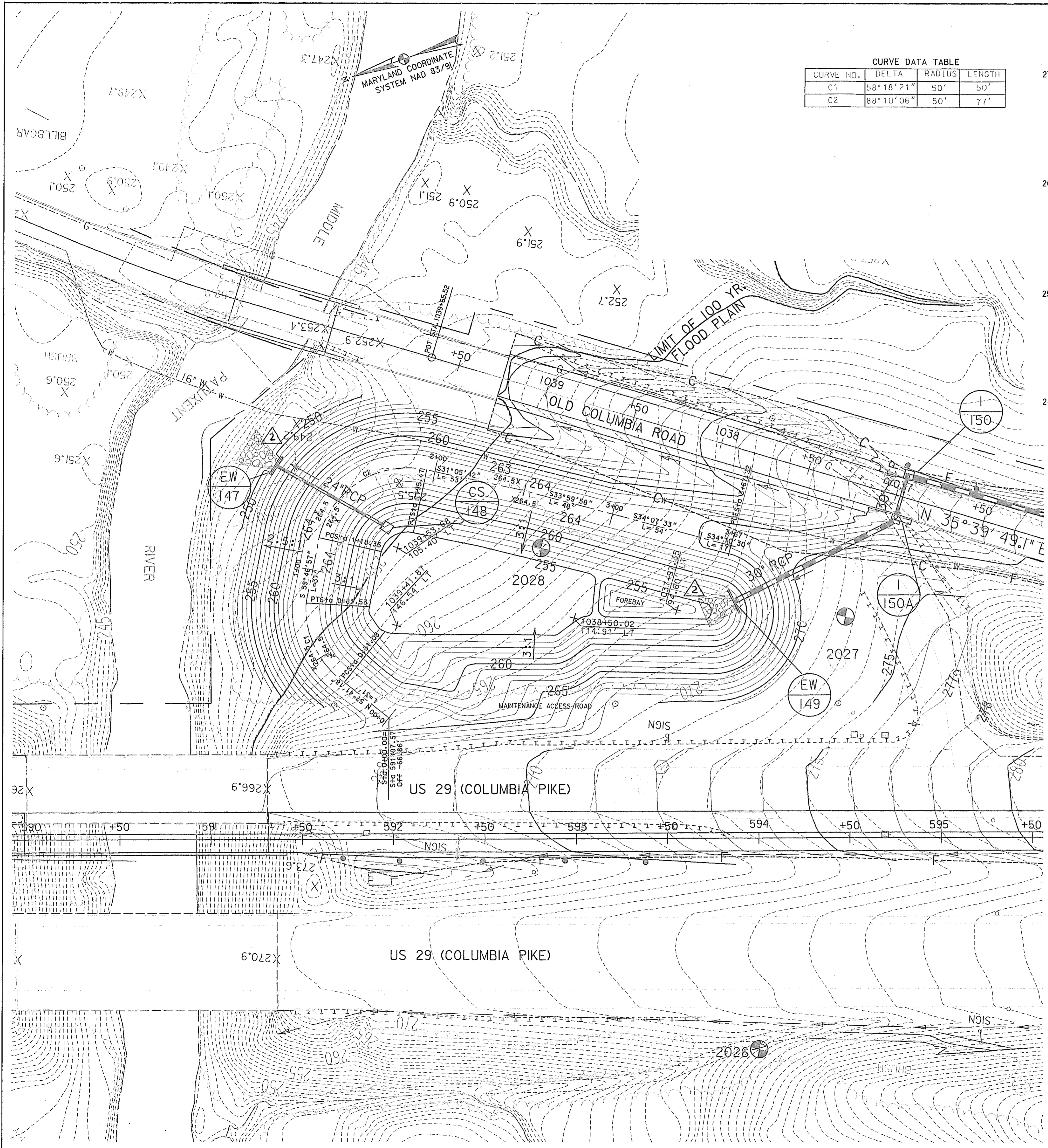
DAM CHECKLIST POND - 1



REVISIONS
ADDENDUM NO. 2 8/25/00

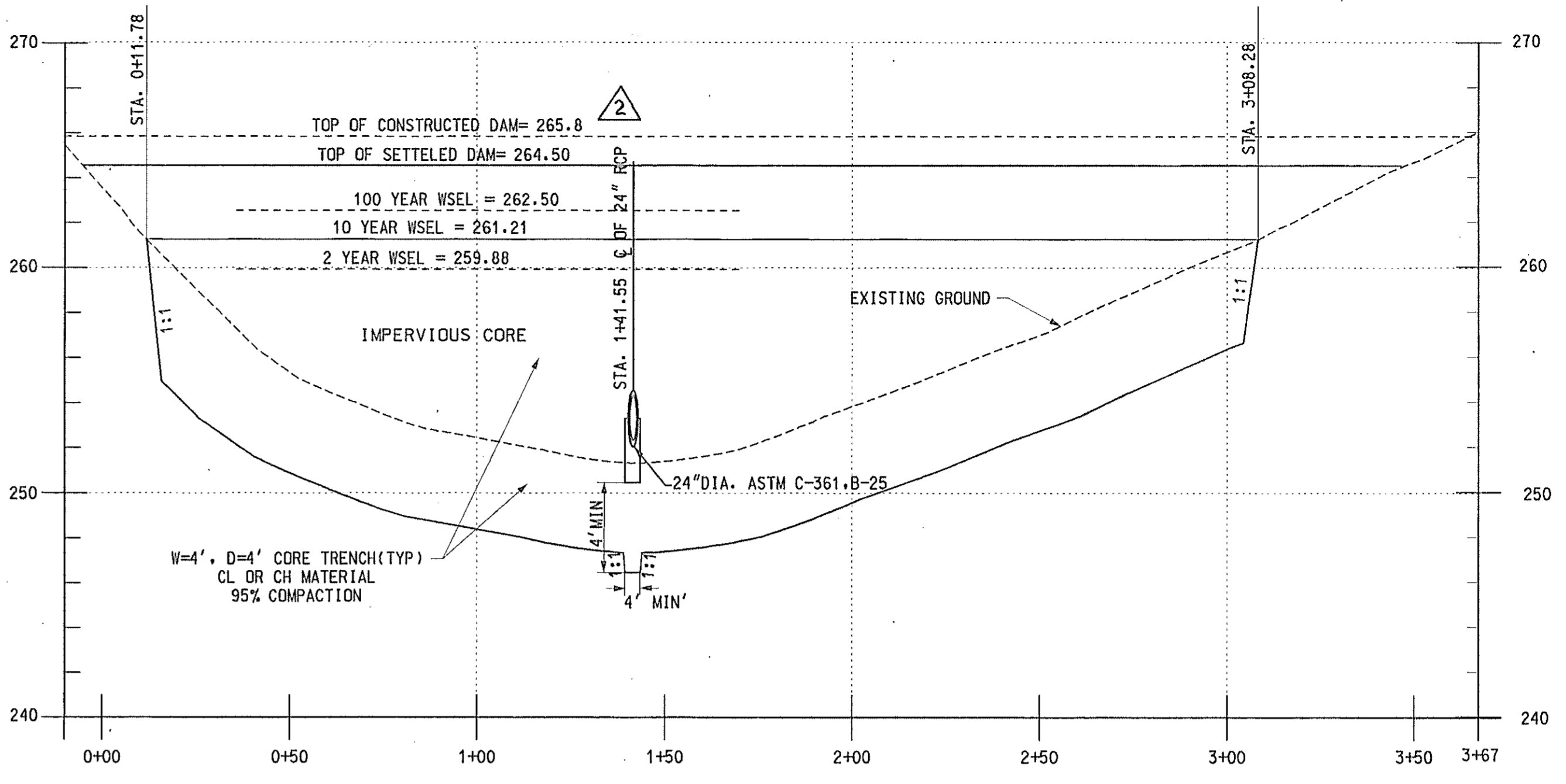
STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HQ7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 133A OF 320
 PREL. TRAC. BY SBP FINAL TRAC. BY AAP

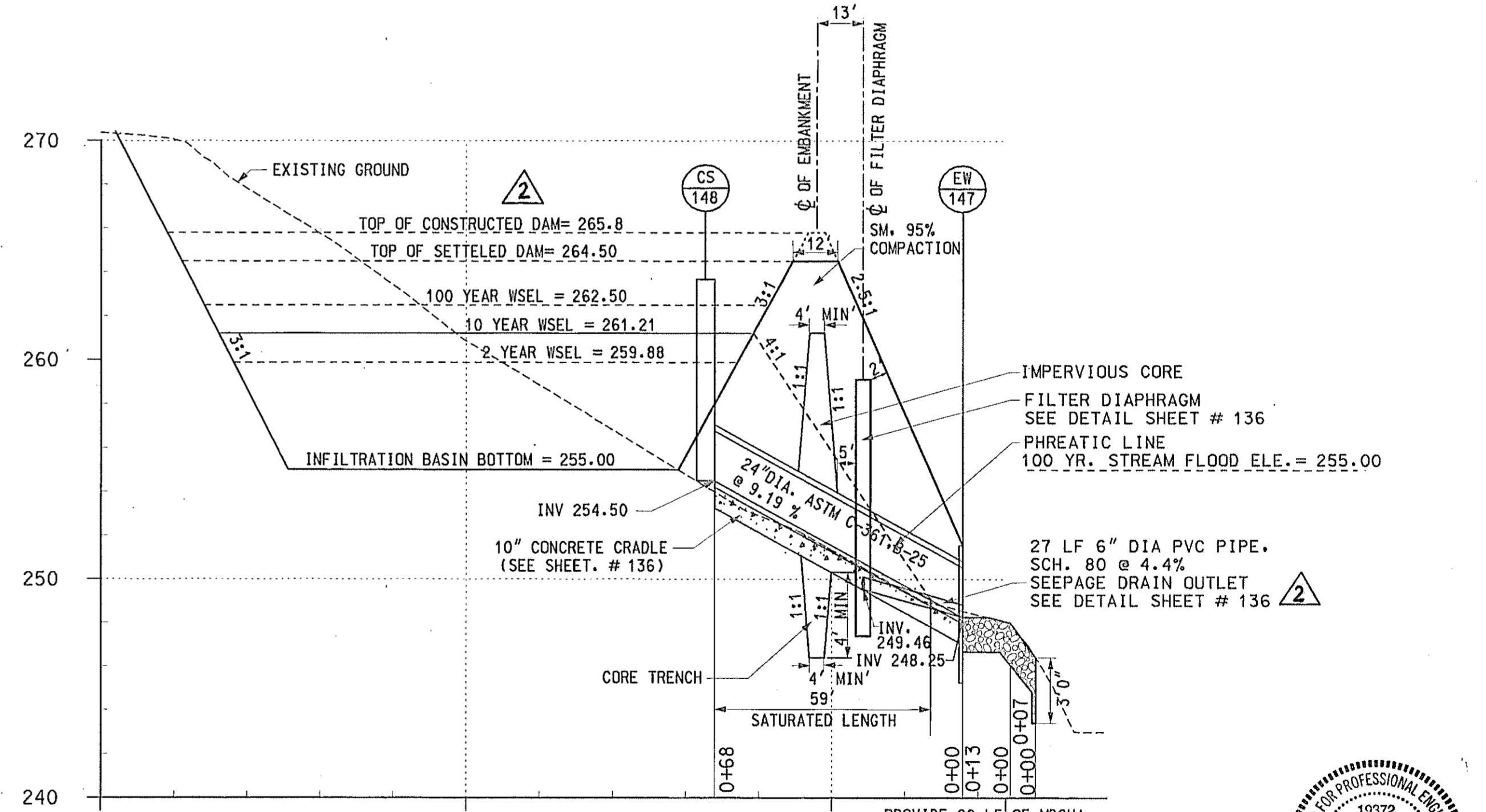


CURVE DATA TABLE

CURVE NO.	DELTA	RADIUS	LENGTH
C1	58°18'21"	50'	50'
C2	88°10'06"	50'	77'



PROFILE OF CL. OF DAM
POND #2
 SCALE: 1" = 30' (HORIZONTAL)
 1" = 5' (VERTICAL)



CROSS SECTION THROUGH PRINCIPAL SPILLWAY
POND #2
 SCALE: 1" = 30' (HORIZONTAL)
 1" = 5' (VERTICAL)

PLAN
 SCALE: 1" = 30'

AB CONSULTANTS, INC.
 1435 LAUREL BOWIE ROAD, SUITE 100
 LAUREL, MARYLAND 20708
 (410) 750-0800 (TOLL FREE)
 (410) 470-9476 (FAX)

REVISIONS

ADDENDUM NO. 2	8/25/00
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STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 134 OF 320
 PREL. TRAC. BY SBP FINAL TRAC. BY AAP



△ POND #2 @ STUDY POINT 8
 PLAN AND PROFILES

FOR INSPECTION PURPOSES ONLY

DAM _____ DATE _____
 OWNER _____ WEATHER _____
 INSPECTED BY _____ POOL LEVEL _____

ITEM	COMMENTS	Y/N	MONITOR	REPAIR	INVESTIGATE
1. CREST					
a. Visual settlement ?					
b. Misalignment ?					
c. Cracking ?					
2. UPSTREAM SLOPE					
a. Erosion ?					
b. Ground cover in good condition ?					
c. Trees, shrubs, or other woody vegetation ?					
d. Longitudinal/Vertical cracks ?					
e. Adequate riprap protection ?					
f. Stone deterioration ?					
g. Settlements, depressions, or bulges ?					
3. DOWNSTREAM SLOPE					
a. Erosion ?					
b. Ground cover in good condition ?					
c. Trees, shrubs, or other woody vegetation ?					
d. Longitudinal/Vertical cracks ?					
e. Riprap protection adequate ?					
f. Settlements, depressions, or bulges ?					
g. Soft spots or boggy areas ?					
h. Movement at or beyond toe ?					
i. Solls at toe ?					
4. DRAINAGE-SEEPAGE CONTROL					
a. Internal drains flowing ?	EST. LEFT _____ gpm. EST. RIGHT _____ gpm				
b. Seepage at toe ?	ESTIMATED _____ gpm				
c. Does seepage contain fines ?					
5. ABUTMENT CONTACTS					
a. Erosion ?					
b. Differential movement ?					
c. Cracks ?					
d. Seepage ?	Estimated _____ gpm				
e. Adequate erosion protection for ditches ?					
6. INLET STRUCTURE	Concrete or Metal Pipe (circle one)				
a. Seepage into structure ?					
b. Debris or obstructions ?					
c. If concrete, do surfaces show:					
1. Spalling ?					
2. Cracking ?					
3. Erosion ?					
4. Scaling ?					
5. Exposed reinforcement ?					
6. Other ?					
d. If metal, do surfaces show:					
1. Corrosion ?					
2. Protective Coating deficient ?					
3. Misalignment or split seams ?					
e. Do the joints show :					
1. Displacement or offset ?					
2. Loss of joint material ?					
3. leakage ?					

ITEM	COMMENTS	Y/N	MONITOR	REPAIR	INVESTIGATE
f. Are the trash racks:					
1. Broken or bent ?					
2. Corroded or rusted ?					
3. Obstructed ?					
4. Operational ?					
g. Sluice/Drain gates:					
1. Broken or bent ?					
2. Corroded or rusted ?					
3. Leaking ?					
4. Periodically maintained ?					
5. Operational ?					
7. PRINCIPAL SPILLWAY PIPE	CONCRETE OR METAL PIPE (circle one)				
a. Seepage into conduit ?					
b. Debris present ?					
c. Do concrete surfaces show:					
1. Spalling ?					
2. Cracking ?					
3. Erosion ?					
4. Scaling ?					
5. Exposed reinforcement ?					
6. Other ?					
d. Do the joints show:					
1. Displacement or offset ?					
2. Loss of joint material ?					
3. Leakage ?					
8. STILLING BASIN/POOL	RIPRAP OR CONCRETE (circle one)				
a. If concrete, condition of surfaces ?					
b. Deterioration or displacement of joints ?					
c. Outlet channel obstructed ?					
d. Is released water:					
1. Undercutting the outlet ?					
2. Eroding the embankment ?					
3. Displacing riprap ?					
4. Scouring the plunge pool ?					
e. Tailwater elevation and flow conditions					
9. EMERGENCY SPILLWAY					
a. Is the channel:					
1. Eroding or backcutting ?					
2. Obstructed ?					
b. Trees or shrubs in the channel ?					
c. Seepage present ?					
d. Soft spots or boggy areas ?					
e. Channel slopes eroding or sloughing ?					
10. RESERVOIR					
a. High water marks ?					
b. Erosion/slides into pool area ?					
c. Sediment accumulation ?					
d. Floating debris present ?					
e. Adequate riprap protection for ditches ?					

REVISIONS
ADDENDUM NO. 2 8/25/00



MD 378 STORMWATER MANAGEMENT POND AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY(S) HAS (HAVE) BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS APPROVED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, EXCEPT AS NOTED ON THESE AS-BUILT DRAWINGS.

SIGNATURE AND MD. REGISTRATION NUMBER
 AMRISH A. PATEL

PRINTED NAME _____ DATE _____ SEAL _____

POND DESIGN CERTIFICATION

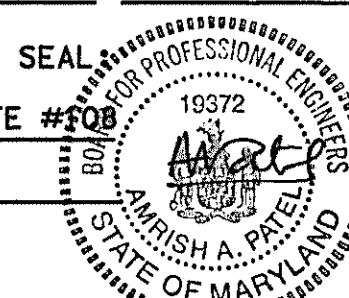
"I CERTIFY THAT THIS DESIGN PLAN FOR THE CONSTRUCTION OF THE EMBANKMENT AND/OR EXCAVATED POND(S) REPRESENTS A HAZARD CLASS "A" POND(S) AND WAS DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOIL CONSERVATION SERVICE - MARYLAND STANDARD AND SPECIFICATION FOR PONDS, (MD-378). I HAVE REVIEWED THIS PLAN WITH THE OWNER/DEVELOPER"

SIGNATURE Amr MD P.E. LICENSE # 19372 DATE 8/22/00

NAME (PRINT): AMRISH A. PATEL P.E. SEAL _____

ADDRESS: 14333 LAUREL-BOWIE ROAD, SUITE #100
LAUREL, MD 20708

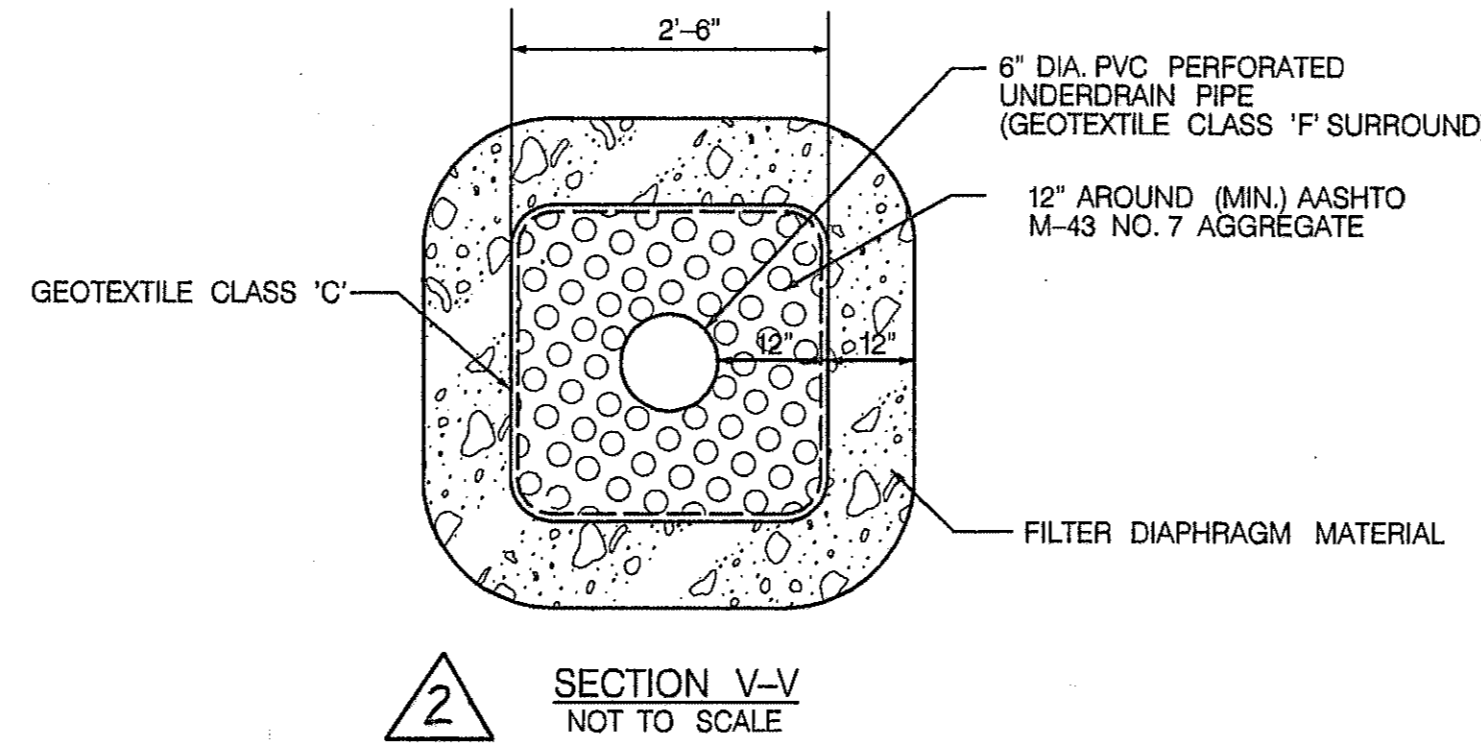
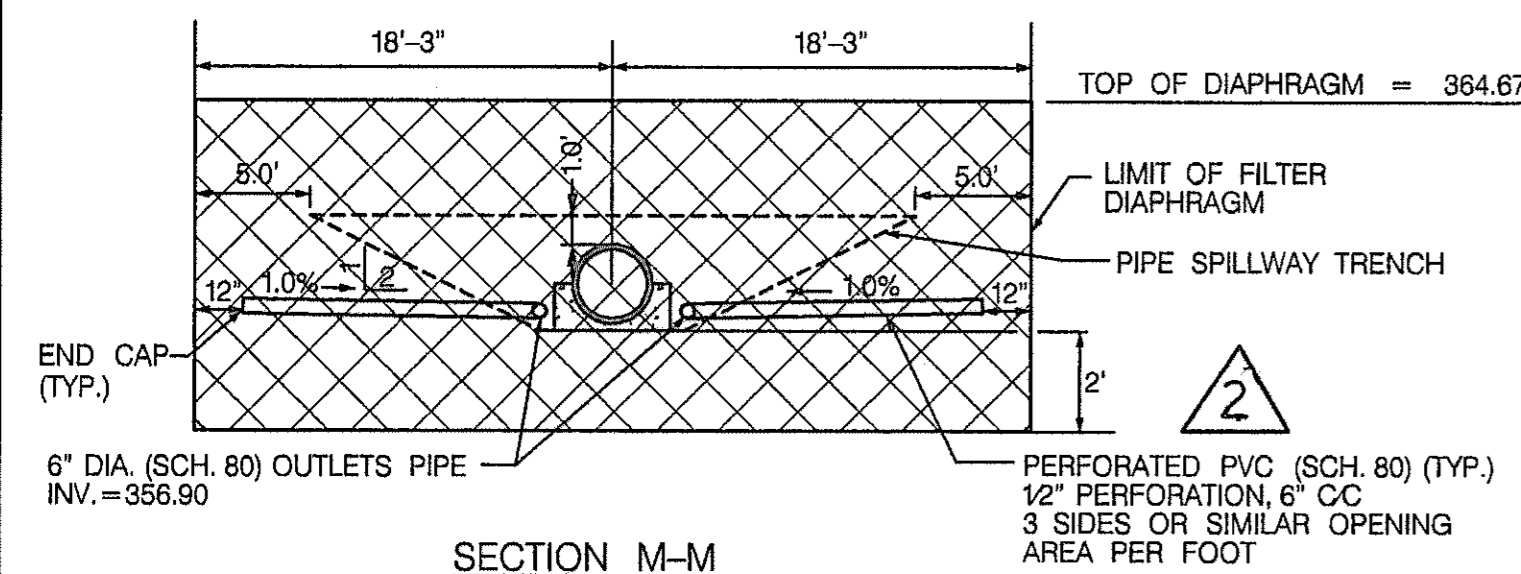
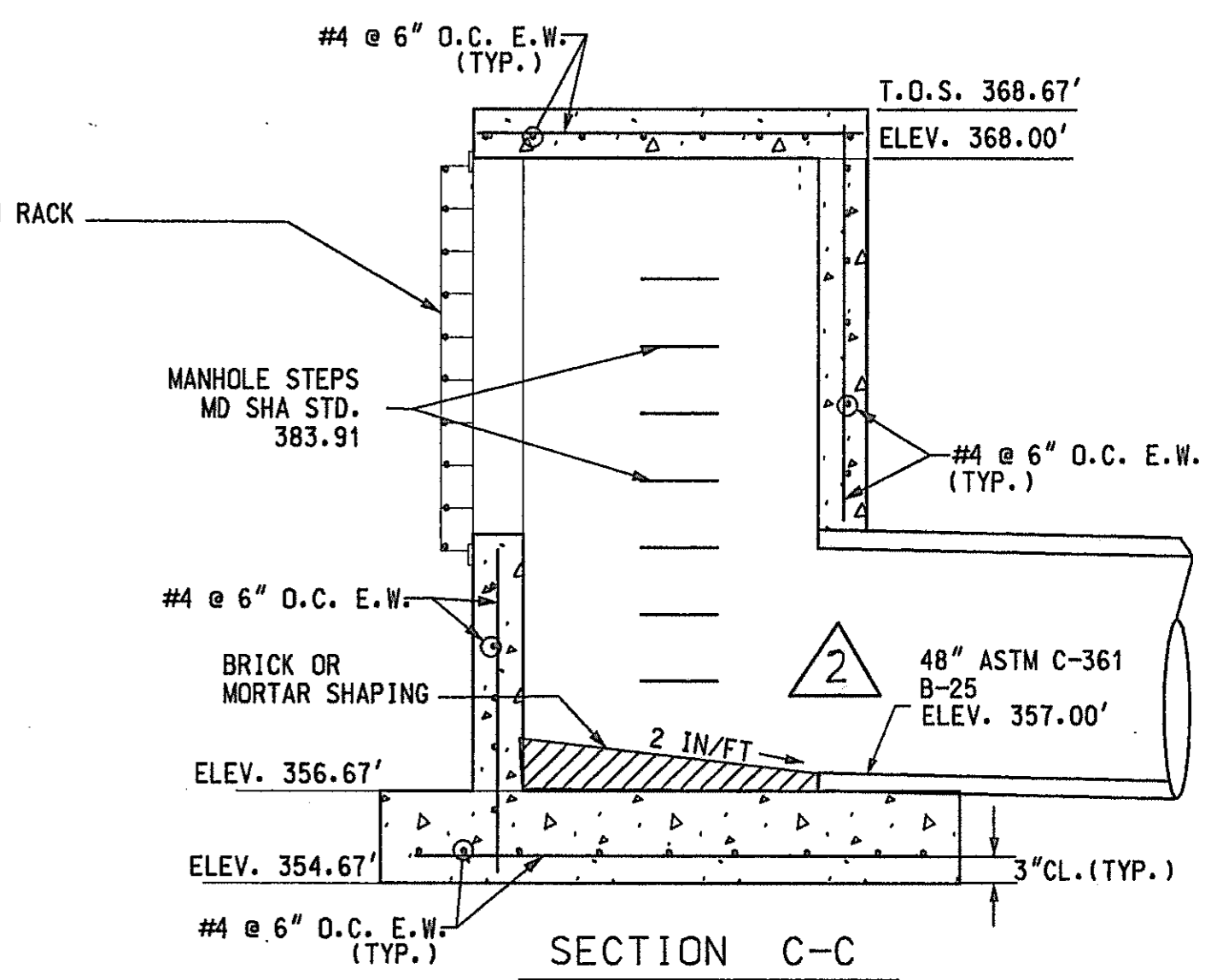
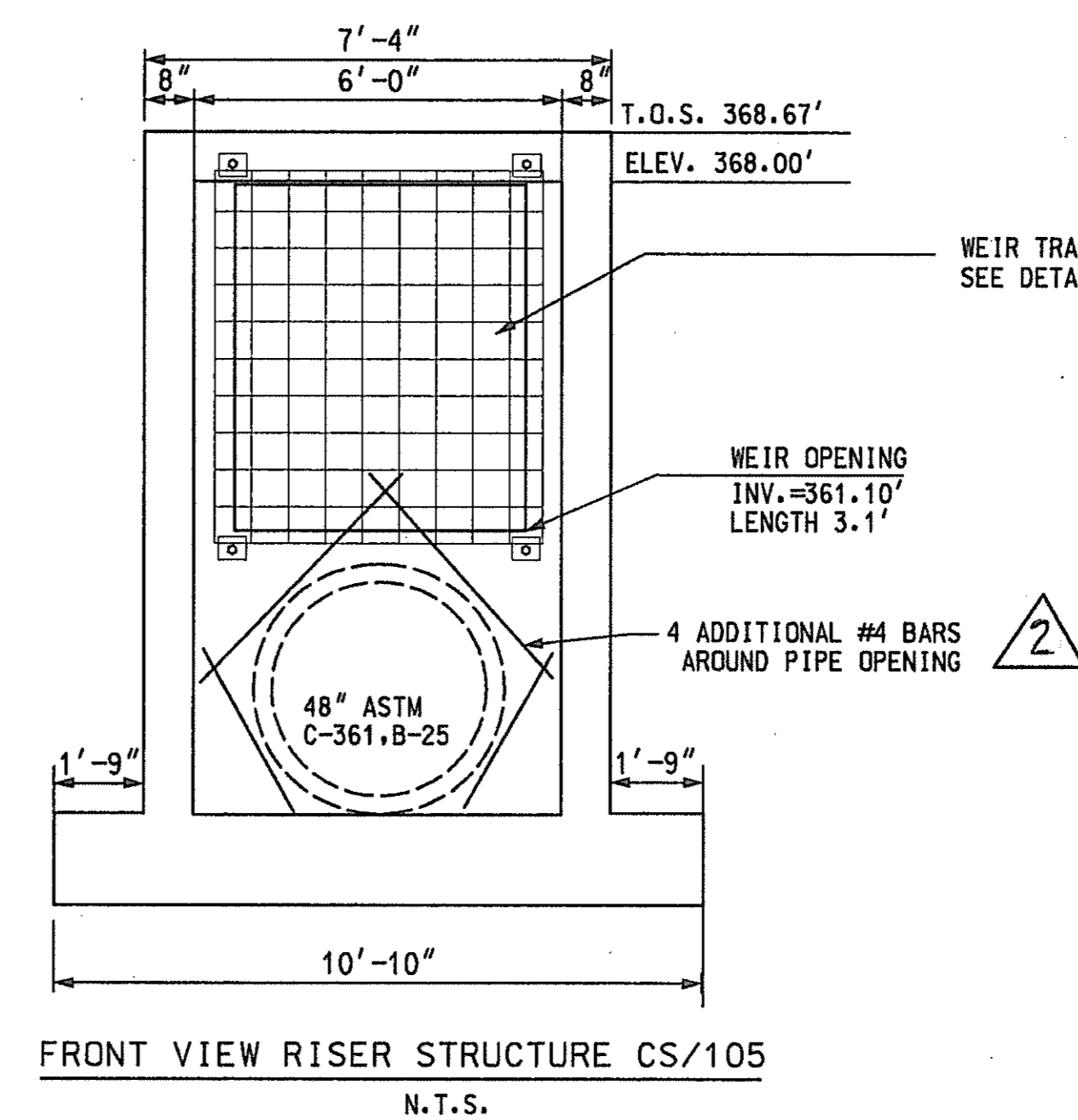
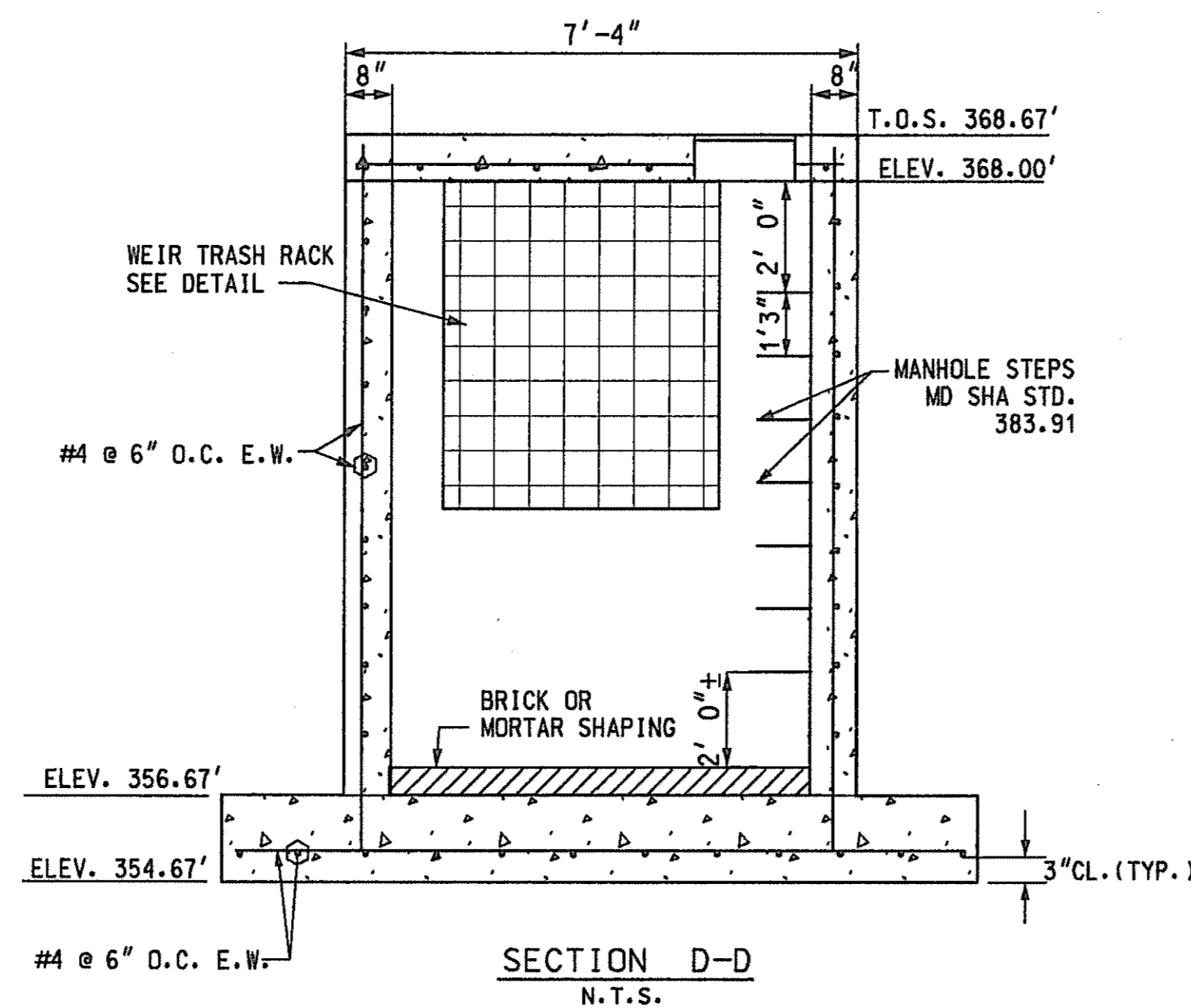
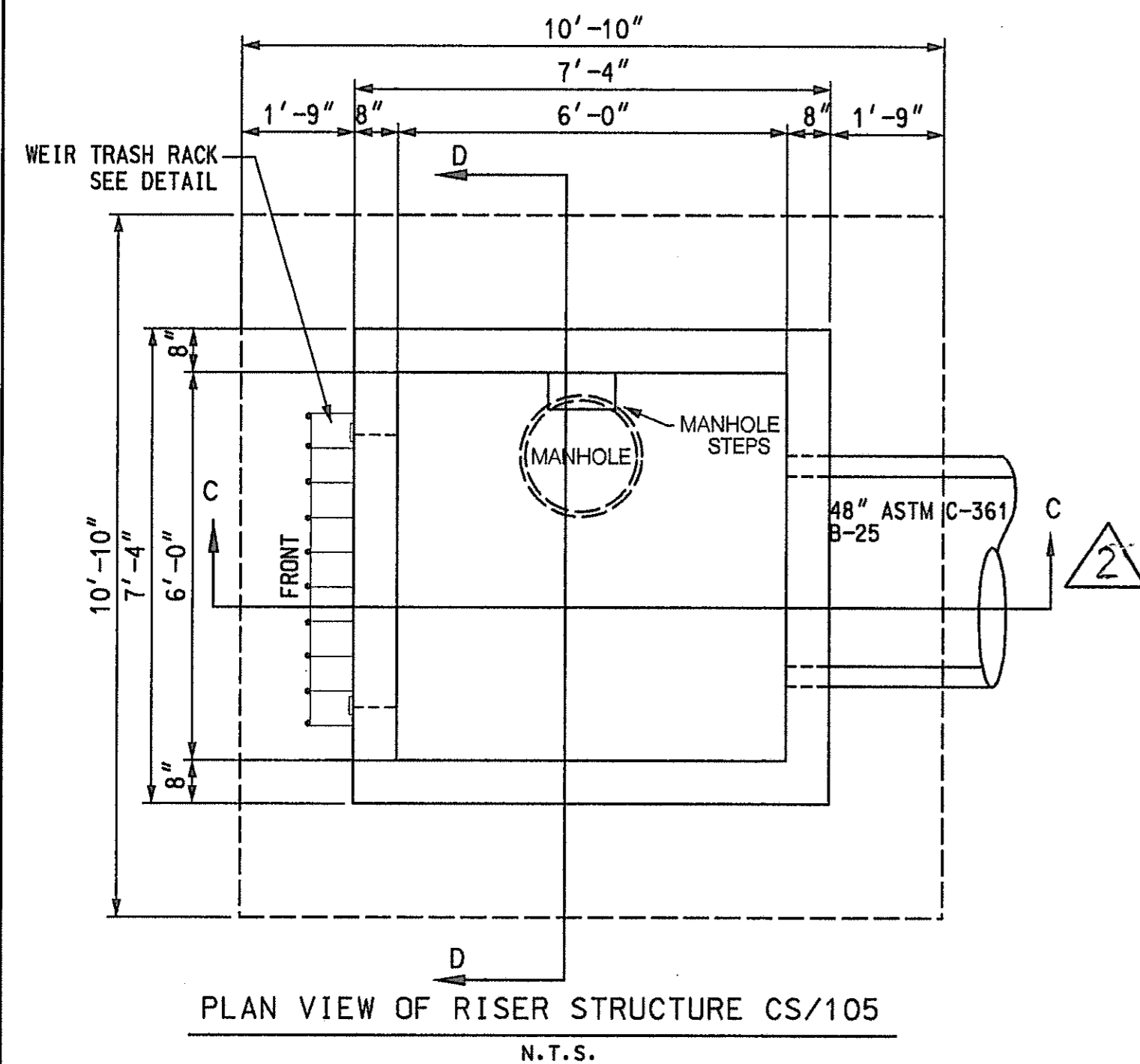
TELEPHONE: (301) 470 2476



DAM CHECKLIST POND - 2

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 134A OF 320
 PREL. TRAC. BY SBP FINAL TRAC. BY AAP

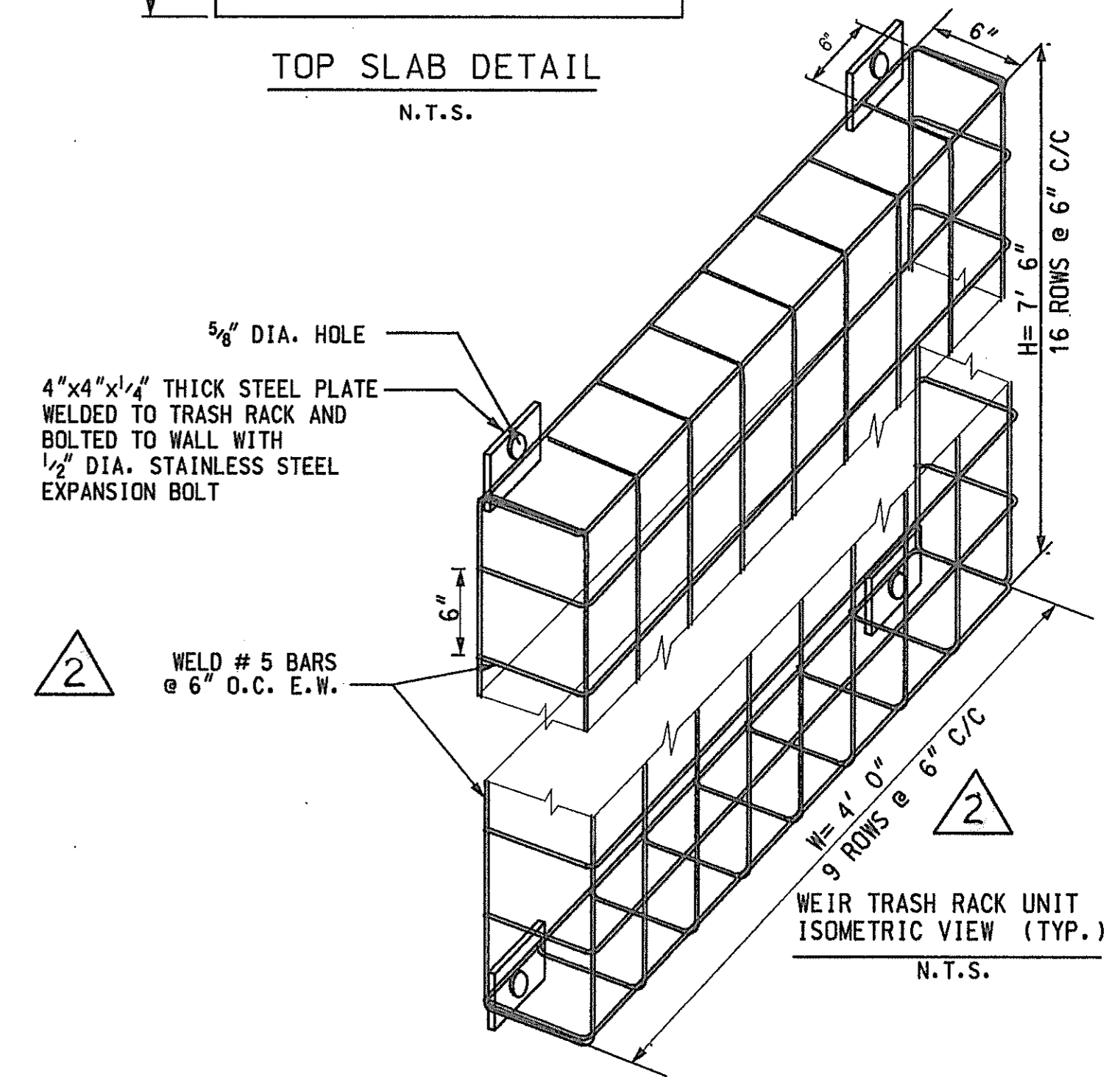
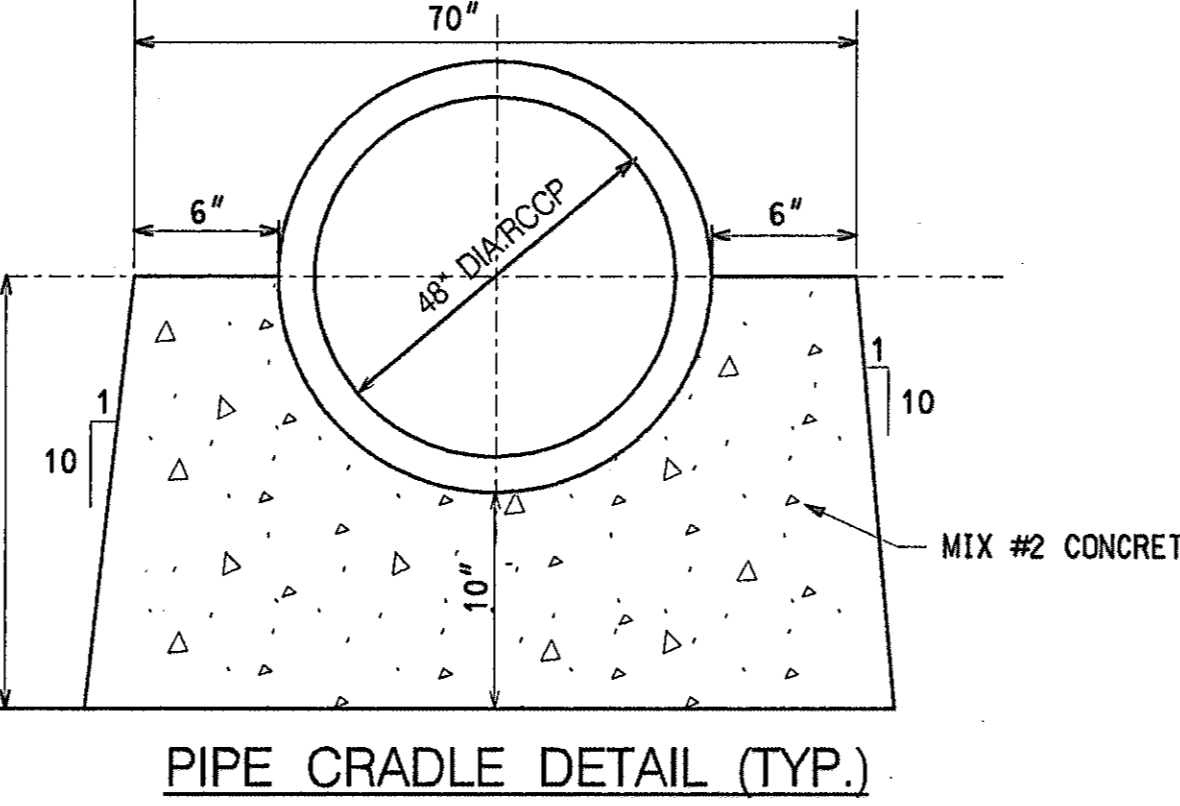
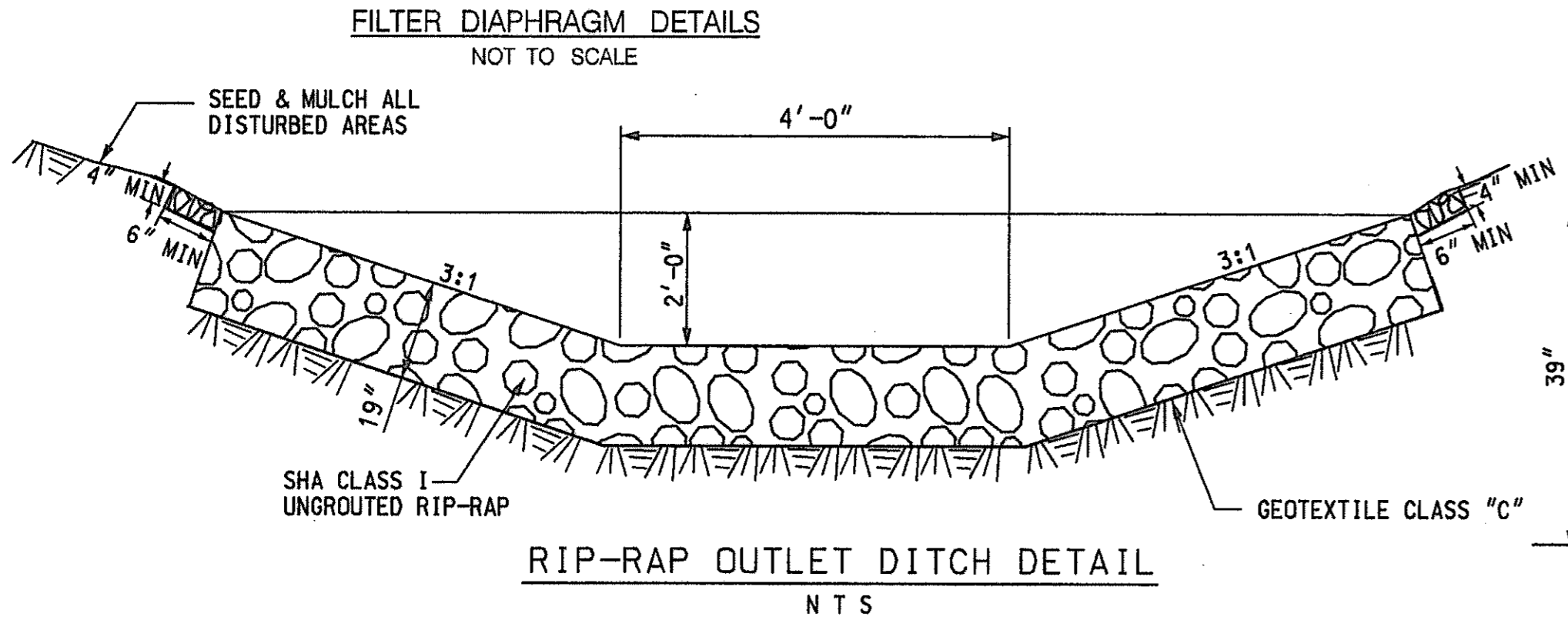
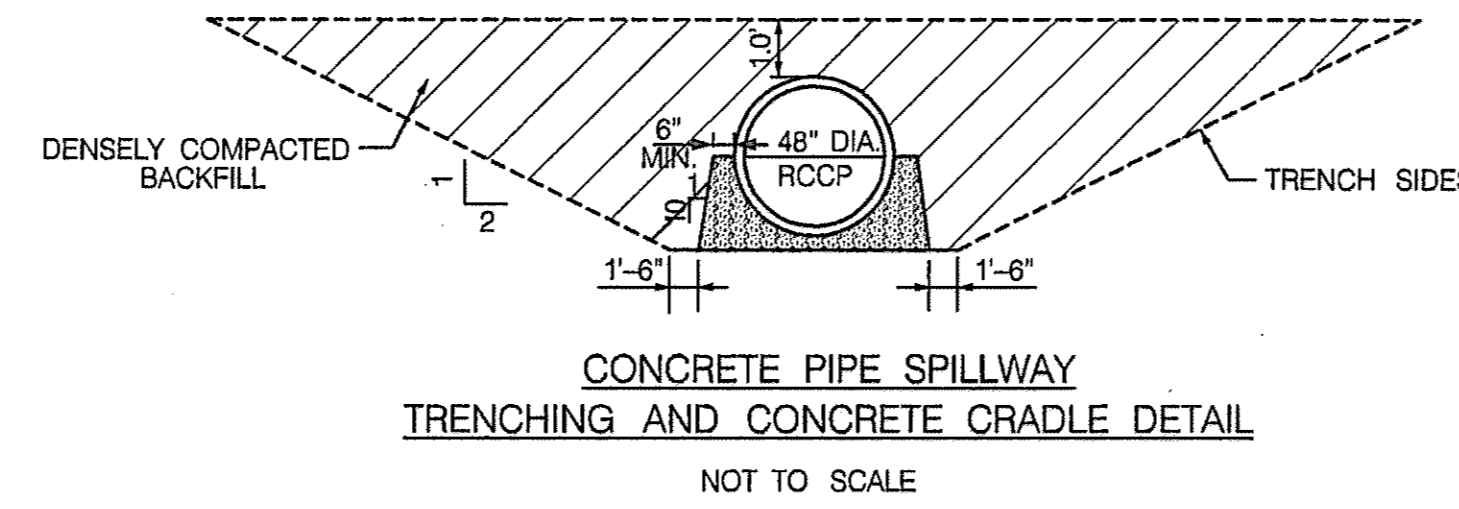
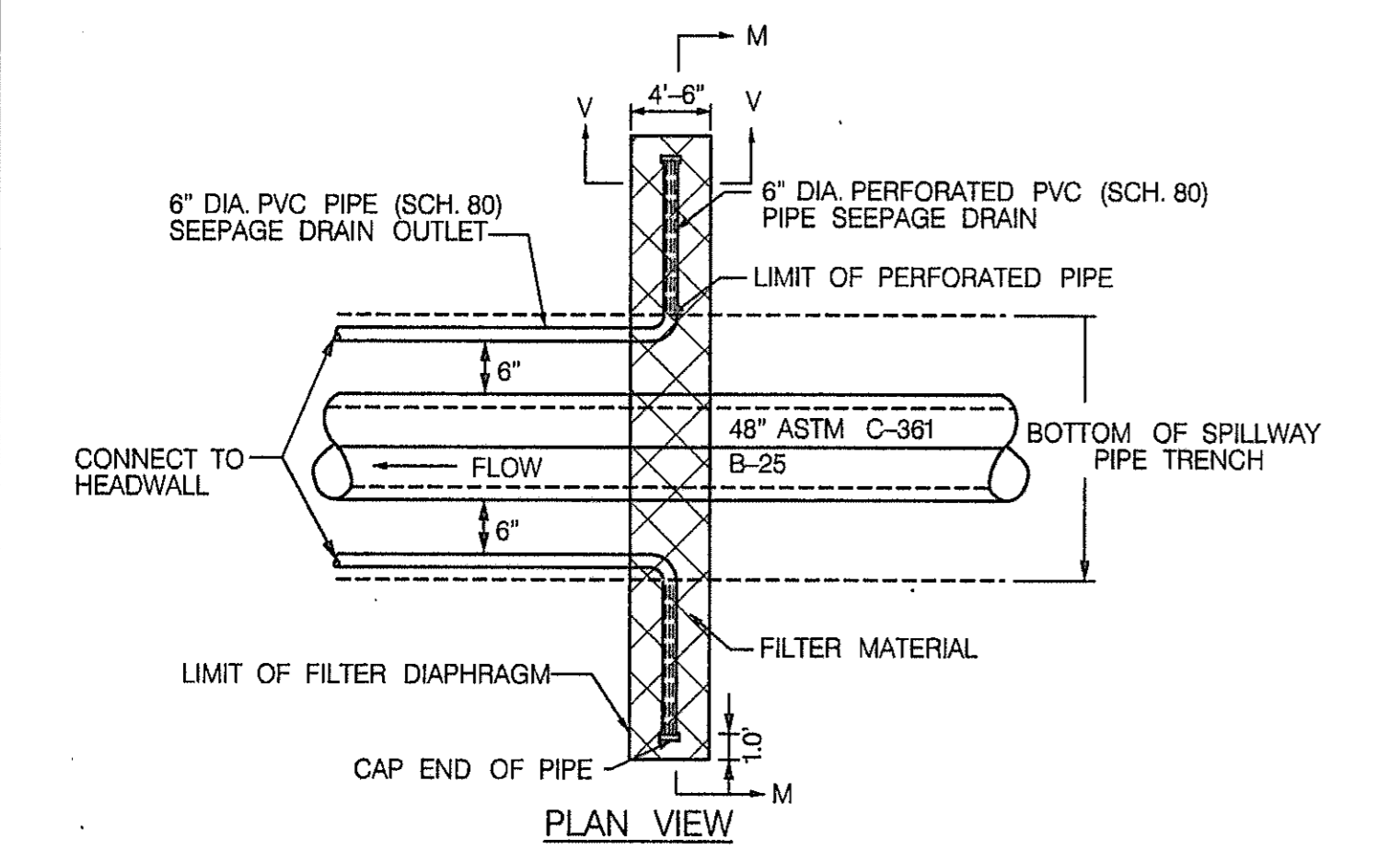
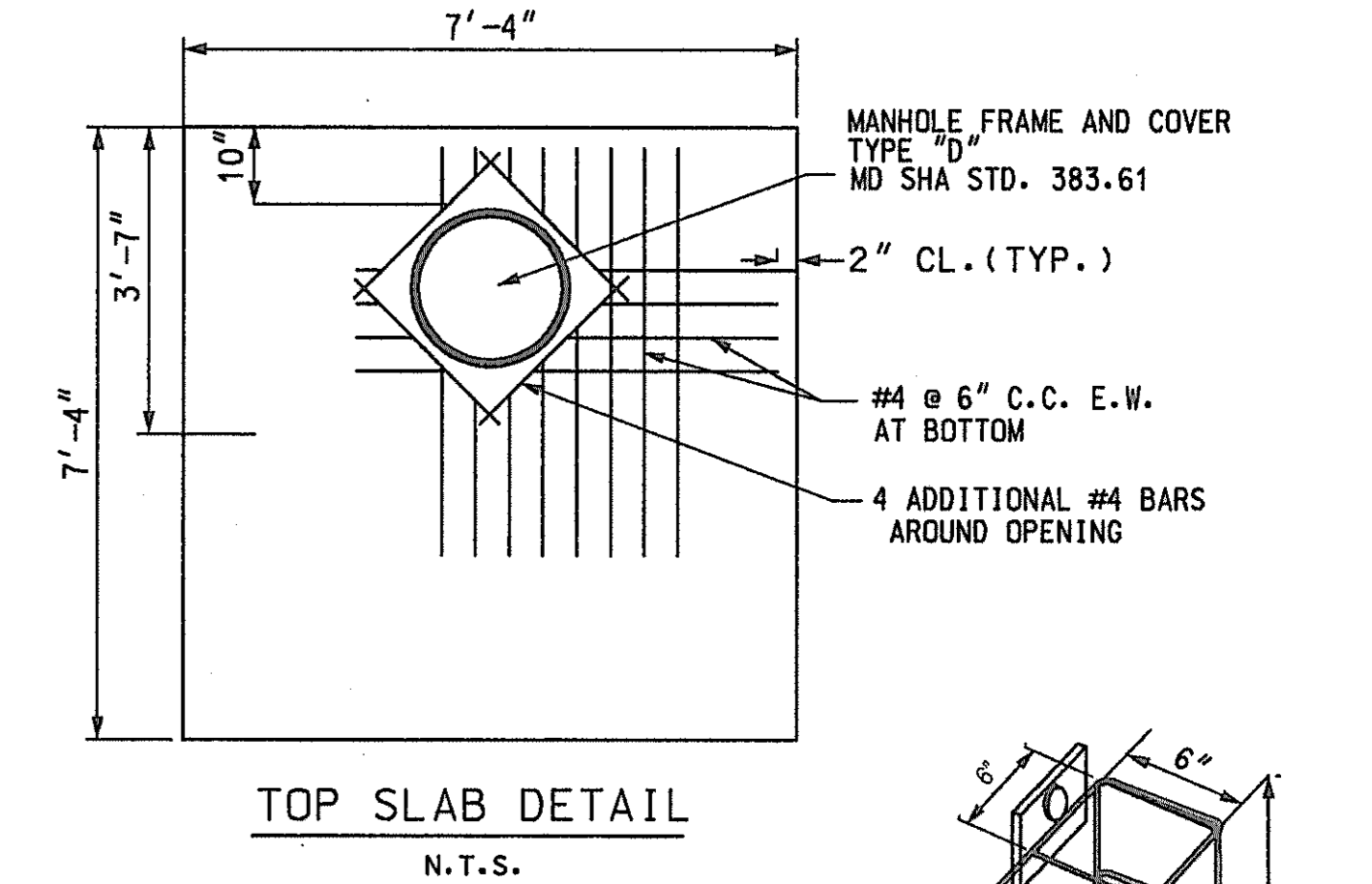


2 CONSTRUCTION NOTES

- EMBANKMENT AND CLAY CORE CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 300.
- THE CUTOFF TRENCH SHALL BE EXCAVATED TO A DEPTH OF AT LEAST 4' BELOW THE EXISTING GROUND LEVEL (GREATER DEPTH WHERE INDICATED ON PROFILE ALONG DAM CENTERLINE). THE 4' WIDE FLAT TRENCH BOTTOM SHALL BE CENTERED AT OR UPSTREAM OF THE EMBANKMENT CENTERLINE. THE TRENCH SHALL HAVE SIDE SLOPES NO STEEPER THAN 1:1.
- REINFORCED CONCRETE PIPE SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C-361, B-25, WHERE INDICATED.
- FILTER DIAPHRAGM MATERIAL (FINE AGGREGATE) SHALL BE GRADED AS SHOWN ON GRADING TABLE ASTM C-33

SIEVE (SPECIFICATION E 11)	PERCENT PASSING
9.5 mm (3/8-IN)	100
4.75 mm (NO.4)	95 TO 100
2.36 mm (NO.8)	80 TO 100
1.18 mm (No. 16)	50 TO 85
600-microm (NO. 30)	25 TO 60
300-microm (NO.50)	10 TO 30
150-microm (NO. 100)	2 TO 10

- FILTER DIAPHRAGM SHALL BE BUILT ALONG WITH THE EMBANKMENT, COMPACTION OF FILTER MATERIAL SHALL BE ACCOMPLISHED BY SPRAYING EACH LIFT OF WITH WATER, LIFTS TO BE 12" MAX. DO NOT COVER PERFORATED SECTION OF PVC PIPE WITH FLOWABLE FILL.
- ALL PIPE WITHIN THE FILTER MATERIAL SHALL BE WRAPPED WITH 12" - #7 STONE AND FABRIC.
- PIPE TO BE PERFORATED ONLY WITHIN FILTER MATERIAL.



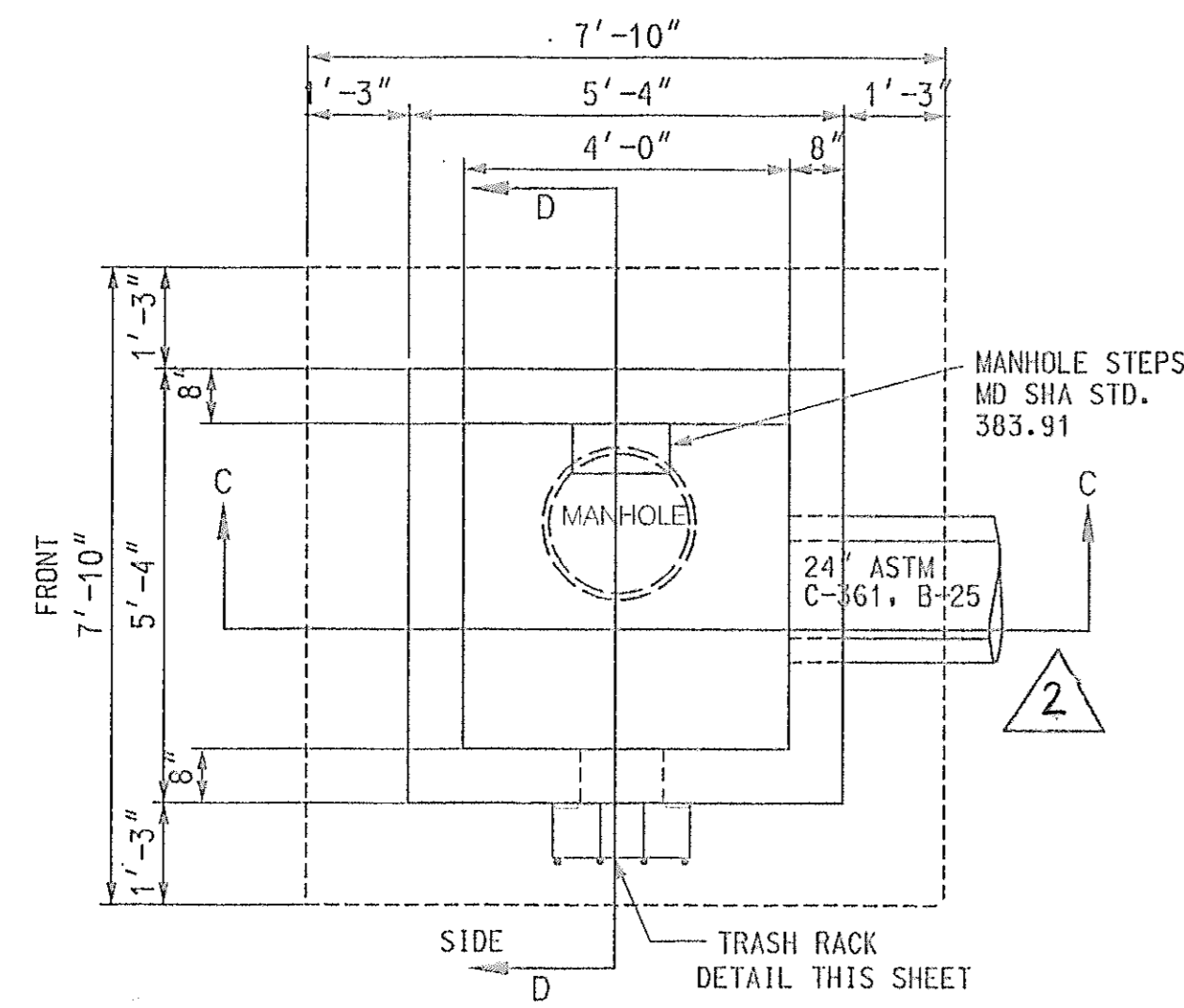
AB CONSULTANTS, INC.
1428 LAUREL BOWIE ROAD, SUITE 100
LAUREL, MARYLAND 20708
410-790-0422
GMD 00-2476 (WASH)

REVISIONS	
ADDENDUM NO. 1	8/25/00

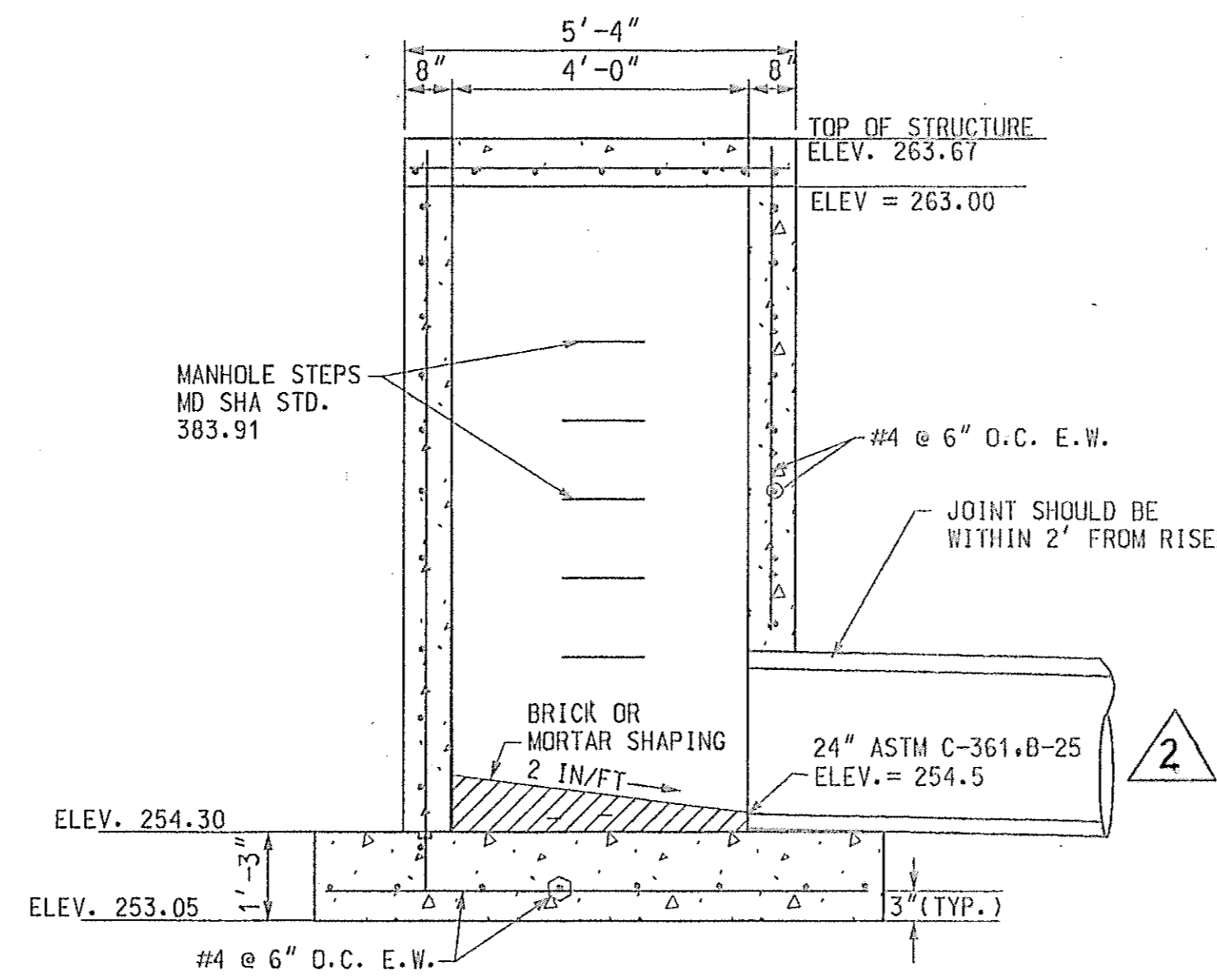
POND-1 MISCELLANEOUS DETAILS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

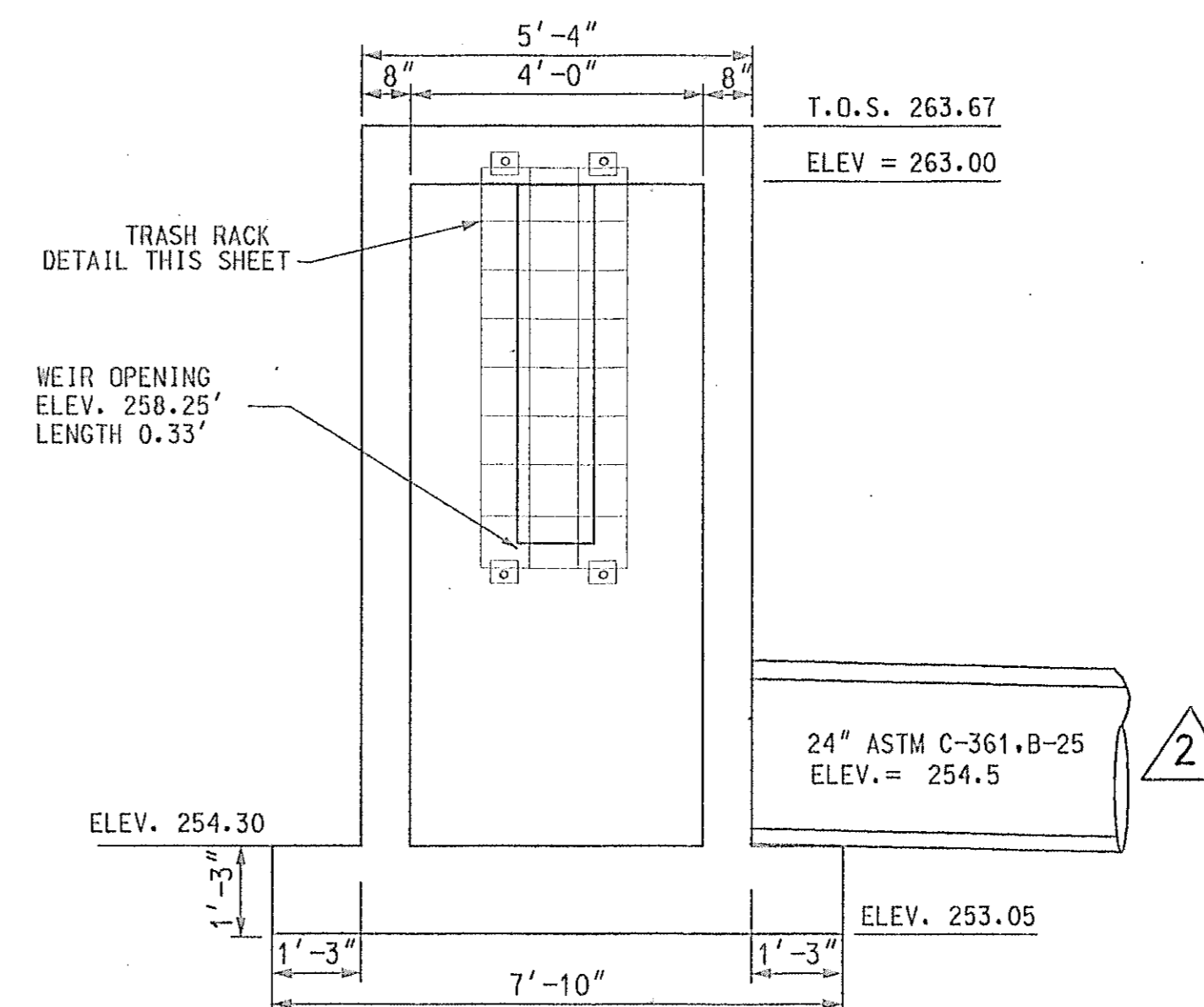
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 135 OF 320
PREL. TRAC. BY SBP FINAL TRAC. BY AAP



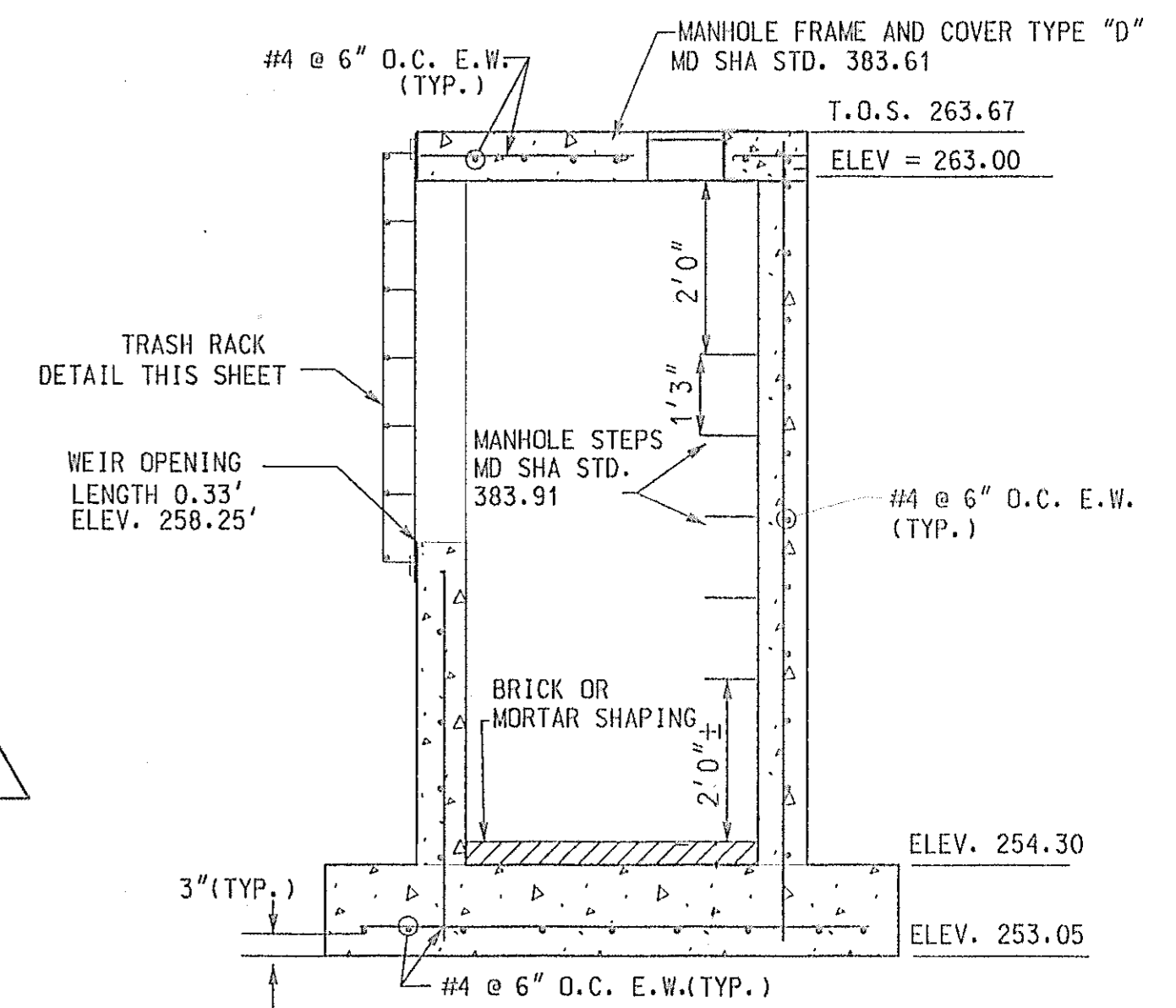
PLAN VIEW OF RISER STRUCTURE CS/148
N.T.S.



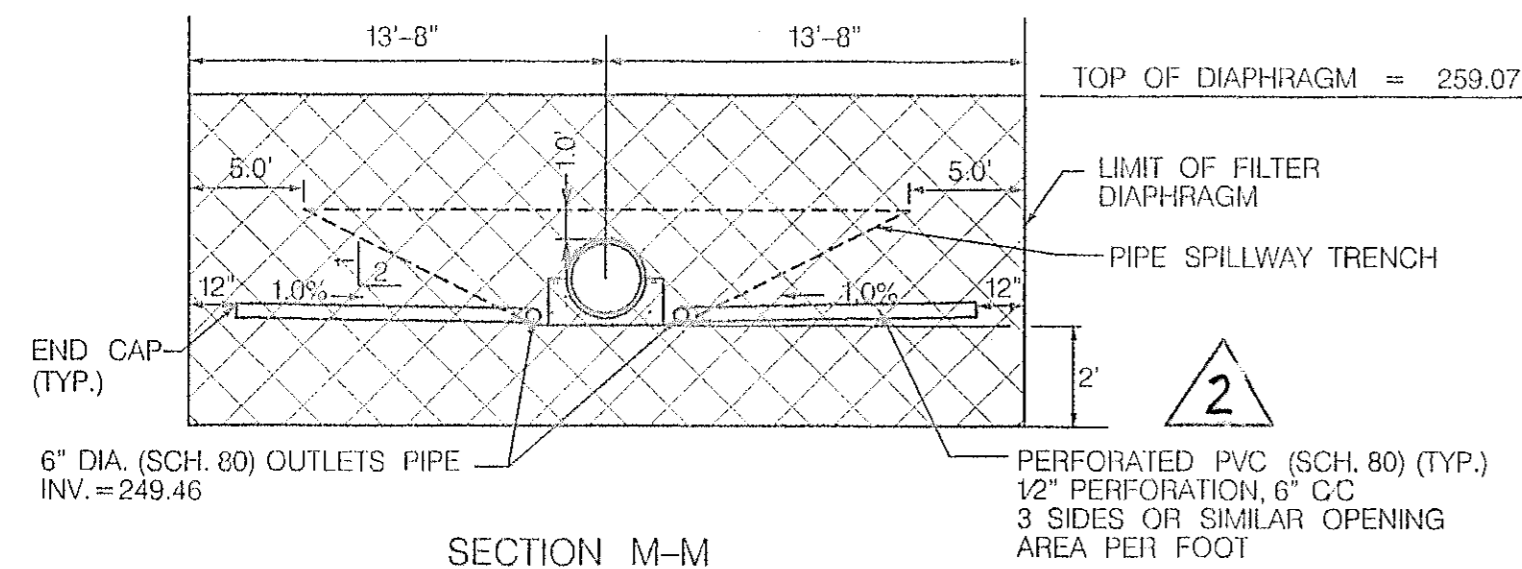
SECTION C - C
N.T.S.



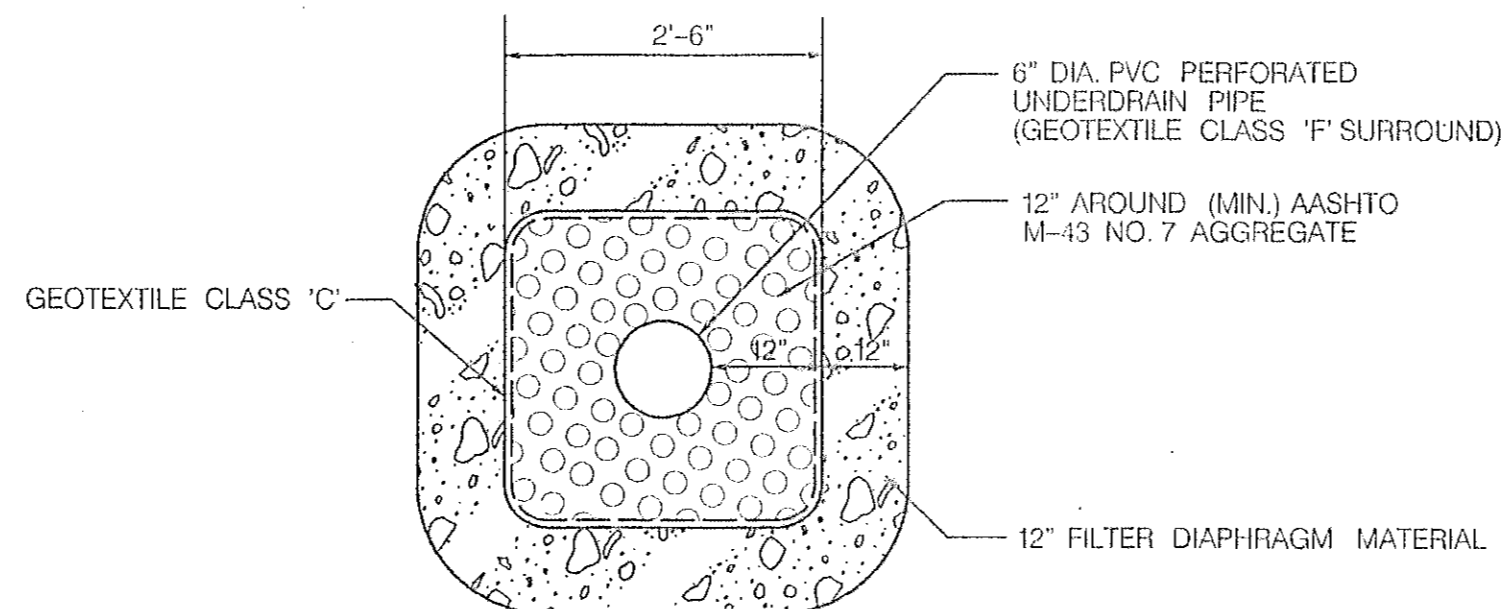
SIDE VIEW RISER STRUCTURE CS/148
N.T.S.



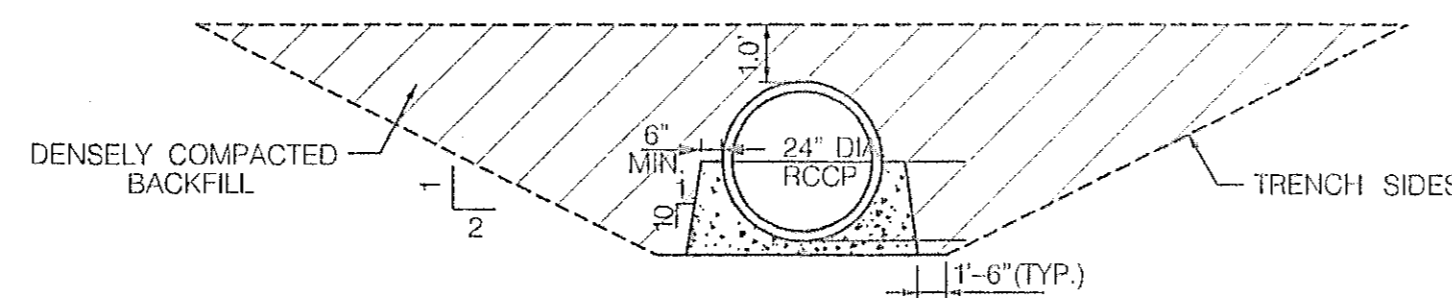
SECTION D - D
N.T.S.



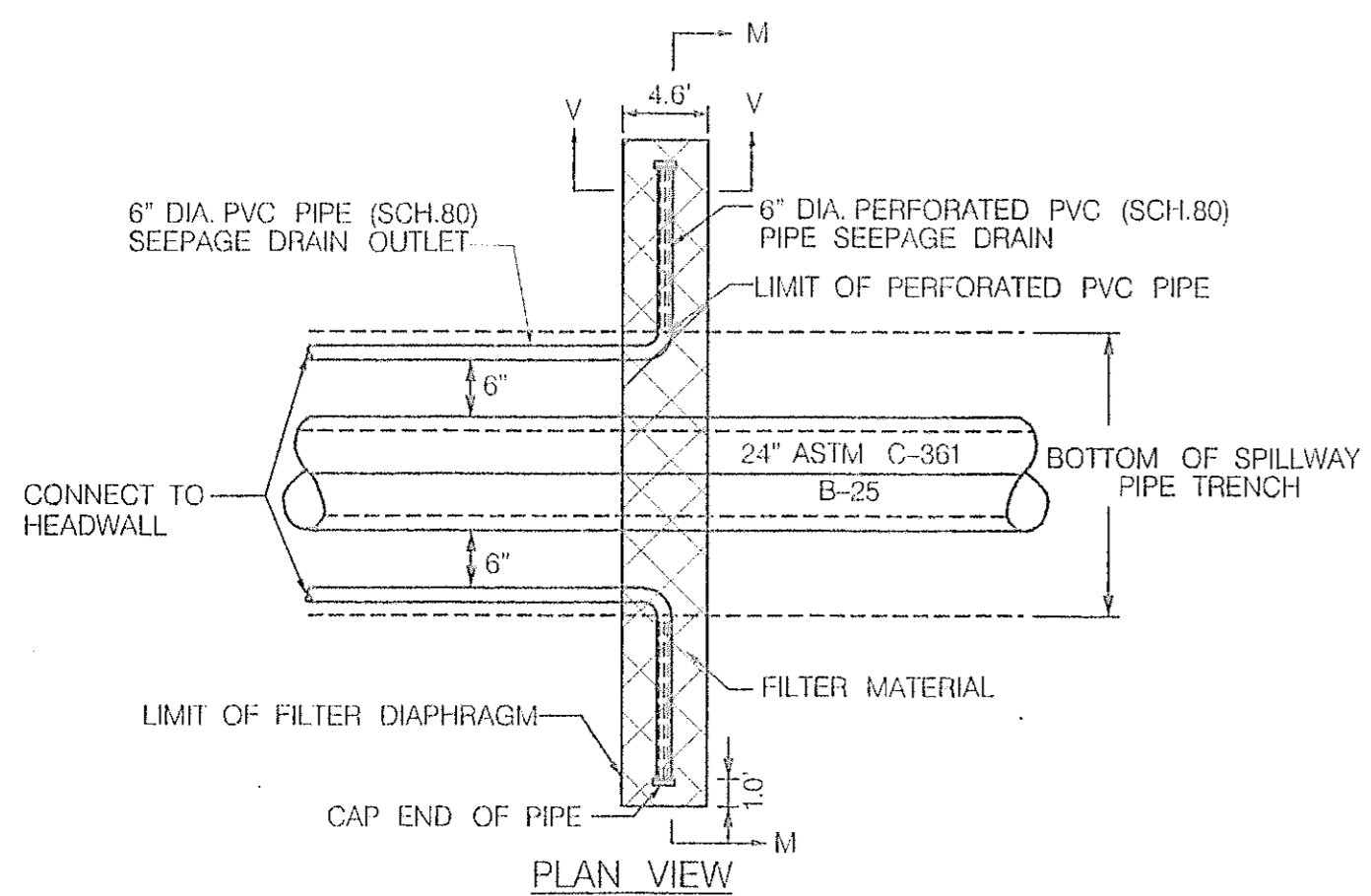
SECTION M-M
FILTER DIAPHRAGM DETAILS
NOT TO SCALE



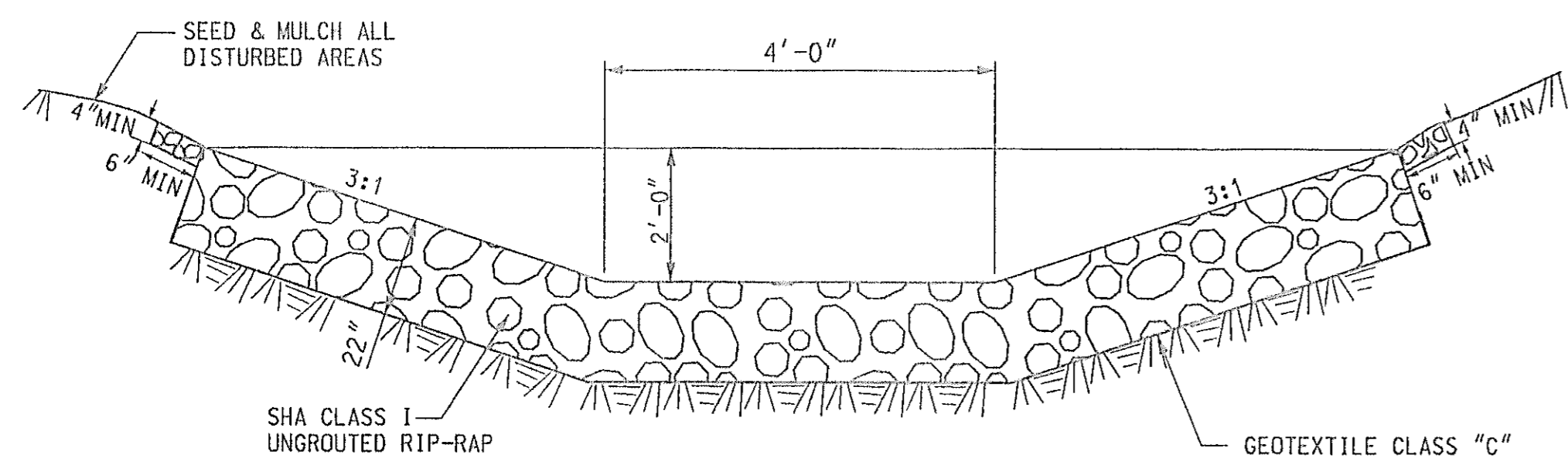
SECTION V-V
NOT TO SCALE



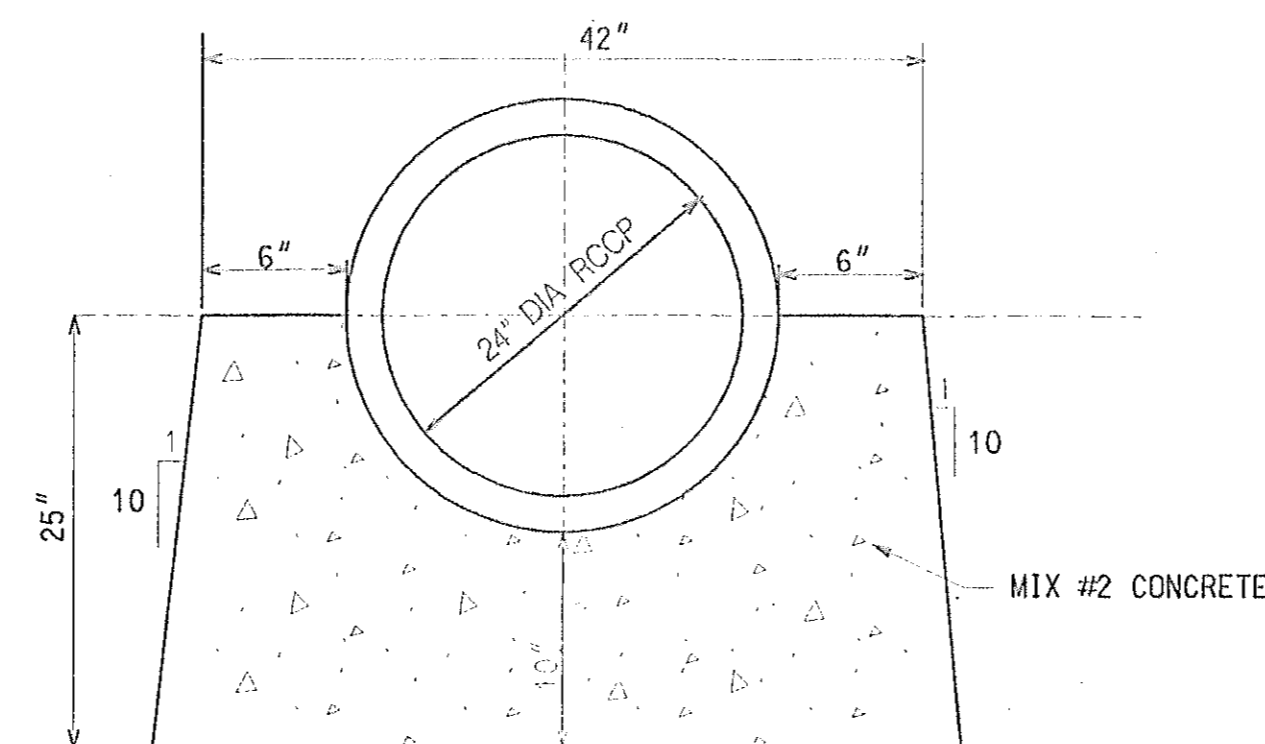
CONCRETE PIPE SPILLWAY
TRENCHING AND CONCRETE CRADLE DETAIL
NOT TO SCALE



FILTER DIAPHRAGM DETAILS
NOT TO SCALE



RIP-RAP OUTLET DITCH DETAIL
N.T.S.

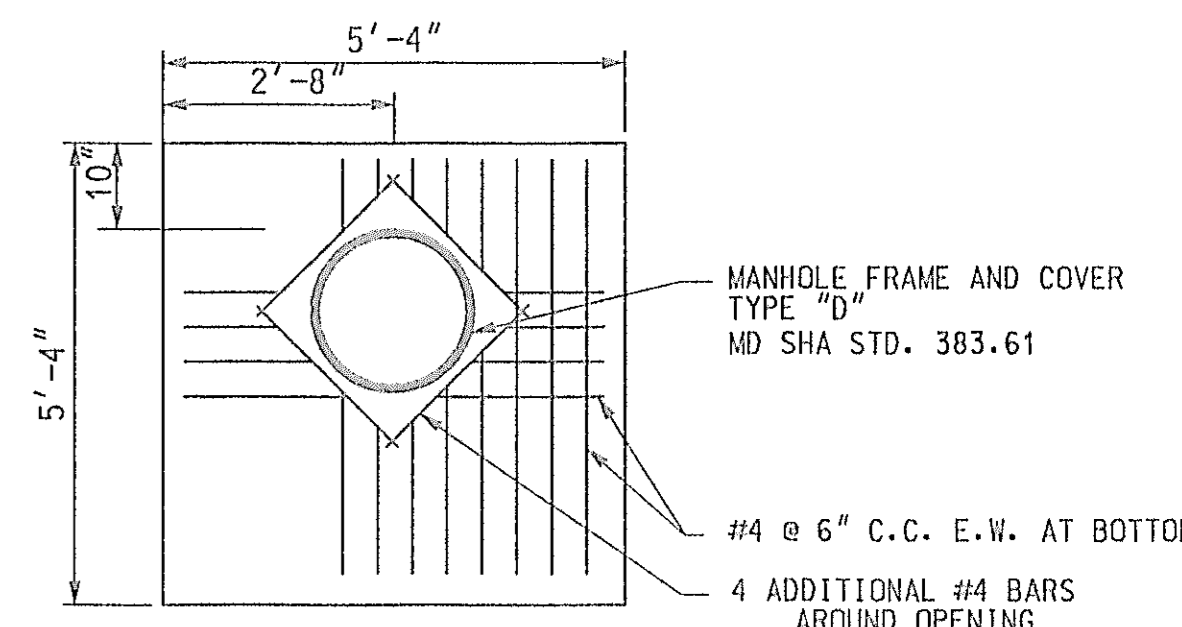


PIPE CRADLE DETAIL (TYP.)
N.T.S.

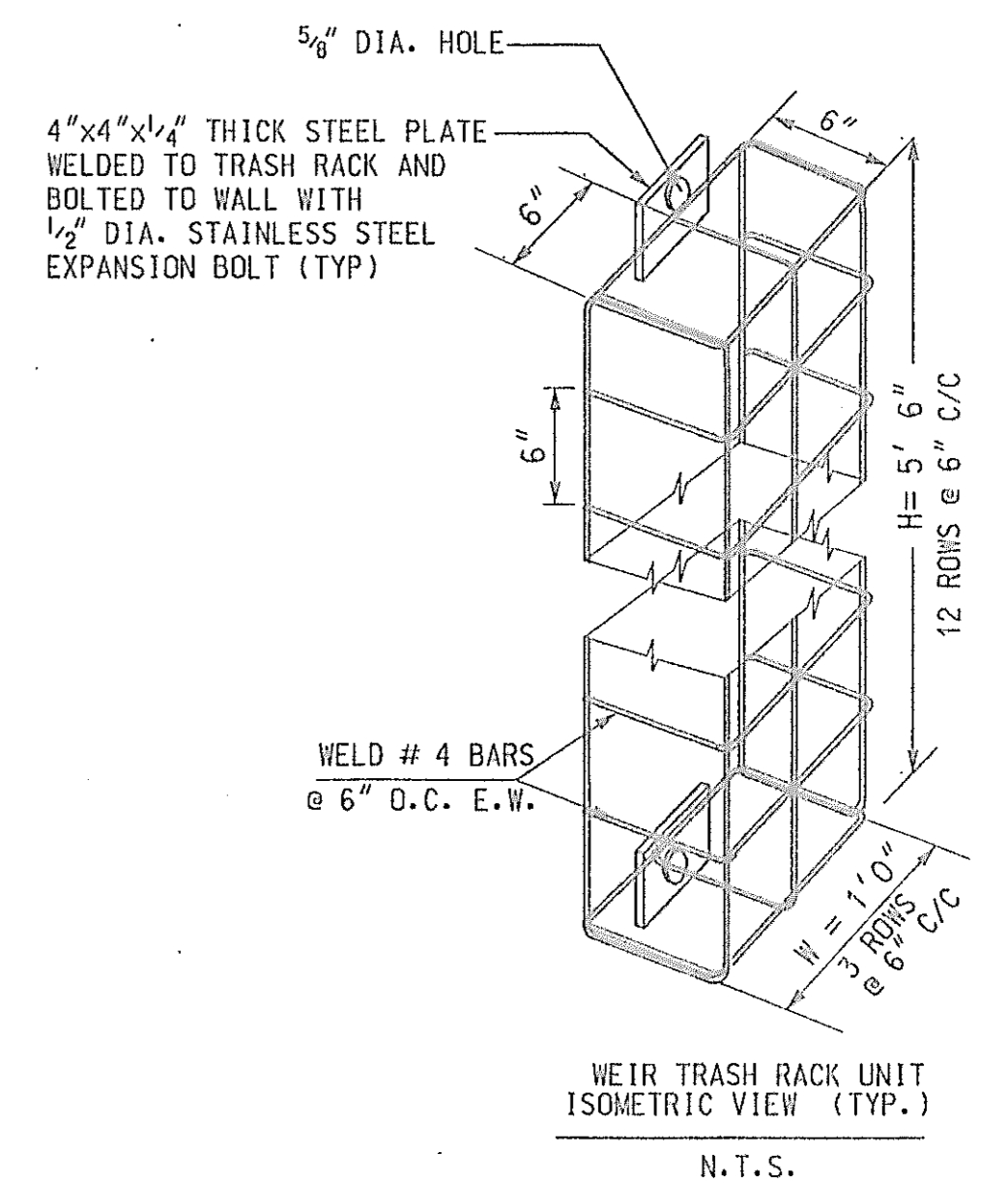
2 CONSTRUCTION NOTES

- EMBANKMENT AND CLAY CORE CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 300.
- THE CUTOFF TRENCH SHALL BE EXCAVATED TO A DEPTH OF AT LEAST 4' BELOW THE EXISTING GROUND LEVEL (GREATER DEPTH WHERE INDICATED ON PROFILE ALONG DAM CENTERLINE). THE 4" WIDE FLAT TRENCH BOTTOM SHALL BE CENTERED AT OR UPSTREAM OF THE EMBANKMENT CENTERLINE. THE TRENCH SHALL HAVE SIDE SLOPES NO STEEPER THAN 1:1.
- REINFORCED CONCRETE PIPE SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C-361, B-25, WHERE INDICATED.
- FILTER DIAPHRAGM MATERIAL (FINE AGGREGATE) SHALL BE GRADED AS SHOWN ON GRADING TABLE ASTM C-33
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- PIPE TO BE PERFORATED ONLY WITHIN FILTER MATERIAL.

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9.5 mm (3/8-IN)	100
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2.36 mm (NO. 8)	90 TO 100
1.18 mm (NO. 16)	50 TO 85
600-microm (NO. 30)	25 TO 60
300-microm (NO. 50)	10 TO 30
150-microm (NO. 100)	2 TO 10



TOP SLAB DETAIL
N.T.S.



POND-2 MISCELLANEOUS DETAILS



AB CONSULTANTS, INC.
1433 LAUREL BOWIE ROAD, SUITE 100
LAUREL, MARYLAND 20708
(301) 792-0044 (FAX)
(301) 692-0166 (CELL)

REVISIONS	
ADDENDUM NO. 1	8/25/00

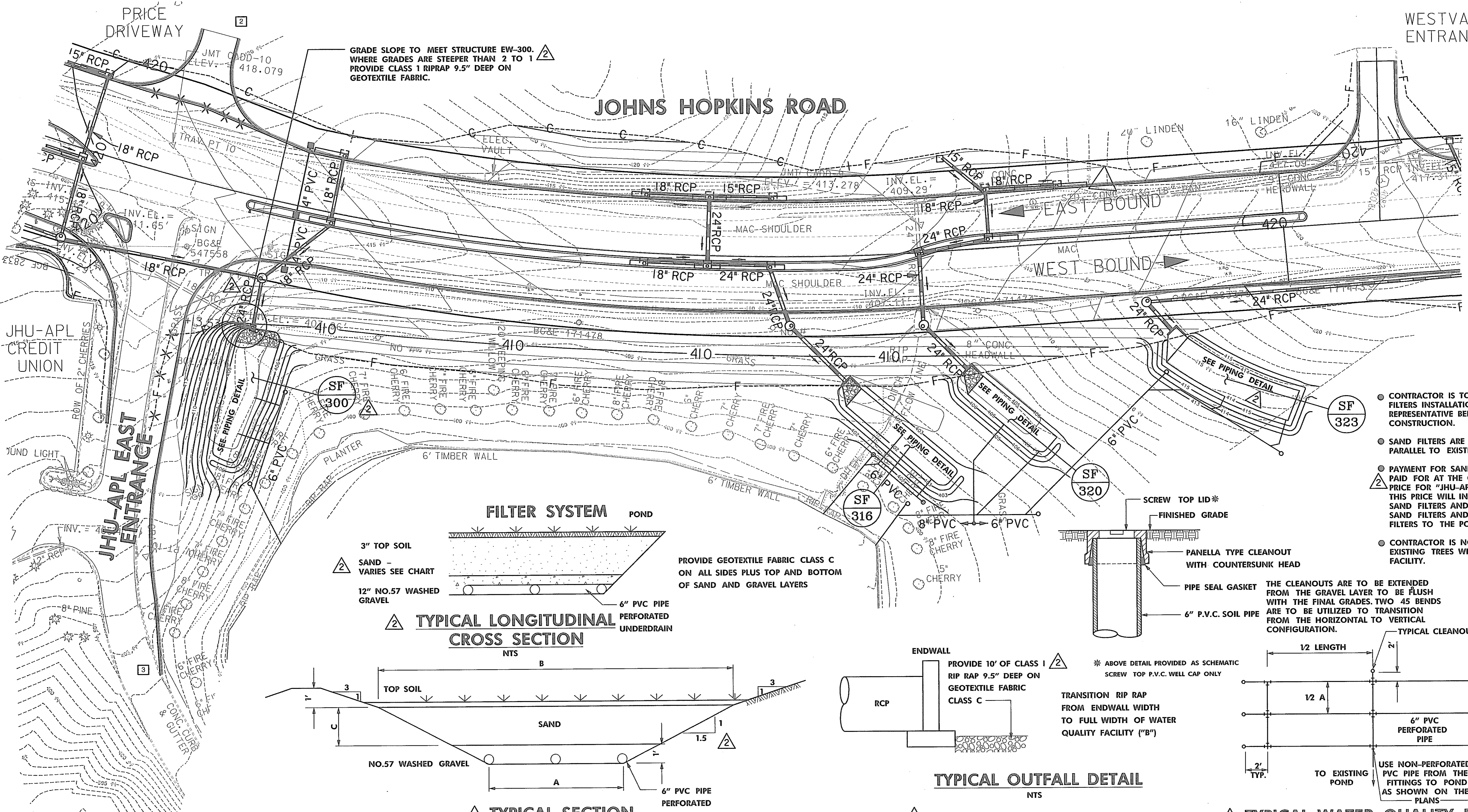
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY	SBP	FINAL TRAC. BY	AAP
SHEET NO.	136	OF	320

WESTVACO ENTRANCE

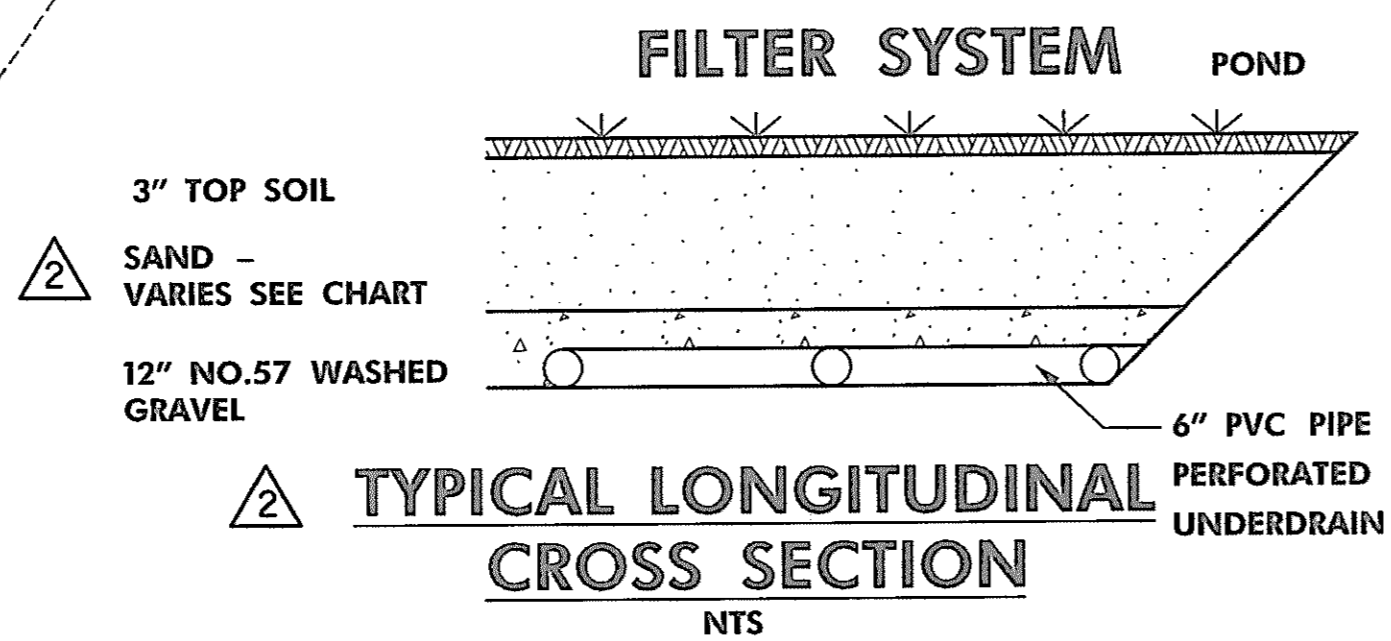
PRICE DRIVEWAY

JOHNS HOPKINS ROAD

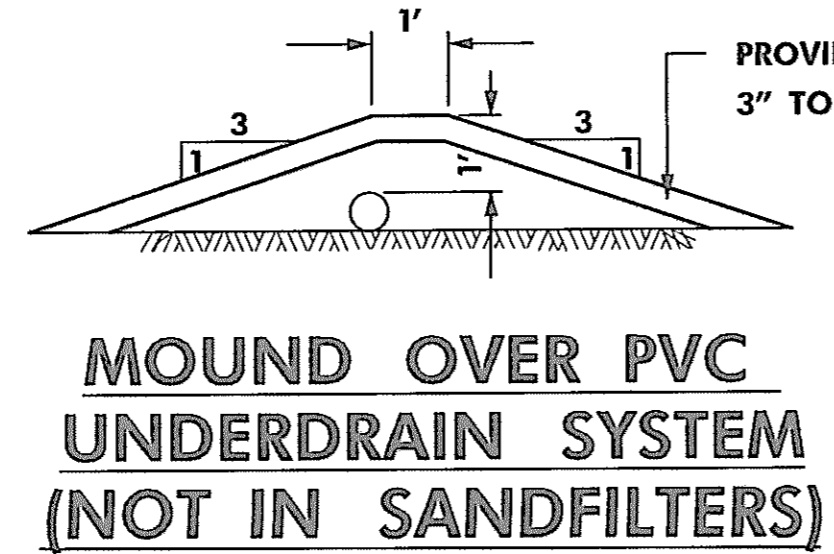
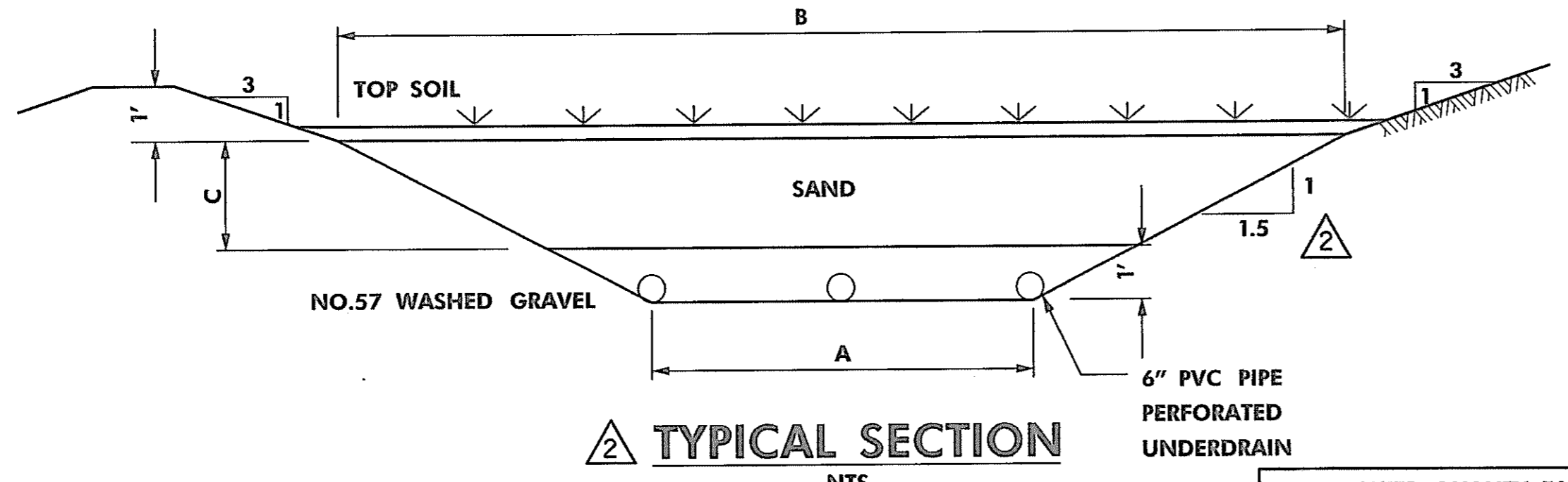
GRADE SLOPE TO MEET STRUCTURE EW-300. WHERE GRADES ARE STEEPER THAN 2 TO 1 PROVIDE CLASS 1 RIPRAP 9.5" DEEP ON GEOTEXTILE FABRIC.



- CONTRACTOR IS TO COORDINATE SAND FILTERS INSTALLATION WITH JHU-APL REPRESENTATIVE BEFORE STARTING CONSTRUCTION.
- SAND FILTERS ARE TO BE CONSTRUCTED PARALLEL TO EXISTING CONTOURING.
- PAYMENT FOR SAND FILTERS WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "JHU-APL SAND FILTERS". THIS PRICE WILL INCLUDE ALL FOUR (4) SAND FILTERS AND ALL PIPING IN THE SAND FILTERS AND FROM THE SAND FILTERS TO THE POND.
- CONTRACTOR IS NOT TO DISTURB ANY EXISTING TREES WITHIN THE JHU-APL FACILITY.



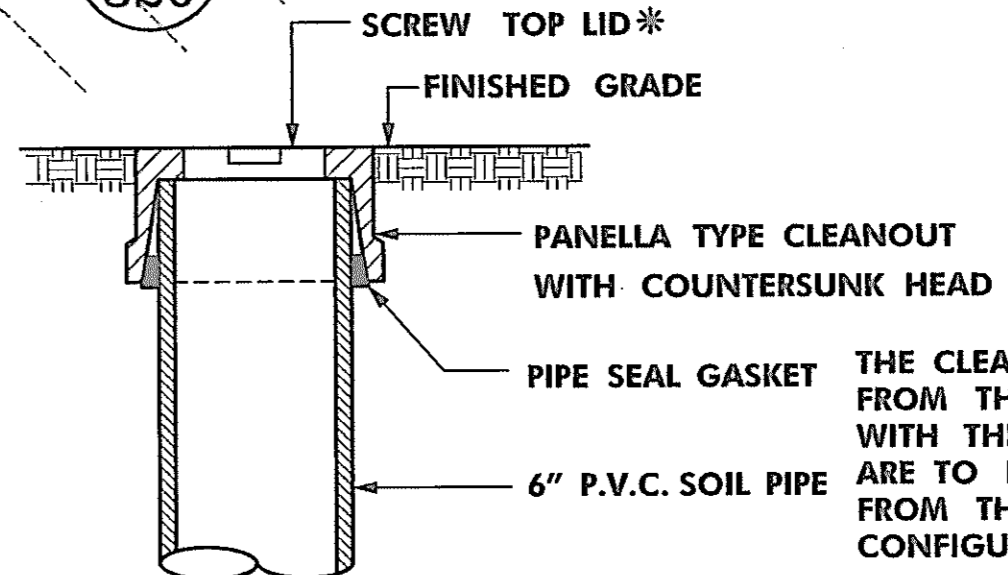
PROVIDE GEOTEXTILE FABRIC CLASS C ON ALL SIDES PLUS TOP AND BOTTOM OF SAND AND GRAVEL LAYERS



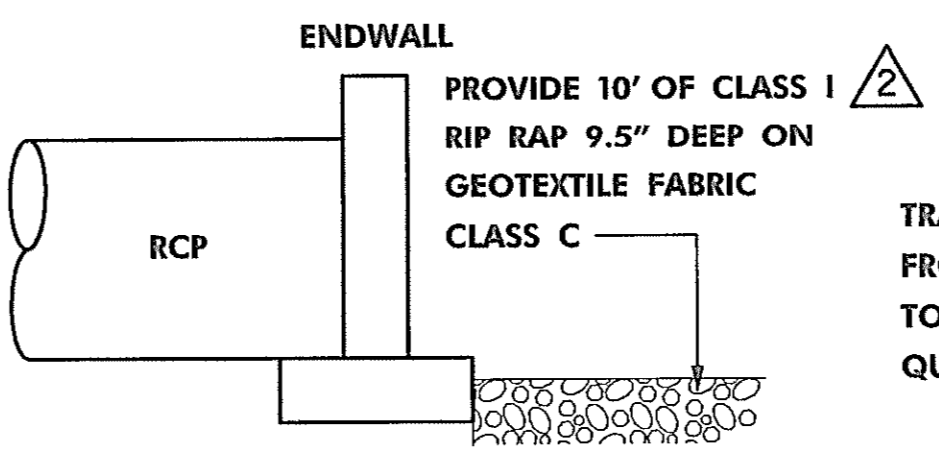
WATER QUALITY FACILITY DIMENSIONS				
FACILITY NO.	SF 300	SF 316	SF 320	SF 323
A	* VARIES	7.5'	6'	11'
B	** VARIES	15'	15'	20'
C	3'	1.5'	2'	2'
LENGTH	75'	80'	60'	80'

* VARIES - FROM 13' TO 3'
** VARIES - FROM 25' TO 15'

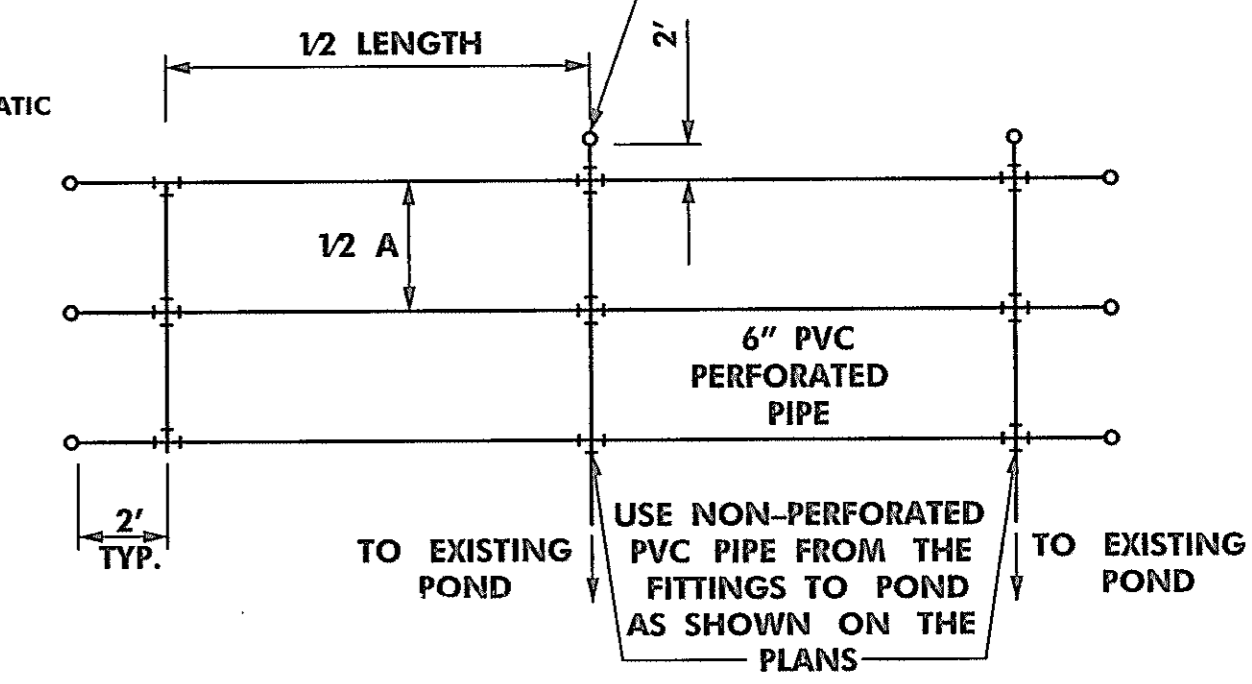
SCALE: PLAN: 1"=30'



THE CLEANOUTS ARE TO BE EXTENDED FROM THE GRAVEL LAYER TO BE FLUSH WITH THE FINAL GRADES. TWO 45 BENDS ARE TO BE UTILIZED TO TRANSITION FROM THE HORIZONTAL TO VERTICAL CONFIGURATION.



TRANSITION RIP RAP FROM ENDWALL WIDTH TO FULL WIDTH OF WATER QUALITY FACILITY ("B")



USE NON-PERFORATED PVC PIPE FROM THE FITTINGS TO POND AS SHOWN ON THE PLANS

CLEANOUT DETAIL

- EACH CLEANOUT SHALL INCLUDE THE FOLLOWING:
1. FOR AN UNDERGROUND FLUSH MOUNTED CLEANOUT, PROVIDE A TUBE MADE OF NON-CORROSIVE MATERIAL, SCHEDULE 40 OR EQUAL, AT LEAST THREE FEET LONG WITH AN INSIDE DIAMETER OF AT LEAST 6 INCHES.
 2. THE TUBE SHALL HAVE A FACTORY ATTACHED CAST IRON OR HIGH IMPACT PLASTIC COLLAR WITH RIBS TO PREVENT ROTATION WHEN REMOVING SCREW TO LID. THE SCREW TOP LID SHALL BE CAST IRON OR HIGH IMPACT PLASTIC THAT WILL WITHSTAND ULTRA-VIOLET RAYS.

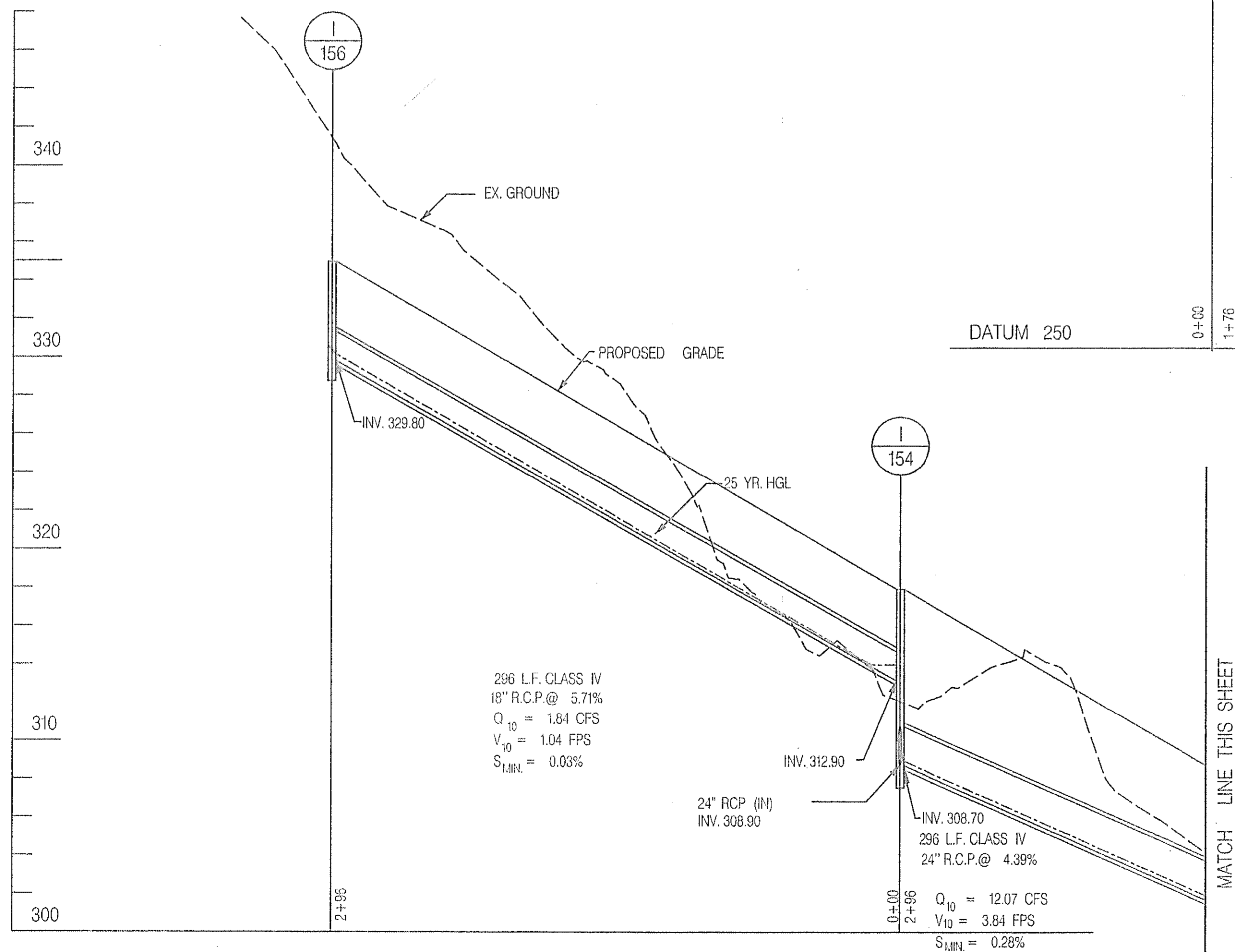
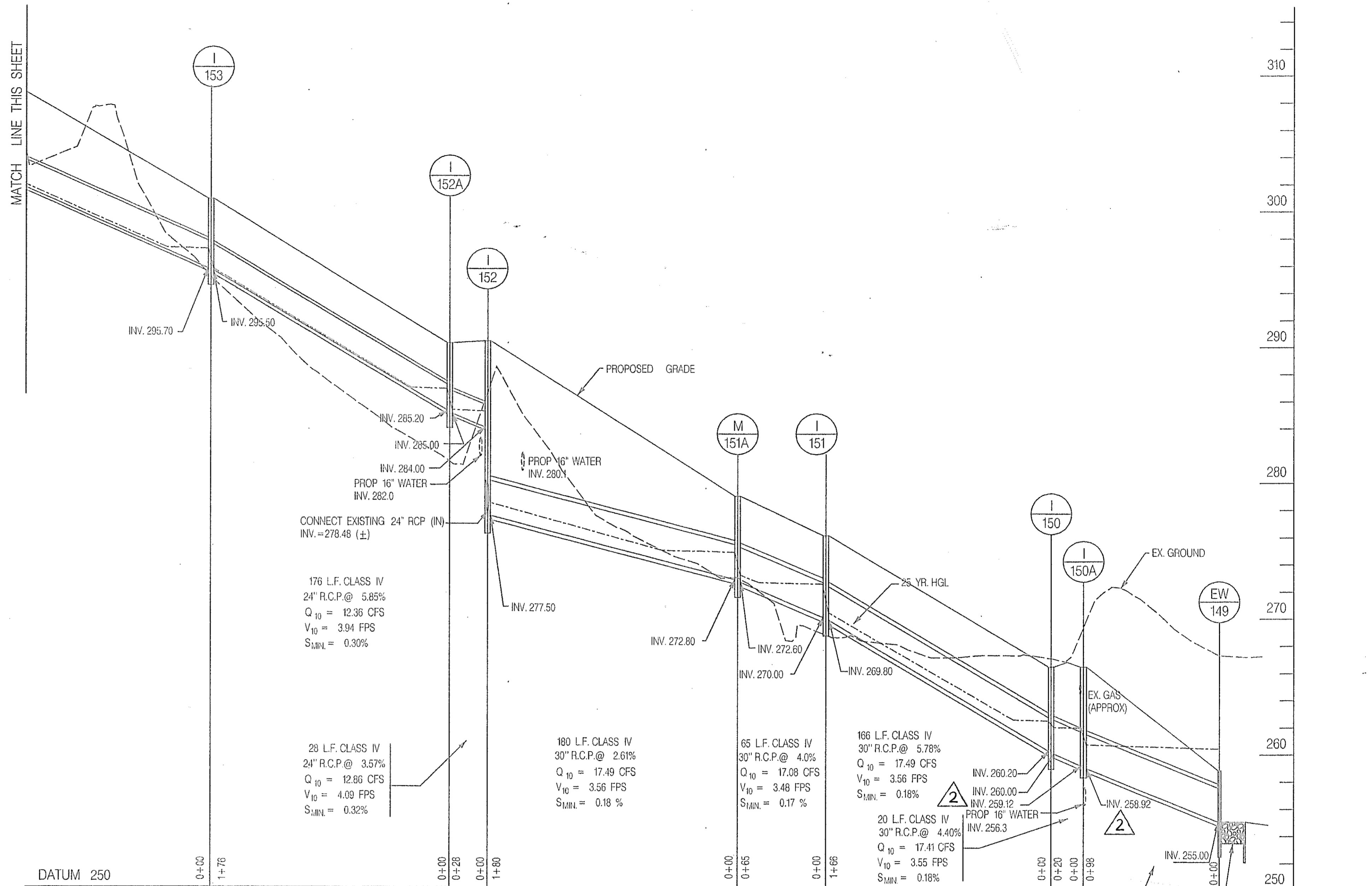
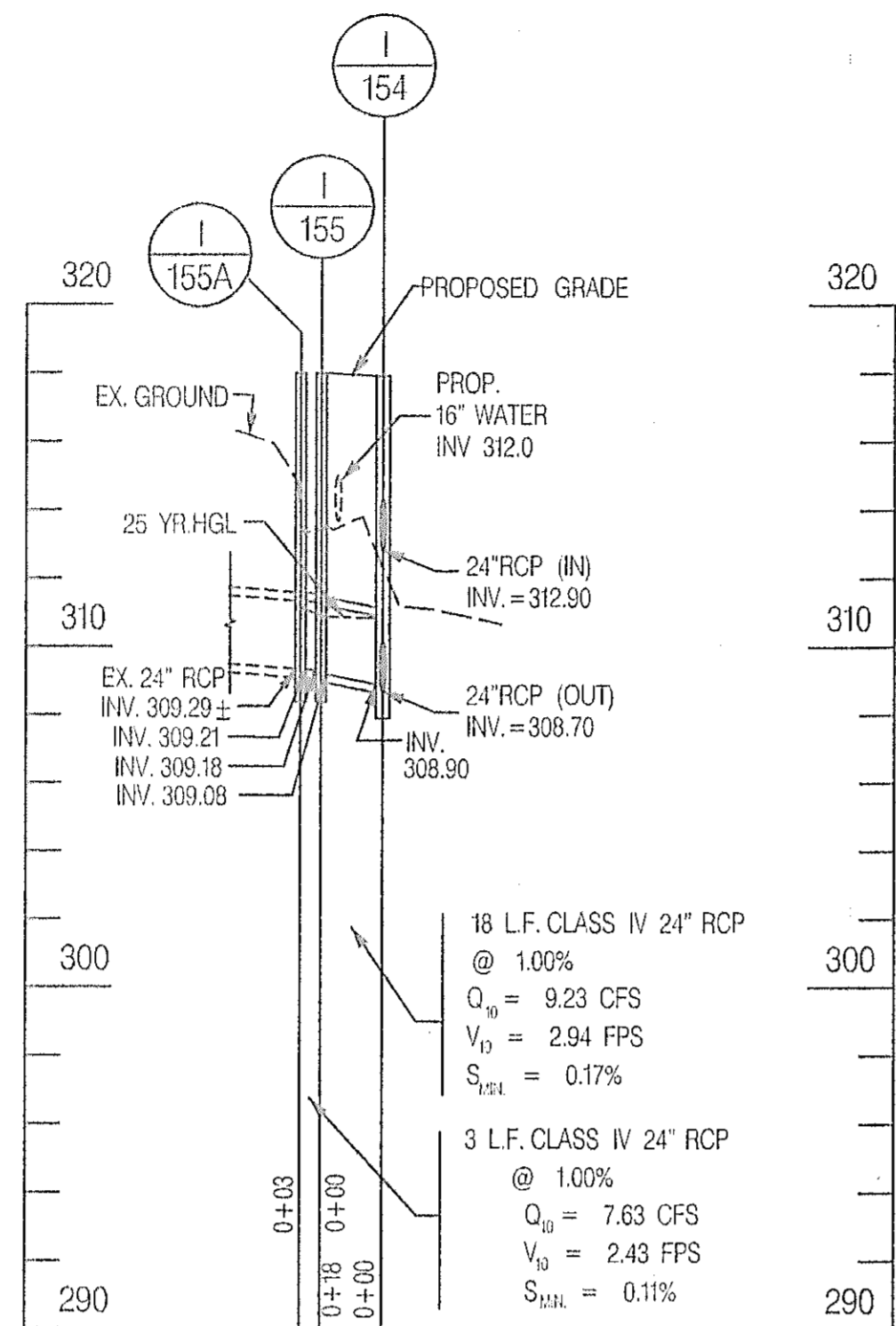
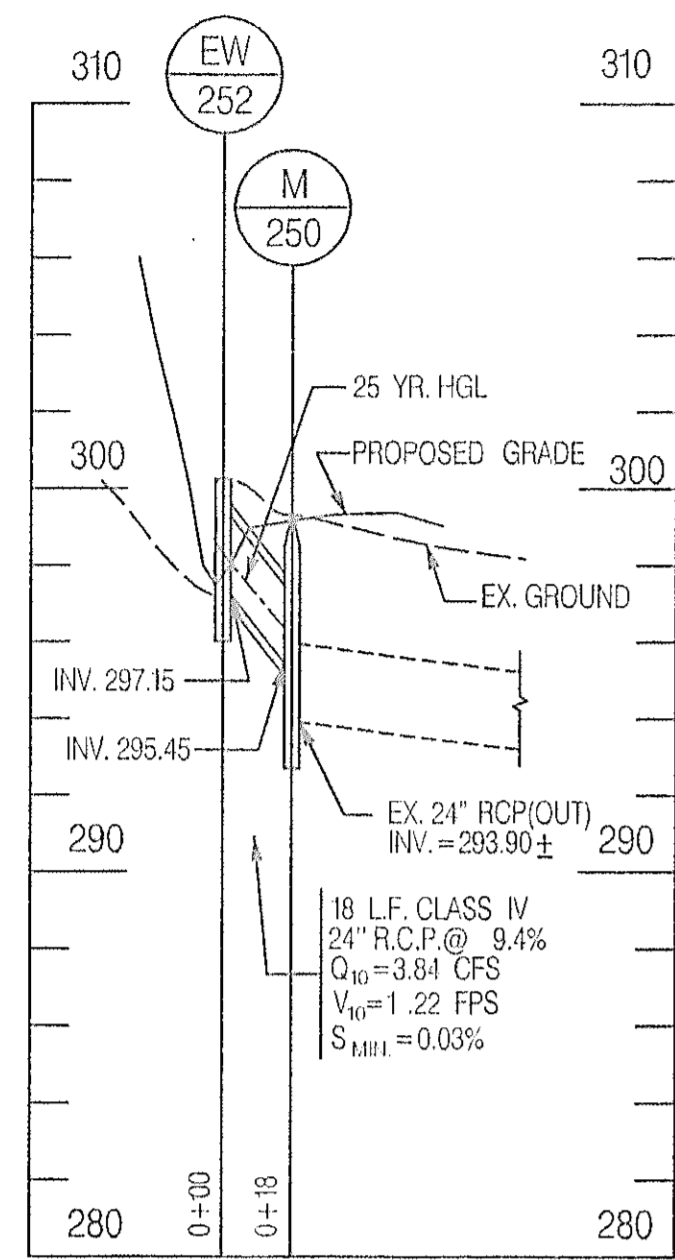
NOTE: THE UNDERDRAIN SYSTEM IS TO BE EXTENDED AS SHOWN, INCLUDING CLEANOUTS, PLACE THE PVC SYSTEM 2' BELOW EXISTING GROUND WHERE POSSIBLE. IN OTHER AREAS PROVIDE 1' OF COVER BY MOUNDING SOIL ABOVE PIPE.

REVISIONS	
1	ADDENDUM NO. 2- 08/25/00
2	REDLINE NO. 2- DATE: 7/30/01
3	REDLINE NO. 3- DATE: 1/31/02

HURST-ROSCHKE ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 136A OF 320
PREL. TRAC. BY FINAL TRAC. BY



REVISIONS	
ADDENDUM NO. 18/25/00	

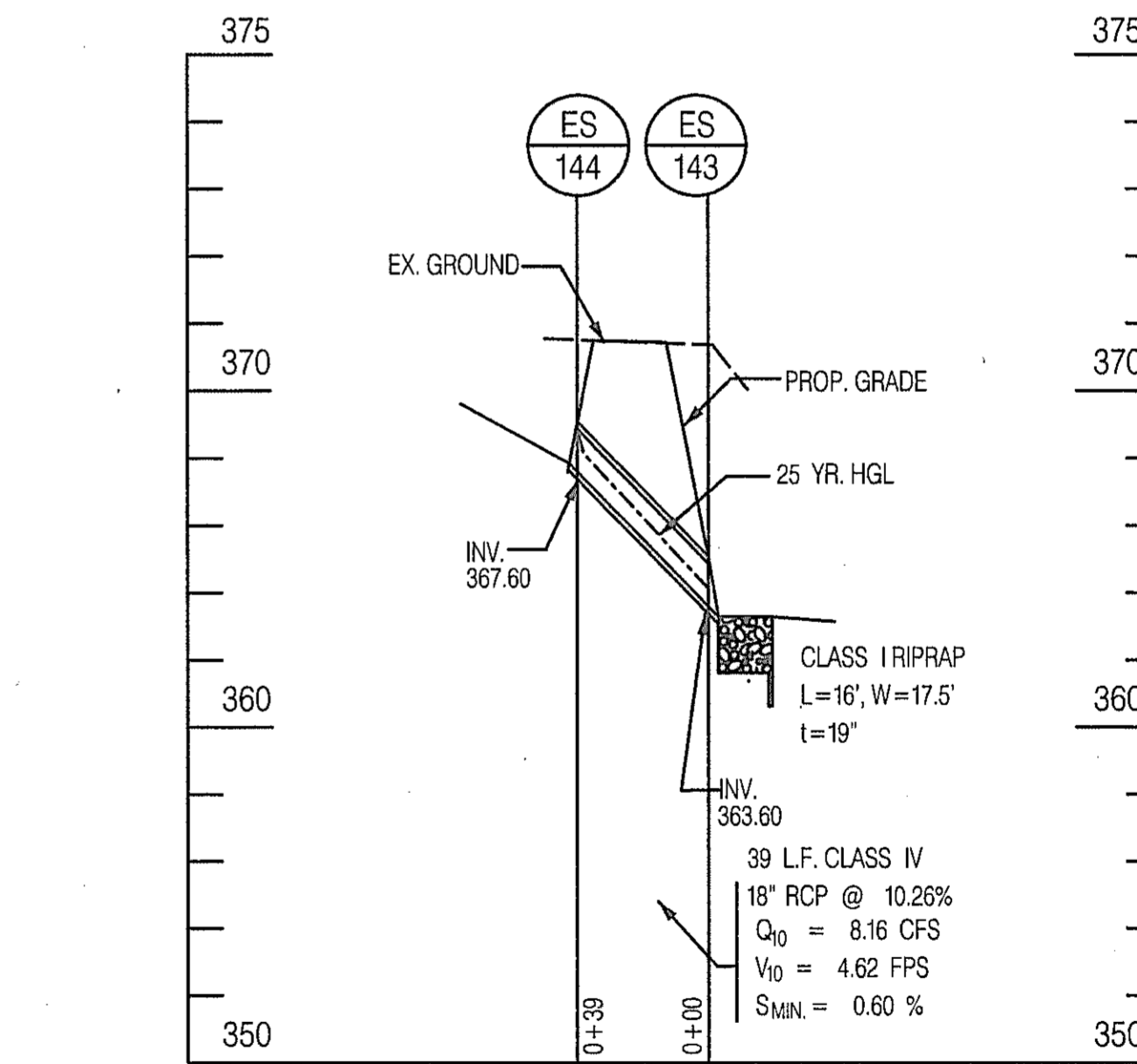
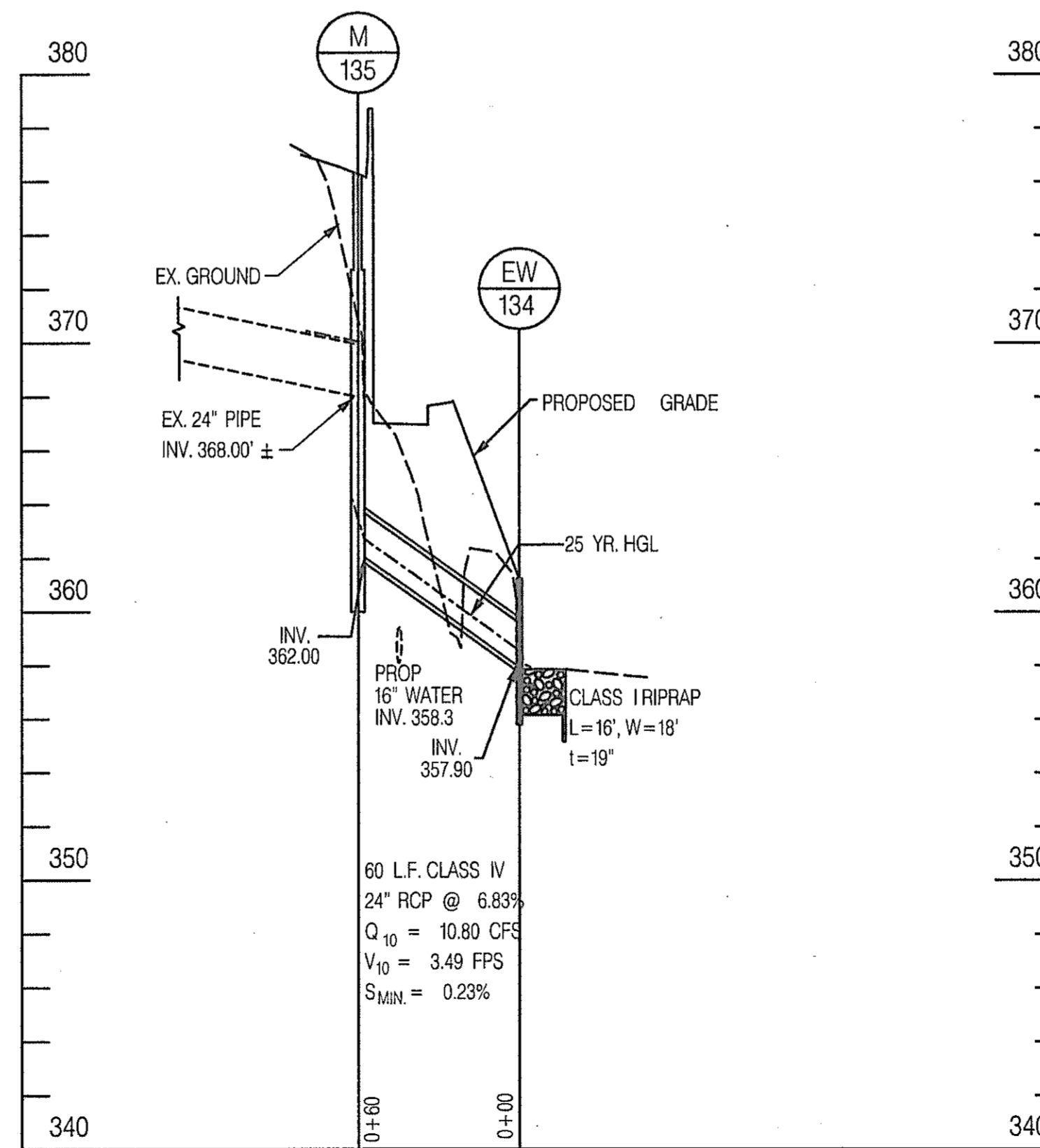
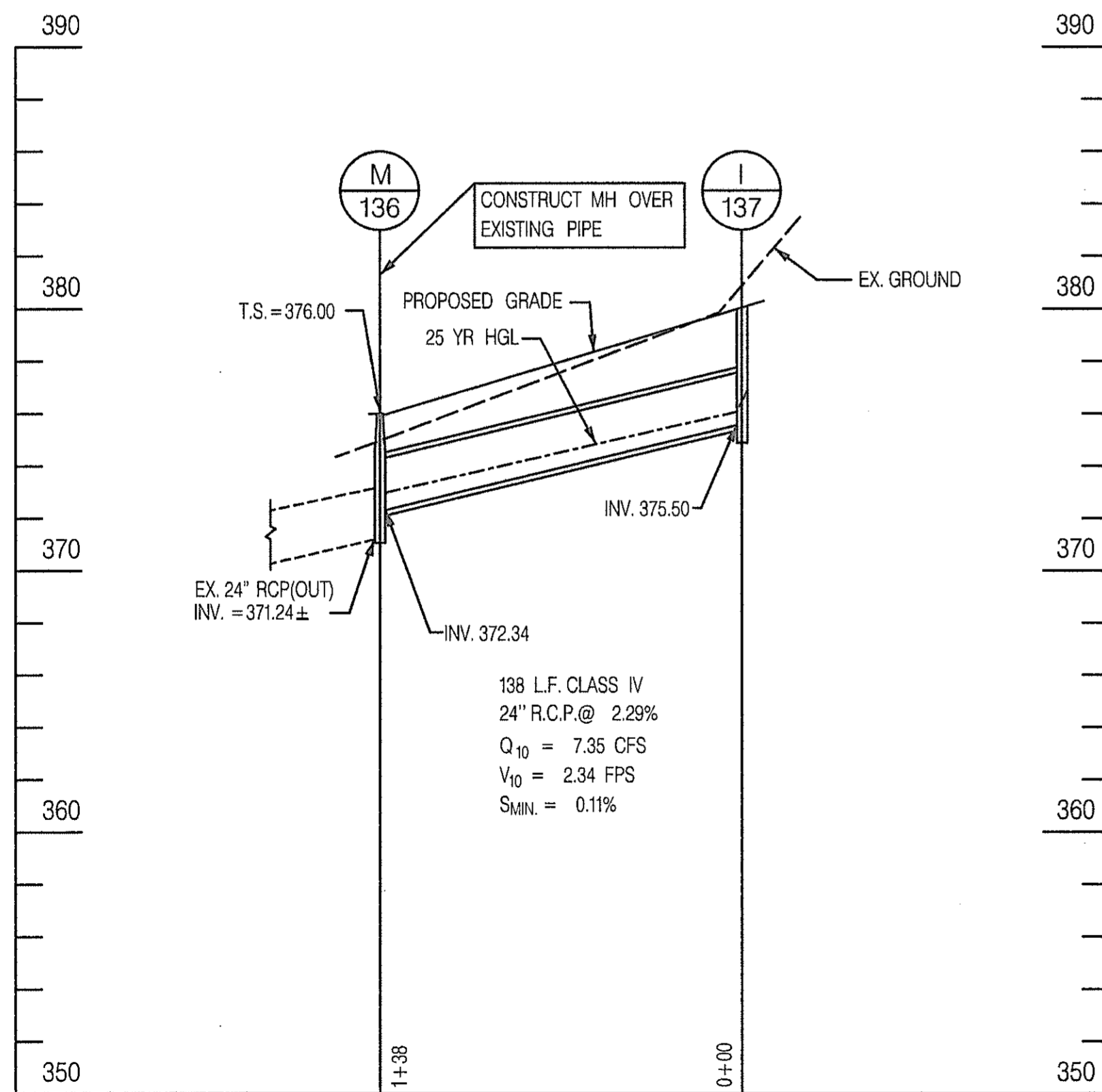
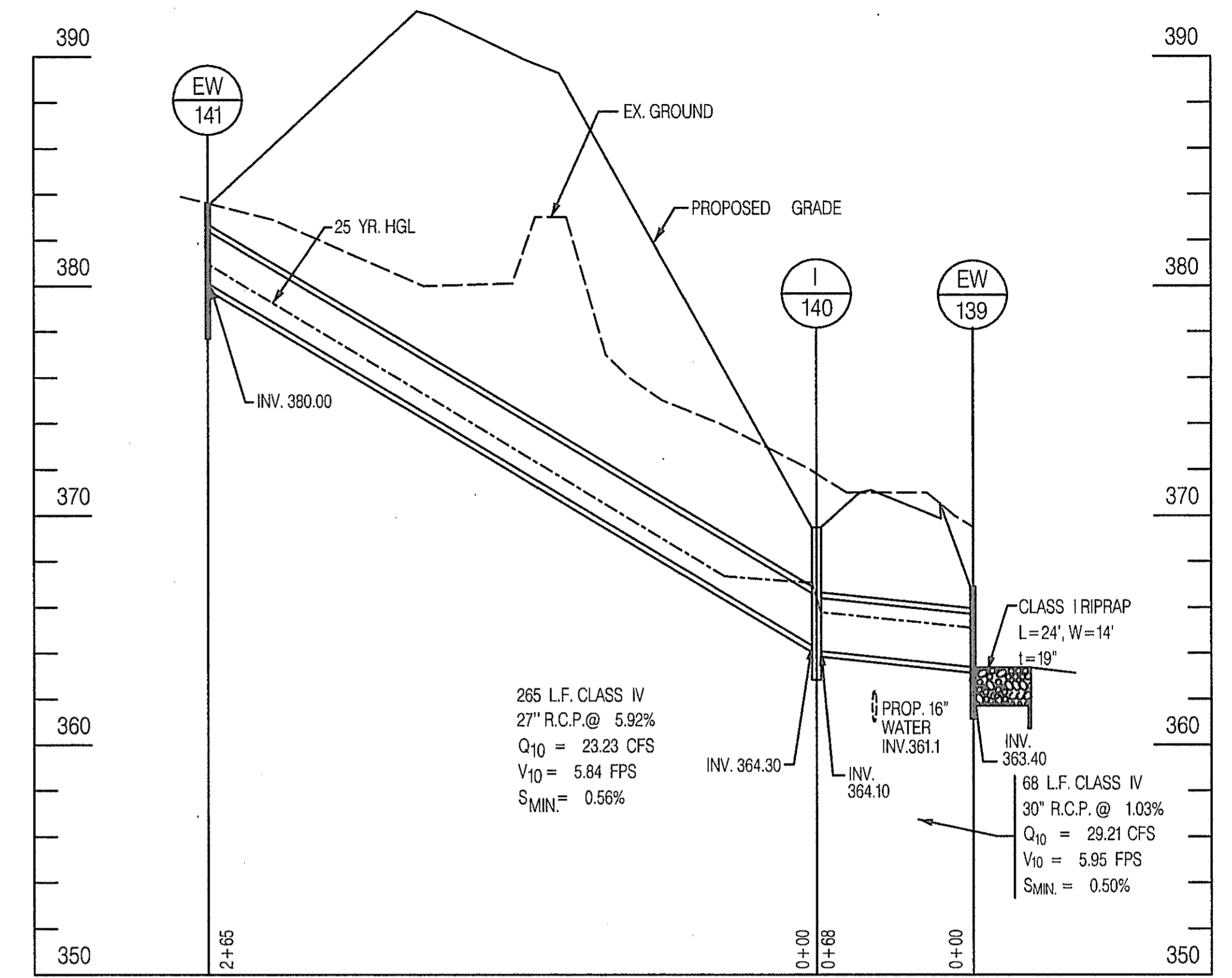
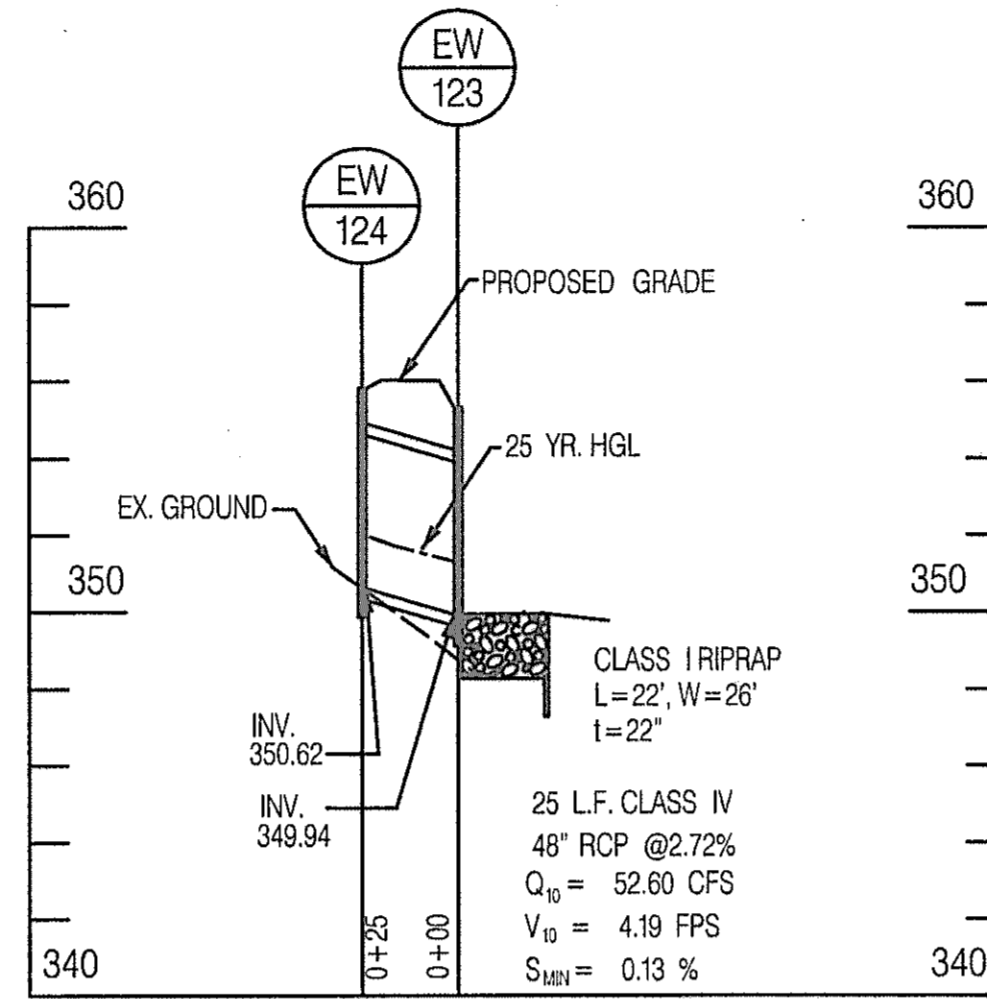
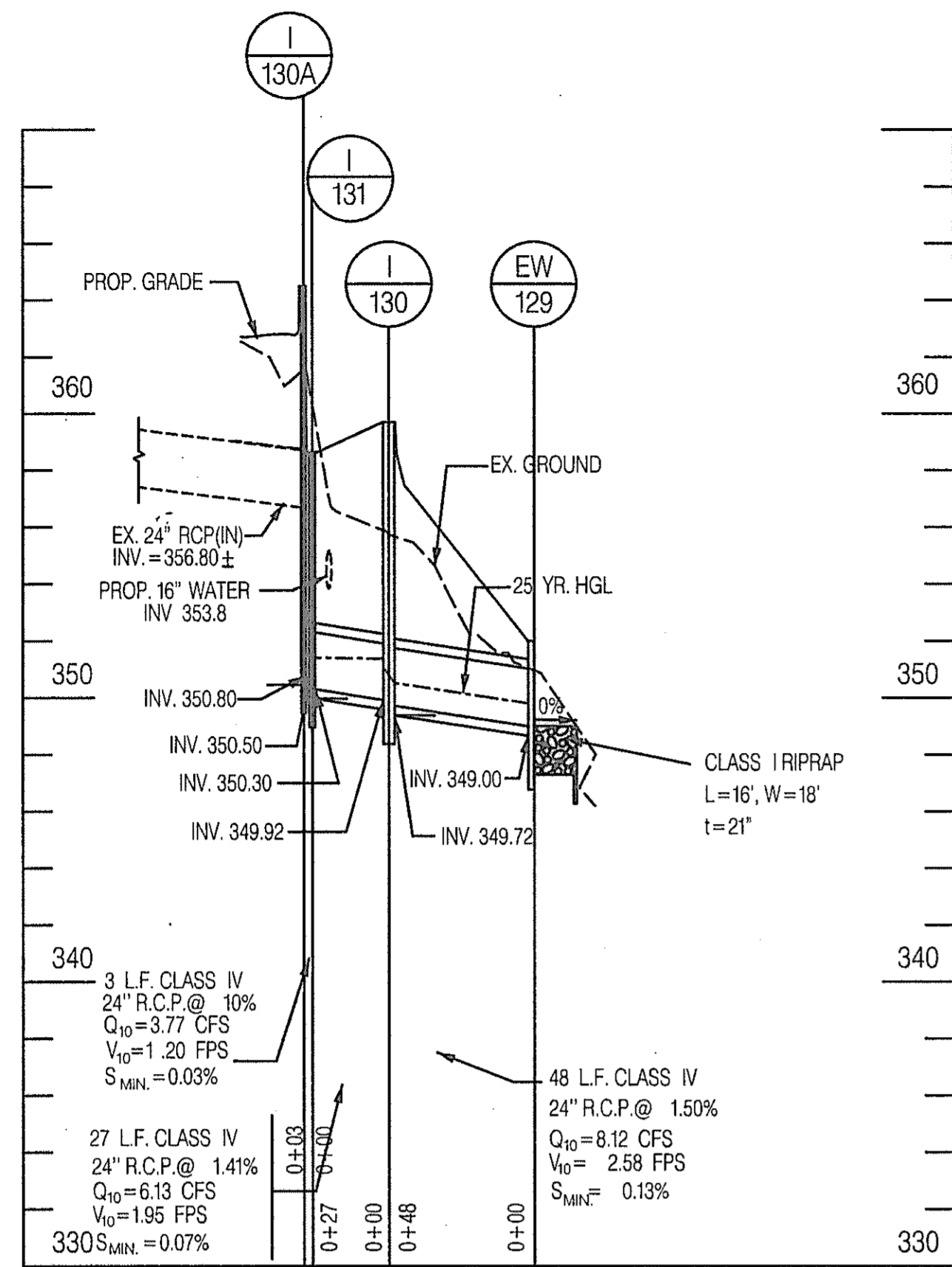
AB CONSULTANTS, INC.
 1433 LAUREL BOWIE ROAD, SUITE 108
 LAUREL, MARYLAND 20708
 (301) 798-8442
 (800) 422-2426 (TOLL FREE)

STORM DRAIN PROFILE
 SCALE: HORIZ. 1" = 50'
 VERT. 1" = 5'

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONF. NO. HO7415170	F.A.P. NO. SEE TITLE SHEET	SHEET NO. 137	OF 320
PREL. TRAC. BY SBP	FINAL TRAC. BY AAP		





STORM DRAIN PROFILE
SCALE: HORI. 1"=50'
VERT. 1"=5'

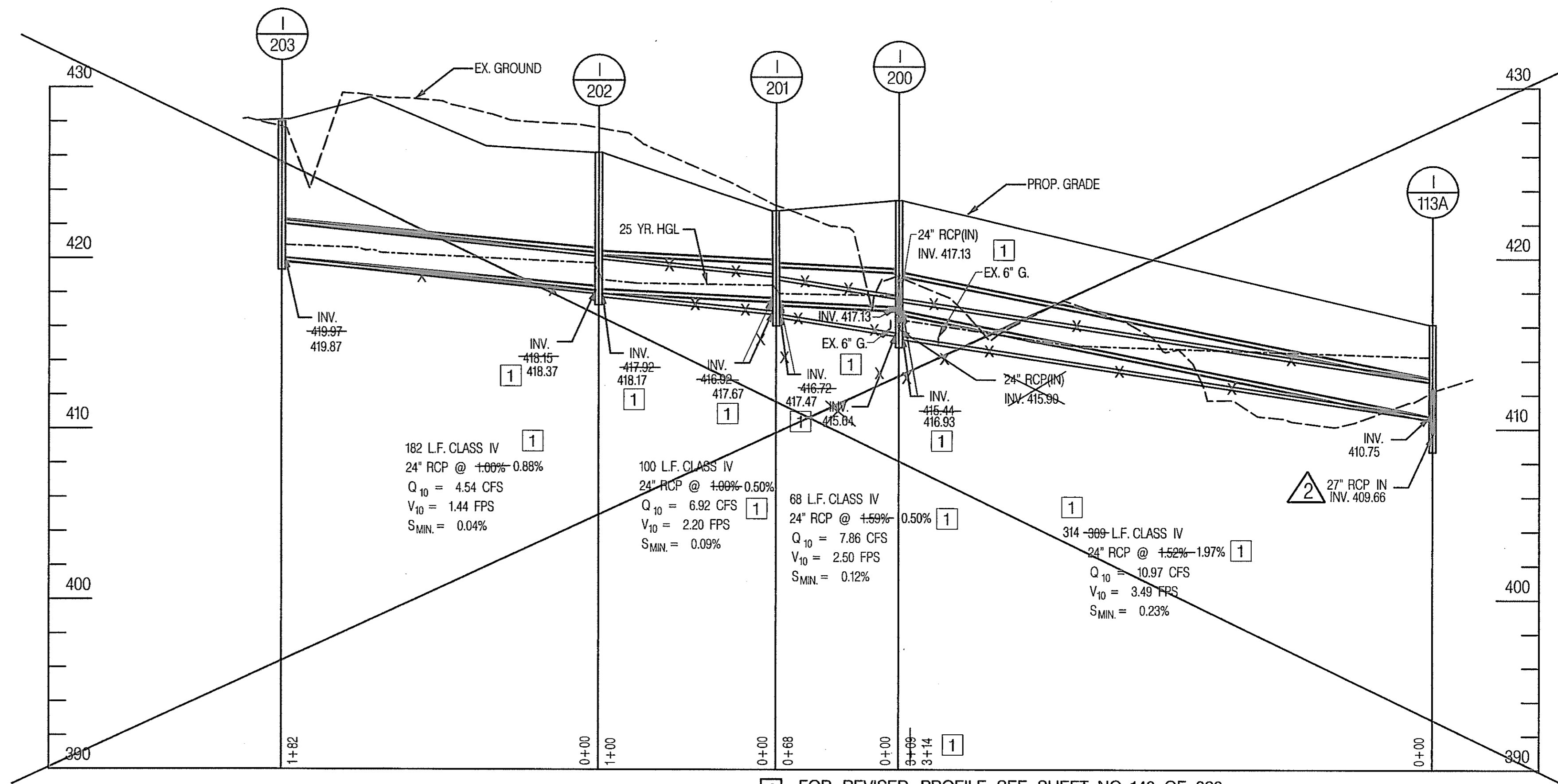
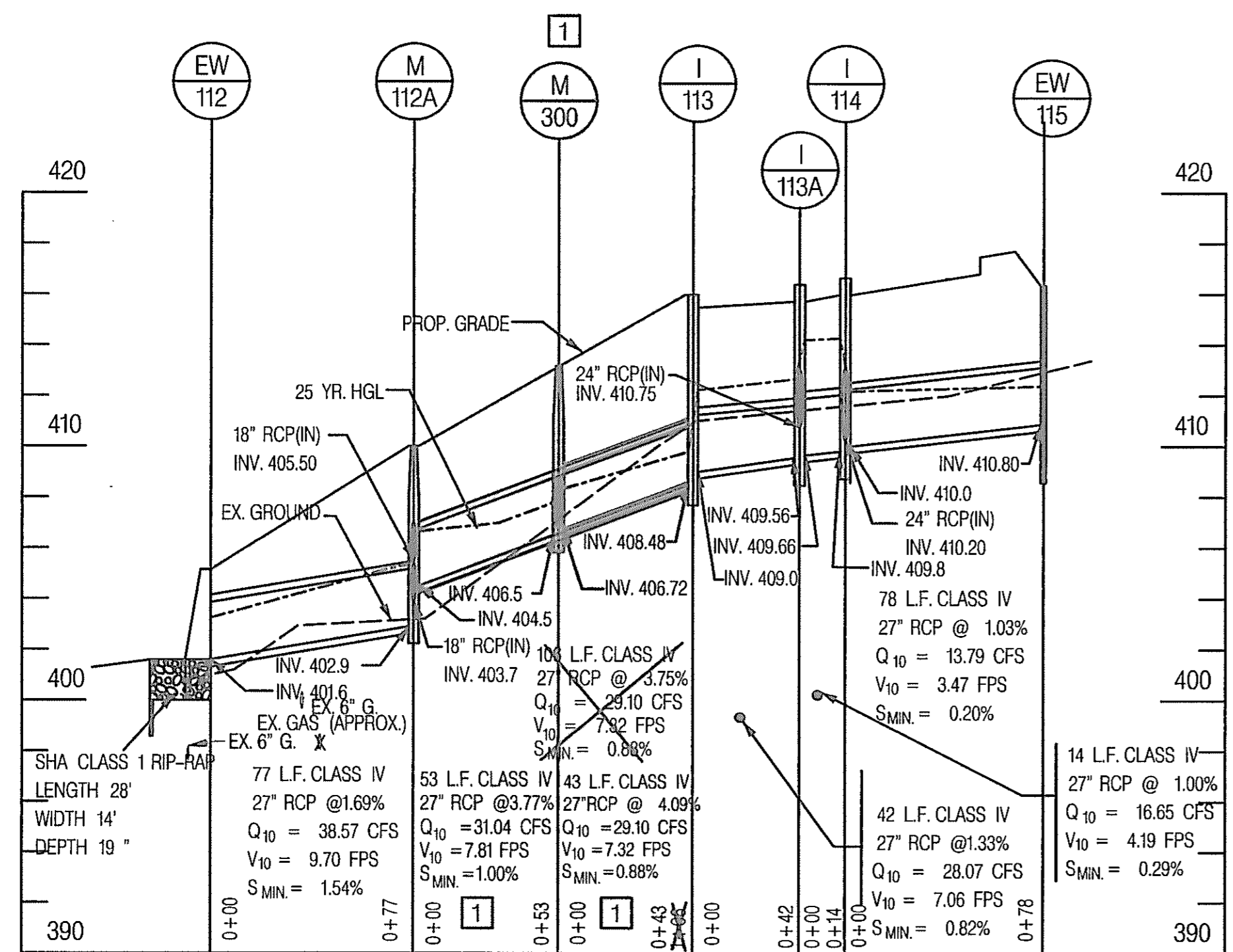


AB CONSULTANTS, INC.
1433 LAUREL BOWIE ROAD, SUITE 108
LAUREL, MARYLAND 20706
(410) 792-0884 (FAX)
(301) 792-0884 (CELL)

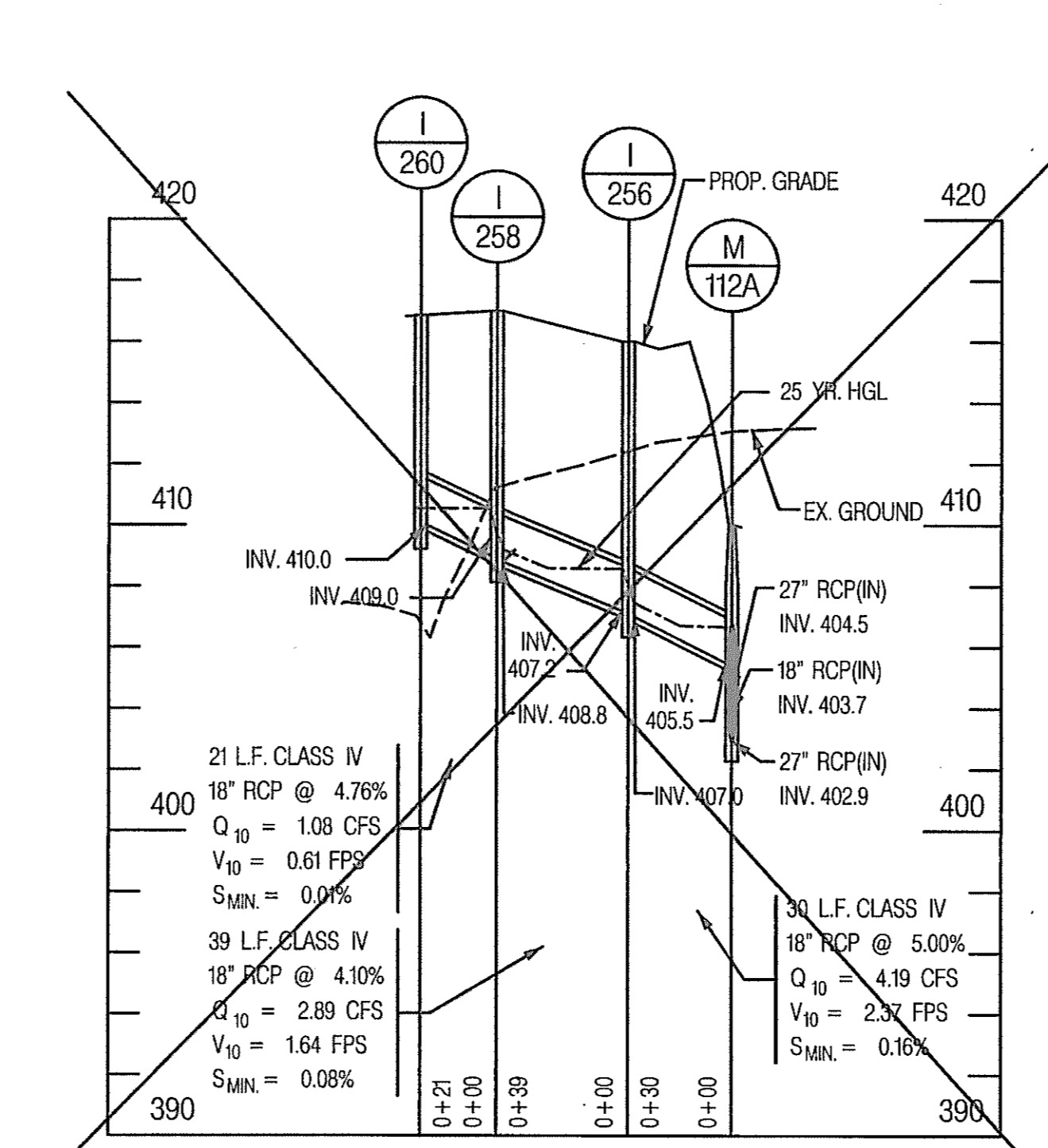
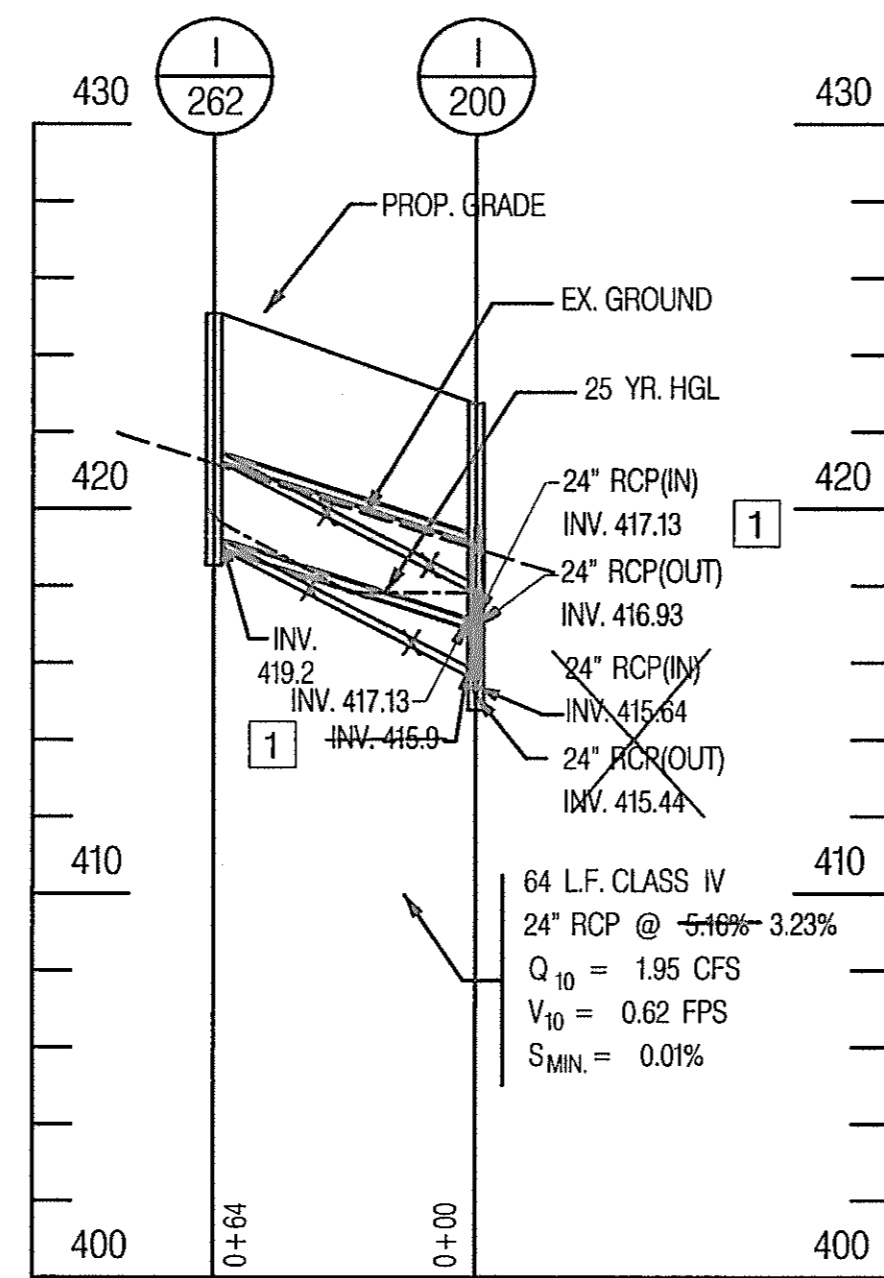
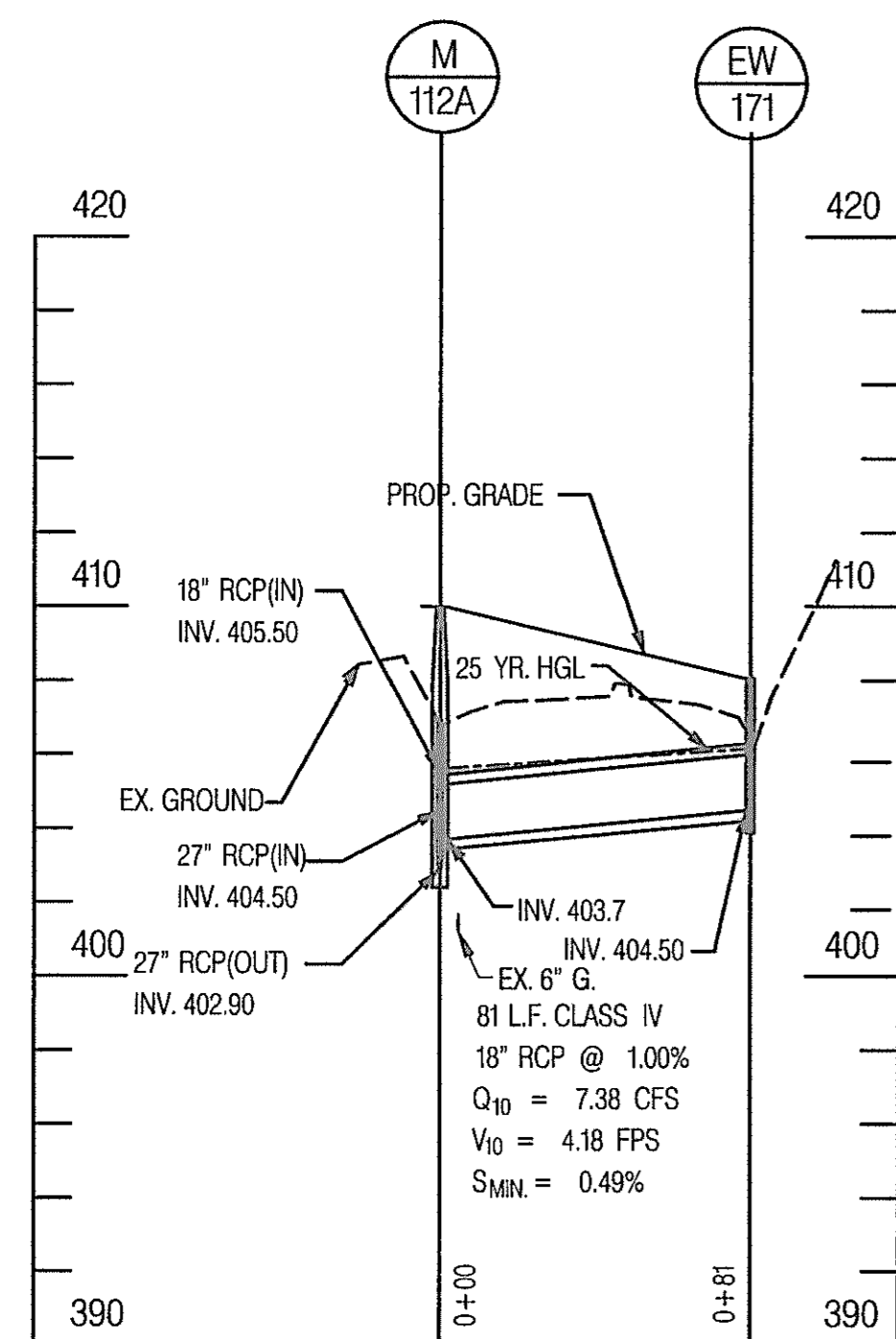
REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

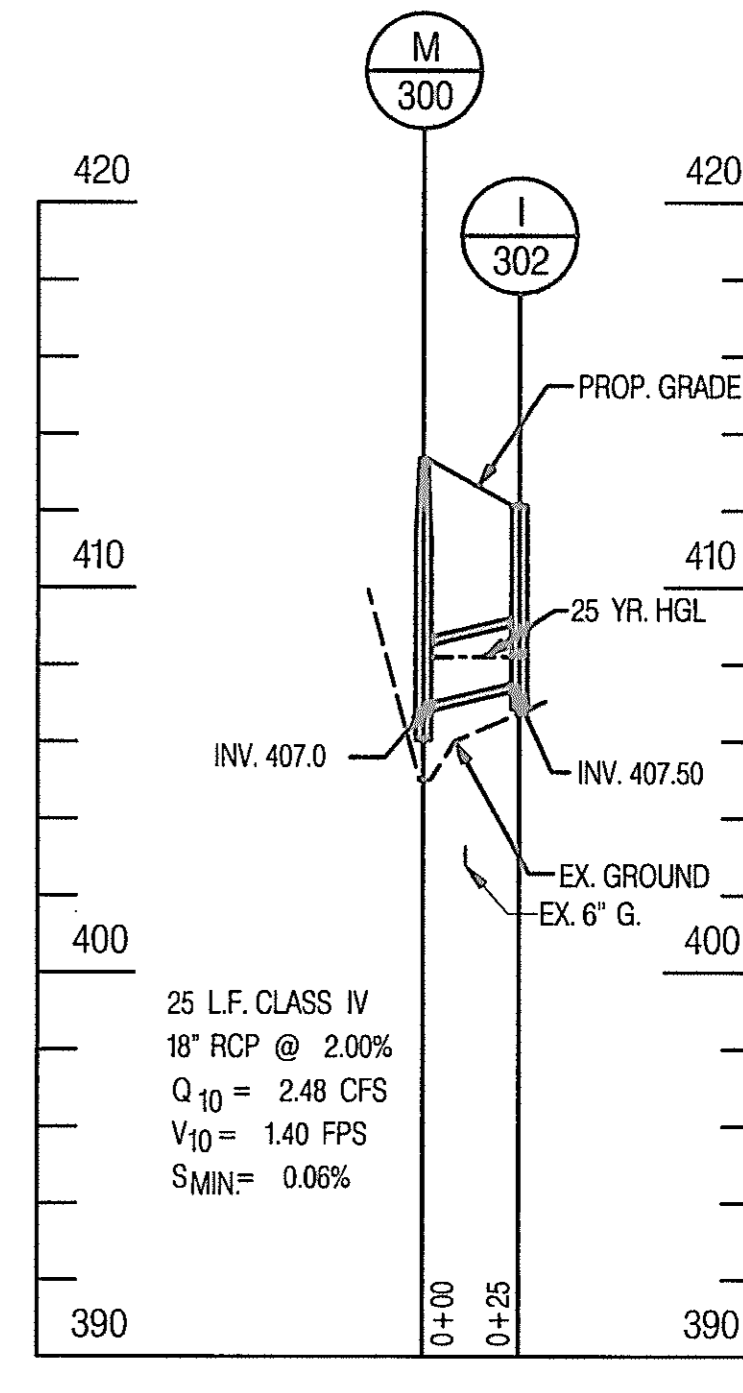
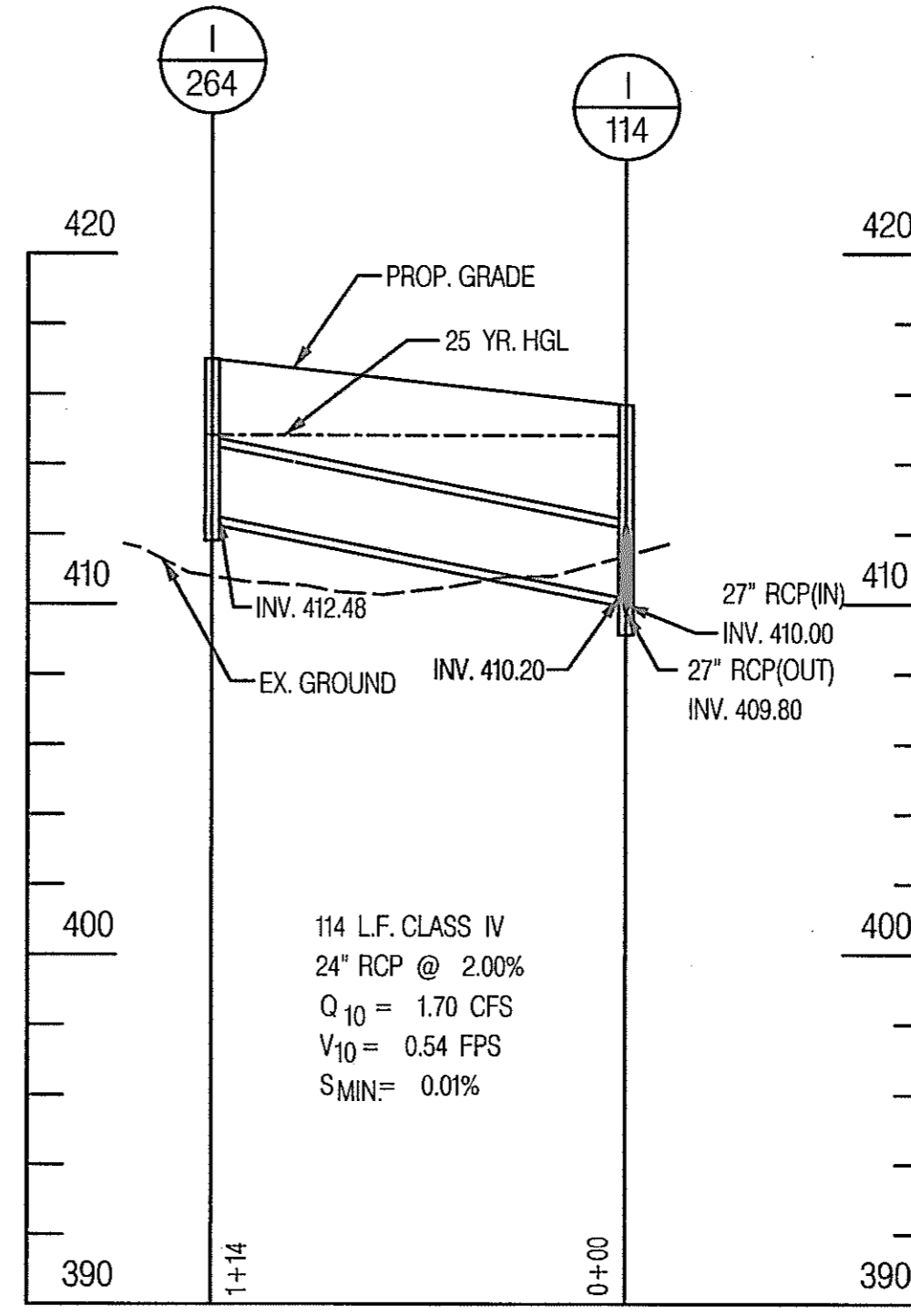
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 138 OF 320
PREL. TRAC. BY SBP FINAL TRAC. BY AAP



3 FOR REVISED PROFILE SEE SHEET NO. 140 OF 320



3 FOR REVISED PROFILE SEE SHEET NO. 142 OF 320



1

STORM DRAIN PROFILE

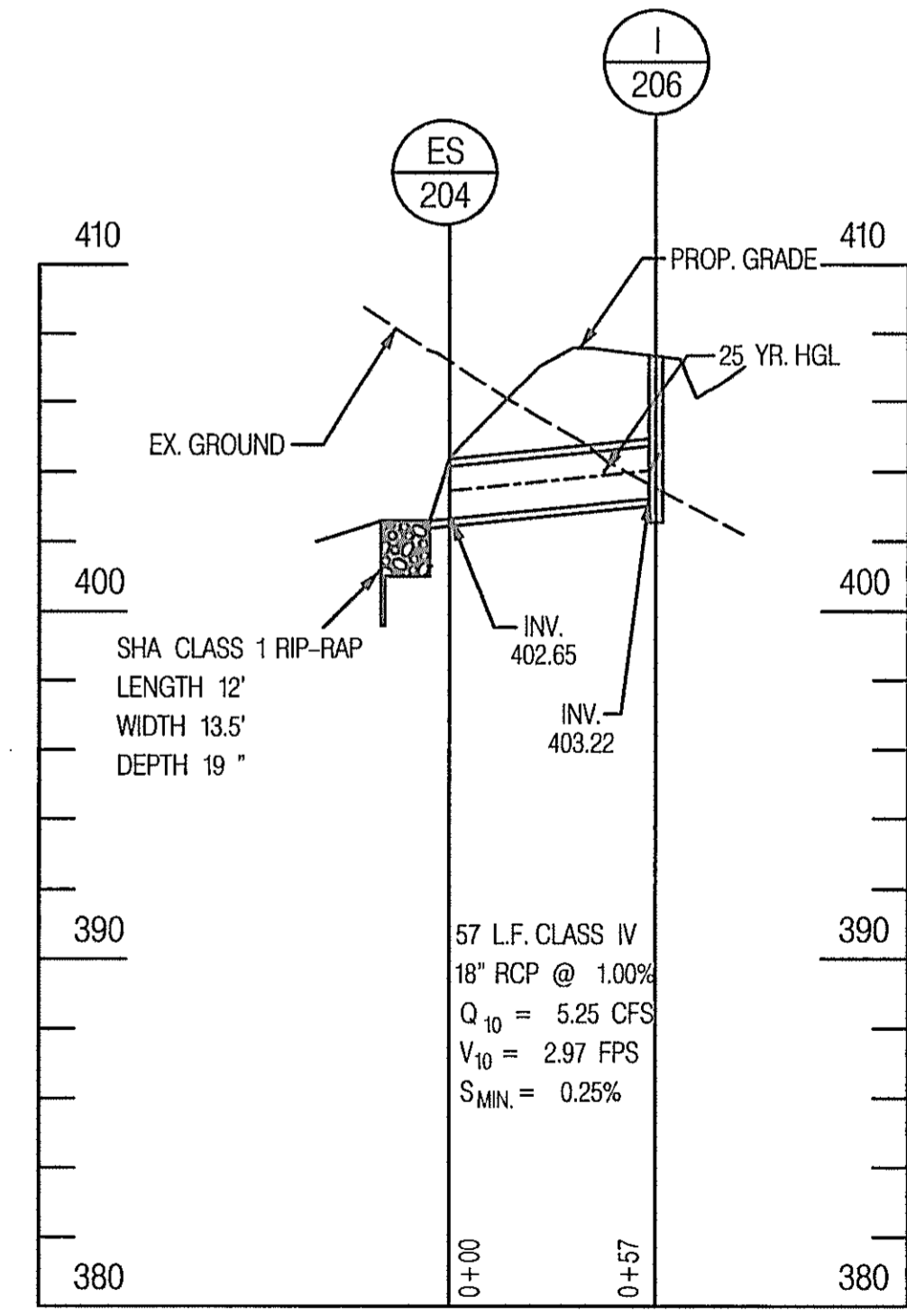
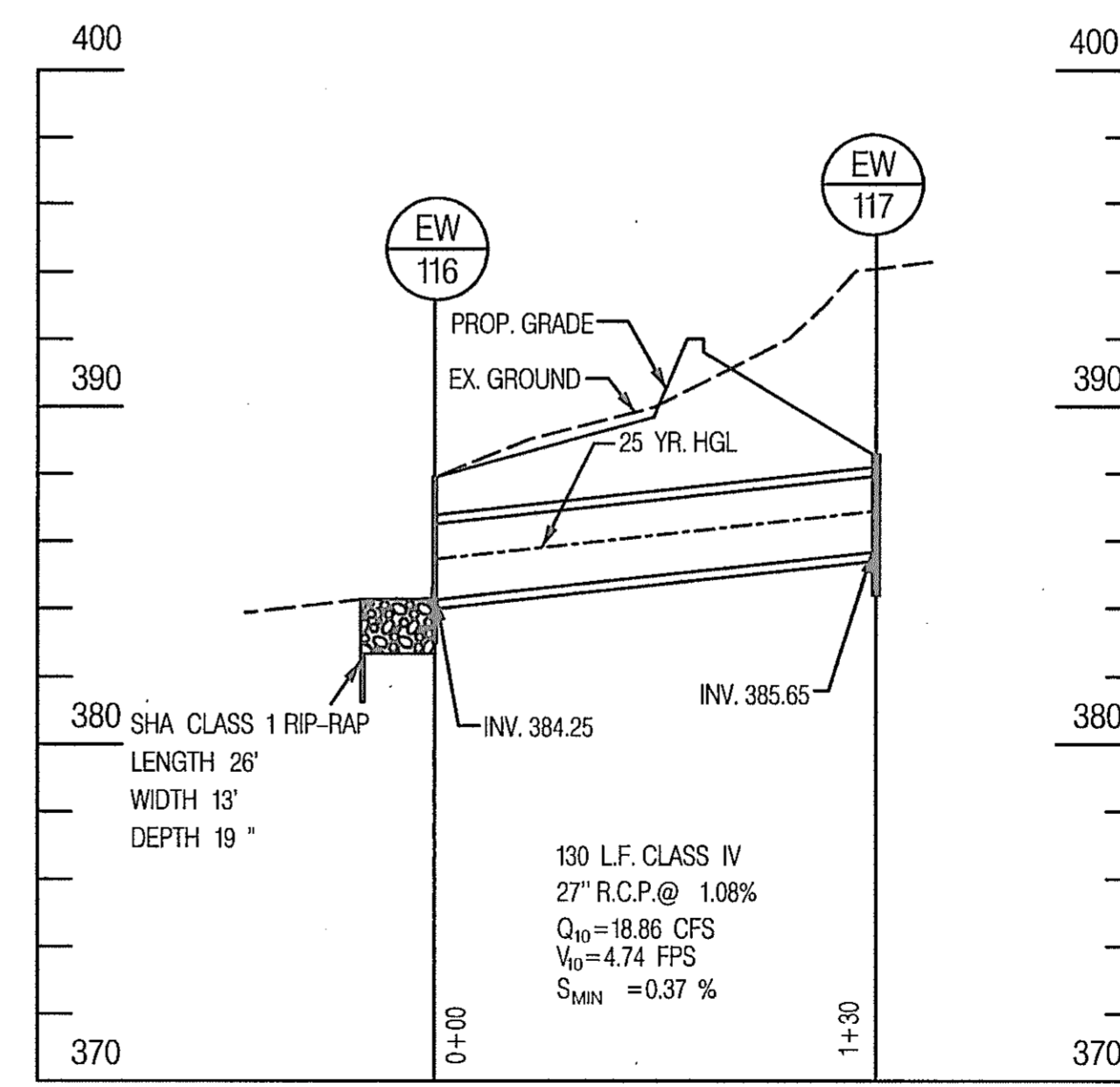
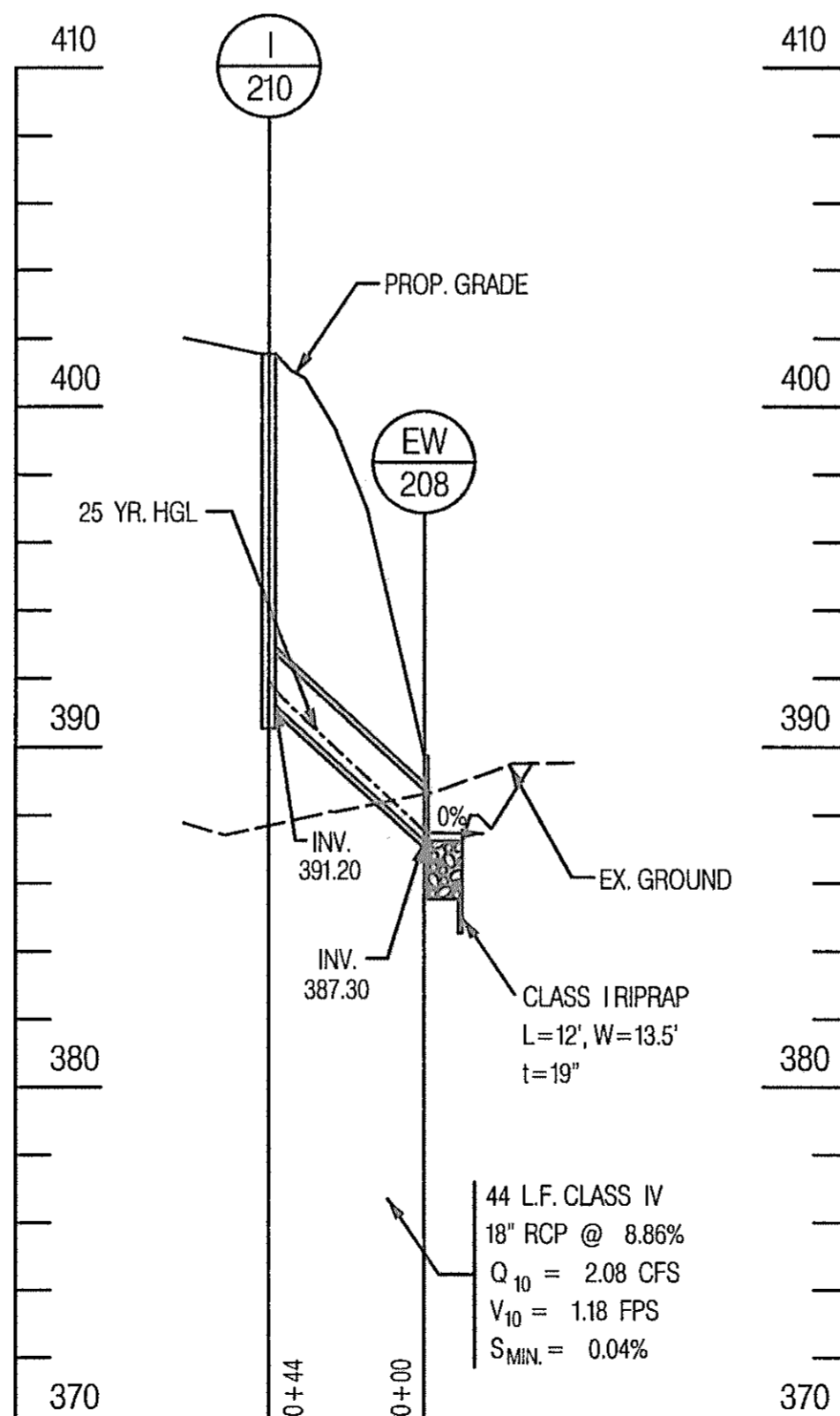
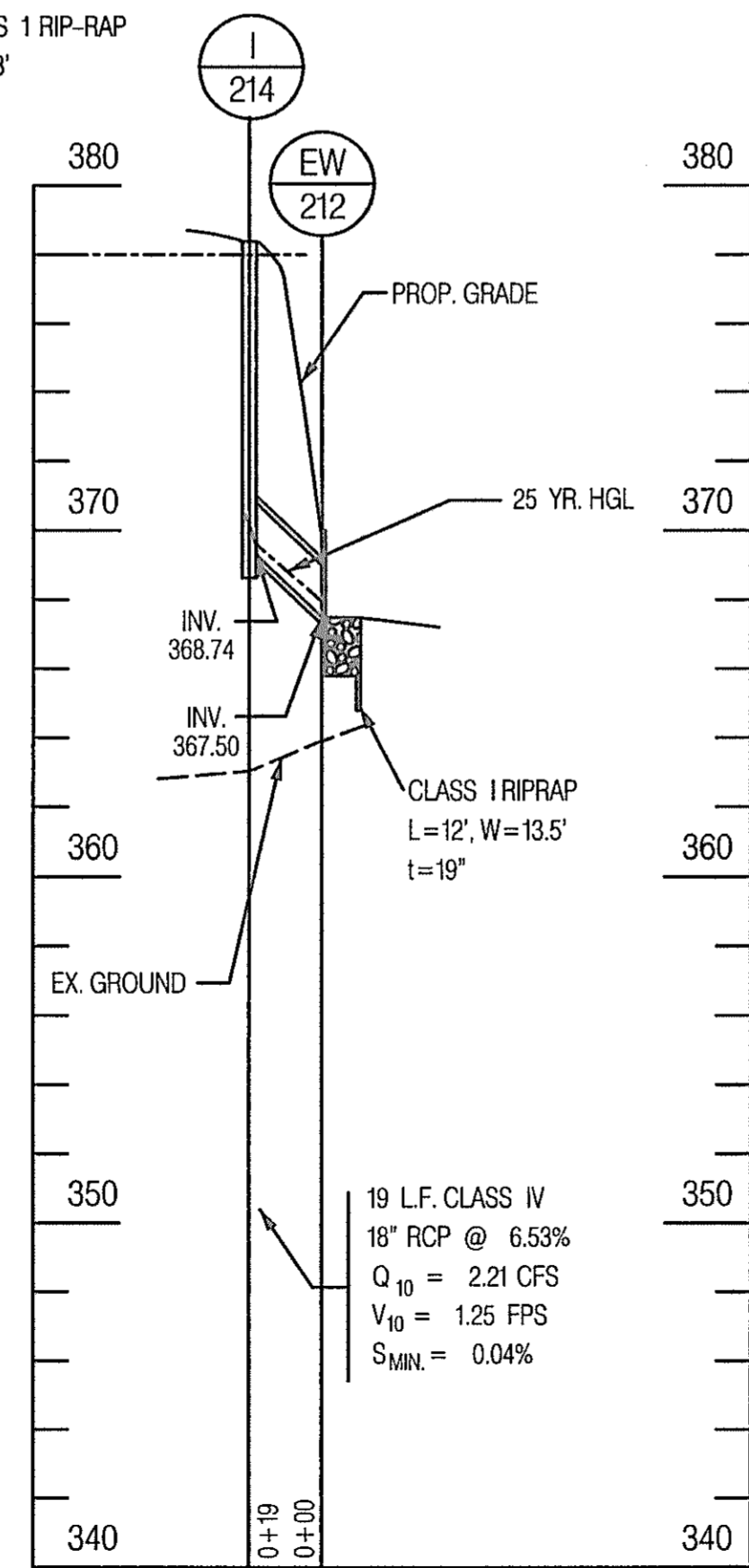
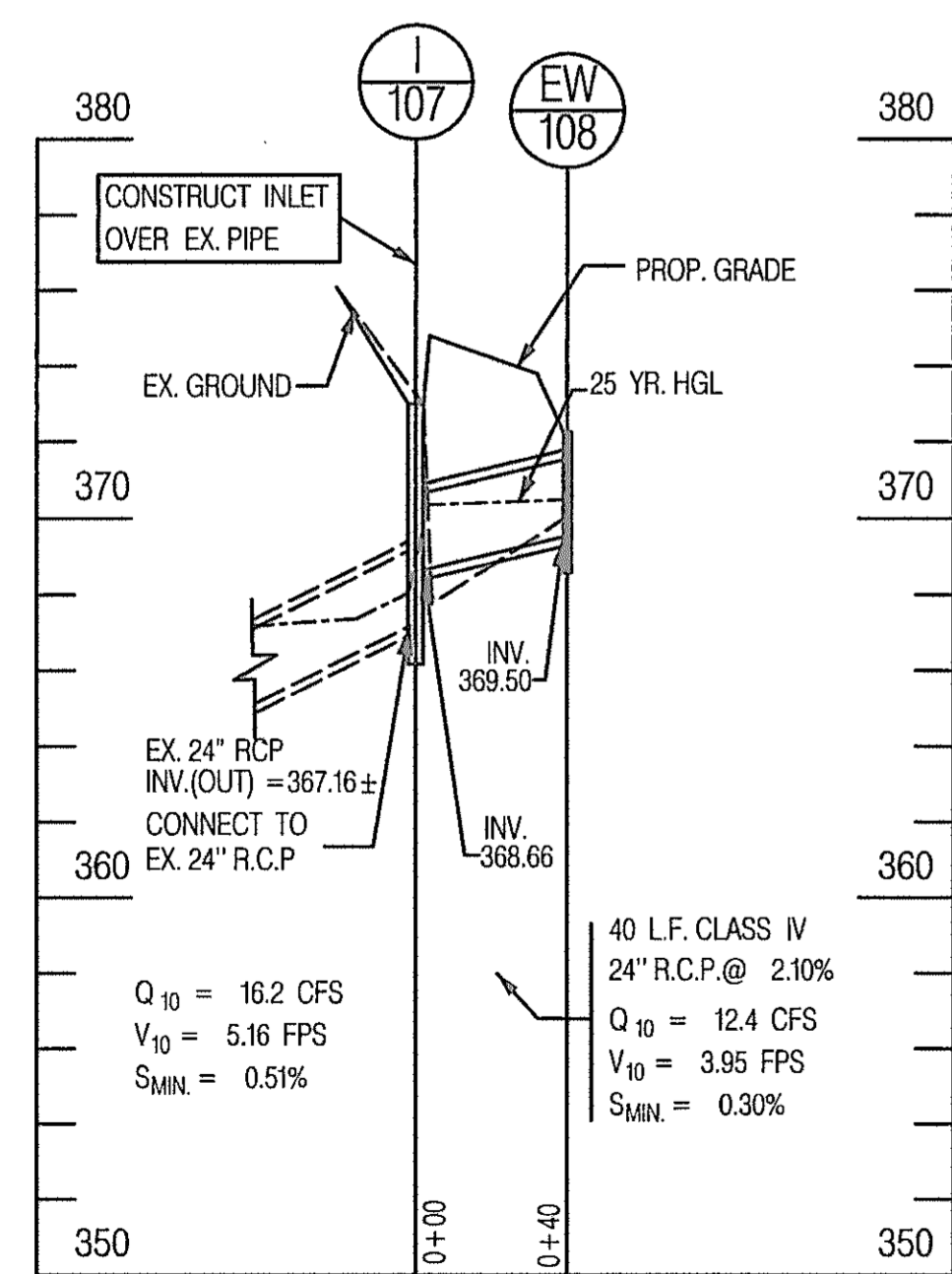
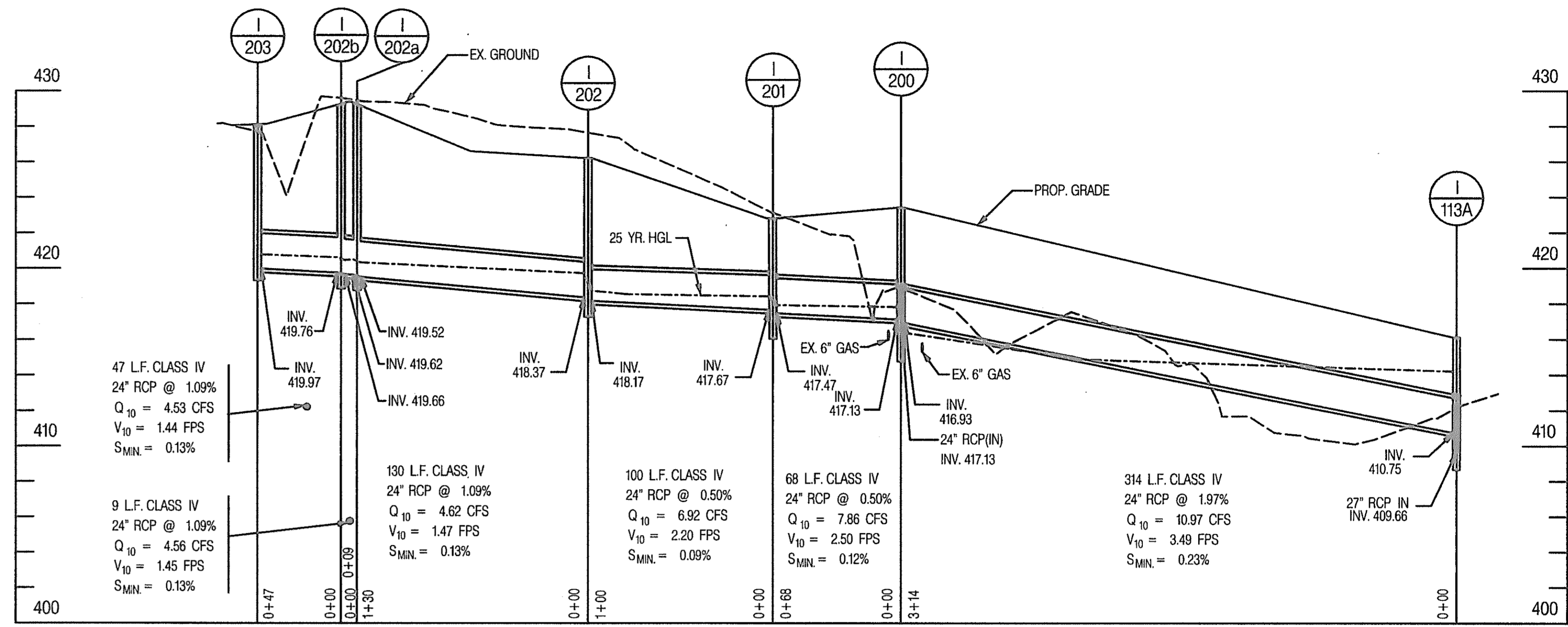
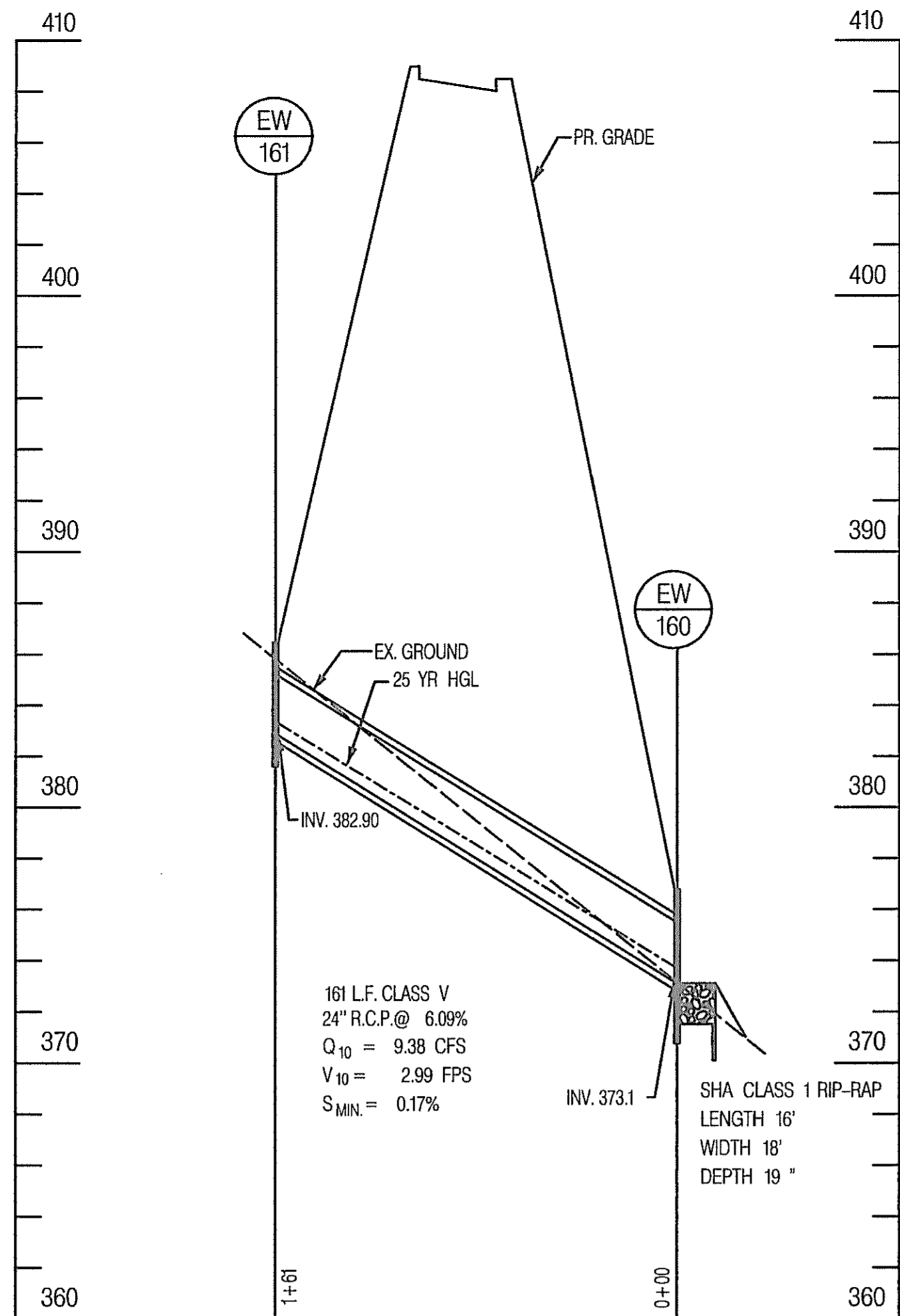
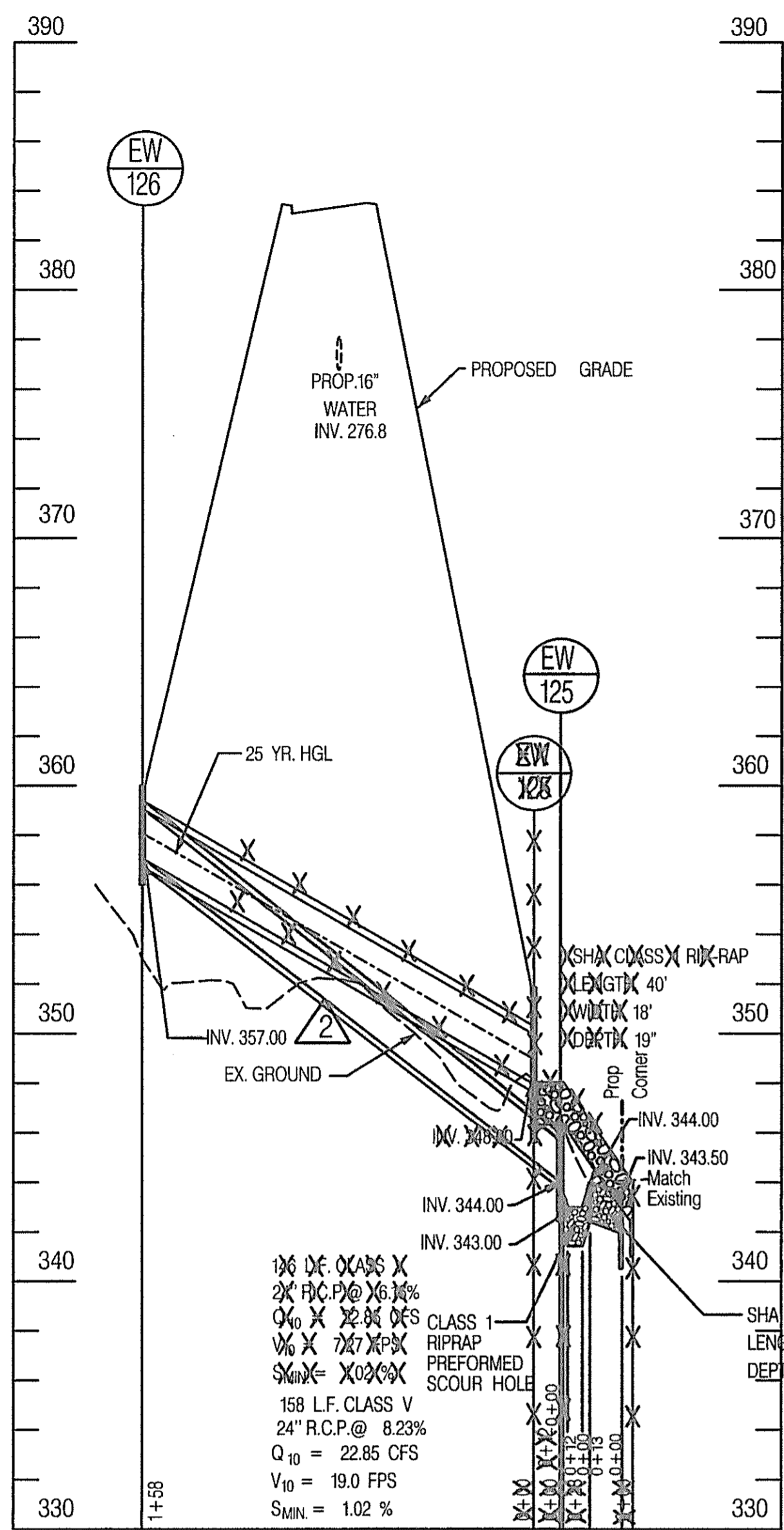
SCALE: HORI. 1" = 5'
VERT. 1" = 5'

REVISIONS	
ADDENDUM NO. 2	DATE: 9/25/00
REDLINE NO. 1	DATE: 7/30/01
REDLINE NO. 3	DATE: 1/31/02



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 139 OF 320
PREL. TRAC. BY SBP FINAL TRAC. BY AAP



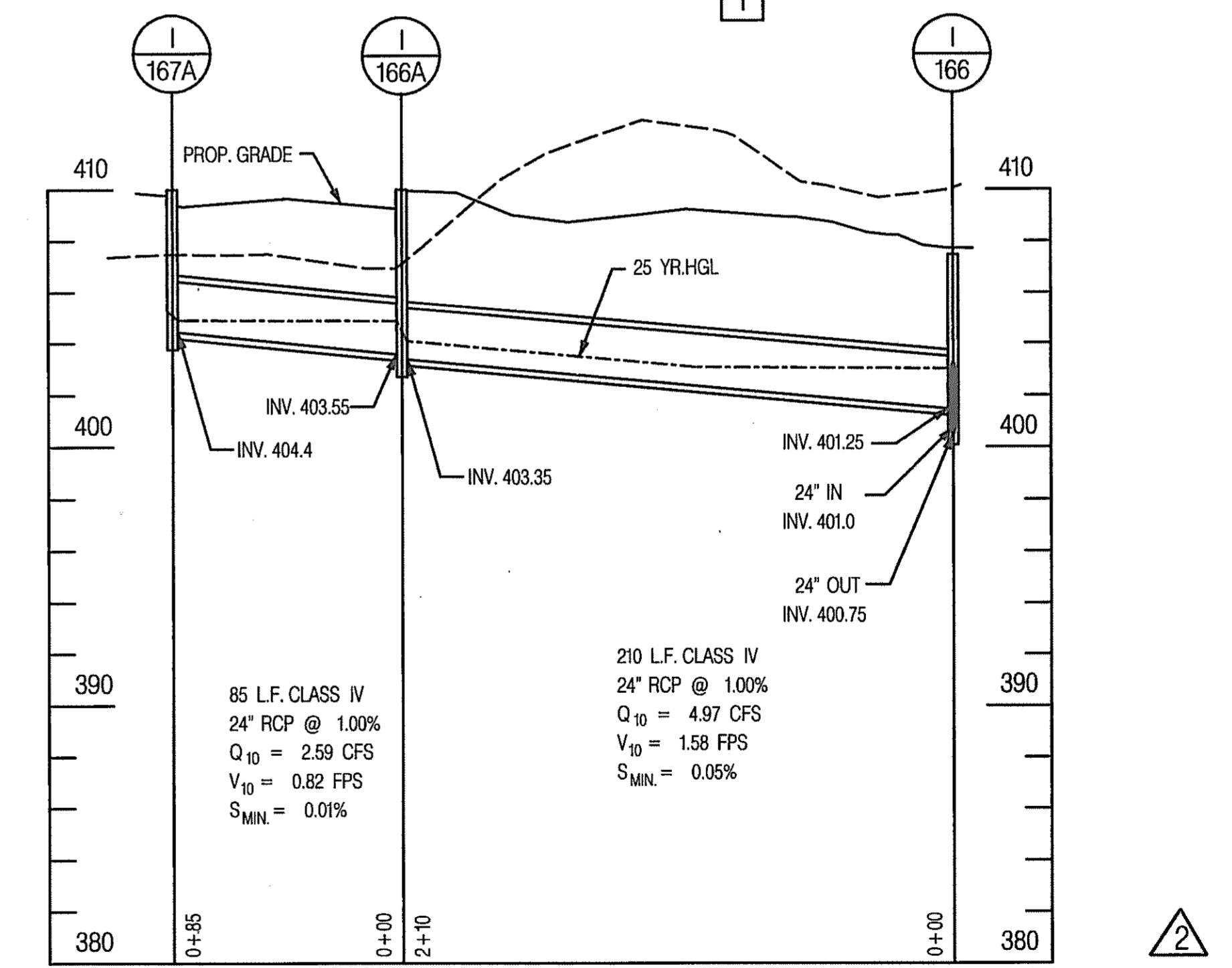
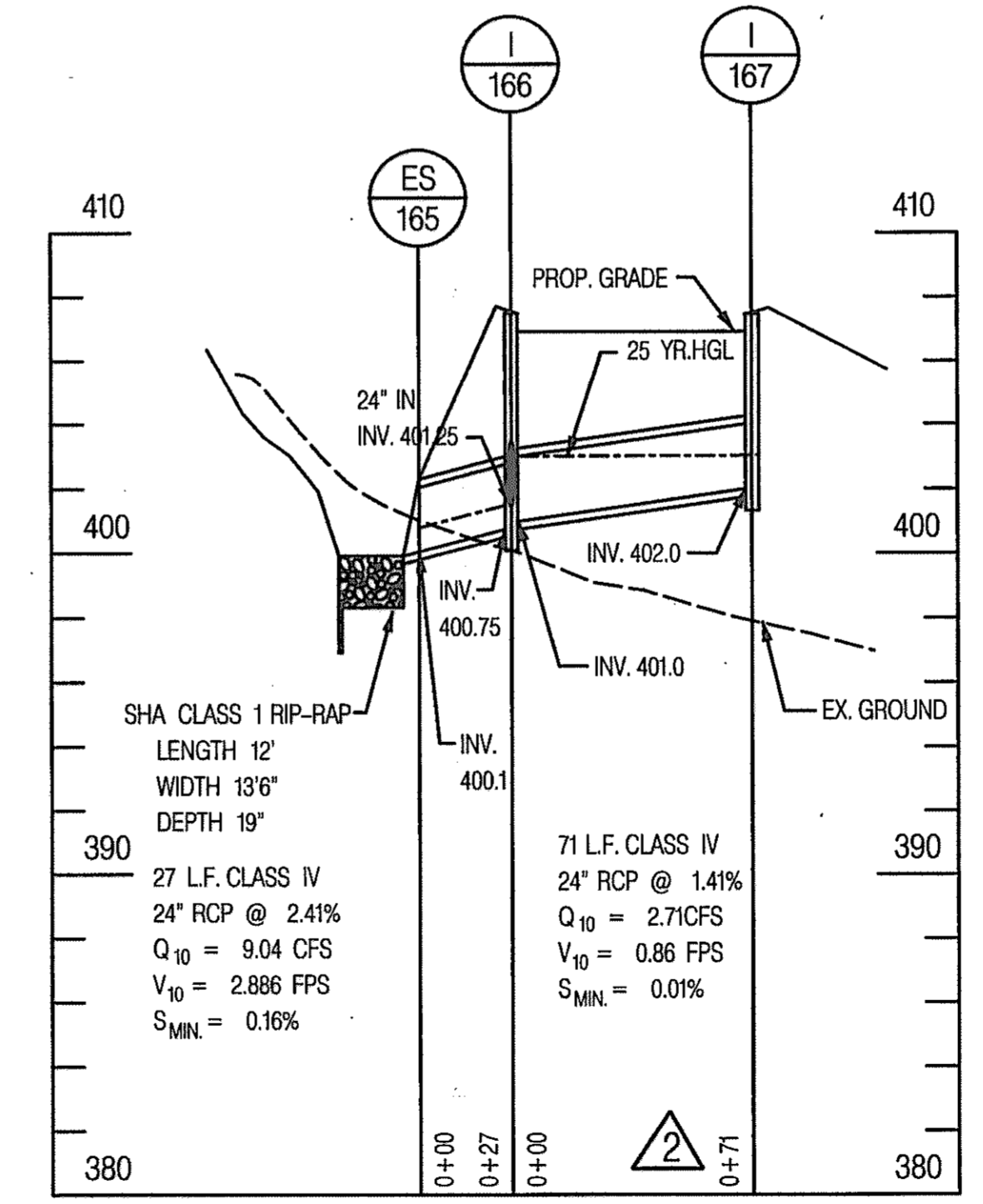
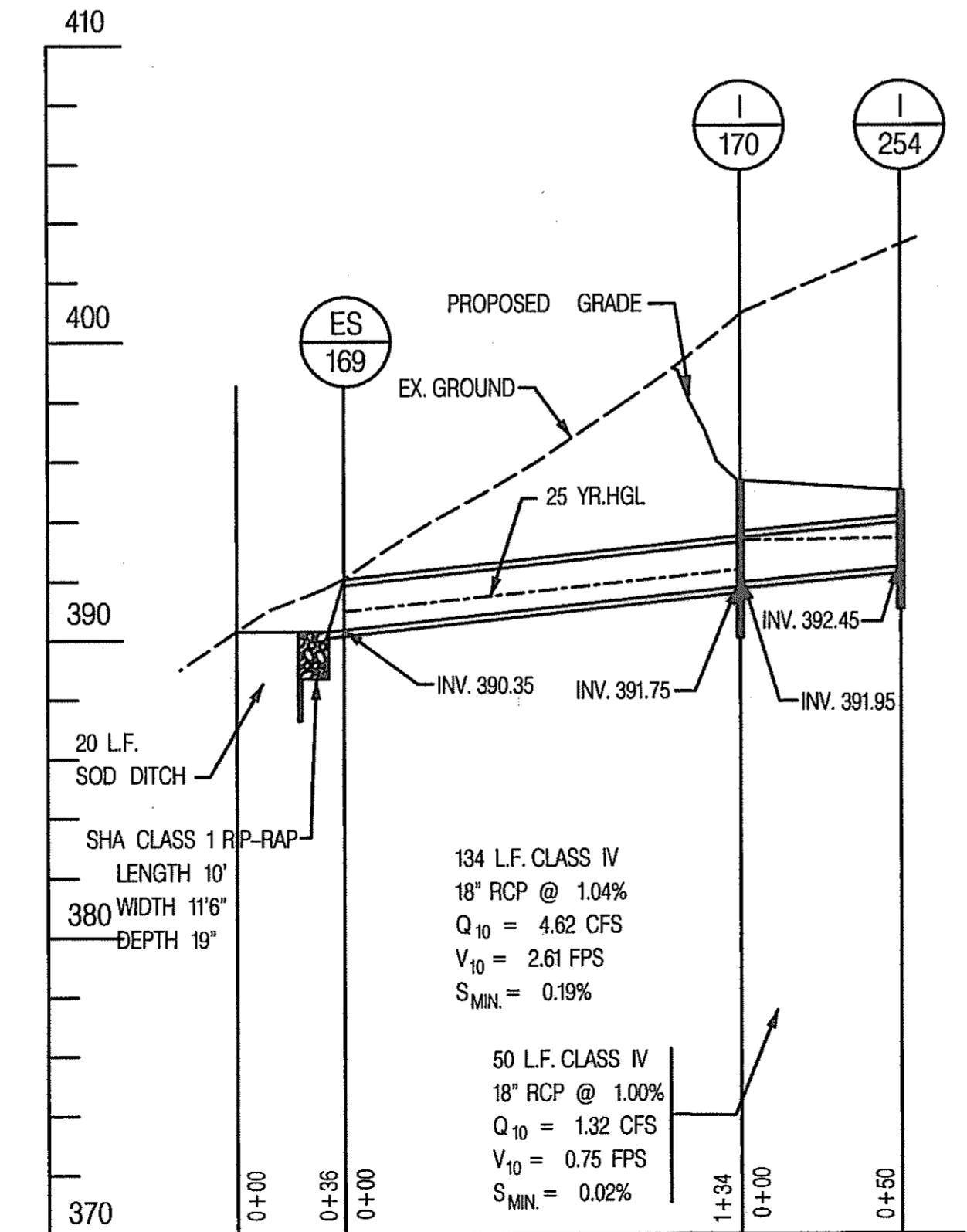
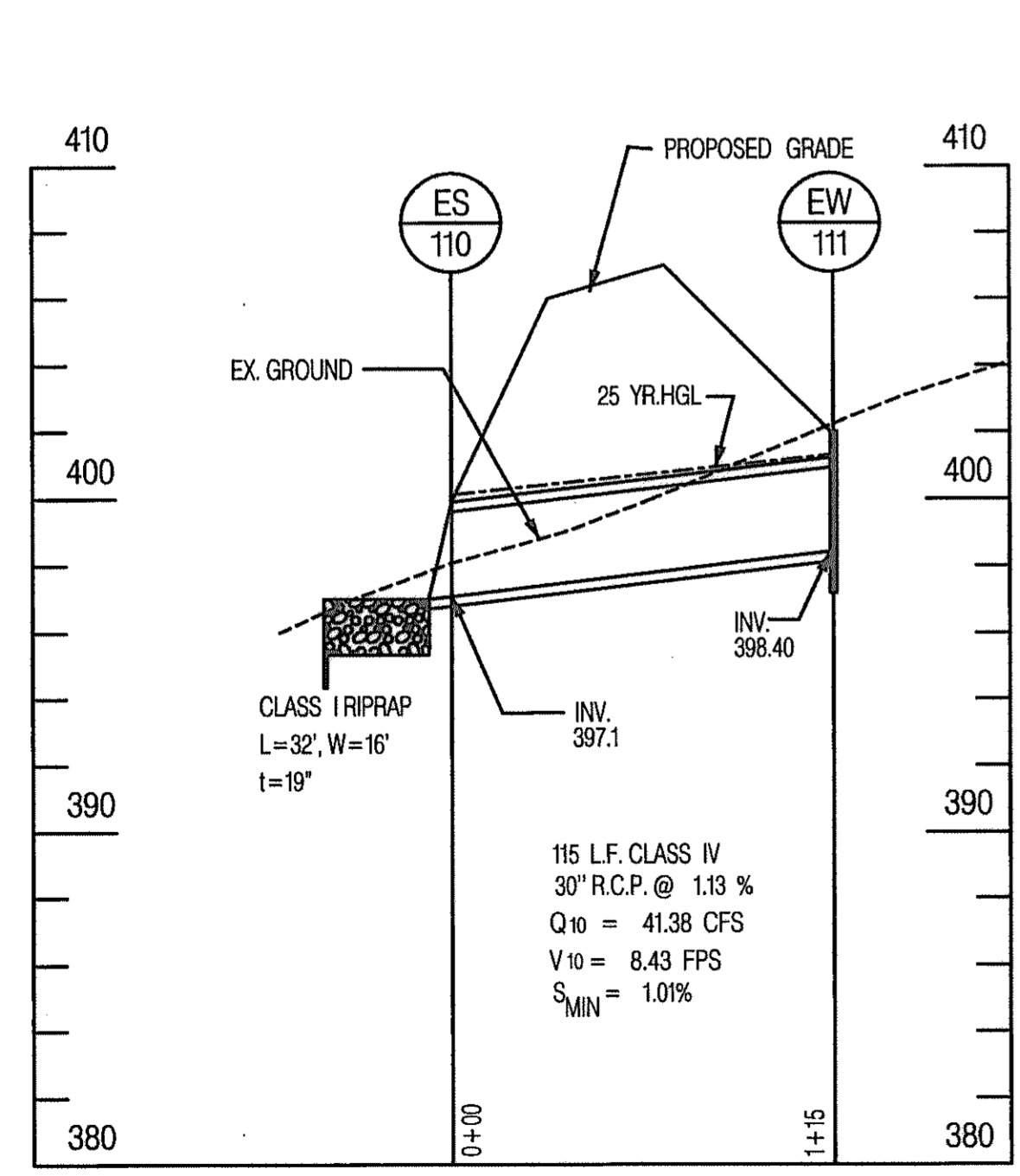
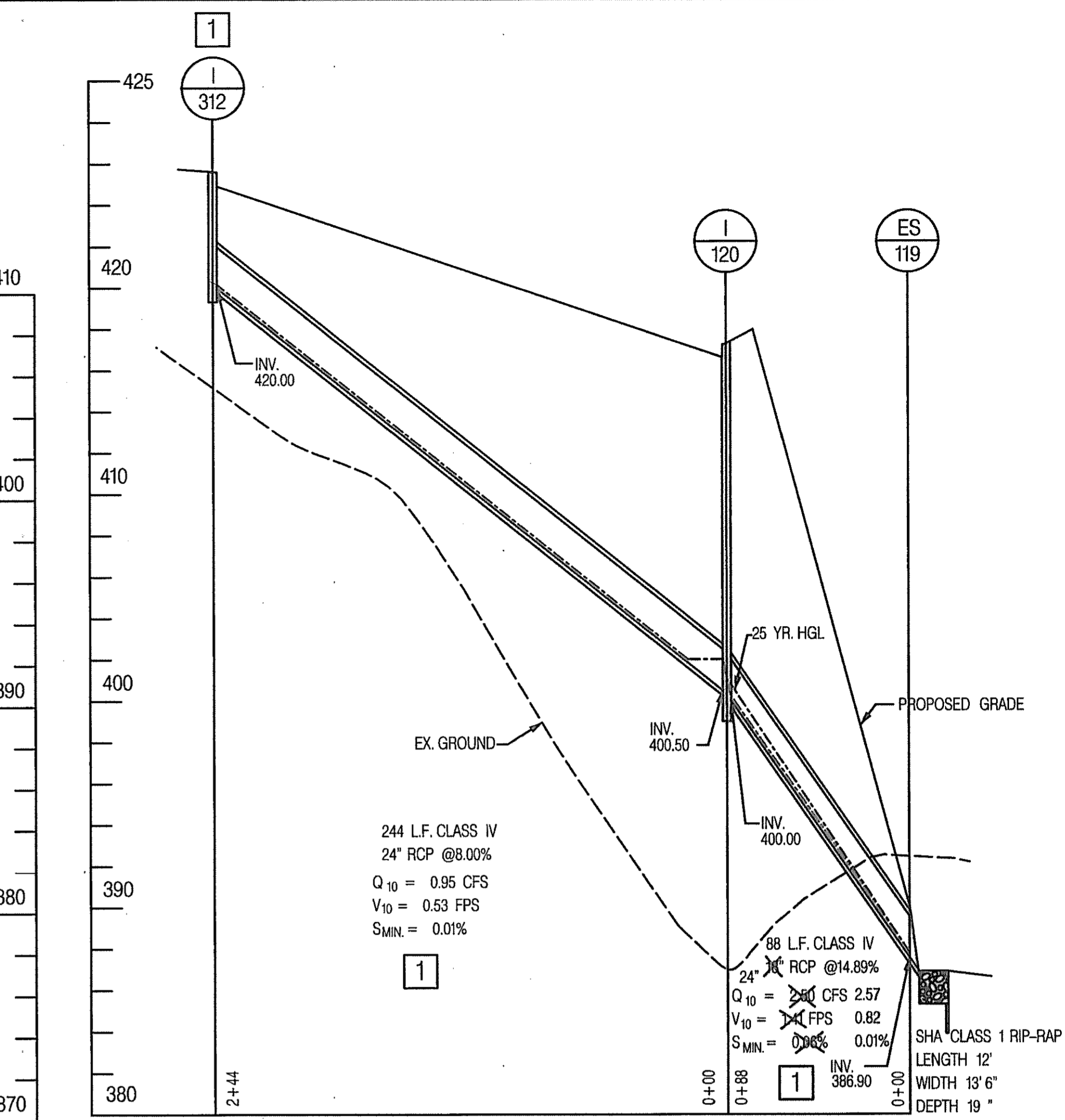
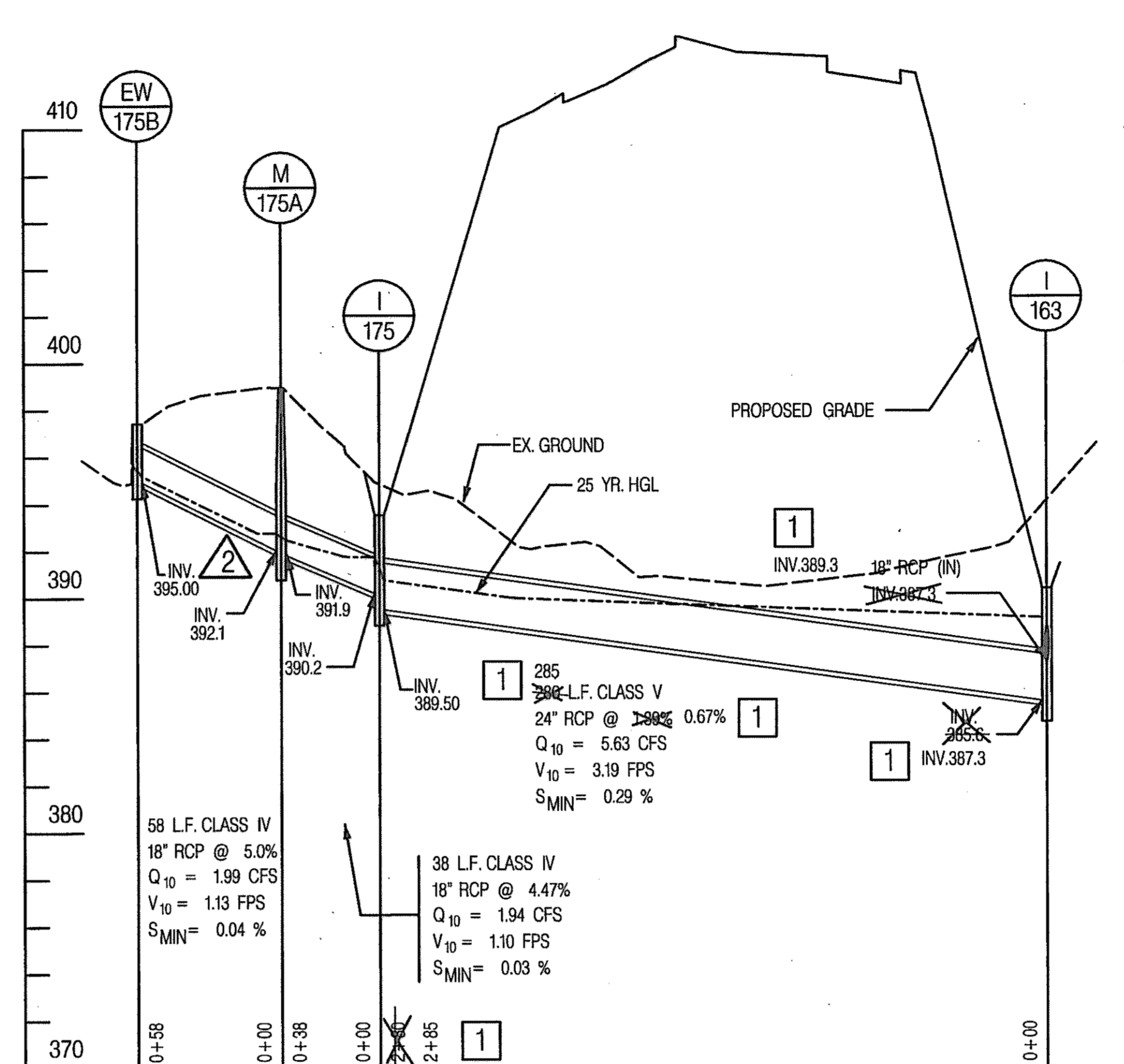
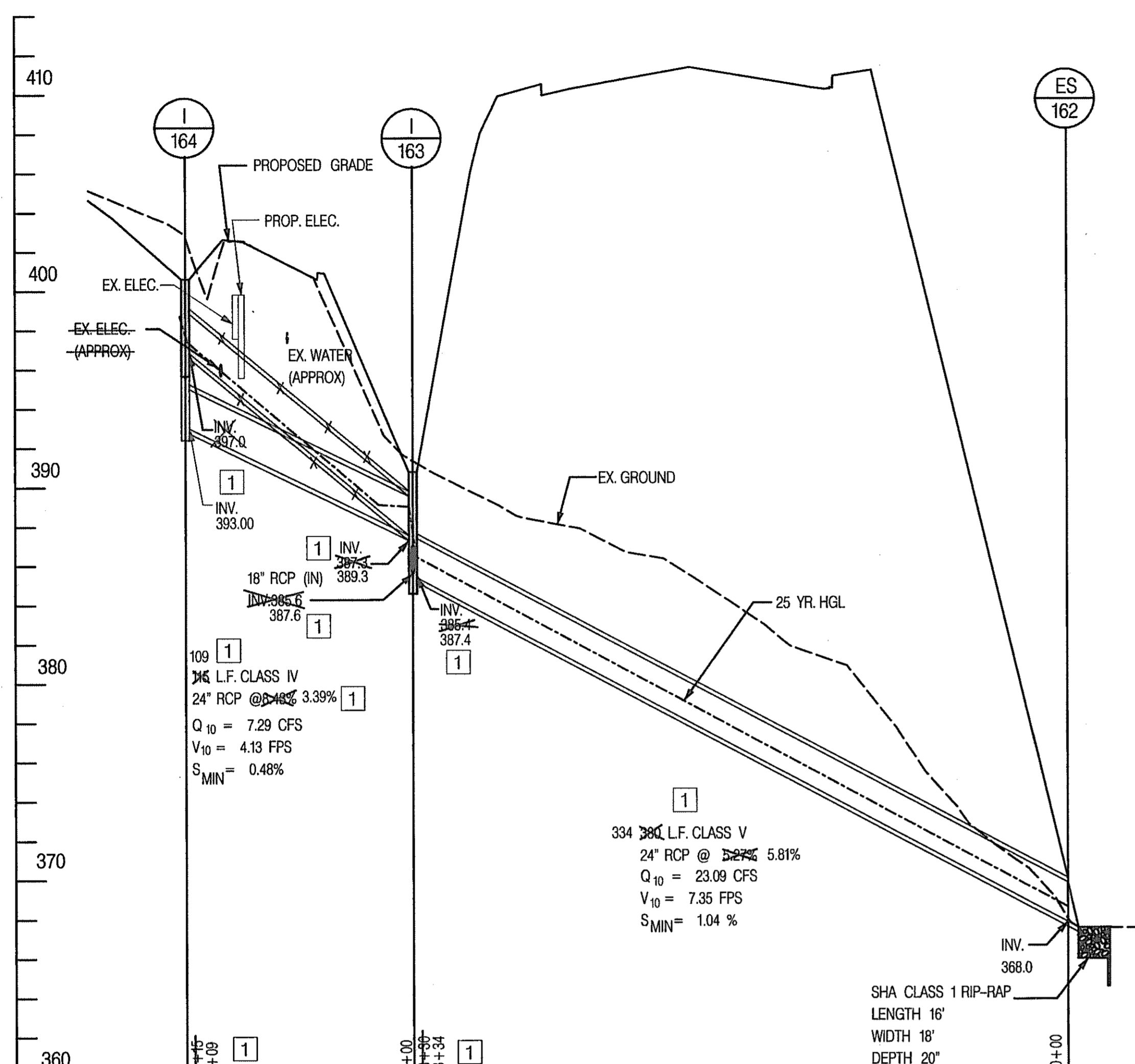
STORM DRAIN PROFILE
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

AB CONSULTANTS, INC.
14521 LAUREL BOWIE ROAD, SUITE 100
LAUREL, MARYLAND 20708
(410) 798-0888 (BALTS)
(800) 476-3476 (WASH)

REVISIONS	
ADDENDUM NO. 2	DATE: 8/25/00
1	REDLINE NO. 1 DATE: 7/31/01
3	REDLINE NO. 3 DATE: 1/31/02

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

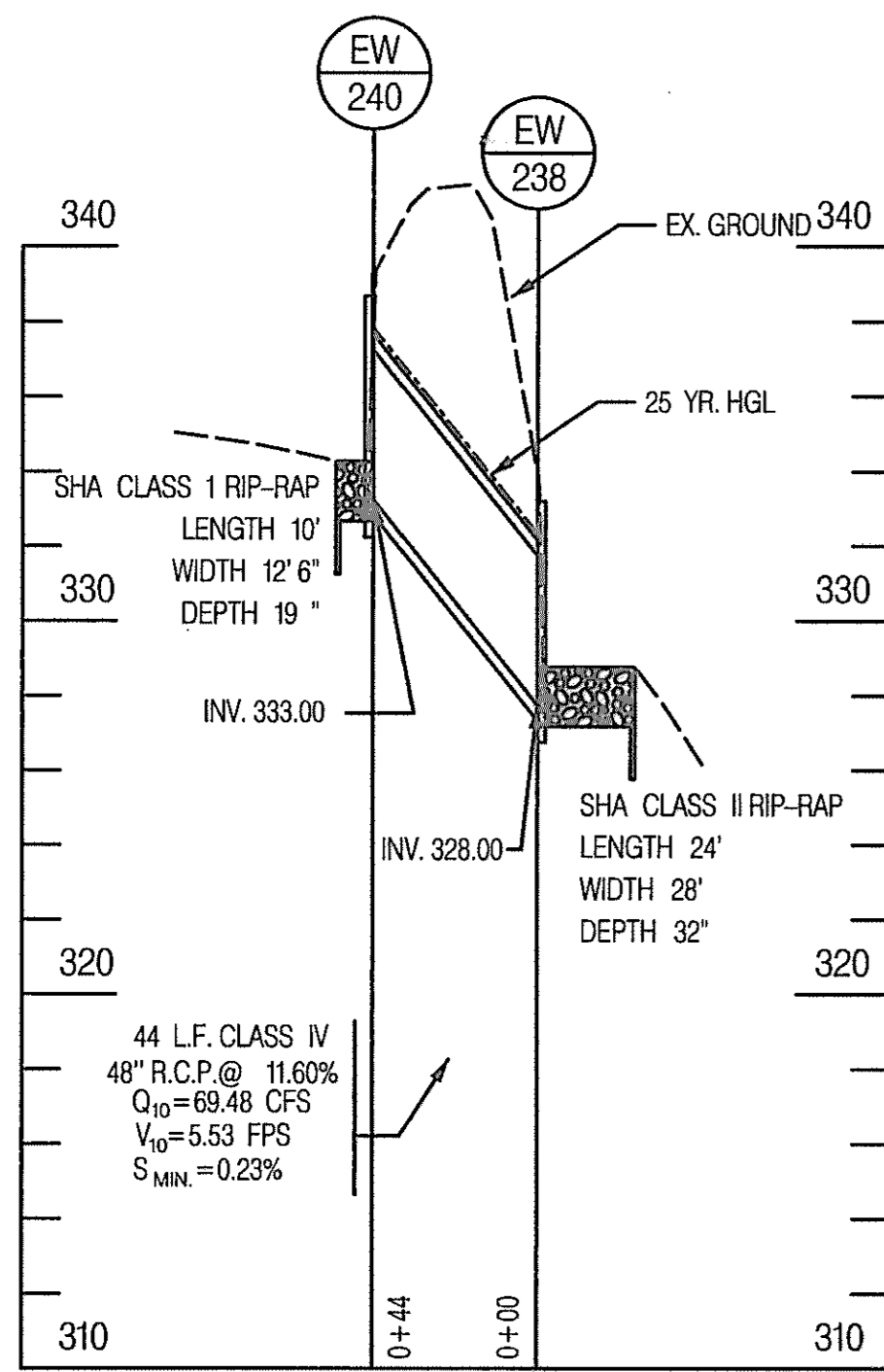
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 140 OF 320
PREL. TRAC. BY SBP FINAL TRAC. BY AAP



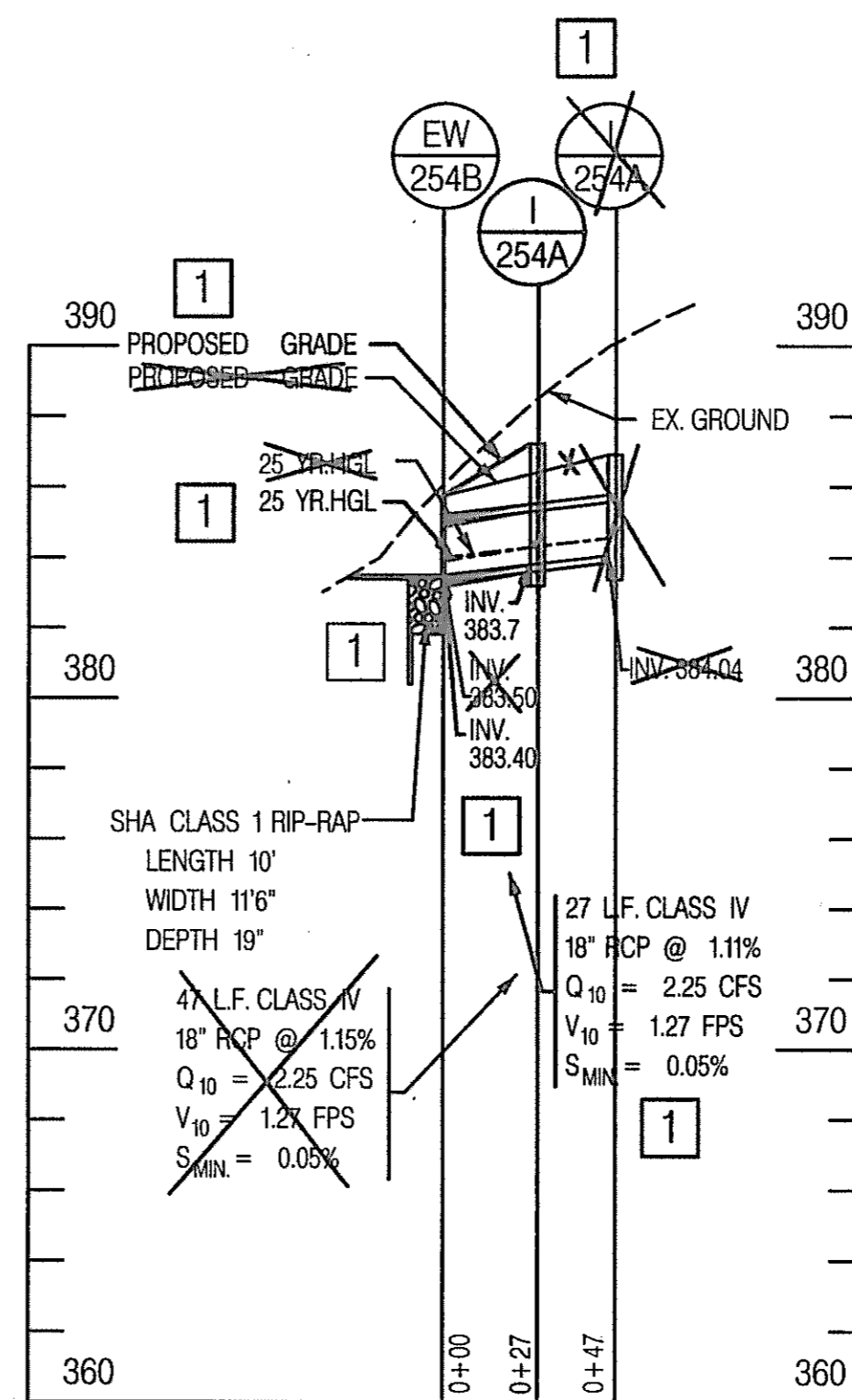
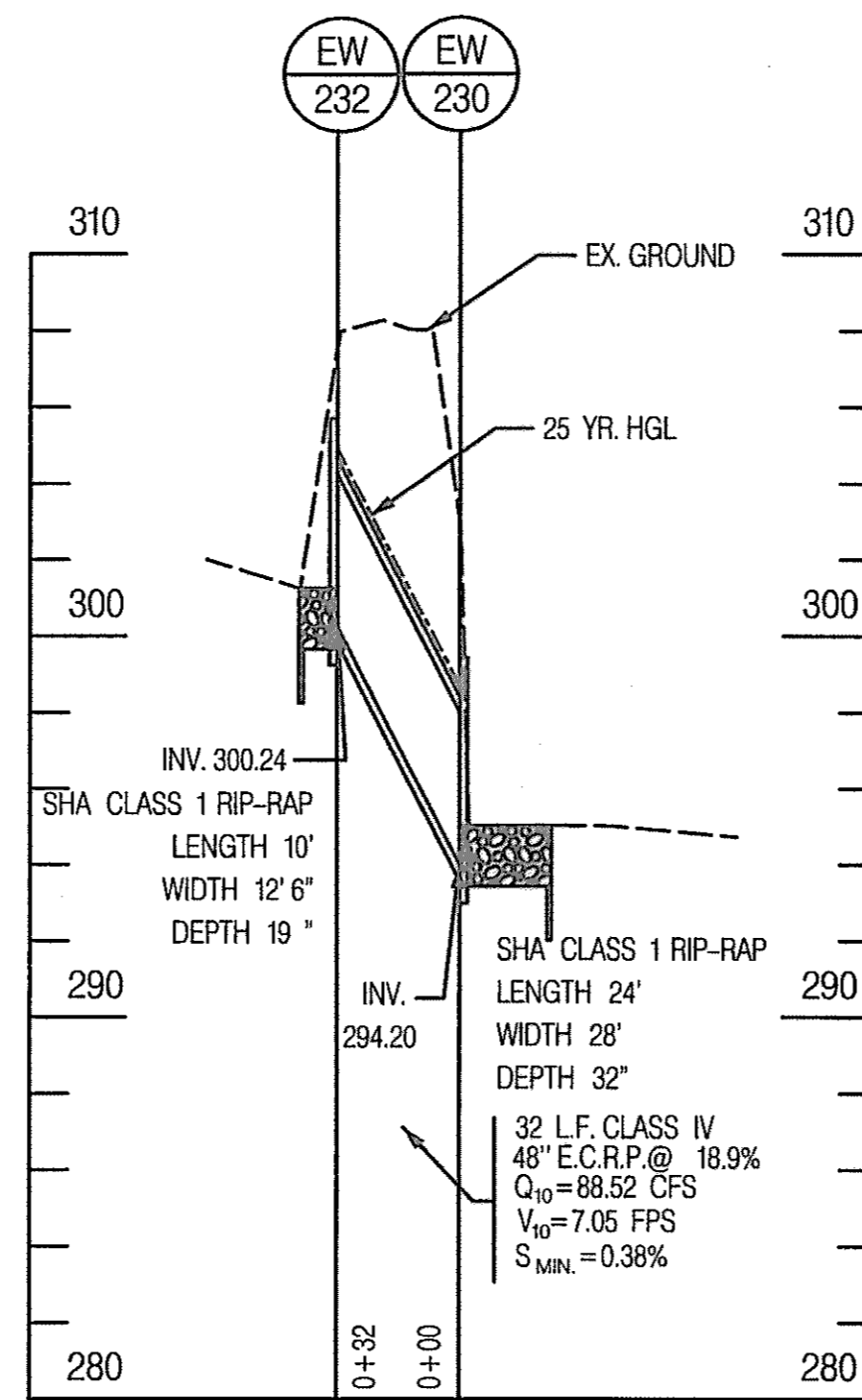
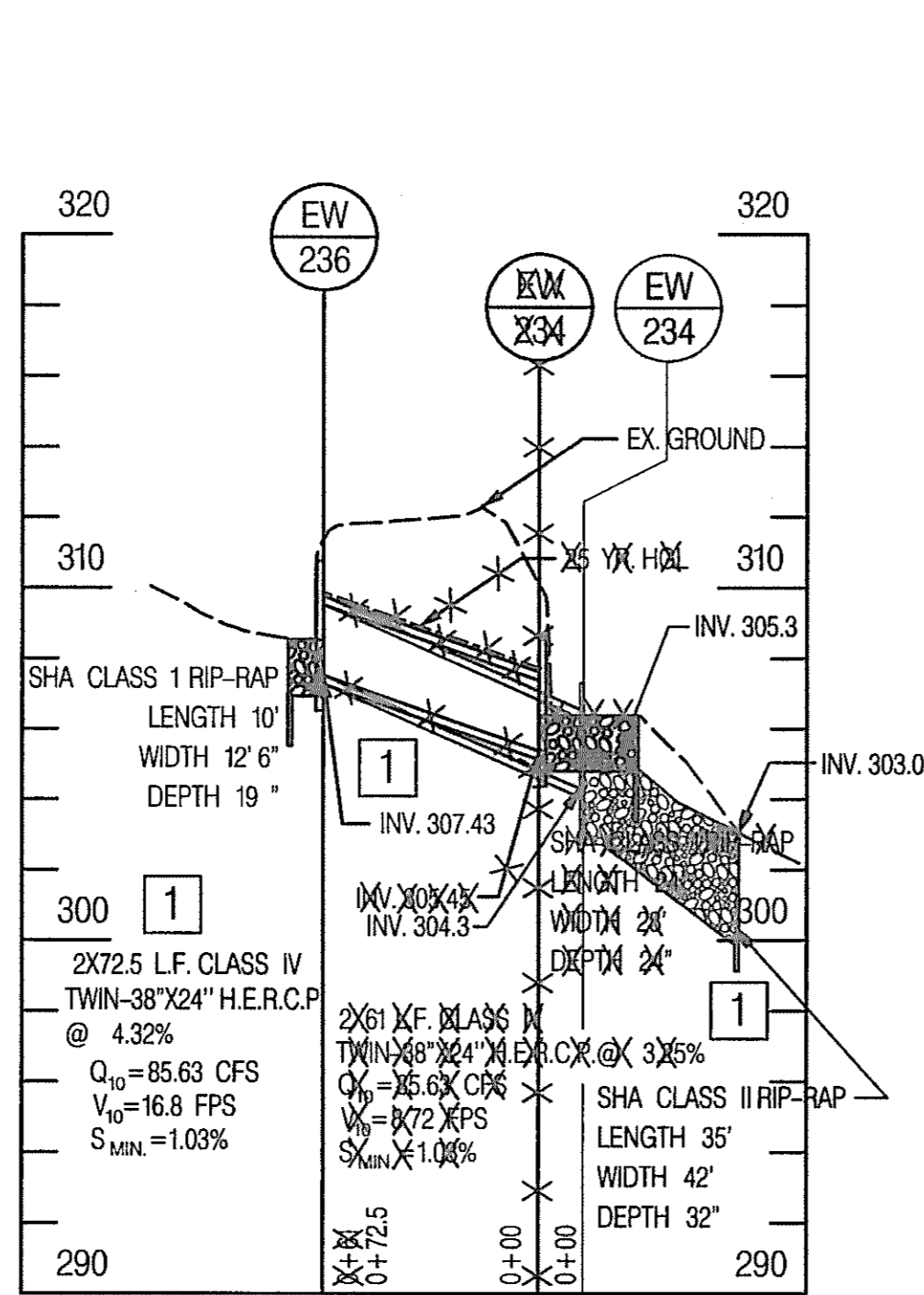
REVISIONS	
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REDLINE NO. 1	2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

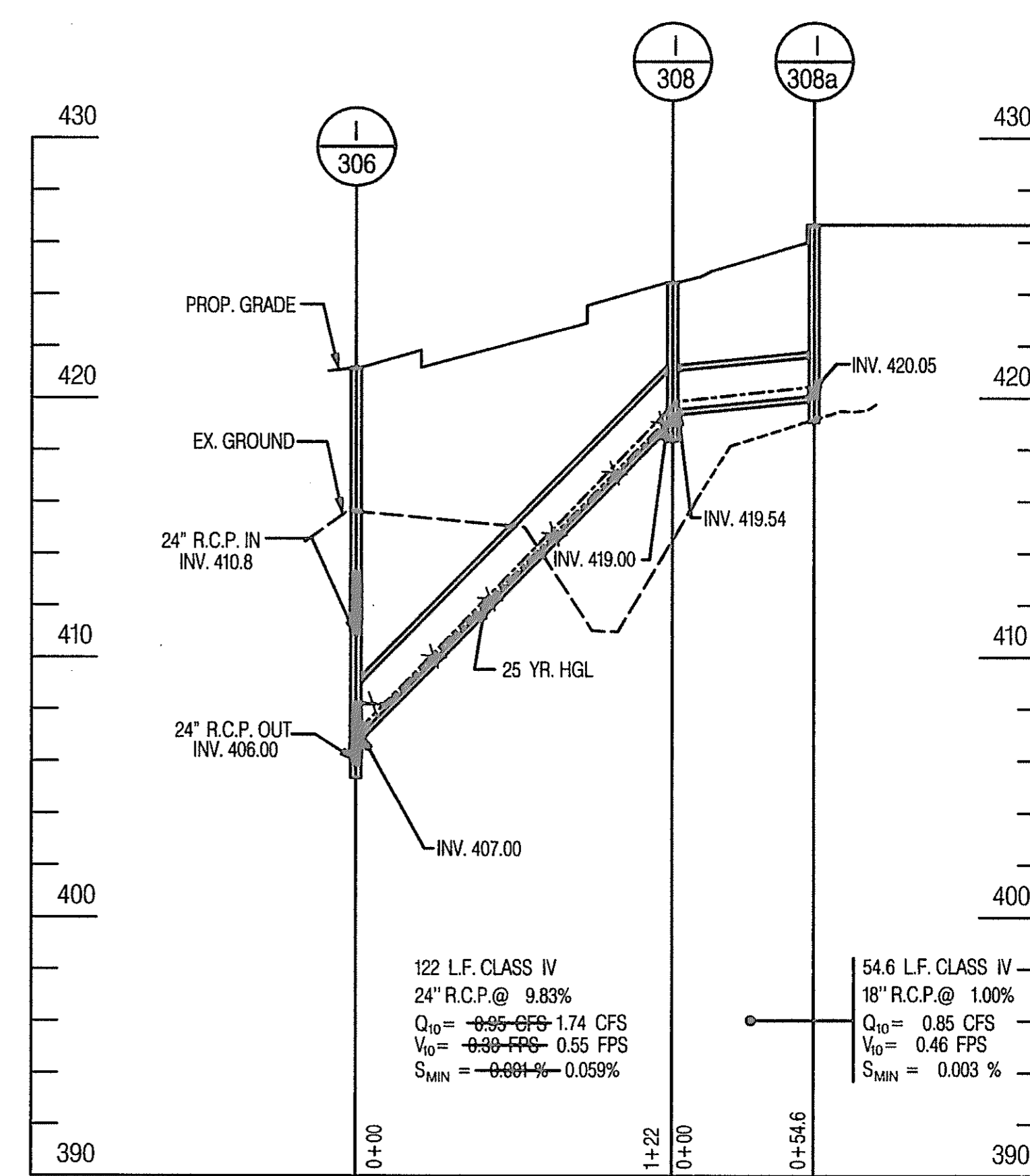
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PREL. TRAC. BY SBP FINAL TRAC. BY RFP



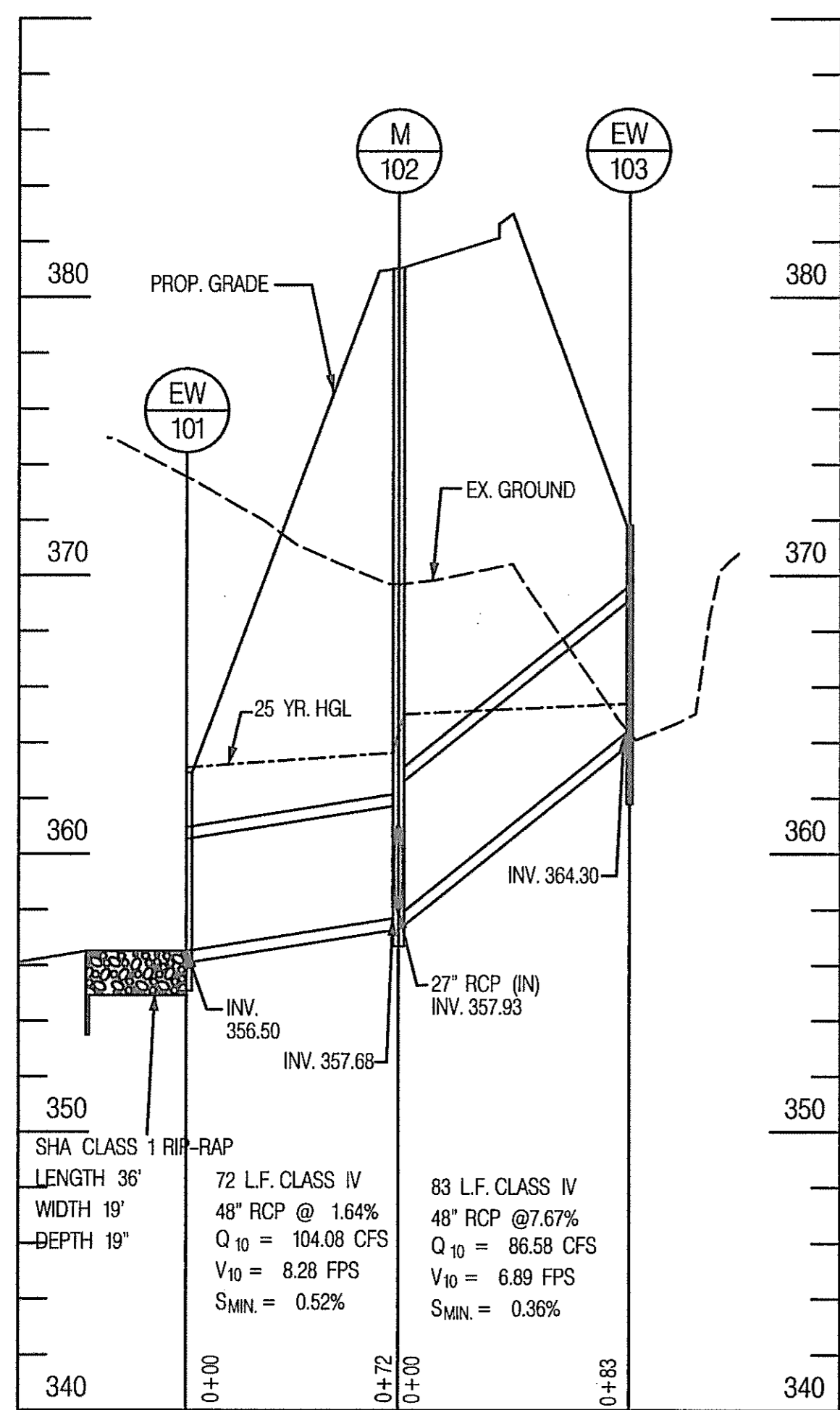
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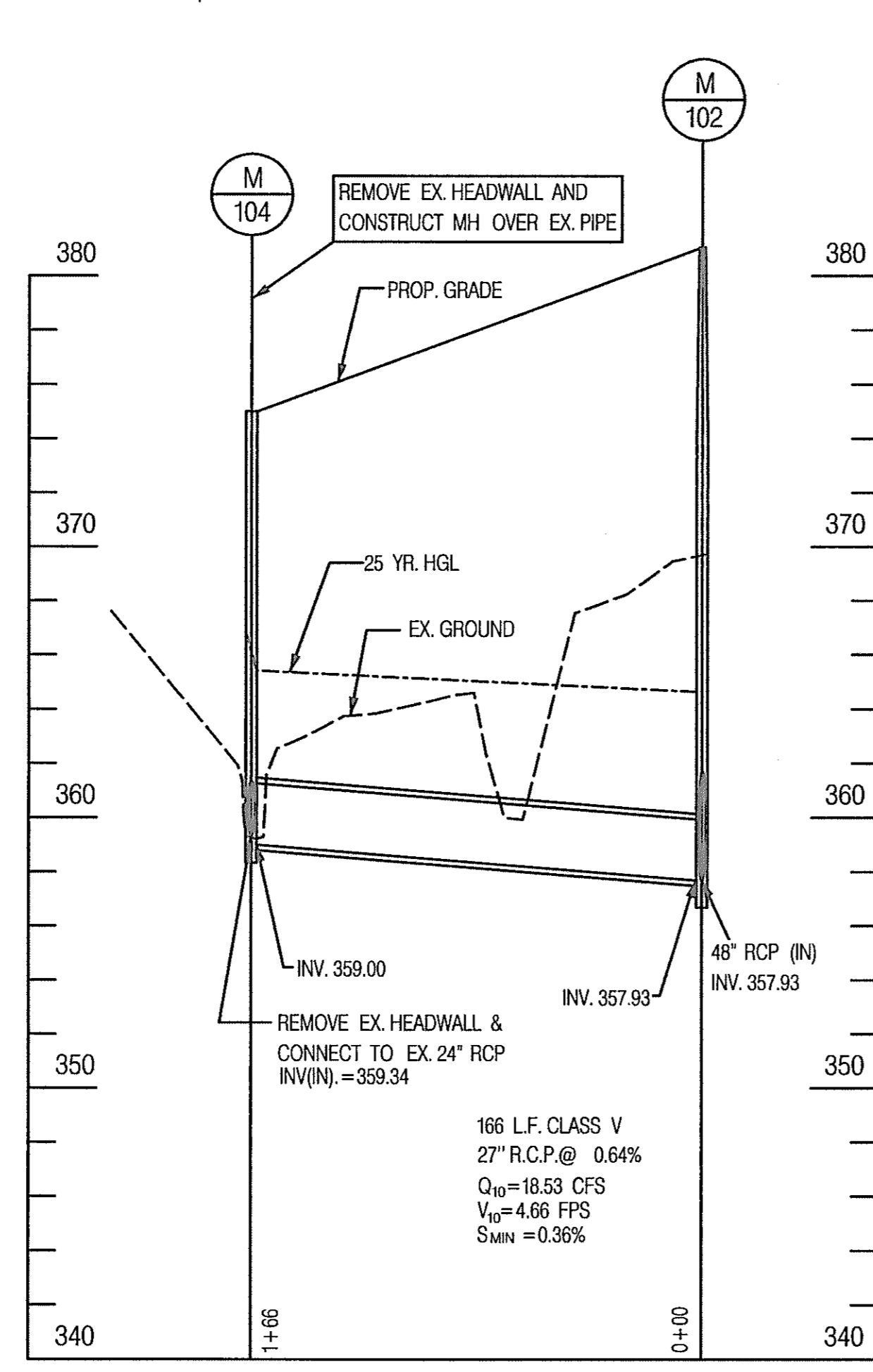
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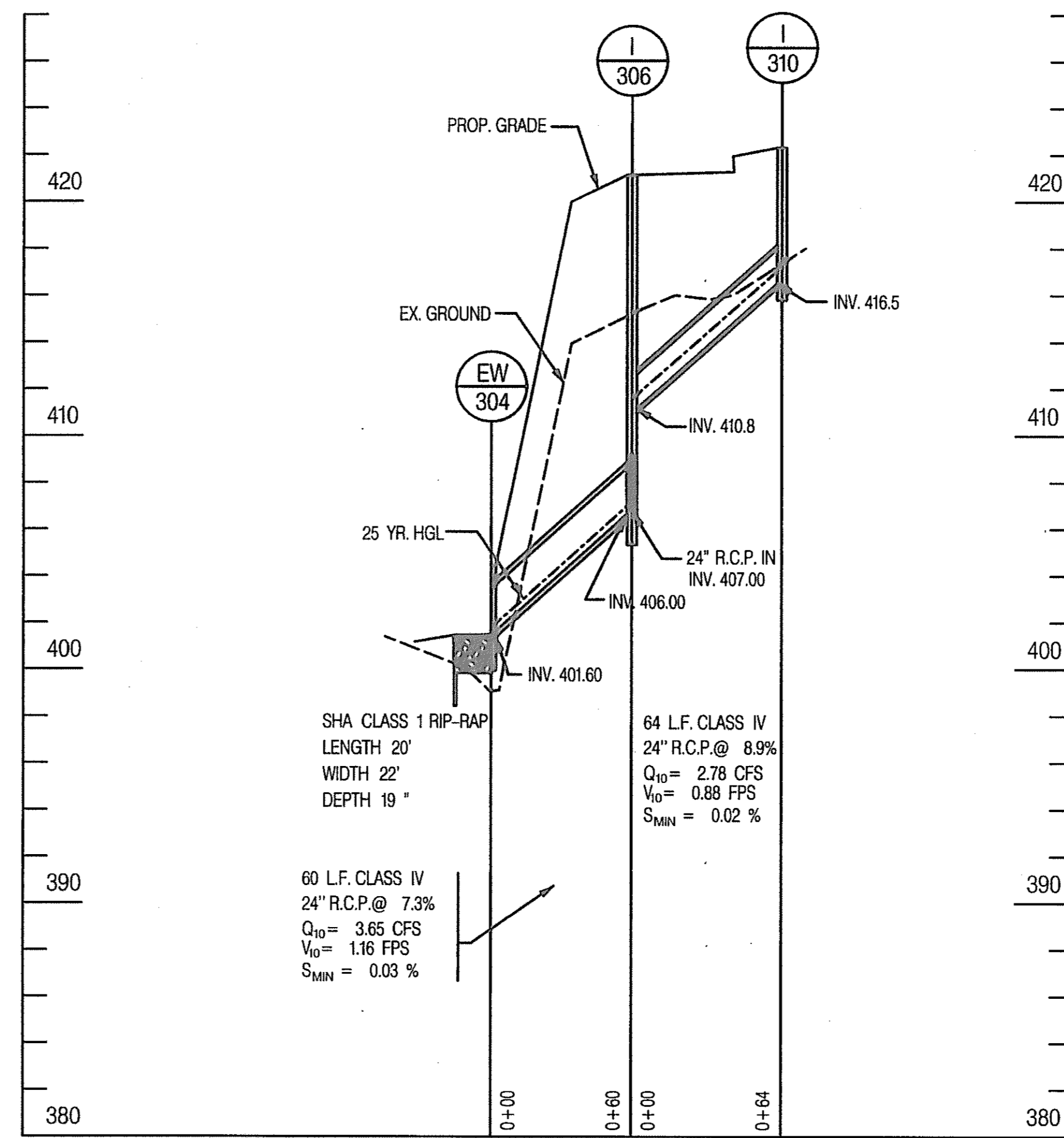
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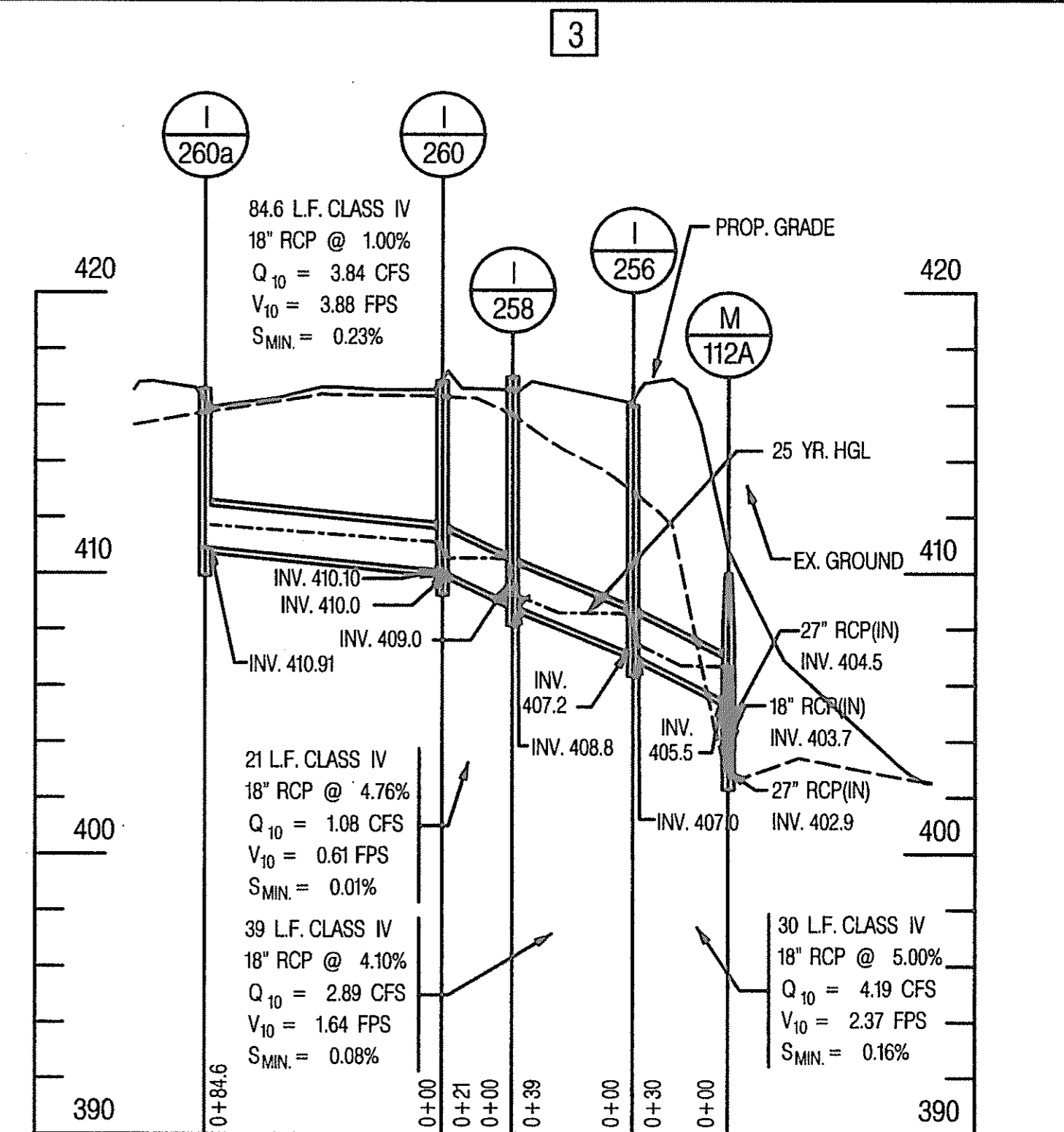
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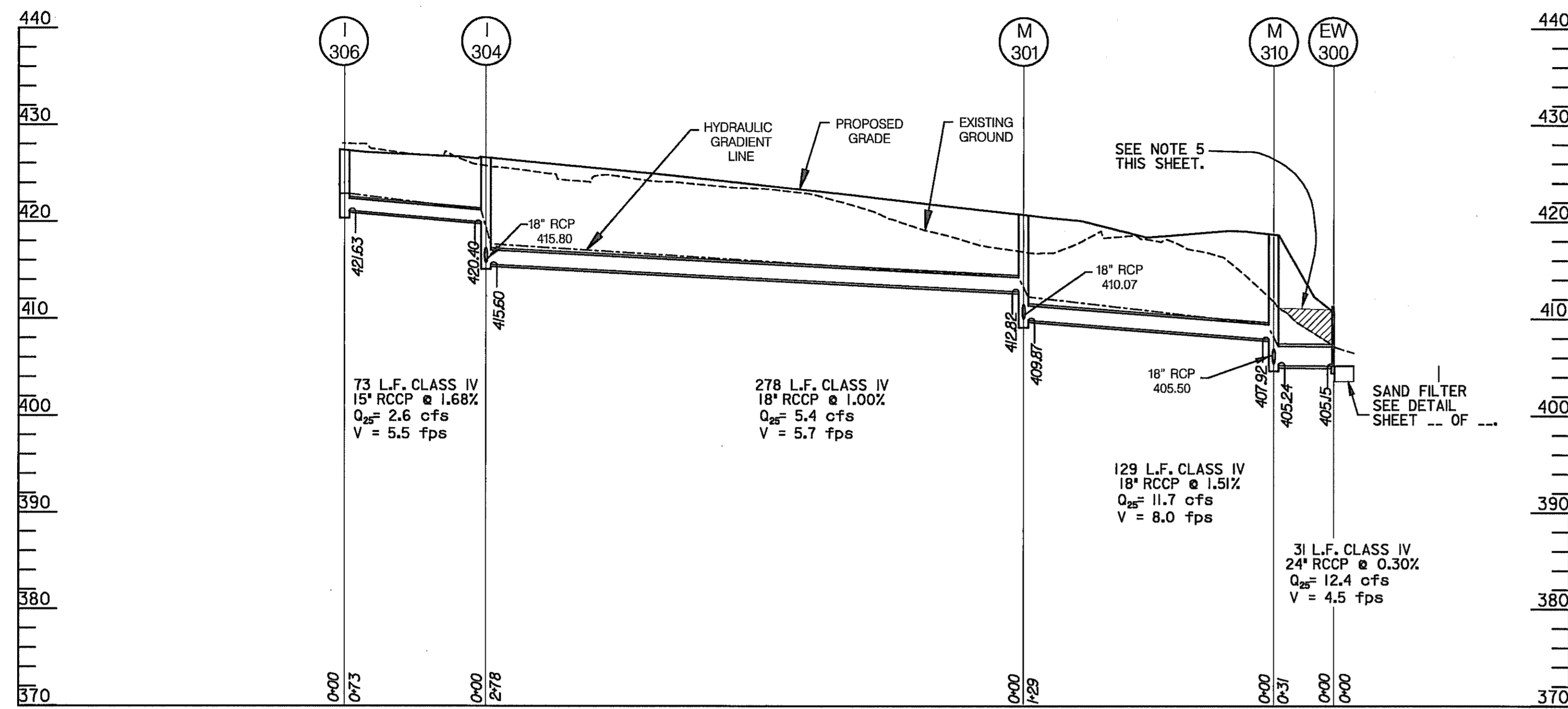
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STORM DRAIN PROFILE
SCALE: HORIZ: 1" = 50'
VERT: 1" = 5'

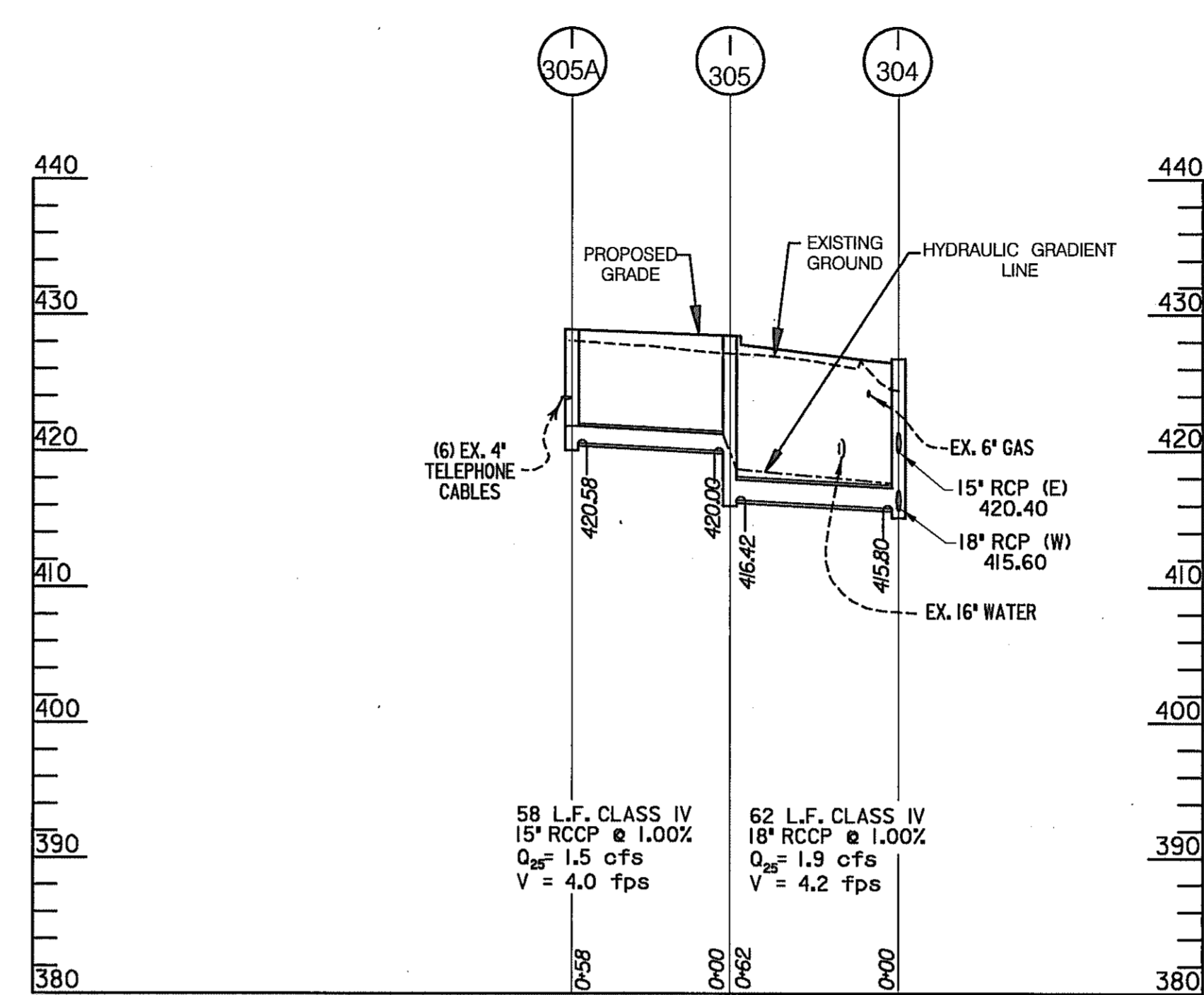


REVISIONS	
ADDENDUM NO. 2	DATE: 8/25/01
REDLINE NO. 1	DATE: 7/30/01
REDLINE NO. 3	DATE: 1/31/02

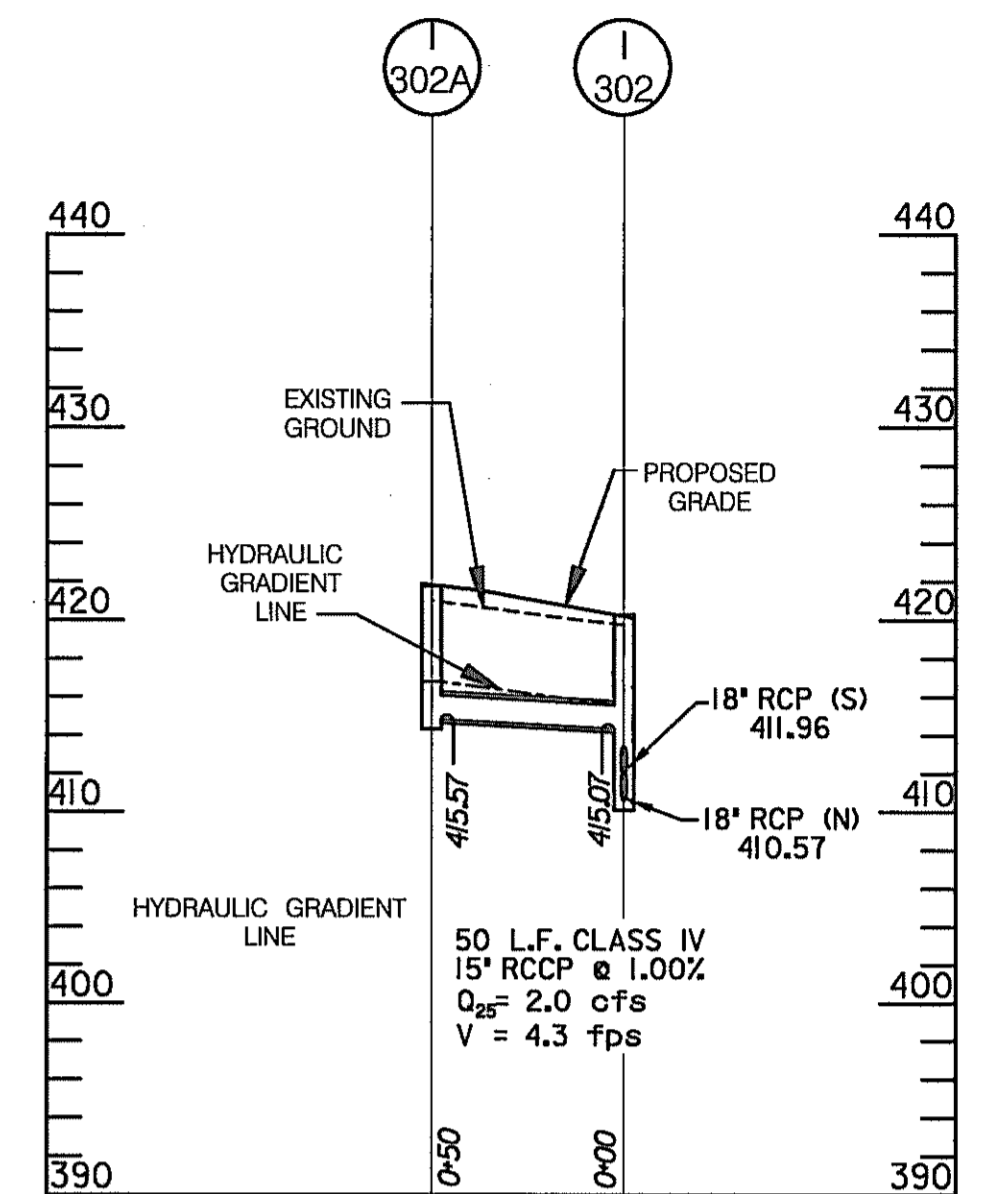
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY	SBP	FINAL TRAC. BY	AAP
SHEET NO.	142	OF	320



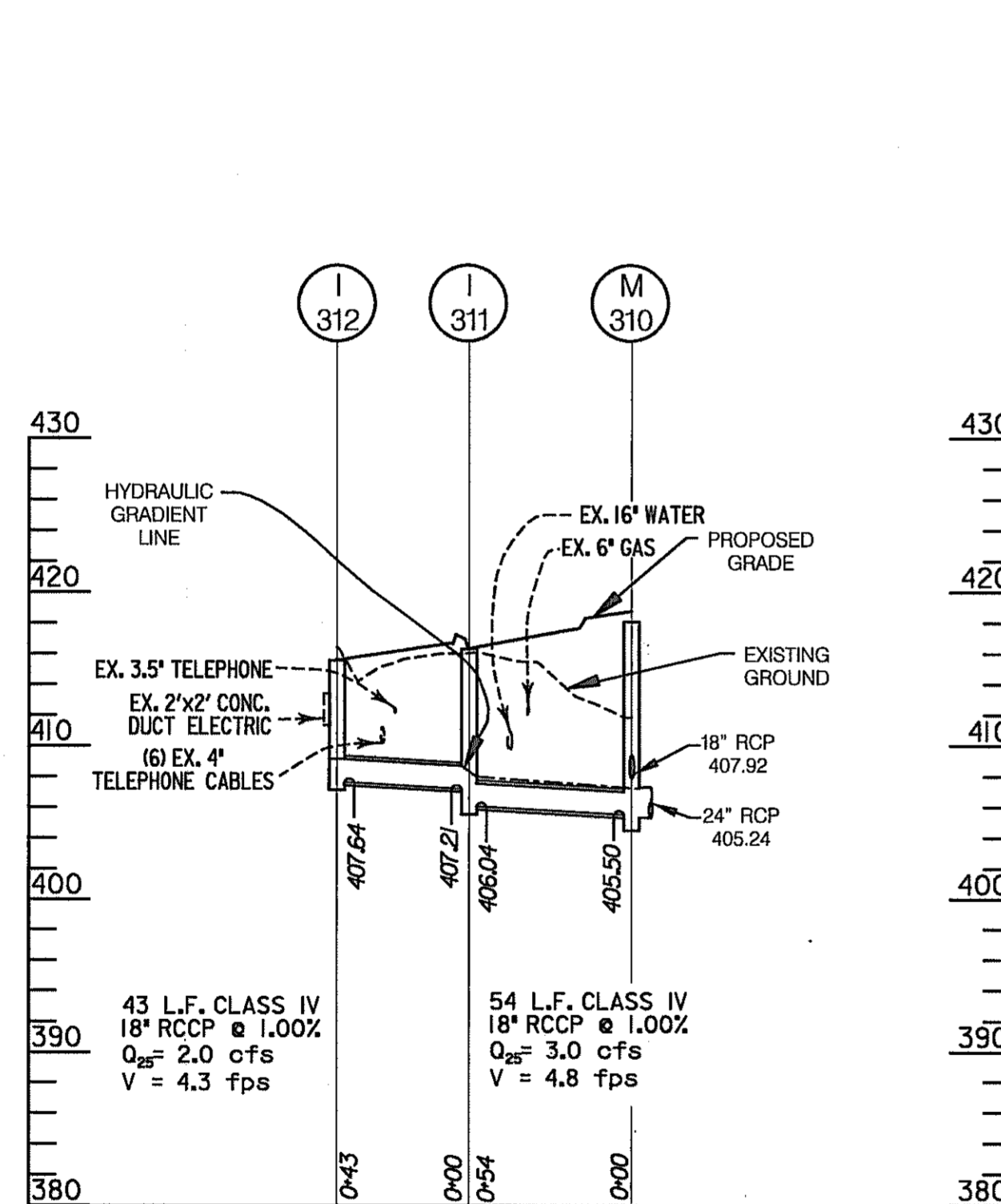
STA. 70+83 TO STA.75+97, - JOHNS HOPKINS ROAD



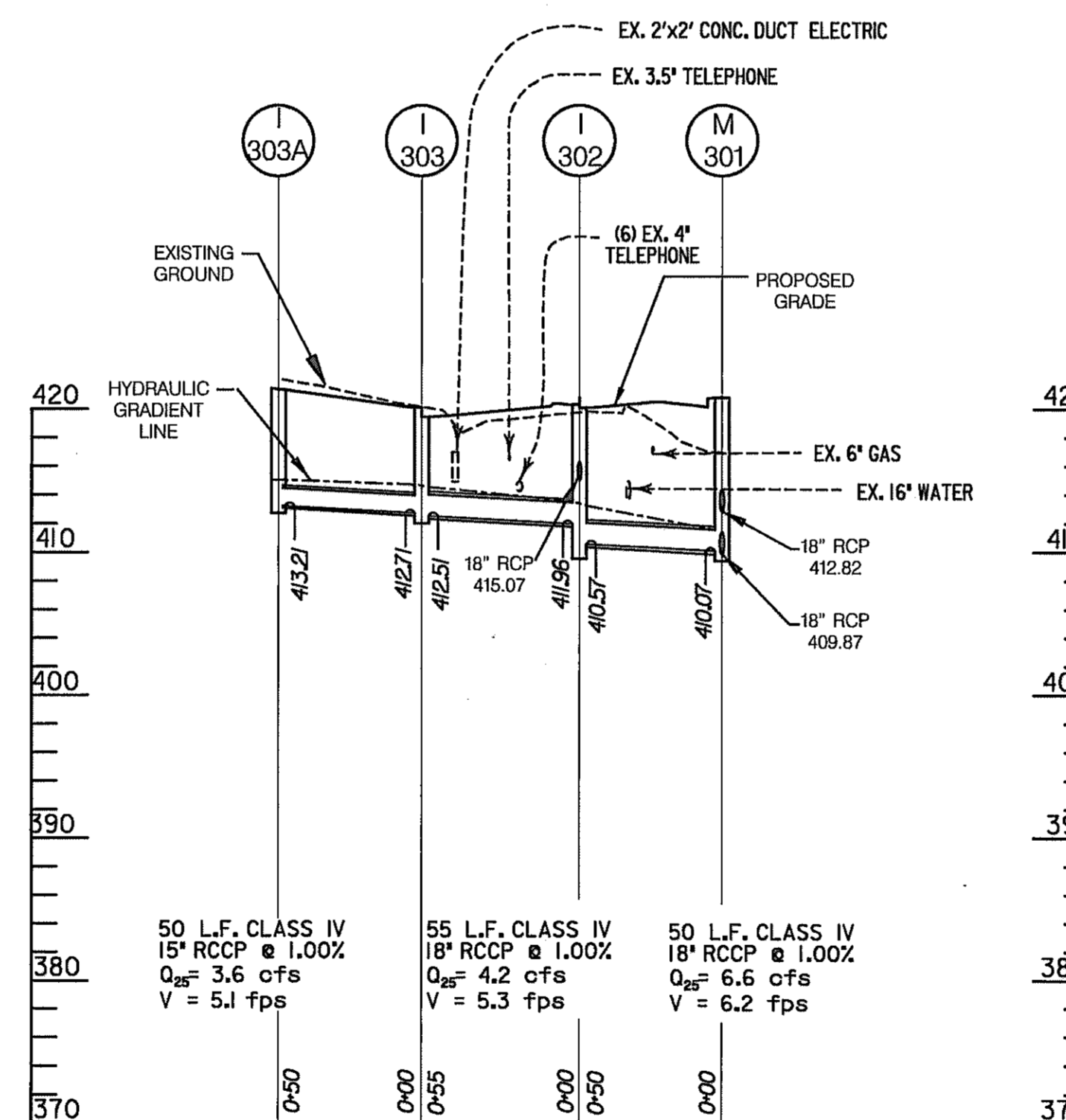
STA. 70+63 TO STA. 72+02, - JOHNS HOPKINS ROAD



STA. 73+87 TO STA.74+37
JOHNS HOPKINS ROAD



STA. 75+97, - JOHNS HOPKINS ROAD



STA. 73+87 TO STA. 74+53 - JOHNS HOPKINS ROAD

NOTES:

1. STATIONS FOR CURB OPENING INLETS ARE LOCATED AT THE FACE OF CURB AT THE CENTERLINE OF THE COLLECTION STRUCTURE.
2. ALL OTHER INLETS AND MANHOLES ARE LOCATED AT THE CENTER OF STRUCTURE.
3. ENDWALLS ARE LOCATED AT THE CENTER POINT OF THE FACE OF WALL.
4. END SECTIONS ARE LOCATED AT THE CENTERLINE OF THE OUTFALL PIPE WHERE IT MEETS THE END SECTION.
5. FILL NOTE -- WHERE EXISTING GROUND IS BELOW, OR WITHIN THREE (3) FEET OF THE PROPOSED TOP ELEVATION OF ANY PIPE, OR CONDUIT, FILL MATERIAL SHALL BE PLACED TO A DEPTH OF NOT LESS THAN THREE (3) FEET ABOVE THE PROPOSED TOP OF THE PIPE OR CONDUIT PRIOR TO INSTALLATION. THE FILL MATERIAL SHALL BE PLACED PER THE REQUIREMENTS OF SECTION 204 -- EMBANKMENT AND SUBGRADE, AS SPECIFIED IN THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS. AFTER THE FILL MATERIAL HAS BEEN PLACED AND TESTED BY THE ENGINEER AS MEETING THE SPECIFICATIONS FOR IN PLACE COMPACTION DENSITY, EXCAVATION MAY PROCEED FOR THE INSTALLATION OF THE PIPE OR CONDUIT.

SCALE { HOR. 1 IN. = 50 FT.
VERT. 1 IN. = 10 FT.

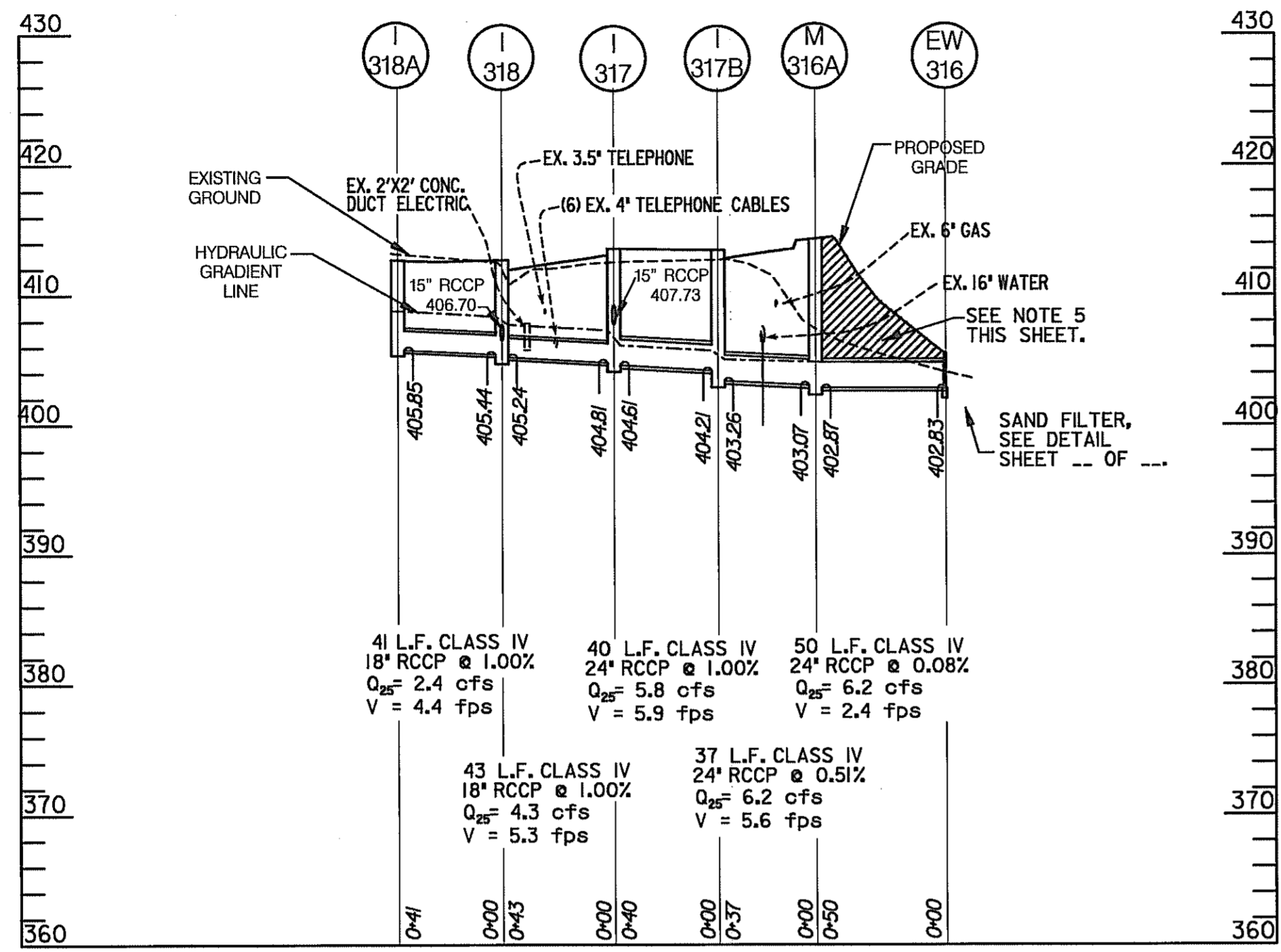
STORM DRAIN PROFILES

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

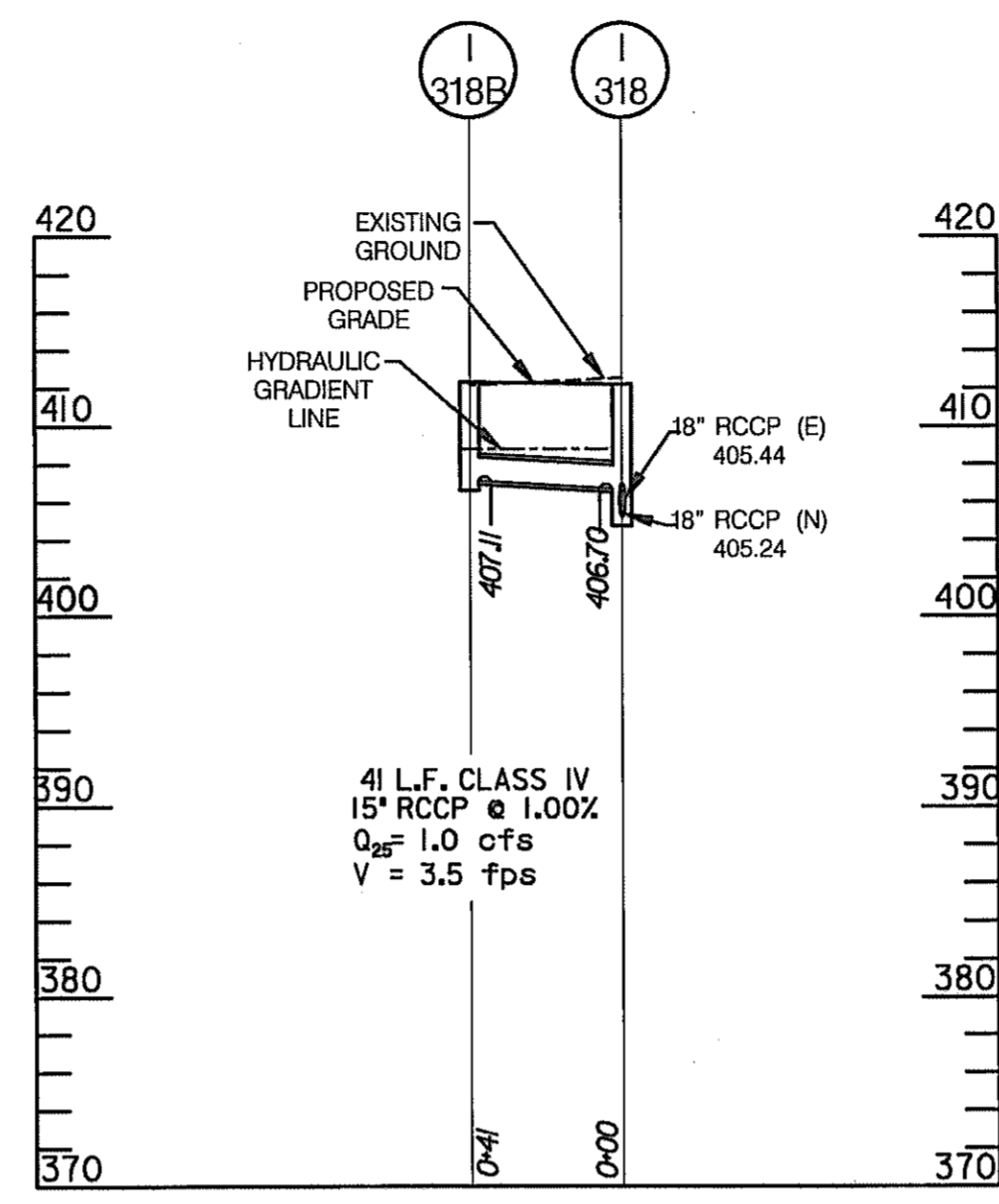
REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

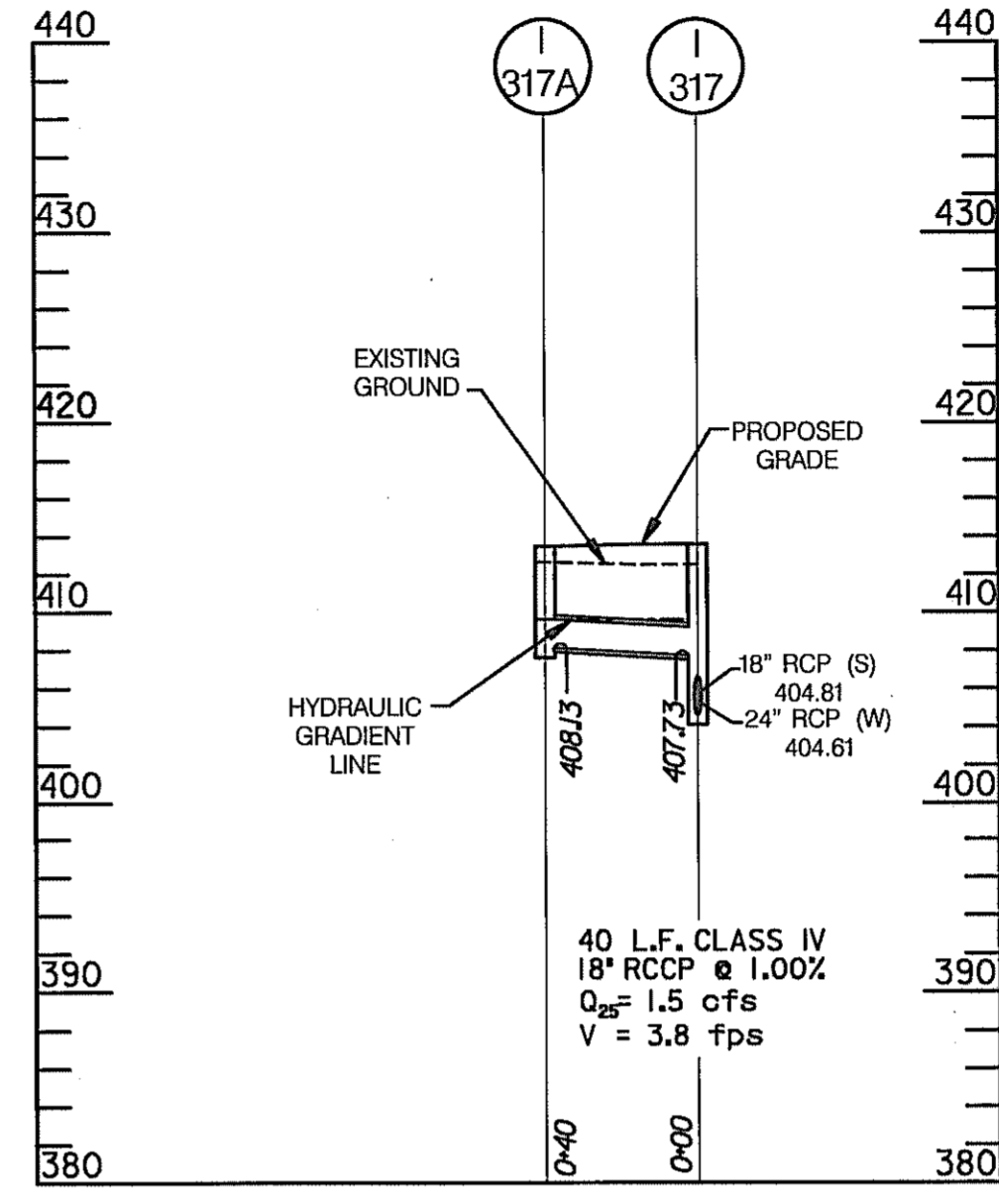
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PREL. TRAC. BY FINAL TRAC. BY



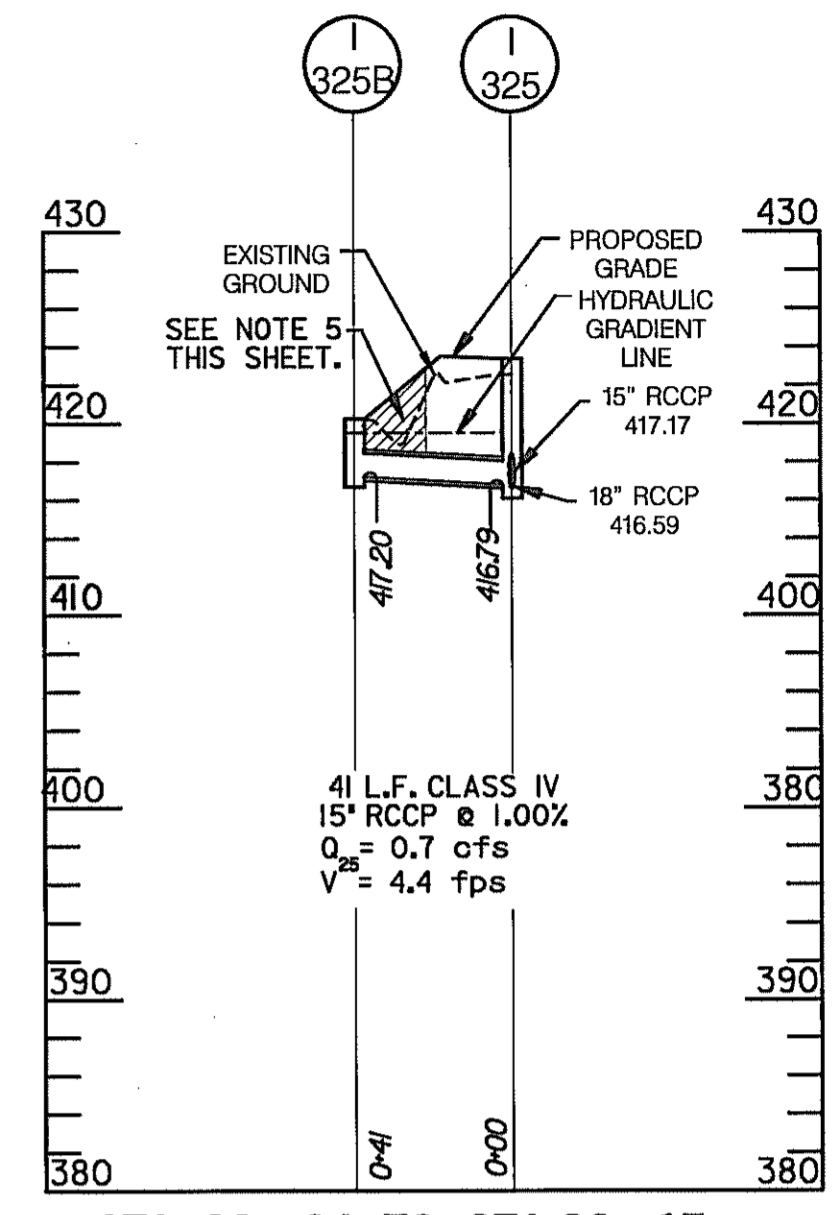
STA. 77+47 TO STA.78+94, - JOHNS HOPKINS ROAD



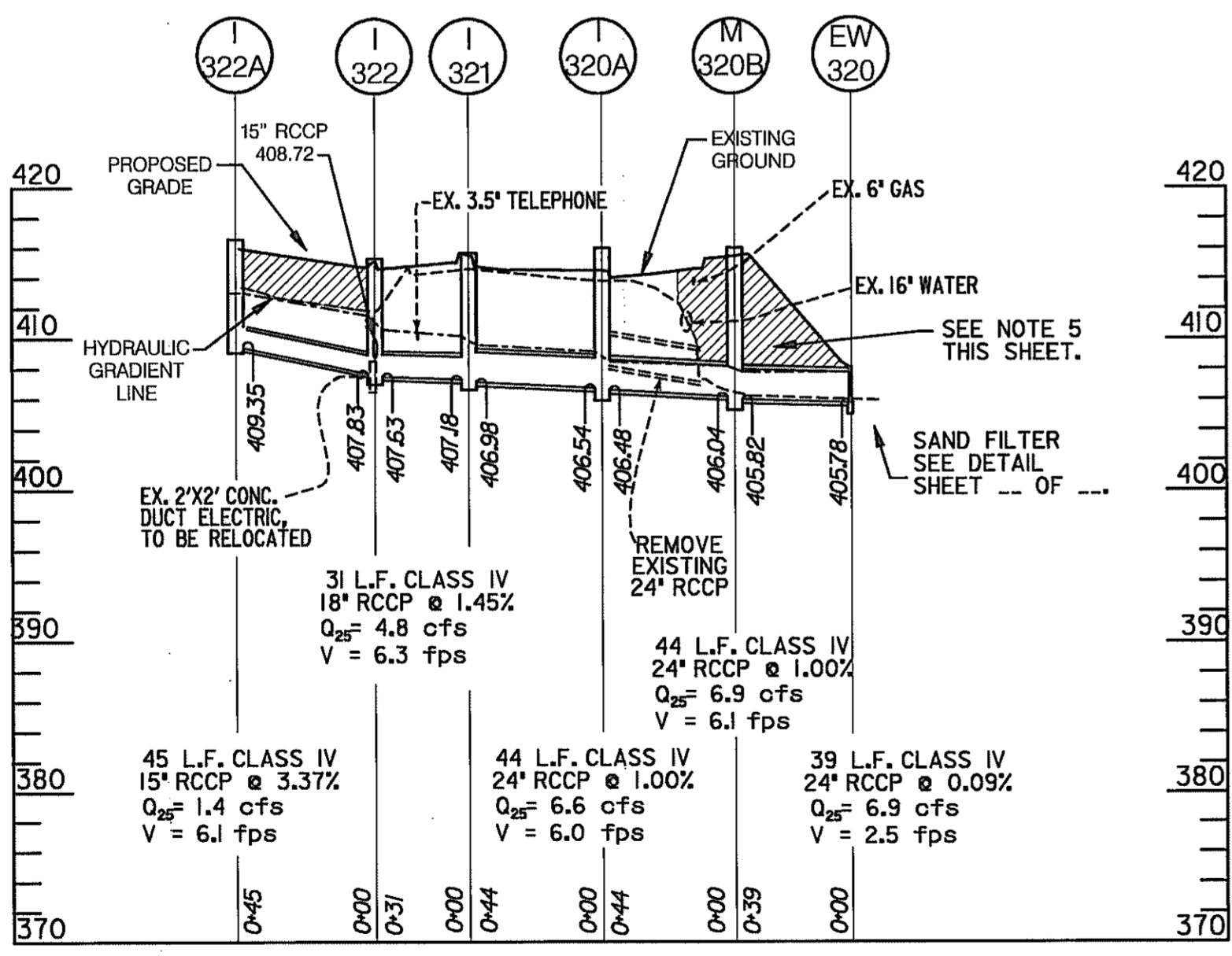
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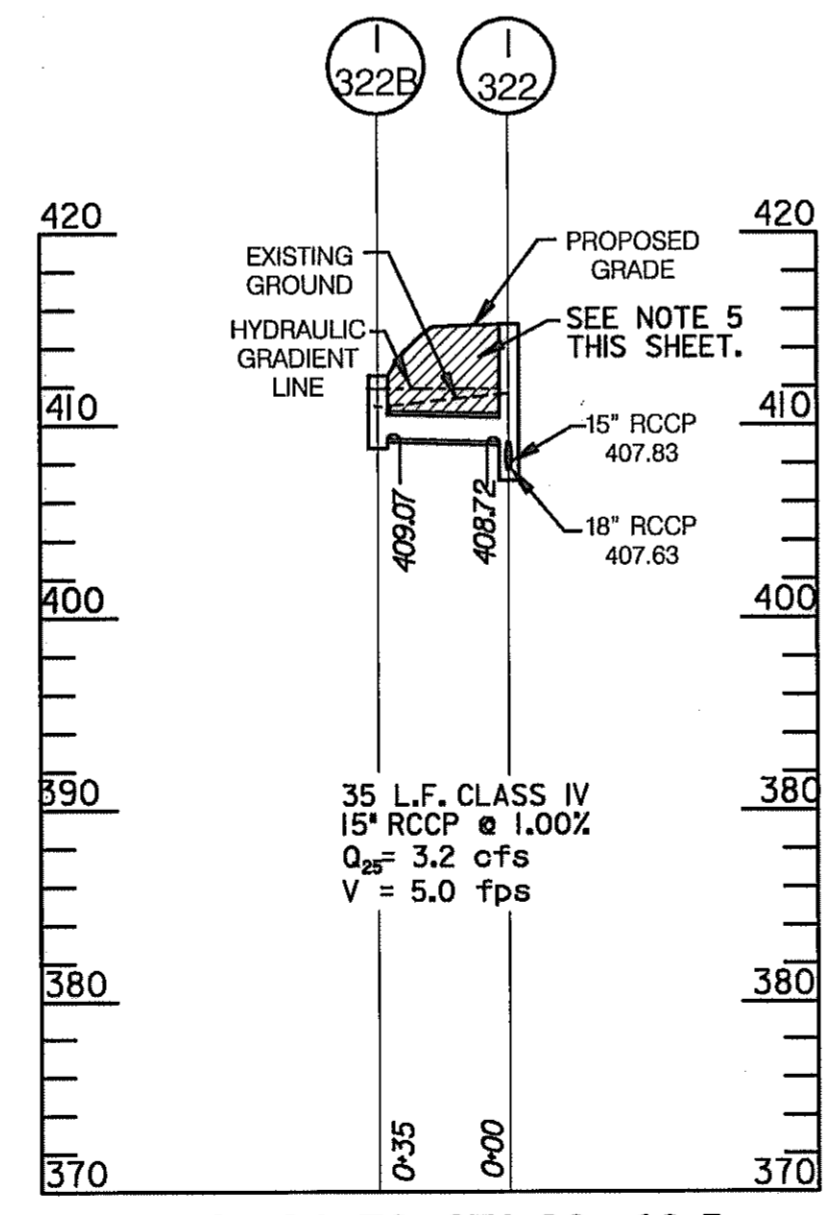
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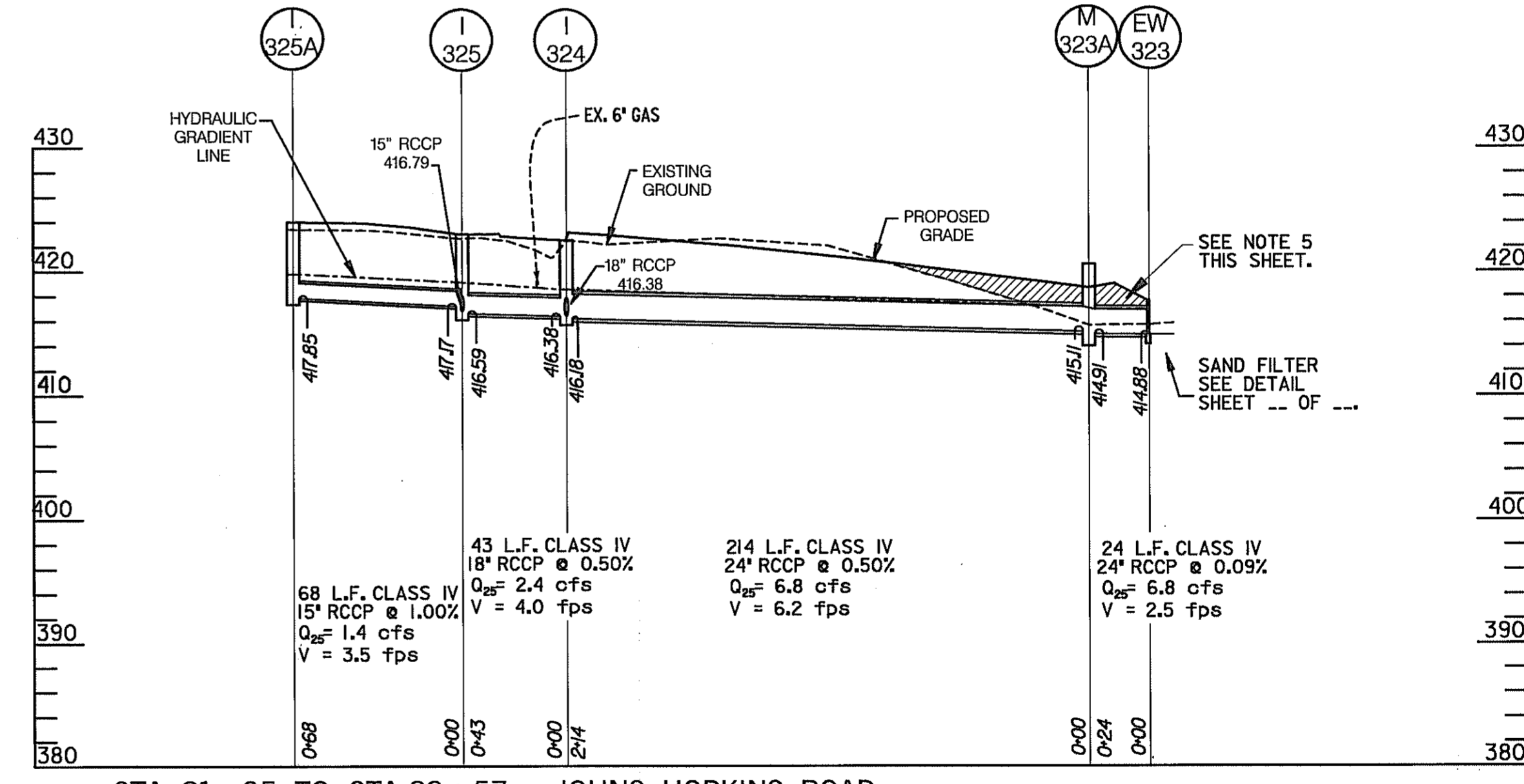
STA. 83+04 TO STA.83+17, JOHNS HOPKINS ROAD



STA. 80+10.50 TO STA.80+55, - JOHNS HOPKINS ROAD



STA. 78+84 TO STA.80+10.5, JOHNS HOPKINS ROAD



STA. 81+05 TO STA.83+57, - JOHNS HOPKINS ROAD

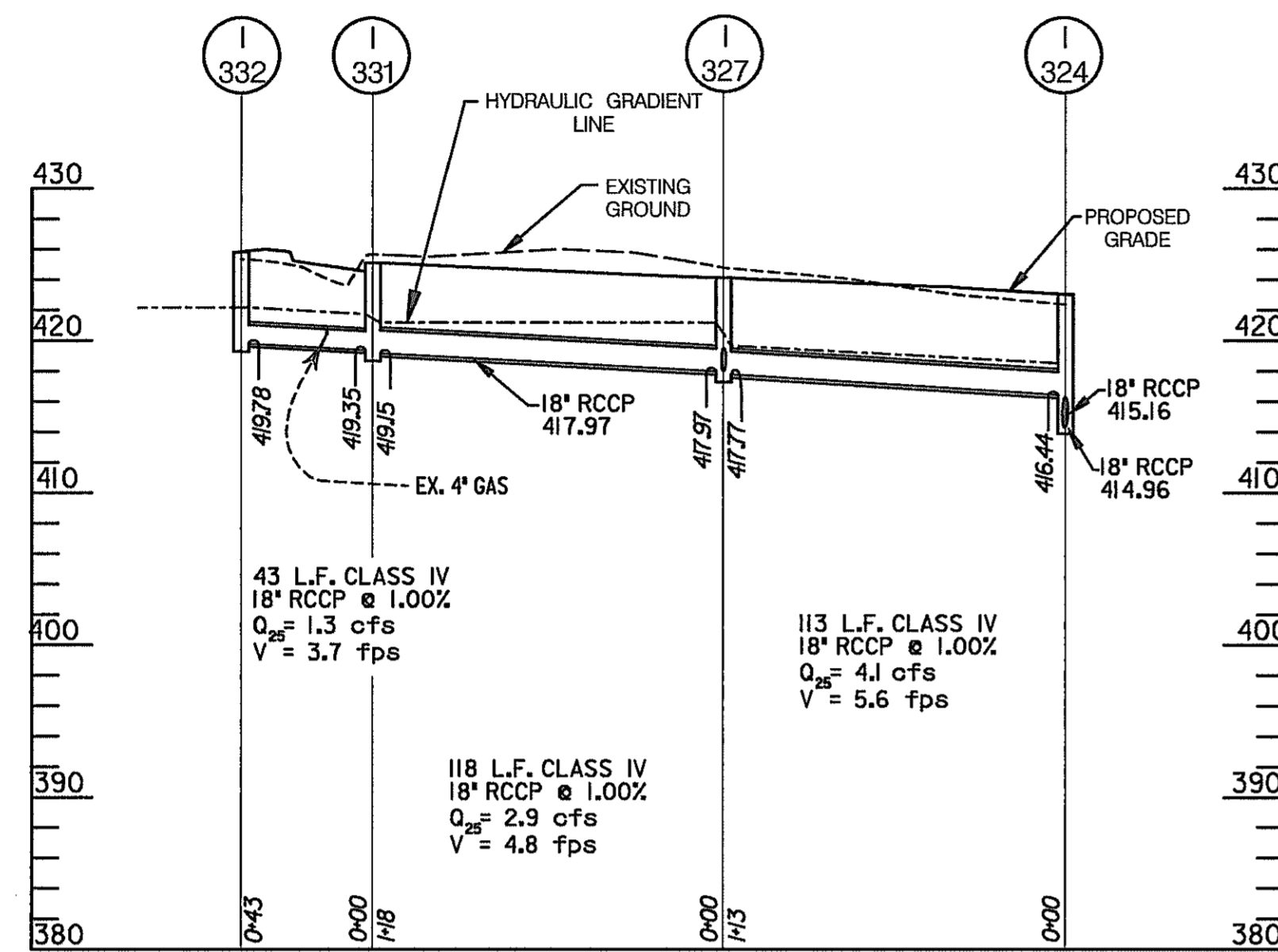
NOTES:

1. STATIONS FOR CURB OPENING INLETS ARE LOCATED AT THE FACE OF CURB AT THE CENTERLINE OF THE COLLECTION STRUCTURE.
2. ALL OTHER INLETS AND MANHOLES ARE LOCATED AT THE CENTER OF STRUCTURE.
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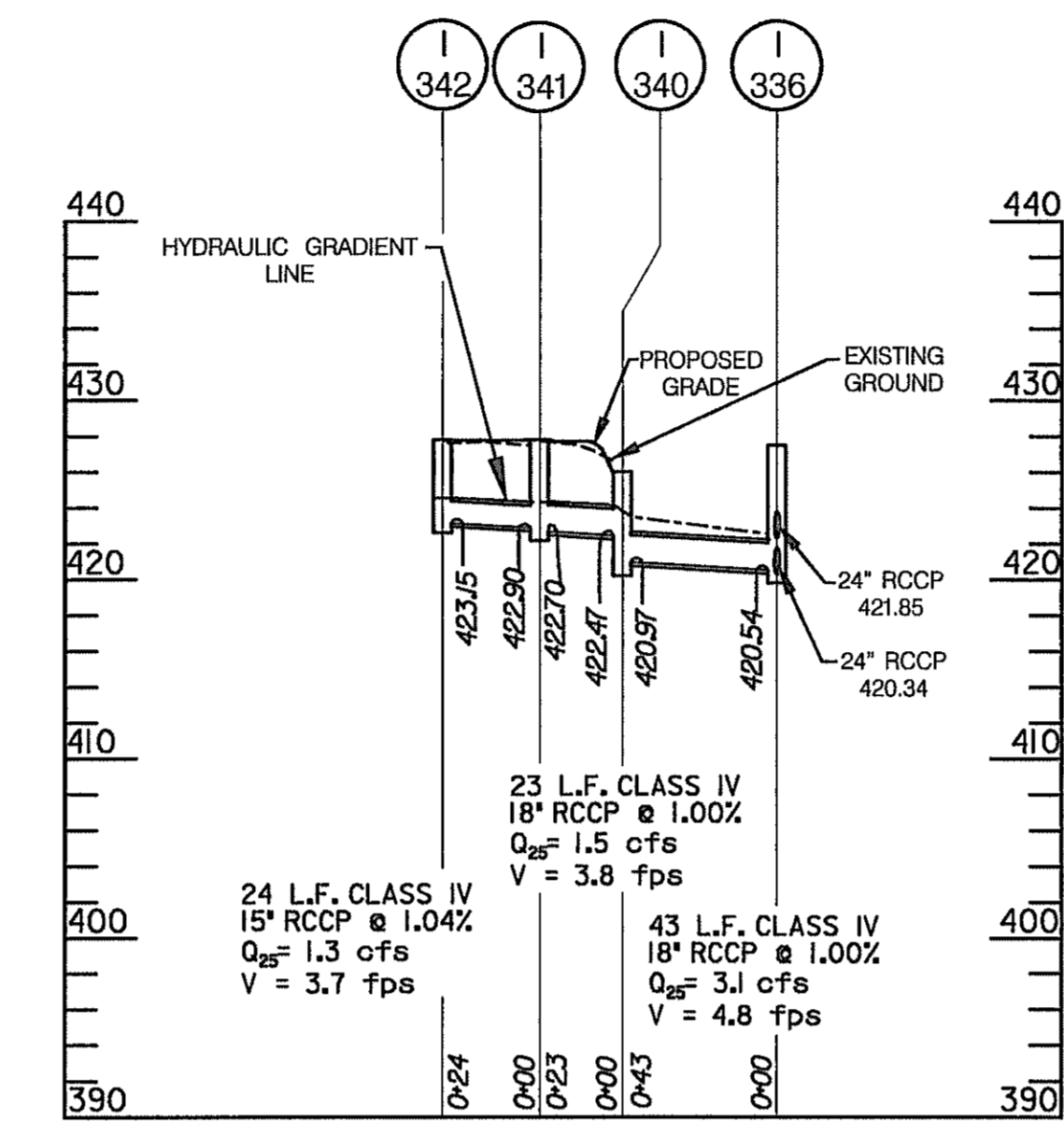
SCALE { HOR. 1 IN. = 50 FT.
VERT. 1 IN. = 10 FT.

STORM DRAIN PROFILES

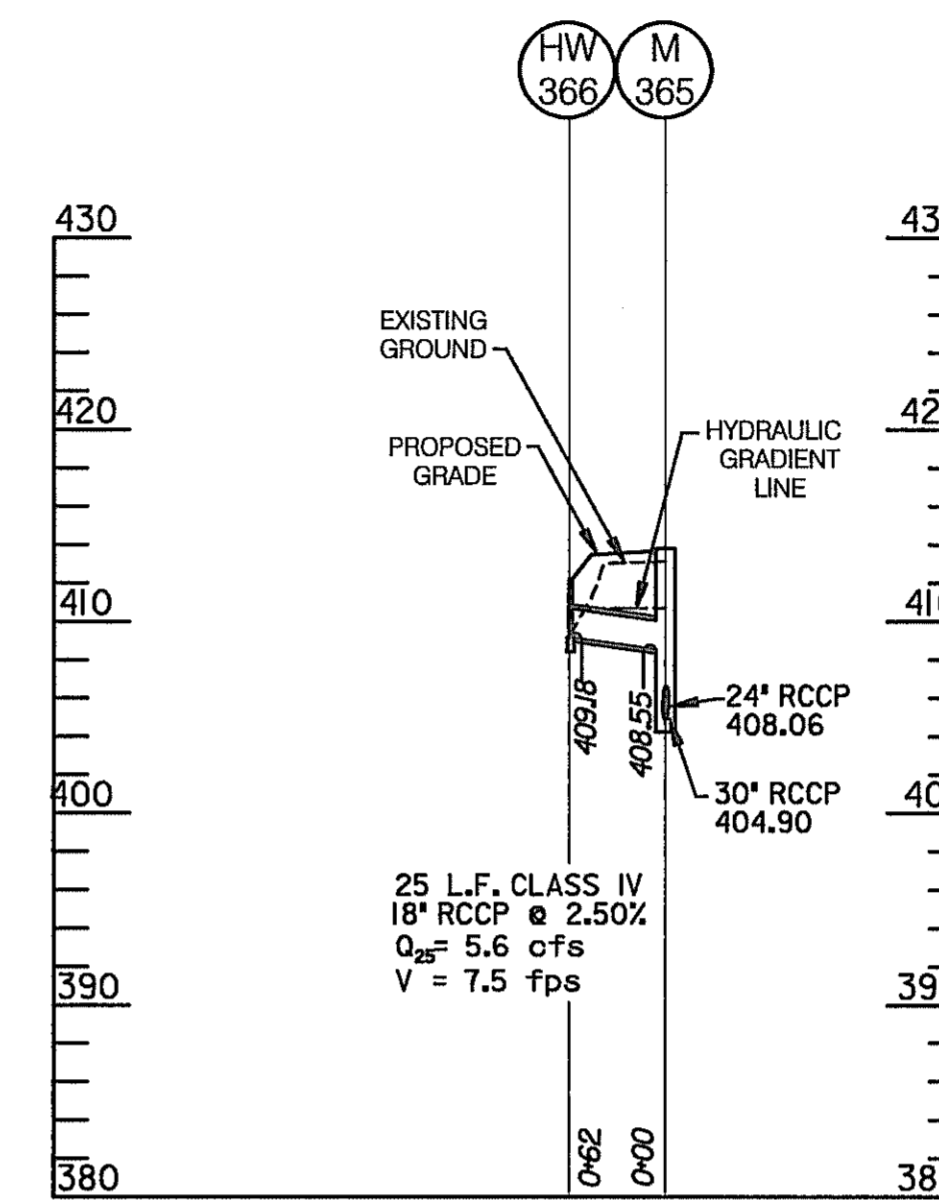
REVISIONS 		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD
HURST-ROSCHÉ ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683		
CONT. NO. HO7415170 PREL. TRAC. BY	F.A.P. NO. SEE TITLE SHEET FINAL TRAC. BY	SHEET NO. 144 OF 320



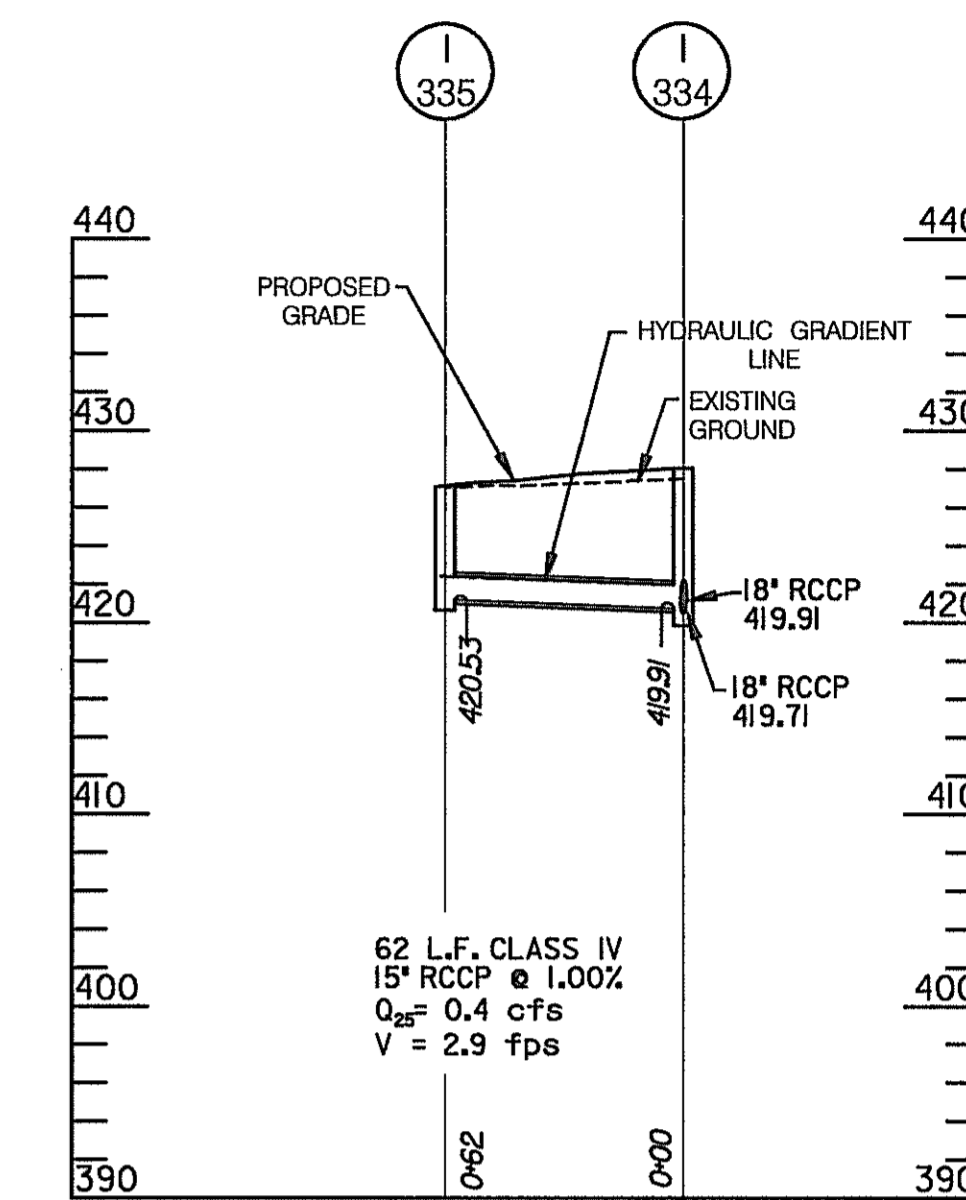
STA. 83+16 TO STA.85+48, - JOHNS HOPKINS ROAD



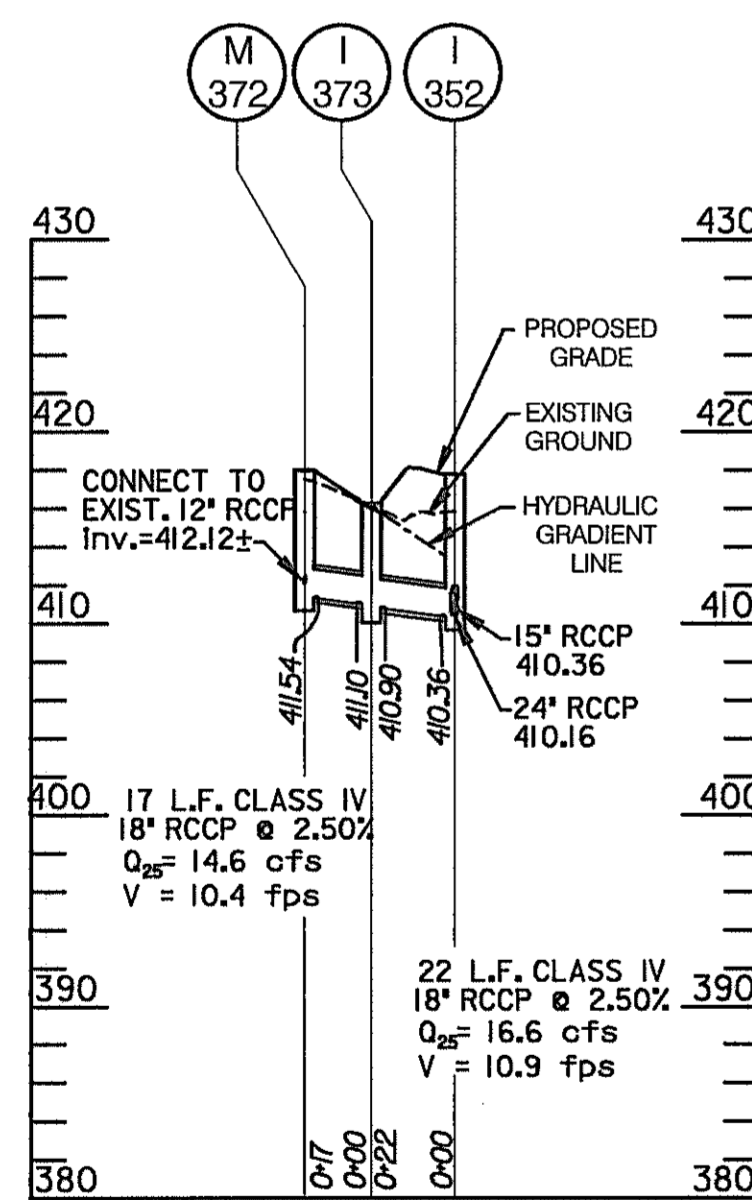
STA. 87+18 TO STA.87+63, - JOHNS HOPKINS ROAD



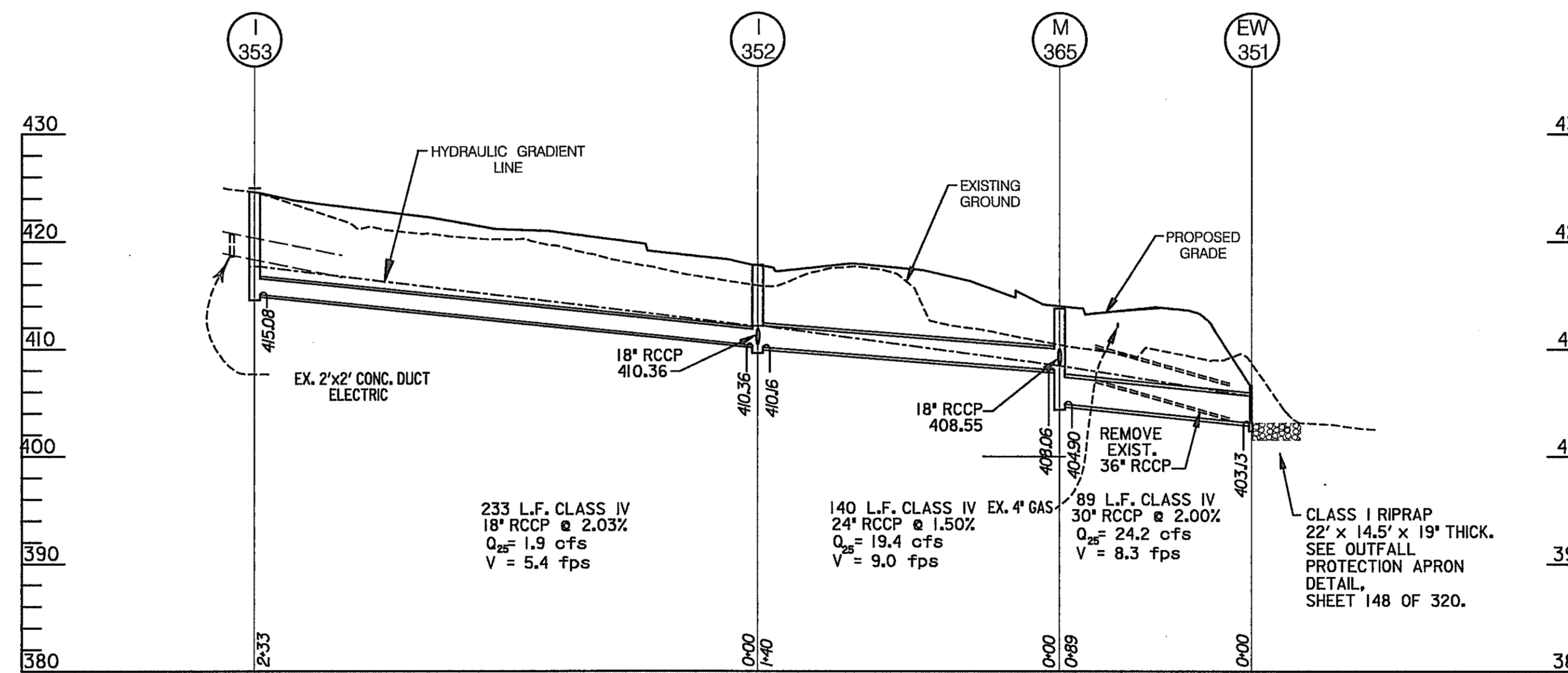
STA. 95+00 - JOHNS HOPKINS ROAD



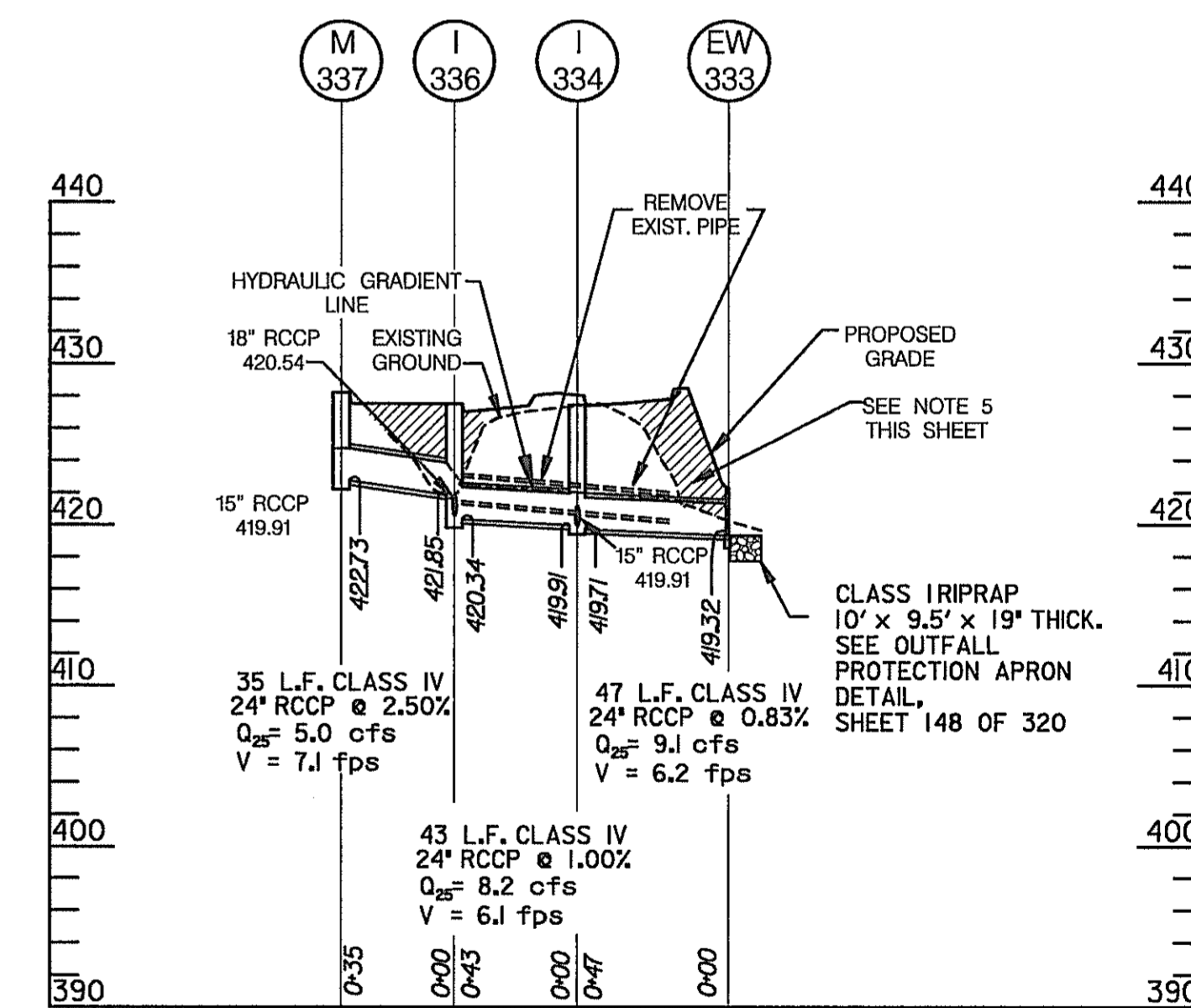
STA. 87+21 TO STA.87+71, - JOHNS HOPKINS ROAD



STA. 91+16
JOHNS HOPKINS ROAD



STA. 91+19 TO STA.95+17, - JOHNS HOPKINS ROAD



STA. 87+21 TO STA.87+77, - JOHNS HOPKINS ROAD

NOTES:

1. STATIONS FOR CURB OPENING INLETS ARE LOCATED AT THE FACE OF CURB AT THE CENTERLINE OF THE COLLECTION STRUCTURE.
2. ALL OTHER INLETS AND MANHOLES ARE LOCATED AT THE CENTER OF STRUCTURE.
3. ENDWALLS ARE LOCATED AT THE CENTER POINT OF THE FACE OF WALL.
4. END SECTIONS ARE LOCATED AT THE CENTERLINE OF THE OUTFALL PIPE WHERE IT MEETS THE END SECTION.
5. FILL NOTE -- WHERE EXISTING GROUND IS BELOW, OR WITHIN THREE (3) FEET OF THE PROPOSED TOP ELEVATION OF ANY PIPE, OR CONDUIT, FILL MATERIAL SHALL BE PLACED TO A DEPTH OF NOT LESS THAN THREE (3) FEET ABOVE THE PROPOSED TOP OF THE PIPE OR CONDUIT PRIOR TO INSTALLATION. THE FILL MATERIAL SHALL BE PLACED PER THE REQUIREMENTS OF SECTION 204 -- EMBANKMENT AND SUBGRADE, AS SPECIFIED IN THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS. AFTER THE FILL MATERIAL HAS BEEN PLACED AND TESTED BY THE ENGINEER AS MEETING THE SPECIFICATIONS FOR IN PLACE COMPACTION DENSITY, EXCAVATION MAY PROCEED FOR THE INSTALLATION OF THE PIPE OR CONDUIT.

SCALE { HOR. 1 IN. = 50 FT.
VERT. 1 IN. = 10 FT.

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

STORM DRAIN PROFILES

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 145 OF 320
PREL. TRAC. BY FINAL TRAC. BY

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	OFFSET	TYPE	ELEVATION		STD. NO.	REMARKS
				TOP	INV. OUT		
I-152B	598+90 U.S ROUTE 29	61' LT.	TRIPLE WR INLET	298.50	278.85	MD-374.08	*
I-156	1024+70 OLD COLUMBIA ROAD	12' RT.	STD. WR INLET	335.02	329.80	MD-374.04	
I-155	1027+70 OLD COLUMBIA ROAD	16' LT.	TRIPLE WR INLET	317.64	309.08	MD-374.08	
I-154	1027+71 OLD COLUMBIA ROAD	12' RT.	STD. WR INLET	318.54	308.70	MD-374.04	
I-153	1030+70 OLD COLUMBIA ROAD	12' RT.	STD. WR INLET	301.49	295.50	MD-374.04	
I-152A	1032+50 OLD COLUMBIA ROAD	12' RT.	STD. WR INLET	291.22	285.00	MD-374.04	
I-152	1032+73 OLD COLUMBIA ROAD	16' LT.	TRIPLE WR INLET	288.96	277.50	MD-374.08	
M-151A	1034+58 OLD COLUMBIA ROAD	0.00'	60" DIAMETER PRECAST MANHOLE	278.93	272.60	MD-384.03	
I-151	1035+25 OLD COLUMBIA ROAD	12' RT.	STD 15' COG INLET	275.55	269.80	MD-374.51	
I-150	1036+96 OLD COLUMBIA ROAD	10' RT.	STD 10' COG INLET	266.04	260.00	MD-374.51	
I-150A	1036+97 OLD COLUMBIA ROAD	10' LT.	STD 10' COG INLET	266.04	258.92	MD-374.51	
EW-149	1037+70 OLD COLUMBIA ROAD	80' LT.	STD. TYPE 'C' ENDWALL FOR 30" RCCP		255.00	MD-354.01	*
I-155A	603+92 U.S ROUTE 29	57.65' LT.	TRIPLE WR INLET	322.10	309.21±	MD-374.08	
I-130A	611+95 U.S ROUTE 29	58' LT.	TRIPLE WR INLET	362.00	350.50	MD-374.08	
I-131	1019+66 OLD COLUMBIA ROAD	16' LT.	STD. WR INLET	358.48	350.30	MD-374.04	TOP EL. @ FACE OF BARRIER
I-130	1019+66 OLD COLUMBIA ROAD	12' RT.	STD 20' COG INLET	359.43	349.72	MD-374.51	
EW-129	1019+72 OLD COLUMBIA ROAD	65' RT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP		349.00	MD-354.01	
EW-123	1018+59 OLD COLUMBIA ROAD	75' RT.	STD. TYPE 'C' ENDWALL FOR 48" RCCP		349.94	MD-354.01	
EW-124	1018+34 OLD COLUMBIA ROAD	70.5' RT.	STD. TYPE 'C' ENDWALL FOR 48" RCCP		350.62	MD-354.01	
I-137	104+00 RAMP #1	28' LT.	STD. SINGLE K INLET	380.00	375.50	MD-378.03	
M-136	102+64 RAMP #1	15' LT.	60" DIAMETER PRECAST MANHOLE	376.00	371.24±	MD-384.03	
M-135	1016+63 OLD COLUMBIA ROAD	21.5' LT.	60" DIAMETER PRECAST MANHOLE	376.33	362.00	MD-384.03	
EW-134	1016+75 OLD COLUMBIA ROAD	39' LT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP		357.90	MD-354.01	
EW-9	620+94 U.S ROUTE 29	83' LT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP		388.20	MD-354.01	**
EW-141	208+50 RAMP #2	51' LT.	STD. TYPE 'C' ENDWALL FOR 27" RCCP		380.00	MD-354.01	
I-140	1013+97 OLD COLUMBIA ROAD	30.5' LT.	STD. DOUBLE K INLET	369.50	364.10	MD-378.03	
EW-139	1014+39 OLD COLUMBIA ROAD	21' RT.	STD. TYPE 'E' ENDWALL FOR 30" RCCP		363.40	MD-356.01	
ES-143	1014+15 OLD COLUMBIA ROAD	28' RT.	STD. 18" CONC. END SECTION		363.60	MD-368.02	
ES-144	1013+76 OLD COLUMBIA ROAD	28' RT.	STD. 18" CONC. END SECTION		367.60	MD-368.02	
EW-125	1005+74.5 OLD COLUMBIA ROAD +90.5	105' 85" RT.	STD. TYPE 'C' ENDWALL FOR 30" RCCP	24"	348.00 344.00	MD-354.01	
EW-126	1005+70 OLD COLUMBIA ROAD	60' LT.	STD. TYPE 'C' ENDWALL FOR 30" RCCP	24"	357.00	MD-354.01	
I-210	205+25 RAMP #2	28' RT.	STD 10' COG INLET	402.21	391.20	MD-374.51	
EW-208	205+25 RAMP #2	74' RT.	STD. TYPE 'C' ENDWALL FOR 18" RCCP		387.30	MD-354.01	
I-254	509+13 RAMP #5	51' RT.	STD. SINGLE K INLET	395.00	392.45	MD-378.03	
I-170	509+12 RAMP #5	0.0' LT	STD 20' COG INLET	395.77	391.75	MD-374.51	
ES-169	507+97 RAMP #5	68' LT.	STD. 18" CONC. END SECTION		390.35	MD-368.02	
					304.75		
EW-117	309+59 RAMP #3	43' RT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP	27"	388.65 384.65	MD-354.01	
EW-116	310+27 RAMP #3	68' LT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP	27"	388.65 383.65	MD-354.01	
EW-108	639+89 U.S ROUTE 29	151' RT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP		369.50	MD-354.01	
I-107	639+89 U.S ROUTE 29	103' RT.	STD. SINGLE K INLET	373.16	367.16±	MD-378.03	
M-104	501+67 RAMP #5	27' RT.	60" DIAMETER PRECAST MANHOLE	375.12	359.00	MD-384.03	
M-102	503+39 RAMP #5	28' RT.	72" DIAMETER PRECAST MANHOLE	379.68	357.68	MD-384.05	
EW-103	503+94 RAMP #5	33' LT.	STD. TYPE 'C' ENDWALL FOR 48" RCCP		364.30	MD-354.01	
EW-101	503+46 RAMP #5	102' RT.	STD. B-48 HEADWALL		356.50	MD-352.01	
I-202a	30+99.0 MONTPELIER ROAD	5.0' RT.	STD 5' COS INLET	429.85	419.52	MD-374.61	
I-203	30+92 MONTPELIER ROAD	50' LT.	STD 10' COS INLET	428.00	419.97	MD-374.61	
I-202	66+60 JOHN HOPKINS ROAD	63.5' RT.	STD 10' COS INLET	426.21	447.92 410.17	MD-374.61	
I-201	65+50 JOHN HOPKINS ROAD 65+56	61' RT.	STD 20' COG INLET	422.80 416.72	417.47	MD-374.51	
I-200	65+50 JOHN HOPKINS ROAD 65+56	11' LT.	STD 20' COG INLET	423.66	423.44 445.44	MD-374.51	
I-113A	62+37 JOHN HOPKINS ROAD	7' LT.	STD 15' COS INLET	416.36	409.56	MD-374.61	
EW-115	62+52 JOHN HOPKINS ROAD	88' RT.	STD. TYPE 'C' ENDWALL FOR 27" RCCP		410.80	MD-354.01	
I-114	62+37 JOHN HOPKINS ROAD	11' RT.	STD 10' COS INLET	416.36	409.80	MD-374.61	
I-113	62+31 JOHN HOPKINS ROAD	52.5' LT.	STD 10' COS INLET	415.40	408.48	MD-374.61	
M-112A	402+32.4 RAMP #4	23.1' LT	72" DIAMETER PRECAST MANHOLE	402.90	384.05	MD-384.05	
EW-171	402+50 RAMP #4	58' RT.	STD. TYPE 'C' ENDWALL FOR 18" RCCP		404.50	MD-354.01	
EW-112	62+39 JOHN HOPKINS ROAD	102' LT.	STD. TYPE 'C' ENDWALL FOR 27" RCCP		401.60	MD-354.01	
M-300	401+77 RAMP #4	12.18' LT.	60" DIAMETER PRECAST MANHOLE	415.03	406.50	MD-384.03	
I-302	401+75 RAMP #4	16' RT.	STD 15' COG INLET	412.80	407.50	MD-374.51	
I-310	59+00 JOHN HOPKINS ROAD	8' RT.	STD 20' COG INLET	422.38	416.50	MD-374.51	
I-308	57+50 JOHN HOPKINS ROAD	48' LT.	STD 10' COG INLET	425.10	419.00	MD-374.51	
I-306	56+75 JOHN HOPKINS ROAD	50' LT.	STD 10' COG INLET	421.82	406.00	MD-374.51	
EW-304	58+95 JOHN HOPKINS ROAD	103' LT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP		401.60	MD-354.01	
I-308a	57+17.0 JOHN'S HOPKINS ROAD	4.0' LT.	STD 10' COG INLET	426.64	420.05	MD-374.51	
I-264	63+41.6 JOHN HOPKINS ROAD	11' RT.	STD 20' COG INLET	416.50	412.48	MD-374.51	
I-262	66+46.8 JOHN HOPKINS ROAD 66+23	7' RT.	STD 20' COG INLET	426.02	425.09 419.20	MD-374.51	
I-260	61+33.4 JOHN HOPKINS ROAD	11' RT.	STD 15' COG INLET	416.49	410.00	MD-374.51	
I-258	61+13.4 JOHN HOPKINS ROAD	7' LT.	STD 15' COG INLET	416.61	408.80	MD-374.51	
I-256	61+11.9 JOHN HOPKINS ROAD	49' LT.	STD 15' COG INLET	416.09	407.00	MD-374.51	
I-254A	506+75 RAMP #5 506+54	50' RT.	STD. SINGLE K INLET	386.92 387.20	387.04 383.70	MD-378.03	
EW-254B	506+25.9 RAMP #5	61.1' RT.	STD. TYPE 'C' ENDWALL FOR 18" RCCP		385.60 383.40	MD-354.01	
EW-111	1403+10 SPUR #4	59.3' RT.	STD. TYPE 'C' ENDWALL FOR 30" RCCP		398.40	MD-354.01	
ES-110	1403+94.4 SPUR #4	27.81' LT.	STD. 30" CONC. END SECTION		397.10	MD-368.02	
I-260a	62+00.0 JOHN'S HOPKINS ROAD	61.0' RT.	STD 5' COS INLET	416.58	410.91	MD-374.61	
I-202b	30+99.8 MONTPELIER ROAD	6.95' LT.	STD 5' COS INLET	429.85	419.66	MD-374.61	

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	OFFSET	TYPE	ELEVATION		STD. NO.	REMARKS
				TOP	INV. OUT		
I-166	44+80.6 JOHN HOPKINS ROAD	40.15' LT.	STD 10' COS INLET	407.46	400.75	MD-374.61	
I-167	44+73.5 JOHN HOPKINS ROAD	26.66' RT.	STD 15' COS INLET	407.73	402.00	MD-374.61	
ES-165	44+90 JOHN HOPKINS ROAD	69' LT.	STD. 18" CONC. END SECTION		400.10	MD-368.02	
I-166A	46+97.80 JOHN HOPKINS ROAD	47.10' LT.	STD 20' COG INLET	409.80	403.35	MD-374.51	
I-167A	46+97 JOHN HOPKINS ROAD	38.50' RT	STD 20' COG INLET	409.97	404.40	MD-374.51	
ES-186	3002+21 HAMMOND PARKWAY	30.65' LT.	STD. 18" CONC. END SECTION		404.91	MD-368.02	
ES-184	3002+35 HAMMOND PARKWAY	30.25' LT.	STD. 18" CONC. END SECTION		404.71	MD-368.02	
ES-182	3002+98 HAMMOND PARKWAY	29.51' LT.	STD. 18" CONC. END SECTION		403.05	MD-368.02	
ES-180	3003+22 HAMMOND PARKWAY	30.02' LT.	STD. 18" CONC. END SECTION		402.71	MD-368.02	
ES-178	3003+90 HAMMOND PARKWAY	32.79' LT.	STD. 18" CONC. END SECTION		401.44	MD-368.02	
ES-176	3004+15 HAMMOND PARKWAY	35.94' LT.	STD. 18" CONC. END SECTION		401.09	MD-368.02	
I-312	52+00 JOHN HOPKINS ROAD	8.00' RT.	STD 15' COG INLET	425.43	425.60 420.00	MD-374.51	
I-120	49+54.4 JOHN HOPKINS ROAD	49.15' RT.	STD 20' COG INLET	417.16	400.00	MD-374.51	
ES-119	49+81 JOHN HOPKINS ROAD	115' RT.	STD. 18" CONC. END SECTION 24"		386.90	MD-368.02	
I-206	304+00 RAMP #3	30' RT.	STD 20' COG INLET	407.75	403.22	MD-374.51	
ES-204	304+67 RAMP #3	44.5' RT.	STD. 18" CONC. END SECTION		402.65	MD-368.02	
I-214	1006+50 OLD COLUMBIA ROAD	12' LT.	STD 15' COG INLET	379.05	368.74	MD-374.51	
EW-212	1006+51 OLD COLUMBIA ROAD	34' LT.	STD. TYPE 'C' ENDWALL FOR 18" RCCP		367.50	MD-354.01	
EW-240	1022+41 OLD COLUMBIA ROAD	184' RT.	STD. TYPE 'C' ENDWALL FOR 48" RCCP		333.00	MD-354.01	
EW-238	1022+86 OLD COLUMBIA ROAD	187' RT.	STD. TYPE 'C' ENDWALL FOR 48" RCCP		328.00	MD-354.01	
EW-236	1028+25 OLD COLUMBIA ROAD	97' RT.	STD. TYPE 'C' ENDWALL FOR 38"X24" HERCP	307.43		MODIFIED MD-351.01	L= 13', 1' CLR BET., PIPES
EW-234	1028+84 OLD COLUMBIA ROAD	84' RT.	STD. TYPE 'C' ENDWALL FOR 38"X24" HERCP	305.45 304.3		MODIFIED MD-351.01	L= 13', 1' CLR BET., PIPES
EW-232	1028+86 OLD COLUMBIA ROAD	55' RT.		304.3			
EW-232	1029+76 OLD COLUMBIA ROAD	40' RT.	STD. TYPE 'C' ENDWALL FOR 48" RCCP		300.24	MD-354.01	
EW-230	1030+12 OLD COLUMBIA ROAD	41' RT.	STD. TYPE 'C' ENDWALL FOR 48" RCCP		294.20	MD-354.01	
EW-252	599+56 US 29	121' RT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP		297.15	MD-354.01	
M-250	599+49 US 29	102' RT.	60" DIAMETER PRECAST MANHOLE	299.30	295.45	MD-354.01	
EW-160	203+51 RAMP #2	100.0' RT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP		373.10	MD-354.01	
EW-161	203+50 RAMP #2	49' LT.	STD. TYPE 'C' ENDWALL FOR 24" RCCP		382.90	MD-354.01	
CS-148	591+94.4 US 29	172.50' LT.	CONTROL STRUCTURE				SEE DETIL SHT. 134 OF 320
EW-147	591+35.5 US 29	205.70' LT.	STD. TYPE 'C' ENDWALL FOR 24" ASTM C-36		248.25	MD-354.01	
CS-105	502+50.65 RAMP #5	129.7' RT.	CONTROL STRUCTURE				SEE DETIL SHT. 133 OF 320
EW-106	501+95.45 RAMP #5	104.7' RT.	STD. TYPE 'C' ENDWALL FOR 48" ASTM C-361		356.70	MD-354.01	
EW-175B	303+43 RAMP #3	99' RT.	STD. TYPE 'C' ENDWALL FOR 18" RCCP		395.00	MD-354.01	
M-175A	302+48 RAMP #3	120' RT.	60" DIAMETER PRECAST MANHOLE	399.00	391.90	MD-384.03	
I-175	302+00 RAMP #3	91' RT.	STD. DOUBLE K INLET	394.20	389.50	MD-378.03	
I-164	514+32.84 RAMP #5	105.85' RT.	STD. DOUBLE K INLET	400.60	397.00 393.00	MD-378.03	
I-163	515+30 RAMP #5 515+47.4 RAMP #5	92.4' RT.	STD. DOUBLE K INLET	397.00	395.40 387.40	MD-378.03	
ES-162	201+29.4 RAMP #2	158.2' RT.	STD. 24" CONC. END SECTION		368.00	MD-368.02	

* - CONSTRUCT TRIPLE WR INLET OVER EXISTING STORM DRAIN PIPE
 ** - REMOVE EXISTING HEADWALL AND EXTEND 20 LF OF 24" RCP WITH EXISTING SLOPE.

STRUCTURE	STATION	OFFSET	ELEVATION
COS AND COG INLET	CENTER OF 4X4 VAULT	FACE OF CURB AND GUTTER	TOP OF INLET @ FACE OF CURB
WR INLET	CENTER OF STRUCTURE	FACE OF CURB AND GUTTER	TOP OF INLET @ FACE OF CURB
K INLET	CENTER OF STRUCTURE	CENTER OF STRUCTURE	TOP OF GRATE
SD MANHOLE	CENTER OF MANHOLE	CENTER OF MANHOLE	TOP OF RIM
ENDWALL, TYPE "C"	END OF SD PIPE	END OF SD PIPE	INVERT OF PIPE
END SECTION	END OF SD PIPE	END OF SD PIPE	INVERT OF PIPE
TRIPLE WR INLET	CENTER OF STRUCTURE	FACE OF CONCRETE BARRIER	CENTER OF GRATE @ CONC. BARRIER

STORM DRAIN STRUCTURE SCHEDULE



REVISIONS	
1	ADDENDUM NO.2 DATE: 8/25/00
2	REDLINE NO.1 DATE: 2/20/01
3	REDLINE NO.2 DATE: 7/30/01
4	REDLINE NO.3 DATE: 1/31/02

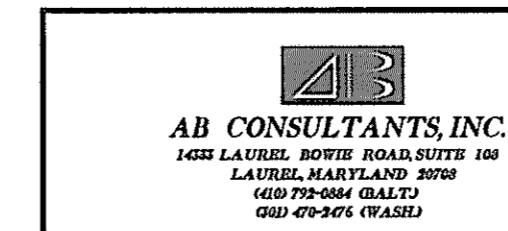
STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 146 OF 320
 PREL. TRAC. BY SBP FINAL TRAC. BY AAP

STORM DRAIN PIPE SCHEDULE							
FROM	TO	SIZE	TYPE	LENGTH L.F.	INV. IN	INV. OUT	REMARKS
I-156	I-154	18"	CLASS IV RCCP	296	329.80	312.90	
I-155	I-154	24"	CLASS IV RCCP	18	309.08	308.90	
I-155A	I-155	24"	CLASS IV RCCP	3	309.21	309.18	
I-154	I-153	24"	CLASS IV RCCP	296	308.70	295.70	
I-153	I-152A	24"	CLASS IV RCCP	176	295.50	285.20	
I-152A	I-152	24"	CLASS IV RCCP	28	285.00	284.00	
I-152	M-151A	30"	CLASS IV RCCP	180	277.50	272.80	
M-151A	I-151	30"	CLASS IV RCCP	65	272.60	270.00	
I-151	I-150	30"	CLASS IV RCCP	166	269.80	260.20	
I-150	I-150A	30"	CLASS IV RCCP	20	260.00	259.12	
I-150A	EW-149	30"	CLASS IV RCCP	98	258.92	255.00	
I-130A	I-131	24"	CLASS IV RCCP	3	350.80	350.50	
I-131	I-130	24"	CLASS IV RCCP	27	350.30	349.92	
I-130	EW-129	24"	CLASS IV RCCP	48	349.72	349.00	
I-137	M-136	24"	CLASS IV RCCP	138	375.50	372.34	
M-135	EW-134	24"	CLASS IV RCCP	60	362.00	357.90	
EX-9	EW-9	24"	CLASS IV RCCP	20	388.39	388.23	EX. 9. HEADWALL TO BE REMOVED
EW-141	I-140	27"	CLASS IV RCCP	265	380.00	364.30	
I-140	EW-139	30"	CLASS IV RCCP	68	364.10	363.40	
ES-144	ES-143	18"	CLASS IV RCCP	39	367.60	363.60	
				158		344.00	
EW-126	EW-125	24"	CLASS V RCCP	146	357.00	348.00	
EW-161	EW-160	24"	CLASS V RCCP	161	382.90	373.10	
EW-117	ES-116	27"	CLASS IV RCCP	130	305.65	304.25	
	EW-116				384.75	383.65	
EW-108	I-107	24"	CLASS IV RCCP	40	369.50	368.66	
M-104	M-102	27"	CLASS V RCCP	166	359.00	357.93	
EW-103	M-102	48"	CLASS IV RCCP	83	364.30	357.93	
M-102	EW-101	48"	CLASS IV RCCP	72	357.68	356.50	
I-254A	EW-254B	18"	CLASS IV RCCP	17 27	384.84 383.70	383.51 383.40	
EW-115	I-114	27"	CLASS IV RCCP	78	410.80	410.00	
I-114	I-113A	27"	CLASS IV RCCP	14	409.80	409.66	
I-113A	I-113	27"	CLASS IV RCCP	42	409.56	409.00	
I-113	M-112A M-300	27"	CLASS IV RCCP	106 43	408.48	404.50 406.72	
I-302	M-300	18"	CLASS IV RCCP	25	407.50	407.00	
M-300	M-112A	27"	CLASS IV RCCP	53	406.50	404.50	
M-112A	EW-112	27"	CLASS IV RCCP	77	402.90	401.60	
EW-171	M-112A	18"	CLASS IV RCCP	81	404.50	401.60	
I-260	I-258	18"	CLASS IV RCCP	21	410.00	409.00	
I-258	I-256	18"	CLASS IV RCCP	39	408.80	407.20	
I-256	M-112A	18"	CLASS IV RCCP	30	407.00	405.50	
I-262	I-200	24"	CLASS IV RCCP	64	419.20	417.13 415.90	
I-264	I-114	24"	CLASS IV RCCP	118	412.48	410.20	
I-260a	I-260	18"	CLASS IV RCCP	81	410.91	410.10	

STORM DRAIN PIPE SCHEDULE							
FROM	TO	SIZE	TYPE	LENGTH L.F.	INV. IN	INV. OUT	REMARKS
EW-111	ES-110	30"	CLASS IV RCCP	115	398.40	397.10	
EW-175B	M-175A	18"	CLASS IV RCCP	58	395.00	392.10	
M-175A	I-175	18"	CLASS IV RCCP	38	391.90	390.20	
I-175	I-163	24"	CLASS V RCCP	284 285	389.50	385.60 387.60	
I-164	I-163	24"	CLASS IV RCCP	115 109	397.00 393.00	384.30 389.30	
I-163	ES-162	24"	CLASS V RCCP	330 334	385.40 387.40	368.00	
EW-252	M-250	24"	CLASS IV RCCP	18	297.15	295.45	
I-206	ES-204	18"	CLASS IV RCCP	57	403.22	402.65	
I-210	EW-208	18"	CLASS IV RCCP	44	391.20	387.30	
I-312	I-120	24"	CLASS IV RCCP	244	420.00	400.50	
I-120	ES-119	18" 24"	CLASS IV RCCP	88	400.00	386.90	
I-167A	I-166A	24"	CLASS IV RCCP	85	404.50	403.55	
I-166A	I-166	24"	CLASS IV RCCP	210	403.35	401.25	
I-167	I-166	24"	CLASS IV RCCP	71	402.00	401.00	
I-166	ES-165	24"	CLASS IV RCCP	27	400.75	400.10	
EW-124	EW-123	48"	CLASS IV RCCP	25	350.62	349.94	
I-200	I-113A	24"	CLASS IV RCCP	314 309	416.93 415.44	410.75	
I-201	I-200	24"	CLASS IV RCCP	68	417.47 416.72	417.13 415.64	
I-202	I-201	24"	CLASS IV RCCP	100	418.17 417.92	417.67 416.92	
I-203	I-202	24"	CLASS IV RCCP	182	419.97	418.37 418.15	
I-254	I-170	18"	CLASS IV RCCP	50	392.45	391.95	
I-170	ES-169	18"	CLASS IV RCCP	134	391.75	390.35	
I-214	EW-212	18"	CLASS IV RCCP	19	368.74	367.50	
ES-186	ES-184	18"	CLASS IV RCCP	14	404.91	404.71	
I-203	I-202b	24"	CLASS IV RCCP	47	419.97	419.76	
I-202b	I-202a	24"	CLASS IV RCCP	9	419.66	419.62	
I-202a	I-202	24"	CLASS IV RCCP	130	419.52	418.15	
ES-182	ES-180	18"	CLASS IV RCCP	24	403.05	402.71	
ES-178	ES-176	18"	CLASS IV RCCP	17	401.44	401.09	
I-310	I-306	24"	CLASS IV RCCP	64	416.50	410.80	
I-308	I-306	24"	CLASS IV RCCP	122	419.00	407.00	
I-306	EW-304	24"	CLASS IV RCCP	60	406.00	401.60	
I-308a	I-308	18"	CLASS IV RCCP	55	420.05	419.54	
EW-240	EW-238	48"	CLASS IV RCCP	44	333.00	328.00	
EW-236	EW-234	TWIN38"x24"	CLASS IV HERCP	2X64 2X72.5	307.43	305.45 304.30	
EW-232	EW-230	48"	CLASS IV RCCP	32	300.24	294.20	
CS-148	EW-147	24"	ASTM C-361.B-25	68	254.50	248.25	
CS-105	EW-106	48"	ASTM C-361.B-25	60	357.00	356.70	

△ STORM DRAIN PIPE SCHEDULE



REVISIONS	
△	ADDENDUM NO. 2 DATE: 8/25/00
□	REDLINE NO. 1 DATE: 7/30/01
□	REDLINE NO. 3 DATE: 1/31/02

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 147 OF 320
PREL. TRAC. BY SBP FINAL TRAC. BY AAP

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	OFFSET	TYPE	ELEVATION		DEPTH TO INV.	STD. NO.	REMARKS
				TOP	INV. OUT			
I-306	70+89 JOHNS HOPKINS ROAD	49' RT.	STD. 20' PRECAST COG INLET	427.83	421.63	6.20'	MD-374.51	
I-305A	70+63 JOHNS HOPKINS ROAD	2' RT.	STD. 20' PRECAST COG INLET	429.20	420.58	8.62'	MD-374.51	
I-305	71+05 JOHNS HOPKINS ROAD	2' RT.	STD. 10' PRECAST COG INLET	428.10	416.42	11.68'	MD-374.51	
I-304	71+67 JOHNS HOPKINS ROAD	49' RT.	STD. 15' PRECAST COG INLET	426.40	415.60	10.80'	MD-374.51	
I-303A	73+86 JOHNS HOPKINS ROAD	47' LT.	STD. 20' PRECAST COG INLET	421.22	413.21	8.01'	MD-374.51	
I-303	74+37 JOHNS HOPKINS ROAD	47' LT.	STD. 20' PRECAST COG INLET	419.80	412.51	7.29'	MD-374.51	
I-302A	73+87 JOHNS HOPKINS ROAD	8' RT.	STD. 20' PRECAST COG INLET	421.85	415.57	6.28'	MD-374.51	
I-302	74+37 JOHNS HOPKINS ROAD	8' RT.	STD. 15' PRECAST COG INLET	420.73	410.57	10.16'	MD-374.51	
M-301	74+53 JOHNS HOPKINS ROAD	51' RT.	STD. 48" DIA. PRECAST MANHOLE	420.55	409.87	10.68'	MD-384.01	
M-310	75+96 JOHNS HOPKINS ROAD	54' RT.	STD. 48" DIA. PRECAST MANHOLE	416.40	405.50	10.90'	MD-384.01	
I-312	75+96 JOHNS HOPKINS ROAD	35' LT.	STD. 20' PRECAST COG INLET	415.84	407.64	8.20'	MD-374.51	
I-311	75+96 JOHNS HOPKINS ROAD	8' RT.	STD. 15' PRECAST COG INLET	417.12	406.04	11.08'	MD-374.51	
EW-300	75+96 JOHNS HOPKINS ROAD	85' RT.	TYPE 'G' ENDWALL	-	405.15	-	MD-360.01	
I-318B	78+75 JOHNS HOPKINS ROAD	35' LT.	STD. SHALLOW 10' COG INLET	412.31	407.11	5.20'	MD-374.66	
I-318A	77+93 JOHNS HOPKINS ROAD	35' LT.	STD. 10' PRECAST COG INLET	412.30	405.85	6.45'	MD-374.51	
I-318	78+34 JOHNS HOPKINS ROAD	35' LT.	STD. 20' PRECAST COS INLET	412.19	405.24	6.95'	MD-374.61	
I-317A	77+94 JOHNS HOPKINS ROAD	8' RT.	STD. SHALLOW 10' COG INLET	413.57	408.13	5.44'	MD-374.66	
I-317	78+34 JOHNS HOPKINS ROAD	8' RT.	STD. 20' PRECAST COS INLET	413.48	404.61	8.87'	MD-374.61	
I-317B	78+74 JOHNS HOPKINS ROAD	8' RT.	STD. 10' PRECAST COG INLET	413.60	403.26	10.34'	MD-374.51	
M-316A	78+74 JOHNS HOPKINS ROAD	46' RT.	STD. 48" DIA. PRECAST MANHOLE	406.87	402.87	4.00'	MD-384.01	
EW-316	78+97 JOHNS HOPKINS ROAD	81' RT.	TYPE 'E' ENDWALL	-	402.83	-	MD-356.01	
I-322A	80+56 JOHNS HOPKINS ROAD	35' LT.	STD. PRECAST 20' COG INLET	416.27	409.35	6.92'	MD-374.51	
I-322B	79+84 JOHNS HOPKINS ROAD	58' LT.	PRECAST SINGLE 'WR' INLET	412.57	409.07	3.50'	MD-374.23	
I-322	80+11 JOHNS HOPKINS ROAD	35' LT.	STD. 20' PRECAST COG INLET	414.89	407.63	7.27'	MD-374.51	
I-321	80+11 JOHNS HOPKINS ROAD	4' LT.	STD. 20' PRECAST COG INLET	415.44	406.98	8.46'	MD-374.51	
I-320A	79+67 JOHNS HOPKINS ROAD	2' RT.	STD. PRECAST 5' COG INLET	414.58	406.48	8.10'	MD-374.51	
M-320B	79+67 JOHNS HOPKINS ROAD	46' RT.	STD. 48" DIA. PRECAST MANHOLE	409.82	405.82	4.00'	MD-384.01	
EW-320	79+67 JOHNS HOPKINS ROAD	70' RT.	TYPE 'E' ENDWALL	-	405.78	-	MD-356.01	
I-332	85+48 JOHNS HOPKINS ROAD	8' LT.	STD. PRECAST 10' COG INLET	425.99	419.52	6.48'	MD-374.51	
I-331	85+48 JOHNS HOPKINS ROAD	35' RT.	STD. SHALLOW 10' COG INLET	425.75	418.89	5.86'	MD-374.66	
I-327	84+30 JOHNS HOPKINS ROAD	35' RT.	STD. SHALLOW 10' COG INLET	423.77	417.51	6.26'	MD-374.66	
I-325B	83+04 JOHNS HOPKINS ROAD	47' LT.	PRECAST SINGLE WR INLET	423.20	417.20	3.00'	MD-374.23	
I-325A	83+85 JOHNS HOPKINS ROAD	8' LT.	STD. 10' PRECAST COG INLET	424.33	417.85	6.48'	MD-374.51	
I-325	83+17 JOHNS HOPKINS ROAD	8' LT.	STD. PRECAST 10' COG INLET	423.37	416.59	6.78'	MD-374.51	
I-324	83+17 JOHNS HOPKINS ROAD	35' RT.	STD. PRECAST 10' COG INLET	422.81	416.18	6.63'	MD-374.51	
M-323A	81+05 JOHNS HOPKINS ROAD	46' RT.	STD. 48" DIA. PRECAST MANHOLE	418.91	414.91	4.00'	MD-384.01	
EW-323	81+05 JOHNS HOPKINS ROAD	66' RT.	TYPE 'E' ENDWALL	-	414.88	-	MD-354.01	
M-337	87+72 JOHNS HOPKINS ROAD	75' RT.	STD. 48" DIA. PRECAST MANHOLE	428.35	422.73	5.62'	MD-384.01	
I-336	87+73 JOHNS HOPKINS ROAD	34' RT.	STD. SHALLOW 10' COG INLET	427.24	420.34	6.90'	MD-374.66	
I-335	87+20 JOHNS HOPKINS ROAD	8' LT.	STD. PRECAST 10' COG INLET	427.58	420.53	7.06'	MD-374.51	
I-334	87+73 JOHNS HOPKINS ROAD	8' LT.	STD. PRECAST 10' COG INLET	428.05	419.71	8.34'	MD-374.51	REMOVE EXISTING 18" RCP
EW-333	87+69 JOHNS HOPKINS ROAD	72' LT.	TYPE 'C' ENDWALL	-	419.32	-	MD-354.01	
I-342	87+23 JOHNS HOPKINS ROAD	88' RT.	STD. SHALLOW 10' COG INLET	428.35	423.15	5.20'	MD-374.66	
I-341	87+47 JOHNS HOPKINS ROAD	83' RT.	STD. SHALLOW 10' COG INLET	428.35	422.70	5.65'	MD-374.66	
I-340	87+71 JOHNS HOPKINS ROAD	77' RT.	SINGLE 'WR' INLET	428.35	420.97	7.38'	MD-374.23	
I-353	91+19 JOHNS HOPKINS ROAD	35' RT.	STD. PRECAST 10' COG INLET	424.73	415.08	9.65'	MD-374.51	
M-372	93+34 JOHNS HOPKINS ROAD	43' RT.	STD. 48" DIA. PRECAST MANHOLE	418.00	411.54	6.46'	MD-384.01	
I-373	93+55 JOHNS HOPKINS ROAD	45' RT.	SINGLE 'WR' INLET	417.60	410.90	6.70'	MD-374.23	
I-352	93+55 JOHNS HOPKINS ROAD	37' RT.	STD. PRECAST 20' COG INLET	417.77	410.16	7.61'	MD-374.51	
HW-366	95+01 JOHNS HOPKINS ROAD	48' RT.	TYPE 'E' ENDWALL	-	409.18	-	MD-356.01	
M-365	95+00 JOHNS HOPKINS ROAD	39' RT.	STD. 60" DIA. PRECAST MANHOLE	413.48	404.90	8.58'	MD-384.03	
EW-351	94+99 JOHNS HOPKINS ROAD	35' LT.	TYPE 'C' ENDWALL	-	403.13	-	MD-354.01	REMOVE EXISTING 36" RCP

NOTES:

- STATIONS, OFFSETS AND TOP ELEVATIONS FOR PRECAST COG AND COS INLETS ARE COMPUTED AT THE TOP FACE OF CURB AND THE CENTER OF THE 4'x4' VAULT.
- STATIONS, OFFSETS AND TOP ELEVATIONS FOR ALL OTHER INLETS ARE COMPUTED AT THE TOP OF GRATE AND THE CENTER OF THE STRUCTURE.
- STATIONS AND OFFSETS FOR TYPE 'C' ENDWALLS ARE COMPUTED AT THE FACE AND CENTER OF THE FACE OF WALL, AND FOR TYPE 'E' ENDWALLS AT THE CENTER OF THE FACE OF THE WALL WITH THE PIPE.

STORM DRAIN STRUCTURE SCHEDULE

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

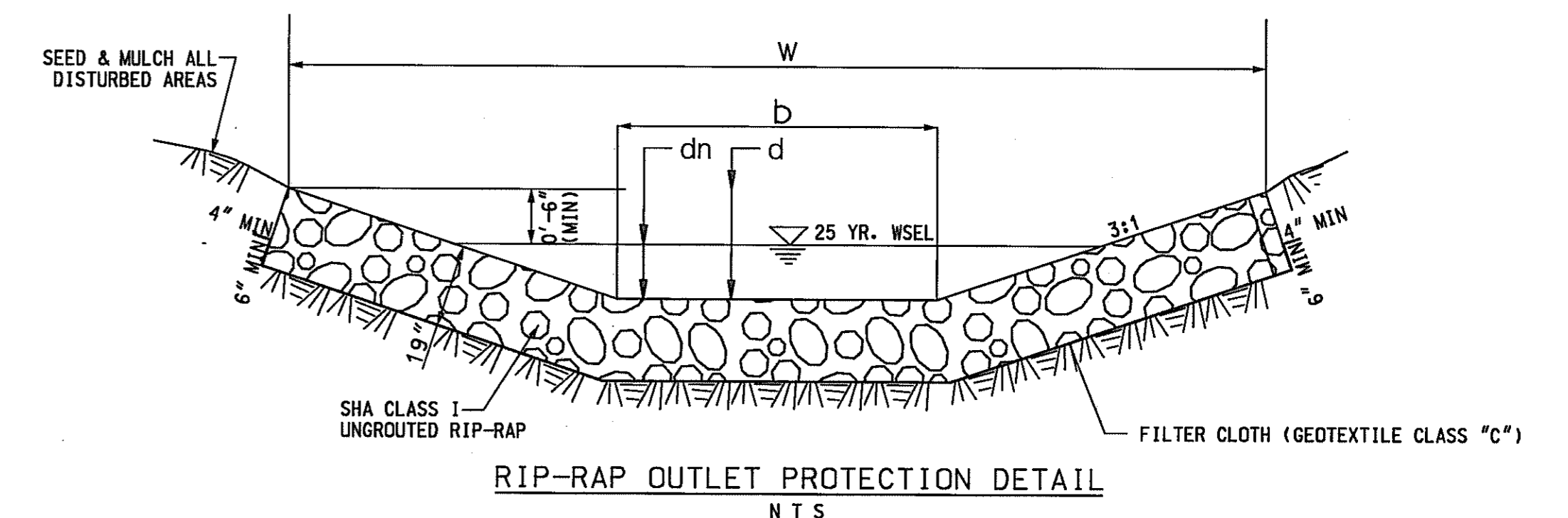
STORM DRAIN PIPE SCHEDULE

FROM	TO	SIZE	TYPE	LENGTH	INV. IN	INV. OUT	REMARKS
I-306	I-304	15"	CLASS IV RCCP	73 L.F.	421.63	420.40	
I-305A	I-305	15"	CLASS IV RCCP	58 L.F.	420.58	420.00	
I-305	I-304	18"	CLASS IV RCCP	62 L.F.	416.42	415.80	
I-304	M-301	18"	CLASS IV RCCP	278 L.F.	415.60	412.82	
I-303A	I-303	15"	CLASS IV RCCP	50 L.F.	413.21	412.71	
I-303	I-302	18"	CLASS IV RCCP	55 L.F.	412.51	411.96	
I-302A	I-302	15"	CLASS IV RCCP	50 L.F.	415.57	415.07	
I-302	M-301	18"	CLASS IV RCCP	50 L.F.	410.57	410.07	REMOVE EXISTING 18-IN RCP
M-301	M-310	18"	CLASS IV RCCP	129 L.F.	409.87	407.92	
I-312	I-311	18"	CLASS IV RCCP	43 L.F.	407.64	407.21	
I-311	M-310	18"	CLASS IV RCCP	54 L.F.	406.04	405.50	
M-310	EW-300	24"	CLASS IV RCCP	31 L.F.	405.24	405.15	
I-318B	I-318	15"	CLASS IV RCCP	41 L.F.	407.11	406.70	
I-318A	I-318	18"	CLASS IV RCCP	41 L.F.	405.85	405.44	
I-318	I-317	18"	CLASS IV RCCP	43 L.F.	405.24	404.81	
I-317A	I-317	18"	CLASS IV RCCP	40 L.F.	408.13	407.73	
I-317	I-317B	24"	CLASS IV RCCP	40 L.F.	404.61	404.21	
I-317B	M-316A	24"	CLASS IV RCCP	37 L.F.	403.26	403.07	
M-316A	EW-316	24"	CLASS IV RCCP	50 L.F.	402.87	402.83	
I-322A	I-322	15"	CLASS IV RCCP	45 L.F.	409.35	407.83	
I-322B	I-322	15"	CLASS IV RCCP	35 L.F.	409.07	408.72	
I-322	I-321	18"	CLASS IV RCCP	31 L.F.	407.63	407.18	
I-321	I-320A	24"	CLASS IV RCCP	44 L.F.	406.98	406.54	REMOVE EXISTING 24-IN RCP UPSTREAM OF I-320A
I-320A	M-320B	24"	CLASS IV RCCP	44 L.F.	406.48	406.04	
M-320B	EW-320	24"	CLASS IV RCCP	39 L.F.	405.82	405.78	
I-325A	I-325	15"	CLASS IV RCCP	68 L.F.	417.85	417.17	
I-325B	I-325	15"	CLASS IV RCCP	41 L.F.	417.20	416.79	
I-325	I-324	18"	CLASS IV RCCP	43 L.F.	416.59	416.38	
I-332	I-331	18"	CLASS IV RCCP	43 L.F.	419.52	419.09	
I-331	I-327	18"	CLASS IV RCCP	118 L.F.	418.89	417.71	
I-327	I-324	18"	CLASS IV RCCP	113 L.F.	417.51	416.38	
I-324	M-323A	24"	CLASS IV RCCP	214 L.F.	416.18	415.11	
M-323A	EW-323	24"	CLASS IV RCCP	24 L.F.	414.91	414.88	
I-342	I-341	15"	CLASS IV RCCP	24 L.F.	423.15	422.90	
I-341	I-340	18"	CLASS IV RCCP	23 L.F.	422.70	422.47	
I-340	I-336	18"	CLASS IV RCCP	43 L.F.	420.97	420.54	

STORM DRAIN PIPE SCHEDULE

FROM	TO	SIZE	TYPE	LENGTH	INV. IN	INV. OUT	REMARKS
M-337	I-336	24"	CLASS IV RCCP	35 L.F.	422.73	421.85	CONNECT TO EX. 18-IN RCP
I-336	I-334	24"	CLASS IV RCCP	43 L.F.	420.34	419.91	
I-335	I-334	15"	CLASS IV RCCP	62 L.F.	420.53	419.91	
I-334	EW-333	24"	CLASS IV RCCP	47 L.F.	419.71	419.32	
I-353	I-352	18"	CLASS IV RCCP	233 L.F.	415.08	410.36	
M-372	I-373	18"	CLASS IV RCCP	17 L.F.	411.54	411.10	
I-373	I-352	18"	CLASS IV RCCP	22 L.F.	410.90	410.36	
I-352	M-365	24"	CLASS IV RCCP	140 L.F.	410.16	408.06	
HW-366	M-365	18"	CLASS IV RCCP	25 L.F.	409.18	408.55	
M-365	EW-351	30"	CLASS IV RCCP	89 L.F.	404.90	403.13	REMOVE EXISTING 36-IN RCP

EW-333	EW-351
Q ₂₅ = 9.1 cfs	Q ₂₅ = 24.2 cfs
V ₂₅ = 4.2 fps	V ₂₅ = 4.4 fps
Slope = 1.5%	Slope = 2.5%
d = 1.25'	d = 2.0'
b = 2.0'	b = 2.5'
dn = 0.75'	dn = 1.27'
w = 9.5'	w = 14.5'
Length = 10'	Length = 22'



- NOTES:
- STATIONS, OFFSETS AND TOP ELEVATIONS FOR PRECAST COG AND COS INLETS ARE COMPUTED AT THE TOP FACE OF CURB AND THE CENTER OF THE 4'x4' VAULT.
 - STATIONS, OFFSETS AND TOP ELEVATIONS FOR ALL OTHER INLETS ARE COMPUTED AT THE TOP OF GRATE AND THE CENTER OF THE STRUCTURE.
 - STATIONS AND OFFSETS FOR TYPE 'C' ENDWALLS ARE COMPUTED AT THE FACE AND CENTER OF THE FACE OF WALL, AND FOR TYPE 'E' ENDWALLS AT THE CENTER OF THE FACE OF THE WALL WITH THE PIPE.

CONT. NO. _____ F.A.P. NO. _____
 PREL. TRAC. BY _____

SCALE { N.T.S.

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

STORM DRAIN PIPE SCHEDULES

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD
CONT. NO. <u>HO7415170</u>	F.A.P. NO. <u>SEE TITLE SHEET</u> SHEET NO. <u>149</u> OF <u>320</u>
PREL. TRAC. BY _____	FINAL TRAC. BY _____

EROSION AND SEDIMENT CONTROL - GENERAL NOTES

STANDARD SYMBOLS

1. MDE NOTIFICATION

THE CONTRACTOR AND/OR SHA MUST NOTIFY MDE IN WRITING AND/OR BY TELEPHONE (410) 631-3510 AT THE FOLLOWING POINTS:

- PRE-CONSTRUCTION MEETING
- EROSION AND SEDIMENT CONTROL MEETING (MINIMUM 5 WORKING DAYS PRIOR TO COMMENCING EARTH DISTURBING ACTIVITIES)
- FOLLOWING INSTALLATION OF INITIAL SEDIMENT CONTROL MEASURES
- DURING INSTALLATION OF MAJOR SEDIMENT CONTROL BASINS/TRAPS
- PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S)
- PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES
- PRIOR TO FINAL ACCEPTANCE BY SHA

2. STANDARDS AND SPECIFICATIONS

THIS PLAN IS DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, MDE EROSION AND SEDIMENT CONTROL GUIDELINES FOR STATE AND FEDERAL PROJECTS DATED JANUARY 1990 AS WELL AS THE STATE HIGHWAY ADMINISTRATION (SHA) SPECIFICATIONS TITLED "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS" DATED OCTOBER 1993 AND ALL REVISIONS THEREOF AND ADDITIONS THERETO INCLUDED IN THE "CONTRACT DOCUMENTS." THE CONTRACTOR SHALL HAVE A COPY OF THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL ON THE SITE.

3. INGRESS/EGRESS CONTROLS

THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ON PUBLIC ROADS. ALL MATERIALS DEPOSITED ON PUBLIC ROADS SHALL BE MECHANICALLY REMOVED IMMEDIATELY. THE FLUSHING OF ROAD SURFACES IS PROHIBITED.

TYPICALLY, ALL INGRESS AND EGRESS POINTS SHALL BE CONTROLLED THROUGH THE USE OF A "STABILIZED CONSTRUCTION ENTRANCE."

4. INSPECTION

THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES.

5. SHUTDOWNS AND/OR PENALTIES

TOTAL COMPLIANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS EXPECTED AT ALL TIMES. IN CASES WHERE THE CONTRACTOR IS FOUND TO BE IN NON-COMPLIANCE SHA MAY TAKE STEPS TO IMPOSE SELECTED OR TOTAL SHUTDOWNS AND IMPOSE PER DAY PENALTIES FOR NON-COMPLIANCE.

THE DISTRICT ENGINEER CAN IMPOSE A TOTAL OR PARTIAL SHUTDOWN IF THE PROJECT MAY ADVERSELY IMPACT THE WATERS OF THE STATE.

6. RECORD KEEPING

THE PROJECTS' APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, APPROVED CHANGE REQUESTS, DAILY LOG BOOKS AND TEST REPORTS WILL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MDE.

7. EROSION AND SEDIMENT CONTROL EXCAVATION

SILT REMOVED FROM CONTROL DEVICES SHALL BE PLACED IN AN APPROVED WASTE SITE EITHER ON OR OFF THE PROJECT. MATERIAL STORED ON SITE MAY BE REUSED ONCE IT IS DRIED AND IF IT MEETS SHA REQUIREMENTS FOR EMBANKMENT OR ANY UNSPECIFIED NEED.

8. OFF-SITE UTILITY WORK

SEDIMENT CONTROL FOR UTILITY CONSTRUCTION IN AREAS OUTSIDE OF DESIGNATED CONTROLS SHALL FOLLOW THESE ADDITIONAL BEST MANAGEMENT PRACTICES:

- (a) CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK
- (b) EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
- (c) TRENCHES FOR UTILITY INSTALLATIONS SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. IF NOT,
- (d) TEMPORARY SILT FENCES SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY.

9. SENSITIVE AREAS

NO CONSTRUCTION ACTIVITIES SHALL BE UNDERTAKEN WITHIN SPECIFIED SENSITIVE AREAS OF THE PROJECT WITHOUT PRIOR NOTIFICATION OF THE ENGINEER. ALL WORK IN THESE AREAS SHALL BE MONITORED BY A RESPONSIBLE PARTY DESIGNATED BY THE CONTRACTOR TO ASSURE THAT REASONABLE CARE IS TAKEN IN OR ADJACENT TO THESE AREAS. AREAS CONSIDERED SENSITIVE ARE DEFINED AS: FLOODPLAINS, WETLANDS (TIDAL, NONTIDAL AND ASSOCIATED BUFFERS) CRITICAL AREAS, FORESTED AREAS, ARCHEOLOGICAL SITES, HISTORIC SITES, PARKLAND AND OPEN WATER.

10. STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS TO ALL SLOPES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND FOURTEEN (14) DAYS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

11. SITE INFORMATION * (NOT FOR BIDDING PURPOSES)

TOTAL AREA OF SITE	114.84	ACRES
AREA DISTURBED	38.79	ACRES
AREA TO BE RESURFACED	14.25	ACRES
TOTAL CUT	222,972	CU. YDS.
TOTAL FILL	337,945	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION (IF KNOWN)		

12. INCREMENTAL STABILIZATION

REFER TO THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR THE INCREMENTAL STABILIZATION OF CUTS AND FILLS.

SEQUENCE OF CONSTRUCTION

1. NOTIFY MDE AS STATED IN THE STANDARD EROSION AND SEDIMENT CONTROL NOTES AT (410) 631-3510.
2. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION OR OTHER LAND DISTURBING ACTIVITIES.

PHASE 1A CONSTRUCTION

3. SEE SPECIFIC SEQUENCE OF CONSTRUCTION FOR FILL AREA STA. 47+00 TO STA. 53+50 ON SHEET EP02.
4. CLEAR AND GRUB FOR INSTALLATION OF INITIAL PHASE STABILIZED CONSTRUCTION ENTRANCES ONLY.
5. INSTALL INITIAL PHASE STABILIZED CONSTRUCTION ENTRANCES.
6. CLEAR AND GRUB FOR REMAINDER OF INITIAL PHASE EROSION AND SEDIMENT CONTROLS.
7. INSTALL INITIAL PHASE SEDIMENT CONTROLS IN THE FOLLOWING ORDER:

- A) TEMPORARY SEDIMENT BASIN #1 [SEE SWM FACILITY #1 PLANS & STRUCTURE MODIFICATIONS ON EP14]; INSTALL CLEAN-WATER DIVERSION EARTH DIKE ABOVE TEMPORARY SEDIMENT BASIN #1 AND LEVEL SPREADER AT DIKE DISCHARGE (TO REMAIN UNTIL AFTER E&S FACILITY IS CONVERTED TO SWM POND).
INSTALL PERMANENT STORM DRAINS:
48" RCP (CS-105 TO EW-106) FOR OUTFALL OF SEDIMENT BASIN #1.
48" RCP (EW-103 TO EW-101) UNDER RAMP 5 STA. 503+50.
27" RCP (M-104 TO M-103 UNDER RAMP 5 STA. 501+50 TO STA. 503+50).
MANHOLE M-136 ON RAMP 1 STA. 102+50.
30" RCP (I-111 TO ES-110) UNDER SPUR 4 STA. 1403+75.

- B) CLEAN-WATER DIVERSION EARTH DIKES AND THEIR ASSOCIATED RIP-RAP OUTLETS.
- C) SEDIMENT TRAP #2 FOR ROAD FILL (JOHNS HOPKINS ROAD).
SEE SPECIFIC SEQUENCE OF CONSTRUCTION FOR FILL AREA STA. 47+00 TO STA. 53+50 ON SHEET EP02.
- D) SEDIMENT TRAPS 5,6,7, 7A AND 14.
INSTALL SEDIMENT TRAP #1 AND ALL SEDIMENT CONTROLS ALONG OLD COLUMBIA RD FROM STA. 1000+50 TO STA. 1005+00 (NECESSARY FOR PHASE 1A).
- E) INSTALL OTHER PERMANENT STORM DRAINS:
24" RCP (EW160 TO EW161) UNDER RAMP 2 STA 203+50. [SEE SPECIFIC SEQUENCE OF CONSTRUCTION, SHEET EP3].
30" RCP (EW-351 TO M-365) AND OUTFALL PROTECTION (SANNER RD.).
24" RCP (M-365 TO I-352) (SANNER RD.).
18" RCP (I-352 TO I-353 & I-373), (I-373 TO M-372), (M-365 TO HW-366) (SANNER RD.).
REMOVE EXISTING 36" RCP CULVERT AND PATCH ROADWAY. (JOHNS HOPKINS RD. STA. 95+00).

- F) PERMANENT DITCHES AND TEMP. STONE OUTLET STRUCTURES AS DESIGNATED ON PLANS.
 - G) EARTH DIKES AND MOUNTABLE BERMS.
 - H) SILT FENCE, SUPER SILT FENCE AND INLET PROTECTION.
8. UPON RECEIVING APPROPRIATE APPROVALS FROM MDE, BEGIN CLEARING AND GRUBBING OPERATIONS FOR ROADWAY IMPROVEMENTS.
 9. COMMENCE GRADING OPERATIONS:
FOR THE ROADWAY EMBANKMENT FOR JOHNS HOPKINS RD FROM STA 46+50 TO STA 53+50, FILL OPERATIONS ARE TO CONTINUE TO THE STAGE 1 LIMITS OF INCREMENTAL FILL SHOWN ON THE INITIAL PHASE PLANS. (LIMIT WITH TRAP #2 IN-PLACE).
[SEE SPECIFIC SEQUENCE OF CONSTRUCTION SHEET EP 2].
UPON REACHING FINAL GRADES OF PROPOSED GRASSED AREAS, STABILIZE ALL CUT AND FILL SLOPES WITH TYPE 'A' SOIL STABILIZATION MATTING.

10. INSTALL 24" RCP CULVERT (EW-125 TO EW126) STA. 1005+75, OLD COLUMBIA RD WITH PHASE 1A INITIAL PHASE SEDIMENT CONTROLS IN-PLACE. [SEE SPECIFIC SEQUENCE OF CONSTRUCTION SHEET EP3].
11. INSTALL PERMANENT STORM DRAIN SYSTEM AT JOHNS HOPKINS ROAD BETWEEN STA. 59+00 AND 68+00. [SEE SPECIFIC SEQUENCE OF CONSTRUCTION SHEET EP-04]
12. COMPLETE PHASE 1A ROADWAY IMPROVEMENTS:
INSTALL FINAL PHASE EROSION AND SEDIMENT CONTROLS AS SHOWN ON THE FINAL PHASE PLANS, AS CONSTRUCTION ACTIVITY PROGRESSES
UPON STABILIZATION OF THE CONTRIBUTING AREAS TO I-353 AND I-352 ARE STABILIZED, COMPLETE INLET CONSTRUCTION (INSTALL INLET SLAB, COLLAR AND TROUGH).
PRIOR TO REMOVING TRAP #2, COMPLETE UNDERDRAIN SYSTEM AND 24" RCP TO ES-162.

PHASE 1B CONSTRUCTION

13. CLEAR AND GRUB FOR INSTALLATION OF INITIAL PHASE STABILIZED CONSTRUCTION ENTRANCES ONLY.
14. INSTALL INITIAL PHASE STABILIZED CONSTRUCTION ENTRANCES.
15. CLEAR AND GRUB FOR REMAINDER OF INITIAL PHASE EROSION AND SEDIMENT CONTROLS.
16. INSTALL INITIAL PHASE SEDIMENT CONTROLS IN THE FOLLOWING ORDER:
A) TEMPORARY STORM DRAIN:
INSTALL TEMPORARY 24" CULVERT EXTENSION JOHNS HOPKINS RD STA. 79+70.
CONNECT EXISTING 24" PIPE WITH 24" FLEX PIPE (STA. 603+75, US29).
INSTALL TEMPORARY 18" FLEX PIPE (JOHNS HOPKINS RD. STA. 79+00 TO STA. 80+70)

- B) INSTALL PERMANENT STORM DRAINS: (AS CLEAN-WATER DIVERSIONS):
30" RCP (EW-139 TO I-140) AND OUTLET PROTECTION. (STA. 1014+25 OLD COLUMBIA RD.).
27" RCP (I-140 TO EW-141) (STA. 210+00 RAMP 2).
18" RCP CULVERT (ES-143 TO ES-144) (STA 1014+00 OLD COLUMBIA RD.).
24" RCP CULVERT EXTENSION (M-135 TO EW-134) (STA. 1016+70 OLD COLUMBIA RD.).
24" RCP (EW-129 TO I-130 TO I-131 TO I-130A) (STA. 1019+60 OLD COLUMBIA RD.).
24" RCP (EX-9 TO EW-9) (STA. 621+00, US29).

- C) CLEAN-WATER DIVERSION EARTH DIKES.
 - D) SEDIMENT TRAPS 8,9,10,11,12,13, AND 15.
 - E) CONSTRUCT PERMANENT DITCHES AS DESIGNATED ON PLANS.
 - F) INSTALL TEMPORARY STONE OUTLET STRUCTURES AS DESIGNATED ON PLANS.
 - G) EARTH DIKES AND MOUNTABLE BERMS.
 - H) SILT FENCE, SUPER SILT FENCE AND INLET PROTECTION.
- (SEE SPECIFIC SEQUENCE OF CONSTRUCTION FOR STREAM RELOCATION/ROAD FILL ON SHEETS EP10 AND EP26 FOR OLD COLUMBIA RD. STA.1031+00 TO STA. 1036+00).

17. UPON RECEIVING APPROPRIATE APPROVALS FROM MDE, BEGIN CLEARING AND GRUBBING OPERATIONS FOR ROADWAY IMPROVEMENTS.
18. COMMENCE GRADING OPERATIONS:
FOR FILL OPERATION, OLD COLUMBIA RD. STA. 1001+00 TO STA. 1005+00:
AT THE END OF EACH WORKDAY, RELOCATE EARTH DIKE (STA. 1003+40, RIGHT TO STA. 1005+00, LEFT) ALONG FILL SLOPE WITH POSITIVE DRAINAGE TO TRAP #1 FOR AS LONG AS GRADES ALLOW.

UPON REACHING FINAL GRADES OF PROPOSED GRASSED AREAS, STABILIZE ALL CUT AND FILL SLOPES WITH TYPE 'A' SOIL STABILIZATION MATTING

MAINTAIN OUTLET STRUCTURE AND EMBANKMENT FOR SEDIMENT TRAP #9 UNTIL ITS DRAINAGE AREA IS STABILIZED. REMOVE TRAP AND STABILIZE WITHIN 24 HOURS

19. COMPLETE PHASE 1B ROADWAY IMPROVEMENTS:
INSTALL FINAL PHASE EROSION AND SEDIMENT CONTROLS AS SHOWN ON THE PLANS, AS CONSTRUCTION ACTIVITY PROGRESSES.

MAINTAIN SEDIMENT TRAP #8 UNTIL CUT SLOPE IN PHASE 2A IS COMPLETED AND STABILIZED. REMOVE TRAP AND STABILIZE WITHIN 24 HOURS.

SEDIMENT TRAP #10 IS FOR INITIAL PHASE CLEARING AND GRUBBING ONLY. IT MAY BE FILLED IN AND REMOVED DURING ROADWAY FILL OPERATION.

PHASE 2A CONSTRUCTION

20. CLEAR AND GRUB FOR INSTALLATION OF INITIAL PHASE STABILIZED CONSTRUCTION ENTRANCES ONLY.
21. INSTALL INITIAL PHASE STABILIZED CONSTRUCTION ENTRANCES.
22. CLEAR AND GRUB FOR REMAINDER OF INITIAL PHASE EROSION AND SEDIMENT CONTROLS.
23. INSTALL INITIAL PHASE SEDIMENT CONTROLS IN THE FOLLOWING ORDER:
(SEE SPECIFIC SEQUENCE OF CONSTRUCTION FOR RAMP 3, SHEET EP14).
A) CLEAN-WATER DIVERSION EARTH DIKES.
B) SEDIMENT TRAP # 3
C) PERMANENT DITCHES AS DESIGNATED ON THE PLANS.
D) TEMPORARY STONE OUTLET STRUCTURES AS DESIGNATED ON PLANS.
E) EARTH DIKES AND MOUNTABLE BERMS.
F) SILT FENCE, SUPER SILT FENCE AND INLET PROTECTION.
24. UPON RECEIVING APPROPRIATE APPROVALS FROM MDE, BEGIN CLEARING AND GRUBBING OPERATIONS FOR ROADWAY IMPROVEMENTS.
25. COMMENCE GRADING OPERATIONS.
UPON REACHING FINAL GRADES OF PROPOSED GRASSED AREAS, STABILIZE ALL CUT AND FILL SLOPES WITH TYPE 'A' SOIL STABILIZATION MATTING
26. COMPLETE PHASE 2A ROADWAY IMPROVEMENTS.
INSTALL FINAL PHASE EROSION AND SEDIMENT CONTROLS AS SHOWN ON THE FINAL PHASE PLANS AS CONSTRUCTION ACTIVITY PROGRESSES

PHASE 2B CONSTRUCTION

27. CLEAR AND GRUB FOR INSTALLATION OF INITIAL PHASE STABILIZED CONSTRUCTION ENTRANCES ONLY.
28. INSTALL INITIAL PHASE STABILIZED CONSTRUCTION ENTRANCES.
29. CLEAR AND GRUB FOR REMAINDER OF INITIAL PHASE EROSION AND SEDIMENT CONTROLS.
30. INSTALL INITIAL PHASE SEDIMENT CONTROLS IN THE FOLLOWING ORDER:
A) CLEAN-WATER DIVERSION EARTH DIKES.
B) PERMANENT DITCHES AS DESIGNATED ON THE PLANS.
C) TEMPORARY STONE OUTLET STRUCTURES AS DESIGNATED ON PLANS.
D) EARTH DIKES AND MOUNTABLE BERMS.
E) SILT FENCE, SUPER SILT FENCE AND INLET PROTECTION.
31. UPON RECEIVING APPROPRIATE APPROVALS FROM MDE, BEGIN CLEARING AND GRUBBING OPERATIONS FOR ROADWAY IMPROVEMENTS.
32. COMMENCE GRADING OPERATIONS.
UPON REACHING FINAL GRADES OF PROPOSED GRASSED AREAS, STABILIZE ALL CUT AND FILL SLOPES WITH TYPE 'A' SOIL STABILIZATION MATTING
32. COMPLETE PHASE 2B ROADWAY IMPROVEMENTS.
INSTALL FINAL PHASE EROSION AND SEDIMENT CONTROLS AS SHOWN ON THE FINAL PHASE PLANS AS CONSTRUCTION ACTIVITY PROGRESSES
33. STORM DRAIN SYSTEMS AND EXISTING AND PROPOSED DITCHES USED TO CONVEY SEDIMENT LADEN RUNN-OFF ARE TO BE FLUSHED, CLEANED AND RESTABILIZED.
34. CONVERT TEMPORARY SEDIMENT BASIN #1 TO SWM POND. SEE INSPECTION CHECKLIST SHEET EP 31 AND SPECIFIC SEQUENCE OF CONSTRUCTION SHEET EP 14

EARTH DIKE	
TEMPORARY SWALE	
PERIMETER DIKE/SWALE	
STONE CHECK DAM	
STONE OUTLET STRUCTURE	
SILT FENCE	
SUPER SILT FENCE	
STRAW BALES	
STANDARD INLET PROTECTION	
AT GRADE INLET PROTECTION	
CURB INLET PROTECTION	
MEDIAN INLET PROTECTION	
GABION INFLOW PROTECTION	
RIPRAP INFLOW PROTECTION	
SUMP PIT	
REMOVABLE PUMPING STATION	
PORTABLE SEDIMENT TANK	
INTERCEPTOR BERM	
TEMPORARY BERM	
PIPE SLOPE DRAIN	
STABILIZED CONSTRUCTION ENTRANCE	
REMOVE PAVEMENT	
PLACED RIPRAP DITCH	
GABIONS	
CONCRETE GUTTER	
STONE OUTLET SEDIMENT TRAP	
RIPRAP OUTLET SEDIMENT TRAP	
STONE/RIPRAP OUTLET SEDIMENT TRAP	
PIPE OUTLET SEDIMENT TRAP	

STANDARD STABILIZATION NOTE

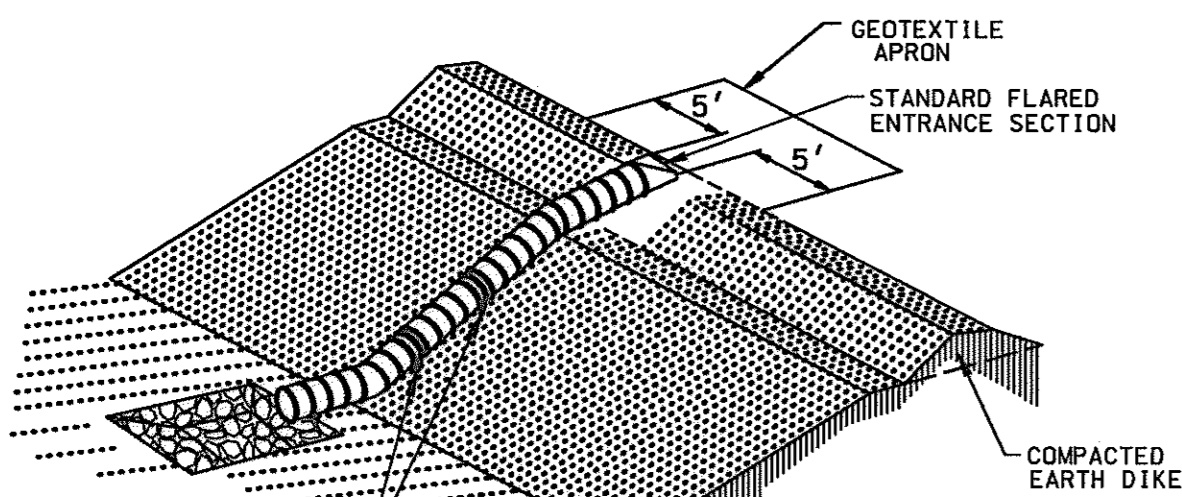
"Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed with seven (7) calendar days as the surface of all perimeter control dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1), and fourteen days as to all other disturbed areas on the project site."

SEDIMENT AND EROSION CONTROL NOTES

REVISIONS ADDENDUM NO. 2 DATE: 8/25/00	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 150 OF 320 PREL. TRAC. BY _____ FINAL TRAC. BY _____
HURST-ROSCHE ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683		

200102210X

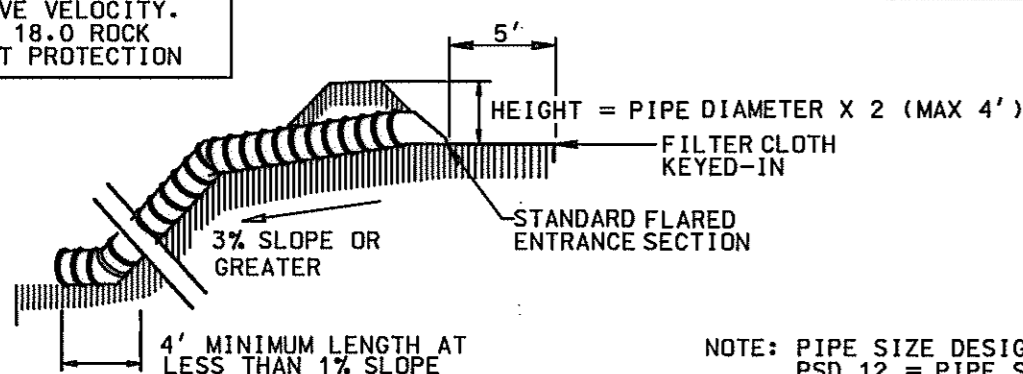
DETAIL 4 - PIPE SLOPE DRAIN



DISCHARGE INTO A STABILIZED WATER-COURSE, SEDIMENT TRAPPING DEVICE, OR INTO A STABILIZED AREA AT A NON-EROSIVE VELOCITY. REF: 18.0 ROCK OUTLET PROTECTION

ANCHORS (USE MANUFACTURERS SPECIFICATIONS FOR TYPE AND SPACING)

STANDARD SYMBOL
PSD - 12



NOTE: PIPE SIZE DESIGNATION IS: PSD 12 = PIPE SLOPE DRAIN WITH A 12" DIAMETER PIPE.

Table 6 Design Criteria for Pipe Slope Drain

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

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

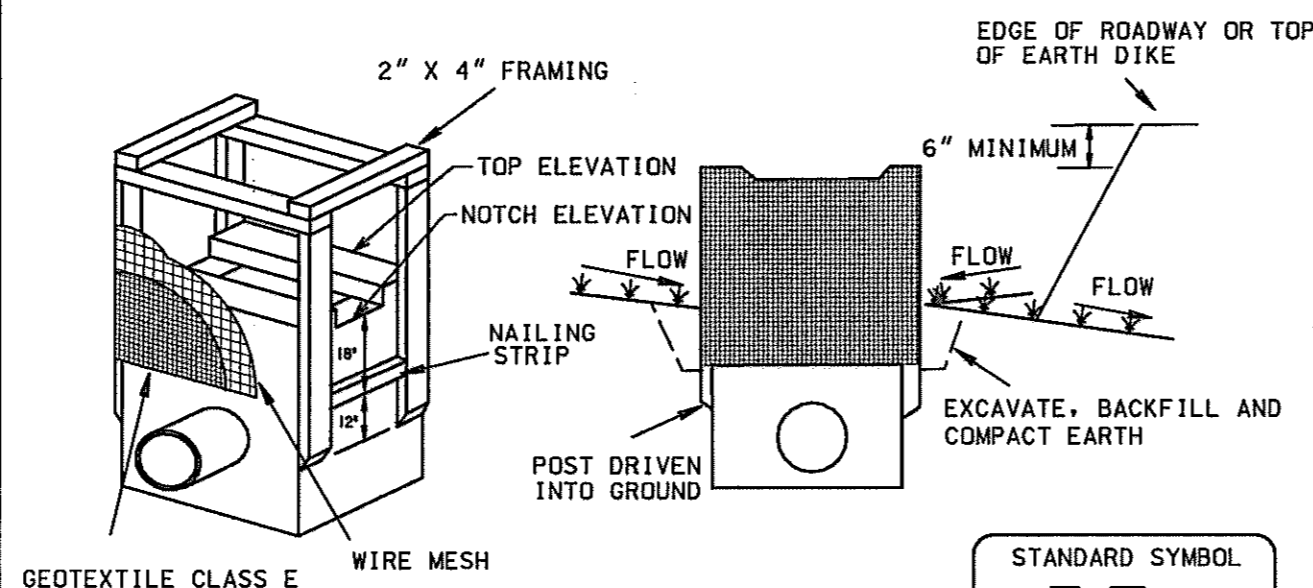
PIPE SLOPE DRAIN

Construction Specifications - Pipe Slope Drain

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

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

DETAIL 23A - STANDARD INLET PROTECTION



GEOTEXTILE CLASS E WIRE MESH

STANDARD SYMBOL
SIP

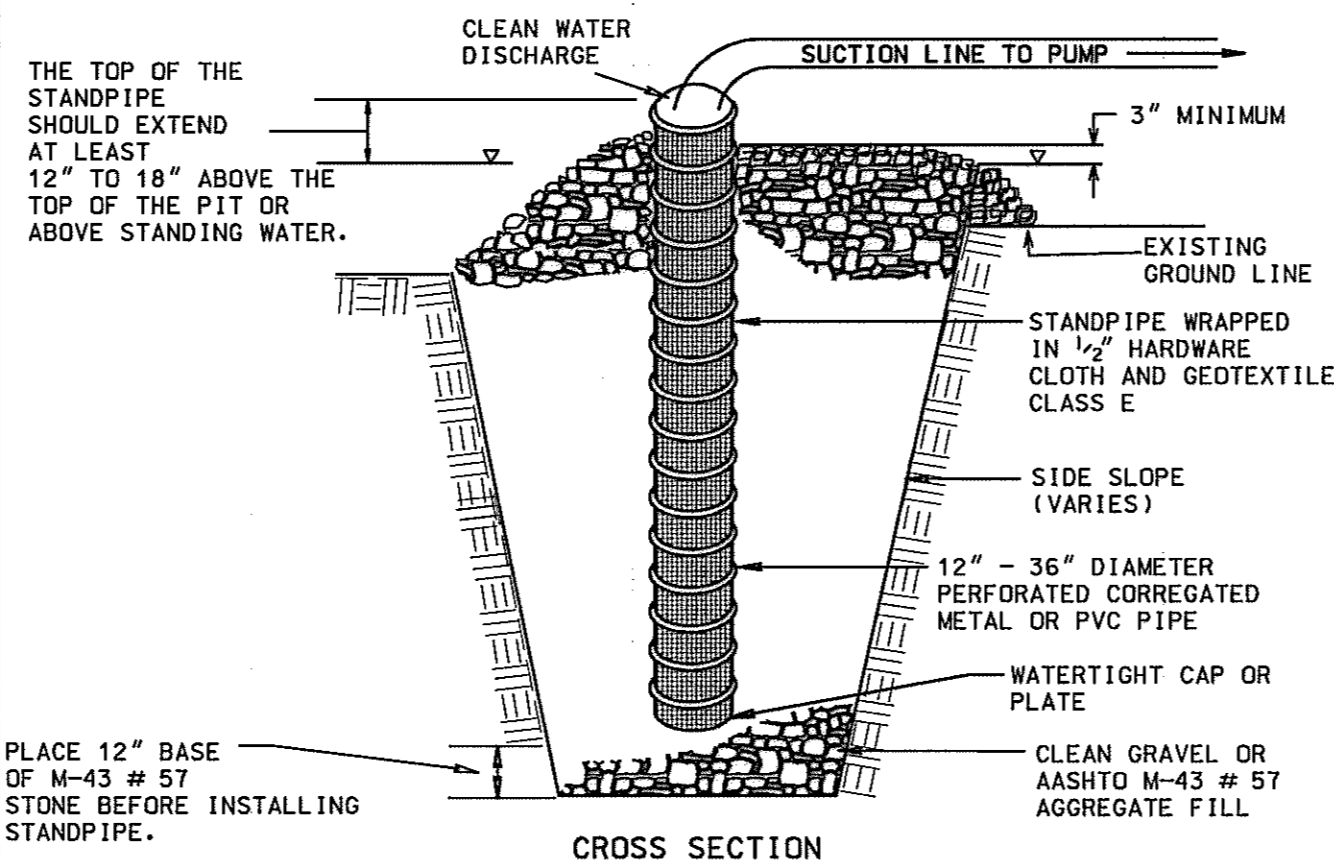
MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

- Excavate completely around the inlet to a depth of 18" below the notch elevation.
- Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
- Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
- Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
- Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
- If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
- The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

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

DETAIL 20B - SUMP PIT



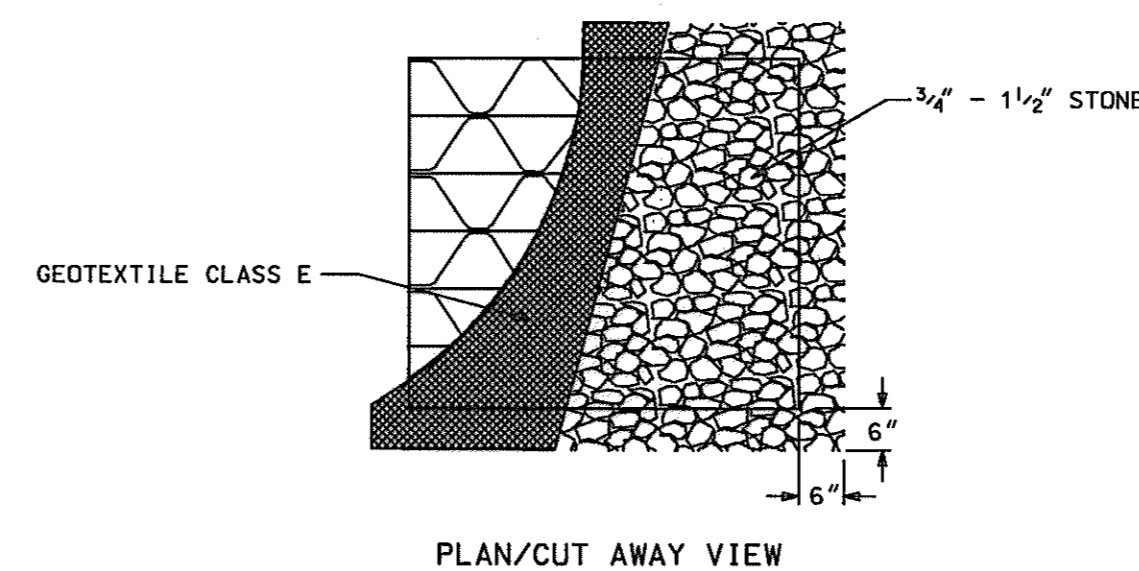
STANDARD SYMBOL
SP

Construction Specifications

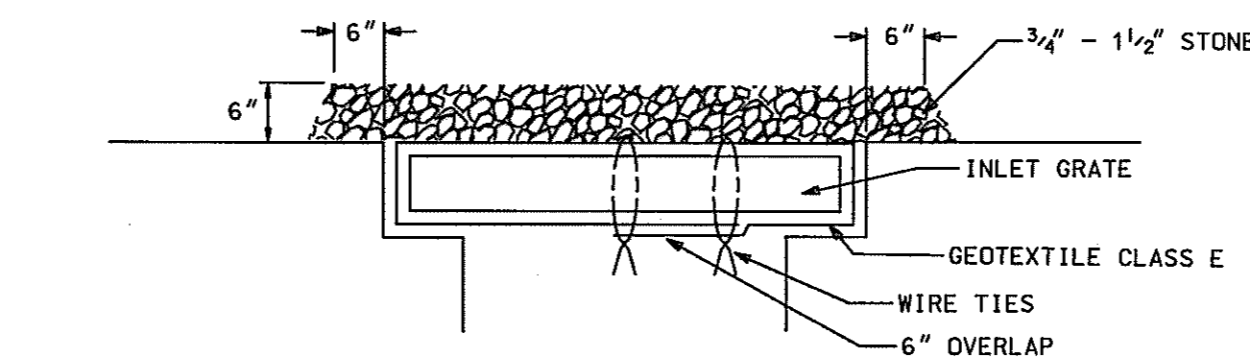
- Pit dimensions are variable, with the minimum diameter being 2 times the standpipe diameter.
- The standpipe should be constructed by perforating a 12" to 24" diameter corrugated or PVC pipe. Then wrapping with 1/2" hardware cloth and Geotextile Class E. The perforations shall be 1/2" x 6" slits or 1" diameter holes.
- A base of filter material consisting of clean gravel or #57 stone should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with the same filter material.
- The standpipe should extend 12" to 18" above the lip of the pit or the riser crest elevation (basin dewatering only) and the filter material should extend 3" minimum above the anticipated standing water elevation.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE D-18-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B - AT GRADE INLET PROTECTION



PLAN/CUT AWAY VIEW



CROSS SECTION

STANDARD SYMBOL
AGIP

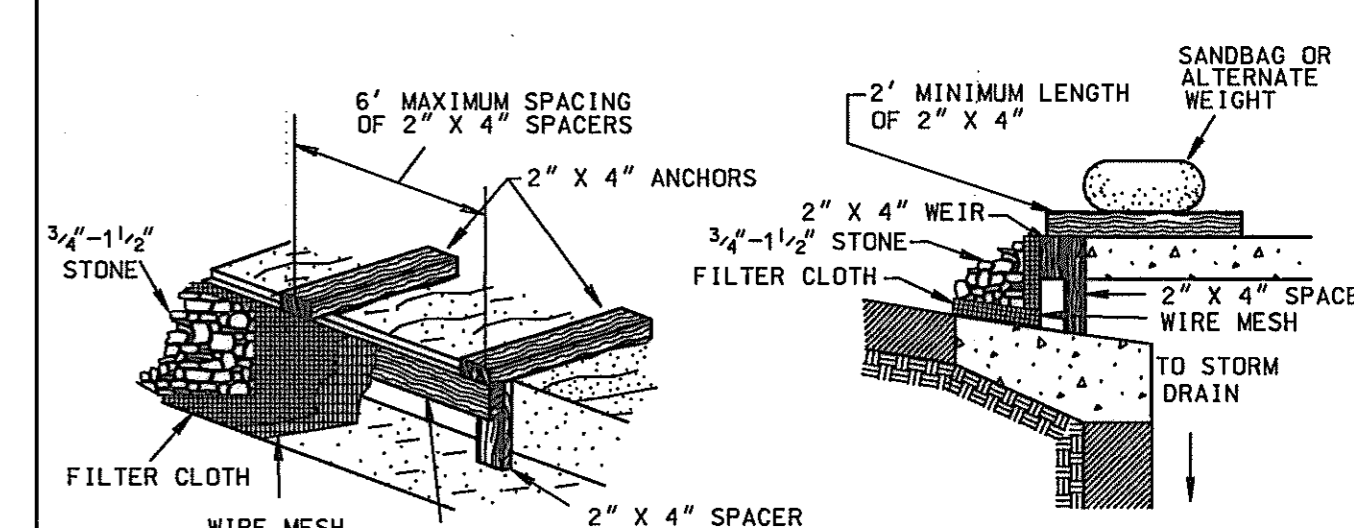
MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
- Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-6A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)



STANDARD SYMBOL
CIP

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

- Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.
- Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
- Securely nail the 2" x 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
- Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
- The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
- Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

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

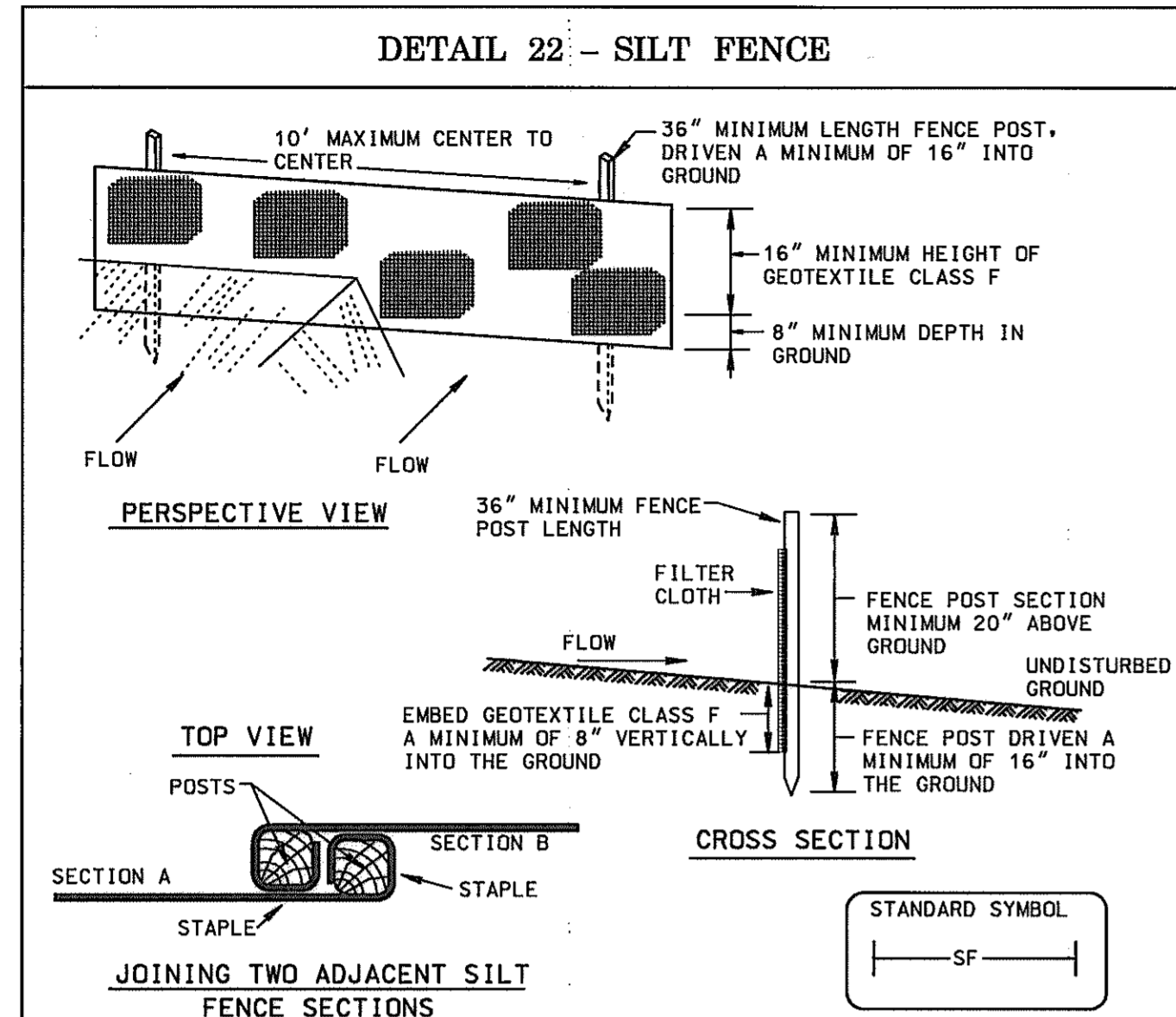
SEDIMENT AND EROSION CONTROL DETAILS AND SEQUENCE OF CONSTRUCTION

HURST-ROSCH ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683

REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 151 OF 320
PREL. TRAC. BY FINAL TRAC. BY



Construction Specifications

- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft ² /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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

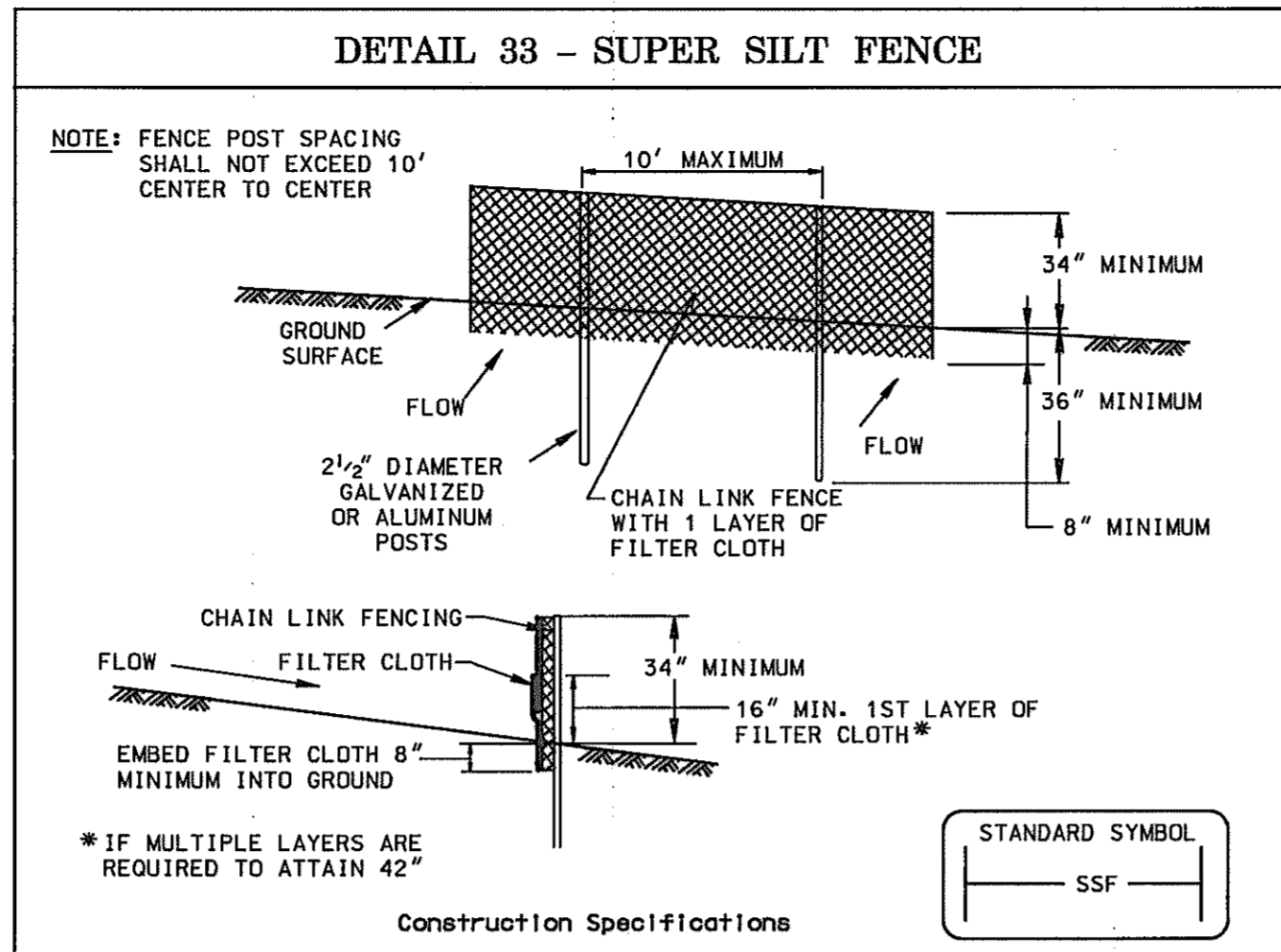
SILT FENCE

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



Construction Specifications

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brass and truss rods, drive anchors and post caps are not required except on the ends of the fence.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

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

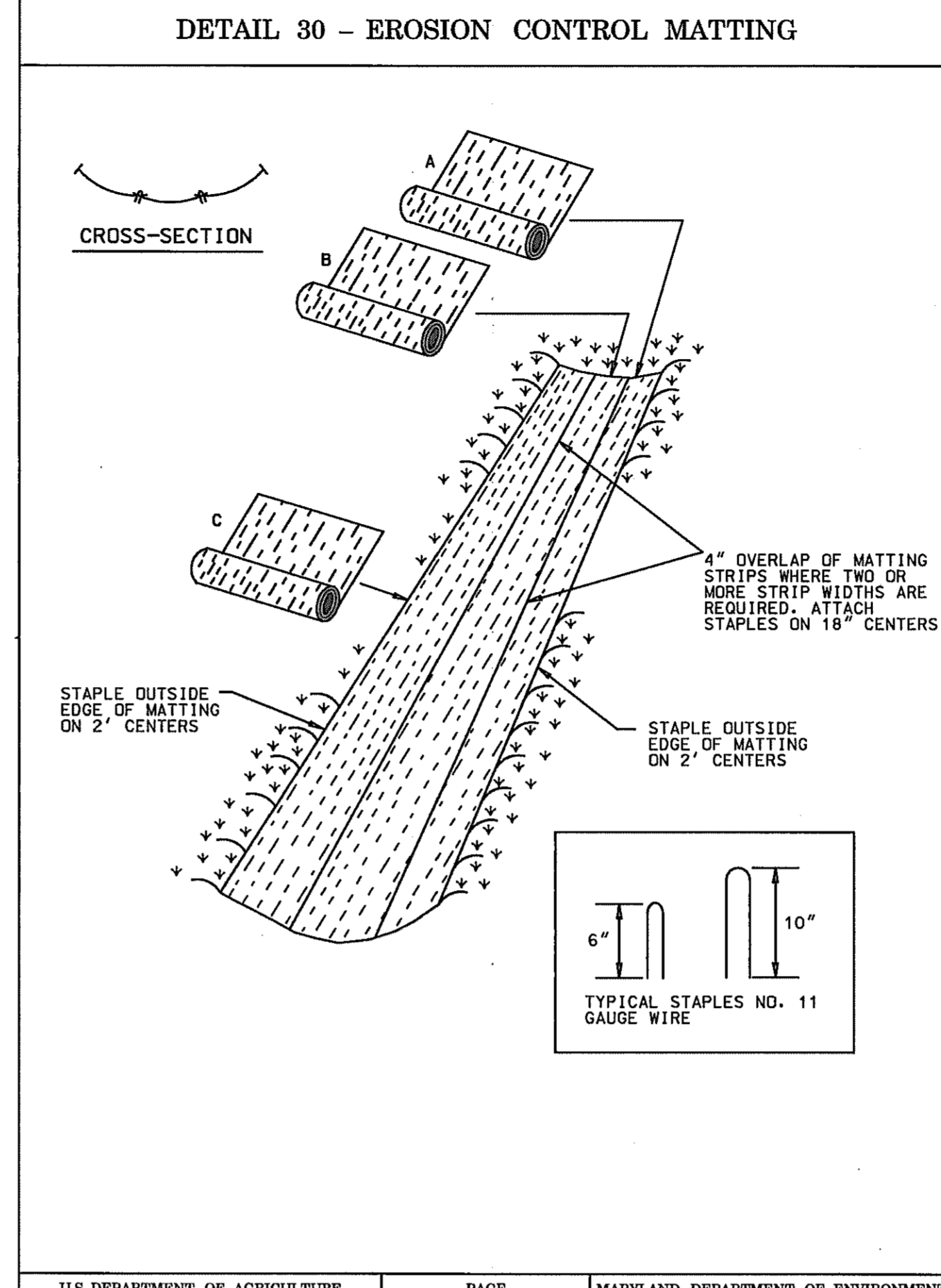
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-26-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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



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

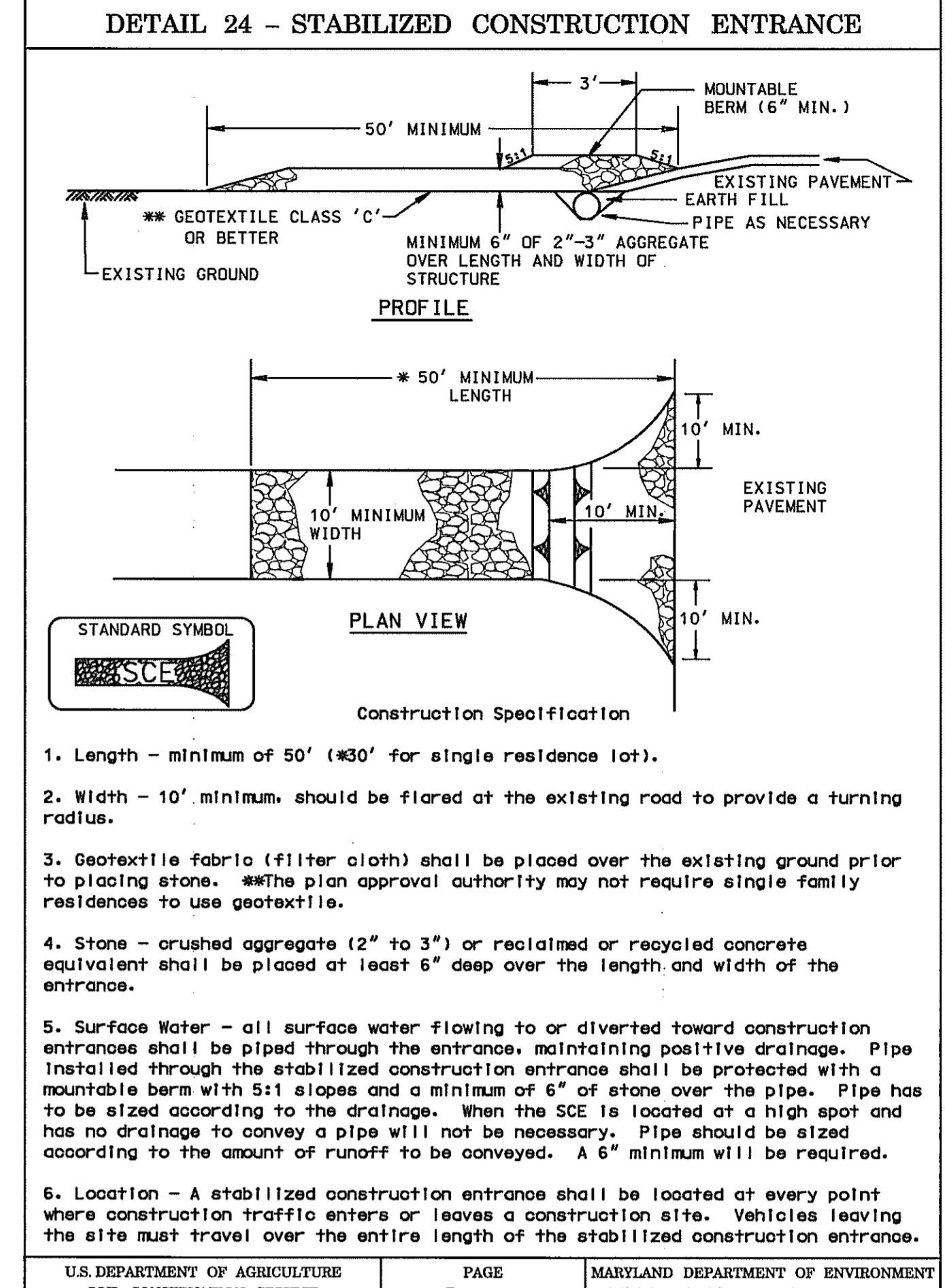
EROSION CONTROL MATTING

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", shiplap 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-22-2A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



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

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

SEDIMENT AND EROSION CONTROL DETAILS

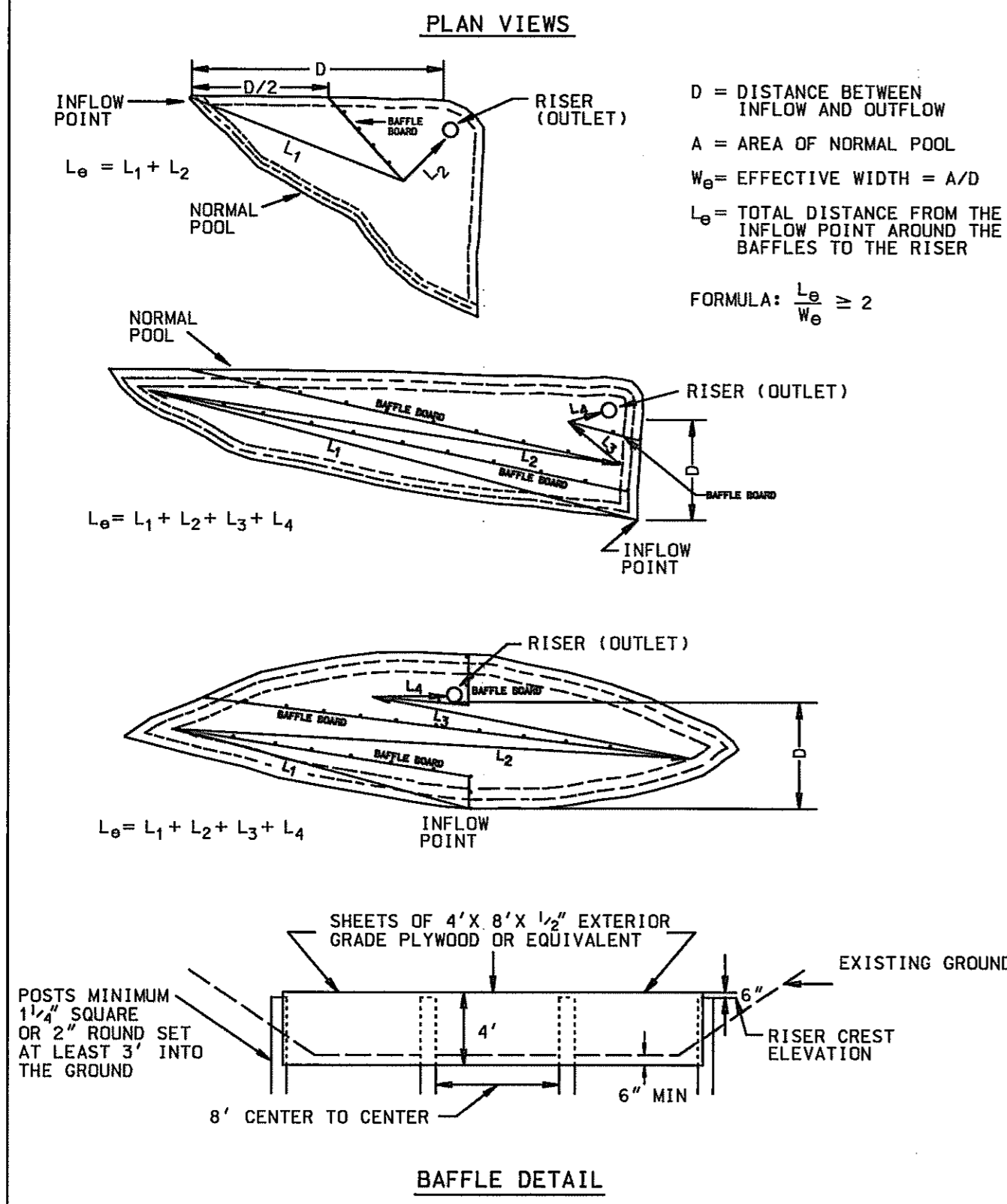
HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

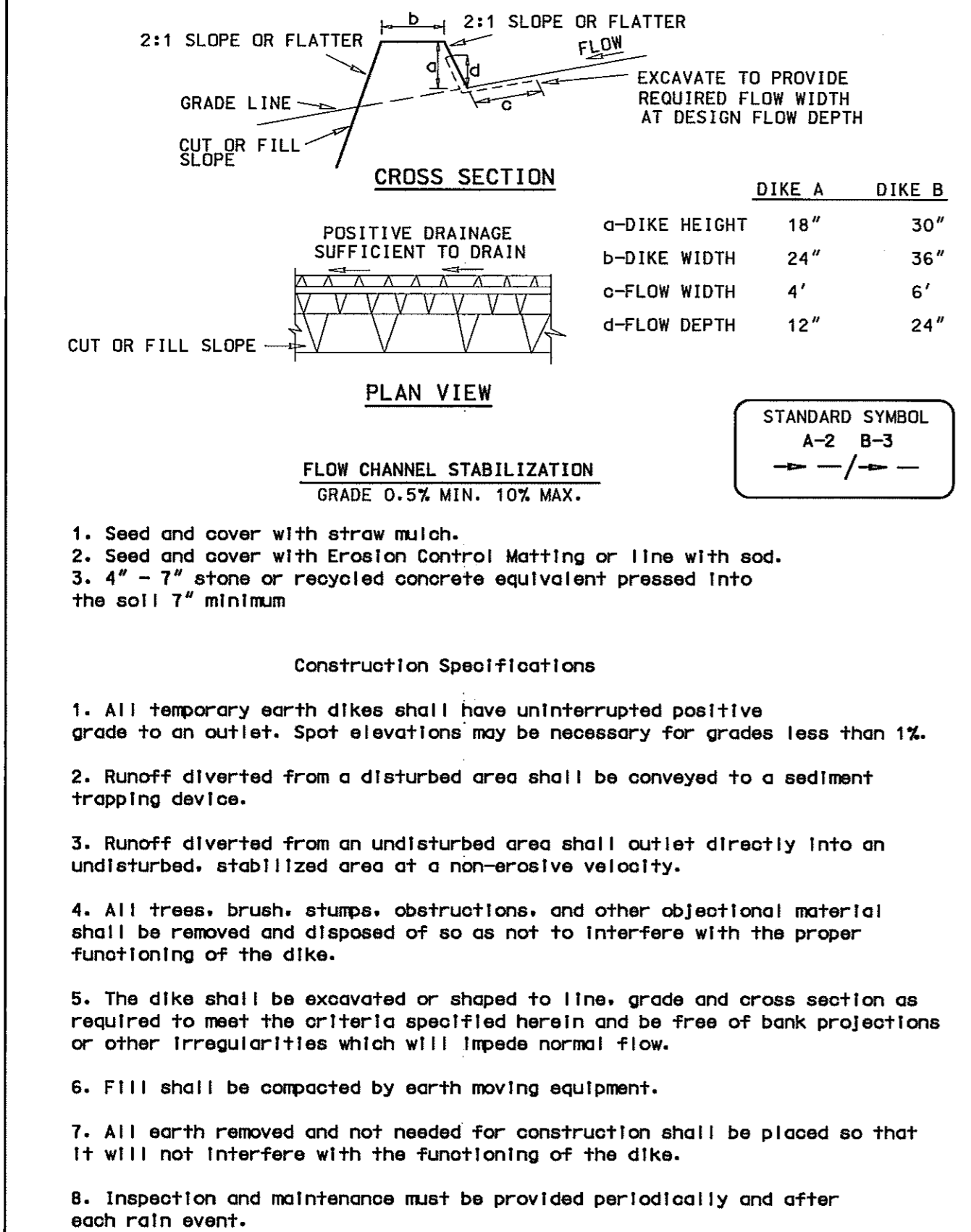
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 152 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

DETAIL 18 - SEDIMENT BASIN BAFFLES



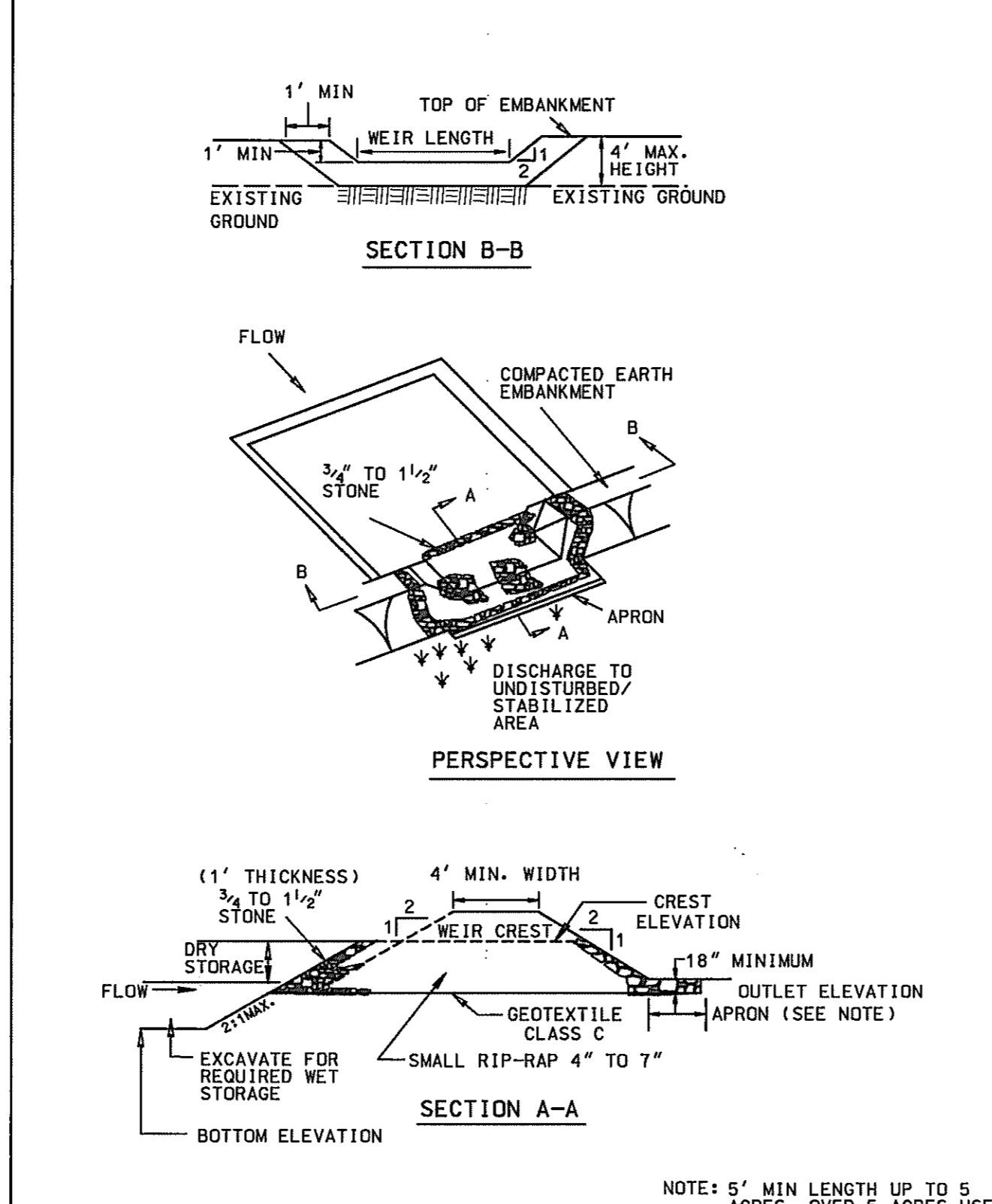
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-10-28 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 - EARTH DIKE



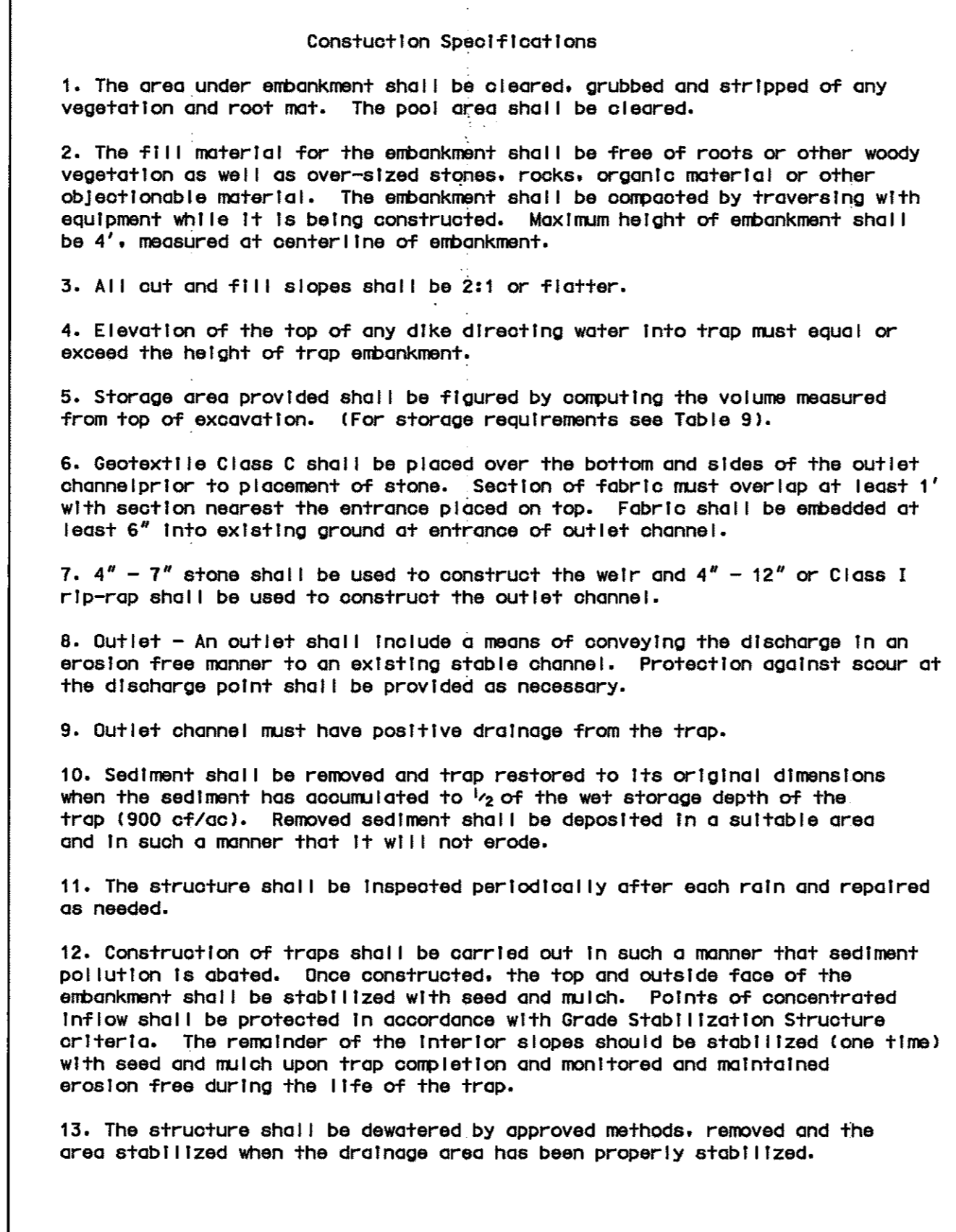
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE A-1-6 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 10A - STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV



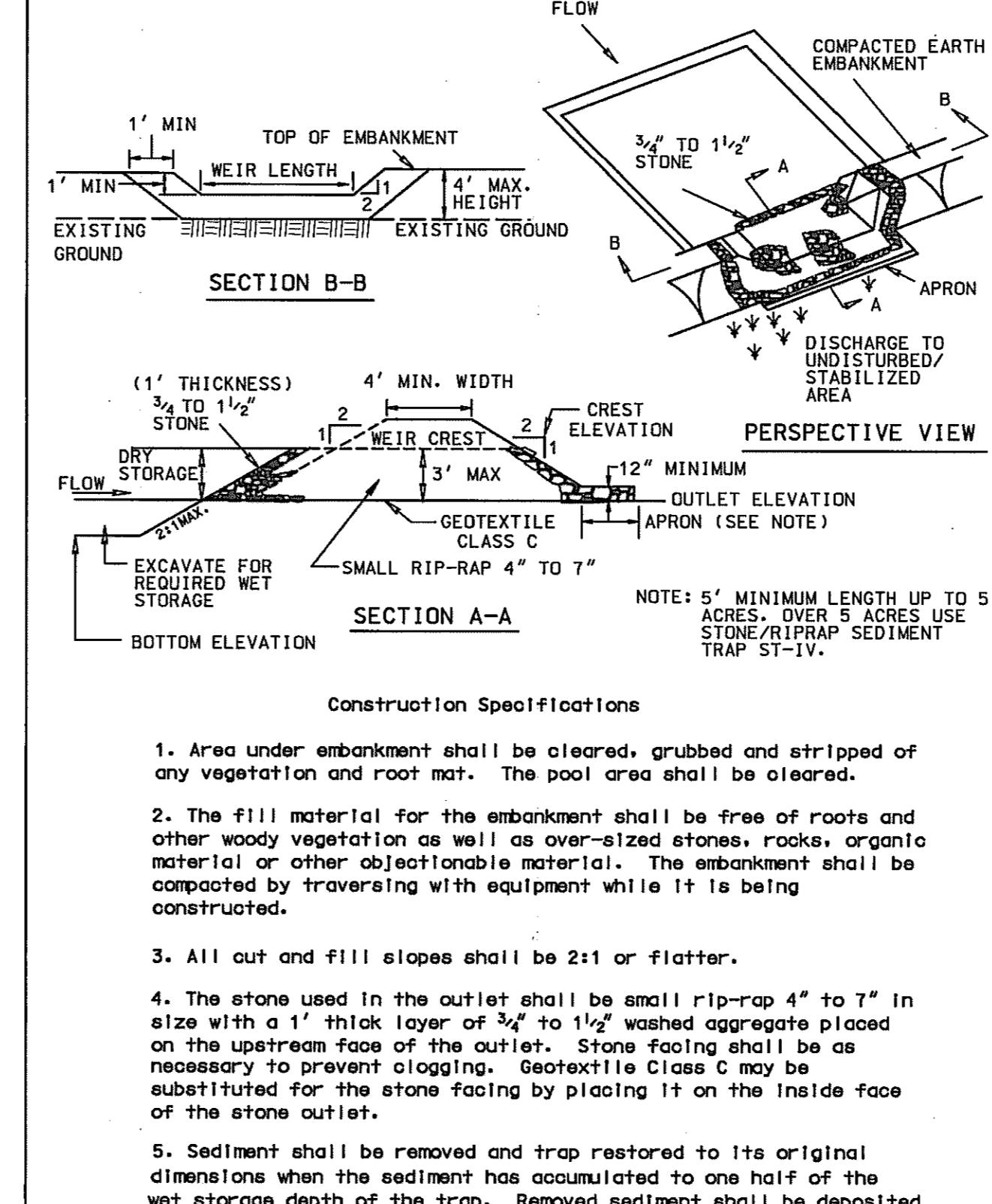
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-9-16 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV



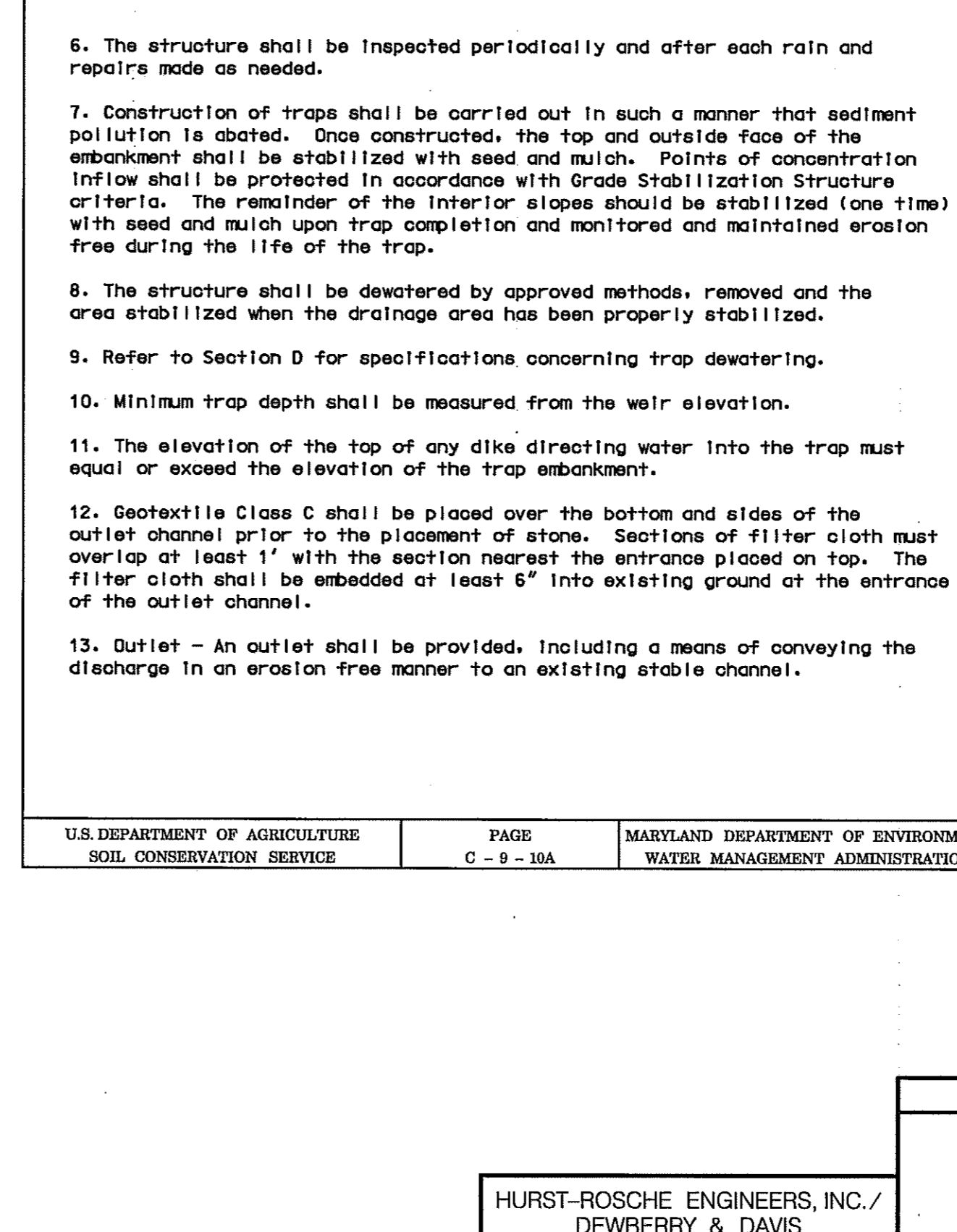
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-9-16A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



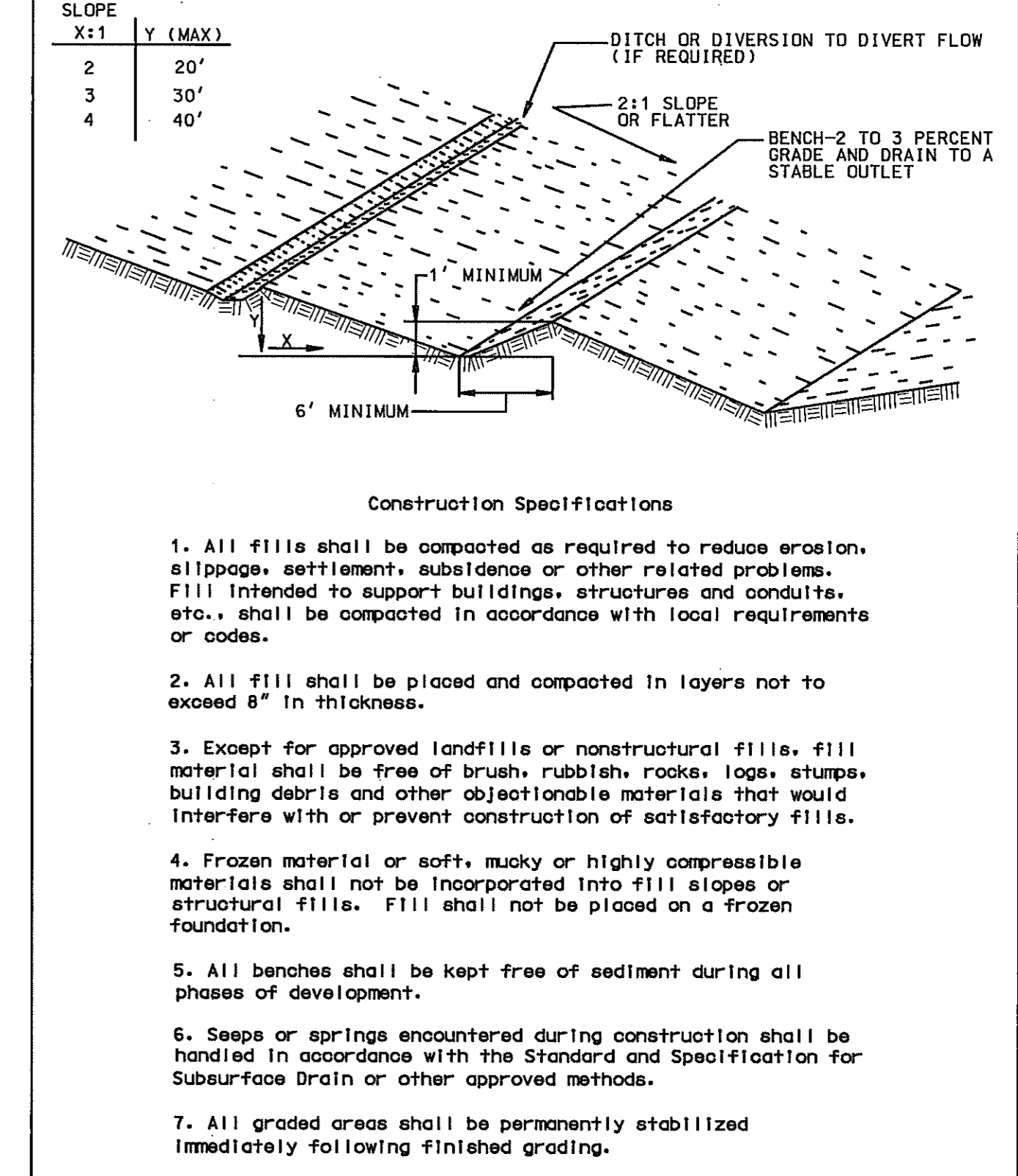
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-9-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STONE OUTLET SEDIMENT TRAP - ST II



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-9-10A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 28 - BENCHED SLOPES



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

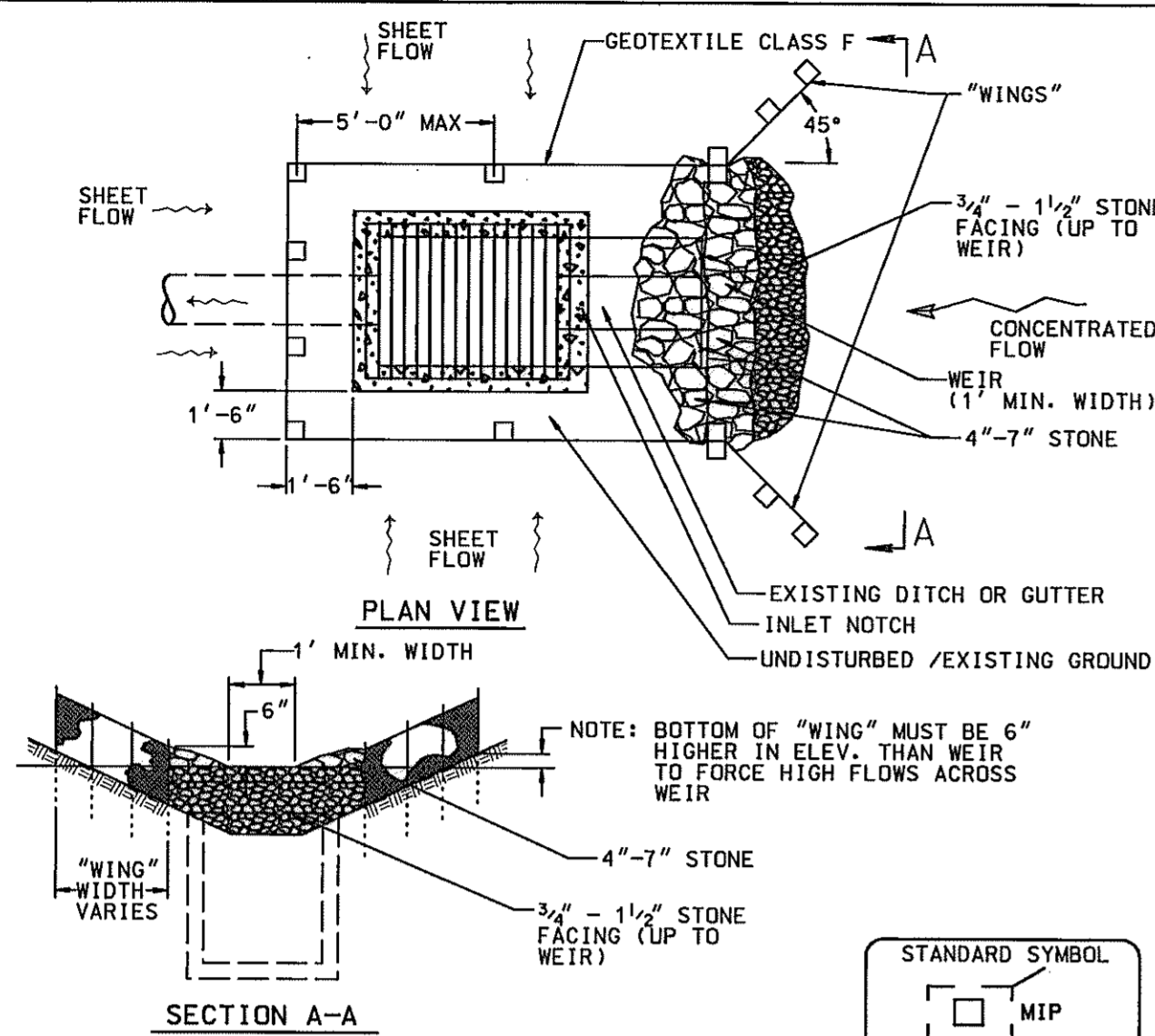
SEDIMENT AND EROSION CONTROL DETAILS

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
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REVISIONS

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
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DETAIL 23D - MEDIAN INLET PROTECTION

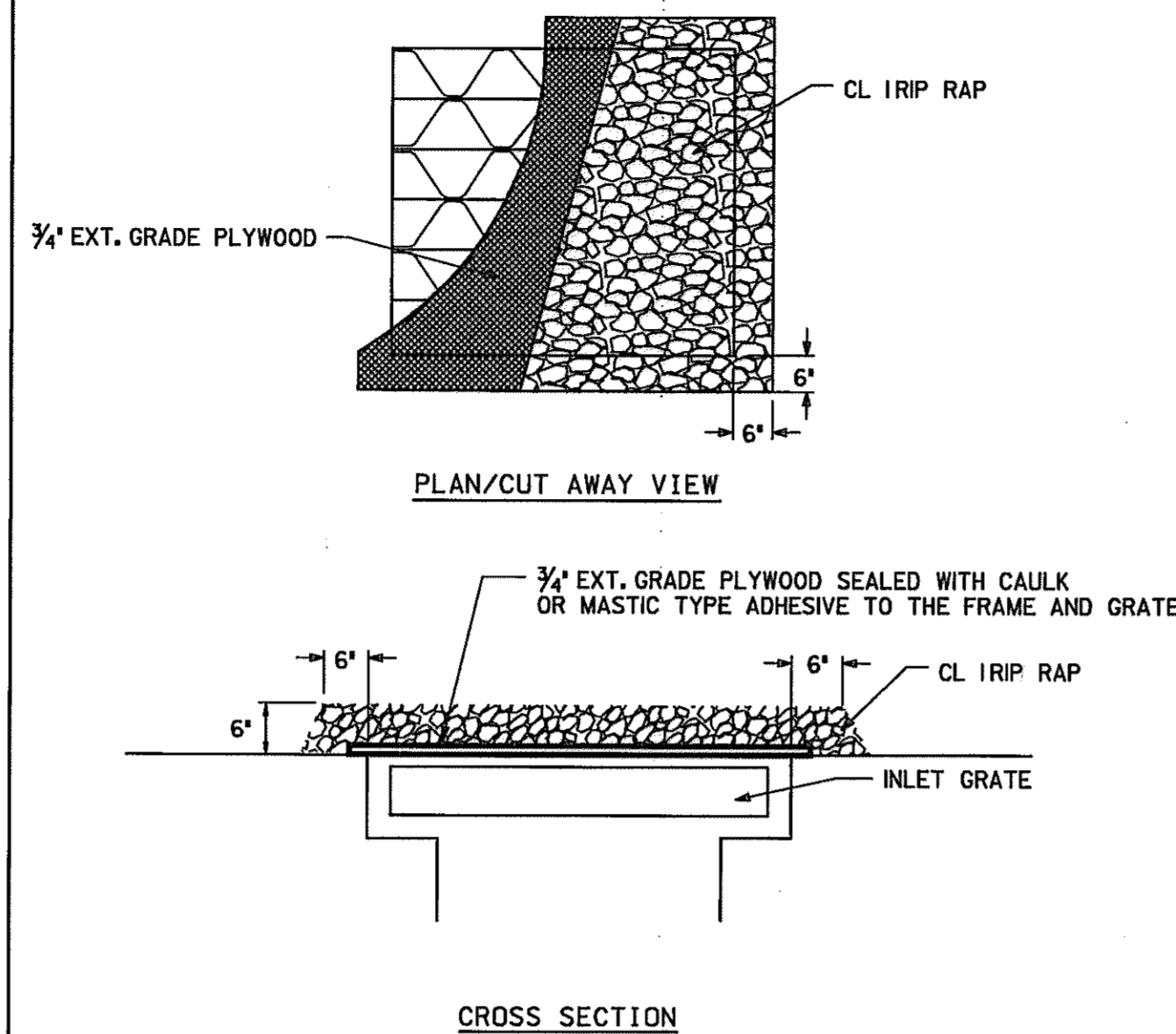


Construction Specifications

1. Fence posts shall be 36" (min.) long, driven 16" into the ground and spaced 5' (max.) apart. Wood posts shall be 1 1/2" x 1 1/2" (min.) square cut or 1 3/4" (min.) diameter round and shall be of sound quality hardwood. Steel posts shall be standard T or U section weighing not less than 1.0 #/linear foot.
2. Geotextile Class F shall be fastened securely to each post with wire ties or staples at top and mid-section.
3. Where ends of geotextile fabric come together they shall be overlapped, folded and stapled.
4. Median Inlet Protection shall be inspected after each rain and maintained when bulges occur in the fabric or when the stone gets clogged.
5. Stone used to construct the weir shall be 4" - 7" with a 1' thick layer of 3/4" - 1 1/2" stone on the upstream face.

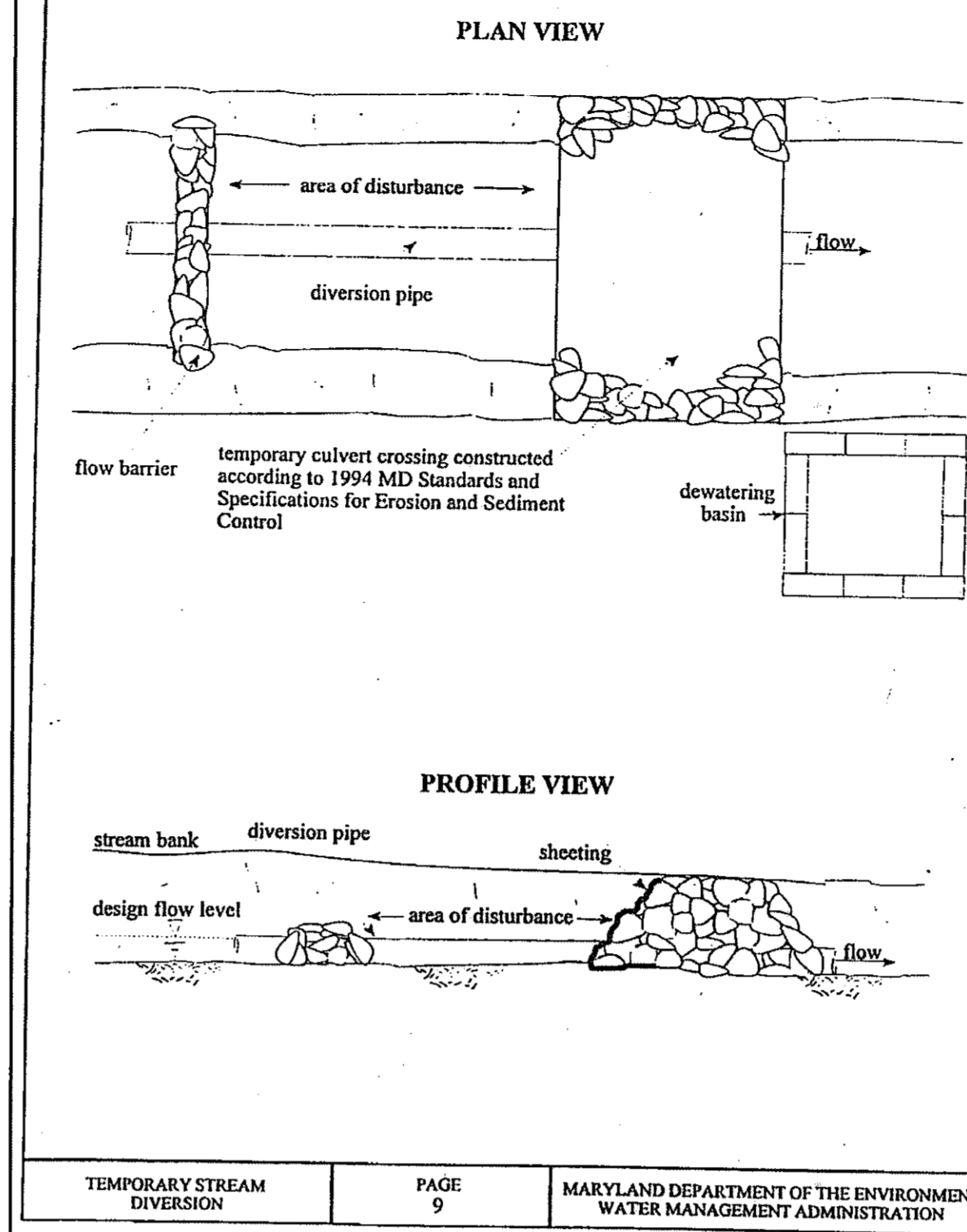
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-6C MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEALED INLET DETAIL

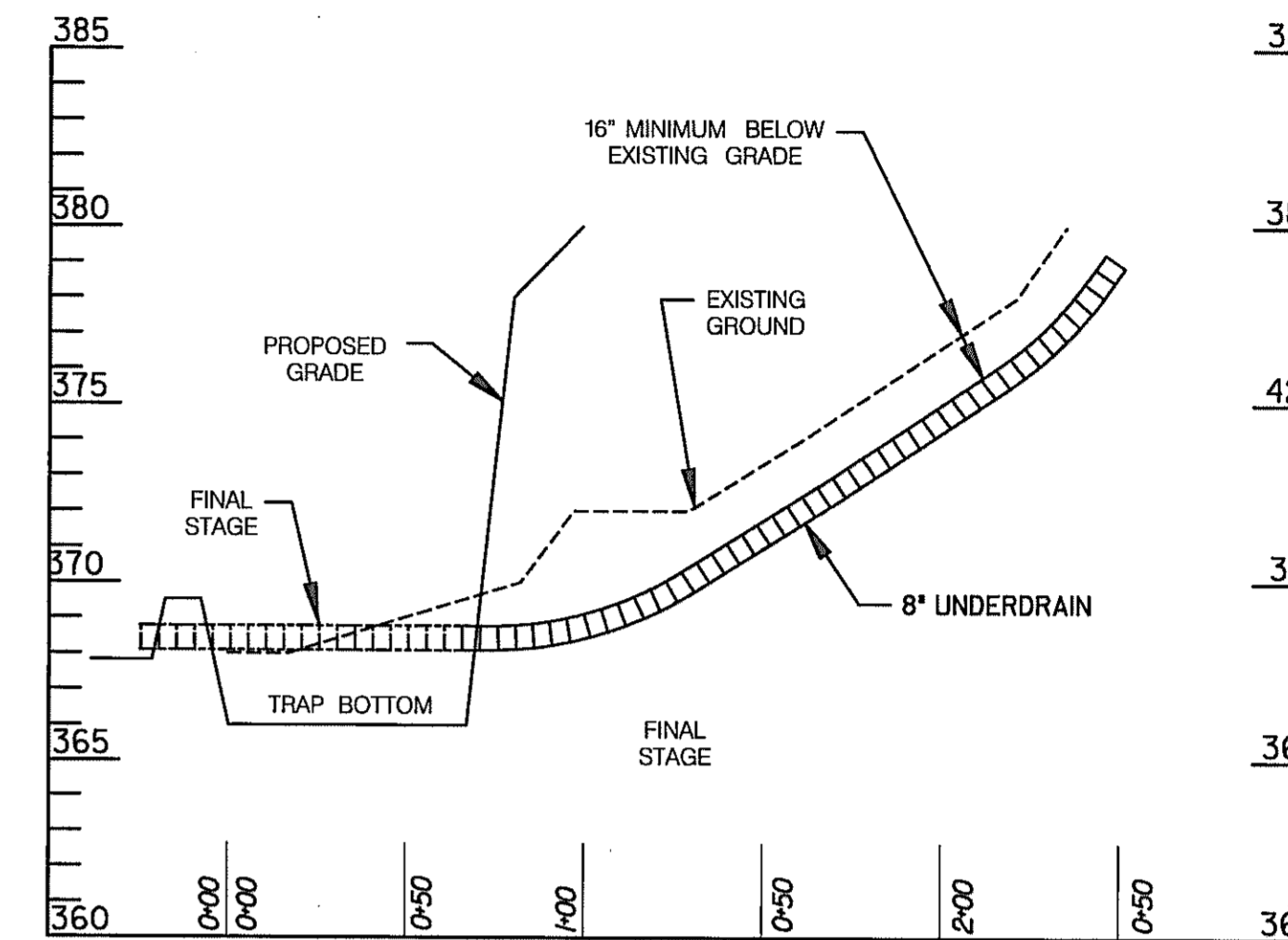


DRAWING NOT TO SCALE

DETAIL 2.2: CULVERT PIPE W/ ACCESS ROAD



TEMPORARY STREAM DIVERSION PAGE 9 MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



UNDER DRAIN PROFILE

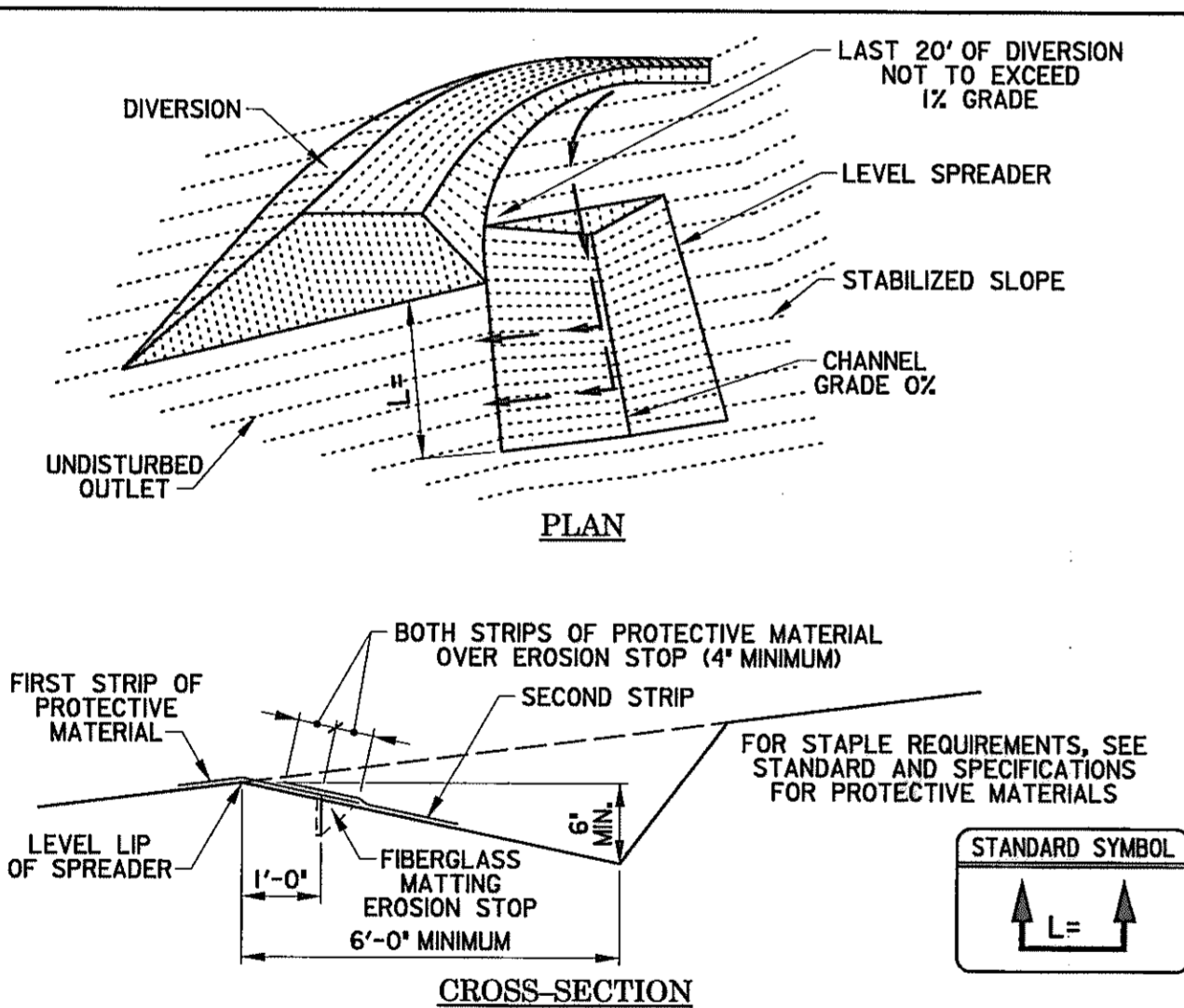
SCALE: 1" = 50' HORIZONTAL
1" = 5' VERTICAL

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAIN

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLAND, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE AUTHORIZED STRUCTURE OR FILL.
6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNOLIA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NATIONAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT AQUATIC SPECIES, IN STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:
A. USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE DURING ANY YEAR.
B. USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.
C. USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

SEDIMENT AND EROSION CONTROL DETAILS

ES 5 OF 5



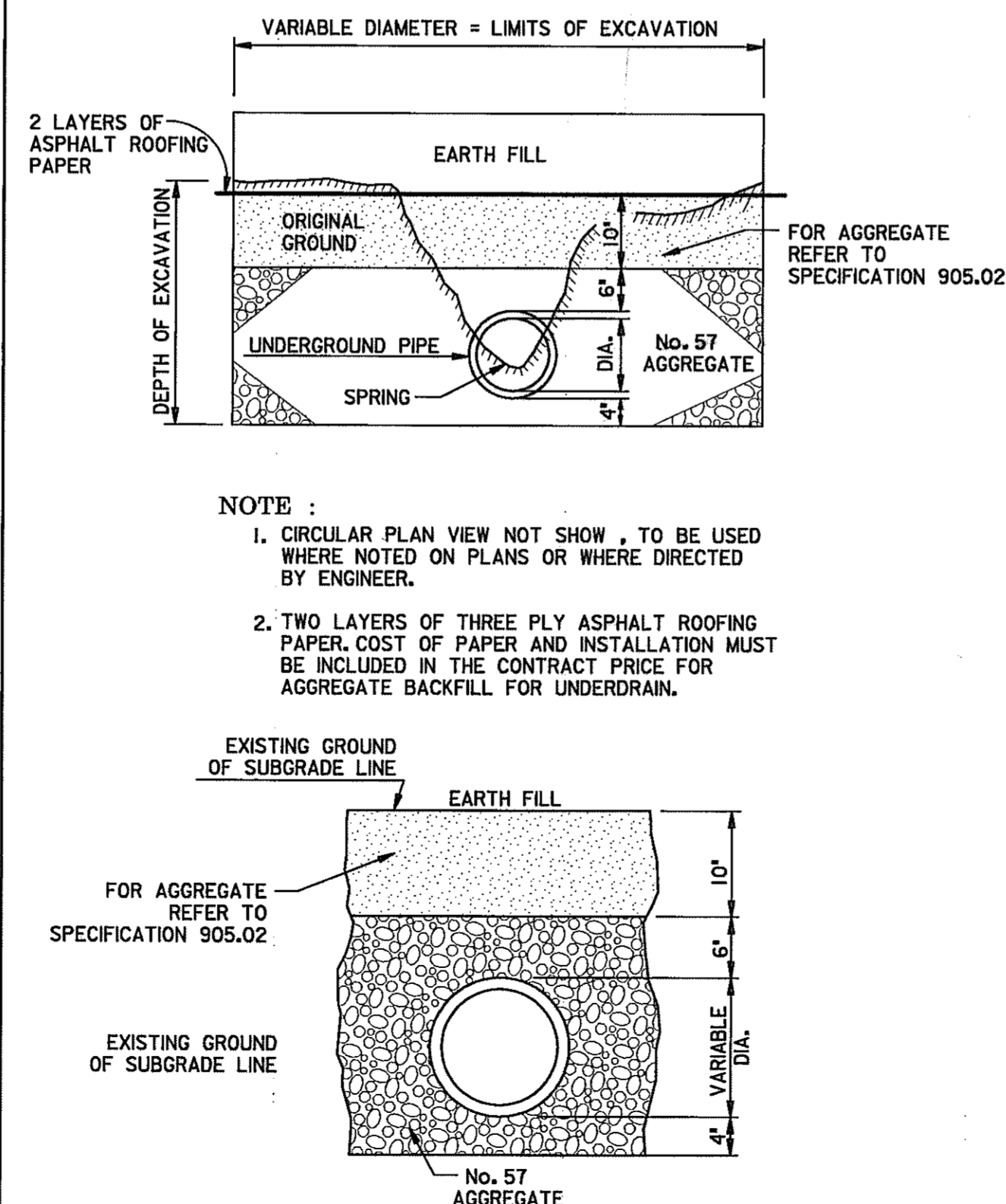
CONSTRUCTION SPECIFICATIONS

1. LEVEL SPREADER SHALL BE INSTALLED UNDER THE DIRECT SUPERVISION OF THE ENGINEER.
2. CONSTRUCT LEVEL LIP ON OZ GRADE TO INSURE UNIFORM SPREADING OF SEDIMENT-FREE RUN-OFF (CONVERTING CHANNEL FLOW TO SHEET FLOW).
3. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL (NOT ON FILL).
4. A FIBERGLASS MATTING EROSION STOP SHALL BE PLACED VERTICALLY AND AT LEAST 6" DEEP IN A SLIT TRENCH ONE FOOT BACK OF THE LEVEL LIP AND PARALLEL WITH THE LIP. THIS EROSION STOP SHALL EXTEND THE ENTIRE LENGTH OF THE LEVEL LIP AND SHALL BE TRIMMED AFTER BACKFILLING WITH TAMPED SOIL SO THAT THE UPPER EDGE IS FLUSH WITH THE SOIL SURFACE.
5. THE ENTIRE LEVEL LIP AREA SHALL BE PROTECTED BY PLACING TWO STRIPS OF JUTE OR EXCELSIOR PROTECTIVE MATERIAL AS SHOWN IN THE STANDARD DRAWING LS-1.
6. THE ENTRANCE CHANNEL SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 20 FEET BEFORE ENTERING SPREADER.
7. STORM RUN-OFF CONVERTED TO SHEET FLOW SHALL OUTLET ONTO STABILIZED AREAS. WATER SHALL NOT BE RECONCENTRATED IMMEDIATELY BELOW THE POINT OF DISCHARGE.
8. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PROVIDED.

LEVEL SPREADER

DRAWING LS-1

SPRING CONTROL METHOD AND DETAIL



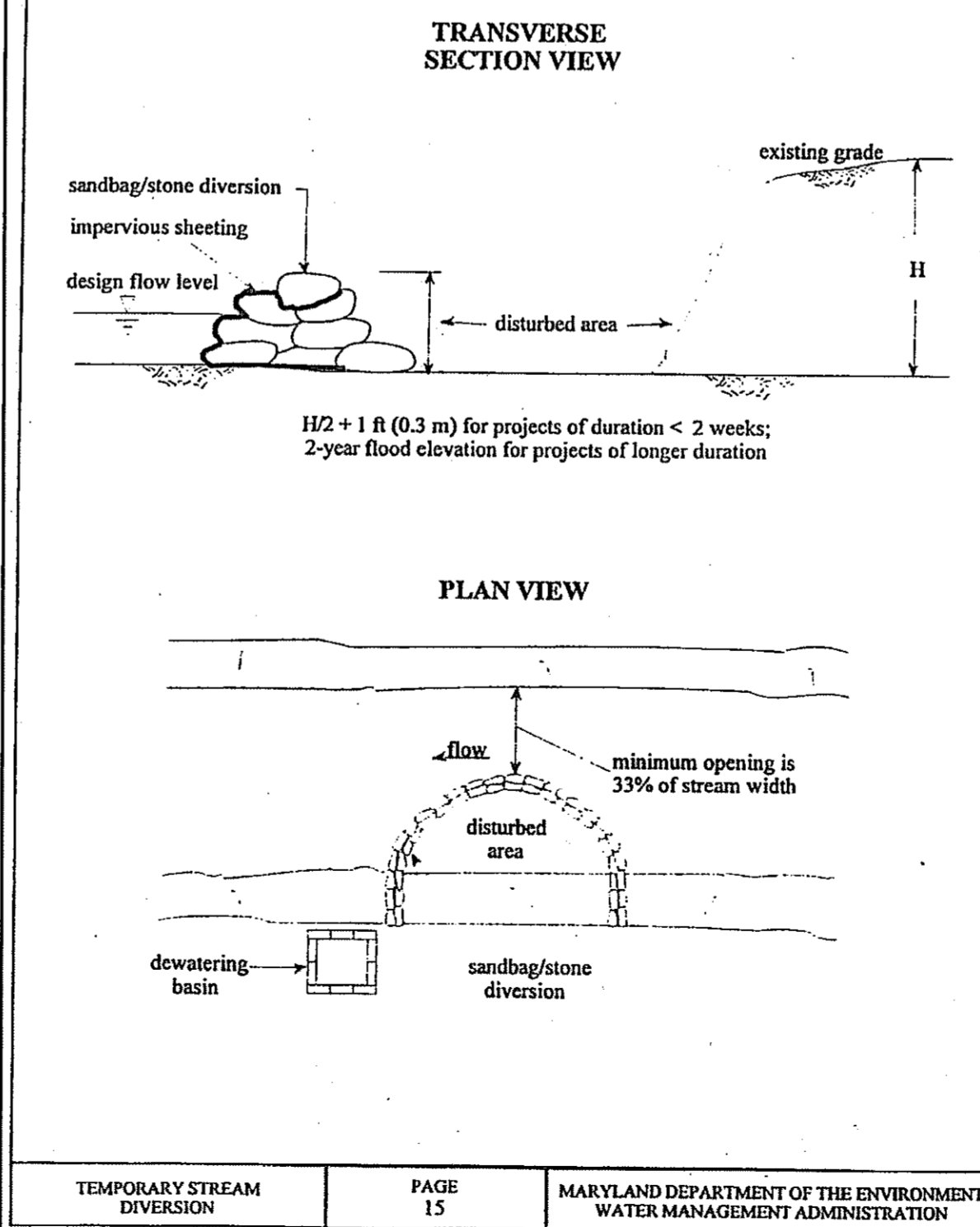
NOTE:

1. CIRCULAR PLAN VIEW NOT SHOWN TO BE USED WHERE NOTED ON PLANS OR WHERE DIRECTED BY ENGINEER.
2. TWO LAYERS OF THREE PLY ASPHALT ROOFING PAPER, COST OF PAPER AND INSTALLATION MUST BE INCLUDED IN THE CONTRACT PRICE FOR AGGREGATE BACKFILL FOR UNDERDRAIN.

SPRING CONTROL METHOD AND DETAIL

STANDARD NO. MD-386.03 NOT TO SCALE

DETAIL 2.4: SANDBAG/STONE DIVERSION

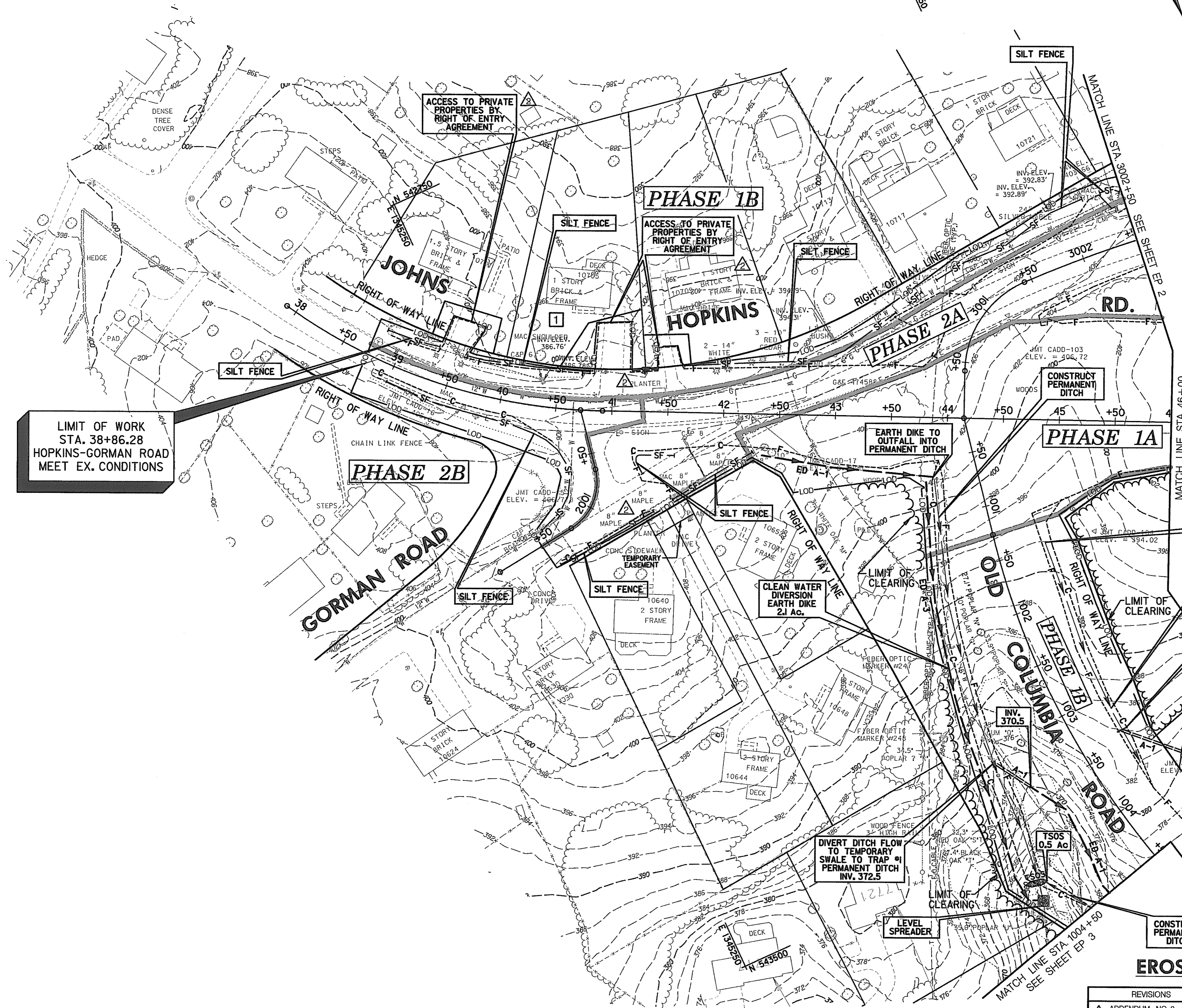


TEMPORARY STREAM DIVERSION PAGE 15 MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

HURST-ROSCHKE ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683

REVISIONS
ADDENDUM NO. 2
DATE: 8/2/00

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 154 OF 320
PREL. TRAC. BY FINAL TRAC. BY



- EARTH DIKE**
 STA. 1000+70.00 TO STA. 1004+25.00, RIGHT - OLD COLUMBIA RD. - 390 L.F. [Symbol] IA, IB
 STA. 1003+40.00 TO STA. 1004+50.00, RIGHT - OLD COLUMBIA RD. - 125 L.F. [Symbol] IA, IB
 STA. 42+30.00 TO STA. 43+90.00, RIGHT - JOHNS HOPKINS RD. - 160 L.F. [Symbol] IA, IB, 2A
- SILT FENCE**
 STA. 3000+78.00 TO STA. 3000+87.00, LEFT - HAMMOND PKWY. - 15 L.F. [Symbol] 2A
 STA. 3000+95.00 TO STA. 3002+20.00, LEFT - HAMMOND PKWY. - 135 L.F. [Symbol] 2A
 STA. 3002+30.00 TO STA. 3002+50.00, LEFT - HAMMOND PKWY. - 20 L.F. [Symbol] 2A
 STA. 38+86.00 TO STA. 39+30.00, LEFT - JOHNS HOPKINS RD. - 50 L.F. [Symbol] 1B
 STA. 39+00.00 TO STA. 40+70.00, RIGHT - JOHNS HOPKINS RD. - 270 L.F. [Symbol] 2B
 STA. 39+65.00 TO STA. 40+75.00, LEFT - JOHNS HOPKINS RD. - 110 L.F. [Symbol] 1B
 STA. 41+10.00 TO STA. 41+41.00, LEFT - JOHNS HOPKINS RD. - 31 L.F. [Symbol] 1B
 STA. 41+60.00 TO STA. 43+60.00, LEFT - JOHNS HOPKINS RD. - 210 L.F. [Symbol] 1B, 2A
 STA. 40+60.00 TO STA. 41+45.00, RIGHT - JOHNS HOPKINS RD. - 95 L.F. [Symbol] 2A
 STA. 41+25.00 TO STA. 41+55.00, RIGHT - JOHNS HOPKINS RD. - 55 L.F. [Symbol] 2A
 STA. 41+60.00 TO STA. 42+35.00, RIGHT - JOHNS HOPKINS RD. - 90 L.F. [Symbol] 2A
- CONSTRUCT PERMANENT DITCH - SEE HIGHWAY PLANS**
 STA. 1000+50 TO STA. 1004+50, RIGHT - OLD COLUMBIA ROAD [Symbol] IA, IB
 STA. 1001+50 TO STA. 1004+00, LEFT - OLD COLUMBIA ROAD [Symbol] IA, IB
- STONE / RIP RAP OUTLET SEDIMENT TRAP - ST IV**
 STA. 1004+50.00, LEFT - OLD COLUMBIA RD. [Symbol] IA, IB
- TEMPORARY STONE OUTLET STRUCTURE**
 STA. 1004+10.00, RIGHT - OLD COLUMBIA RD. - 1 EACH [Symbol] IA, IB
- LEVEL SPREADER**
 STA. 1004+20.00, RIGHT - OLD COLUMBIA RD. - 1 EACH [Symbol] IA, IB
- TEMPORARY SWALE**
 STA. 1003+10.00 TO STA. 1003+40.00, RIGHT - OLD COLUMBIA ROAD - 35 L.F. [Symbol] IA, IB
 STA. 1003+37.00 TO STA. 1003+87.00, LEFT - OLD COLUMBIA ROAD - 57 L.F. [Symbol] IA, IB

LIMIT OF WORK
 STA. 38+86.28
 HOPKINS-GORMAN ROAD
 MEET EX. CONDITIONS

TRAP #1 ST IV
 STONE / RIPRAP OUTLET SEDIMENT TRAP

DRAINAGE AREA	3.0 Ac
WET STORAGE REQUIRED	5,400 CF
WET STORAGE PROVIDED	5,497 CF
DRY STORAGE REQUIRED	5,400 CF
DRY STORAGE PROVIDED	5,726 CF
WET STORAGE ELEVATION	364.3
DRY STORAGE ELEVATION	366.1
WIER CREST ELEVATION	366.1
BOTTOM ELEVATION	362.0
CLEAN OUT ELEVATION	363.2
TOP OF EMBANKMENT ELEV.	367.1
WIER LENGTH	12.0'
BOTTOM DIMENSIONS	37' x 64'
SIDE SLOPES	2:1

**INITIAL PHASE
 EROSION & SEDIMENT CONTROL PLAN**

REVISIONS

2	ADDENDUM NO. 2 DATE: 8/ /00
1	REDLINE NO. 1 DATE: 2/20/01

HURST-ROSCHÉ ENGINEERS, INC./
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STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 155 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

SEQUENCE OF CONSTRUCTION

JOHNS HOPKINS ROAD

FOR FILL AREA STA. 47+00 TO STA 53+50

1. INSTALL SCE GORMAN RD STA 3003+00, RIGHT
2. CLEAR ACCESS TO TRAP #2, CLEAR AND GRUB TRAP #2 AREA.
3. INSTALL TRAP #2 EMBANKMENT AND STONE/RIP RAP OUTLET
4. CLEAR & GRUB REMAINDER OF FILL AREA.
5. INSTALL UNDER DRAIN SYSTEM TO LIMIT SHOWN ON PLAN.
6. CONSTRUCT EW-164 TO I-163 - PROVIDE SED. CONTROLS, I-175 TO I-163 - SEAL INLETS, I-163 TO TRAP #2 - INSTALL OUTLET PROTECTION, TEMPORARY FLEX PIPE FROM EX. 24" CMP TO I-175
7. INSTALL EARTH DIKES, PERMANENT DITCHES AND TEMPORARY SWALES.
8. BEGIN FILL OPERATIONS. AS FILL PROGRESSES, MAINTAIN POSITIVE FLOW IN THE TEMPORARY SWALE, AT THE TOE OF SLOPE, TO THE TRAP. INSTALL TRAP INFLOW PROTECTION. AS FILL HEIGHTS WARRANT, EARTH DIKES AND PIPE SLOPE DRAINS SHOULD BE INSTALLED ALONG THE TOP EDGE OF THE FILL EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO THE SEDIMENT TRAP.
9. THE 2% SLOPES ON THE SOUTHERN SIDE ESTA 53+50 JOHNS HOPKINS RD BACK TO STA 302+50 RAMP 3J AND ON THE NORTHERN SLOPE ESTA 49+50 TO 53+50 JOHNS HOPKINS RDJ CAN BE PERMANENTLY STABILIZED WHEN GRADES REACH THOSE SHOWN ON THE PLANS.

EARTH DIKE

- STA. 510+50.00 TO STA. 512+00.00, RIGHT - RAMP 5 - 150 L.F. [I] IA
- STA. 305+00.00 TO STA. 307+50.00, RIGHT - RAMP 3 - 170 L.F. [I] IA
- STA. 51+70.00 TO STA. 53+50.00, LEFT - JOHNS HOPKINS RD. - 180 L.F. [I] IA
- STA. 48+70.00 TO STA. 53+50.00, RIGHT - JOHNS HOPKINS RD. - 480 L.F. [I] IA
- STA. 47+30.00 TO STA. 52+50.00, LEFT & RIGHT - JOHNS HOPKINS RD. 1100 L.F. [I] IA

SILT FENCE

- STA. 3002+50.00 TO STA. 3003+00.00, LEFT - HAMMONDS PKWY. - 50 L.F. [I] IA
- STA. 56+00.00 TO STA. 56+50.00, RIGHT - JOHNS HOPKINS RD. - 115 L.F. [I] IA
- STA. 627+00.00 TO STA. 628+70.00, RIGHT - U.S.29. - 190 L.F. [I] IA
- STA. 626+50.00 TO STA. 627+65.00, LEFT - U.S.29. - 110 L.F. [I] IA

TEMPORARY STONE OUTLET STRUCTURE

- STA. 3007+10.00, LEFT - HAMMOND PKWY. - 1 EACH [I] IA
- STA. 3007+10.00, RIGHT - HAMMOND PKWY. - 1 EACH [I] IA
- STA. 3004+50.00, LEFT - HAMMOND PKWY. - 2 EACH [I] IA

CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS

- STA. 300+00.00 TO STA. 301+25.00, RIGHT- RAMP 3 [I] IA
- STA. 306+10.00 TO STA. 307+50.00, RIGHT - RAMP 3 [I] IA
- STA. 46+70.00 TO STA. 47+20.00, RIGHT - JOHNS HOPKINS RD. [I] IA
- STA. 510+50.00 TO STA. 512+15.00, RIGHT - RAMP 5 [I] IA

SUPER SILT FENCE

- STA. 3004+50.00, LEFT - HAMMOND PARKWAY - 50 L.F. [I] IA, 2A
- STA. 512+00.00 TO STA. 512+50.00, RIGHT - RAMP 5 - 60 L.F. [I] IA, 2A

STABILIZED CONSTRUCTION ENTRANCE

- STA. 305+00.00, 85' RIGHT - RAMP 3. - 1 EACH. [I] IA
- STA. 3003+00.00, 23' RIGHT - GORMAN RD - 1 EACH [I] IA

TEMPORARY SWALE

- STA. 47+60.00, RIGHT TO STA. 50+70.00, LEFT - JOHNS HOPKINS ROAD - 670 L.F. [I] IA

SEAL INLET (SEE DETAIL SHEET ES 5 OF 5)

- STA. 47+50.00, LEFT - JOHNS HOPKINS ROAD - 1 EACH [I] IA
- STA. 50+50.00, LEFT - JOHNS HOPKINS ROAD - 1 EACH [I] IA

PIPE SLOPE DRAIN - 24"

- STA. 48+25.00, RIGHT - JOHNS HOPKINS ROAD - 120 L.F. [I] IA

TYPE 'A' SOIL STABILIZATION MATTING

- STA. 300+00.00 TO STA. 302+50.00, RIGHT - RAMP 3 - 630 S.Y. [I] IA
- STA. 51+65.00 TO STA. 53+50.00, LEFT - JOHNS HOPKINS RD. - 350 S.Y. [I] IA
- STA. 49+50.00 TO STA. 53+30.00, RIGHT - JOHNS HOPKINS RD. - 1,000 S.Y. [I] IA

TEMPORARY 18" FLEX PIPE

- STA. 302+00.00 TO STA. 302+80.00, RIGHT - RAMP 3 - 67 L.F. [I] IA

STONE/RIP RAP OUTLET SEDIMENT TRAP ST-IV

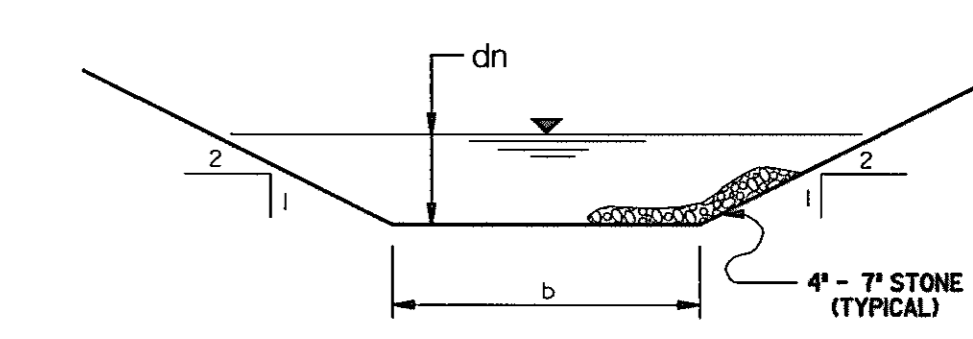
- STA. 48+00.00, RIGHT - JOHNS HOPKINS RD. - 1 EACH [I] IA

8" UNDERDRAIN STD. No. MD. - 386.03

- STA. 48+00.00 TO STA. 48+75.00, LT. & RT. - JOHNS HOPKINS RD. - 500 L.F. [I] IA

TEMPORARY CL I RIP RAP PAD - 19" DEPTH

- STA. 47+50.00, RIGHT- JOHNS HOPKINS RD. - 10 S.Y. [I] IA

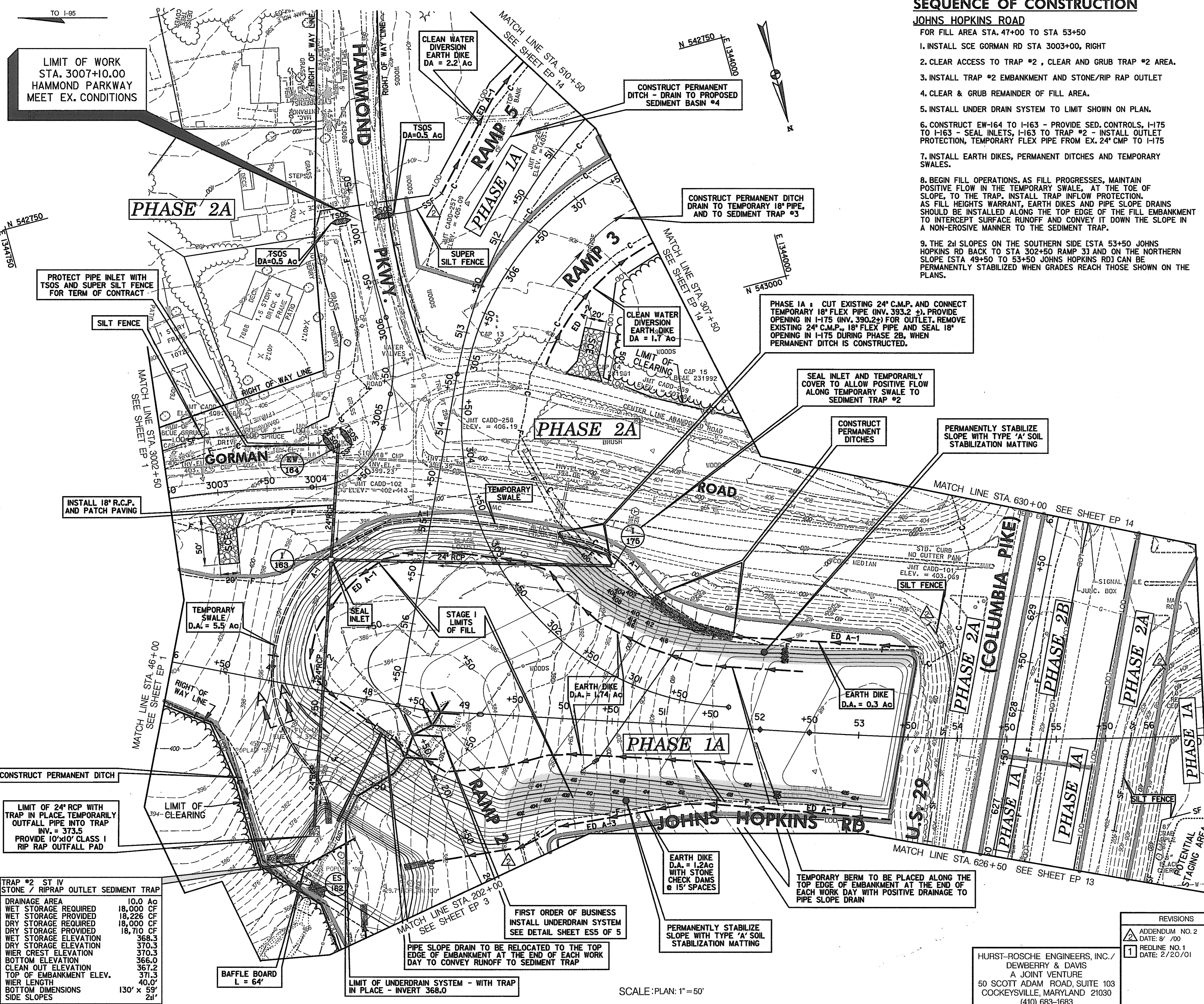


Q₂ = 23.0 cfs
 V₂ = 7.8 fps
 Slope = 16%
 n = 0.045
 d = 2.0'
 b = 4.0'
 dn = 0.60'

LEGEND

- [I] DENOTES TREATMENT FOR INITIAL PHASE ONLY
- [II] DENOTES TREATMENT FOR FINAL PHASE ONLY
- [*] DENOTES TREATMENT FOR TERM OF CONTRACT

INITIAL PHASE EROSION & SEDIMENT CONTROL PLAN



TRAP #2 ST IV STONE / RIPRAP OUTLET SEDIMENT TRAP	
DRAINAGE AREA	10.0 AC
WET STORAGE REQUIRED	18,000 CF
WET STORAGE PROVIDED	18,226 CF
DRY STORAGE REQUIRED	18,000 CF
DRY STORAGE PROVIDED	18,710 CF
WET STORAGE ELEVATION	368.3
DRY STORAGE ELEVATION	370.3
WIER CREST ELEVATION	370.3
BOTTOM ELEVATION	366.0
CLEAN OUT ELEVATION	367.2
TOP OF EMBANKMENT ELEV.	371.3
WIER LENGTH	40.0'
BOTTOM DIMENSIONS	130' x 59'
SIDE SLOPES	2:1

SCALE: PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

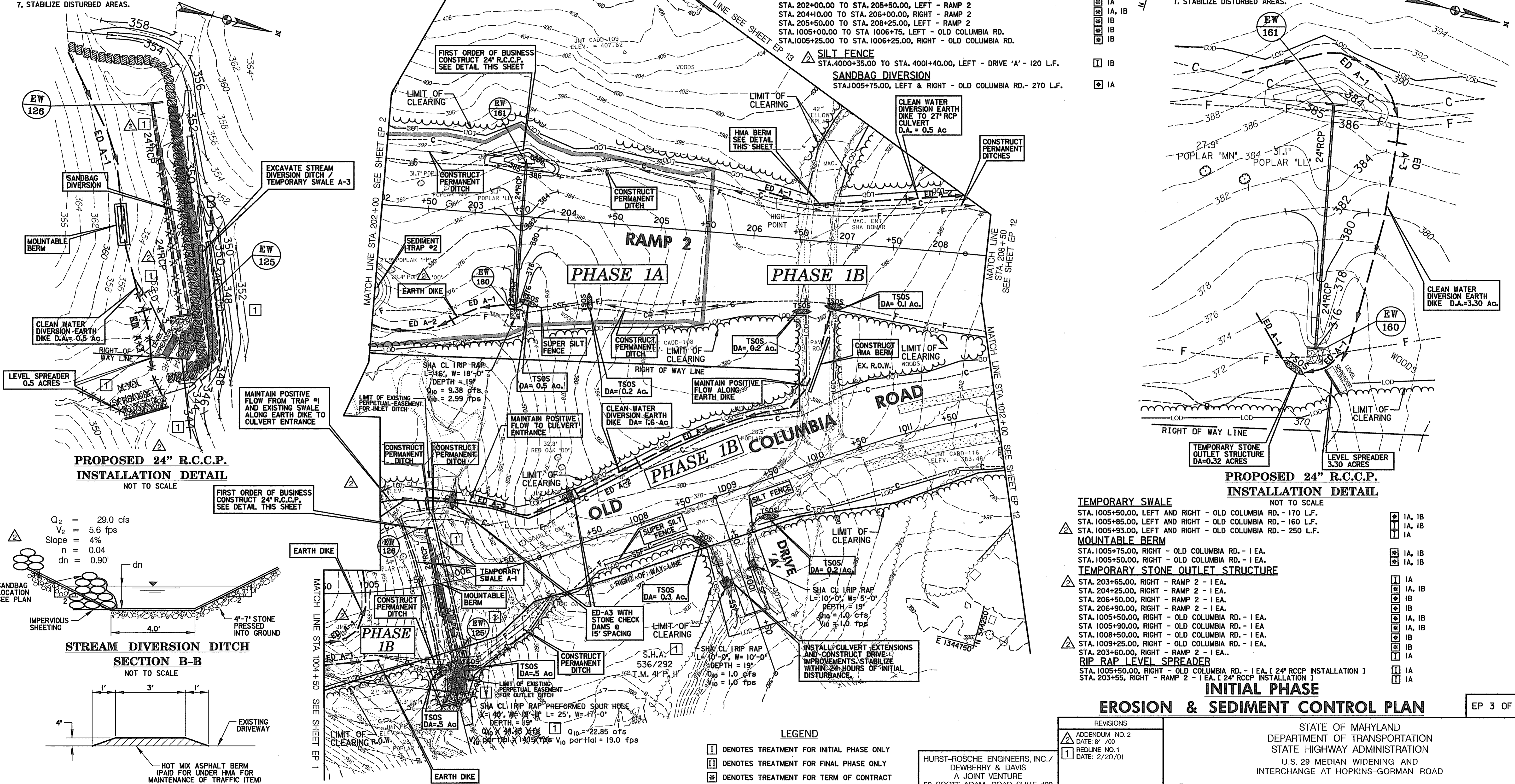
REVISIONS	
2	ADDENDUM NO. 2 DATE: 8/7/00
1	REDLINE NO. 1 DATE: 2/20/01

SEQUENCE OF CONSTRUCTION FOR PROPOSED 24" R.C.C.P. INSTALLATION BETWEEN EW-125 TO EW-126

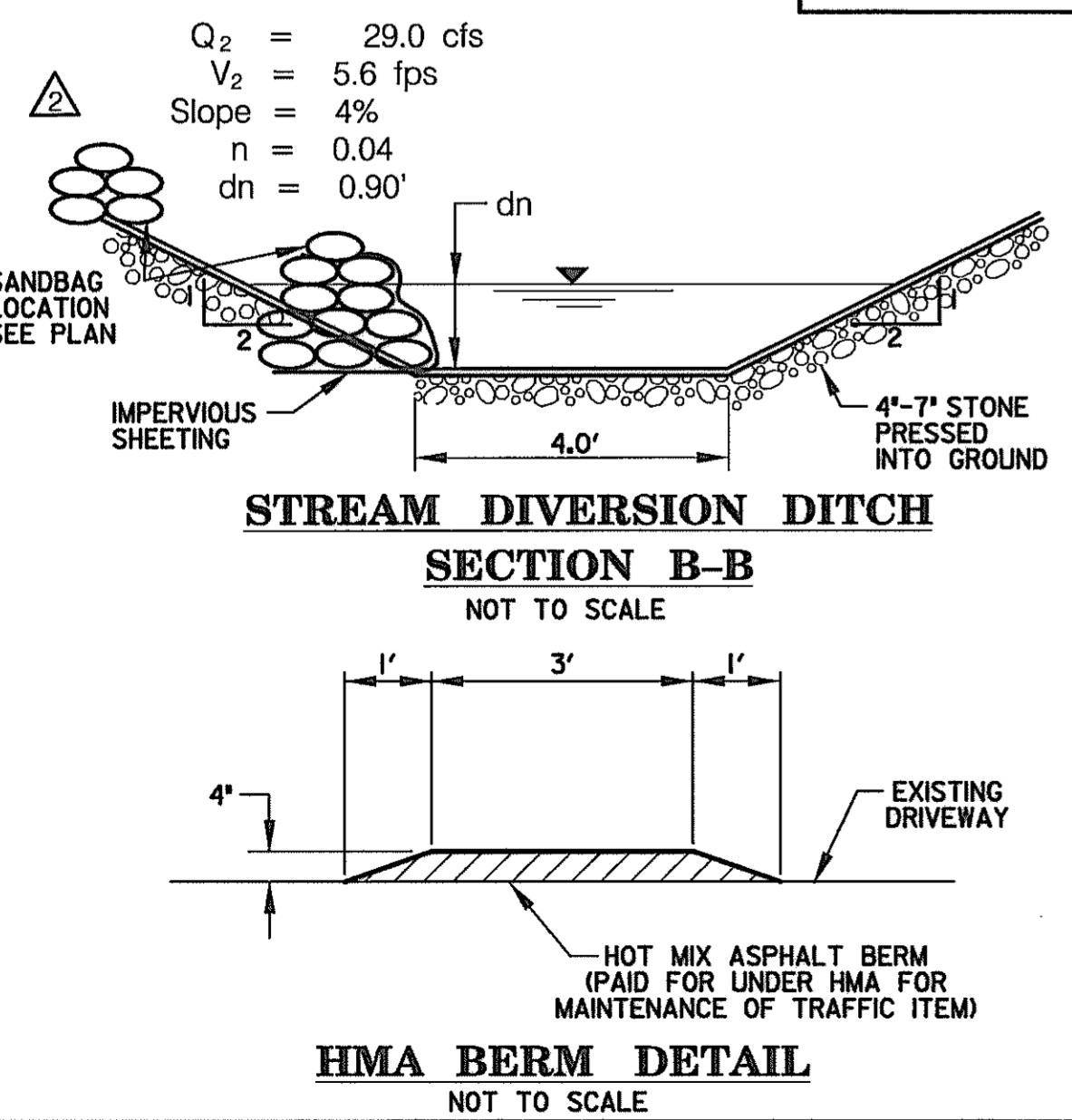
- USE I WATERS : IN STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE DURING ANY YEAR.
1. INSTALL / EXCAVATE SANDBAG / A-3 TEMPORARY SWALE STREAM DIVERSION DURING A CONTINUOUS DRY WEATHER PERIOD. STABILIZE WITHIN 24 HOURS OF INITIAL DISTURBANCE.
 2. INSTALL CLEAR-WATER DIVERSION EARTH DIKE, MOUNTABLE BERM AND LEVEL SPREADER.
 3. CLEAR AND GRUB FOR ENDWALL AND PIPE INSTALLATION.
 4. CONSTRUCT PIPE CULVERT, HEADWALLS AND OUTFALL PROTECTION. BACKFILL PIPE TO A MINIMUM ONE FOOT (1.0') COMPACTED FILL OVER PIPE.
 5. REDIRECT FLOW FROM TEMPORARY DIVERSION TO PIPE CULVERT.
 6. REMOVE CLEAR-WATER DIVERSION, LEVEL SPREADER AND TEMPORARY DIVERSION. TEMPORARY SWALE ON NORTH SIDE TO REMAIN. (SEE PLAN THIS SHEET)
 7. STABILIZE DISTURBED AREAS.

SEQUENCE OF CONSTRUCTION FOR PROPOSED 24" R.C.C.P. INSTALLATION BETWEEN EW-160 TO EW-161

1. INSTALL LEVEL SPREADER AND CLEAR-WATER DIVERSION EARTH DIKES.
2. INSTALL TEMPORARY STONE OUTLET STRUCTURE AND A-1 EARTH DIKES.
3. CLEAR AND GRUB FOR ENDWALL AND PIPE INSTALLATION.
4. CONSTRUCT 24" RCCP CULVERT ENDWALLS (EW 160 & EW161). PROVIDE INLET AND OUTLET PROTECTION. BACKFILL PIPE TO A MINIMUM ONE FOOT (1.0') COMPACTED FILL OVER PIPE AS SHOWN ON DETAIL THIS SHEET.
5. STABILIZE INLET AND OUTLET AREAS.
6. REMOVE CLEAR-WATER DIVERSION, EARTH DIKES AND TEMPORARY STONE OUTLET STRUCTURE, DIVERSION, AND LEVEL SPREADER.
7. STABILIZE DISTURBED AREAS.



PROPOSED 24" R.C.C.P. INSTALLATION DETAIL
NOT TO SCALE



PROPOSED 24" R.C.C.P. INSTALLATION DETAIL
NOT TO SCALE

- TEMPORARY SWALE**
 STA. 1005+50.00, LEFT AND RIGHT - OLD COLUMBIA RD. - 170 L.F.
 STA. 1005+85.00, LEFT AND RIGHT - OLD COLUMBIA RD. - 160 L.F.
 STA. 1005+93.00, LEFT AND RIGHT - OLD COLUMBIA RD. - 250 L.F.
- MOUNTABLE BERM**
 STA. 1005+75.00, RIGHT - OLD COLUMBIA RD. - 1 EA.
 STA. 1005+50.00, RIGHT - OLD COLUMBIA RD. - 1 EA.
- TEMPORARY STONE OUTLET STRUCTURE**
 STA. 203+65.00, RIGHT - RAMP 2 - 1 EA.
 STA. 204+25.00, RIGHT - RAMP 2 - 1 EA.
 STA. 206+50.00, RIGHT - RAMP 2 - 1 EA.
 STA. 206+90.00, RIGHT - RAMP 2 - 1 EA.
 STA. 1005+50.00, RIGHT - OLD COLUMBIA RD. - 1 EA.
 STA. 1005+90.00, RIGHT - OLD COLUMBIA RD. - 1 EA.
 STA. 1008+50.00, RIGHT - OLD COLUMBIA RD. - 1 EA.
 STA. 1009+25.00, RIGHT - OLD COLUMBIA RD. - 1 EA.
 STA. 203+60.00, RIGHT - RAMP 2 - 1 EA..
- RIP RAP LEVEL SPREADER**
 STA. 1005+50.00, RIGHT - OLD COLUMBIA RD. - 1 EA. [24" RCCP INSTALLATION]
 STA. 203+55, RIGHT - RAMP 2 - 1 EA. [24" RCCP INSTALLATION]

EROSION & SEDIMENT CONTROL PLAN

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 157 OF 320
PREL. TRAC. BY FINAL TRAC. BY

REVISIONS
 2 ADDENDUM NO. 2 DATE: 8/7/00
 1 REDLINE NO. 1 DATE: 2/20/01

- LEGEND**
- I DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - II DENOTES TREATMENT FOR FINAL PHASE ONLY
 - III DENOTES TREATMENT FOR TERM OF CONTRACT

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

SCALE: PLAN: 1" = 50'

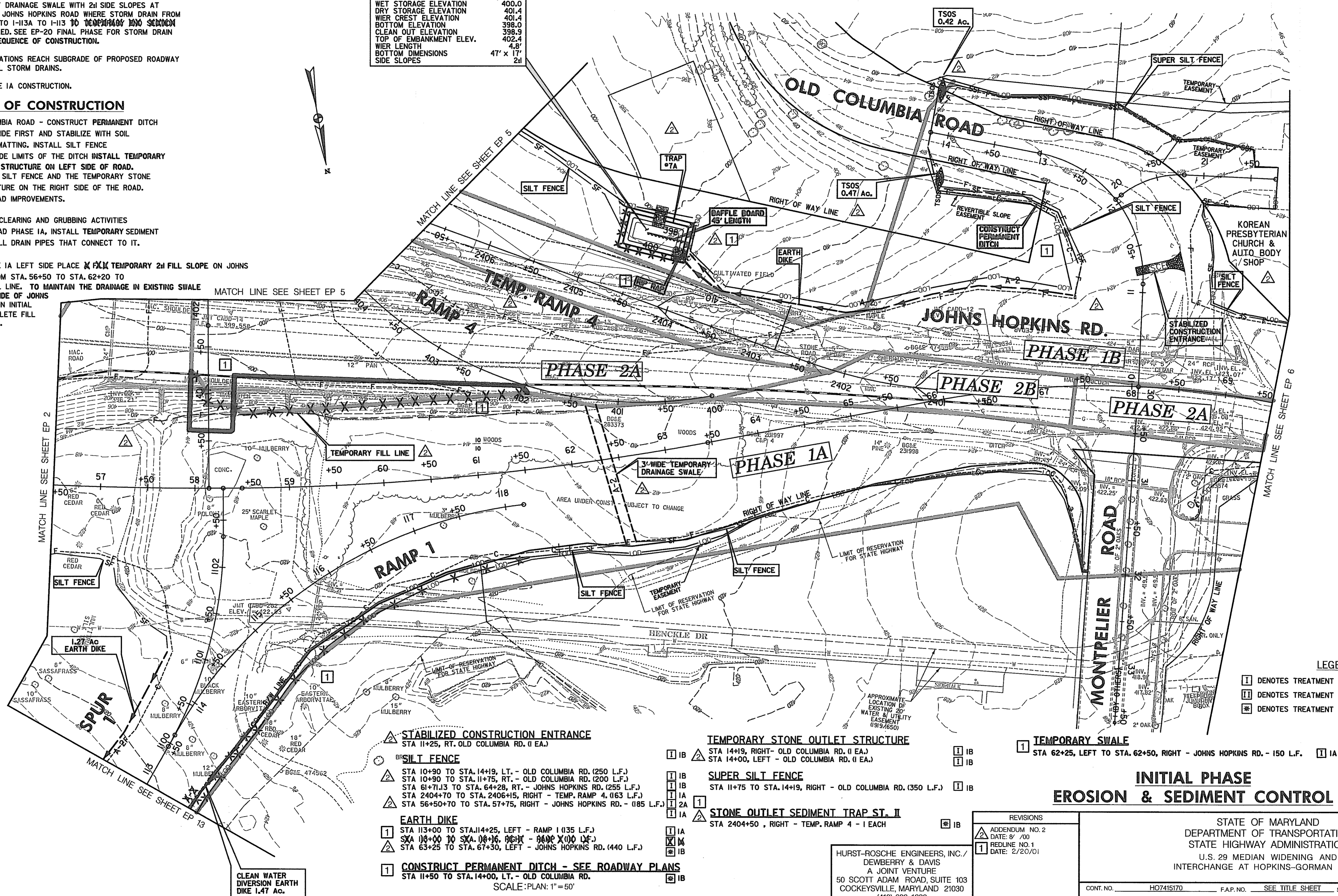
SEQUENCE OF CONSTRUCTION FOR GRADING AND STORM DRAIN INSTALLATION

1. CLEAR AND GRUB AREA FOR RAMP 1, SPUR 1 AND JOHNS HOPKINS ROAD (PHASE 1A)
2. BEGIN GRADING OPERATIONS FOR THESE AREAS LEAVING A 3.0' WIDE TEMPORARY DRAINAGE SWALE WITH 2:1 SIDE SLOPES AT STA. 62+40 +/- JOHNS HOPKINS ROAD WHERE STORM DRAIN FROM EW-115 TO I-114 TO I-113A TO I-113 TO TEMPORARY RAMP SECTION WILL BE INSTALLED. SEE EP-20 FINAL PHASE FOR STORM DRAIN LAYOUT. AND SEQUENCE OF CONSTRUCTION.
3. WHEN FILL OPERATIONS REACH SUBGRADE OF PROPOSED ROADWAY SECTION, INSTALL STORM DRAINS.
4. COMPLETE PHASE 1A CONSTRUCTION.

SEQUENCE OF CONSTRUCTION

1. FOR OLD COLUMBIA ROAD - CONSTRUCT PERMANENT DITCH ON THE LEFT SIDE FIRST AND STABILIZE WITH SOIL STABILIZATION MATTING. INSTALL SILT FENCE ALONG THE INSIDE LIMITS OF THE DITCH INSTALL TEMPORARY STONE OUTLET STRUCTURE ON LEFT SIDE OF ROAD. INSTALL SUPER SILT FENCE AND THE TEMPORARY STONE OUTLET STRUCTURE ON THE RIGHT SIDE OF THE ROAD. CONSTRUCT ROAD IMPROVEMENTS.
2. PRIOR TO ANY CLEARING AND GRUBBING ACTIVITIES ON HOPKINS ROAD PHASE 1A, INSTALL TEMPORARY SEDIMENT BASIN #1 AND ALL DRAIN PIPES THAT CONNECT TO IT.
3. IN INITIAL PHASE 1A LEFT SIDE PLACE 2:1 TEMPORARY FILL SLOPE ON JOHNS HOPKINS RD. FROM STA. 56+50 TO STA. 62+20 TO TEMPORARY FILL LINE. TO MAINTAIN THE DRAINAGE IN EXISTING SWALE ALONG NORTH SIDE OF JOHNS HOPKINS ROAD. IN INITIAL PHASE 2A COMPLETE FILL TO FINAL LIMITS.

TRAP #7A ST II - STONE OUTLET SEDIMENT TRAP	
DRAINAGE AREA	1.2 Ac
WET STORAGE REQUIRED	2,160 CF
WET STORAGE PROVIDED	2,174 CF
DRY STORAGE REQUIRED	2,160 CF
DRY STORAGE PROVIDED	2,217 CF
TOTAL STORAGE REQUIRED	4,320 CF
TOTAL STORAGE PROVIDED	4,391 CF
WET STORAGE ELEVATION	400.0
DRY STORAGE ELEVATION	401.4
WIER CREST ELEVATION	398.0
BOTTOM ELEVATION	398.9
CLEAN OUT ELEVATION	402.4
TOP OF EMBANKMENT ELEV.	4.8'
WIER LENGTH	47' x 12'
BOTTOM DIMENSIONS	
SIDE SLOPES	



LEGEND

- 1 DENOTES TREATMENT FOR INITIAL PHASE ONLY
- 2 DENOTES TREATMENT FOR FINAL PHASE ONLY
- 3 DENOTES TREATMENT FOR TERM OF CONTRACT

STABILIZED CONSTRUCTION ENTRANCE
STA 11+25, RT. OLD COLUMBIA RD. (I EA.)

SILT FENCE

- 1 STA 10+90 TO STA. 14+19, LT. - OLD COLUMBIA RD. (250 L.F.)
- 1 STA 10+90 TO STA. 11+75, RT. - OLD COLUMBIA RD. (200 L.F.)
- 1 STA 61+71.13 TO STA. 64+28, RT. - JOHNS HOPKINS RD. (255 L.F.)
- 1 STA 2404+70 TO STA. 2406+15, RIGHT - TEMP. RAMP 4. (163 L.F.)
- 1 STA 56+50+70 TO STA. 57+75, RIGHT - JOHNS HOPKINS RD. - (185 L.F.)

EARTH DIKE

- 1 STA 113+00 TO STA. 114+25, LEFT - RAMP 1 (135 L.F.)
- 1 STA 116+00 TO STA. 116+16, RIGHT - RAMP 1 (16 L.F.)
- 1 STA 63+25 TO STA. 67+30, LEFT - JOHNS HOPKINS RD. (440 L.F.)

CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS
STA 11+50 TO STA. 14+00, LT. - OLD COLUMBIA RD.

SCALE: PLAN 1" = 50'

TEMPORARY STONE OUTLET STRUCTURE

- 1 STA 14+19, RIGHT - OLD COLUMBIA RD. (I EA.)
- 1 STA 14+00, LEFT - OLD COLUMBIA RD. (I EA.)

SUPER SILT FENCE

- 1 STA 11+75 TO STA. 14+19, RIGHT - OLD COLUMBIA RD. (350 L.F.)

STONE OUTLET SEDIMENT TRAP ST. II

- 1 STA 2404+50, RIGHT - TEMP. RAMP 4 - I EACH

TEMPORARY SWALE

- 1 STA 62+25, LEFT TO STA. 62+50, RIGHT - JOHNS HOPKINS RD. - 150 L.F.

INITIAL PHASE EROSION & SEDIMENT CONTROL

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
1	ADDENDUM NO. 2 DATE: 8/7/00
2	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONSTRUCTION NOTES

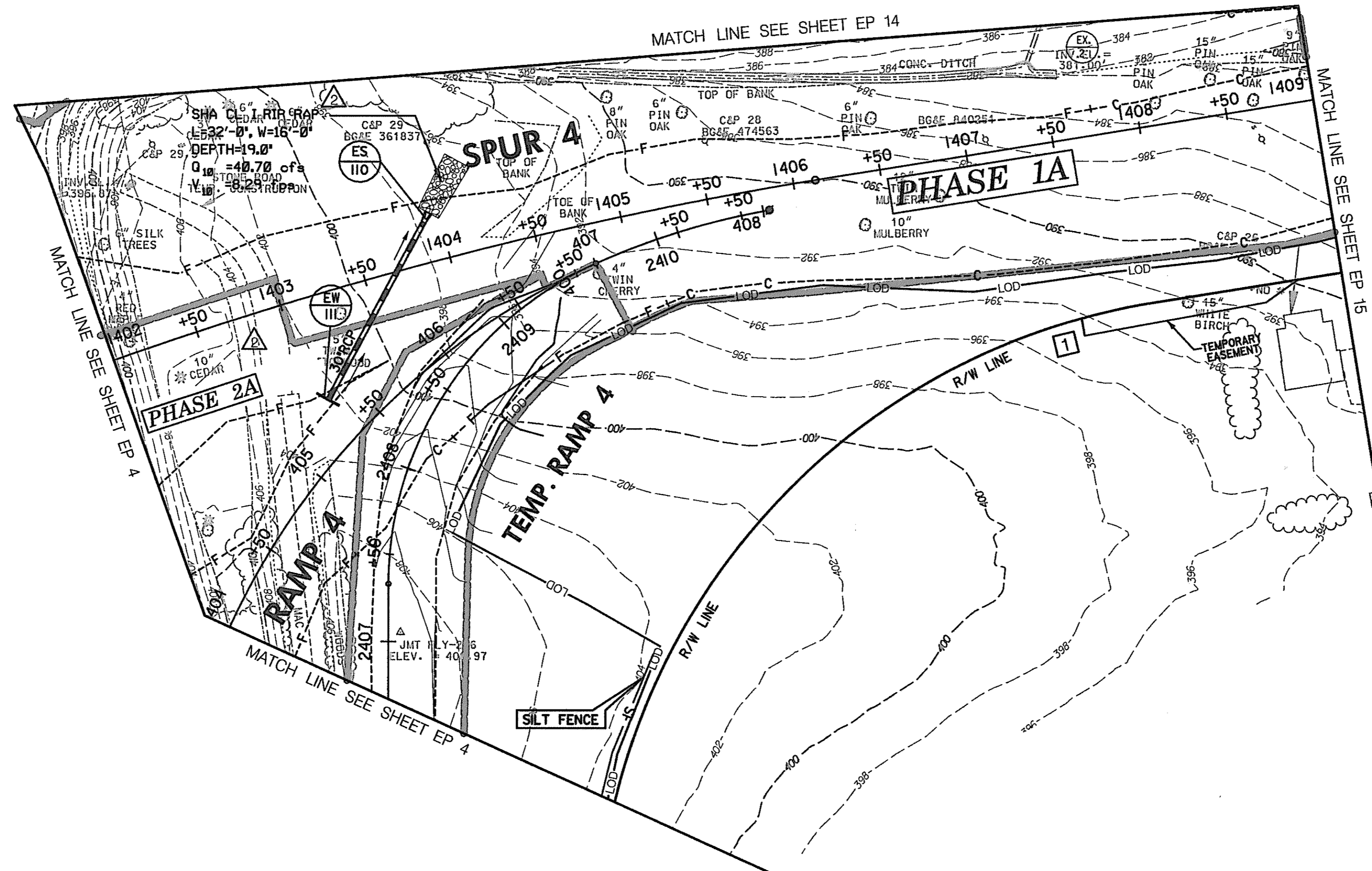
- 1. PRIOR TO ANY CLEARING AND GRUBBING ACTIVITIES ON SPUR 4 PHASE 1A, INSTALL TEMPORARY SEDIMENT BASIN #1 AND ALL DRAIN PIPES THAT CONNECT TO IT.



SILT FENCE

STA 404+00.00 TO STA 405+00.00, RT. RAMP 4 - 100 L.F.

1 IA



LEGEND

- 1 DENOTES TREATMENT FOR INITIAL PHASE ONLY
- II DENOTES TREATMENT FOR FINAL PHASE ONLY
- * DENOTES TREATMENT FOR TERM OF CONTRACT

**INITIAL PHASE
EROSION & SEDIMENT CONTROL**

EP 5 OF 32

SCALE: PLAN: 1" = 50'

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2 DATE: 8/ /00
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 159		OF 320	

TO US RTE. 29

TO SANNER ROAD

PHASE IB
 AREA BETWEEN STA. 79+40.00 TO STA. 80+55.00, LEFT IS TO REMAIN UNDISTURBED UNTIL DRAINAGE AREAS TO PSD-18 AND TRAP 23 ARE CONSTRUCTED AND STABILIZED. THIS AREA IS TO BE CONSTRUCTED AND STABILIZED WITHIN 24 HOURS OF INITIAL DISTURBANCE.

TRAP #23 ST II STONE OUTLET SEDIMENT TRAP	
DRAINAGE AREA	2.6 Ac
WET STORAGE REQUIRED	4,680 CF
WET STORAGE PROVIDED	4,684 CF
DRY STORAGE REQUIRED	4,680 CF
DRY STORAGE PROVIDED	1,705 CF
WET STORAGE ELEVATION	312.65
DRY STORAGE ELEVATION	313.3
WIER CREST ELEVATION	313.3
BOTTOM ELEVATION	312.0
CLEAN OUT ELEVATION	312.33
TOP OF EMBANKMENT ELEV.	314.3
WIER LENGTH	10.4
BOTTOM DIMENSIONS	180' x 30'
SIDE SLOPES	2:1

EARTH DIKE
 STA. 77+70.00 TO STA. 80+50.00, LEFT, JOHNS HOPKINS RD. - 270 L.F. [I] IA
 STA. 71+70.00 TO STA. 72+10.00, RIGHT, JOHNS HOPKINS RD. - 60 L.F. [II] IA

SILT FENCE
 STA. 69+50.00 TO STA. 70+72.00, LEFT, JOHNS HOPKINS RD. - 130 L.F. [II] IA
 STA. 71+22.00 TO STA. 73+05.00, RIGHT, JOHNS HOPKINS RD. - 190 L.F. [II] IA
 STA. 73+95.00 TO STA. 74+95.00, RIGHT, JOHNS HOPKINS RD. - 140 L.F. [II] IA
 STA. 69+50.00 TO STA. 70+15.00, RIGHT, JOHNS HOPKINS RD. - 55 L.F. [II] IA
 STA. 70+50.00 TO STA. 70+90.00, RIGHT, JOHNS HOPKINS RD. - 80 L.F. [II] IA

SUPER SILT FENCE
 STA. 75+00.00 TO STA. 80+50.00, RIGHT, JOHNS HOPKINS RD. - 615 L.F. [II] IA
 STA. 70+80.00, LEFT, JOHNS HOPKINS RD. - 30 L.F. [II] IB
 STA. 72+30.00 TO STA. 74+80.00, RIGHT, JOHNS HOPKINS RD. - 370 L.F. [II] IA
 STA. 75+15.00 TO STA. 80+50.00, RIGHT, JOHNS HOPKINS RD. - 650 L.F. [II] IA
 STA. 7+00.00 TO STA. 9+25.00, LEFT, JHU-APL EAST ENTRANCE - 240 L.F. [II] IA

24" FLEX PIPE
 STA. 79+17.00, LEFT - JOHNS HOPKINS RD. - 55 L.F. [I] IA

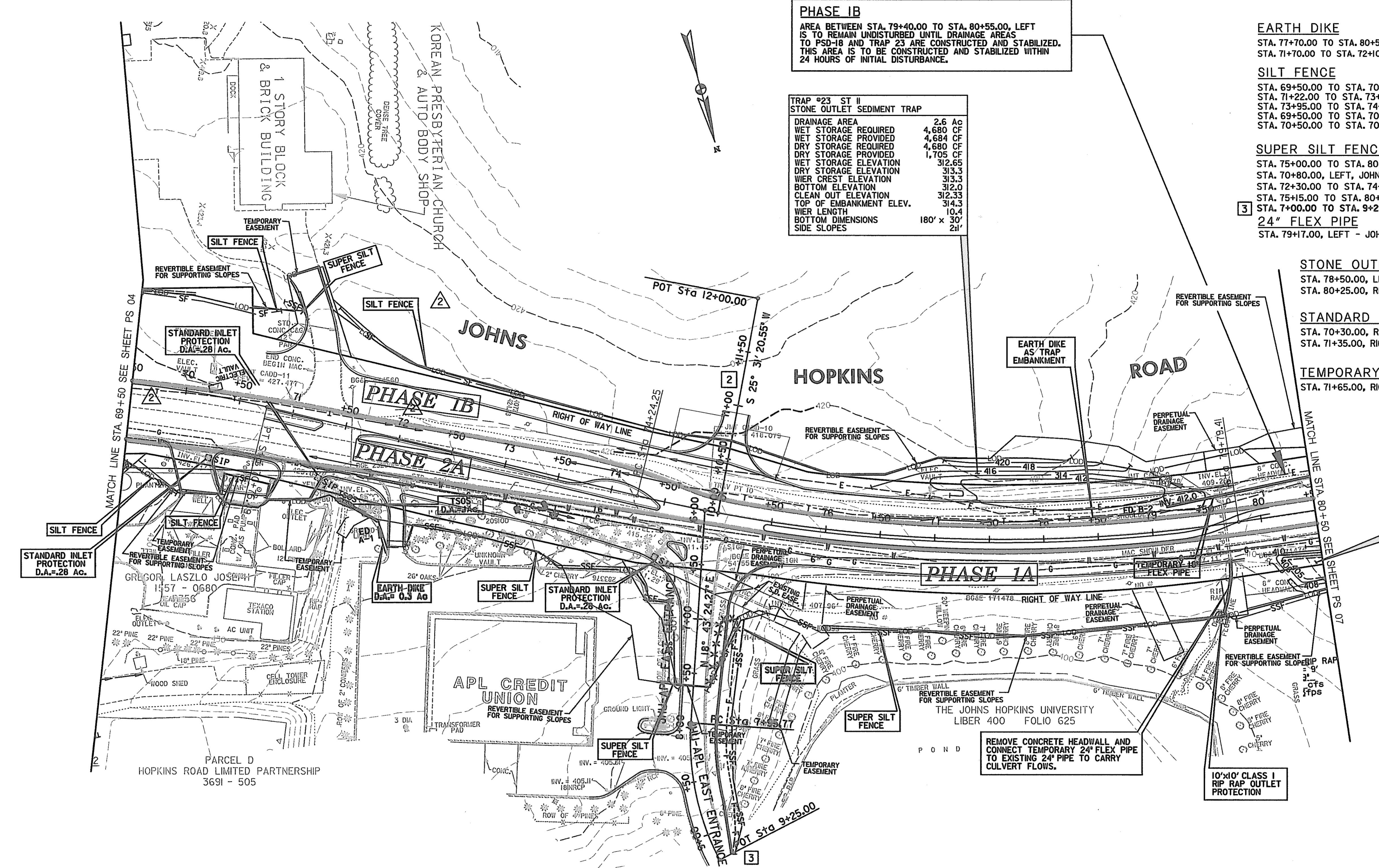
STONE OUTLET SEDIMENT TRAP ST II
 STA. 78+50.00, LEFT, JOHNS HOPKINS RD. - 1 EACH [I] IB
 STA. 80+25.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA

STANDARD INLET PROTECTION
 STA. 70+30.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA
 STA. 71+35.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA

TEMPORARY STONE OUTLET STRUCTURE
 STA. 71+65.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [II] IA

TRAP #24 ST II STONE OUTLET SEDIMENT TRAP	
DRAINAGE AREA	0.9 Ac
WET STORAGE REQUIRED	1,620 CF
WET STORAGE PROVIDED	1,789 CF
DRY STORAGE REQUIRED	1,620 CF
DRY STORAGE PROVIDED	2,091 CF
WET STORAGE ELEVATION	406.3
DRY STORAGE ELEVATION	407.5
WIER CREST ELEVATION	407.5
BOTTOM ELEVATION	405.0
CLEAN OUT ELEVATION	405.7
TOP OF EMBANKMENT ELEV.	408.5
WIER LENGTH	3.6'
BOTTOM DIMENSIONS	42' x 26'
SIDE SLOPES	1:1 & 2:1

LEGEND
 DENOTES TREATMENT FOR INITIAL PHASE ONLY [I] IA
 DENOTES TREATMENT FOR FINAL PHASE ONLY [II] IA
 DENOTES TREATMENT FOR TERM OF CONTRACT [II] IA



**INITIAL PHASE
 EROSION & SEDIMENT CONTROL PLAN**

EP 06 OF 16

REVISIONS	
1	ADDENDUM NO. 2- 08/25/00
2	ADDENDUM NO. 4- 09/07/00
3	REDLINE NO. 2 DATE: 07/30/01
4	REDLINE NO. 3 DATE: 1/31/02

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 160		OF 320	

REPLACE SHEET [2] REPLACE SHEET [4] ADDED OVERLAY ON US 29 SBR [4]

SCALE: PLAN: 1" = 50'

TO US RTE. 29

TO SANNER ROAD

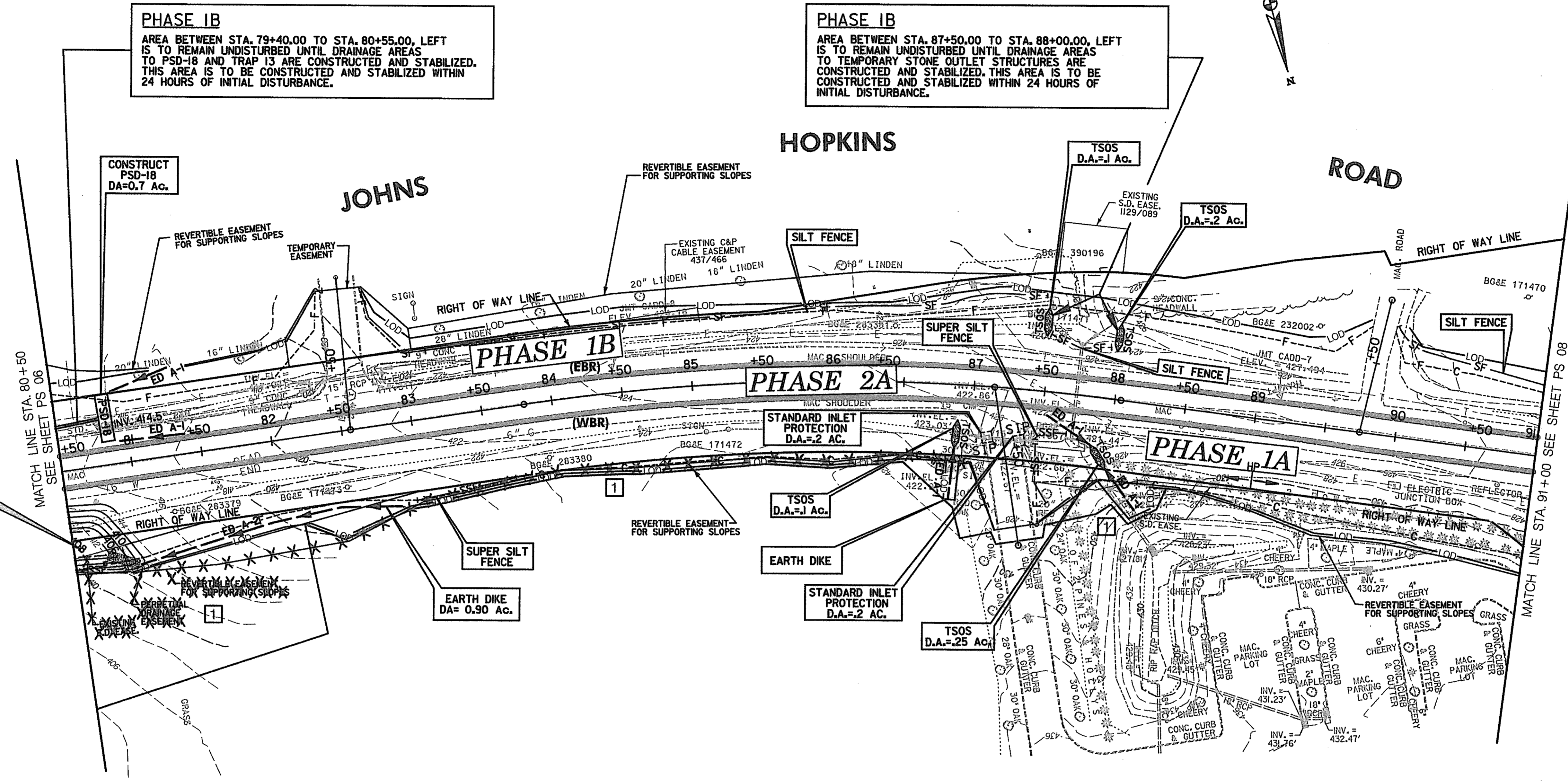
PHASE 1B
 AREA BETWEEN STA. 79+40.00 TO STA. 80+55.00, LEFT IS TO REMAIN UNDISTURBED UNTIL DRAINAGE AREAS TO PSD-18 AND TRAP 13 ARE CONSTRUCTED AND STABILIZED. THIS AREA IS TO BE CONSTRUCTED AND STABILIZED WITHIN 24 HOURS OF INITIAL DISTURBANCE.

PHASE 1B
 AREA BETWEEN STA. 87+50.00 TO STA. 88+00.00, LEFT IS TO REMAIN UNDISTURBED UNTIL DRAINAGE AREAS TO TEMPORARY STONE OUTLET STRUCTURES ARE CONSTRUCTED AND STABILIZED. THIS AREA IS TO BE CONSTRUCTED AND STABILIZED WITHIN 24 HOURS OF INITIAL DISTURBANCE.

- EARTH DIKE**
- STA. 80+85.00 TO STA. 81+50.00, LEFT, JOHNS HOPKINS RD. - 100 L.F. [I] IB
 - STA. 80+85.00 TO STA. 83+00.00, RIGHT, JOHNS HOPKINS RD. - 210 L.F. [I] IA
 - STA. 86+90.00, RIGHT, JOHNS HOPKINS RD. - 35 L.F. [I] IA
 - STA. 87+50.00 TO STA. 88+30.00, RIGHT JOHNS HOPKINS RD. - 75 L.F. [I] IA
- SILT FENCE**
- STA. 82+75.00 TO STA. 87+50.00, LEFT, JOHNS HOPKINS RD. - 475 L.F. [I] IB
 - STA. 87+50.00 TO STA. 87+95.00, LEFT, JOHNS HOPKINS RD. - 45 L.F. [I] IB
 - STA. 89+90.00 TO STA. 91+00.00, LEFT, JOHNS HOPKINS RD. 110 L.F. [I] IB
- TEMPORARY STONE OUTLET STRUCTURE**
- STA. 86+90.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA
 - STA. 87+50.00, LEFT, JOHNS HOPKINS RD. - 1 EACH [I] IB
 - STA. 87+90.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA
 - STA. 88+00.00, LEFT, JOHNS HOPKINS RD. - 1 EACH [I] IB
- 18" PIPE SLOPE DRAIN**
- STA. 80+50.00 TO STA. 80+85.00, LEFT - JOHNS HOPKINS ROAD - 35 L.F. [I] IB
- SUPER SILT FENCE**
- STA. 83+00.00 TO STA. 84+00.00, RIGHT - JOHNS HOPKINS RD. - 100 L.F. [I] IA
 - STA. 87+50.00, RIGHT JOHNS HOPKINS RD. - 65 L.F. [I] IA
- STANDARD INLET PROTECTION**
- STA. 87+11.00, RIGHT - JOHNS HOPKINS RD. - 1 EACH [I] IA
 - STA. 87+33.00, RIGHT - JOHNS HOPKINS RD. - 1 EACH [I] IA

TRAP #14 ST II STON OUTLET SEDIMENT TRAP

DRAINAGE AREA	0.9 AC
WET STORAGE REQUIRED	1,620 CF
WET STORAGE PROVIDED	1,704 CF
DRY STORAGE REQUIRED	1,620 CF
DRY STORAGE PROVIDED	1,802 CF
WET STORAGE ELEVATION	406.3
DRY STORAGE ELEVATION	407.5
WIER CREST ELEVATION	407.5
BOTTOM ELEVATION	405.0
CLEAN OUT ELEVATION	405.7
TOP OF EMBANKMENT ELEV.	408.5
WIER LENGTH	3.6'
BOTTOM DIMENSIONS	42' x 26'
SIDE SLOPES	2H



SCALE: PLAN: 1" = 50'

LEGEND

- [I] DENOTES TREATMENT FOR INITIAL PHASE ONLY
- [IA] DENOTES TREATMENT FOR FINAL PHASE ONLY
- [I] DENOTES TREATMENT FOR TERM OF CONTRACT

**INITIAL PHASE
 EROSION & SEDIMENT CONTROL PLAN**

EP 07 OF 32

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

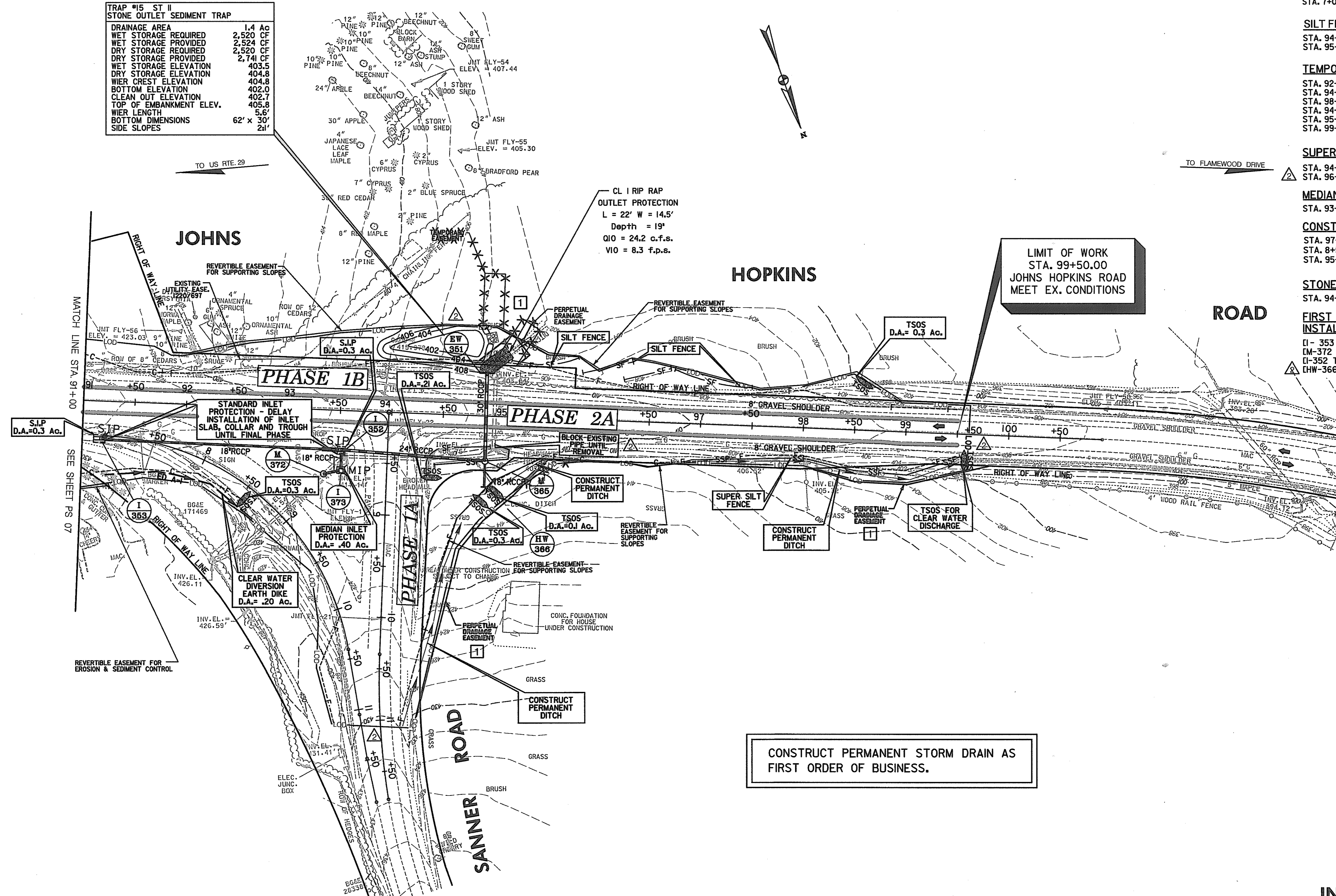
REVISIONS	
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 161 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

TRAP #15 ST II	
STONE OUTLET SEDIMENT TRAP	
DRAINAGE AREA	1.4 AC
WET STORAGE REQUIRED	2,520 CF
WET STORAGE PROVIDED	2,524 CF
DRY STORAGE REQUIRED	2,520 CF
DRY STORAGE PROVIDED	2,741 CF
WET STORAGE ELEVATION	403.5
DRY STORAGE ELEVATION	404.8
WIER CREST ELEVATION	404.8
BOTTOM ELEVATION	402.0
CLEAN OUT ELEVATION	402.7
TOP OF EMBANKMENT ELEV.	405.8
WIER LENGTH	5.6'
BOTTOM DIMENSIONS	62' x 30'
SIDE SLOPES	2:1

- EARTH DIKE**
STA. 7+00.00 TO STA. 8+75.00, RIGHT, SANNER RD RAMP. - 155 L.F. [I] IA
- SILT FENCE**
STA. 94+35.00 TO STA. 94+95.00, RIGHT, JOHNS HOPKINS RD. - 90 L.F. [I] IA
STA. 95+10.00 TO STA. 97+50.00, LEFT, JOHNS HOPKINS RD. - 235 L.F. [I] IB
- TEMPORARY STONE OUTLET STRUCTURE**
STA. 92+50.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA
STA. 94+40.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA
STA. 98+60.00, LEFT, JOHNS HOPKINS RD. - 1 EACH [I] IB
STA. 94+88.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA
STA. 95+00.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA
STA. 99+58.00, RIGHT, JOHNS HOPKINS RD. - 1 EACH [I] IA
- SUPER SILT FENCE**
STA. 94+50.00 TO STA. 95+20.00, RIGHT - JOHNS HOPKINS RD. - 100 L.F. [I] IA
STA. 96+75.00 TO STA. 99+50.00, RIGHT - JOHNS HOPKINS RD. - 280 L.F. [I] IA
- MEDIAN INLET PROTECTION**
STA. 93+50.00, RIGHT - JOHNS HOPKINS RD. - 1 EACH [I] IA
- CONSTRUCT PERMANENT DITCH SEE ROAD PLANS**
STA. 97+00.00 TO STA. 99+50.00, RIGHT - JOHNS HOPKINS RD. [I] IA
STA. 8+50.00 TO STA. 11+00.00, LEFT - SANNER RD. [I] IA
STA. 95+00.00 TO STA. 95+50.00, RIGHT - JOHNS HOPKINS RD. - 50 L.F. [I] IA
- STONE OUTLET SEDIMENT TRAP**
STA. 94+50.00, LEFT - JOHNS HOPKINS RD. - 1 EACH [I] IB
- FIRST ORDER OF BUSINESS**
INSTALL PERMANENT STORM DRAIN --- SEE ROAD PLANS
[I- 353 TO I-352] [I] IA, IB & 2A
[M-372 TO I-373 TO I-352] [I] IA, IB & 2A
[I-352 TO M-365] [I] IA, IB & 2A
[HW-366 TO M365 TO M351] [I] IA, IB & 2A
- STANDARD INLET PROTECTION**
STA. 91+20.00, RIGHT - JOHNS HOPKINS RD. - 1 EACH [I] IA
STA. 93+50.00, RIGHT - JOHNS HOPKINS RD. - 1 EACH [I] IA



CONSTRUCT PERMANENT STORM DRAIN AS FIRST ORDER OF BUSINESS.

LIMIT OF WORK
STA. 99+50.00
JOHNS HOPKINS ROAD
MEET EX. CONDITIONS

- LEGEND**
- DENOTES TREATMENT FOR INITIAL PHASE ONLY [I]
 - ▣ DENOTES TREATMENT FOR FINAL PHASE ONLY [II]
 - ⊛ DENOTES TREATMENT FOR TERM OF CONTRACT [I]

**INITIAL PHASE
EROSION & SEDIMENT CONTROL PLAN**

EP 08 OF 32

SCALE: PLAN: 1" = 50'

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

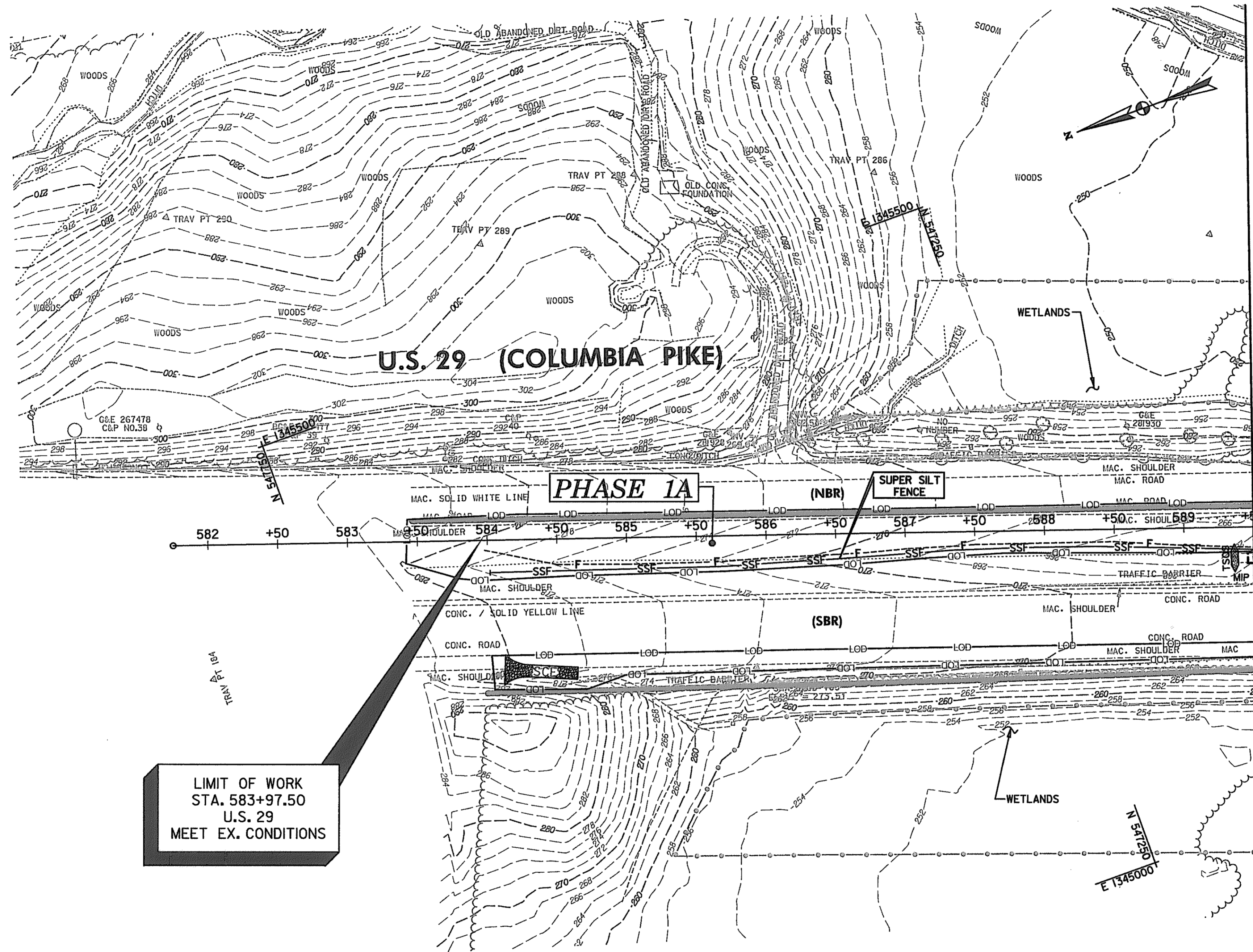
REVISIONS	
ADDENDUM NO. 2	DATE: 8/00
REDLINE NO. 1	DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 162 OF 320
PREL. TRAC. BY FINAL TRAC. BY

TO BALTIMORE

TO WASHINGTON



LIMIT OF WORK
 STA. 583+97.50
 U.S. 29
 MEET EX. CONDITIONS

- MEDIAN INLET PROTECTION**
 STA. 589+50.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 1 EACH
- STABILIZED CONSTRUCTION ENTRANCE**
 STA. 588+38.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 1 EACH
- SUPER SILT FENCE**
 STA. 584+00.00 TO STA. 589+50.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 550 L.F.
- REMOVE AND REPLACE TRAFFIC BARRIER W-BEAM**
 STA. 587+50.00 TO STA. 589+50.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 200 L.F.
- TEMPORARY STONE OUTLET STRUCTURE**
 STA. 589+40.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 1 EACH

1 SEQUENCE OF CONSTRUCTION

1. ON US 29 SOUTHBOUND AND US 29 NORTHBOUND PROVIDE SHOULDER WORK SIGNS AS SHOWN ON STD. No. - MD-104.27.01.
2. MAINTAIN EXISTING TRAFFIC PATTERN.
3. TRANSITION PAVEMENT MARKINGS AS SHOWN.

MEDIAN INLET PROTECTION WITH TSOS
 D.A. = 1.66 Ac.

- LEGEND**
- [I] DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - [II] DENOTES TREATMENT FOR FINAL PHASE ONLY
 - [*] DENOTES TREATMENT FOR TERM OF CONTRACT

**INITIAL PHASE
 EROSION & SEDIMENT CONTROL PLAN**

EP 9 OF 32

SCALE: PLAN: 1" = 50'

HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
1 REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO.: HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 163 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

TO BALTIMORE

SEQUENCE OF CONSTRUCTION

STREAM RELOCATION/ROAD FILL

STA 1031+25 TO STA 1035+25, RIGHT, OLD COLUMBIA RD.

INITIAL PHASE [CLEARING AND GRUBBING ONLY] - SEE SHEET EP10 & EP11

1. CLEAR AND GRUB FOR INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE AND ACCESS ROAD CROSSING.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH 12" PIPE CULVERT AND AGGREGATE FILL FOR ACCESS ROAD WITH 24" PIPE CULVERT. TEMPORARILY LOCATE 24" PIPE OUTLET TO ALLOW FLOWS INTO EXISTING STREAM.
3. CLEAR AND GRUB FOR REMAINDER OF SEDIMENT CONTROLS.
4. INSTALL SUPER SILT FENCE AND CLEAN-WATER DIVERSION EARTH DIKE.
5. INSTALL TEMPORARY STONE OUTLET STRUCTURES AND REMAINING EARTH DIKES.
6. CLEAR AND GRUB REMAINING AREA.

FINAL PHASE - STAGE 1 - SEE SHEET EP26 & EP27

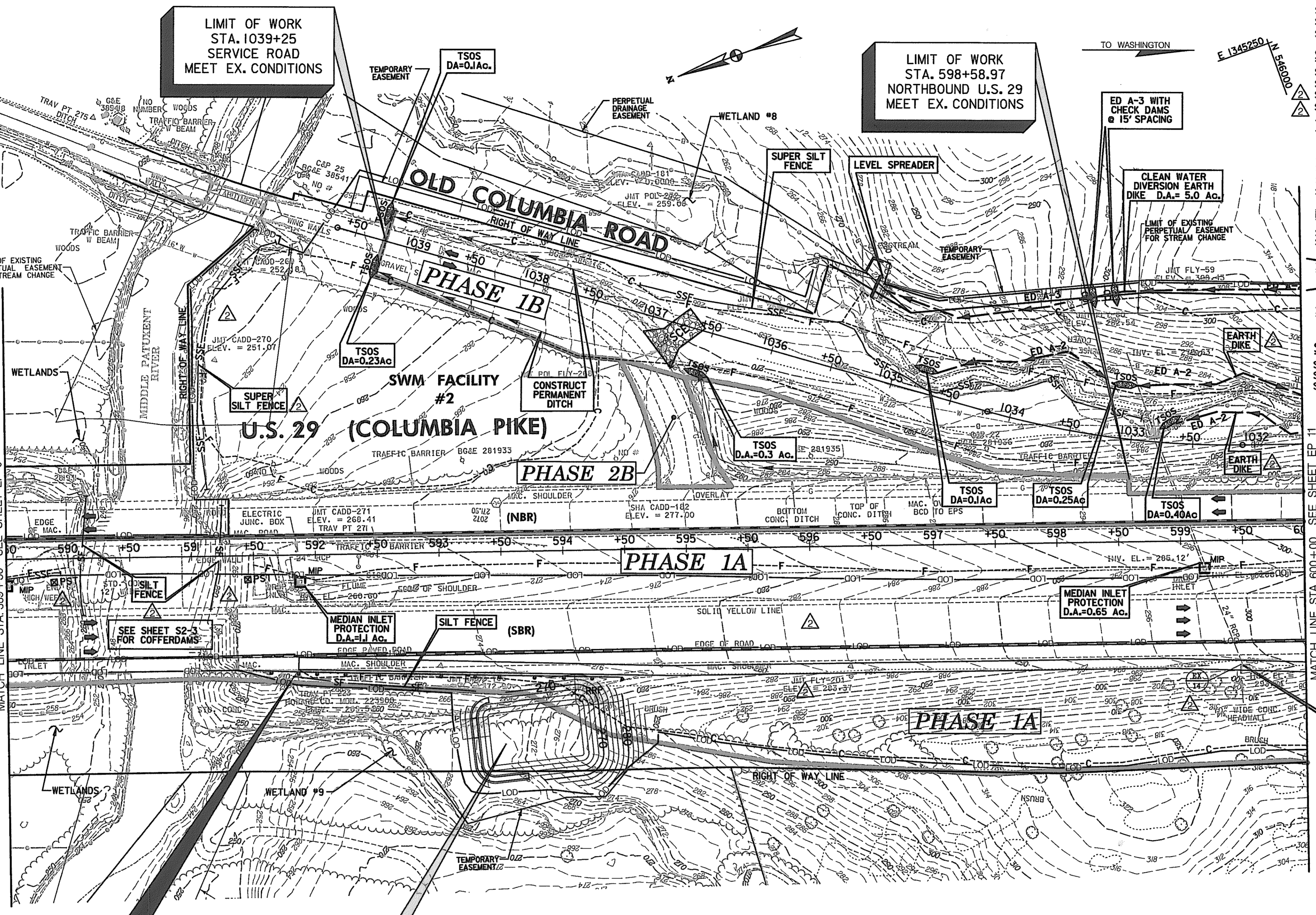
1. EXCAVATE TRENCH/INSTALL 24" FLEX PIPE AND INSTALL SANDBAG EMBANKMENT. [24" FLEX PIPE IS TO BE LOCATED ON THE INVERT OF THE LOW FLOW CHANNEL - SEE STREAM RELOCATION PLANS]
2. DIVERT STREAM THROUGH 24" PIPE.
3. INSTALL SEDIMENT TRAP # 12.
4. EXCAVATE PERMANENT STREAM DIVERSION FROM STA. 1033+75 TO STA. 1035+25 TO LIMITS SHOWN ON SECTION B-B SHEET AND INTERIM PLAN (EP 26). [ALSO SEE STREAM RELOCATION PLANS]
5. ACCUMULATED WATER IN THE WORK AREA SHALL BE PUMPED OUT, AS NECESSARY, USING A REMOVABLE PUMPING STATION.
6. PERMANENTLY STABILIZE WORK AREA. [SEE STREAM RELOCATION PLANS]

FINAL PHASE - STAGE 2 - SEE SHEET EP26 & EP27

1. REMOVE STAGE 1 SANDBAG EMBANKMENT AND REMOVE 24" FLEX PIPE TO BELOW ACCESS ROAD, ALLOWING THE PIPE TO OUTFALL INTO THE NEWLY STABILIZED STREAM RELOCATION.
2. EXCAVATE TRENCH/INSTALL 24" FLEX PIPE AND INSTALL SANDBAG EMBANKMENT. [24" FLEX PIPE IS TO BE LOCATED ON THE INVERT OF THE LOW FLOW CHANNEL - SEE STREAM RELOCATION PLANS]
3. DIVERT STREAM THROUGH 24" PIPE.
4. EXCAVATE PERMANENT STREAM DIVERSION FROM STA. 1033+75 TO STA. 1035+25 TO LIMITS SHOWN ON SECTION B-B SHEET AND INTERIM PLAN (EP 26). [ALSO SEE STREAM RELOCATION PLANS]
5. ACCUMULATED WATER IN THE WORK AREA SHALL BE PUMPED OUT, AS NECESSARY, USING A REMOVABLE PUMPING STATION.
6. REMOVE ACCESS ROAD, SANDBAG EMBANKMENT, AND 24" FLEX PIPE.
7. PERMANENTLY STABILIZE WORK AREA. [SEE STREAM RELOCATION PLANS]

FINAL PHASE - STAGE 3 - SEE SHEET EP 26 & EP27

1. INSTALL SUPER SILT FENCE AT TOP OF JOINT PLANTED RIPRAP STREAM BANK PROTECTION.
2. BEGIN ROAD FILL OPERATION FOR OLD COLUMBIA RD. COMPLETE AND STABILIZE AS MUCH AS POSSIBLE WITH SEDIMENT TRAP # 12 IN PLACE.
3. INSTALL SUPER SILT FENCE BELOW TRAP #12, AS SHOWN, REMOVE TRAP, AND COMPLETE ROAD FILL.
4. STABILIZE ANY DISTURBED AREAS.



MATCH LINE STA. 589+50 SEE SHEET EP 9

MATCH LINE STA. 600+00 SEE SHEET EP 11

LIMIT OF WORK
STA. 591+85.00
S.B. ROUTE 29
MEET EX. CONDITIONS

LIMIT OF WORK
STA. 1039+25
SERVICE ROAD
MEET EX. CONDITIONS

LIMIT OF WORK
STA. 598+58.97
NORTHBOUND U.S. 29
MEET EX. CONDITIONS

TRAP #5
ST II - STONE OUTLET SEDIMENT TRAP

DRAINAGE AREA	3.99 Ac
WET STORAGE REQUIRED	7,182 CF
WET STORAGE PROVIDED	7,208 CF
DRY STORAGE REQUIRED	7,182 CF
DRY STORAGE PROVIDED	7,203 CF
TOTAL STORAGE REQUIRED	14,364 CF
TOTAL STORAGE PROVIDED	14,411 CF
WET STORAGE ELEVATION	264.0
DRY STORAGE ELEVATION	265.6
WEIR CREST ELEVATION	265.6
BOTTOM ELEVATION	262.0
CLEAN OUT ELEVATION	263.0
TOP OF EMBANKMENT ELEV.	266.6
WEIR LENGTH	16.0'
BOTTOM DIMENSIONS	74' x 42'
SIDE SLOPES	2:1

- EARTH DIKE**
- STA. 1031+50.00 TO STA. 1035+50.00, RIGHT - OLD COLUMBIA RD. - 350 L.F.
 - STA. 1031+50.00 TO STA. 1034+70.00, RIGHT - OLD COLUMBIA RD. - 310 L.F.
 - STA. 1031+50.00 TO STA. 1032+65.00, RIGHT - OLD COLUMBIA RD. - 110 L.F.
- SUPER SILT FENCE**
- STA. 1032+90.00 TO STA. 1035+50.00, RIGHT - OLD COLUMBIA RD. - 280 L.F.
 - STA. 1035+50.00 TO STA. 1037+25.00, RIGHT - OLD COLUMBIA RD. - 160 L.F.
 - STA. 591+00.00 TO STA. 591+90.00, LEFT - OLD COLUMBIA RD. - 245 L.F.
 - STA. 589+50.00 TO STA. 589+95.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 45 L.F.

- TEMPORARY STONE OUTLET STRUCTURE**
- STA. 1032+75.00, RIGHT - OLD COLUMBIA ROAD - 1 EACH
 - STA. 1033+15.00, RIGHT - OLD COLUMBIA ROAD - 1 EACH
 - STA. 1034+80.00, RIGHT - OLD COLUMBIA ROAD - 1 EACH
 - STA. 1039+30.00, LEFT & RIGHT - OLD COLUMBIA ROAD - 2 EACH
 - STA. 1036+50.00, LEFT - OLD COLUMBIA ROAD - 1 EACH

- MEDIAN INLET PROTECTION**
- STA. 591+90.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 1 EACH
 - STA. 599+20.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 1 EACH

- SEDIMENT TRAP NO. 5**
- STA. 593+50, RIGHT - U.S. 29 - 1 EACH

- STABILIZED CONSTRUCTION ENTRANCE WITH 75 L.F. 12" PIPE**
- STA. 1036+75, LEFT - OLD COLUMBIA RD - 1 EACH

- SILT FENCE**
- STA. 591+80.00 TO STA. 593+40, RIGHT - U.S. 29 - 160 L.F.
 - STA. 590+15, LEFT & RIGHT - U.S. 29 - 100 L.F.
 - STA. 591+25, LEFT & RIGHT - U.S. 29 - 100 L.F.

- LEVEL SPREADER**
- STA. 1035+40.00, RIGHT - OLD COLUMBIA RD. - 1 EACH

- CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS**
- STA. 1037+70, LEFT AND RIGHT - OLD COLUMBIA RD

- STONE OUTLET SEDIMENT TRAP - ST-II**
- STA. 593+50.00, RIGHT - U.S. 29 - 1 EACH

- PORTABLE SEDIMENT TANK**
- STA. 590+00.00, RIGHT - U.S. 29 - 1 EACH
 - STA. 591+50.00, RIGHT - U.S. 29 - 1 EACH

CONSTRUCTION NOTE :

1. CONTRACTOR TO USE PORTABLE SEDIMENT TANKS TO DEWATER COFFERDAMS AS NEEDED.

1. TEMPORARILY BLOCK EXISTING 24" R.C.P. WITH BRICK AND MORTAR. BACKFILL LOW AREA TO ALLOW DRAINAGE TO TRAP #5

- LEGEND**
- [I] DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - [II] DENOTES TREATMENT FOR FINAL PHASE ONLY
 - [*] DENOTES TREATMENT FOR TERM OF CONTRACT

INITIAL PHASE EROSION & SEDIMENT CONTROL PLAN

EP 10 OF 32

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

ADDENDUM NO. 2	DATE: 8/ /00
REDLINE NO. 1	DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 164 OF 320
PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1" = 50'

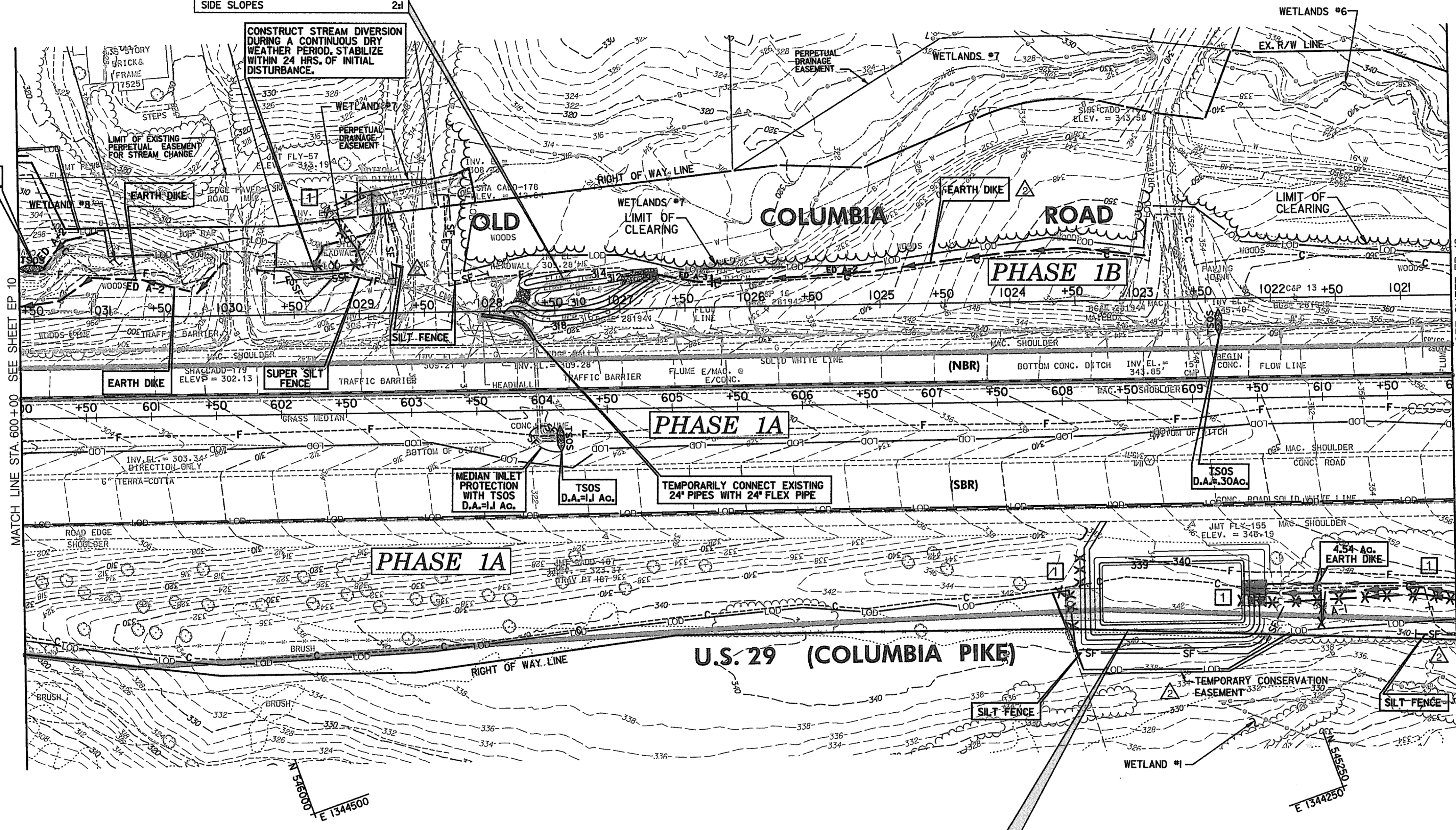
E 1345250
N 1345000

TO BALTIMORE

TO WASHINGTON

TRAP #11 ST II - STONE OUTLET SEDIMENT TRAP	
DRAINAGE AREA	1.6 AC
WET STORAGE REQUIRED	2,880 CF
WET STORAGE PROVIDED	3,031 CF
DRY STORAGE REQUIRED	2,880 CF
DRY STORAGE PROVIDED	3,052 CF
TOTAL STORAGE REQUIRED	5,760 CF
TOTAL STORAGE PROVIDED	6,083 CF
WET STORAGE ELEVATION	312.4
DRY STORAGE ELEVATION	313.9
WEIR CREST ELEVATION	313.9
BOTTOM ELEVATION	310.0
CLEAN OUT ELEVATION	311.3
TOP OF EMBANKMENT ELEV.	314.9
WEIR LENGTH	6.4'
BOTTOM DIMENSIONS	72' x 11'
SIDE SLOPES	2:1

TSOS
D.A.=0.20Ac



MATCH LINE STA 600+00 SEE SHEET EP 10

MATCH LINE STA 611+00 SEE SHEET EP 12

SILT FENCE	
STA 608+00.00 TO STA. 609+75.00, RT. U.S. 29 - 200 L.F.	I IA
STA. 1028+00.00 TO 1028+40.00, RIGHT - OLD COLUMBIA RD. - 100 L.F.	I IB
STA 1028+75.00 TO STA. 1028+50.00, RIGHT - OLD COLUMBIA RD. - 60 L.F.	I IA
STA 610+70.00 TO STA. 611+00.00, RIGHT - US 29 - 30 L.F.	I IB

EARTH DIKE	
STA 600+00.00 TO 600+50.00, LEFT U.S. 29 (50 L.F.)	I IB
STA 600+00.00 TO 601+65.00, LEFT, U.S. 29 (180 L.F.)	I IB
STA 609+40.00 TO 611+00.00, RT. U.S. 29 (160 L.F.)	I IA
STA 604+85.00 TO 608+50.00, LEFT U.S. 29 (360 L.F.)	I IB

STONE OUTLET SEDIMENT TRAP ST II	
STA. 604+30.00, LEFT, - U.S. 29 - X I EACH X - No. 11	I IB

24" FLEX PIPE	
STA 604+00.00, LEFT, U.S. 29 - 45 L.F.	I IA

TEMPORARY STONE OUTLET STRUCTURE	
STA 600+15.00, LEFT - U.S. 29 - 1 EA.	I IB
STA 604+14.00, RIGHT - U.S. 29 - 1 EA.	I IA
STA 609+20.00, LEFT - U.S. 29 - 1 EA.	I IB

SUPER SILT FENCE	
STA 601+75.00 TO STA 602+65, LEFT, U.S. 29 - 100 L.F.	I IB

MEDIAN INLET PROTECTION	
STA 604+00.00, RIGHT, - U.S. 29 - 1 EACH	I IA

STONE OUTLET SEDIMENT TRAP ST IV	
STA 608+70.00, RIGHT, - U.S. 29 - (1 EACH) - No. 6 ST IV	I IA

TRAP #6 ST IV - STONE RIP-RAP OUTLET SEDIMENT TRAP	
DRAINAGE AREA	5.96 AC
WET STORAGE REQUIRED	10,728 CF
WET STORAGE PROVIDED	11,159 CF
DRY STORAGE REQUIRED	10,728 CF
DRY STORAGE PROVIDED	11,092 CF
TOTAL STORAGE REQUIRED	21,456 CF
TOTAL STORAGE PROVIDED	22,251 CF
WET STORAGE ELEVATION	341.0
DRY STORAGE ELEVATION	342.7
WEIR CREST ELEVATION	342.7
BOTTOM ELEVATION	338.9
CLEAN OUT ELEVATION	340.0
TOP OF EMBANKMENT ELEV.	343.7
WEIR LENGTH	23.8'
BOTTOM DIMENSIONS	107.0' x 44.0'
SIDE SLOPES	2:1

- LEGEND**
- I DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - II DENOTES TREATMENT FOR FINAL PHASE ONLY
 - * DENOTES TREATMENT FOR TERM OF CONTRACT

**INITIAL PHASE
EROSION & SEDIMENT CONTROL PLAN**

EP 11 OF 32

SCALE: PLAN: 1" = 50'

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 2 DATE: 8/7/00	1
REDLINE NO. 1 DATE: 2/20/01	1

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO.	165	OF	320

N 1345000
E 1345000

TO BALTIMORE

TO WASHINGTON

TRAP #10
ST II STONE OUTLET SEDIMENT TRAP

DRAINAGE AREA	0.86 AC
WET STORAGE REQUIRED	1,548 CF
WET STORAGE PROVIDED	2,991 CF
DRY STORAGE REQUIRED	1,548 CF
DRY STORAGE PROVIDED	8,040 CF
TOTAL STORAGE REQUIRED	3,096 CF
TOTAL STORAGE PROVIDED	11,031 CF
WET STORAGE ELEVATION	365.5
DRY STORAGE ELEVATION	367.5
WIER CREST ELEVATION	367.5
BOTTOM ELEVATION	365.0
CLEAN OUT ELEVATION	365.4
TOP OF EMBANKMENT ELEV.	368.0
WIER LENGTH	3.28'
BOTTOM DIMENSIONS	85' x 40'
SIDE SLOPES	2:1

TRAP #9
ST II STONE SEDIMENT TRAP

DRAINAGE AREA	3.0 AC
WET STORAGE REQUIRED	5,400 CF
WET STORAGE PROVIDED	5,402 CF
DRY STORAGE REQUIRED	5,400 CF
DRY STORAGE PROVIDED	5,678 CF
TOTAL STORAGE REQUIRED	10,800 CF
TOTAL STORAGE PROVIDED	11,080 CF
WET STORAGE ELEVATION	371.5
DRY STORAGE ELEVATION	373.0
WIER CREST ELEVATION	373.0
BOTTOM ELEVATION	370.0
CLEAN OUT ELEVATION	370.8
TOP OF EMBANKMENT ELEV.	374.0
WIER LENGTH	12.0'
BOTTOM DIMENSIONS	76' x 45'
SIDE SLOPES	2:1

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=22', W=26'
DEPTH=22.0'
Q₁₀=52.60cfs
V₁₀=4.19fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=19.0'
Q₁₀=10.80cfs
V₁₀=3.49fps

SHA CL I RIP RAP
L=24', W=14.0'
DEPTH=19.0'
Q₁₀=29.27cfs
V₁₀=5.95fps

SHA CL I RIP RAP
L=16', W=17.5'
DEPTH=19.0'
Q₁₀=8.16cfs
V₁₀=4.62fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
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SHA CL I RIP RAP
L=16', W=18'
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SHA CL I RIP RAP
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SHA CL I RIP RAP
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Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
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SHA CL I RIP RAP
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V₁₀=2.58fps

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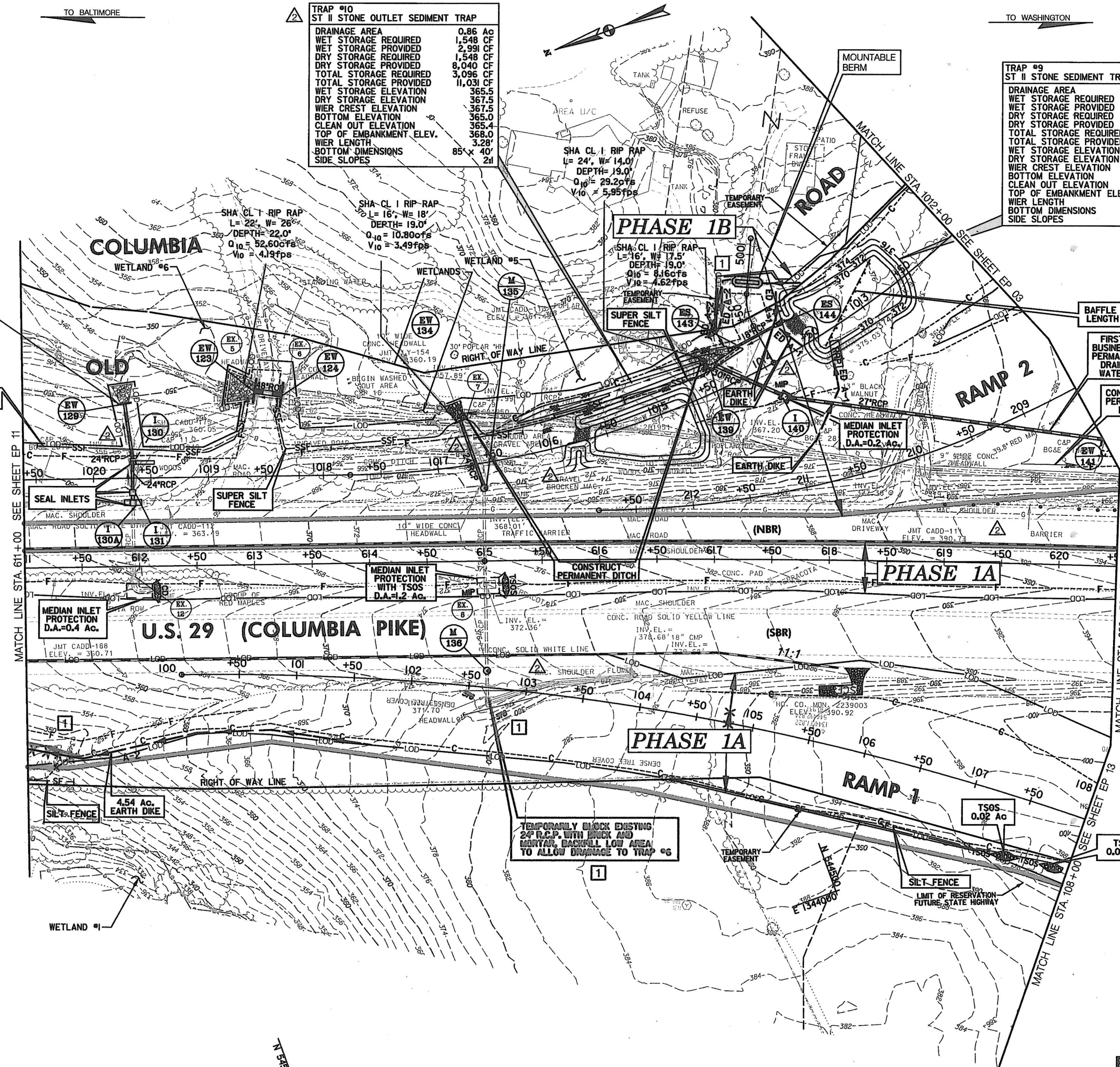
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Q₁₀=8.12cfs
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SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps

SHA CL I RIP RAP
L=16', W=18'
DEPTH=21.0'
Q₁₀=8.12cfs
V₁₀=2.58fps



- STABILIZED CONSTRUCTION ENTRANCE**
STA. 618+30, RT. U.S. 29 (1 EA.) [IB] IA
- MOUNTABLE BERM**
STA. 1013+80.00, RIGHT - COLUMBIA ROAD - 15 L.F. [IB] IB
- CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS**
STA. 1014+35.00 TO 1016+75.00, RIGHT - COLUMBIA ROAD [IB] IB
STA. 619+60.00 TO 620+35.00, LEFT - US 29 [IB] IB
- EARTH DIKE**
STA. 611+00.00 TO STA. 614+00.00, RT. - U.S. 29 - 300 L.F. [IA] IA
STA. 1013+40.00 TO STA. 1014+00.00, LEFT - COLUMBIA ROAD - 85 L.F. [IB] IB
STA. 1013+75.00, RIGHT - OLD COLUMBIA RD. - 50 L.F.. [IB] IB
- SILT FENCE**
STA. 611+00.00 TO STA. 611+40.00, RIGHT - US 29 - 40 L.F. [IA] IA
STA. 105+20.00 TO STA. 107+25.00, RIGHT - U.S.29 - 210 L.F. [IA] IA
- TEMPORARY STONE OUTLET STRUCTURE**
STA. 107+45.00, RIGHT - RAMP 1 - 1 EACH [IA] IA
STA. 107+85.00, RIGHT - RAMP 1 - 1 EACH [IA] IA
- SUPER SILT FENCE**
STA. 1018+70.00 TO STA. 1020+50.00, RIGHT - OLD COLUMBIA RD. - 215 L.F. [IB] IB
STA. 1014+50.00 TO STA. 1018+35.00, RIGHT - OLD COLUMBIA RD. - 430 L.F. [IB] IB
- MEDIAN INLET PROTECTION**
STA. 612+00.00, RIGHT - US 29 - 1 EACH [IB] IA
STA. 615+00.00, RIGHT - US 29 - 1 EACH [IB] IA
STA. 1014+00.00, LEFT - OLD COLUMBIA RD. - 1 EACH [IB] IB
- STONE SEDIMENT TRAP-ST II**
STA. 1013+50.00, RIGHT - OLD COLUMBIA RD. - 1 EACH [IB] IB
STA. 1015+75.00, RIGHT - OLD COLUMBIA RD. - 1 EACH [IB] IB
- FIRST ORDER OF BUSINESS
INSTALL PERMANENT STORM DRAIN - SEE ROAD PLANS**
(EW-139) - (I-140) - (EW-141) [IB] IB
(ES-143) - (ES-144) [IB] IB
- CONSTRUCT PERMANENT STORM DRAIN - SEE ROADWAY PLANS**
(EW-129) - (I-130) - (I-131) - (I-130A) [IB] IB
(EW-134) - (M-135) [IB] IB
- SEAL INLETS**
STA. 611+95.00, LEFT - US 29 - 3 EACH [IB] IB
- SEQUENCE OF CONSTRUCTION**
PHASE IA
1. CONSTRUCT MANHOLE M-136 ON EXISTING 24" RCP STORM DRAIN LINE.
 2. REMOVE EXISTING HEADWALL & PIPE TO NEW MANHOLE. TEMPORARILY BLOCK MANHOLE.
 3. FILL VOID AND REGRADE TO DRAIN TO SEDIMENT TRAP #6.
 4. INLET I-137 & PIPE TO BE INSTALLED AFTER AREA IS STABILIZED. REMOVE BLOCK FROM MANHOLE M-136 AND COMPLETE STORM DRAIN SYSTEM AS SHOWN ON FINAL PHASE EP 28 OF 32.
 5. CONSTRUCT FILL SLOPE AT STA. 611+00, RIGHT - US 29 - AFTER EARTH DIKE HAS BEEN REMOVED AND INSTALL SILT FENCE ALONG FILL SLOPE.
- LEGEND**
[I] DENOTES TREATMENT FOR INITIAL PHASE ONLY
[IB] DENOTES TREATMENT FOR FINAL PHASE ONLY
[*] DENOTES TREATMENT FOR TERM OF CONTRACT

**INITIAL PHASE
EROSION & SEDIMENT CONTROL PLAN**

EP 12 OF 32

SCALE: PLAN: 1" = 50'

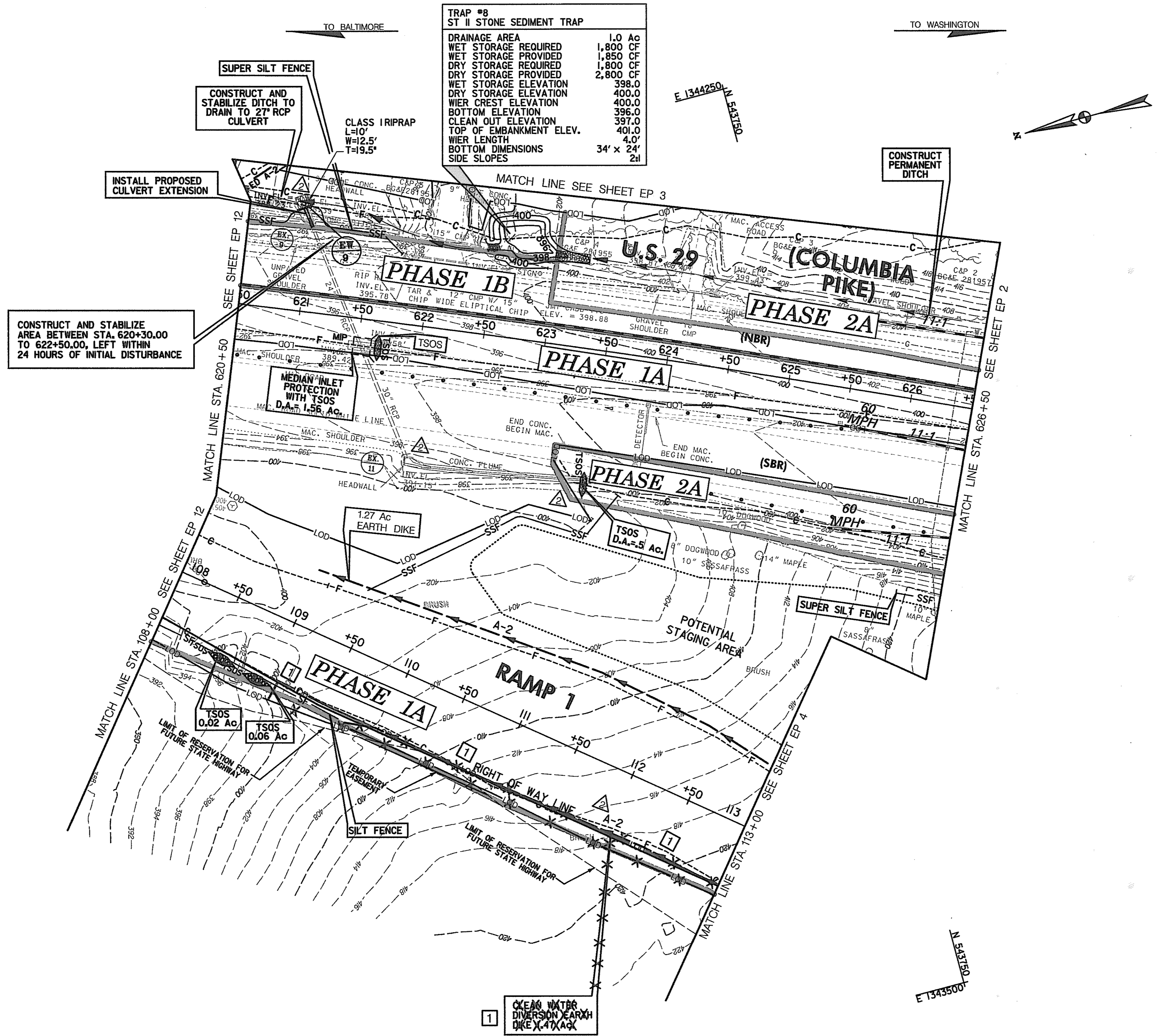
HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

ADDENDUM NO. 2 DATE: 8/00
REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 166 OF 320
PREL. TRAC. BY FINAL TRAC. BY



TRAP #8
ST II STONE SEDIMENT TRAP

DRAINAGE AREA	1.0 AC
WET STORAGE REQUIRED	1,800 CF
WET STORAGE PROVIDED	1,850 CF
DRY STORAGE REQUIRED	1,800 CF
DRY STORAGE PROVIDED	2,800 CF
WET STORAGE ELEVATION	398.0
DRY STORAGE ELEVATION	400.0
WIER CREST ELEVATION	400.0
BOTTOM ELEVATION	396.0
CLEAN OUT ELEVATION	397.0
TOP OF EMBANKMENT ELEV.	401.0
WIER LENGTH	4.0'
BOTTOM DIMENSIONS	34' x 24'
SIDE SLOPES	2:1

- TEMPORARY STONE OUTLET STRUCTURE**
- STA 621+60.00, RIGHT - U.S. 29 - 1 EACH
 - STA 108+60.00, RIGHT - RAMP 1 - EACH
 - STA 108+90.00, RIGHT - RAMP 1 - EACH
 - STA 623+50.00, RIGHT - US 29 - 1 EACH
- MEDIAN INLET PROTECTION**
- STA 621+50.00, RT. U.S. 29 (1 EA.)
- EARTH DIKE**
- STA 109+00.00 TO STA. 113+00.00, LEFT - RAMP 1 - 400 L.F.
 - STA 108+60.00 TO STA. 108+90.00, RIGHT - RAMP 1 - 305 L.F.
- CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS**
- STA. 620+50.00 TO STA. 622+40.00, LEFT - US 29 (COLUMBIA PIKE)
 - STA. 623+25.00 TO STA. 626+50.00, LEFT - US 29 (COLUMBIA PIKE)
- SUPER SILT FENCE**
- STA. 620+50.00 TO STA. 621+75.00, LEFT - US 29 (COLUMBIA PIKE) - 140 L.F.
 - STA. 626+20.00 TO STA. 626+50.00, RIGHT - US 29 (COLUMBIA PIKE) - 30 L.F.
- STONE OUTLET SEDIMENT TRAP**
- STA. 622+50.00, LEFT - US 29 (COLUMBIA PIKE) - 1 EACH
- SILT FENCE**
- STA. 108+00.00 TO STA. 109+65, RIGHT - RAMP 1 - 165 L.F.
- INSTALL PERMANENT STORM DRAIN - SEE ROADWAY PLANS**
- (EW-9) - (EX 9)

- LEGEND**
- I DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - II DENOTES TREATMENT FOR FINAL PHASE ONLY
 - * DENOTES TREATMENT FOR TERM OF CONTRACT

**INITIAL PHASE
EROSION & SEDIMENT CONTROL PLAN**

EP 13 OF 32

N 543500
E 1343500

SCALE: PLAN: 1" = 50'

HURST-ROSCHÉ ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

2	ADDENDUM NO. 2 DATE: 8/7/00
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO.	167	OF	320
PREL. TRAC. BY		FINAL TRAC. BY					

EP240525JUN01

SEQUENCE OF CONSTRUCTION FOR RAMP 3 & PROPOSED 27" RCP

INITIAL PHASE

NOTE: THE FOLLOWING SEQUENCE IS TO OCCUR WITH THE EARTH DIKES ALONG RAMP 5 (PHASE 1A) IN PLACE

- CLEAR & GRUB FOR CLEAN-WATER DIVERSION EARTH DIKES, CULVERT AND TRAP #3.
- INSTALL 27" RCP CULVERT, ENDWALLS AND OUTLET PROTECTION.
- INSTALL PSD 24 AND CONNECT TO 27" RCP.
- INSTALL CLEAN-WATER DIVERSION EARTH DIKES.
- INSTALL TRAP #3 AND 18" TEMPORARY PIPE.

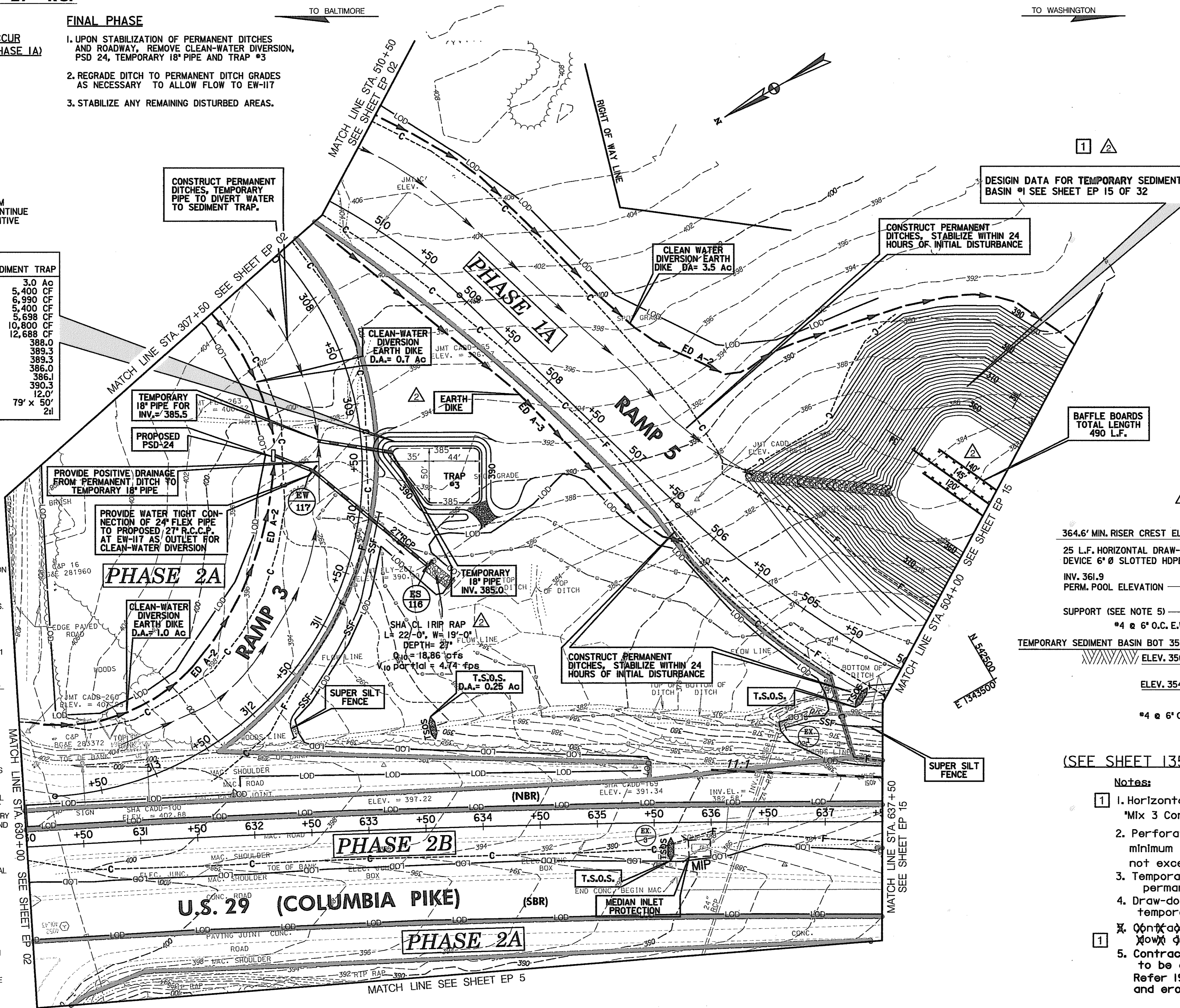
FINAL PHASE

- UPON STABILIZATION OF PERMANENT DITCHES AND ROADWAY, REMOVE CLEAN-WATER DIVERSION, PSD 24, TEMPORARY 18" PIPE AND TRAP #3
- REGRADE DITCH TO PERMANENT DITCH GRADES AS NECESSARY TO ALLOW FLOW TO EW-117
- STABILIZE ANY REMAINING DISTURBED AREAS.

TRAP #3 - ST IV STONE / RIPRAP OUTLET SEDIMENT TRAP	
DRAINAGE AREA	3.0 AC
WET STORAGE REQUIRED	5,400 CF
WET STORAGE PROVIDED	6,990 CF
DRY STORAGE REQUIRED	5,400 CF
DRY STORAGE PROVIDED	5,698 CF
TOTAL STORAGE REQUIRED	10,800 CF
TOTAL STORAGE PROVIDED	12,688 CF
WET STORAGE ELEVATION	388.0
DRY STORAGE ELEVATION	389.3
WIER CREST ELEVATION	389.3
BOTTOM ELEVATION	386.0
CLEAN OUT ELEVATION	386.1
TOP OF EMBANKMENT ELEV.	390.3
WIER LENGTH	12.0'
BOTTOM DIMENSIONS	79' x 50'
SIDE SLOPES	2:1

SEQUENCE OF CONSTRUCTION TEMPORARY SEDIMENT BASIN AND CONVERSION TO STORMWATER MANAGEMENT POND

- THE CONTRACTOR SHALL NOTIFY MDE, WATER MANAGEMENT ADMINISTRATION, 48 HOURS BEFORE STARTING CONSTRUCTION OF SWM POND.
- CLEAR AND GRUB THE AREA NECESSARY FOR THE INSTALLATION OF PERIMETER SEDIMENT CONTROL MEASURES.
- INSTALL THE PERIMETER SEDIMENT CONTROL MEASURES AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN.
- CONSTRUCT THE CORE TRENCH, PRINCIPAL SPILLWAY (EW-101 TO CS-105), ENDWALL, RIPRAP OUTLET PROTECTION, FILTER DIAPHRAGM AND MODIFIED RISER STRUCTURE. THE CONTRACTOR SHALL MAINTAIN STREAM FLOW WHEN INSTALLING RIPRAP OUTLET PROTECTION AT STA 502+25 +/- RIGHT, - RAMP 5.
- BEGIN GRADING OF THE TEMPORARY SEDIMENT BASIN AROUND EW-101 AND CS-105.
- INSTALL STORM DRAINS AND STRUCTURES TO TEMPORARY SEDIMENT BASIN. (EW-101 TO M-102, M-102 TO EW-103 AND M-102 TO M-104). CONSTRUCT EW-101 AND RIPRAP OUTLET PROTECTION TO FINAL GRADE. (SEE STORM DRAIN PROFILES ON SHEET 139 OF 320).
- FINISH GRADING OF TEMPORARY SEDIMENT BASIN TO FINAL BOTTOM ELEVATION OF 358.5. THE CONTRACTOR MUST NOT DISTURB SOIL BELOW THIS ELEVATION EXCEPT AS NECESSARY TO INSTALL THE RIP RAP OUTLET PROTECTION AT EW-101 AND CS-105.
- WHEN THE DRAINAGE AREA UPSTREAM OF THE POND IS PERMANENTLY STABILIZED, CONVERT THE TEMPORARY SEDIMENT BASIN TO AN INFILTRATION BASIN WITH APPROVAL OF THE WMA INSPECTOR. SEE SHEET EP 31 OF 32.
- FLUSH OUT ALL PIPES WHICH CARRIED SEDIMENT LADEN RUNOFF TO THE TEMPORARY SEDIMENT BASIN. CLEAN AND RESTABILIZE ALL EXISTING DITCHES THAT CARRIED SEDIMENT LADEN RUNOFF TO THE TEMPORARY SEDIMENT BASIN.
- MODIFY RISER STRUCTURE AS SHOWN ON DETAIL ON THIS SHEET. EXCAVATE TO FINAL BOTTOM POND ELEVATION OF 356.5.
- WITH APPROVAL OF THE WMA INSPECTOR, REMOVE ALL THE SEDIMENT CONTROL MEASURES ASSOCIATED WITH THE TEMPORARY SEDIMENT BASIN.



EARTH DIKE

STA. 504+00.00 TO STA. 510+50.00, RIGHT - RAMP 5 - 750 L.F.
 STA. 307+50.00 TO STA. 314+00.00, RIGHT - RAMP 3 - 650 L.F.
 STA. 506+10.00 TO STA. 510+40.00, LEFT - RAMP 5 - 440 L.F.

INLET PROTECTION

STA. 635+92.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 1 EACH

SUPER SILT FENCE

STA. 309+90.00 TO STA. 312+00.00, LEFT - RAMP 3 - 220 L.F.
 STA. 636+60.00 TO STA. 637+50.00, LEFT - US 29 - 90 L.F.

INSTALL ES-116 TO EW-117 - 27" R.C.P. - SEE ROADWAY PLANS

STA. 310+00.00, RIGHT AND LEFT - RAMP 3

INSTALL PIPE SLOPE DRAIN - PSD-24

STA. 309+50.00, RIGHT - RAMP 3 - 40 L.F.

CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS

STA. 506+00.00 TO STA. 510+50.00, RIGHT - RAMP 5
 STA. 504+00.00 TO STA. 506+30.00, LEFT - RAMP 5
 STA. 307+50.00 TO STA. 313+20.00, RIGHT - RAMP 3

TEMPORARY STONE OUTLET STRUCTURE

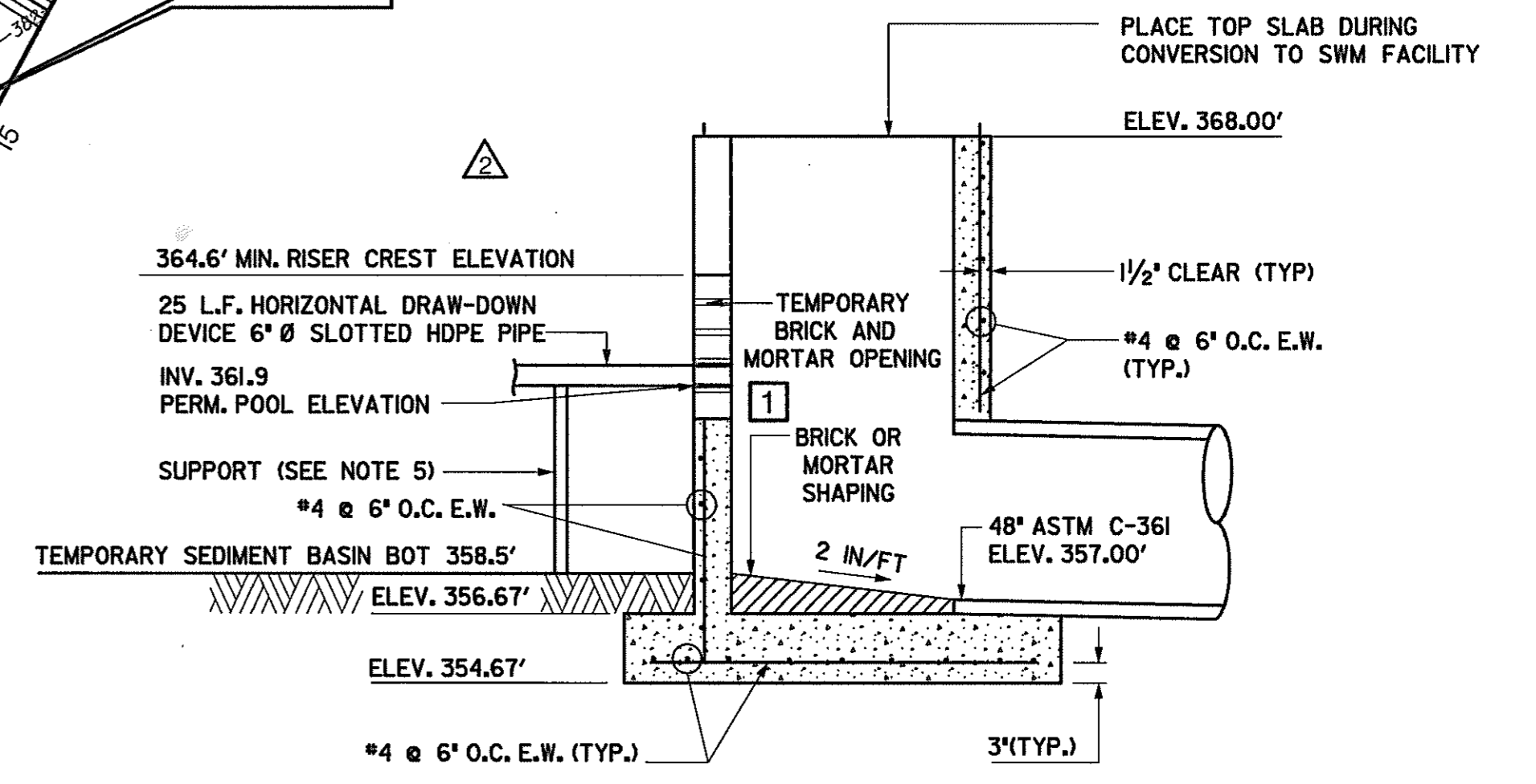
STA. 504+20.00, LEFT - RAMP 5 - 1 EACH
 STA. 633+50.00 TO STA. 635+00.00, LEFT - RAMP 5
 STA. 635+65.00, RIGHT - US 29 - 1 EACH

STONE / RIP RAP OUTLET SEDIMENT TRAP - ST IV

STA. 309+50.00, LEFT

TEMPORARY 18" CL IV RCCP

STA. 309+40.00 - 70 L.F.



MODIFIED RISER STRUCTURE (SEE SHEET 135 OF 320 FOR FINAL RISER STRUCTURE DETAILS)

- Notes:
- Horizontal draw-down device and supports shall be incidental to to ~~Mix 3 Concrete~~ for SWM Control Structures.
 - Perforations on 6" perforated HDPE pipe should have minimum opening of 5.15 sq. in./l.f. Maximum slot area shall not exceed 0.0055 s.f.
 - Temporary brick and mortar to be removed and trash racks placed permanently after all areas are stabilized.
 - Draw-down device to be removed at the same time as temporary brick and mortar and final pond grading.
 - Contractor to submit detail for the horizontal draw-down device and supports to be approved by engineer.
- Refer 1994 Maryland Standards and Specifications for soil and erosion page C-10-29 for detail drawing.

EROSION & SEDIMENT CONTROL PLAN

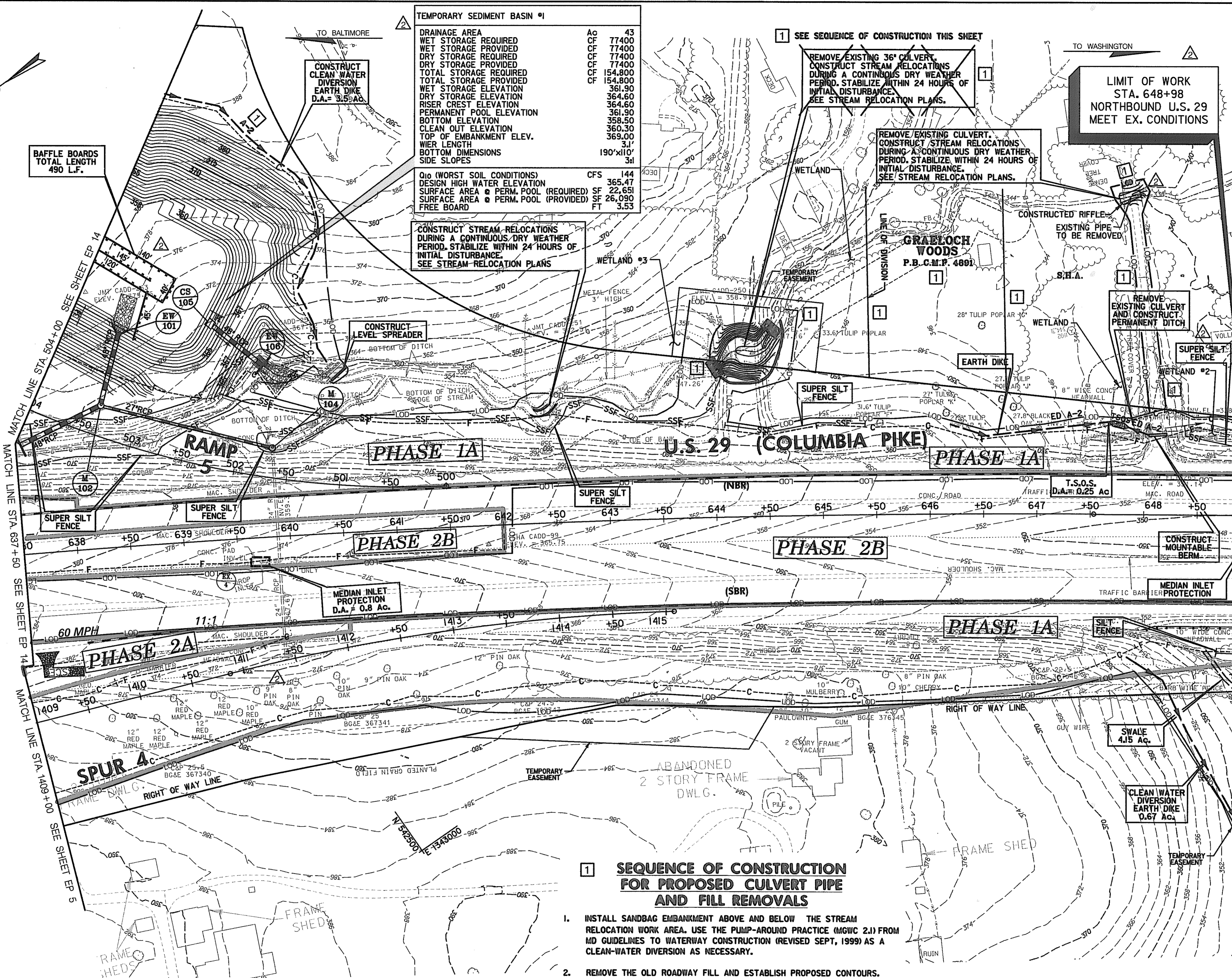
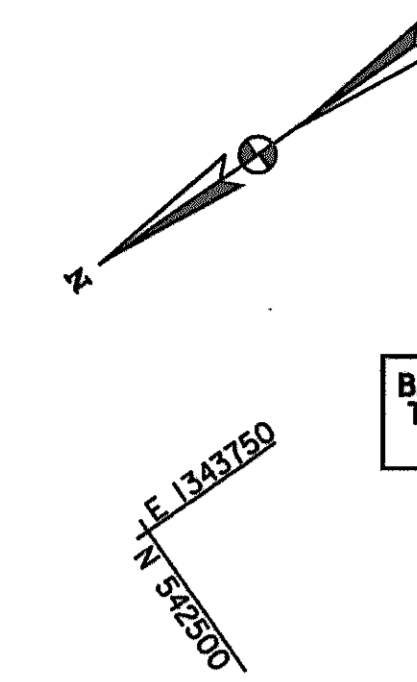
REVISIONS	
ADDENDUM NO. 2	DATE: 8/ /00
REVISION NO. 1	DATE: 2/20/01

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

- ### LEGEND
- [I] DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - [II] DENOTES TREATMENT FOR FINAL PHASE ONLY
 - [*] DENOTES TREATMENT FOR TERM OF CONTRACT

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

SCALE: PLAN: 1" = 50'



TEMPORARY SEDIMENT BASIN #1

Drainage Area	AC	43
Wet Storage Required	CF	77400
Wet Storage Provided	CF	77400
Dry Storage Required	CF	77400
Dry Storage Provided	CF	77400
Total Storage Required	CF	154800
Total Storage Provided	CF	154800
Wet Storage Elevation		361.90
Dry Storage Elevation		364.60
Riser Crest Elevation		361.90
Permanent Pool Elevation		358.50
Bottom Elevation		360.30
Wier Length		31'
Top of Embankment Elev.		369.00
Bottom Dimensions		190' x 110'
Side Slopes		3:1

Q10 (WORST SOIL CONDITIONS) CFS 144
 Design High Water Elevation 365.47
 Surface Area @ Perm. Pool (Required) SF 22,651
 Surface Area @ Perm. Pool (Provided) SF 26,090
 Free Board FT 3.53

EARTH DIKE

STA. 646+20.00 TO STA. 648+00.00, LEFT - US 29 - 190 L.F.
 STA. 501+00.00 TO STA. 504+00.00, RIGHT - RAMP 5 - 350 L.F.
 STA. 647+80.00 TO 649+00.00, RT. U.S. 29 - 200 L.F.

SILT FENCE

STA. 648+65.00 TO 649+00.00, RT. U.S. 29 (COLUMBIA PIKE) - 35 L.F.

SUPER SILT FENCE

STA. 500+00.00 TO STA. 502+70.00, RIGHT - RAMP 5 - 415 L.F.
 STA. 641+50.00 TO STA. 644+00.00, LEFT - US 29 - 290 L.F.
 STA. 502+70.00 TO STA. 504+00.00, LEFT - RAMP 5 - 135 L.F.
 STA. 644+00.00 TO STA. 645+40.00, LEFT - US 29 - 130 L.F.
 STA. 501+50.00, RT. TO STA. 504+00.00, LT. & RT. - RAMP 5 - 280 L.F.
 STA. 648+40.00 TO 649+00.00, LEFT - US 29 - 75 L.F.

INLET PROTECTION

STA. 639+70.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 1 EACH
 STA. 649+00.00, RIGHT - U.S. 29 (COLUMBIA PIKE) - 1 EACH

STABILIZED CONSTRUCTION ENTRANCE

STA. 637+75.00, RT. U.S. 29 (1 EA.)

CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS

STA. 647+50.00 TO STA. 649+00.00, LEFT - US 29

TEMPORARY STONE OUTLET STRUCTURE

STA. 647+70.00, LEFT - US 29 - 1 EACH

SEDIMENT BASIN

STA. 503+00.00, RIGHT - RAMP 5 - 1 EA.

CONSTRUCT PERMANENT STORM DRAIN - SEE ROADWAY PLANS

(EW-101) - (M-102), (M-102) - (M-104), (M-102) - (EW-103)

LEVEL SPREADER

(STA. 501+10.00, RIGHT - RAMP 5 - 1 EACH)

SWALE

STA. 648+60.00 TO STA. 649+00.00, RIGHT - US 29 - 55 L.F.

MOUNTABLE BERM

STA. 648+10.00, LEFT - US 29 (COLUMBIA PIKE) - 1 EACH

SEQUENCE OF CONSTRUCTION FOR PROPOSED CULVERT PIPE AND FILL REMOVALS

1. INSTALL SEDIMENT CONTROL DEVICES AS NECESSARY.
2. EXTEND EXISTING CULVERT PIPE UPSTREAM AND DOWNSTREAM.
3. PROTECT THE NEW UPSTREAM AND DOWNSTREAM ENDS OF THE EXTENDED CULVERT WITH SANDBAGS.
4. REMOVE THE OLD ROADWAY FILL AND ESTABLISH PROPOSED CONTOURS.
5. CONSTRUCT TEMPORARY STREAM CHANNEL DIVERSION.
6. CONSTRUCT A SANDBAG DIVERSION UPSTREAM TO DIVERT WATER FLOW INTO TEMPORARY STREAM CHANNEL DIVERSION
7. PLACE A SANDBAG DIVERSION DOWNSTREAM TO PREVENT THE WATER FROM BACKWASHING INTO PIPE CONSTRUCTION SITE.
8. REMOVE THE EXISTING PIPE AND TEMPORARY SANDBAG PROTECTION.
9. ESTABLISH THE PROPOSED STREAM CHANNEL ALIGNMENT.
10. REDIRECT STEAM FLOW INTO THE NEW STREAM CHANNEL.
11. REMOVE TEMPORARY SANDBAG DIVERSIONS..

- NOTES:**
1. INSTALLATION OF CONSTRUCTED RIFFLE.
 - A. EXCAVATE TRENCH FOR CREST STONE TO KEY INTO STREAM BED AND BANK.
 - B. PLACE CREST STONE IN TRENCH. USE CLASS II RIP-RAP. CREST STONE SHOULD FORM A SHALLOW V (DESIGN ELEVATION AT THE BASE OF THE V.)
 - C. SET BACK FACE (DOWNSTREAM) OF WEIR AT 20:1 USE CLASS O RIP-RAP.
 - D. EMBED LARGE STONE INTO BACK FACE. USE CLASS II RIP-RAP.
 - E. SET FRONT FACE (UPSTREAM) OF WEIR AT 4:1. USE CLASS O RIP-RAP.
 - F. STABILIZE AROUND WEIR.

1 SEQUENCE OF CONSTRUCTION FOR PROPOSED CULVERT PIPE AND FILL REMOVALS

1. INSTALL SANDBAG EMBANKMENT ABOVE AND BELOW THE STREAM RELOCATION WORK AREA. USE THE PUMP-AROUND PRACTICE (MGWC 2.1) FROM MD GUIDELINES TO WATERWAY CONSTRUCTION (REVISED SEPT, 1999) AS A CLEAN-WATER DIVERSION AS NECESSARY.
2. REMOVE THE OLD ROADWAY FILL AND ESTABLISH PROPOSED CONTOURS.
3. REMOVE THE EXISTING PIPE AND ESTABLISH PROPOSED STREAM CHANNEL ALIGNMENT (SEE STREAM RELOCATION PLANS) PUMP ANY ACCUMULATIONS OF WATER IN THE WORK AREA USING AN APPROPRIATE DEWATERING DEVICE
4. PERMANENTLY STABILIZE ALL DISTURBED AREA
5. REMOVE THE SANDBAG DIVERSION AND RE-DIRECT STREAM FLOW INTO THE NEW CHANNEL

SCALE: PLAN: 1" = 50'

SEQUENCE OF CONSTRUCTION PHASE 1A

1. CONTRACTOR SHALL EXCAVATE FOR TEMPORARY SEDIMENT BASIN #1 AND INSTALL PIPES AND STRUCTURES NECESSARY TO FLOW TO THE BASIN & THOSE THAT CONTROL THE FLOW OUT OF THE BASIN. INSTALL MODIFICATIONS TO OUTLET STRUCTURE REQUIRED FOR SEDIMENT CONTROL.
2. DIVERT STREAM INTO NEW END SECTION & INSTALL REMAINING SEDIMENT CONTROL DEVICES.

LEGEND

[1]	DENOTES TREATMENT FOR INITIAL PHASE ONLY
[2]	DENOTES TREATMENT FOR FINAL PHASE ONLY
[*]	DENOTES TREATMENT FOR TERM OF CONTRACT

INITIAL PHASE EROSION & SEDIMENT CONTROL PLAN

EP 15 OF 32

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
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 (410) 683-1683

REVISIONS

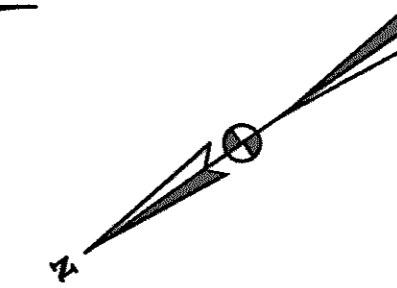
2	ADDENDUM NO. 2	DATE: 8/7/00
1	REDLINE NO. 1	DATE: 2/20/01

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

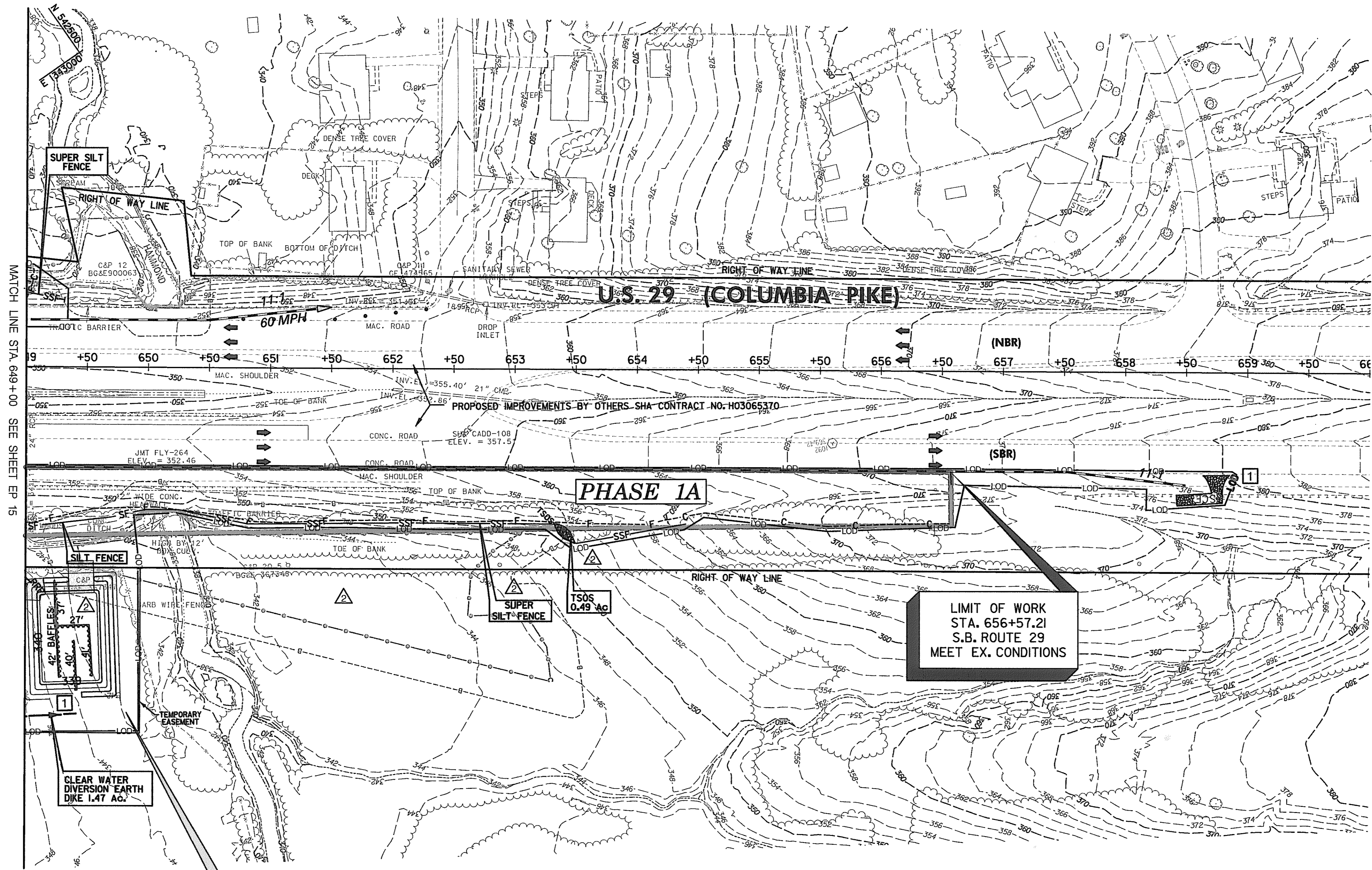
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO.	169	OF	320
PREL. TRAC. BY		FINAL TRAC. BY					

TO BALTIMORE

TO WASHINGTON



- STABILIZED CONSTRUCTION ENTRANCE**
STA 658+75, RT. - U.S. 29 - 1 EA. I IA
- EARTH DIKE**
STA 649+00 TO 649+25, RT. - U.S. 29 - 30 L.F. I IA
- SILT FENCE**
STA 649+00 TO 650+25, RT. - U.S. 29 - 125 L.F. I IA
- STONE OUTLET SEDIMENT TRAP ST-II**
STA 649+25, RT. - U.S. 29 - 1 EACH I IA
- SUPER SILT FENCE**
STA 649+00.00 TO STA. 649+30.00, LEFT - US 29 - 30 LF I IA
STA 650+25.00 TO STA. 654+40.00, RIGHT - US 29 - 415 LF I IA
- TEMPORARY STONE OUTLET STRUCTURES**
STA 653+40.00, RIGHT - U.S. 29 - 1 EACH I IA



MATCH LINE STA. 649+00 SEE SHEET EP 15

PHASE 1A

**LIMIT OF WORK
STA. 656+57.21
S.B. ROUTE 29
MEET EX. CONDITIONS**

**CLEAR WATER
DIVERSION EARTH
DIKE 1.47 AC.**

TRAP #7 ST II - STONE OUTLET SEDIMENT TRAP	
DRAINAGE AREA	4.15 AC
WET STORAGE REQUIRED	7,470 CF
WET STORAGE PROVIDED	7,784 CF
DRY STORAGE REQUIRED	7,470 CF
DRY STORAGE PROVIDED	7,698 CF
TOTAL STORAGE REQUIRED	14,940 CF
TOTAL STORAGE PROVIDED	15,482 CF
WET STORAGE ELEVATION	341.0
DRY STORAGE ELEVATION	342.6
WIER CREST ELEVATION	342.6
BOTTOM ELEVATION	339.0
CLEAN OUT ELEVATION	340.0
TOP OF EMBANKMENT ELEV.	343.6
WIER LENGTH	16.6'
BOTTOM DIMENSIONS	72' x 47'
SIDE SLOPES	2:1

SCALE: PLAN: 1" = 50'

LEGEND

- I DENOTES TREATMENT FOR INITIAL PHASE ONLY
- II DENOTES TREATMENT FOR FINAL PHASE ONLY
- * DENOTES TREATMENT FOR TERM OF CONTRACT

**INITIAL PHASE
EROSION & SEDIMENT CONTROL PLAN**

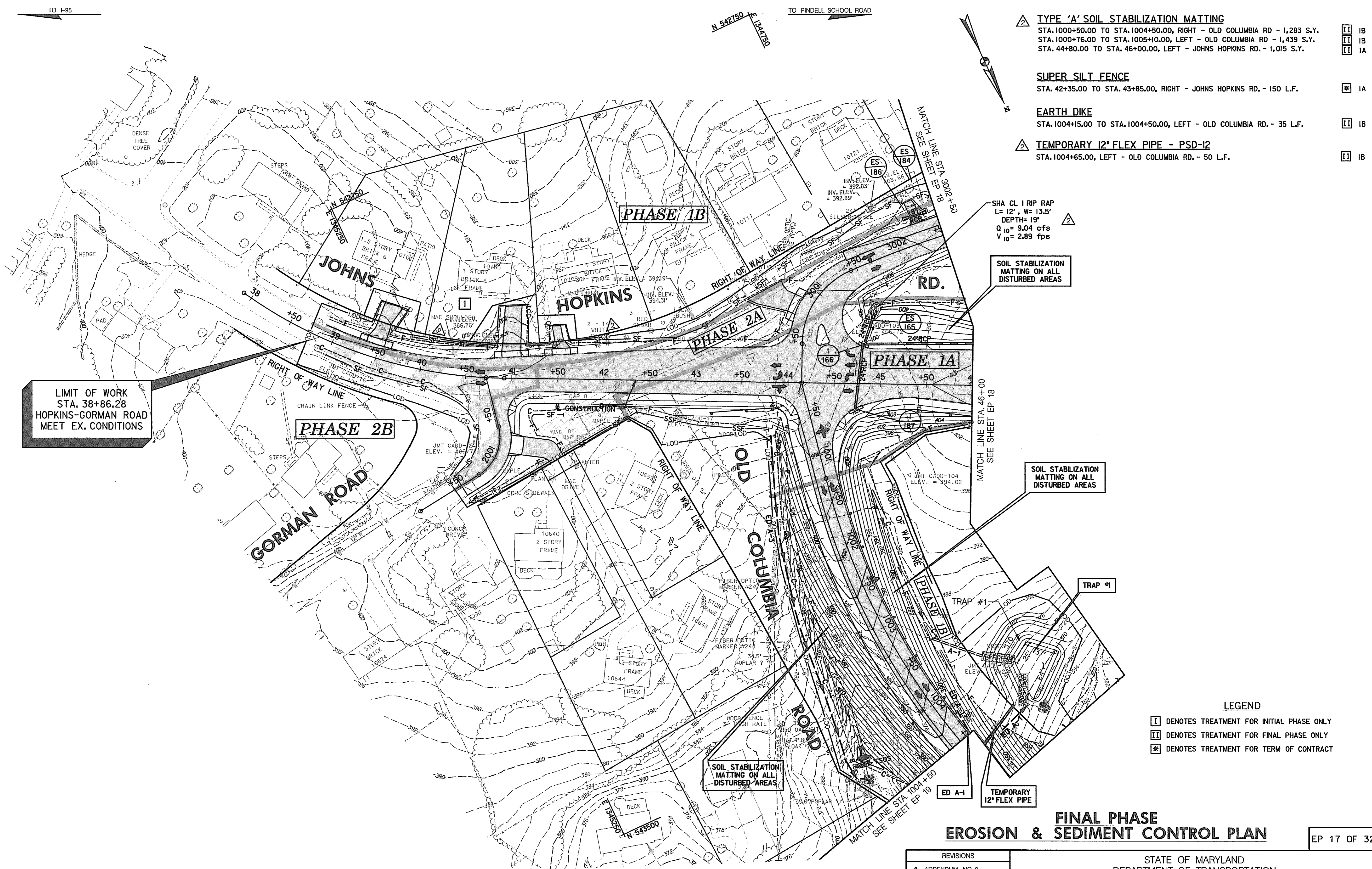
EP 16 OF 32

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
A	ADDENDUM NO. 2 DATE: 8/ /00
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 170 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____



- △ TYPE 'A' SOIL STABILIZATION MATTING
 - STA. 1000+50.00 TO STA. 1004+50.00, RIGHT - OLD COLUMBIA RD - 1,283 S.Y.
 - STA. 1000+76.00 TO STA. 1005+10.00, LEFT - OLD COLUMBIA RD - 1,439 S.Y.
 - STA. 44+80.00 TO STA. 46+00.00, LEFT - JOHNS HOPKINS RD. - 1,015 S.Y.
- ☒ SUPER SILT FENCE
 - STA. 42+35.00 TO STA. 43+85.00, RIGHT - JOHNS HOPKINS RD. - 150 L.F.
- ▭ EARTH DIKE
 - STA. 1004+15.00 TO STA. 1004+50.00, LEFT - OLD COLUMBIA RD. - 35 L.F.
- △ TEMPORARY 12" FLEX PIPE - PSD-I2
 - STA. 1004+65.00, LEFT - OLD COLUMBIA RD. - 50 L.F.

LIMIT OF WORK
STA. 38+86.28
HOPKINS-GORMAN ROAD
MEET EX. CONDITIONS

SHA CL 1 RIP RAP
L= 12', W= 13.5'
DEPTH= 19"
Q₁₀ = 9.04 cfs
V₁₀ = 2.89 fps

SOIL STABILIZATION
MATTING ON ALL
DISTURBED AREAS

SOIL STABILIZATION
MATTING ON ALL
DISTURBED AREAS

SOIL STABILIZATION
MATTING ON ALL
DISTURBED AREAS

TEMPORARY
12" FLEX PIPE

- LEGEND**
- 1 DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - ▭ DENOTES TREATMENT FOR FINAL PHASE ONLY
 - ☒ DENOTES TREATMENT FOR TERM OF CONTRACT

**FINAL PHASE
EROSION & SEDIMENT CONTROL PLAN**

EP 17 OF 32

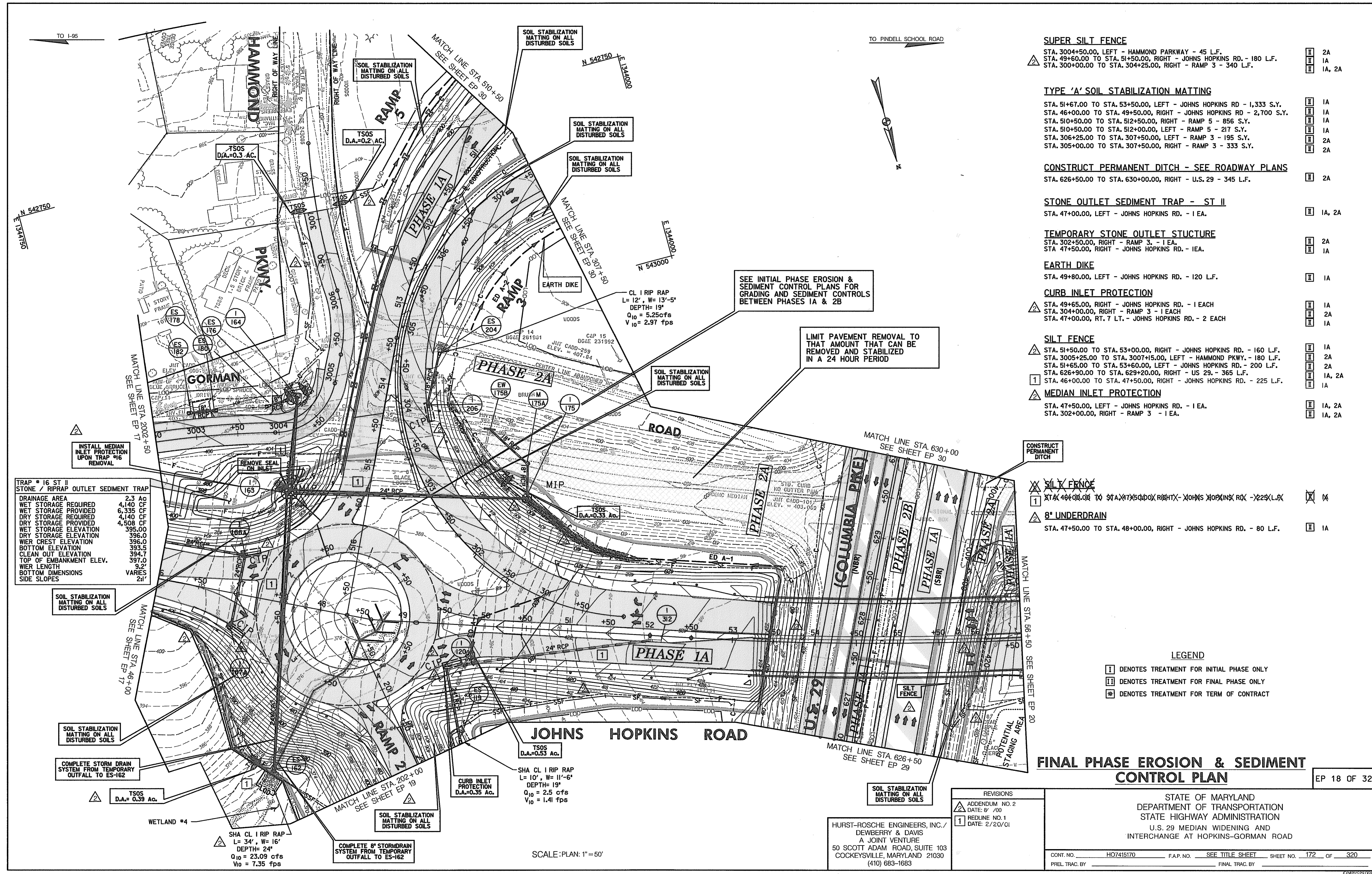
SCALE: PLAN: 1" = 50'

HURST-ROSCHÉ ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
△	ADDENDUM NO. 2 DATE: 8/ /00
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 171 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____



TRAP # 16 ST II	
STONE / RIPRAP OUTLET SEDIMENT TRAP	
DRAINAGE AREA	2.3 AC
WET STORAGE REQUIRED	4,140 CF
WET STORAGE PROVIDED	6,335 CF
DRY STORAGE REQUIRED	4,140 CF
DRY STORAGE PROVIDED	4,508 CF
WET STORAGE ELEVATION	398.00
DRY STORAGE ELEVATION	396.0
WIER CREST ELEVATION	396.0
BOTTOM ELEVATION	393.5
CLEAN OUT ELEVATION	394.7
TOP OF EMBANKMENT ELEV.	397.0
WIER LENGTH	9.2'
BOTTOM DIMENSIONS	VARIES
SIDE SLOPES	2:1'

TRAP # 16 ST II	
STONE / RIPRAP OUTLET SEDIMENT TRAP	
DRAINAGE AREA	2.3 AC
WET STORAGE REQUIRED	4,140 CF
WET STORAGE PROVIDED	6,335 CF
DRY STORAGE REQUIRED	4,140 CF
DRY STORAGE PROVIDED	4,508 CF
WET STORAGE ELEVATION	398.00
DRY STORAGE ELEVATION	396.0
WIER CREST ELEVATION	396.0
BOTTOM ELEVATION	393.5
CLEAN OUT ELEVATION	394.7
TOP OF EMBANKMENT ELEV.	397.0
WIER LENGTH	9.2'
BOTTOM DIMENSIONS	VARIES
SIDE SLOPES	2:1'

TRAP # 16 ST II	
STONE / RIPRAP OUTLET SEDIMENT TRAP	
DRAINAGE AREA	2.3 AC
WET STORAGE REQUIRED	4,140 CF
WET STORAGE PROVIDED	6,335 CF
DRY STORAGE REQUIRED	4,140 CF
DRY STORAGE PROVIDED	4,508 CF
WET STORAGE ELEVATION	398.00
DRY STORAGE ELEVATION	396.0
WIER CREST ELEVATION	396.0
BOTTOM ELEVATION	393.5
CLEAN OUT ELEVATION	394.7
TOP OF EMBANKMENT ELEV.	397.0
WIER LENGTH	9.2'
BOTTOM DIMENSIONS	VARIES
SIDE SLOPES	2:1'

TRAP # 16 ST II	
STONE / RIPRAP OUTLET SEDIMENT TRAP	
DRAINAGE AREA	2.3 AC
WET STORAGE REQUIRED	4,140 CF
WET STORAGE PROVIDED	6,335 CF
DRY STORAGE REQUIRED	4,140 CF
DRY STORAGE PROVIDED	4,508 CF
WET STORAGE ELEVATION	398.00
DRY STORAGE ELEVATION	396.0
WIER CREST ELEVATION	396.0
BOTTOM ELEVATION	393.5
CLEAN OUT ELEVATION	394.7
TOP OF EMBANKMENT ELEV.	397.0
WIER LENGTH	9.2'
BOTTOM DIMENSIONS	VARIES
SIDE SLOPES	2:1'

- SUPER SILT FENCE**
 - △ STA. 300+50.00, LEFT - HAMMOND PARKWAY - 45 L.F.
 - △ STA. 49+60.00 TO STA. 51+50.00, RIGHT - JOHNS HOPKINS RD. - 180 L.F.
 - △ STA. 300+00.00 TO STA. 304+25.00, RIGHT - RAMP 3 - 340 L.F.
- TYPE 'A' SOIL STABILIZATION MATTING**
 - △ STA. 51+67.00 TO STA. 53+50.00, LEFT - JOHNS HOPKINS RD - 1,333 S.Y.
 - △ STA. 46+00.00 TO STA. 49+50.00, RIGHT - JOHNS HOPKINS RD - 2,700 S.Y.
 - △ STA. 510+50.00 TO STA. 512+50.00, RIGHT - RAMP 5 - 856 S.Y.
 - △ STA. 510+50.00 TO STA. 512+00.00, LEFT - RAMP 5 - 217 S.Y.
 - △ STA. 306+25.00 TO STA. 307+50.00, LEFT - RAMP 3 - 195 S.Y.
 - △ STA. 305+00.00 TO STA. 307+50.00, RIGHT - RAMP 3 - 333 S.Y.
- CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS**
 - △ STA. 626+50.00 TO STA. 630+00.00, RIGHT - U.S. 29 - 345 L.F.
- STONE OUTLET SEDIMENT TRAP - ST II**
 - △ STA. 47+00.00, LEFT - JOHNS HOPKINS RD. - 1 EA.
- TEMPORARY STONE OUTLET STRUCTURE**
 - △ STA. 302+50.00, RIGHT - RAMP 3. - 1 EA.
 - △ STA. 47+50.00, RIGHT - JOHNS HOPKINS RD. - 1 EA.
- EARTH DIKE**
 - △ STA. 49+80.00, LEFT - JOHNS HOPKINS RD. - 120 L.F.
- CURB INLET PROTECTION**
 - △ STA. 49+65.00, RIGHT - JOHNS HOPKINS RD. - 1 EACH
 - △ STA. 304+00.00, RIGHT - RAMP 3 - 1 EACH
 - △ STA. 47+00.00, RT. 7 LT. - JOHNS HOPKINS RD. - 2 EACH
- SILT FENCE**
 - △ STA. 51+50.00 TO STA. 53+00.00, RIGHT - JOHNS HOPKINS RD. - 160 L.F.
 - △ STA. 3005+25.00 TO STA. 3007+15.00, LEFT - HAMMOND PKWY. - 180 L.F.
 - △ STA. 51+65.00 TO STA. 53+60.00, LEFT - JOHNS HOPKINS RD. - 200 L.F.
 - △ STA. 626+90.00 TO STA. 629+20.00, RIGHT - US 29. - 365 L.F.
- MEDIAN INLET PROTECTION**
 - △ STA. 46+00.00 TO STA. 47+50.00, RIGHT - JOHNS HOPKINS RD. - 225 L.F.
 - △ STA. 47+50.00, LEFT - JOHNS HOPKINS RD. - 1 EA.
 - △ STA. 302+00.00, RIGHT - RAMP 3 - 1 EA.

LEGEND

- DENOTES TREATMENT FOR INITIAL PHASE ONLY
- ▣ DENOTES TREATMENT FOR FINAL PHASE ONLY
- ※ DENOTES TREATMENT FOR TERM OF CONTRACT

FINAL PHASE EROSION & SEDIMENT CONTROL PLAN

EP 18 OF 32

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO. 172 OF 320
PREL. TRAC. BY	FINAL TRAC. BY		

REVISIONS

2	ADDENDUM NO. 2	DATE: 8/7/00
1	REDLINE NO. 1	DATE: 2/20/01

HURST-ROSCHER ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

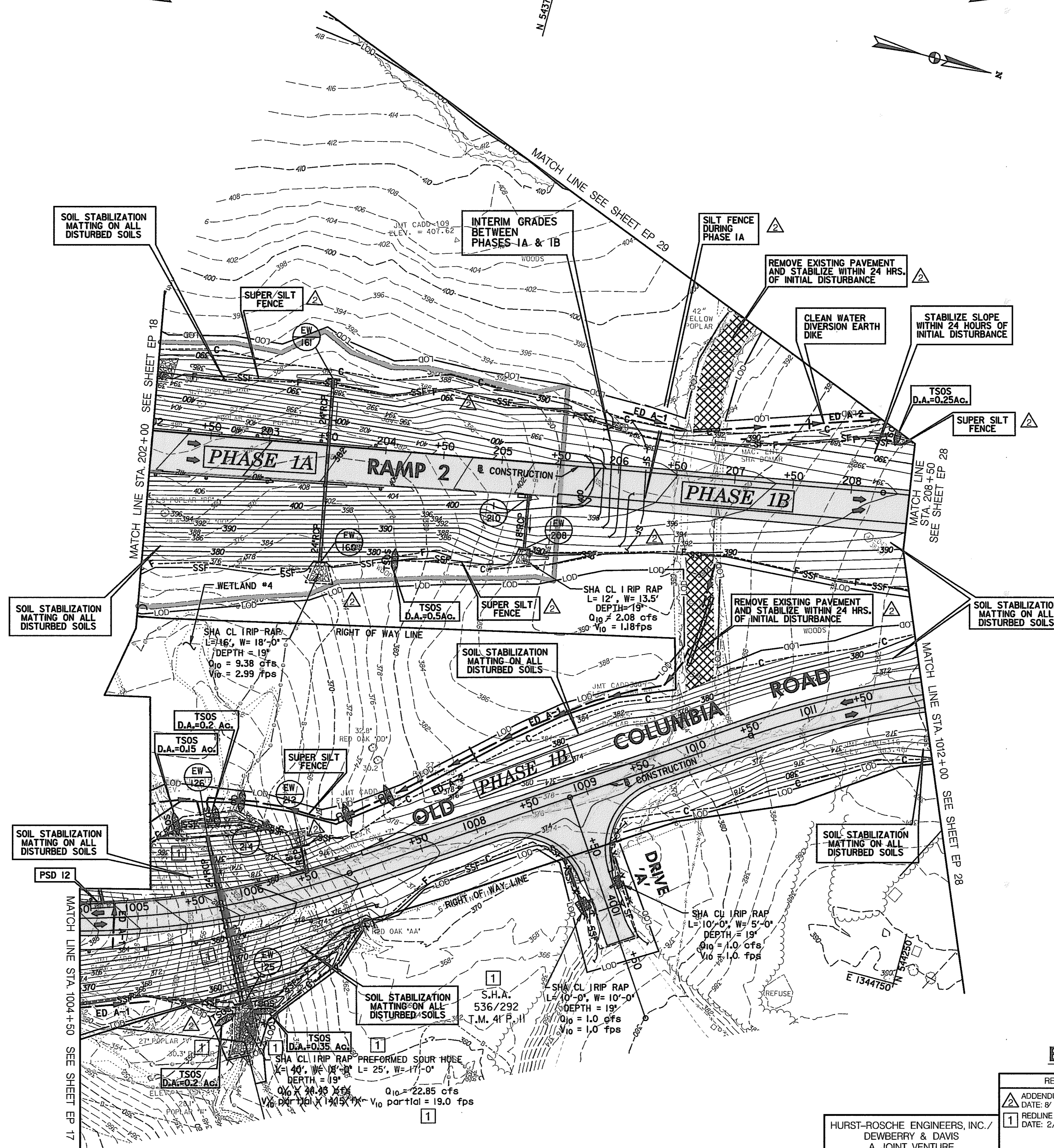
SCALE: PLAN: 1" = 50'

TO HOPKINS-GORMAN RD.

E 134400
N 54350

TO OLD COLUMBIA RD.

E 134400
N 544250



- PIPE SLOPE DRAIN 12 IN.**
 STA. 1004+75.00, LEFT, OLD COLUMBIA RD - 1 EACH
- TYPE 'A' SOIL STABILIZATION MATTING**
 STA. 1007+00.00 TO STA. 1012+00.00, LEFT - OLD COLUMBIA RD - 8,905 S.Y.
 STA. 1009+00.00 TO STA. 1012+00.00, RIGHT - OLD COLUMBIA RD - 1,044 S.Y.
 STA. 202+00.00 TO STA. 208+05.00, LEFT & RIGHT - RAMP 2 - 8,220 S.Y.
 STA. 1005+10.00 TO STA. 1007+00.00, LEFT - OLD COLUMBIA RD - 833 S.Y.
 STA. 1004+50.00 TO STA. 1007+00.00, RIGHT - OLD COLUMBIA RD. - 1,334 S.Y.
- TEMPORARY STONE OUTLET STRUCTURE**
 STA. 204+25.00, RIGHT - RAMP 2 - 1 EA.
 STA. 208+25.00, LEFT - RAMP 2 - 1 EA.
 STA. 1005+85.00, LEFT - OLD COLUMBIA RD. - 1 EA.
 STA. 1005+60.00, LEFT - OLD COLUMBIA RD. - 1 EA.
 STA. 1005+50.00, RIGHT - OLD COLUMBIA RD. - 1 EA.
 STA. 1005+90.00, RIGHT - OLD COLUMBIA RD. - 1 EA.
- SUPER SILT FENCE**
 STA. 202+00.00 TO STA. 206+20.00, LEFT - RAMP 2 - 475 L.F.
 STA. 202+00.00 TO STA. 208+50.00, RIGHT - RAMP 2 - 650 L.F.
 STA. 208+00.00 TO STA. 208+50.00, LEFT, - RAMP 2 - 50 L.F.
 STA. 1006+30.00
 STA. 1005+10.00 TO STA. 1007+10.00, LEFT - OLD COLUMBIA RD. - 185 L.F.
 STA. 1004+50.00 TO STA. 1007+50.00, RIGHT - OLD COLUMBIA RD. - 340 L.F.
 STA. 1008+75.00 550 L.F.
- EARTH DIKE**
 STA. 1004+50.00 TO STA. 1004+60.00, LEFT - OLD COLUMBIA RD. - 40 L.F.
 STA. 1004+80.00 LEFT & RIGHT - OLD COLUMBIA RD. - 35 L.F.
 STA. 1004+75.00 LEFT, - OLD COLUMBIA RD. - 35 L.F.
- SILT FENCE**
 STA. 206+25.00, LEFT & RIGHT - RAMP2 - 130 L.F.
 STA. 206+75.00 TO STA. 208+25, LEFT - RAMP 2 - 160 L.F.

LEGEND

I DENOTES TREATMENT FOR INITIAL PHASE ONLY
 II DENOTES TREATMENT FOR FINAL PHASE ONLY
 * DENOTES TREATMENT FOR TERM OF CONTRACT

**FINAL PHASE
 EROSION & SEDIMENT CONTROL PLAN**

EP 19 OF 32

REVISIONS

ADDENDUM NO. 2	DATE: 8/00
REDEFINE NO. 1	DATE: 2/20/01

HURST-ROSCHER ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 173 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1" = 50'

TYPE 'A' SOIL STABILIZATION MATTING
 STA. 1401+00 TO 1402+00, LEFT - SPUR 4 - 1,110 SY
 STA. 1401+00 TO 1402+00, RIGHT - SPUR 4 - 1,000 SY
 STA. 402+00 TO 404+00, LEFT - RAMP 4 - 1,200 SY
 STA. 400+00 TO 404+00, RIGHT - RAMP 4 - 1,100 SY
 STA. 113+00 TO 114+00, LEFT - RAMP 1 - 150 SY
 STA. 1100+50 TO 1102+00, LEFT - SPUR 1 - 400 SY
 STA. 113+00 TO 118+20, RIGHT - RAMP 1 - 920 SY
 STA. 56+50 TO 58+00, RIGHT - HOPKINS RD. - 450 SY
 STA. 56+50 TO 62+00, LEFT - HOPKINS RD. - 2,610 SY
 STA. 63+50 TO 69+50, LEFT - HOPKINS RD. - 1,590 SY
 STA. 61+50 TO 69+50, RIGHT - HOPKINS RD. - 740 SY
 STA. 11+00 TO 14+00, LEFT - OLD COLUMBIA RD. - 1,080 SY
 STA. 11+00 TO 14+00, RIGHT - OLD COLUMBIA RD. - 1,750 SY

CONSTRUCTION PERMANENT DITCH - SEE ROADWAY PLANS

STA. 11+0 TO 14+20, LEFT - OLD COLUMBIA RD. - 240 LF

1 SILT FENCE

STA. 56+50.00 TO STA. 57+50.00, LEFT - JOHNS HOPKINS RD. - 180 LF
 STA. 59+00.00 TO STA. 60+40.00, LEFT - JOHNS HOPKINS RD. - 335 LF
 STA. 60+75.00 TO STA. 67+50.00, LEFT - JOHNS HOPKINS RD. - 280 LF
 STA. 63+50.00 TO STA. 67+50.00, LEFT - JOHNS HOPKINS RD. - 420 LF

1 TYPE 'B' SOIL STABILIZATION MATTING

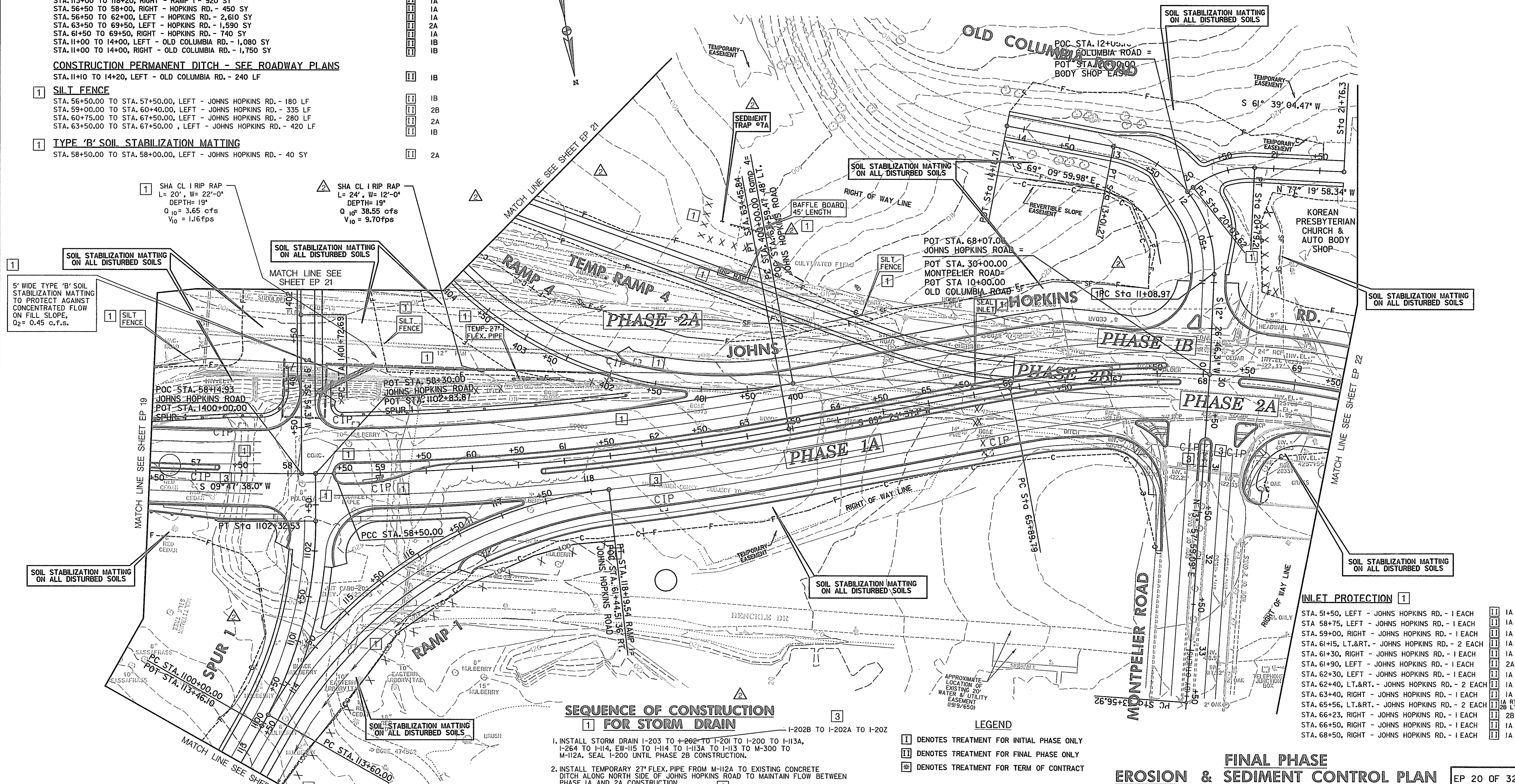
STA. 58+50.00 TO STA. 58+00.00, LEFT - JOHNS HOPKINS RD. - 40 SY

2A
2A
2A
2A
1A
1A
1A
1A
1A
2A
1A
1B
1B
1B
1B
2A
1B
1B
2A
1B
2A

INLET PROTECTION 3

STA. 57+15, LEFT - JOHNS HOPKINS RD. - 1 EACH
 STA. 62+00, RIGHT - JOHNS HOPKINS RD. - 1 EACH
 STA. 30+89, RIGHT - MONTEPELIER RD. - 1 EACH
 STA. 30+89.8, RIGHT - MONTEPELIER RD. - 1 EACH

1A
1A
1A
1A



SEQUENCE OF CONSTRUCTION FOR STORM DRAIN

1. INSTALL STORM DRAIN I-203 TO I-202 TO I-201 TO I-200 TO I-13A, I-264 TO I-114, EW-115 TO I-114 TO I-113A TO I-113 TO M-300 TO M-112A. SEAL I-200 UNTIL PHASE 2B CONSTRUCTION.
2. INSTALL TEMPORARY 27" FLEX. PIPE FROM M-112A TO EXISTING CONCRETE DITCH ALONG NORTH SIDE OF JOHNS HOPKINS ROAD TO MAINTAIN FLOW BETWEEN PHASE 1A AND 2A CONSTRUCTION.
3. INSTALL STORM DRAIN I-308 TO I-308A TO I-308 [3].
 I-308A TO I-308 [3]
 I-308 TO I-306 TO I-306 TO I-306 TO EW-304.
 INSTALL RIP RAP OUTFLOW PROTECTION AT EW-304 IN INITIAL PHASE 2A.
4. AFTER PHASE 1A CONSTRUCTION IS COMPLETED, REMOVE TEMPORARY 27" FLEX. PIPE FROM M-112A AND INSTALL STORM DRAIN FROM M-112A TO EW-112.
5. IN PHASE 2B, REMOVE TEMPORARY FLEX. PIPE AND COMPLETE STORM DRAIN FROM I-201 TO I-200, I-262 TO I-200 TO I-113A.

- LEGEND**
- 1 DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - 2 DENOTES TREATMENT FOR FINAL PHASE ONLY
 - 3 DENOTES TREATMENT FOR TERM OF CONTRACT

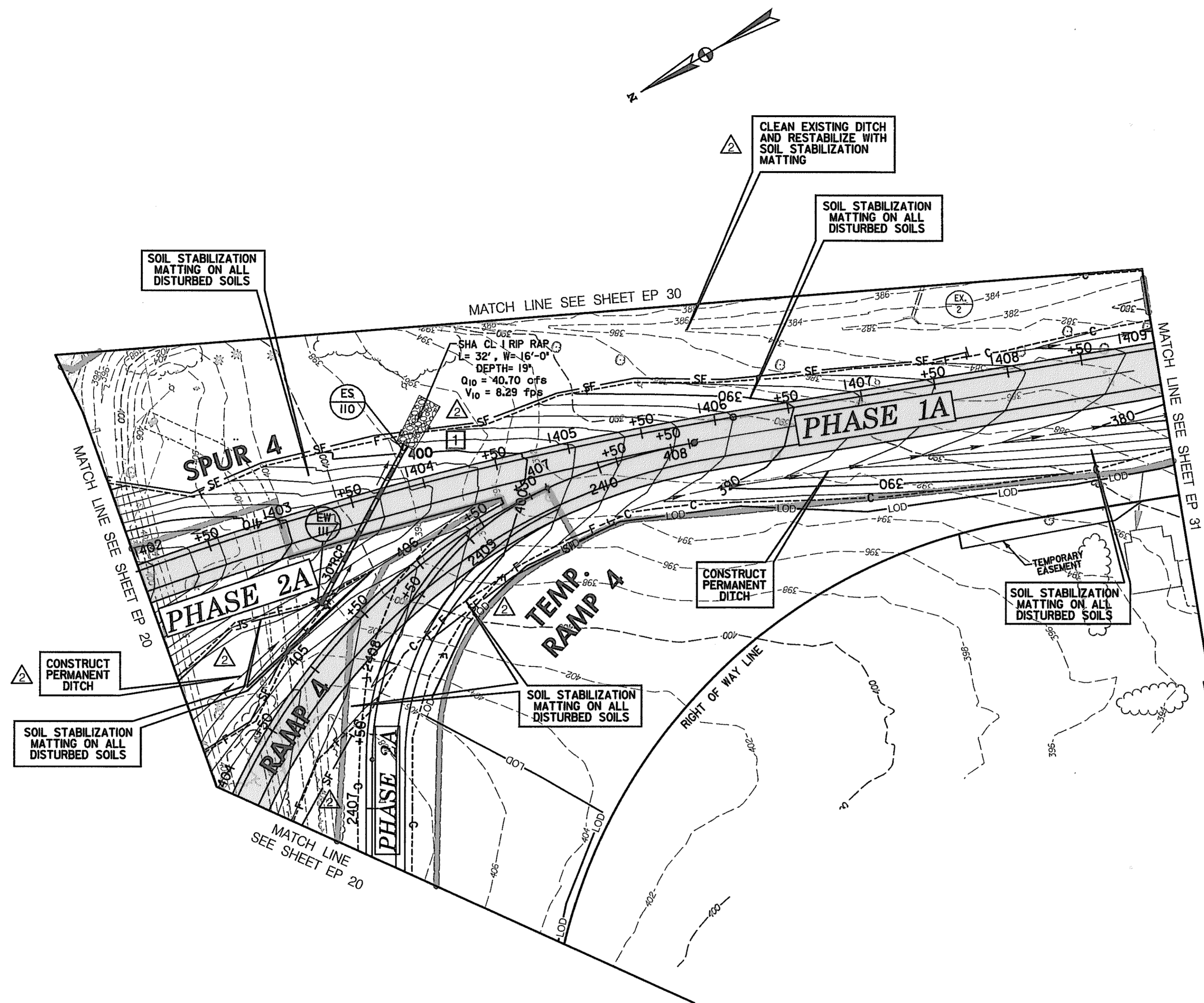
- 1 **TEMPORARY 27" FLEX PIPE**
 STA. 60+50.00 TO STA. 61+50.00, LEFT - JOHNS HOPKINS RD. - 65 LF 2A
- 1 **SEAL INLET**
 STA. 65+30.00, LEFT - JOHNS HOPKINS RD. - 1 EACH 1A

- INLET PROTECTION 1**
- STA. 51+50, LEFT - JOHNS HOPKINS RD. - 1 EACH 1A
 - STA. 58+75, LEFT - JOHNS HOPKINS RD. - 1 EACH 1A
 - STA. 59+00, RIGHT - JOHNS HOPKINS RD. - 1 EACH 1A
 - STA. 61+15, LT.&RT. - JOHNS HOPKINS RD. - 2 EACH 1A
 - STA. 61+30, RIGHT - JOHNS HOPKINS RD. - 1 EACH 1A
 - STA. 61+90, LEFT - JOHNS HOPKINS RD. - 1 EACH 2A
 - STA. 62+30, LEFT - JOHNS HOPKINS RD. - 1 EACH 1A
 - STA. 62+40, LT.&RT. - JOHNS HOPKINS RD. - 2 EACH 1A
 - STA. 63+40, RIGHT - JOHNS HOPKINS RD. - 1 EACH 1A
 - STA. 65+56, LT.&RT. - JOHNS HOPKINS RD. - 2 EACH 1A RT.
 - STA. 66+23, RIGHT - JOHNS HOPKINS RD. - 1 EACH 2B
 - STA. 66+50, RIGHT - JOHNS HOPKINS RD. - 1 EACH 1A
 - STA. 68+50, RIGHT - JOHNS HOPKINS RD. - 1 EACH 1A

FINAL PHASE EROSION & SEDIMENT CONTROL PLAN EP 20 OF 32

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
ADDENDUM NO. 2	DATE: 8/25/00
1	REDLINE NO. 1 DATE: 2/20/01
3	REDLINE NO. 3 DATE: 1/31/02



- TYPE 'A' SLOPE STABILIZATION MATTING**
- STA. 1402+00 TO STA. 1403+00, LEFT - SPUR 4 - 260 SY
 - STA. 1403+00 TO STA. 1409+00, LEFT - SPUR 4 - 1545 SY
 - STA. 1402+00 TO STA. 1404+50, RIGHT - SPUR 4 - 670 SY
 - STA. 1405+81 TO STA. 1409+00, LEFT - SPUR 4 - 1,785 SY
 - △ STA. 404+00 TO STA. 405+60, LEFT - RAMP 4 - 465 SY
 - STA. 404+00 TO STA. 408+03, RIGHT - RAMP 4 - 675 SY
 - STA. 2406+67 TO STA. 2407+75, LEFT - TEMP. RAMP 4 - 260 SY
 - STA. 2406+58 TO STA. 2409+62, RIGHT - TEMP. RAMP 4 - 260 SY
- CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS**
- STA. 1405+25 TO STA. 1409+00, RIGHT - SPUR 4 - 375 L.F.
 - STA. 1408+00 TO STA. 1409+00, RIGHT - SPUR 4 - 100 L.F.
 - △ STA. 404+00 TO STA. 405+35, LEFT - RAMP 4 - 115 L.F.
- SILT FENCE**
- △ STA. 1402+00 TO STA. 1407+70, LEFT - SPUR 4 - 500 L.F.
 - 1 STA. 1402+00 TO STA. 1403+25, RIGHT - SPUR 4 - 125 L.F.
 - 1 STA. 404+00 TO STA. 405+50, LEFT - RAMP 4 - 150 L.F.
 - 1 STA. 404+00 TO STA. 407+40, RIGHT - RAMP 4 - 300 L.F.

- LEGEND**
- 1 DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - II DENOTES TREATMENT FOR FINAL PHASE ONLY
 - * DENOTES TREATMENT FOR TERM OF CONTRACT

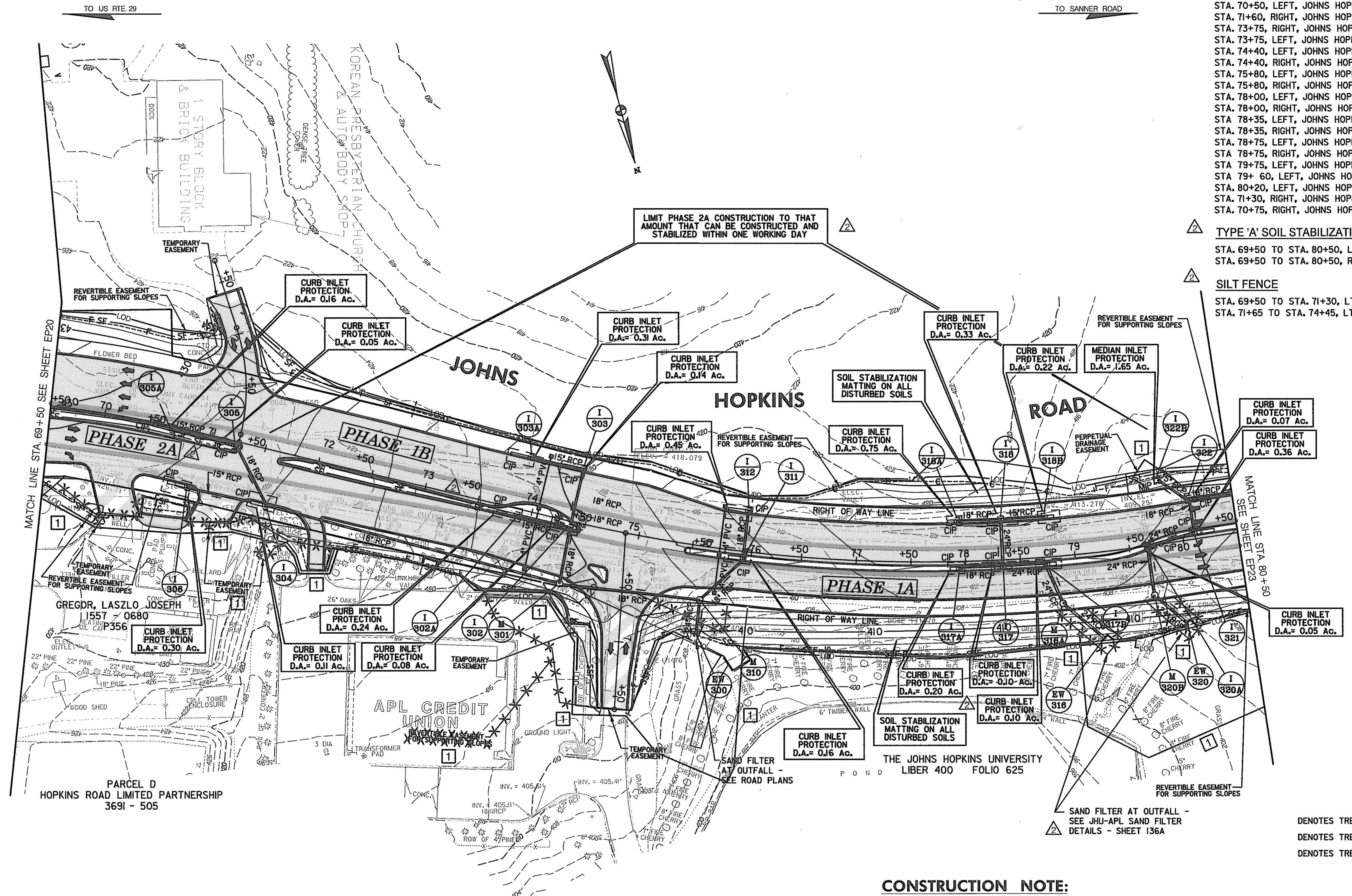
**FINAL PHASE
EROSION & SEDIMENT CONTROL**

SCALE: PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
△	ADDENDUM NO. 2 DATE: 8/ /00
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
CONT. NO. HOZ415170	F.A.P. NO. SEE TITLE SHEET
PREL. TRAC. BY	SHEET NO. 175 OF 320
	FINAL TRAC. BY



- INLET PROTECTION**
- STA. 70+50, LEFT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 71+60, RIGHT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 73+75, RIGHT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 73+75, LEFT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 74+40, LEFT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 74+40, RIGHT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 75+80, LEFT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 75+80, RIGHT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 78+00, LEFT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 78+00, RIGHT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 78+35, LEFT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 78+35, RIGHT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 78+75, LEFT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 78+75, RIGHT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 79+75, LEFT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 79+ 60, LEFT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 80+20, LEFT, JOHNS HOPKINS RD. - 2 EACH
 - STA. 71+30, RIGHT, JOHNS HOPKINS RD. - 1 EACH
 - STA. 70+75, RIGHT, JOHNS HOPKINS RD. - 1 EACH

- TYPE 'A' SOIL STABILIZATION MATTING**
- STA. 69+50 TO STA. 80+50, LEFT, JOHNS HOPKINS RD. - 3,800 S.Y.
 - STA. 69+50 TO STA. 80+50, RIGHT, JOHNS HOPKINS RD. - 3,600 S.Y.

- SILT FENCE**
- STA. 69+50 TO STA. 71+30, LT & RT, JOHNS HOPKINS RD. - 360 L.F.
 - STA. 71+65 TO STA. 74+45, LT & RT, JOHNS HOPKINS RD. - 360 L.F.

- LEGEND**
- ☐ DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - ▣ DENOTES TREATMENT FOR FINAL PHASE ONLY
 - ✱ DENOTES TREATMENT FOR TERM OF CONTRACT

CONSTRUCTION NOTE:

1. SAND FILTERS TO BE INSTALLED LAST, SINCE NO DIRTY WATER SHOULD INFILTRATE AND CONTAMINATE FILTER.

**FINAL PHASE
EROSION & SEDIMENT CONTROL PLAN**

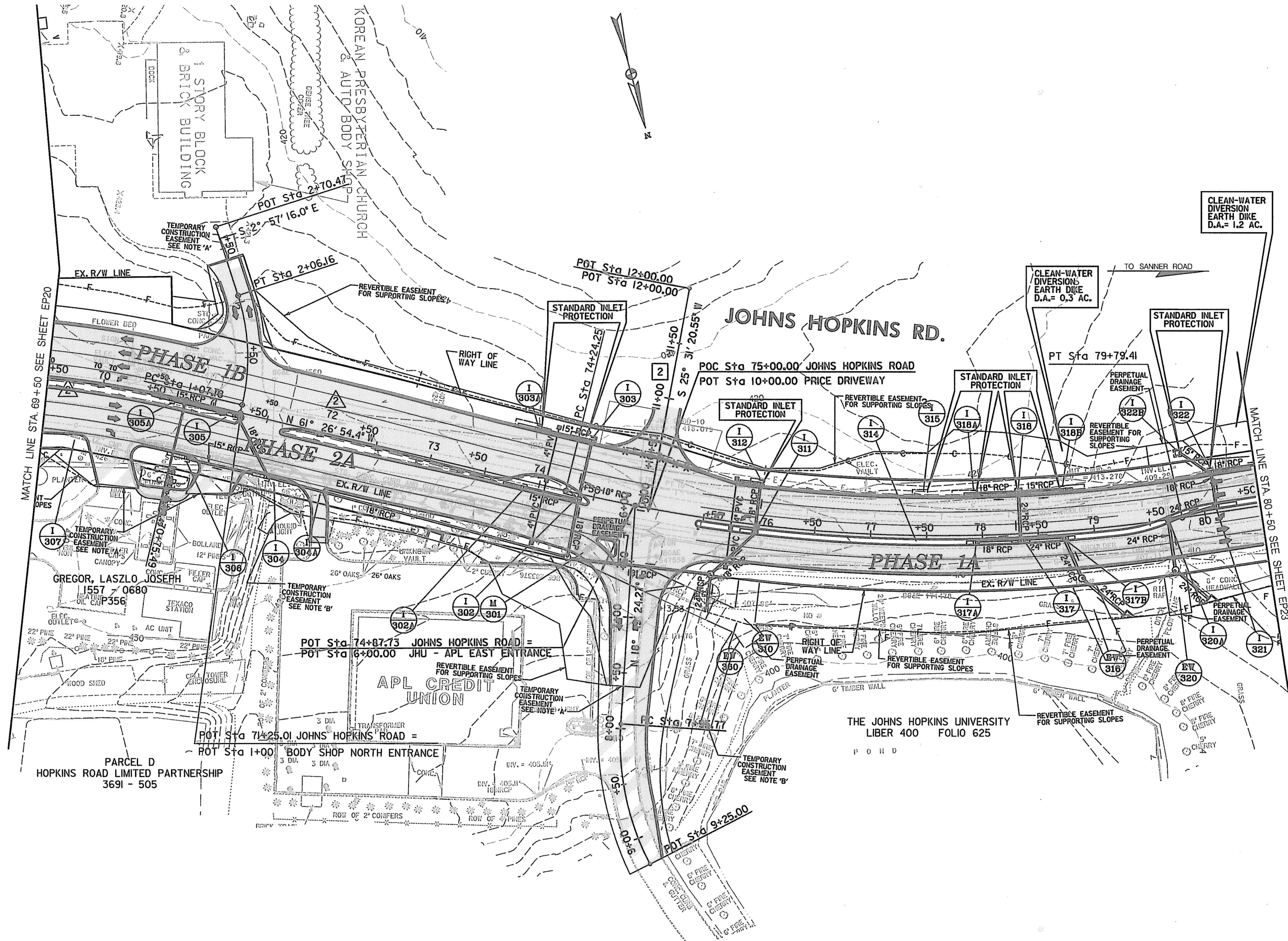
EP 22 OF 32

REVISIONS 1. ADDENDUM NO. 2 DATE: 8/ /00 REDLINE NO. 1 DATE: 2/20/01		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
HURST-ROSCHÉ ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683		CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 176 OF 320 PREL. TRAC. BY FINAL TRAC. BY	

SCALE: PLAN: 1" = 50'

TO US RTE. 29

TO SANNER ROAD



INLET PROTECTION

- STA. 73+80, LEFT, JOHNS HOPKINS RD. - I-EACH
- STA. 74+35, LEFT, JOHNS HOPKINS RD. - I-EACH
- STA. 75+96, LEFT, JOHNS HOPKINS RD. - I-EACH
- STA. 77+45, LEFT, JOHNS HOPKINS RD. - I-EACH
- STA. 77+92, LEFT, JOHNS HOPKINS RD. - I-EACH
- STA. 78+35, LEFT, JOHNS HOPKINS RD. - I-EACH
- STA. 78+75, LEFT, JOHNS HOPKINS RD. - I-EACH
- STA. 79+40, LEFT, JOHNS HOPKINS RD. - I-EACH

LEGEND

- DENOTES TREATMENT FOR INITIAL PHASE ONLY [I]
- DENOTES TREATMENT FOR FINAL PHASE ONLY [II]
- DENOTES TREATMENT FOR TERM OF CONTRACT [III]

NOTE:
 THE SILT FENCE, EARTH DIKE AND LIMIT OF DISTURBANCE ARE CONTIGUOUS. EACH IS SHOWN SEPARATELY FOR CLARITY.

FINAL EROSION & SEDIMENT CONTROL PLAN EP 22 OF 32

REVISIONS	
1	ADDENDUM NO. 2-08/25/00
2	REDLINE NO. 2 DATE: 7/30/01
3	REDLINE NO. 3 DATE: 1/31/02

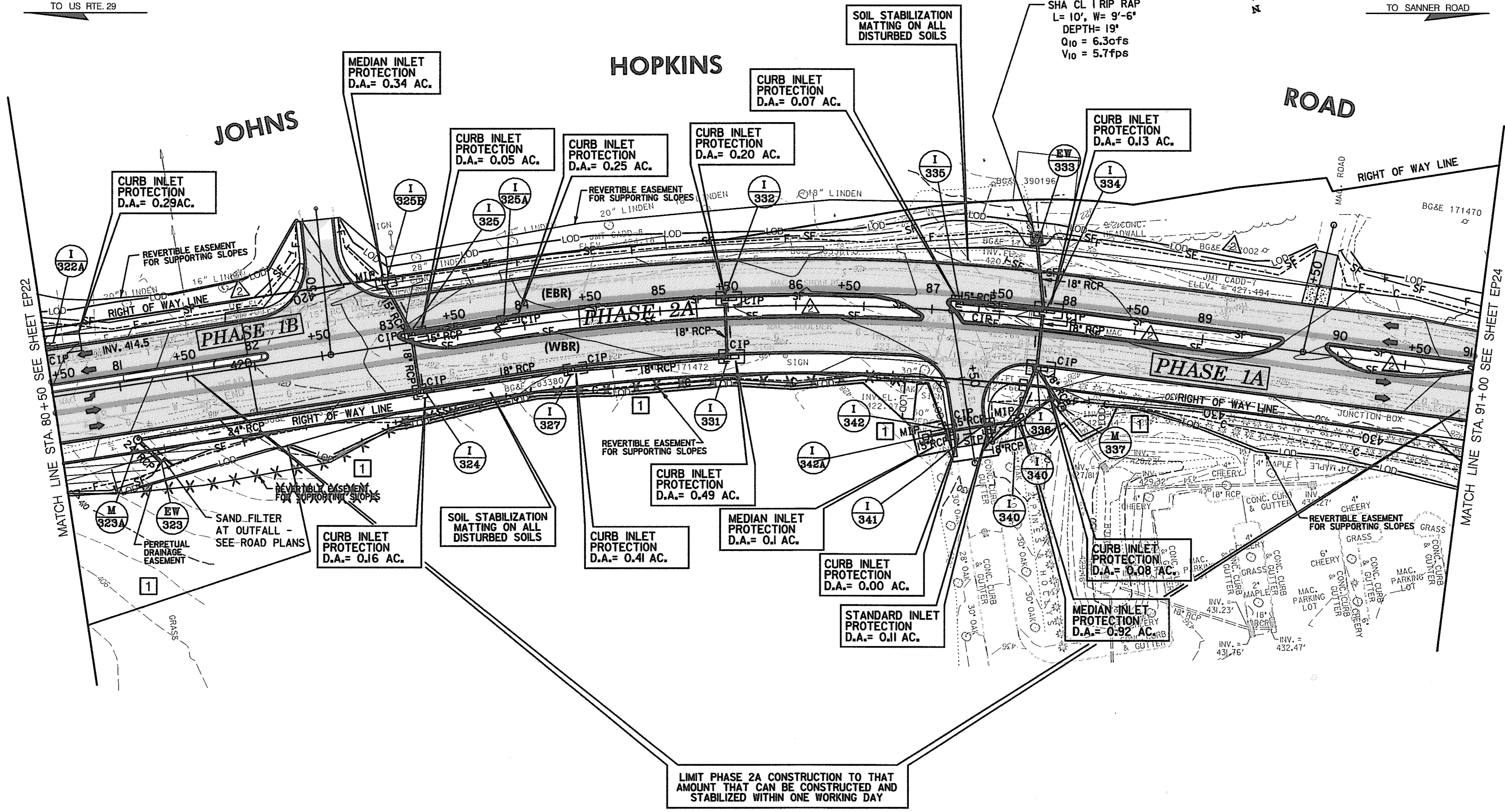
HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 176 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

REPLACE SHEET

SCALE: PLAN: 1" = 50'



INLET PROTECTION

STA. 83+00, LEFT, JOHNS HOPKINS RD. - 1-EACH	IB
STA. 83+15, LEFT, JOHNS HOPKINS RD. - 1-EACH	2A
STA. 83+90, LEFT, JOHNS HOPKINS RD. - 1-EACH	2A
STA. 84+25, RIGHT, JOHNS HOPKINS RD. - 1-EACH	1A
STA. 85+50, LEFT, JOHNS HOPKINS RD. - 1-EACH	2A
STA. 85+50, RIGHT, JOHNS HOPKINS RD. - 1-EACH	1A
STA. 87+20, LEFT, JOHNS HOPKINS RD. - 1-EACH	2A
STA. 87+85, LEFT, JOHNS HOPKINS RD. - 1-EACH	2A
STA. 87+85, RIGHT, JOHNS HOPKINS RD. - 1-EACH	1A
STA. 0+95, LEFT, JHU-APL ENTR. RD. - 2 EACH	1A
STA. 0+95, RIGHT, JHU-APL ENTR. RD. - 2 EACH	1A
STA. 83+15, RIGHT - JOHNS HOPKINS RD. - 1 EACH	1A
STA. 80+50, LEFT, JOHNS HOPKINS RD. - 1 EACH	1B

TYPE 'A' SOIL STABILIZATION MATTING

STA. 80+50 TO STA. 91+50, LEFT, JOHNS HOPKINS RD. - 2,300 S.Y.	1B
STA. 80+50 TO STA. 91+50, RIGHT, JOHNS HOPKINS RD. - 2,722 S.Y.	1A

SILT FENCE

STA. 87+50 TO STA. 87+70, LEFT - JOHNS HOPKINS RD. - 20 L.F.	1B
STA. 87+80 TO STA. 89+90, LEFT, - JOHNS HOPKINS RD. - 200 L.F.	1A
STA. 80+70 TO STA. 83+00, RIGHT - JOHNS HOPKINS RD. - 215 L.F.	1A
STA. 80+50 TO STA. 82+50, LEFT, JOHNS HOPKINS RD. - 210 L.F.	1B
STA. 83+15 TO STA. 86+90, LT.&RT. - JOHNS HOPKINS RD. - 760 L.F.	2A
STA. 87+15 TO STA. 89+60, LT.&RT. - JOHNS HOPKINS RD. - 490 L.F.	2A
STA. 89+90 TO STA. 91+00, LT.&RT. - JOHNS HOPKINS RD. - 220 L.F.	2A

△ LIMIT PHASE 2A CONSTRUCTION TO THAT AMOUNT THAT CAN BE CONSTRUCTED AND STABILIZED WITHIN ONE WORKING DAY

LEGEND

DENOTES TREATMENT FOR INITIAL PHASE ONLY [I]

DENOTES TREATMENT FOR FINAL PHASE ONLY [II]

DENOTES TREATMENT FOR TERM OF CONTRACT [M]

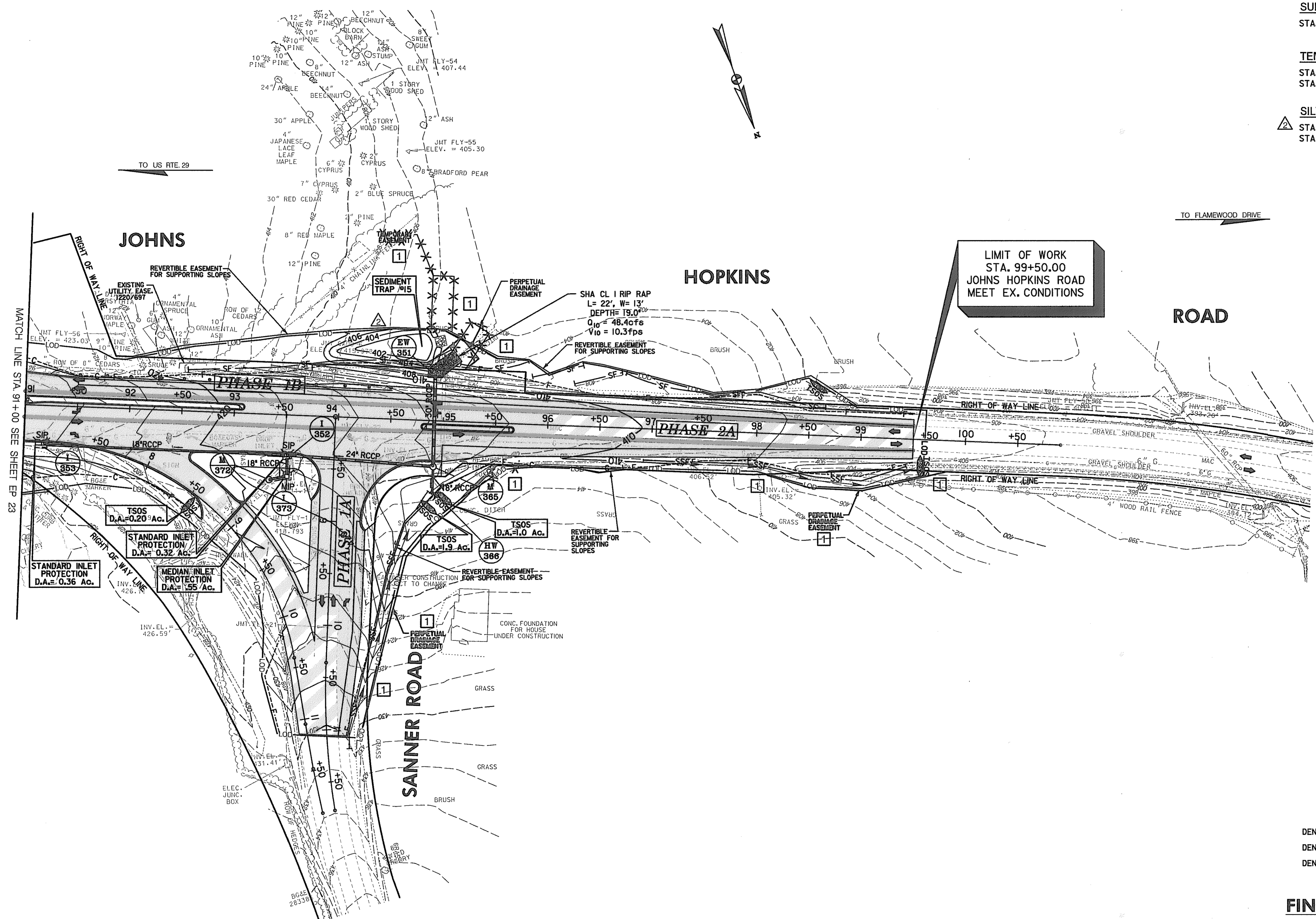
**FINAL PHASE
EROSION & SEDIMENT CONTROL PLAN**

SCALE: PLAN: 1" = 50'

HURST-ROSCHÉ ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
△	ADDENDUM NO. 2 DATE: 8/ /00
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07418170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 177		OF 320	



- SUPER SILT FENCE**
 STA. 8+70 TO STA. 11+15, LEFT, SANNER RD. - 260 L.F. [I] IA
- TEMPORARY STONE OUTLET STRUCTURE**
 STA. 8+70, LEFT, SANNER RD. - 1 EACH [I] IA
 STA. 8+80, LEFT, SANNER RD. - 1 EACH [I] IA
- SILT FENCE**
 STA. 92+50 TO STA. 95+10, LEFT - JOHNS HOPKINS RD. - 265 L.F. [I] IB
 STA. 97+50 TO STA. 98+50, LEFT - JOHNS HOPKINS RD. - 100 L.F. [I] IB

LIMIT OF WORK
 STA. 99+50.00
 JOHNS HOPKINS ROAD
 MEET EX. CONDITIONS

TO US RTE. 29

TO FLAMEWOOD DRIVE

MATCH LINE STA. 91+00 SEE SHEET EP 23

- LEGEND**
- DENOTES TREATMENT FOR INITIAL PHASE ONLY [I]
 - DENOTES TREATMENT FOR FINAL PHASE ONLY [II]
 - DENOTES TREATMENT FOR TERM OF CONTRACT [**]

**FINAL PHASE
 EROSION & SEDIMENT CONTROL PLAN**

EP 24 OF 32

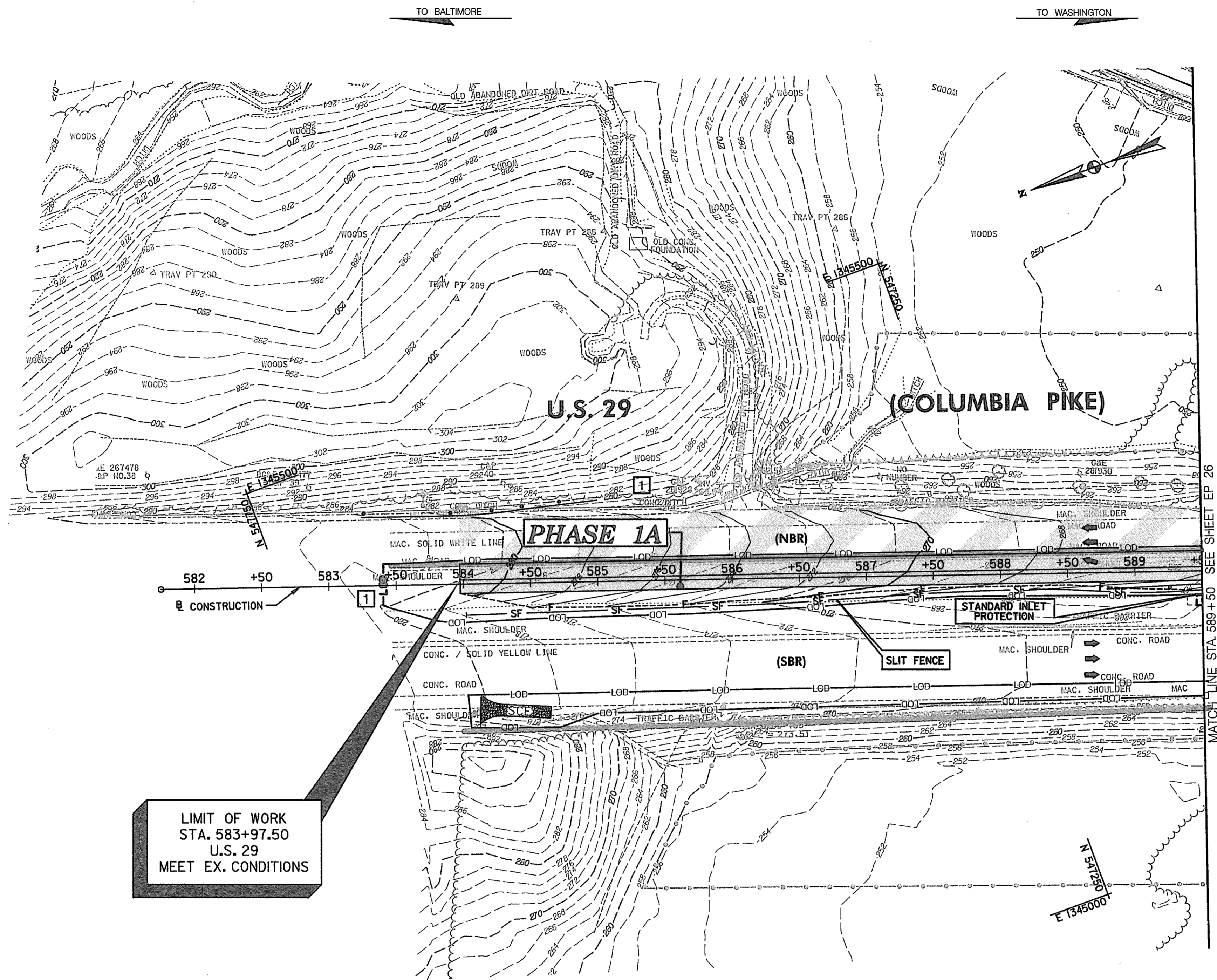
SCALE: PLAN: 1" = 50'

HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
ADDENDUM NO. 2	DATE: 8/ /00
REDLINE NO. 1	DATE: 2/20/01

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 178 OF 320
 PREL. TRAC. BY FINAL TRAC. BY



LIMIT OF WORK
 STA. 583+97.50
 U.S. 29
 MEET EX. CONDITIONS

LEGEND

- I DENOTES TREATMENT FOR INITIAL PHASE ONLY
- II DENOTES TREATMENT FOR FINAL PHASE ONLY
- * DENOTES TREATMENT FOR TERM OF CONTRACT

**FINAL PHASE
 EROSION & SEDIMENT CONTROL PLAN**

EP 25 OF 32

SCALE: PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC. /
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET	SHEET NO.	179	OF	320
PREL. TRAC. BY		FINAL TRAC. BY					

SEQUENCE OF CONSTRUCTION

STREAM RELOCATION/ROAD FILL

STA 1031+25 TO STA 1035+25, RIGHT, OLD COLUMBIA RD.

INITIAL PHASE [CLEARING AND GRUBBING ONLY] - SEE SHEET EP10 & EP11

1. CLEAR AND GRUB FOR INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE AND ACCESS ROAD CROSSING.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH 12" PIPE CULVERT AND AGGREGATE FILL FOR ACCESS ROAD WITH 24" PIPE CULVERT. TEMPORARILY LOCATE 24" PIPE OUTLET TO ALLOW FLOWS INTO EXISTING STREAM.
3. CLEAR AND GRUB FOR REMAINDER OF SEDIMENT CONTROLS.
4. INSTALL SUPER SILT FENCE AND CLEAN-WATER DIVERSION EARTH DIKE.
5. INSTALL TEMPORARY STONE OUTLET STRUCTURES AND REMAINING EARTH DIKES.
6. CLEAR AND GRUB REMAINING AREA.

FINAL PHASE - STAGE 1 - SEE SHEET EP26 & EP27

1. EXCAVATE TRENCH/INSTALL 24" FLEX PIPE AND INSTALL SANDBAG EMBANKMENT. (24" FLEX PIPE IS TO BE LOCATED ON THE INVERT OF THE LOW FLOW CHANNEL - SEE STREAM RELOCATION PLANS)
2. DIVERT STREAM THROUGH 24" PIPE.
3. INSTALL SEDIMENT TRAP # 12.
4. EXCAVATE PERMANENT STREAM DIVERSION FROM STA. 1033+75 TO STA. 1035+25 TO LIMITS SHOWN ON SECTION B-B SHEET AND INTERIM PLAN (EP 26). [ALSO SEE STREAM RELOCATION PLANS]
5. ACCUMULATED WATER IN THE WORK AREA SHALL BE PUMPED OUT, AS NECESSARY, USING A REMOVABLE PUMPING STATION.
6. PERMANENTLY STABILIZE WORK AREA. [SEE STREAM RELOCATION PLANS]

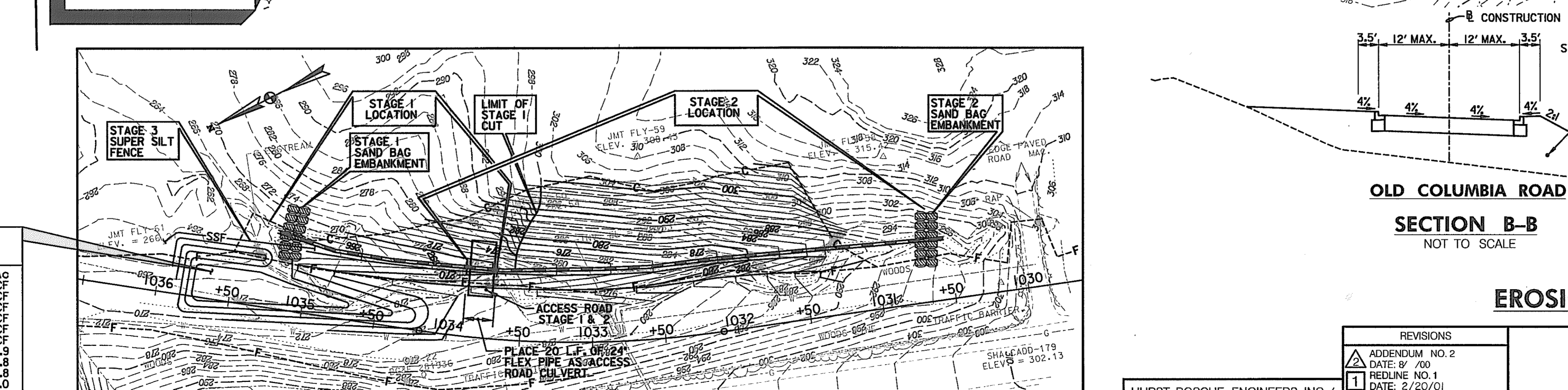
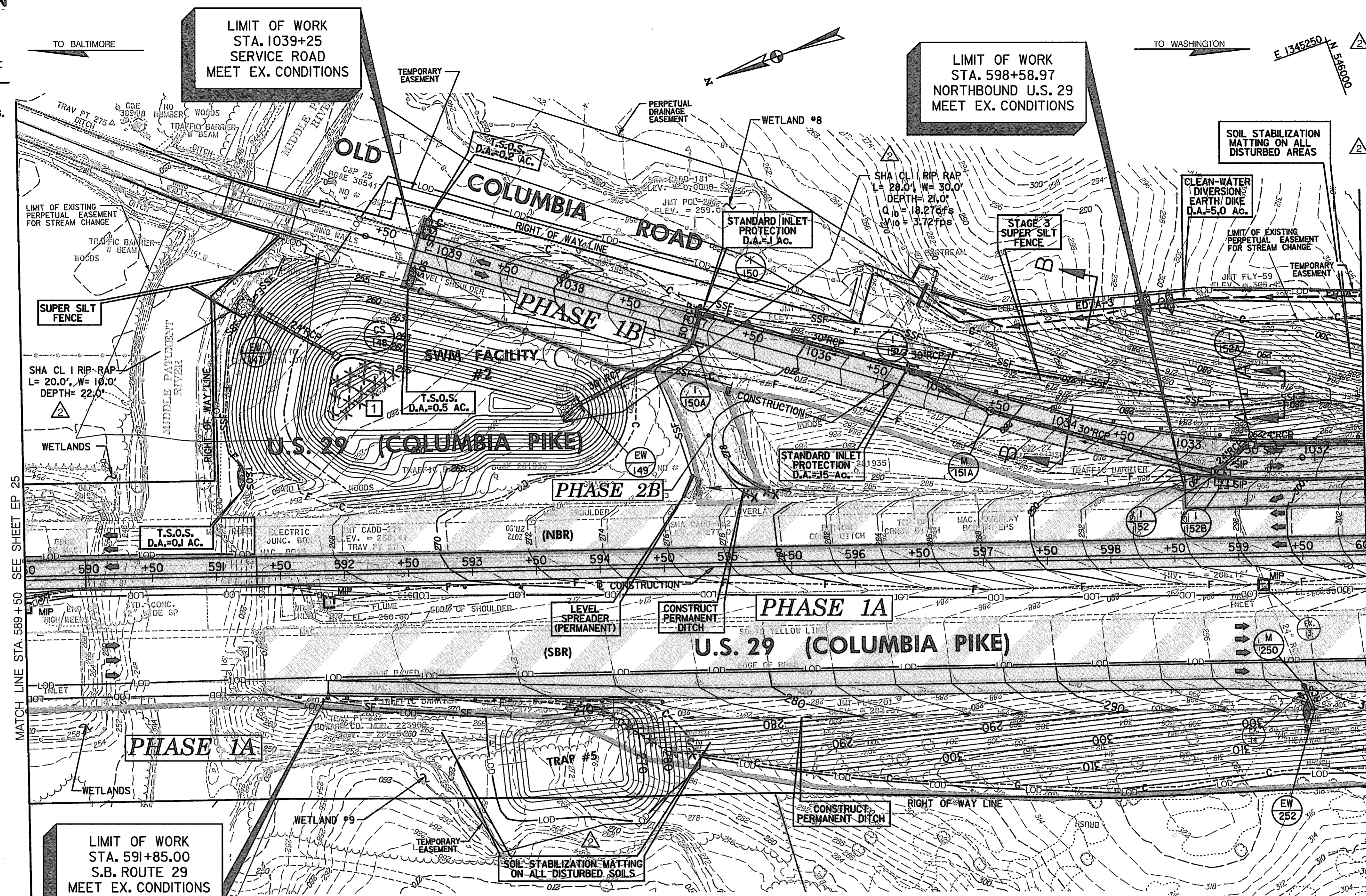
FINAL PHASE - STAGE 2 - SEE SHEET EP26 & EP27

1. REMOVE STAGE 1 SANDBAG EMBANKMENT AND REMOVE 24" FLEX PIPE TO BELOW ACCESS ROAD, ALLOWING THE PIPE TO OUTFALL INTO THE NEWLY STABILIZED STREAM RELOCATION.
2. EXCAVATE TRENCH/INSTALL 24" FLEX PIPE AND INSTALL SANDBAG EMBANKMENT. (24" FLEX PIPE IS TO BE LOCATED ON THE INVERT OF THE LOW FLOW CHANNEL - SEE STREAM RELOCATION PLANS)
3. DIVERT STREAM THROUGH 24" PIPE.
4. EXCAVATE PERMANENT STREAM DIVERSION FROM STA. 1033+75 TO STA. 1035+25 TO LIMITS SHOWN ON SECTION B-B SHEET AND INTERIM PLAN (EP 26). [ALSO SEE STREAM RELOCATION PLANS]
5. ACCUMULATED WATER IN THE WORK AREA SHALL BE PUMPED OUT, AS NECESSARY, USING A REMOVABLE PUMPING STATION.
6. REMOVE ACCESS ROAD, SANDBAG EMBANKMENT, AND 24" FLEX PIPE.
7. PERMANENTLY STABILIZE WORK AREA. [SEE STREAM RELOCATION PLANS]

FINAL PHASE - STAGE 3 - SEE SHEET EP 26 & EP27

1. INSTALL SUPER SILT FENCE AT TOP OF JOINT PLANTED RIPRAP STREAM BANK PROTECTION.
2. BEGIN ROAD FILL OPERATION FOR OLD COLUMBIA RD. COMPLETE AND STABILIZE AS MUCH AS POSSIBLE WITH SEDIMENT TRAP # 12 IN PLACE.
3. INSTALL SUPER SILT FENCE BELOW TRAP #12, AS SHOWN, REMOVE TRAP, AND COMPLETE ROAD FILL.
4. STABILIZE ANY DISTURBED AREAS.

TRAP #12 ST #1 - STONE OUTLET SEDIMENT TRAP	
DRAINAGE AREA	1.12 AC
WET STORAGE REQUIRED	2,016 CF
WET STORAGE PROVIDED	2,121 CF
DRY STORAGE REQUIRED	2,016 CF
DRY STORAGE PROVIDED	2,128 CF
TOTAL STORAGE REQUIRED	4,032 CF
TOTAL STORAGE PROVIDED	4,255 CF
WET STORAGE ELEVATION	264.9
DRY STORAGE ELEVATION	265.8
WEIR CREST ELEVATION	265.8
BOTTOM ELEVATION	264.0
CLEAN OUT ELEVATION	264.5
TOP OF EMBANKMENT ELEV.	266.8
WEIR LENGTH	4.48'
BOTTOM DIMENSIONS	VARIES
SIDE SLOPES	2H



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

- STANDARD INLET PROTECTION**
- STA. 1037+00.00, RIGHT - OLD COLUMBIA ROAD - 1 EACH
 - STA. 1032+70.00, LEFT - OLD COLUMBIA ROAD - 2 EACH
 - STA. 1032+50.00, RIGHT - OLD COLUMBIA RD. 1 EACH
 - STA. 1035+25.00, LEFT - OLD COLUMBIA RD. - 1 EACH

- TEMPORARY STONE OUTLET STRUCTURE**
- STA. 1039+25.00, LEFT AND RIGHT - OLD COLUMBIA ROAD - 2 EACH
 - STA. 591+25.00, LEFT - US 29 - 1 EACH

- TYPE 'A' SOIL STABILIZATION MATTING**
- STA. 1031+60.00 TO STA. 1035+00.00, RIGHT - OLD COLUMBIA RD - 1,444 S.Y.
 - STA. 591+88.94 TO STA. 600+00, RIGHT - US 29 (SBR) - 4900 S.Y.

- CONSTRUCTION PERMANENT DITCH - SEE ROADWAY PLANS**
- STA. 593+25.00 TO STA. 600+00.00, RIGHT - US 29
 - STA. 594+75.00 TO STA. 595+50.00, LEFT - US 29

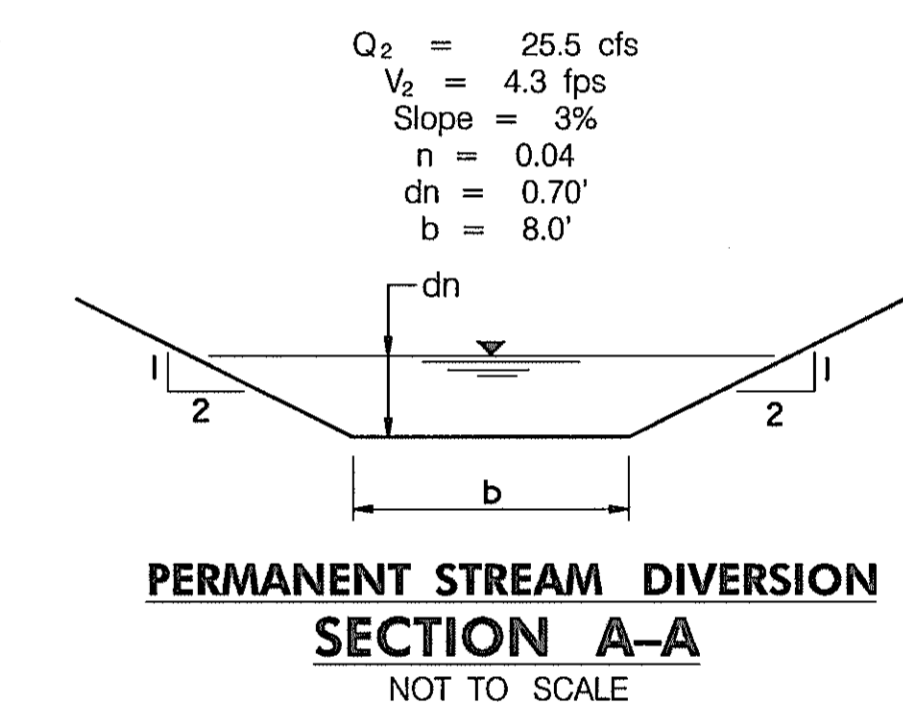
- SANDBAG EMBANKMENT [SEE INTERIM PLAN - THIS SHEET]**
- STA. 1035+00.00, RIGHT - OLD COLUMBIA RD. - 1 EACH (STAGE 1)
 - STA. 1030+75.00, RIGHT - OLD COLUMBIA RD. - 1 EACH (STAGE 2)

- ACCESS ROAD [SEE INTERIM PLAN - THIS SHEET]**
- STA. 1033+75, RIGHT - OLD COLUMBIA ROAD - 1 EACH (STAGES 1&2)

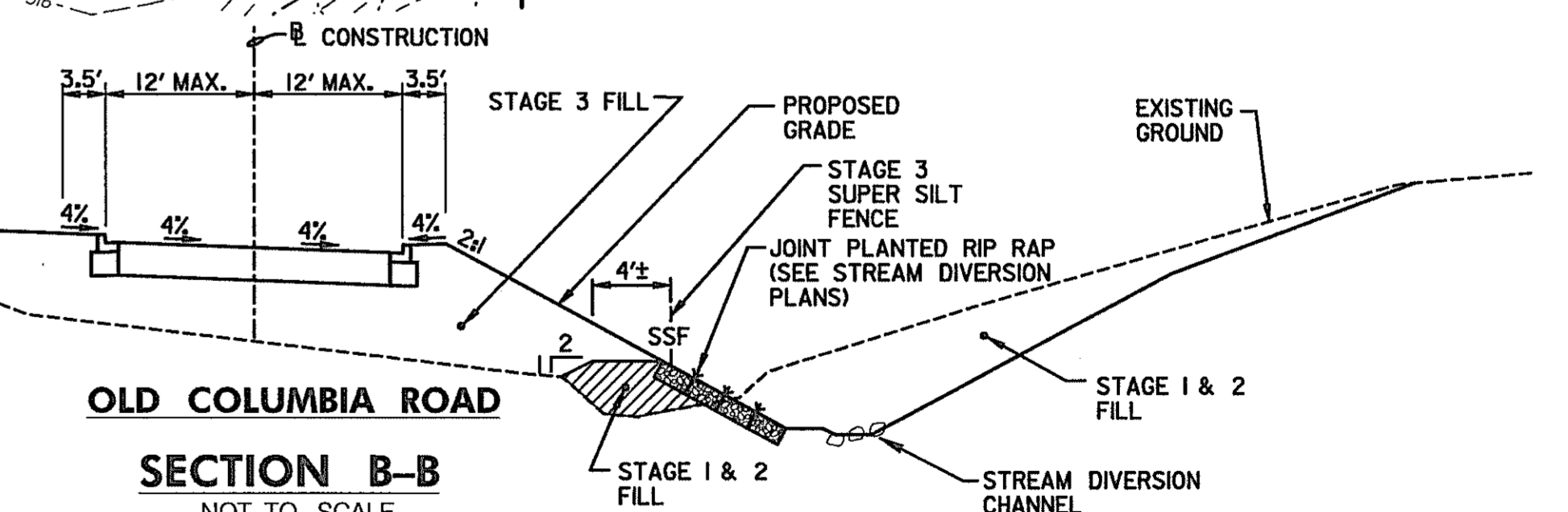
- TEMPORARY 24" FLEX DIVERSION PIPE [SEE INTERIM PLAN - THIS SHEET]**
- STA. 1031+60 TO STA. 1033+85, RIGHT - OLD COLUMBIA ROAD (STAGE 2)
 - STA. 1033+75 TO STA. 1035+25, RIGHT - OLD COLUMBIA ROAD (STAGE 1)

- SUPER SILT FENCE**
- STA. 591+25.00, LEFT - US 29 - 180 L.F.
 - STA. 1031+50.00 TO STA. 1037+20.00, RIGHT - OLD COLUMBIA RD. - 540 L.F. (STAGE 3)

- LEVEL SPREADER**
- STA. 594+70.00, LEFT - US 29 - 1 EACH



PERMANENT STREAM DIVERSION SECTION A-A
NOT TO SCALE



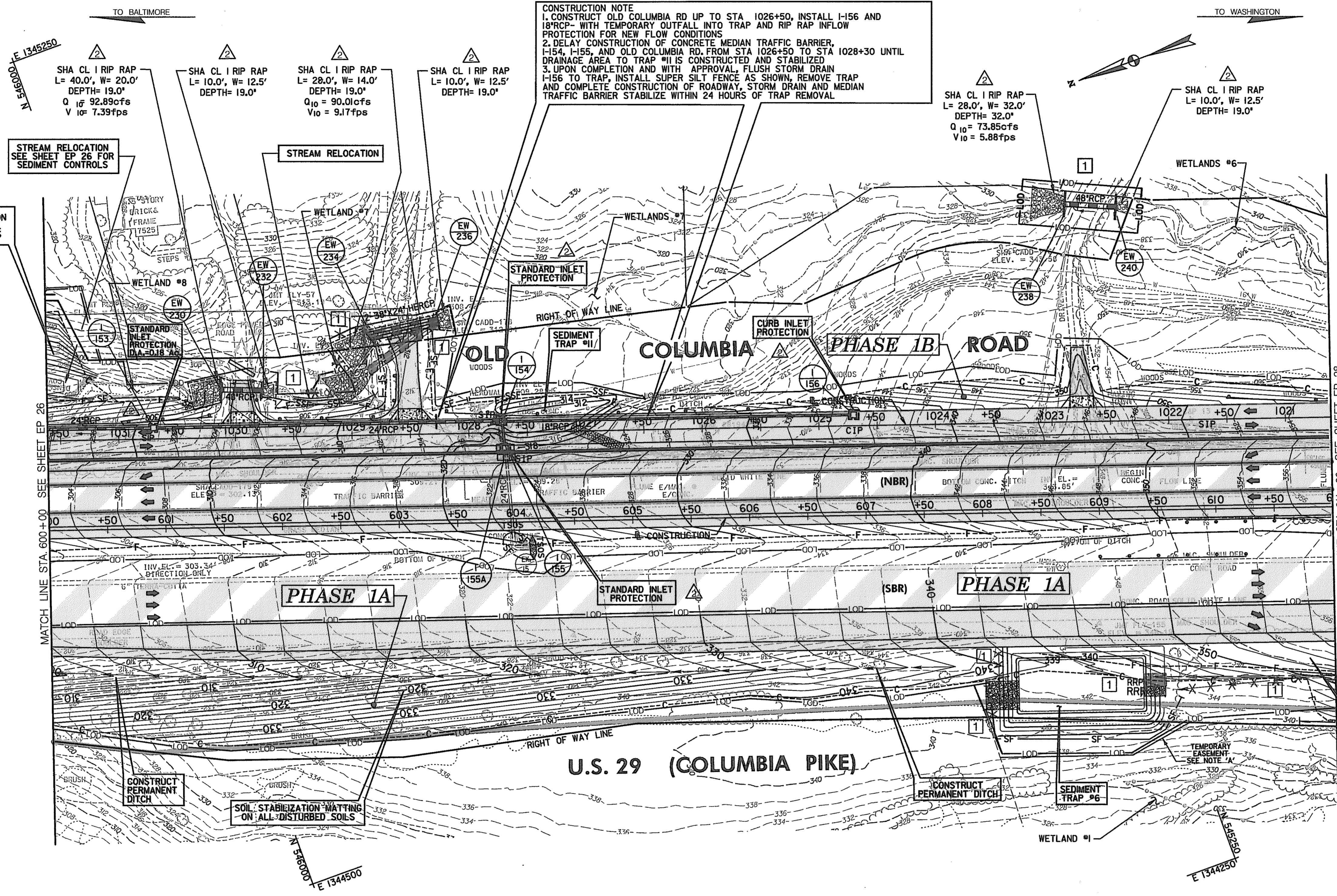
FINAL PHASE EROSION & SEDIMENT CONTROL SECTION B-B
NOT TO SCALE

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
1	ADDENDUM NO. 2 DATE: 8/7/00 REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 180 OF 320
PREL. TRAC. BY FINAL TRAC. BY



CONSTRUCTION NOTE
 1. CONSTRUCT OLD COLUMBIA RD UP TO STA 1026+50, INSTALL I-156 AND I-154 WITH TEMPORARY OUTFALL INTO TRAP AND RIP RAP INFLOW PROTECTION FOR NEW FLOW CONDITIONS
 2. DELAY CONSTRUCTION OF CONCRETE MEDIAN TRAFFIC BARRIER, I-154, I-155, AND OLD COLUMBIA RD, FROM STA 1026+50 TO STA 1028+30 UNTIL DRAINAGE AREA TO TRAP #11 IS CONSTRUCTED AND STABILIZED
 3. UPON COMPLETION AND WITH APPROVAL, FLUSH STORM DRAIN I-156 TO TRAP, INSTALL SUPER SILT FENCE AS SHOWN, REMOVE TRAP AND COMPLETE CONSTRUCTION OF ROADWAY, STORM DRAIN AND MEDIAN TRAFFIC BARRIER STABILIZE WITHIN 24 HOURS OF TRAP REMOVAL

- △ **STANDARD INLET PROTECTION**
 STA. 1030+75.00, RIGHT - OLD COLUMBIA ROAD - 1 EACH
 STA. 1024+75.00, RIGHT - OLD COLUMBIA ROAD - 1 EACH
 STA. 1027+75.00, RIGHT - OLD COLUMBIA ROAD - 1 EACH
 STA. 1027+75.00, LEFT - OLD COLUMBIA ROAD - 1 EACH
- △ **TYPE "A" SOIL STABILIZATION MATTING**
 STA. 600+00 TO STA. 611+00, RIGHT - US 29 - 5,800 S.Y.
- △ **CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS**
 STA. 600+00 TO STA. 611+00, RIGHT - US 29 - 1,100 L.F.
- △ **SUPER SILT FENCE**
 STA. 1026+60 TO STA. 1028+00, RIGHT - OLD COLUMBIA RD. - 150 L.F.
- △ **RIPRAP INFLOW PROTECTION**
 STA. 1026+60.00, LEFT - OLD COLUMBIA ROAD - 1 EACH
- △ **SILT FENCE**
 STA. 1030+15.00 TO STA. 1031+60.00, RIGHT - OLD COLUMBIA RD. - 160 L.F.

SOIL STABILIZATION MATTING ON ALL DISTURBED SOILS

SOIL STABILIZATION MATTING ON ALL DISTURBED SOILS

- LEGEND**
- I DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - II DENOTES TREATMENT FOR FINAL PHASE ONLY
 - * DENOTES TREATMENT FOR TERM OF CONTRACT

**FINAL PHASE
 EROSION & SEDIMENT CONTROL PLAN**

EP 27 OF 32

SCALE: PLAN: 1" = 50'

HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2 DATE: 8/ /00
1	REDLINE NO. 1 DATE: 2/20/01

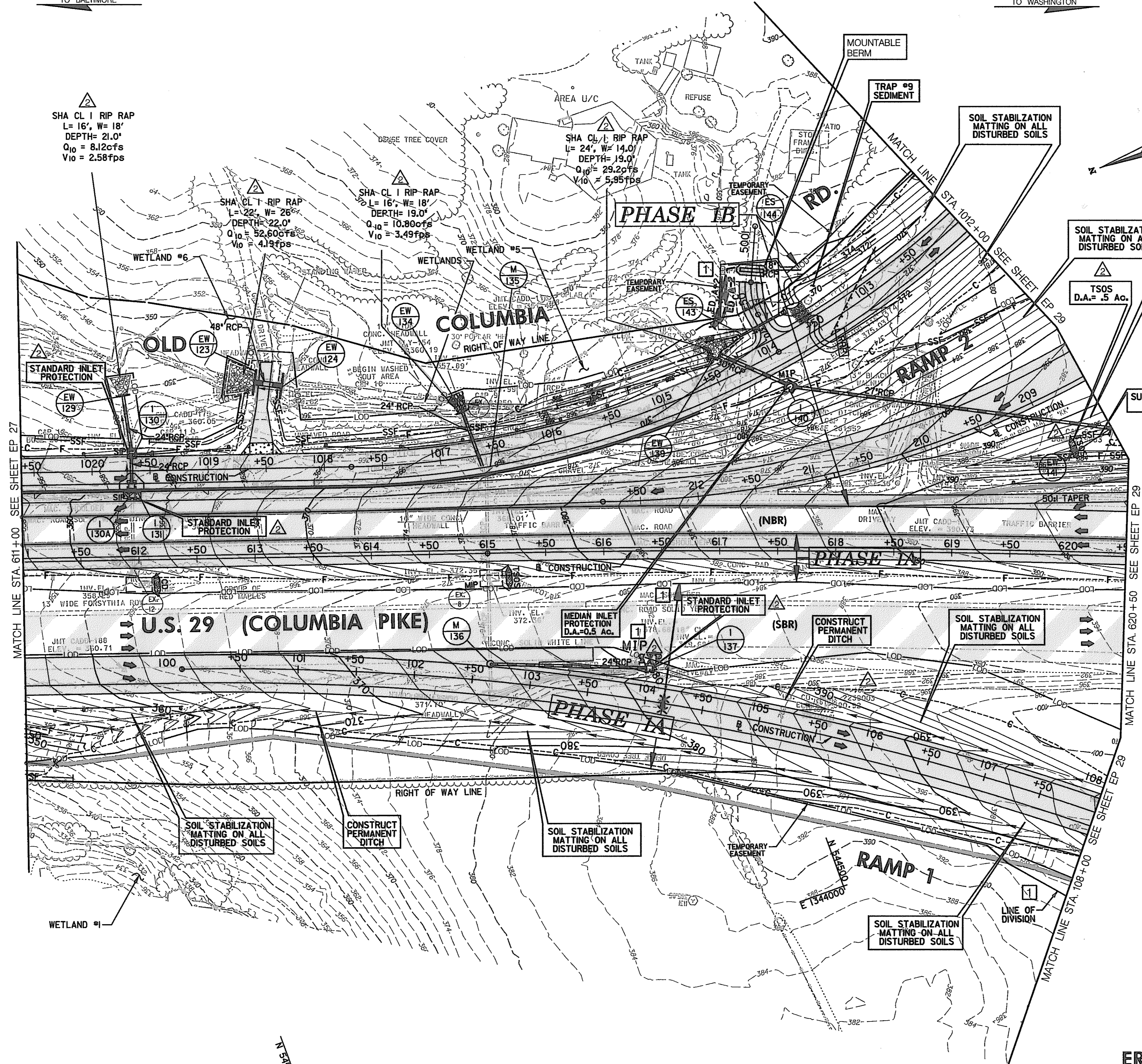
CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 181 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

EP3202520001

E 1345000
N 3435000

TO BALTIMORE

TO WASHINGTON



- TYPE 'A' SOIL STABILIZATION MATTING**
 STA. 208+50.00 TO STA. 212+80.00, RIGHT - RAMP 2 - 2,190 S.Y.
 STA. 208+50.00 TO STA. 210+70.00, LEFT - RAMP 2 - 1,444 S.Y.
- SOIL STABILIZATION MATTING**
 STA. 611+00 TO 615+00, RIGHT - U.S. 29 (SBR) - 1,500 SY
 STA. 102+50 TO 108+00, RIGHT - RAMP 1 - 1,600 SY
 STA. 103+00 TO 108+00, LEFT - RAMP 1 - 1,200 SY
 STA. 1012+00.00 TO STA. 1013+80.00, LEFT & RIGHT - OLD COLUMBIA RD - 1,280 S.Y.
- CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS**
 STA. 104+00 TO STA. 108+00, LEFT - RAMP 1 - 400 L.F.
 STA. 611+00 TO STA. 612+35, LEFT - U.S. 29 - 135 L.F.
 STA. 100+00 TO STA. 108+00, RIGHT - RAMP 1 - 800 L.F.
- SUPER SILT FENCE**
 STA. 619+50 TO STA. 620+50, LEFT - US29 - 100 L.F.
 STA. 208+50 TO STA. 208+80, LEFT - RAMP 2 - 30 L.F.
 STA. 208+50 TO STA. 210+25, RIGHT - RAMP 2 - 145 L.F.
- TEMPORARY STONE OUTLET STRUCTURE**
 STA. 620+25, LEFT - US 29 - 1EA.
- INLET PROTECTION**
 STA. 1019+65, LEFT - OLD COLUMBIA RD. - 2 EA.
 STA. 1019+65, RIGHT - OLD COLUMBIA RD. - 1EA.
 STA. 104+00, LEFT - RAMP 1 - 1EA.

- LEGEND**
- 1 DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - 11 DENOTES TREATMENT FOR FINAL PHASE ONLY
 - * DENOTES TREATMENT FOR TERM OF CONTRACT

**FINAL PHASE
EROSION & SEDIMENT CONTROL PLAN**

EP 28 OF 32

SCALE: PLAN: 1" = 50'

HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

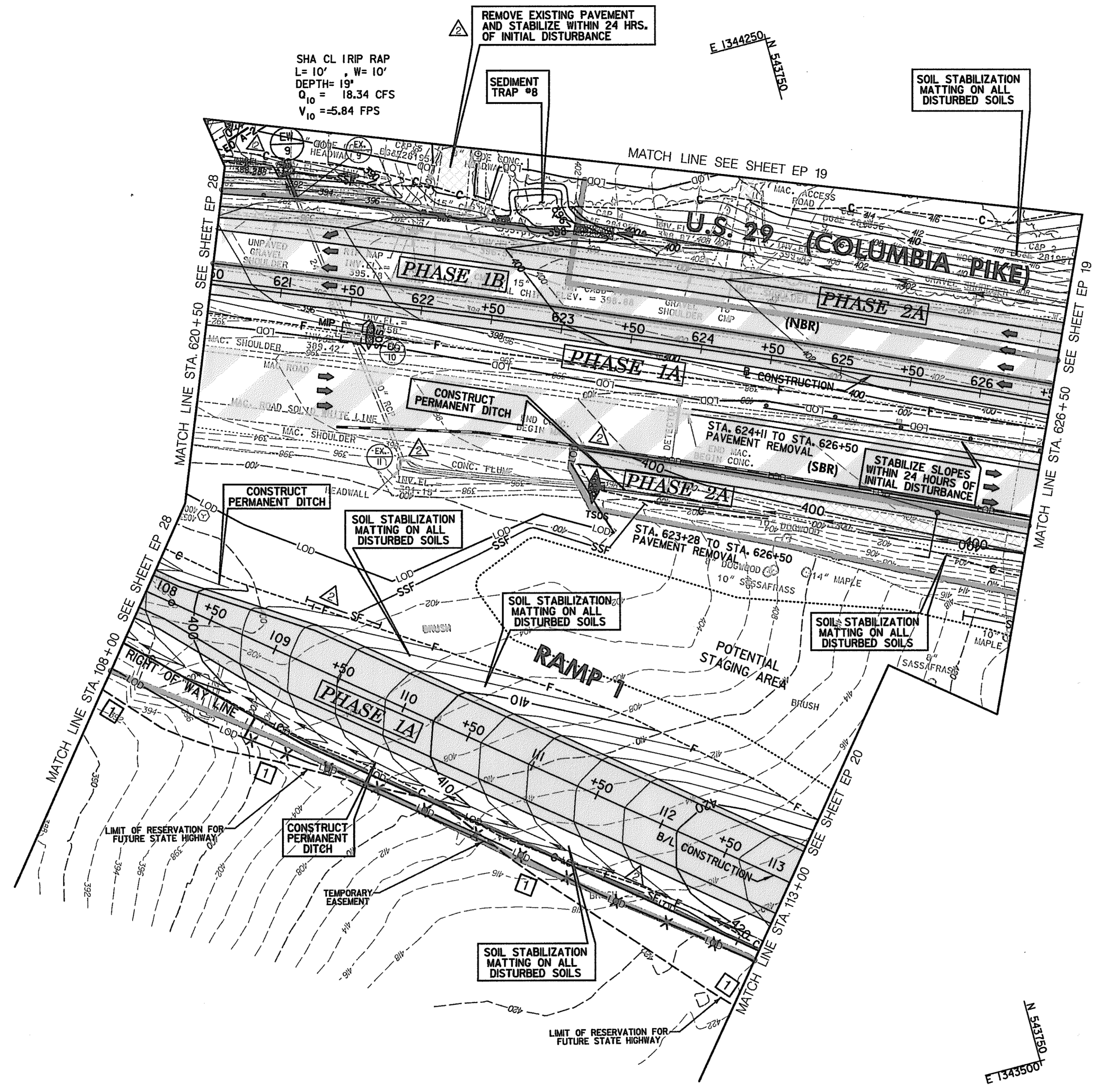
REVISIONS	
2	ADDENDUM NO. 2 DATE: 8/7/00
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	H07415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO. 182		OF 320	

EP3302921X1

TO BALTIMORE

TO WASHINGTON



SHA CL IRIP RAP
 L= 10' , W= 10'
 DEPTH= 19'
 Q₁₀ = 18.34 CFS
 V₁₀ =5.84 FPS

REMOVE EXISTING PAVEMENT
 AND STABILIZE WITHIN 24 HRS.
 OF INITIAL DISTURBANCE

SEDIMENT
 TRAP #8

SOIL STABILIZATION
 MATTING ON ALL
 DISTURBED SOILS

CONSTRUCT
 PERMANENT DITCH

SOIL STABILIZATION
 MATTING ON ALL
 DISTURBED SOILS

SOIL STABILIZATION
 MATTING ON ALL
 DISTURBED SOILS

SOILS STABILIZATION
 MATTING ON ALL
 DISTURBED SOILS

CONSTRUCT
 PERMANENT DITCH

SOIL STABILIZATION
 MATTING ON ALL
 DISTURBED SOILS

N 54°30'00"
 E 134°35'00"

SCALE: PLAN: 1" = 50'

TYPE 'A' SOIL STABILIZATION MATTING

STA. 108+00 TO STA 113+00, RIGHT - RAMP 1 - 1,020 SY
 STA. 108+00 TO STA 113+00, LEFT - RAMP 1 - 1,210 SY
 STA. 622+75.00 TO STA. 626+50.00, LEFT - US 29 - 1,480 S.Y.

11 IA
 11 IA
 11 IB

CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS

STA. 108+00 TO STA 113+00, RIGHT - RAMP 1 - 500 L.F.
 STA. 108+00 TO STA 108+50, LEFT - RAMP 1 - 50 L.F.
 STA. 623+50 TO STA. 626+50.00, RIGHT - U.S. 29 - 310 L.F.

11 IA
 11 IA
 11 2A

SUPER SILT FENCE

STA. 620+50 TO STA 622+00, LEFT - US 29 - 150 L.F.
 STA. 108+00 TO STA 108+50, LEFT - RAMP 1 - 50 L.F.

11 IB
 11 IA

SILT FENCE

STA. 109+00 TO STA109+60, LEFT - RAMP 1 - 60 L.F.
 STA. 111+60 TO STA 112+85, RIGHT - RAMP 1 - 125 L.F.

11 IA
 11 IA

LEGEND

- 11 DENOTES TREATMENT FOR INITIAL PHASE ONLY
- 11 DENOTES TREATMENT FOR FINAL PHASE ONLY
- * DENOTES TREATMENT FOR TERM OF CONTRACT

**FINAL PHASE
 EROSION & SEDIMENT CONTROL PLAN**

EP 29 OF 32

HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
2	ADDENDUM NO. 2 DATE: 8/ /00
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
CONT. NO. HO7415170	F.A.P. NO. SEE TITLE SHEET
PREL. TRAC. BY	FINAL TRAC. BY
SHEET NO. 183 OF 320	

EP3402231261

TO BALTIMORE

TO WASHINGTON

TYPE 'A' SOIL STABILIZATION MATTING
 STA. 506+50.00 TO STA. 510+50.00, RIGHT - RAMP 5 - 1,890 S.Y.
 STA. 307+50.00 TO STA. 314+16.00, RIGHT - RAMP 3 - 867 S.Y.
 STA. 630+00.00 TO STA. 637+50.00, RIGHT - US 29 (NBR) - 1,060 S.Y.
 STA. 504+00.00 TO STA. 506+50.00, LEFT - RAMP 5 - 1,144 S.Y.

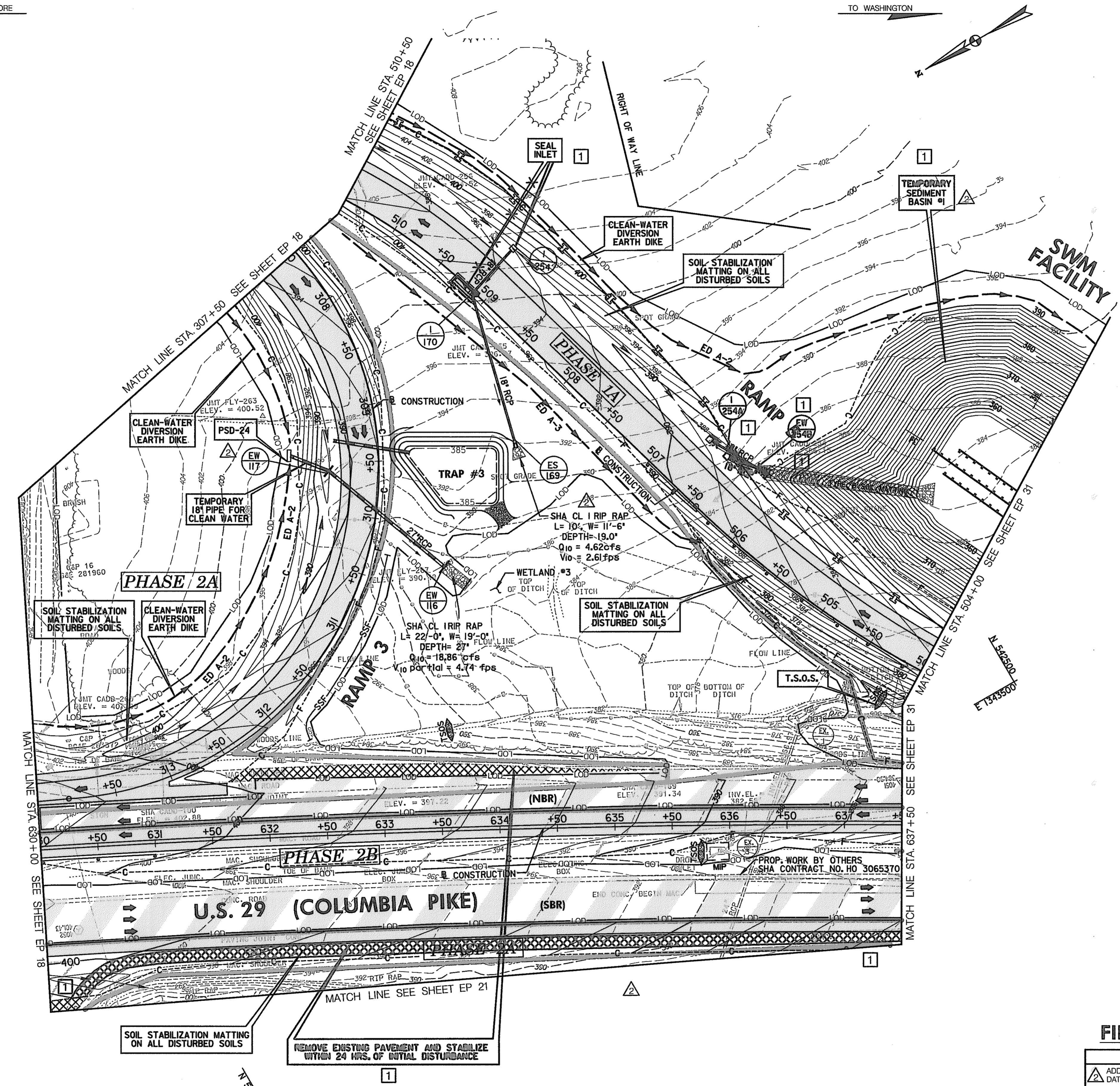
IA
 2A
 2A
 2A

SEAL INLET
 STA. 509+15.00, LEFT & RIGHT - RAMP 5 - 2 EACH

IA

TEMPORARY STONE OUTLET STRUCTURE
 STA. 504+20.00, LEFT - RAMP 5 - 1 EACH

IA



SEQUENCE OF CONSTRUCTION FOR RAMP 3 & PROPOSED 27" RCP

INITIAL PHASE

NOTE: THE FOLLOWING SEQUENCE IS TO OCCUR WITH THE EARTH DIKES ALONG RAMP 5 (PHASE 1A) IN PLACE

1. CLEAR & GRUB FOR CLEAN-WATER DIVERSION EARTH DIKES, CULVERT AND TRAP #3.
2. INSTALL 27" RCP CULVERT, ENDWALLS AND OUTLET PROTECTION.
3. INSTALL PSD 24 AND CONNECT TO 27" RCP.
4. INSTALL CLEAN-WATER DIVERSION EARTH DIKES.
5. INSTALL TRAP #3 AND 18" TEMPORARY PIPE.
6. CONSTRUCT PERMANENT DITCHES STARTING FROM 18" TEMPORARY PIPE AND IN EACH DIRECTION CONTINUE EXCAVATION IN A MANNER THAT MAINTAINS POSITIVE DRAINAGE TO THE TEMPORARY PIPE & TRAP.

FINAL PHASE

1. UPON STABILIZATION OF PERMANENT DITCHES AND ROADWAY, REMOVE CLEAN-WATER DIVERSION, PSD 24, TEMPORARY 18" PIPE AND TRAP #3
2. REGRADE DITCH TO PERMANENT DITCH GRADES AS NECESSARY TO ALLOW FLOW TO EW-17
3. STABILIZE ANY REMAINING DISTURBED AREAS.

LEGEND

- I DENOTES TREATMENT FOR INITIAL PHASE ONLY
- II DENOTES TREATMENT FOR FINAL PHASE ONLY
- * DENOTES TREATMENT FOR TERM OF CONTRACT

FINAL EROSION & SEDIMENT CONTROL PLAN

EP 30 OF 32

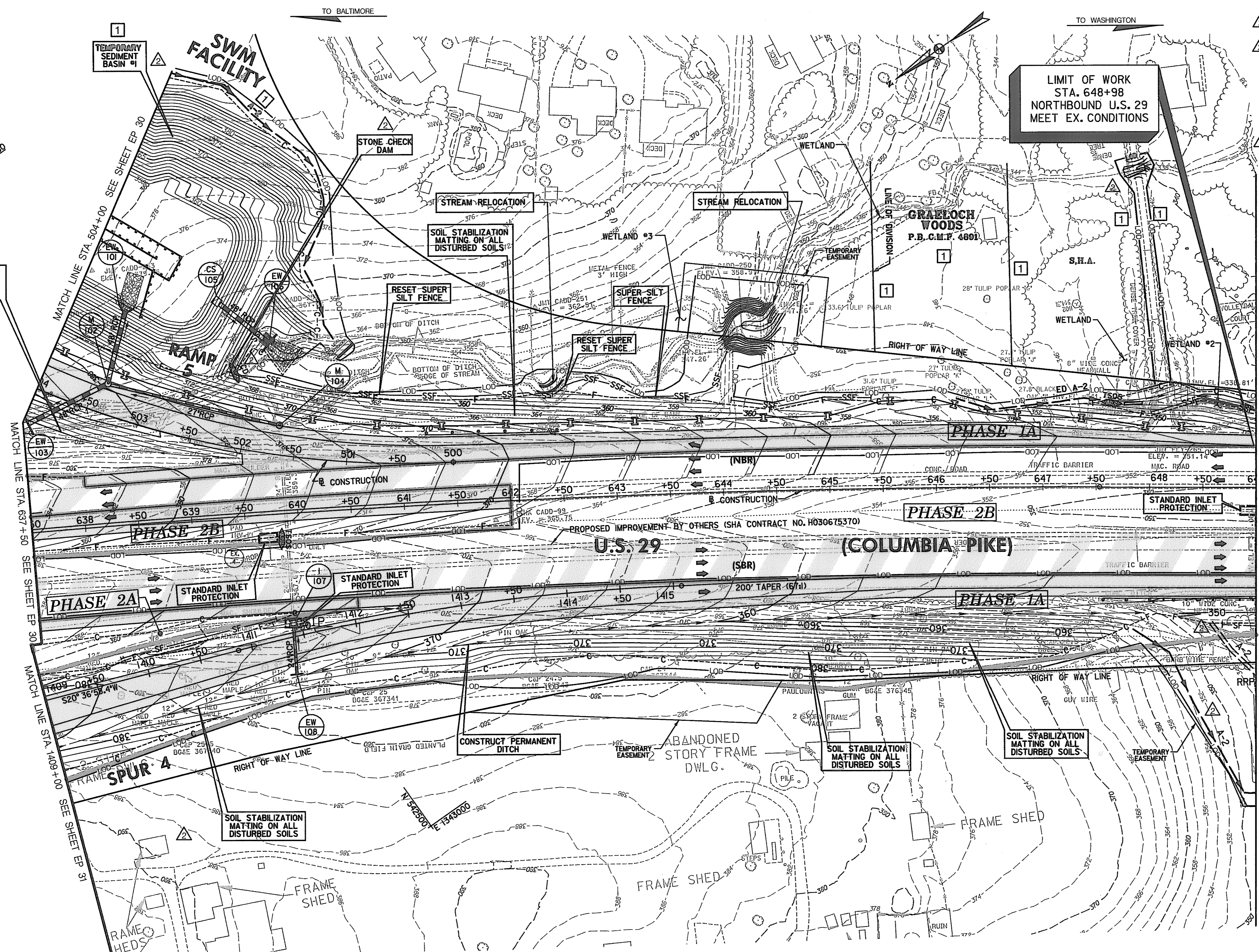
REVISIONS	
2	ADDENDUM NO. 2 DATE: 8/7/00
1	REDLINE NO. 1 DATE: 2/20/01

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 184 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1" = 50'



- TYPE 'A' SOIL STABILIZATION MATTING**
- △ STA. 502+50.00 TO STA. 504+00.00, LEFT - RAMP 5 - 750 S.Y.
- △ STA. 500+00.00 TO STA. 502+25.00, RIGHT - RAMP 5 - 1,300 S.Y.
- △ STA. 641+50.00 TO STA. 644+00.00, LEFT - US29 - 850 S.Y.
- TEMPORARY STONE OUTLET STRUCTURE**
- △ STA. 646+45.00, LEFT - US 29 (COLUMBIA PIKE) - 1 EACH
- △ STA. 502+30.00, RIGHT - RAMP 5 - 1 EACH
- TYPE 'A' SOIL STABILIZATION MATTING**
- △ STA. 1409+00 TO 1412+50, LEFT - SPUR 4 - 1,215 SY
- △ STA. 1409+00 TO 1415+00, RIGHT - SPUR 4 - 2,810 SY
- △ STA. 643+50 TO 649+00, RIGHT - US 29 (SBR) - 3,000 SY
- STANDARD INLET PROTECTION**
- △ STA. 1411+45, LEFT - SPUR 4 - 1 EACH
- SUPER SILT FENCE**
- △ STA. 647+65 TO 649+00, LEFT - US 29 - 135 L.F.
- RESET SUPER SILT FENCE**
- △ STA. 500+50 TO STA 502+20, RIGHT - RAMP 5 - 170 L.F.
- △ STA. 642+45 TO STA 642+65, LEFT - US29 - 45 L.F.
- STONE CHECK DAM**
- △ STA. 502+25, RIGHT - RAMP 5 - 1 EACH
- CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS**
- △ STA. 637+50.00 TO STA. 649+00.00, RIGHT, US29

1 TEMPORARY SEDIMENT BASIN TO BE CONVERTED INTO STORMWATER MANAGEMENT POND

△ INSPECTION CHECKLIST FOR INSPECTION OF SEDIMENT BASIN TO BE CONVERTED INTO STORMWATER MANAGEMENT POND

CHECKLIST FOR CONVERSION OF TEMPORARY SEDIMENT BASIN #1 INTO SWM POND #1.

SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECKLIST FOR SWM PONDS.				
STAGE	DEVELOPER'S APPROVAL	WMA INSPECTOR'S APPROVAL	INITIALS	
			DATE	DATE
1. PRECONSTRUCTION MEETING*				
2. SEDIMENT CONTROL*				
3. CLEARING AND GRUBBING				
4. DEWATERING*				
5. CORE TRENCH EXCAVATION AND DEWATERING				
6. FILTER DIAPHRAGM w/6" PVC PIPE (SCH.80)				
7. CONSTRUCTION OF PRINCIPAL SPILLWAY:				
A. PIPE ASSEMBLED IN PLACE ON ACCEPTABLE SUBGRADE*				
B. RISER FOOTING SUBGRADE, FORMS AND REBAR*				
C. FORMS SET AND REBAR PLACED FOR WALLS*				
8. BACKFILLING PRINCIPAL SPILLWAY				
9. CONSTRUCTION OF EMBANKMENT				
10. CONSTRUCTION OF EMERGENCY SPILLWAY				
11. CHANNELIZATION WORK AND OUTLET PROTECTION				
12. VEGETATIVE STABILIZATION				
13. FINAL INSPECTION				

NOTE: SEE CONSTRUCTION SPECIFICATIONS FOR DETAILED REQUIREMENTS

* MANDATORY NOTIFICATION/INSPECTION OF WMA INSPECTOR PRIOR TO PROCEEDING WITH NEXT STAGE CALL (410) 631-3510 PRIOR TO 12:00 NOON ON THE PRECEDING DAY TO ARRANGE FOR NOTIFICATION/INSPECTION.

SOIL STABILIZATION MATTING ON ALL DISTURBED SOILS

LIMIT OF WORK STA. 648+98 NORTHBOUND U.S. 29 MEET EX. CONDITIONS

SOIL STABILIZATION MATTING ON ALL DISTURBED SOILS

SOIL STABILIZATION MATTING ON ALL DISTURBED SOILS

SOIL STABILIZATION MATTING ON ALL DISTURBED SOILS

- LEGEND**
- I DENOTES TREATMENT FOR INITIAL PHASE ONLY
 - II DENOTES TREATMENT FOR FINAL PHASE ONLY
 - III DENOTES TREATMENT FOR TERM OF CONTRACT

FINAL EROSION & SEDIMENT CONTROL PLAN EP 31 OF 32

REVISIONS

2	ADDENDUM NO. 2 DATE: 8/00
1	REDLINE NO. 1 DATE: 2/20/01

HURST-ROSCH ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683

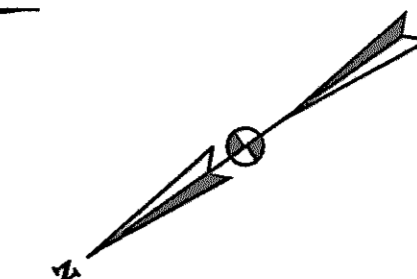
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 185 OF 320
PREL. TRAC. BY FINAL TRAC. BY

SCALE: PLAN: 1" = 50'

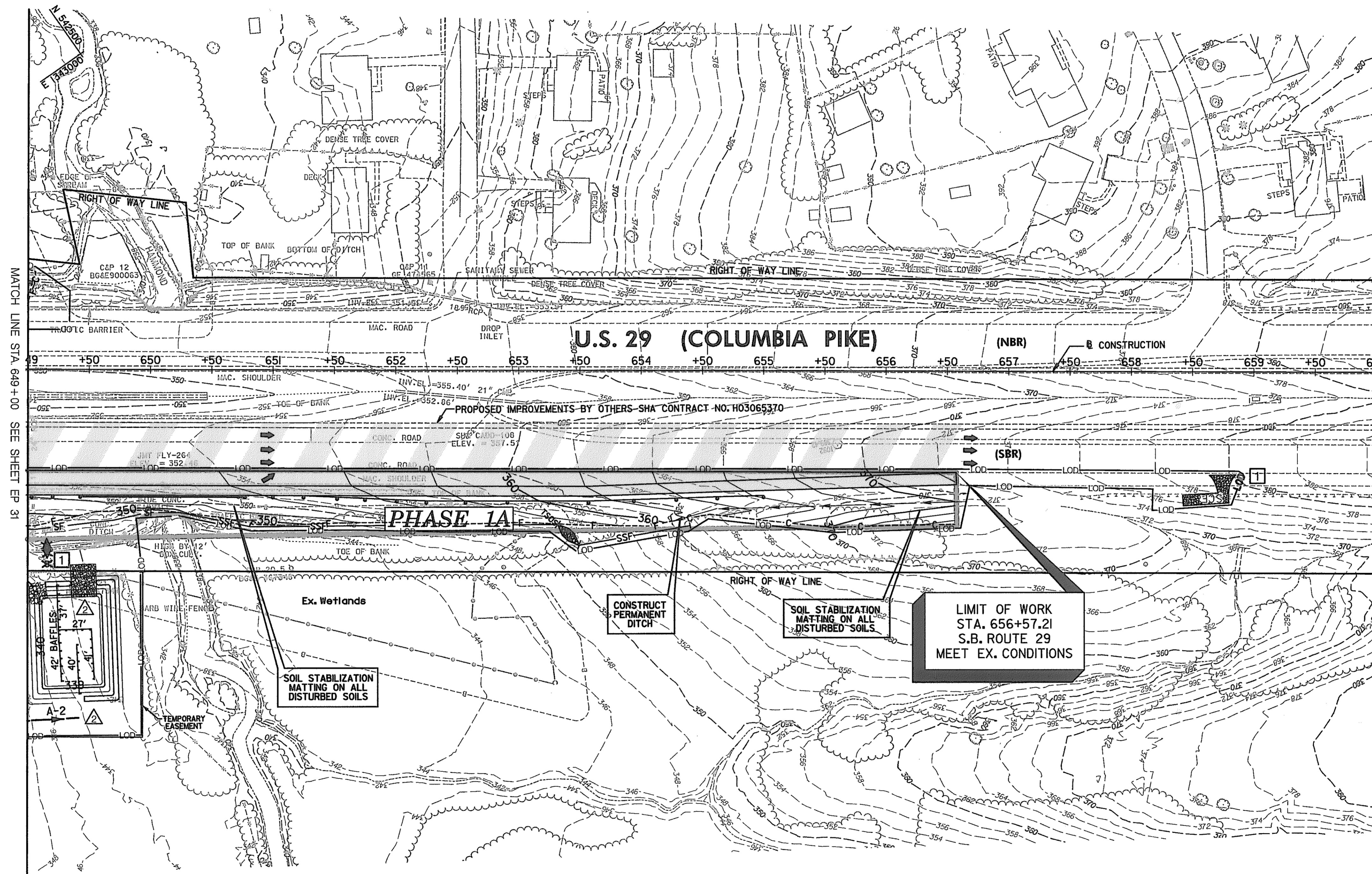
TO BALTIMORE

TO WASHINGTON



TYPE 'A' SOIL STABILIZATION MATTING
STA. 649+00 TO 656+50, RIGHT US 29 (SBR) - 2,010 SY [I] IA

CONSTRUCT PERMANENT DITCH - SEE ROADWAY PLANS
STA. 654+00.00 TO 656+55.00, RIGHT US 29 [I] IA



MATCH LINE STA. 649+00 SEE SHEET EP 31

LEGEND

- [I] DENOTES TREATMENT FOR INITIAL PHASE ONLY
- [II] DENOTES TREATMENT FOR FINAL PHASE ONLY
- [*] DENOTES TREATMENT FOR TERM OF CONTRACT

FINAL EROSION & SEDIMENT CONTROL PLAN

EP 32 OF 32

SCALE: PLAN: 1" = 50'

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
1	ADDENDUM NO. 2 DATE: 8/7/00 REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

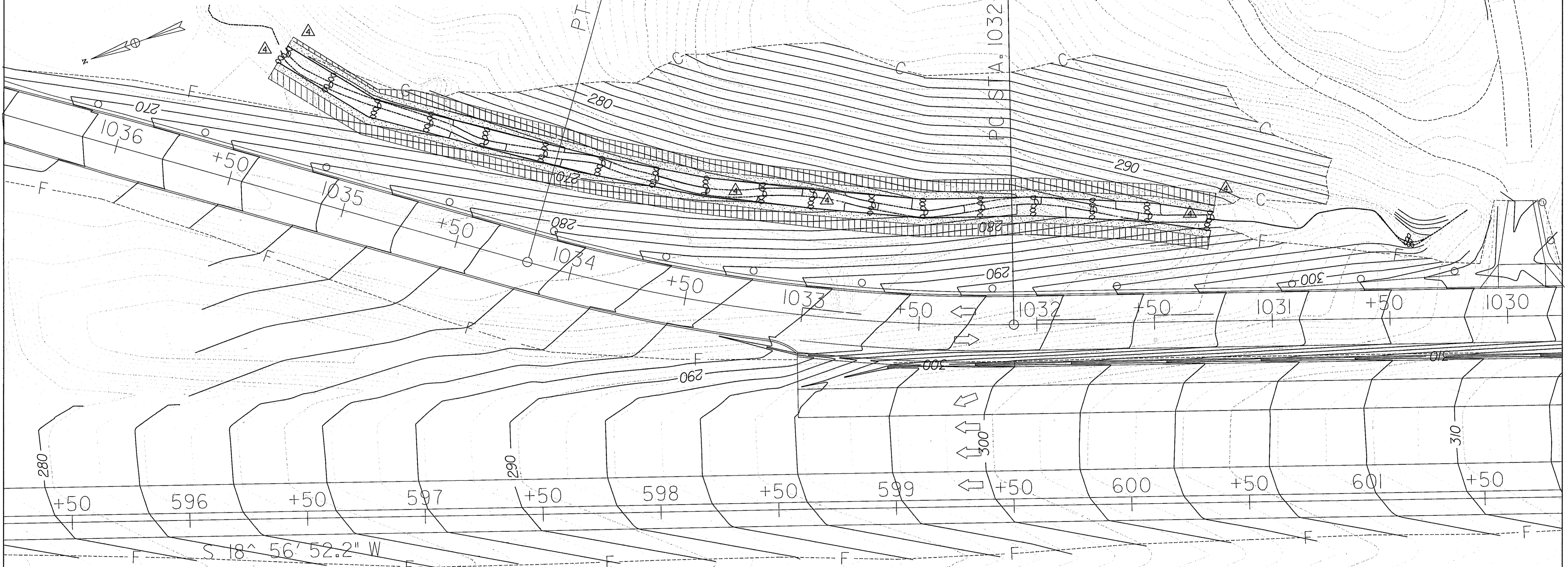
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 186 OF 320
PREL. TRAC. BY FINAL TRAC. BY

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SEQUENCE OF CONSTRUCTION FOR PROPOSED STREAM RELOCATION

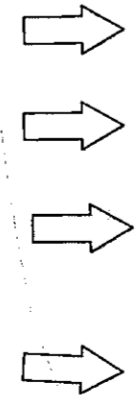
- 1.) INSTALL SEDIMENT CONTROL DEVICES AS SHOWN ON SHEET EP 26 AND 27 OF 32
- 2.) CONSTRUCT STREAM CHANNEL RELOCATION WITH RIPRAP EMBANKMENT PROTECTION AS DETAILED
- 3.) CONSTRUCT A SANDBAG DIVERSION UPSTREAM TO PREVENT WATER FLOW INTO THE NEW STREAM CHANNEL DURING CONSTRUCTION.
- 4.) PLACE A SANDBAG DIVERSION DOWNSTREAM TO PREVENT THE WATER FROM BACKWASHING INTO CONSTRUCTION SITE.
- 5.) PLACE HABITAT/GRADE CONTROL STRUCTURES AS SPECIFIED.
- 6.) REMOVE TEMPORARY SANDBAG DIVERSIONS AND REDIRECT STREAM FLOW INTO THE NEW STREAM CHANNEL.
- 6.) STREAM IS A CLASS I STREAM. IN-STREAM WORK IS PROHIBITED FROM MARCH 1 TO JUNE 15.

NOTES:
SEE ST 2 OF 9 FOR STATION AND OFFSET OF
IN-STREAM HABITAT/GRADE CONTROL STRUCTURES.



LEGEND

- JOINT PLANTED RIP-RAP
- RIP-RAP CLEAR ZONE
- ROCK DROP STRUCTURE "RIGHT"
(SEE DETAIL SHEET ST 5 OF 9 AND TYP. SECTION SHEET ST 4 OF 9)
- ROCK DROP STRUCTURE "CENTER"
(SEE DETAIL SHEET ST 5 OF 9 AND TYP. SECTION SHEET ST 4 OF 9)
- ROCK DROP STRUCTURE "LEFT"
(SEE DETAIL SHEET ST 5 OF 9 AND TYP. SECTION SHEET ST 4 OF 9)



SCALE: 1"=20'

HURST-ROSCH ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
	ADDENDUM NO. 4 DATE: 9/7/00

STREAM RELOCATION PLAN
GRADING PLAN

ST 1 OF 9

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 187 OF 320
PREL. TRAC. BY FINAL TRAC. BY

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Instream Habitat/Grade Control Structures			
Station	Off-set (right)	Structure Type	Top Elevation of Structure
1030+41	32'	△ROCK DROP STRUCTURE, "CENTER"	293.7'
1031+25	44'	△ROCK DROP STRUCTURE, "CENTER"	285.3'
1031+50	45'	△ROCK DROP STRUCTURE, "LEFT"	282.5'
1031+75	48'	△ROCK DROP STRUCTURE, "CENTER"	280.0'
1032+00	52'	△ROCK DROP STRUCTURE, "RIGHT"	277.8'
1032+25	50'	△ROCK DROP STRUCTURE, "CENTER"	276.3'
1032+50	47'	△ROCK DROP STRUCTURE, "LEFT"	275.0'
1032+75	49'	△ROCK DROP STRUCTURE, "CENTER"	273.7'
1033+00	52'	△ROCK DROP STRUCTURE, "RIGHT"	272.2'
1033+25	49'	△ROCK DROP STRUCTURE, "CENTER"	271.0'
1033+50	46'	△ROCK DROP STRUCTURE, "LEFT"	269.6'
1033+75	47'	△ROCK DROP STRUCTURE, "CENTER"	268.5'
1034+00	48'	△ROCK DROP STRUCTURE, "RIGHT"	267.4'
1034+25	46'	△ROCK DROP STRUCTURE, "CENTER"	266.3'
1034+50	44'	△ROCK DROP STRUCTURE, "LEFT"	265.6'
1034+75	46'	△ROCK DROP STRUCTURE, "CENTER"	266.0'
1035+00	46'	△ROCK DROP STRUCTURE, "RIGHT"	264.5'
1035+25	50'	△ROCK DROP STRUCTURE, "CENTER"	263.1'
1035+40	54'	△ROCK DROP STRUCTURE, "RIGHT"	261.4'

△

NOTE: SET THE TOP OF THE BASE ROCK (PGL) FOR ALL STRUCTURES AT THE PROPOSED STREAM INVERT.

ST 2 OF 9

HURST-ROSCHÉ ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
△ ADDENDUM NO. 4
△ DATE: 9/7/00

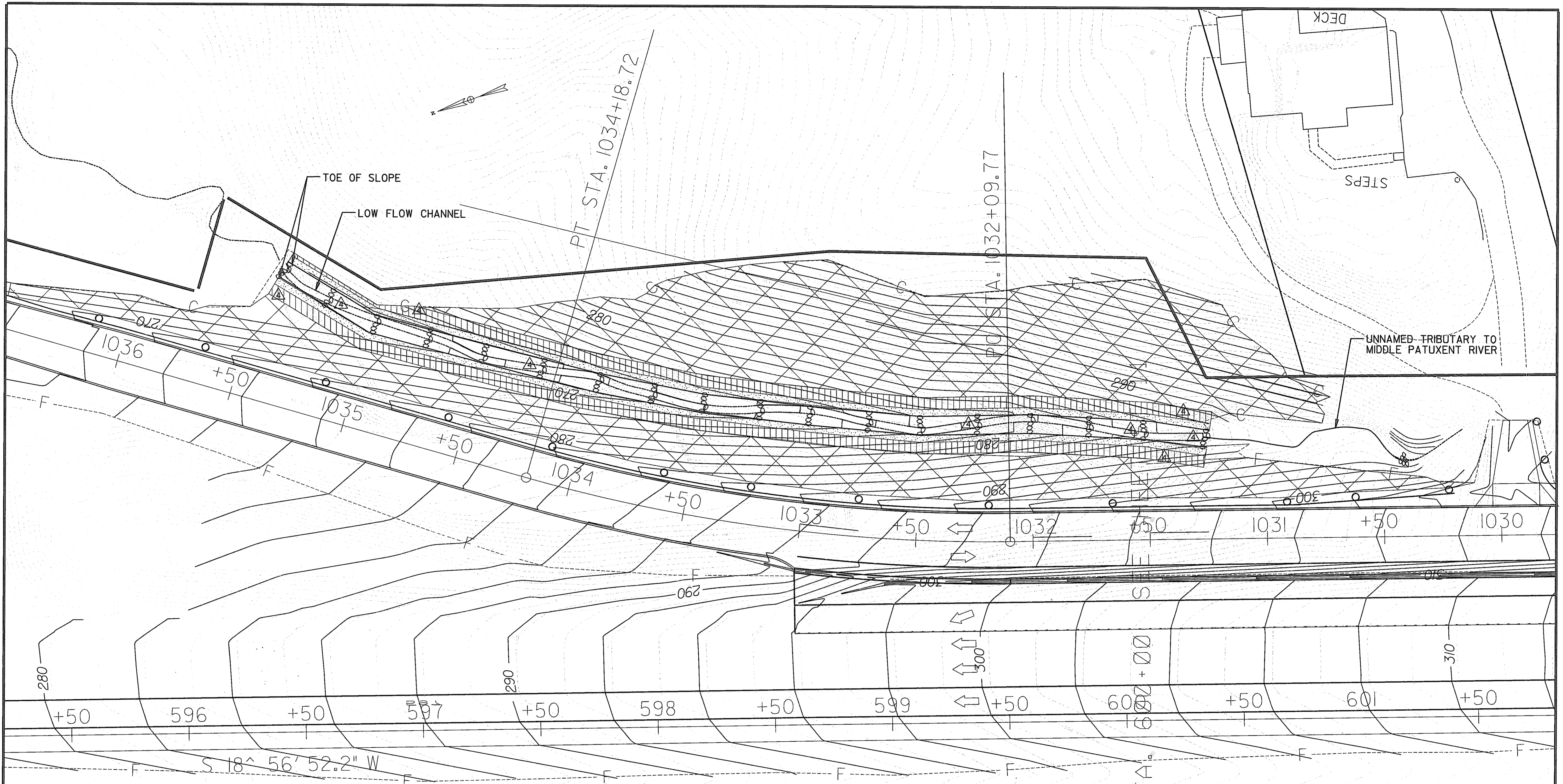
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

△

CONT. NO. HD7415170 F.A.P. NO. SEE TITLE SHEET NO. 188 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

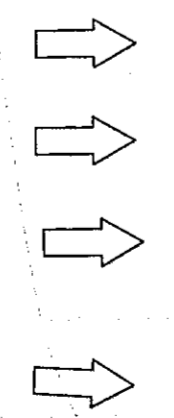
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LEGEND	
	REFORESTATION
	JOINT PLANTED RIP-RAP
	△ RIP-RAP CLEAR ZONE
	△ ROCK DROP STRUCTURE "RIGHT" (SEE DETAIL SHEET ST 5 OF 9 AND TYP. SECTION SHEET ST 4 OF 9)
	△ ROCK DROP STRUCTURE "CENTER" (SEE DETAIL SHEET ST 5 OF 9 AND TYP. SECTION SHEET ST 4 OF 9)
	△ ROCK DROP STRUCTURE "LEFT" (SEE DETAIL SHEET ST 5 OF 9 AND TYP. SECTION SHEET ST 4 OF 9)

SCALE: 1" = 20'



LINE STA. 600+00

STREAM RELOCATION PLAN
LANDSCAPE PLAN

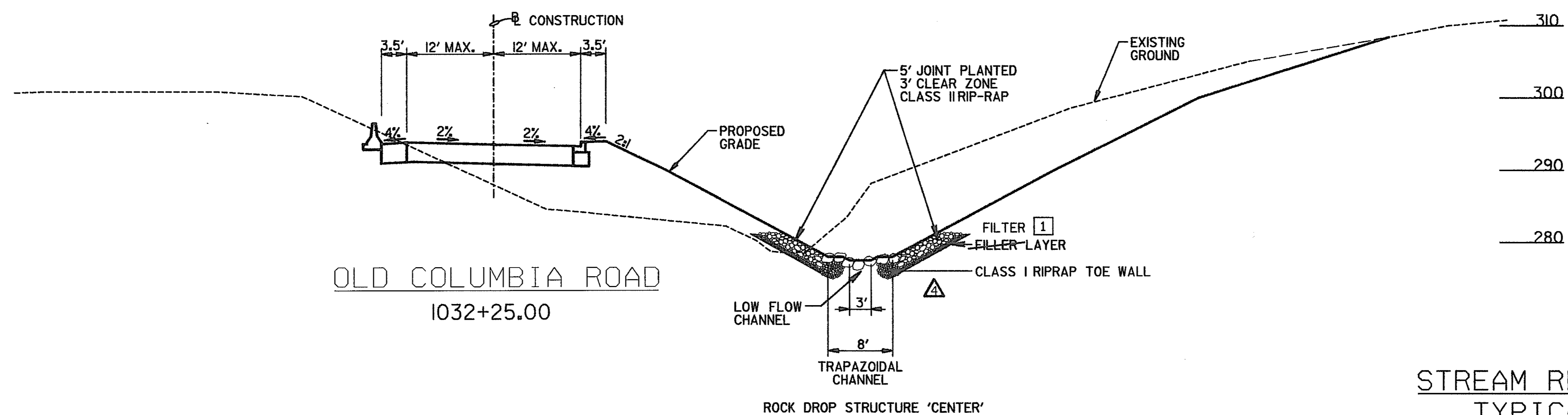
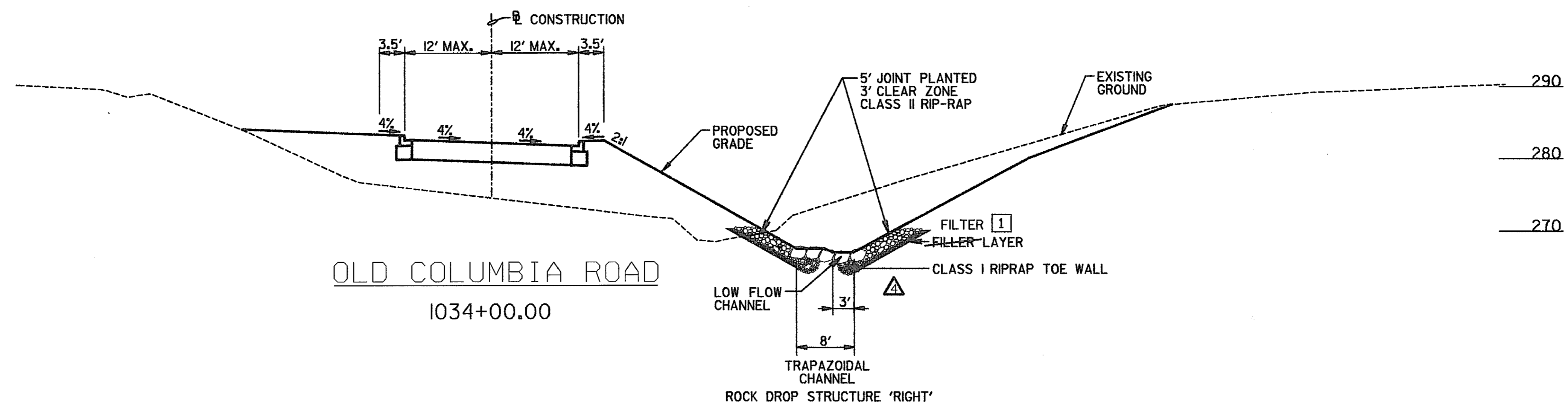
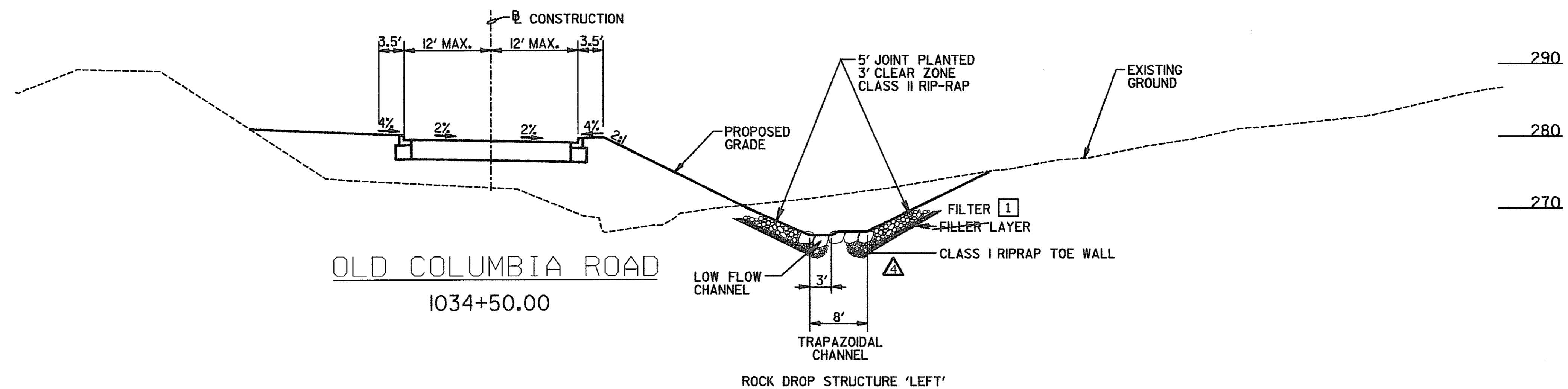
ST 3 OF 9

HURST-ROSCHE ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1883

REVISIONS
△ ADDENDUM NO. 4 DATE: 9/7/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
CONT. NO. H07415170	F.A.P. NO. SEE TITLE SHEET NO. 189 OF 320
PREL. TRAC. BY	FINAL TRAC. BY

DATE PLOTTED: 10/27/99



SCALE: 1IN. = 10FT.

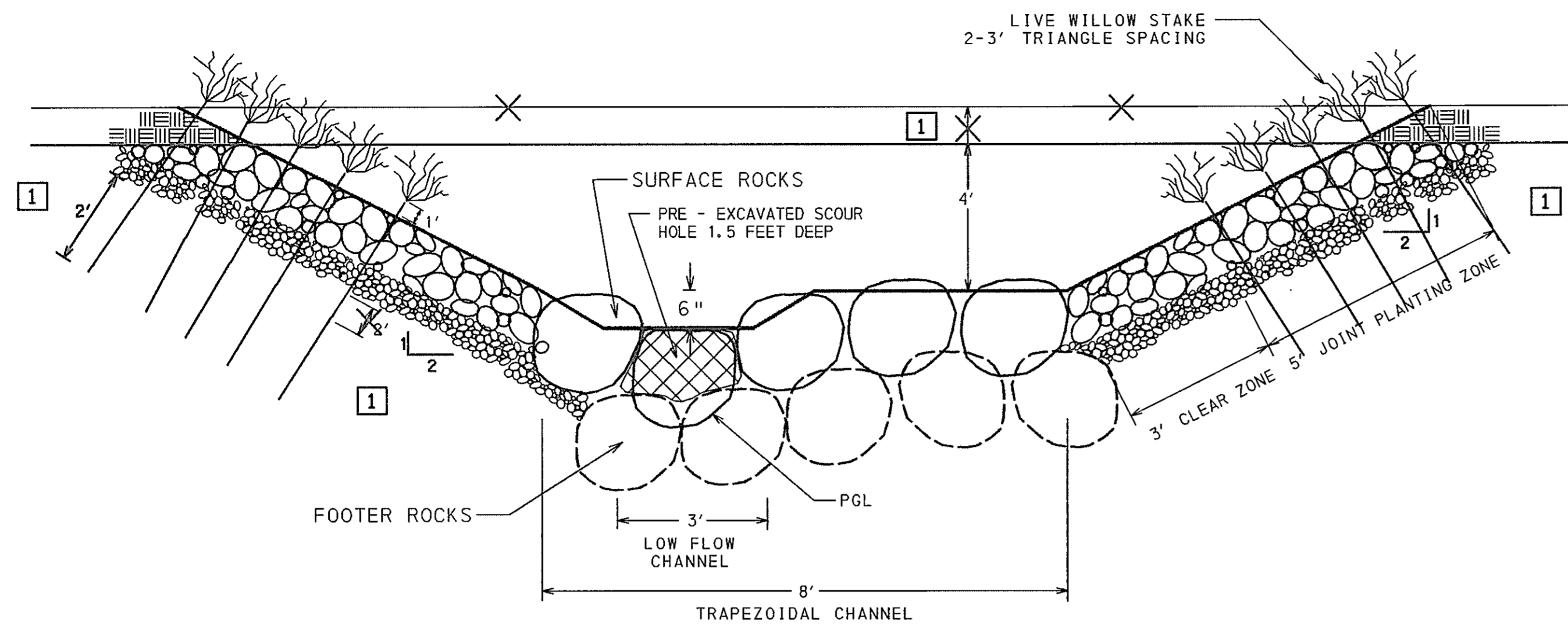
STREAM RELOCATION PLAN
TYPICAL SECTIONS

ST 4 OF 9

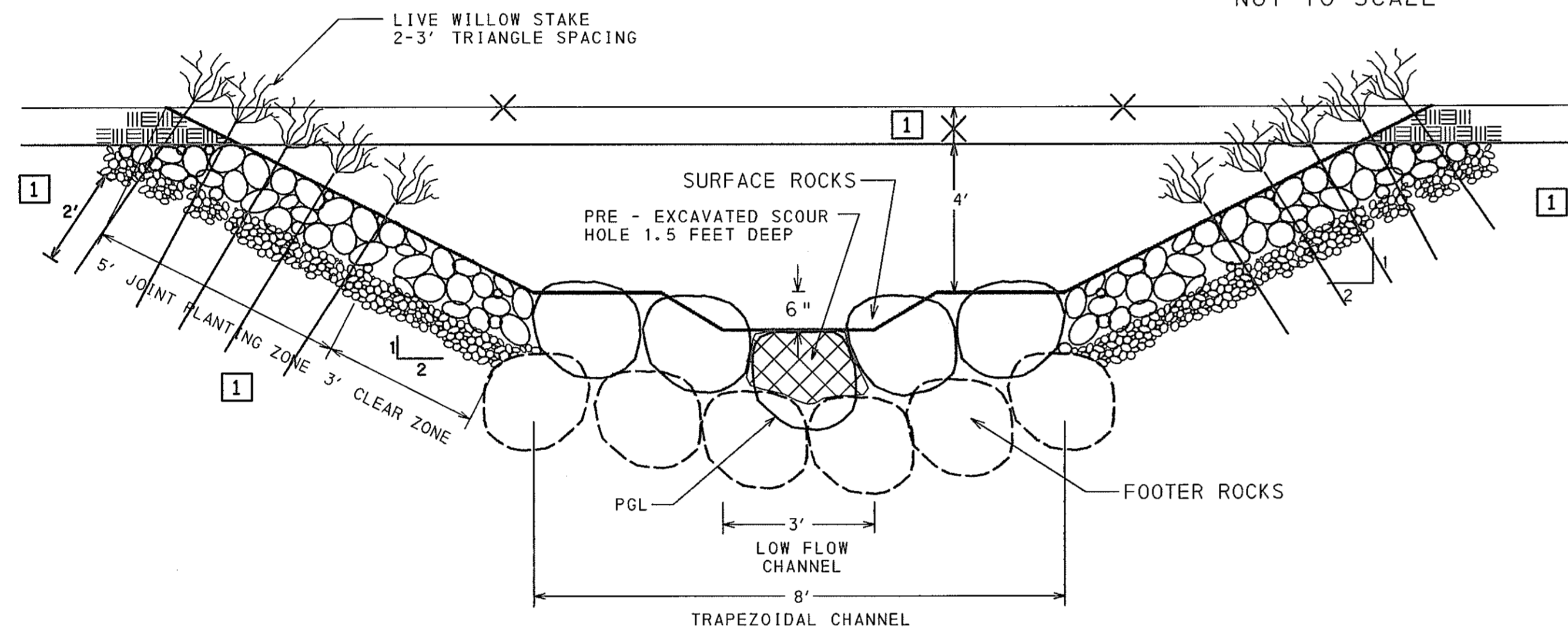
HURST-ROSCHER ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
1	ADDENDUM NO. 4 DATE: 9/7/00
1	REDLINE NO. 1 DATE: 2/20/01

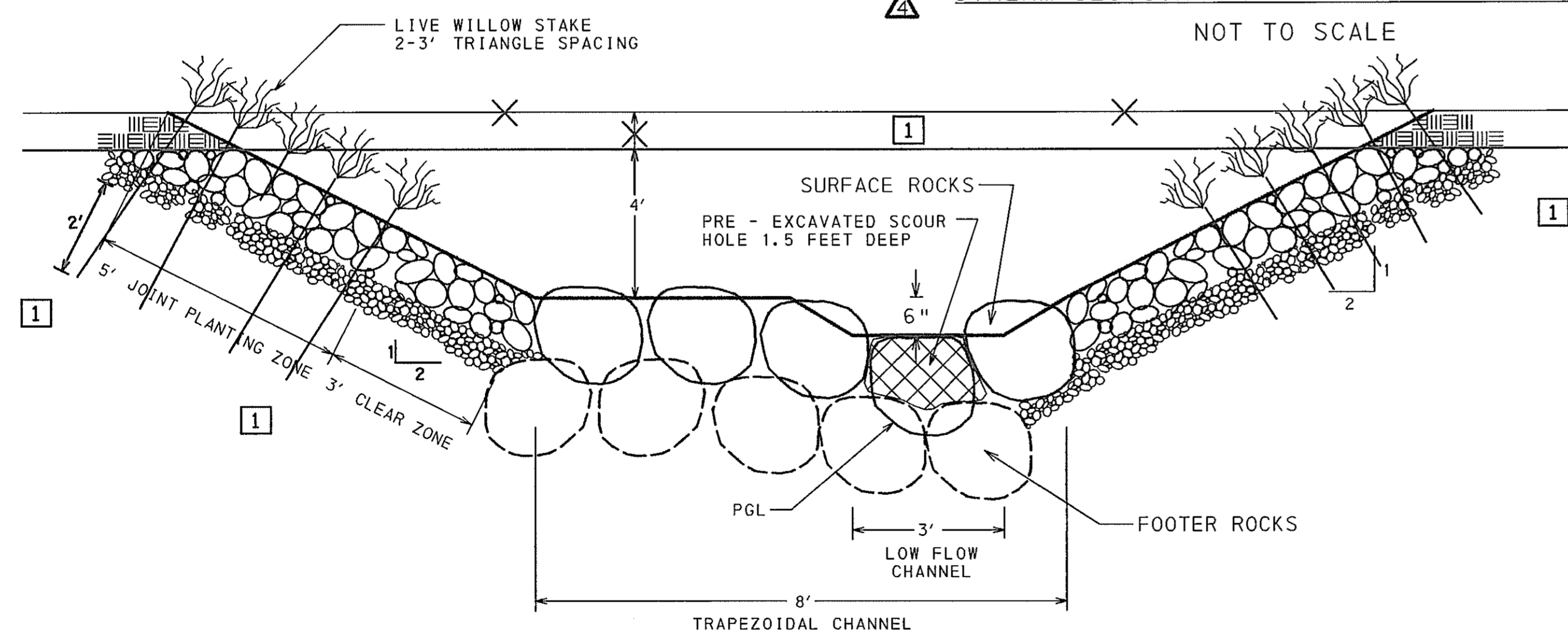
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
CONT. NO. H07415170	F.A.P. NO. SEE TITLE SHEET NO. 190 OF 320
PREL. TRAC. BY	FINAL TRAC. BY



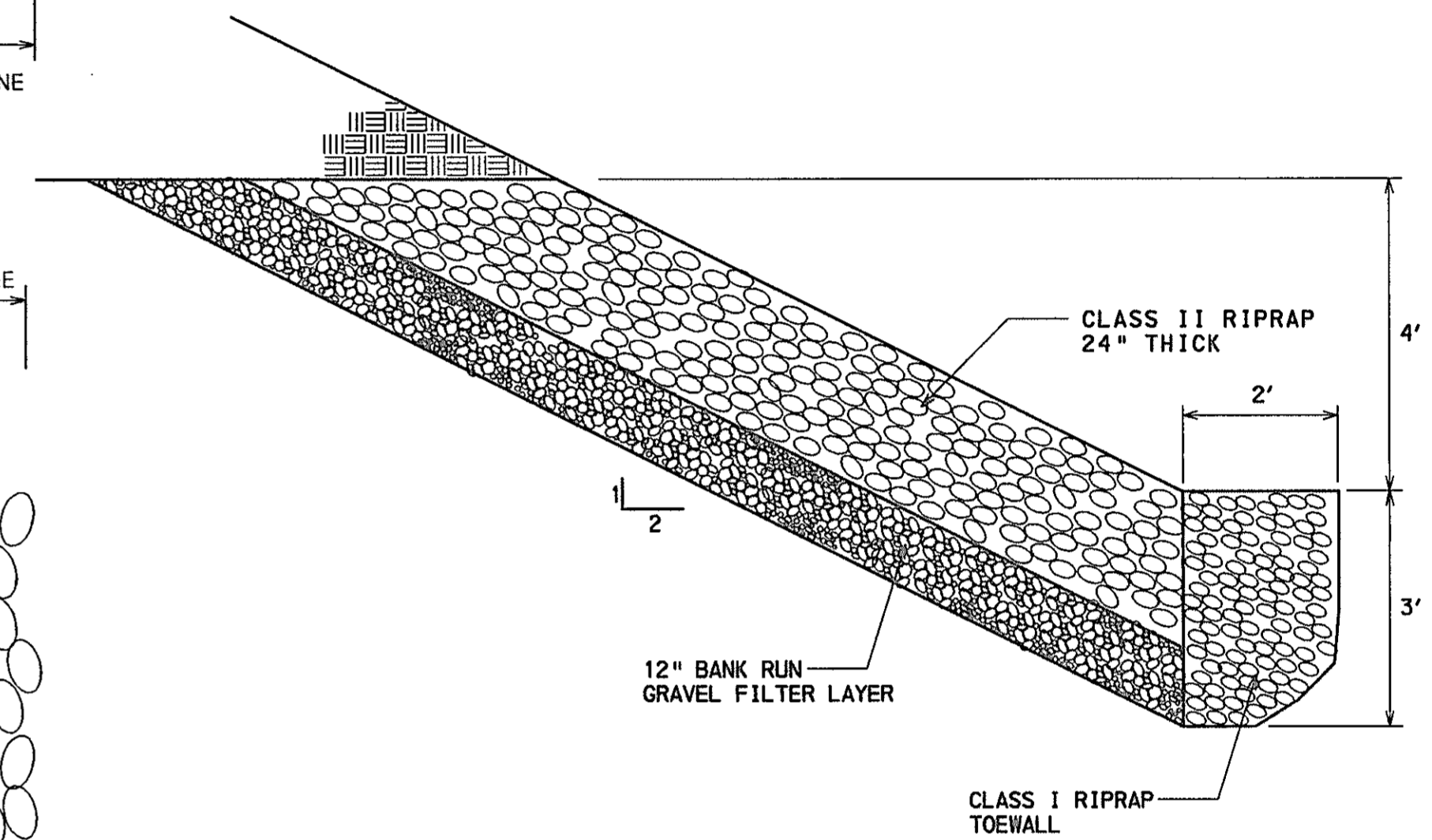
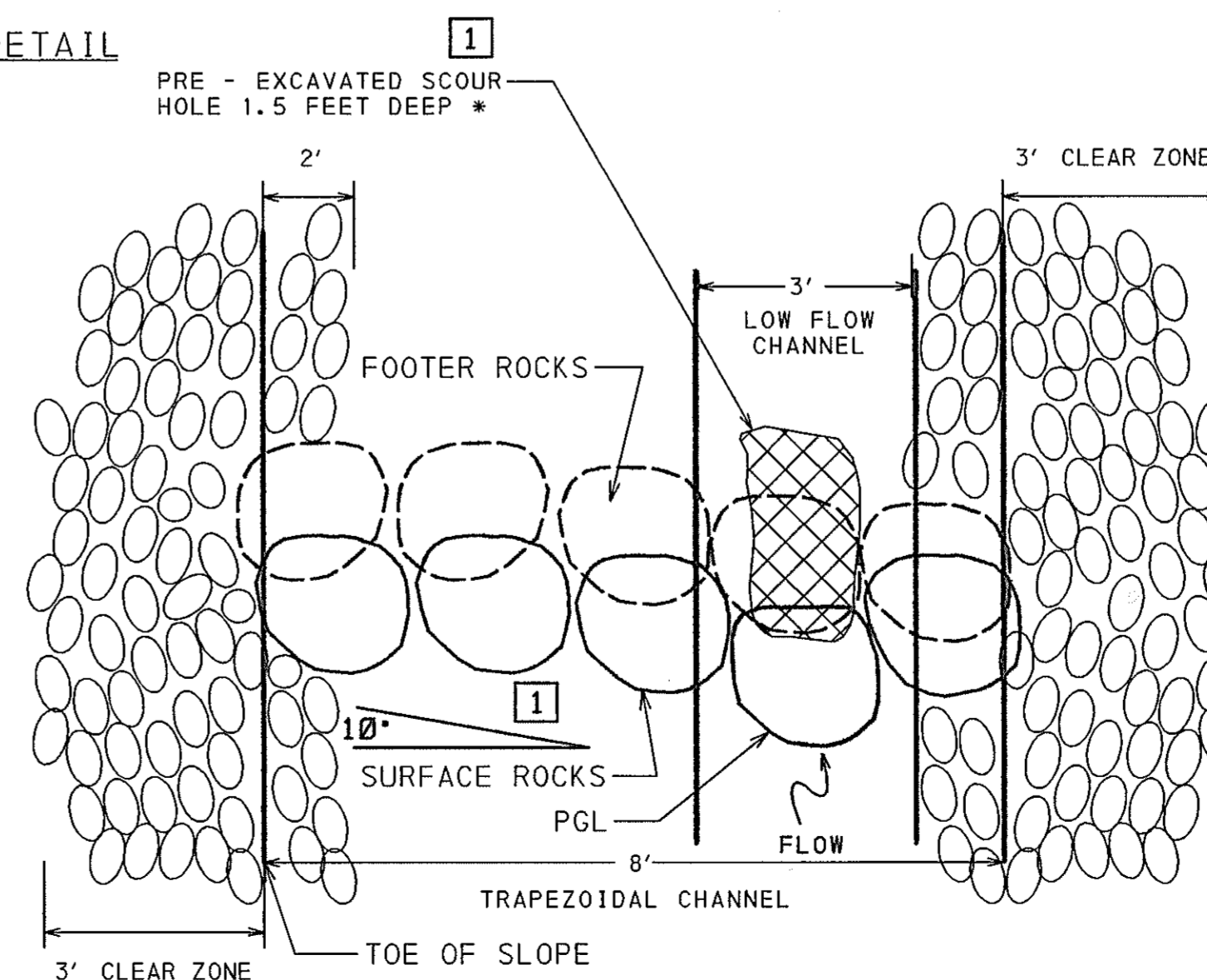
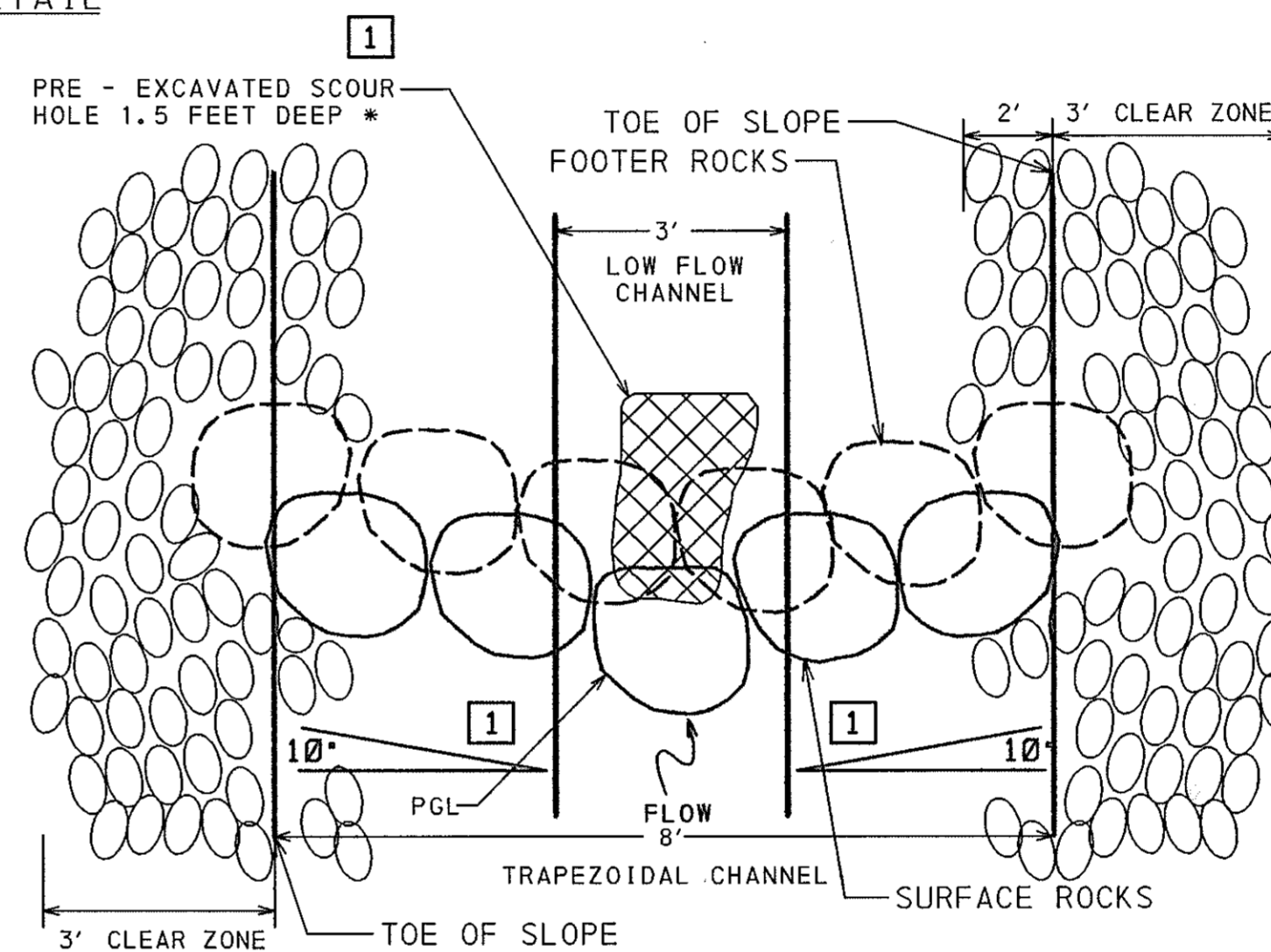
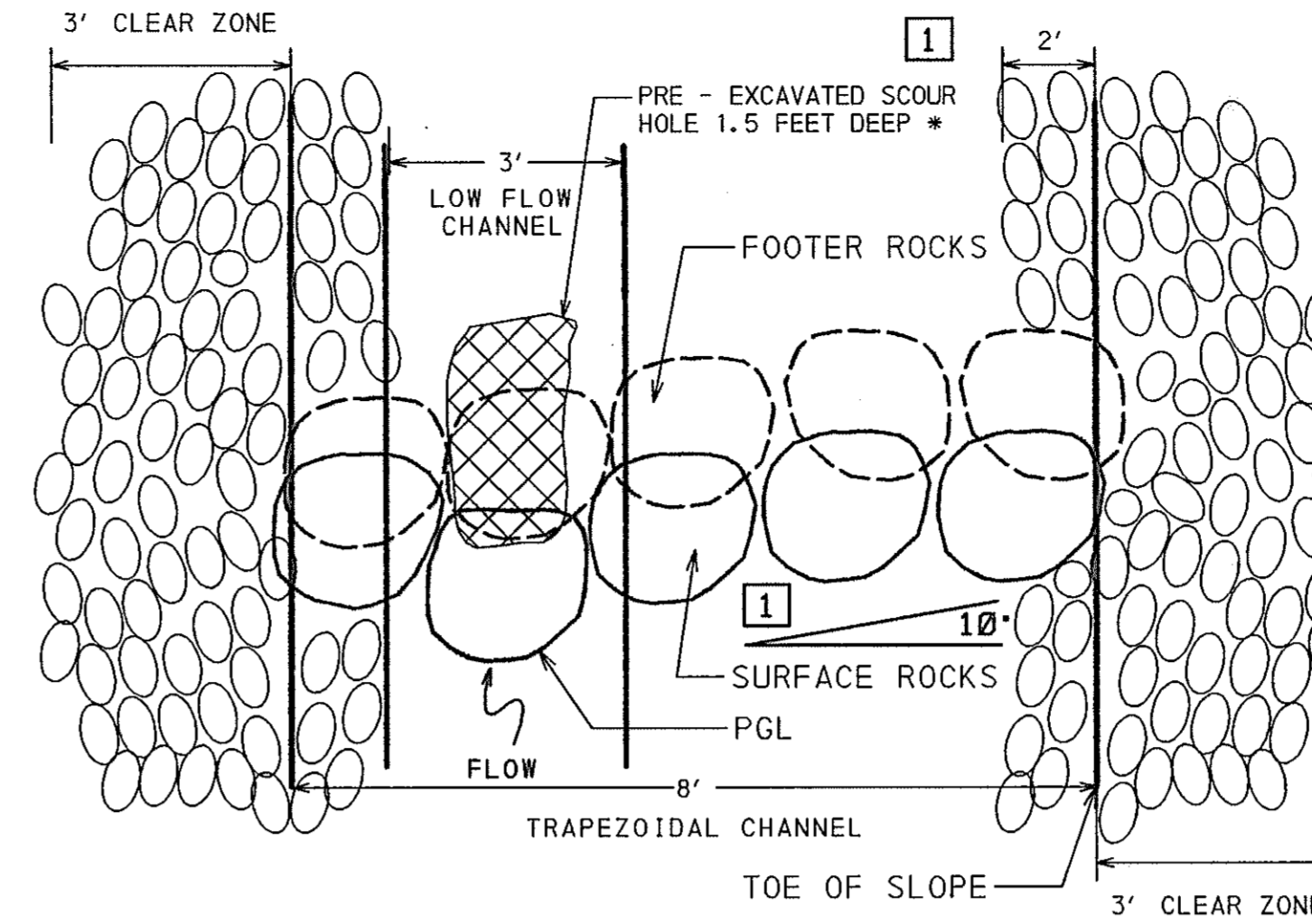
STREAM SECTION - ROCK DROP STRUCTURE "LEFT" DETAIL
NOT TO SCALE



STREAM SECTION - ROCK DROP STRUCTURE "CENTER" DETAIL
NOT TO SCALE



STREAM SECTION - ROCK DROP STRUCTURE "RIGHT" DETAIL
NOT TO SCALE



TYPICAL DETAIL (BOTH SIDES OF THE CHANNEL)
RIPRAP BANK PROTECTION DETAIL (BOTH SIDES)
(SEE MDE STANDARD DETAIL)
NOT TO SCALE

1 * NOTE: DIMENSIONS OF SCOUR HOLE APPROXIMATELY 2' WIDE x 3' LONG x 1.5' DEEP

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

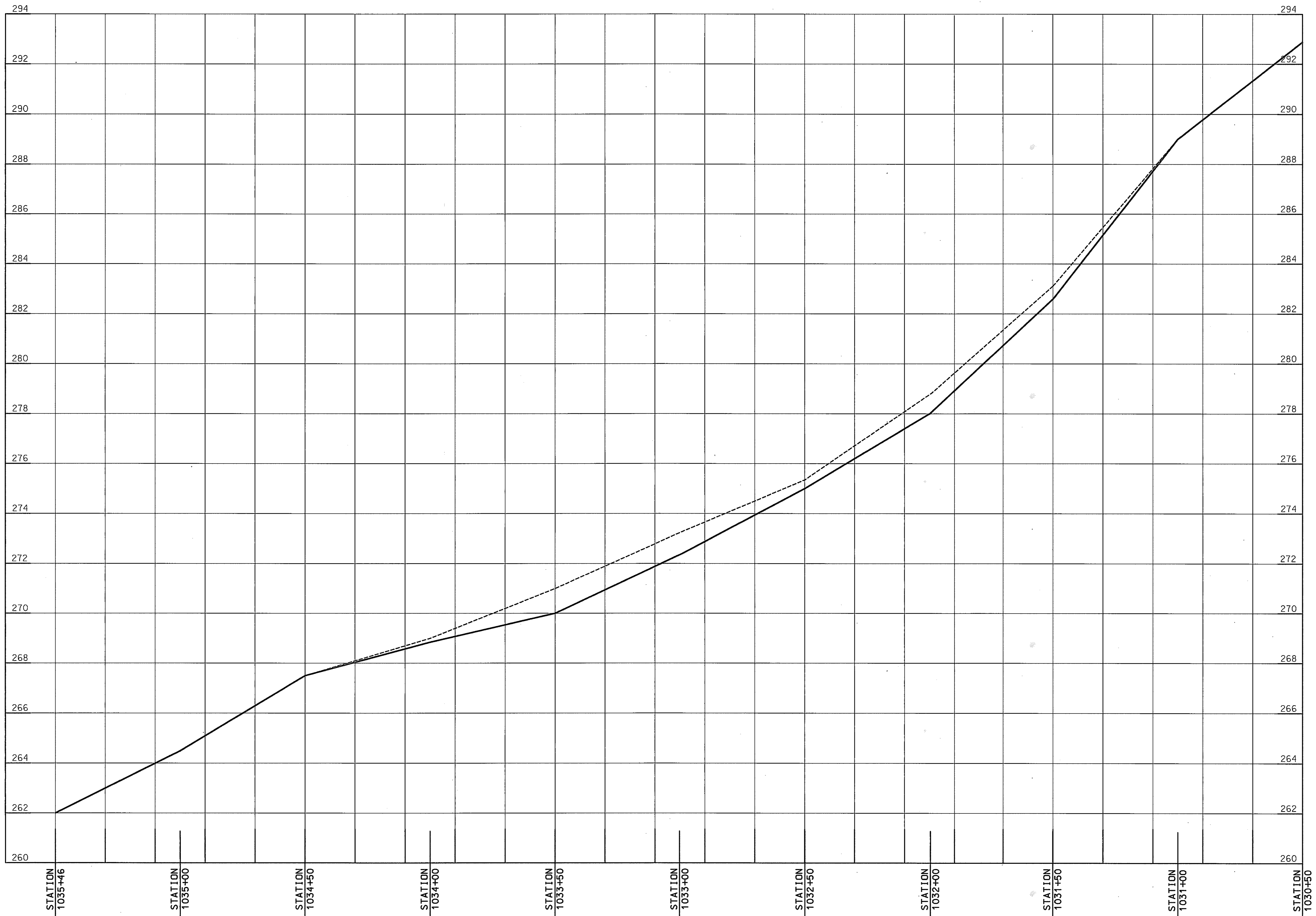
REVISIONS	
ADDENDUM NO. 4	DATE: 9/7/00
REDLINE NO. 1	DATE: 2/20/01

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 190 OF 320
PREL. TRAC. BY FINAL TRAC. BY

NOT TO SCALE

SCALE: 1 IN. = 2 FT.



LEGEND
 ——— PROPOSED STREAM PROFILE
 - - - - - EXISTING STREAM PROFILE

STREAM RELOCATION PLAN
STREAM PROFILE
 SCALE: 1 IN. = 20 FT.

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
 ▲ ADDENDUM NO. 4
 ▲ DATE: 9/7/00

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

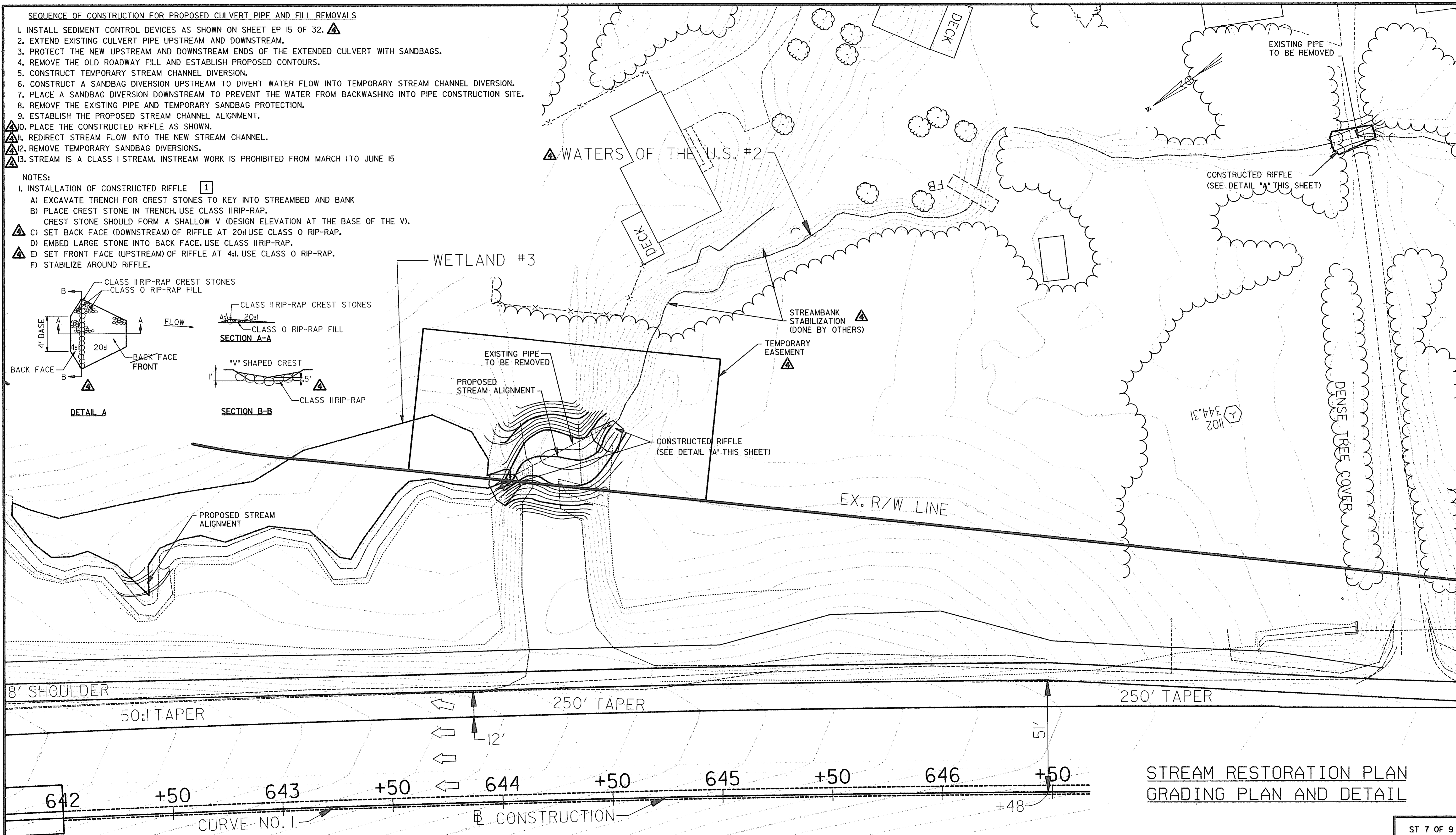
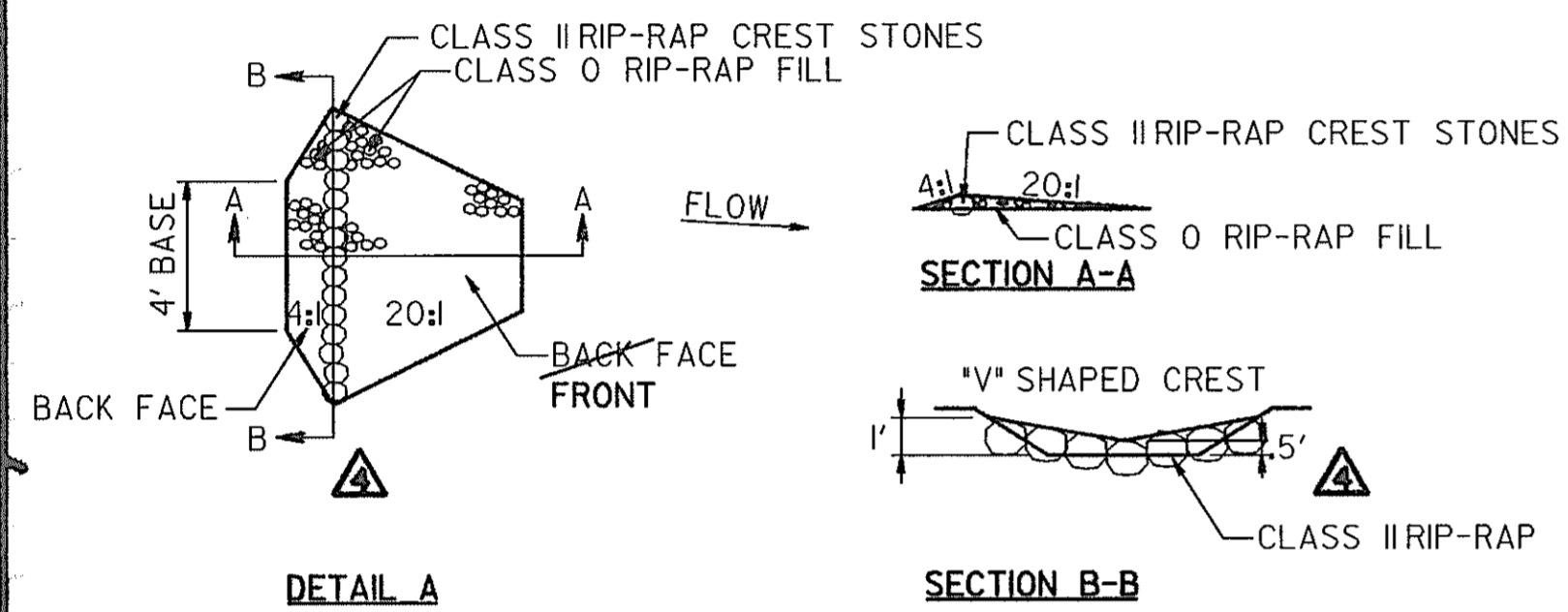
CONT. NO. H07415170 F.A.P. NO. SHEET NO. 191 OF 320
 PREL. TRAC. BY _____ FINAL TRAC. BY _____

SEQUENCE OF CONSTRUCTION FOR PROPOSED CULVERT PIPE AND FILL REMOVALS

1. INSTALL SEDIMENT CONTROL DEVICES AS SHOWN ON SHEET EP 15 OF 32.
2. EXTEND EXISTING CULVERT PIPE UPSTREAM AND DOWNSTREAM.
3. PROTECT THE NEW UPSTREAM AND DOWNSTREAM ENDS OF THE EXTENDED CULVERT WITH SANDBAGS.
4. REMOVE THE OLD ROADWAY FILL AND ESTABLISH PROPOSED CONTOURS.
5. CONSTRUCT TEMPORARY STREAM CHANNEL DIVERSION.
6. CONSTRUCT A SANDBAG DIVERSION UPSTREAM TO DIVERT WATER FLOW INTO TEMPORARY STREAM CHANNEL DIVERSION.
7. PLACE A SANDBAG DIVERSION DOWNSTREAM TO PREVENT THE WATER FROM BACKWASHING INTO PIPE CONSTRUCTION SITE.
8. REMOVE THE EXISTING PIPE AND TEMPORARY SANDBAG PROTECTION.
9. ESTABLISH THE PROPOSED STREAM CHANNEL ALIGNMENT.
10. PLACE THE CONSTRUCTED RIFFLE AS SHOWN.
11. REDIRECT STREAM FLOW INTO THE NEW STREAM CHANNEL.
12. REMOVE TEMPORARY SANDBAG DIVERSIONS.
13. STREAM IS A CLASS I STREAM. INSTREAM WORK IS PROHIBITED FROM MARCH 1 TO JUNE 15

NOTES:

1. INSTALLATION OF CONSTRUCTED RIFFLE
 - A) EXCAVATE TRENCH FOR CREST STONES TO KEY INTO STREAMBED AND BANK
 - B) PLACE CREST STONE IN TRENCH. USE CLASS II RIP-RAP. CREST STONE SHOULD FORM A SHALLOW V (DESIGN ELEVATION AT THE BASE OF THE V).
 - C) SET BACK FACE (DOWNSTREAM) OF RIFFLE AT 20:1 USE CLASS 0 RIP-RAP.
 - D) EMBED LARGE STONE INTO BACK FACE. USE CLASS II RIP-RAP.
 - E) SET FRONT FACE (UPSTREAM) OF RIFFLE AT 4:1. USE CLASS 0 RIP-RAP.
 - F) STABILIZE AROUND RIFFLE.



**STREAM RESTORATION PLAN
GRADING PLAN AND DETAIL**

LEGEND
 - - - - - EXISTING CONTOURS
 _____ PROPOSED CONTOURS

SCALE 1" = 20'

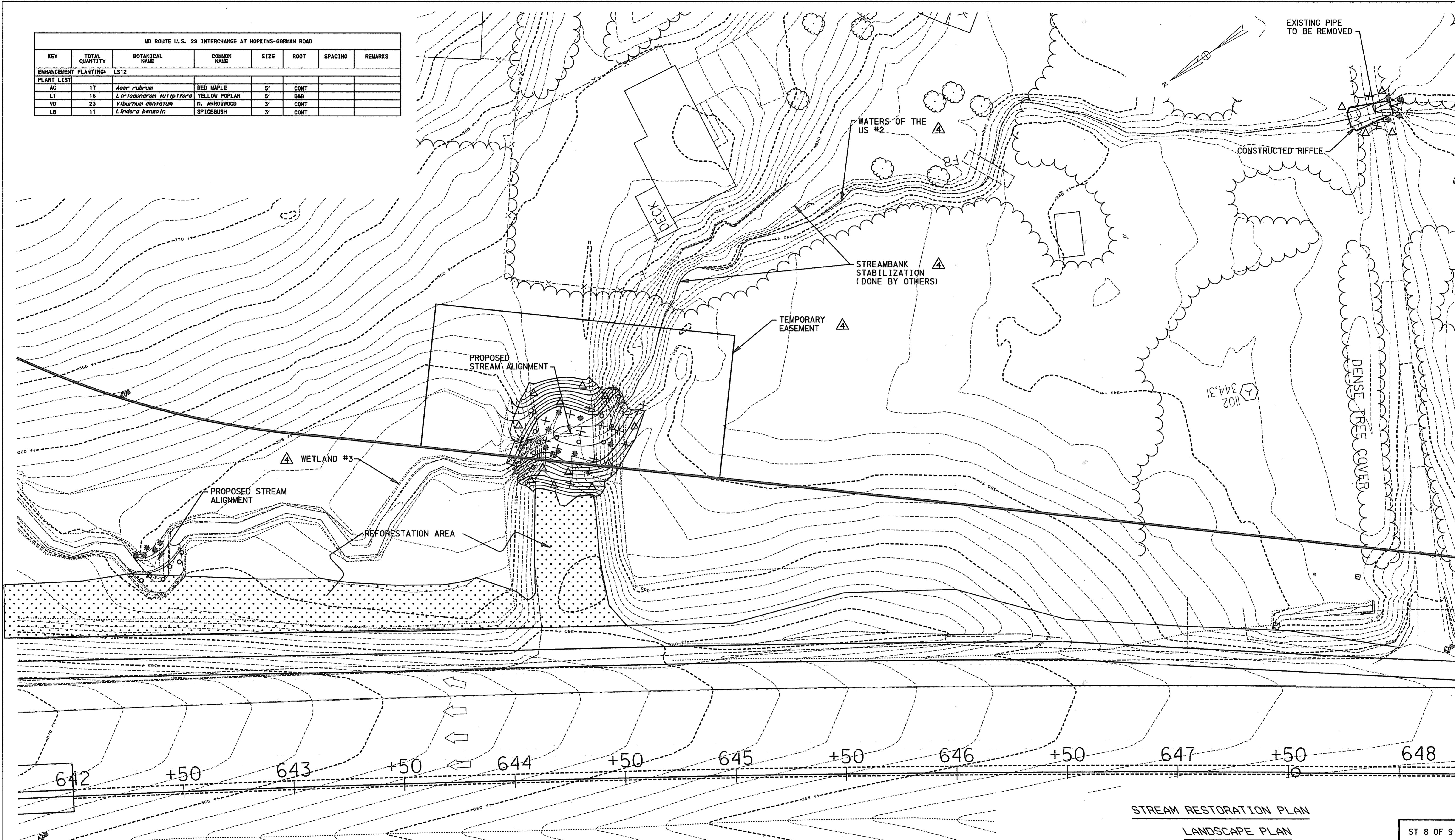
HURST-ROSCH ENGINEERS, INC. /
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	
	ADDENDUM NO. 4 DATE: 9/7/00
1	REDLINE NO. 1 DATE: 2/20/01

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 192 OF 320
 PREL. TRAC. BY _____ FINAL TRAC. BY _____

MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
ENHANCEMENT PLANTING		LS12					
AC	17	<i>Acer rubrum</i>	RED MAPLE	5'	CONT		
LT	16	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5'	B&B		
VD	23	<i>Viburnum dentatum</i>	N. ARROWWOOD	3'	CONT		
LB	11	<i>Lindera benzoin</i>	SPICEBUSH	3'	CONT		



STREAM RESTORATION PLAN
LANDSCAPE PLAN
ST 8 OF 9

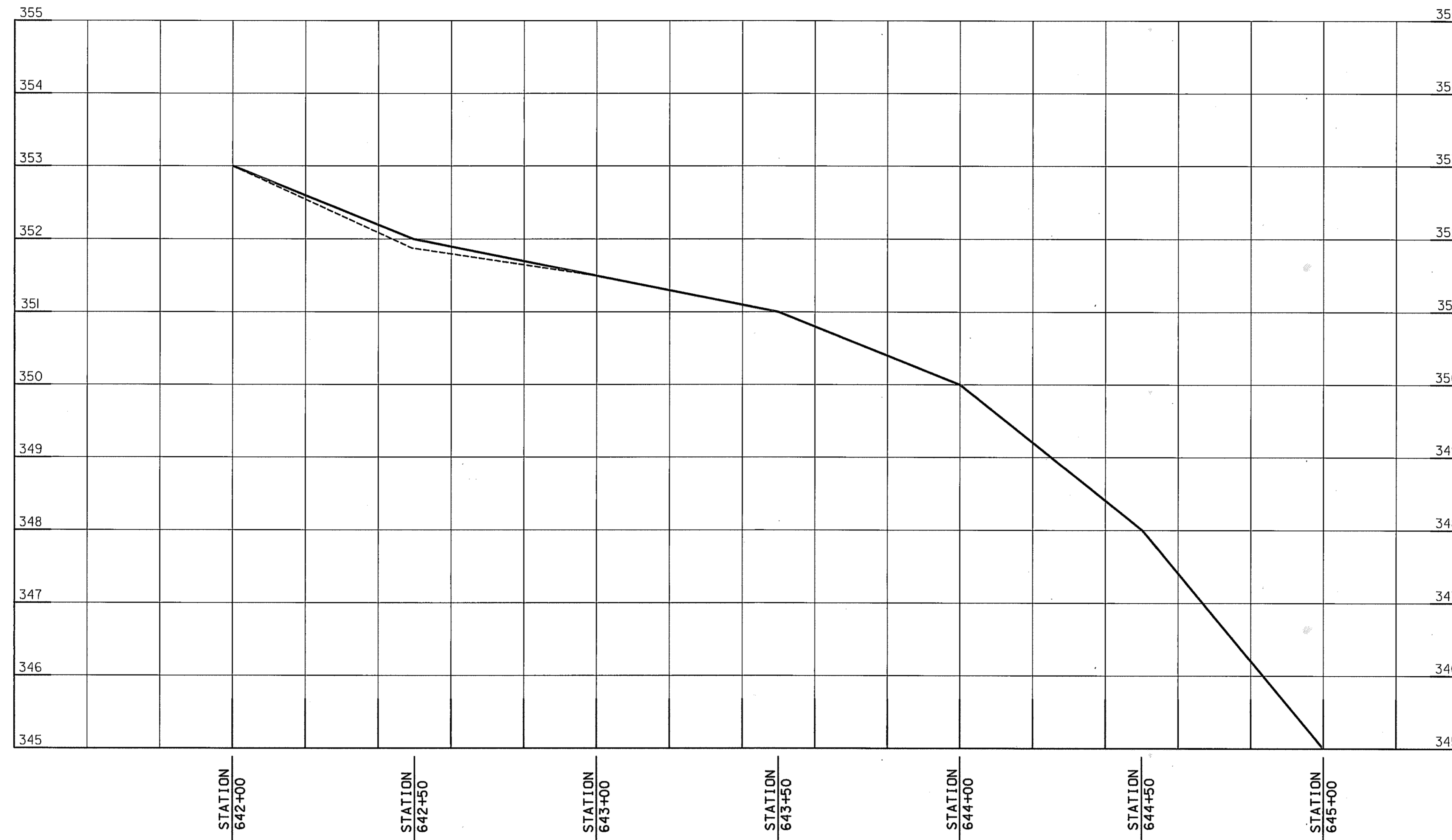
LEGEND		PLANTING LEGEND	
-----	EXISTING CONTOURS	+	RED MAPLE
-----	PROPOSED CONTOURS	o	N. ARROWWOOD
		*	SPICEBUSH
		Δ	YELLOW POPLAR
		[Dotted Box]	REFORESTATION PLANTINGS - MESIC (SEE LS-15 OF 18)

SCALE: 1" = 20'

HURST-ROSCH ENGINEERS, INC. / DEWBERRY & DAVIS
A JOINT VENTURE
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(410) 683-1683

REVISIONS
Δ ADDENDUM NO. 4 DATE: 9/7/00

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
CONT. NO. H07415170	F.A.P. NO. SEE TITLE SHEET NO. 192A OF 320
PREL. TRAC. BY	FINAL TRAC. BY



LEGEND
 — PROPOSED STREAM PROFILE
 - - - - - EXISTING STREAM PROFILE

SCALE: 1 IN. = 20 FT.

STREAM RESTORATION PLAN
STREAM PROFILE

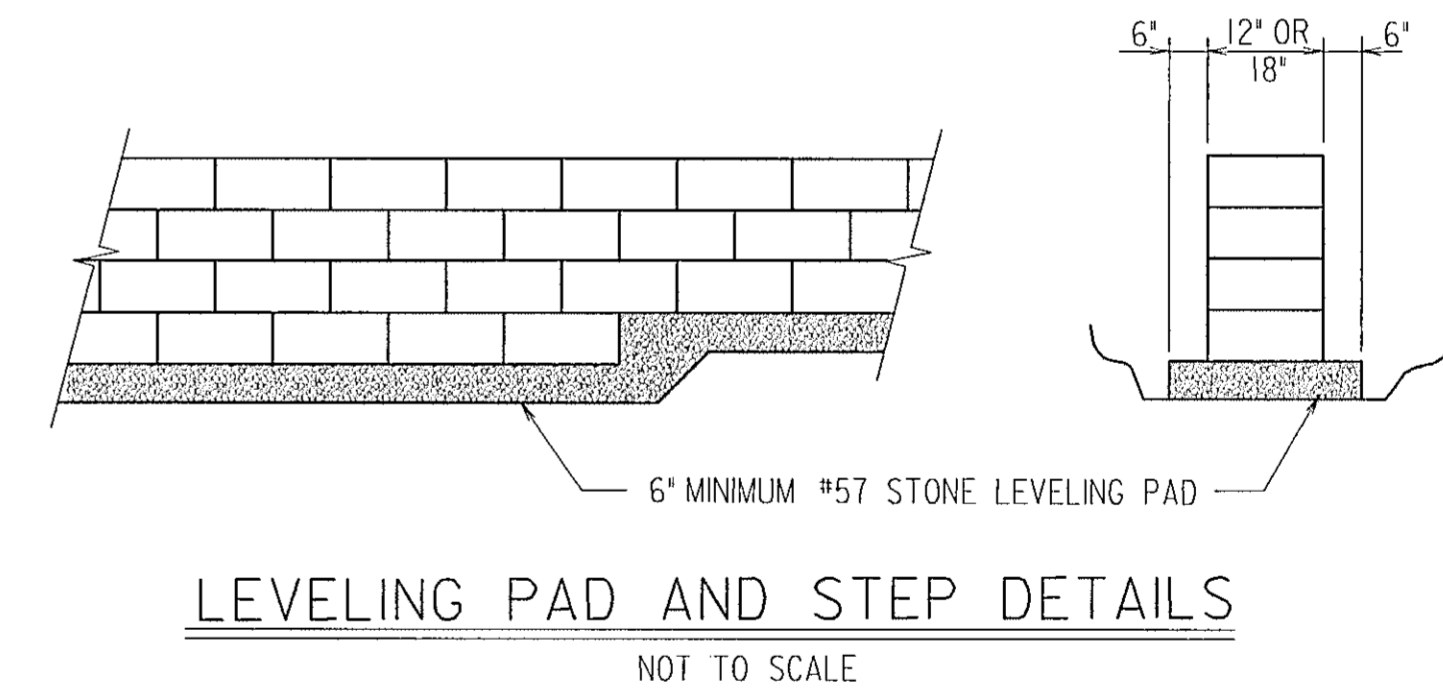
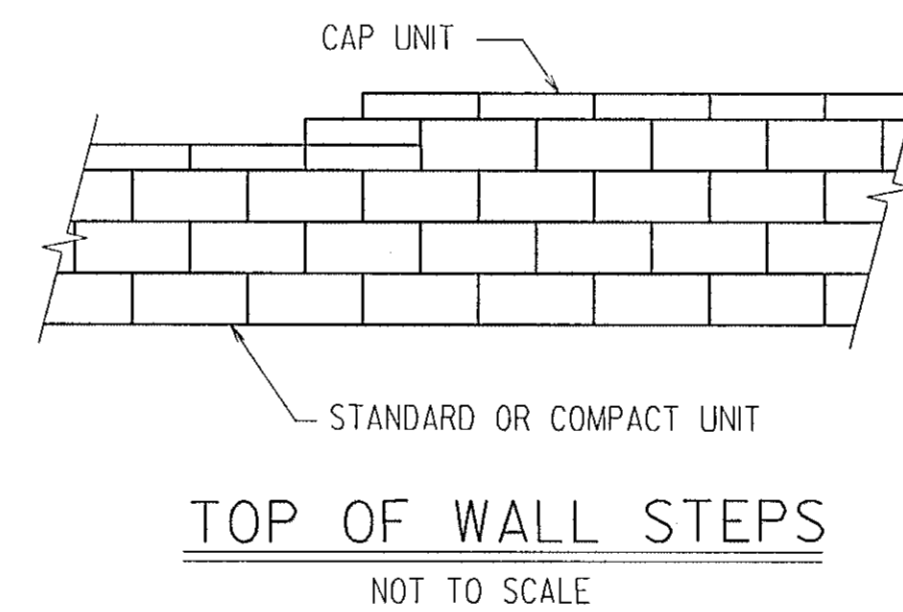
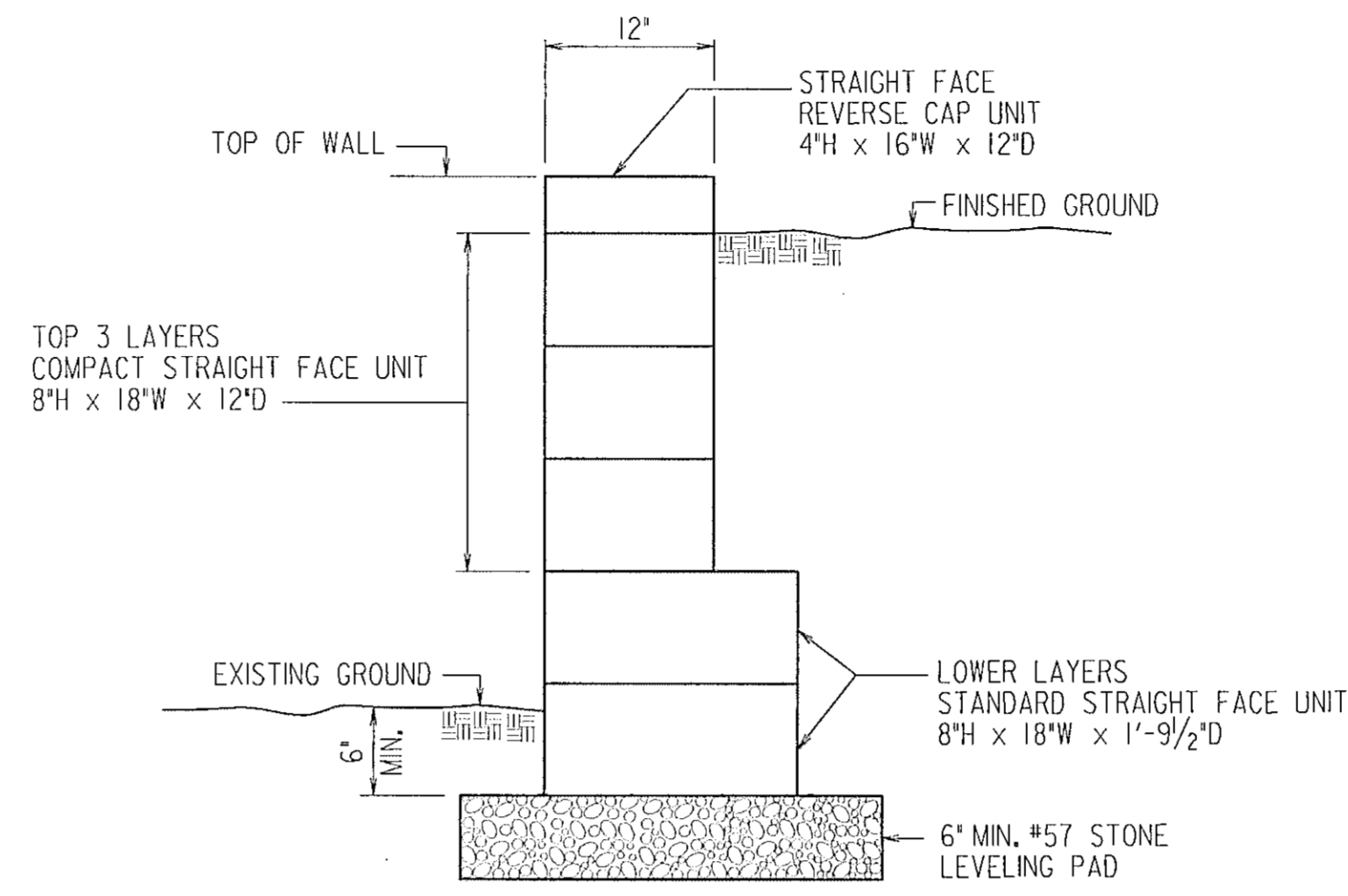
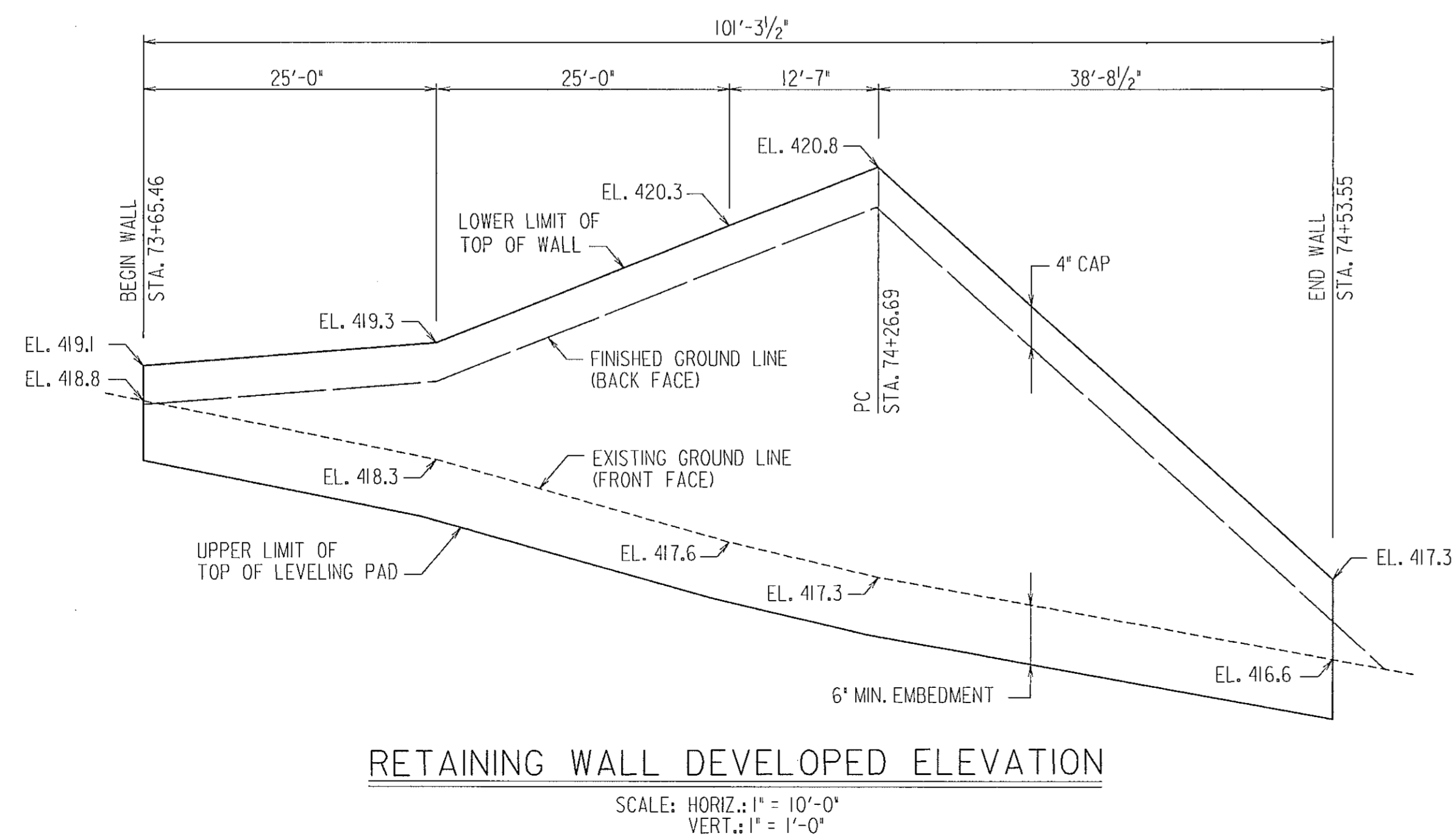
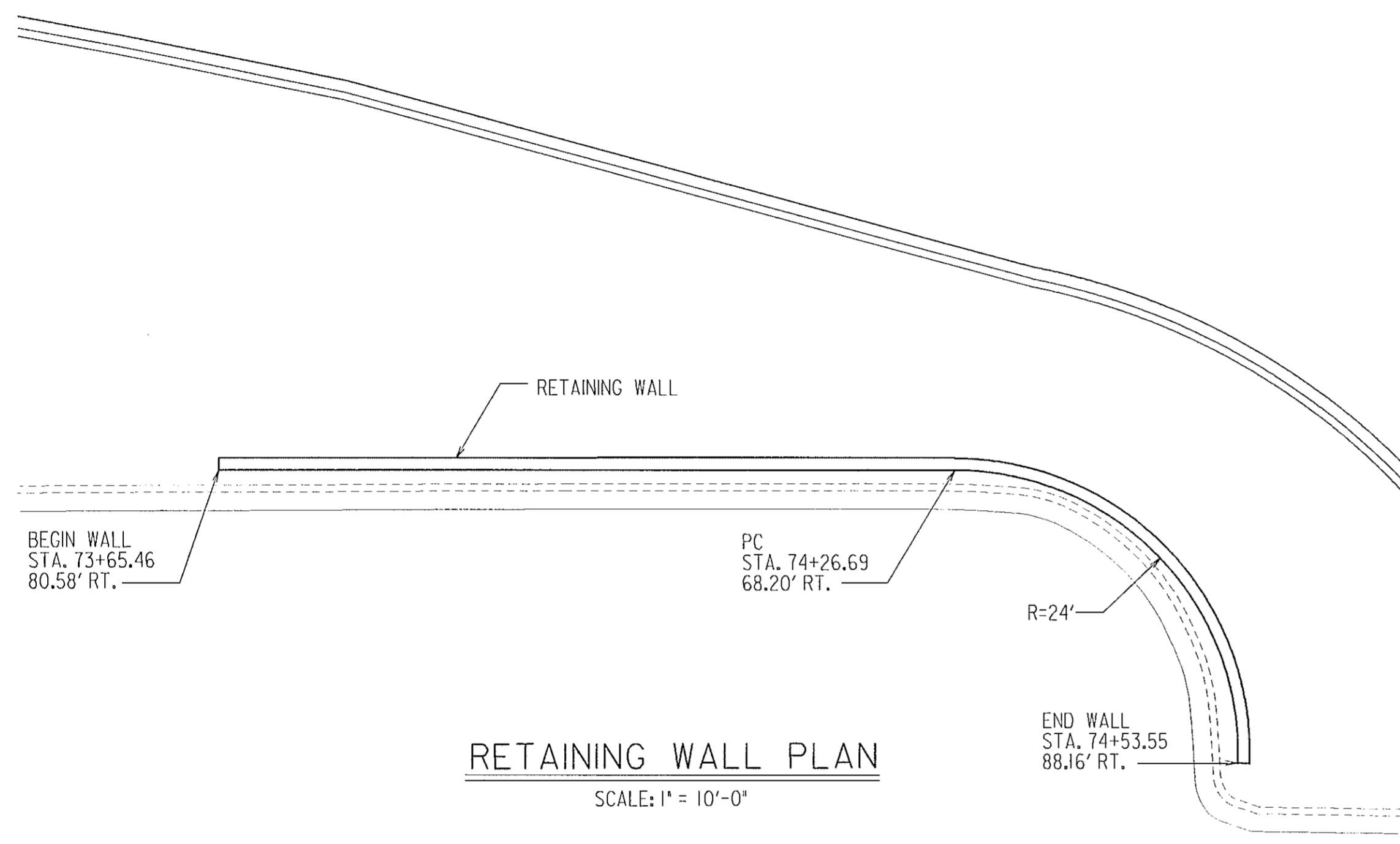
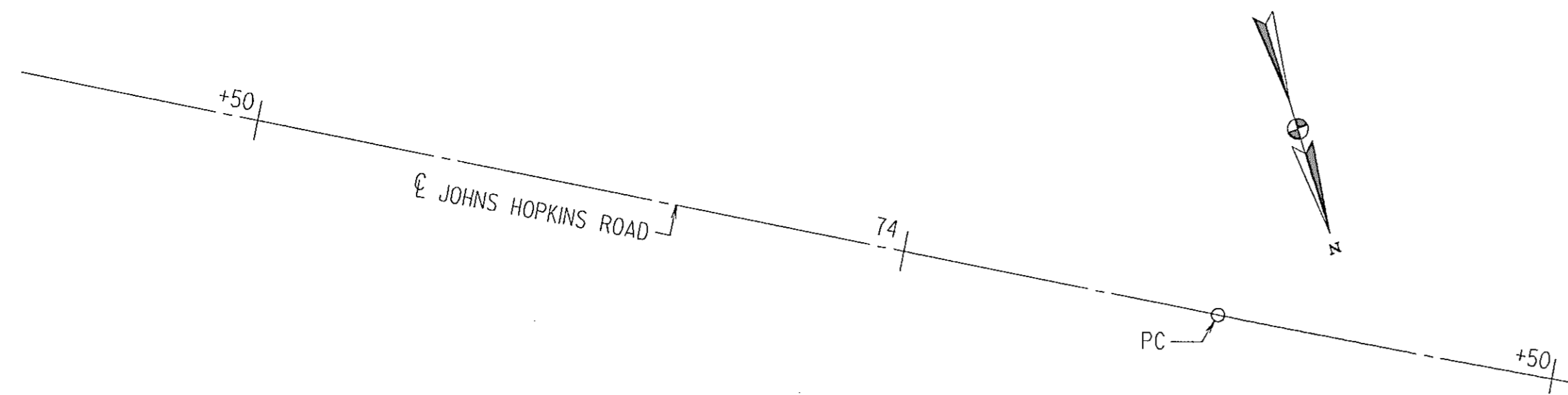
ST 9 OF 9

HURST-ROSCH ENGINEERS, INC. /
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS
 Δ ADDENDUM NO. 4
 Δ DATE: 9 / 7 / 00

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. _____ SHEET NO. 192B OF 320
 PREL. TRAC. BY _____ FINAL TRAC. BY _____



NOTES:

- CONTRACTOR SHALL STEP TOP OF WALL AS REQUIRED FOLLOWING THE ELEVATIONS SHOWN.
- CONTRACTOR SHALL STEP LEVELING PAD AS REQUIRED TO MAINTAIN MINIMUM EMBEDMENT.

RETAINING WALL NOTES

DESCRIPTION

THIS RETAINING WALL SHALL CONSIST OF CONCRETE BLOCKS MANUFACTURED BY "KEystone RETAINING WALL SYSTEMS". THE RETAINING WALL SHALL BE CONSTRUCTED AS SHOWN ON THIS DRAWING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE BLOCKS SHALL HAVE STRAIGHT FACE AND SUPPLIED IN THE ORIGINAL COLOR GRAY (NO STAIN).

THE FINISHED PRODUCT SHALL MATCH THE ADJACENT RETAINING WALL AT THE CREDIT UNION CONSTRUCTION SITE IN STYLE AND COLOR.

WORKING DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO THE ADMINISTRATION OR DIRECTLY TO THE CONSULTING ENGINEER AS DIRECTED BY SPECIFICATIONS SECTION C499.

DESIGN CRITERIA

- A. MINIMUM SOIL BEARING CAPACITY: 0.5 TONS PER SQUARE FOOT.
- B. EQUIVALENT FLUID PRESSURE: 45 POUNDS PER CUBIC FOOT.
- C. SOIL SURCHARGE BEHIND THE WALL: 120 POUNDS PER SQUARE FOOT.

BACKFILL

BACKFILL SHALL BE GRANULAR MATERIAL AND SHALL BE COMPACTED CONFORMING TO SPECIFICATIONS SECTIONS 204 OR 210.

MEASUREMENT AND PAYMENT

THE RETAINING WALL WILL NOT BE MEASURED BUT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR THE PERTINENT RETAINING WALL ITEM. THE PAYMENT WILL BE FULL COMPENSATION FOR ALL EXCAVATION, BACKFILL AND FOR ALL MATERIAL, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

SHEET NO. S4-1 OF 54-1

REVISIONS 3 REVISION NO. 3 NEW SHEET CL 1/31/02	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
	JHU-APL CREDIT UNION RETAINING WALL DETAILS	
	SCALE AS NOTED	DATE OCTOBER 2001
DESIGNED BY GMH DRAWN BY HTN CHECKED BY CL		
Dewberry & Davis Architects Engineers Planners Surveyors 3120 Timanus Lane Baltimore, MD 21244		SHEET NO. 2736 OF 320

STATION S4-P-BRIDGE HOPKINS CURET WALL UGDN WALL.DGN

OTHER CONTRACTS FOR THIS STRUCTURE:

AS BUILT COMMENTS ADDED DATE

BRIDGE NO.

SURVEY BOOK NO.

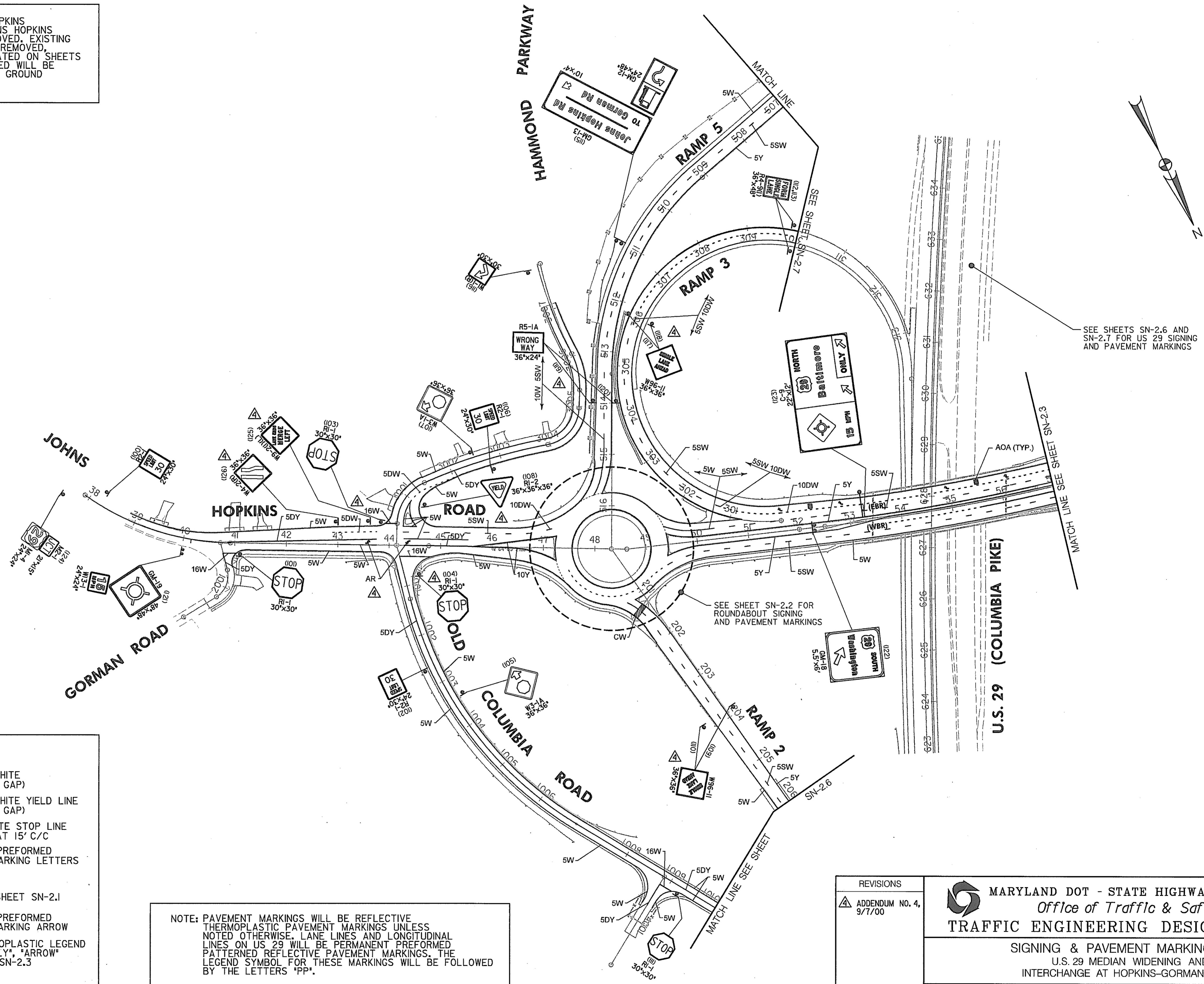
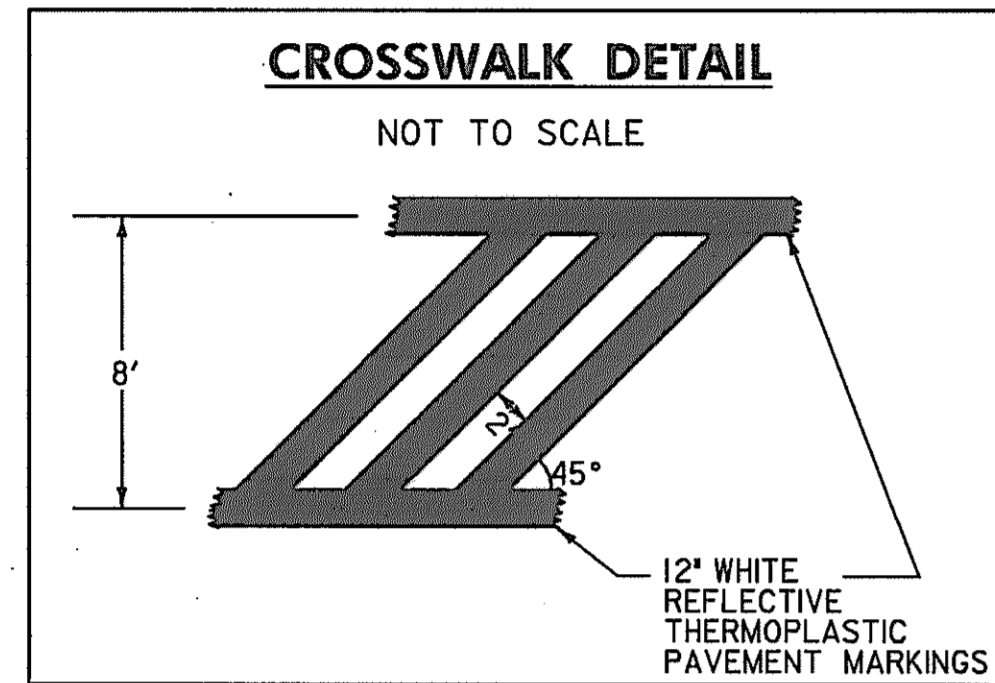
File No.

Pocket No.

Folder No.

INDEXED

NOTE: EXISTING GROUND MOUNTED SIGNS ALONG JOHNS HOPKINS ROAD AND ALONG ROADWAYS THAT INTERSECT JOHNS HOPKINS ROAD WITHIN THE LIMITS OF WORK ARE TO BE REMOVED. EXISTING GROUND MOUNTED SIGNS ALONG US 29 ARE TO BE REMOVED, RELOCATED, MODIFIED OR LEFT REMAINING AS INDICATED ON SHEETS SN-2.5 THROUGH SN-2.10. ALL SIGNS TO BE REMOVED WILL BE INCLUDED IN THE LUMP SUM ITEM REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS.



SEE SHEETS SN-2.6 AND SN-2.7 FOR US 29 SIGNING AND PAVEMENT MARKINGS

SEE SHEET SN-2.2 FOR ROUNDABOUT SIGNING AND PAVEMENT MARKINGS

AOA (TYP.)

SEE SHEET SN-2.3

LEGEND

- | | |
|---|--|
| 5Y - 5" SOLID YELLOW | 10DW - 10" DASHED WHITE (3' STRIPE, 9' GAP) |
| 5DY - 5" DOUBLE YELLOW | YL - 10" DASHED WHITE YIELD LINE (3' STRIPE, 3' GAP) |
| 5W - 5" SOLID WHITE | 16W - 16" SOLID WHITE STOP LINE OR PLACED AT 15' C/C |
| 5DW - 5" DASHED WHITE (3' STRIPE, 9' GAP) | PDX - PERMANENT PREFORMED PAVEMENT MARKING LETTERS "PED XING" |
| 5SW - 5" SKIP WHITE (10' STRIPE, 30' GAP) | CW - CROSS WALK SEE DETAIL, SHEET SN-2.1 |
| 10Y - 10" SOLID YELLOW | AR - PERMANENT PREFORMED PAVEMENT MARKING ARROW |
| 10W - 10" SOLID WHITE | AOA - WHITE THERMOPLASTIC LEGEND "ARROW", "ONLY", "ARROW" SEE DETAIL, SN-2.3 |

NOTE: PAVEMENT MARKINGS WILL BE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS UNLESS NOTED OTHERWISE. LANE LINES AND LONGITUDINAL LINES ON US 29 WILL BE PERMANENT PREFORMED PATTERNED REFLECTIVE PAVEMENT MARKINGS. THE LEGEND SYMBOL FOR THESE MARKINGS WILL BE FOLLOWED BY THE LETTERS "PP".

REVISIONS	
ADDENDUM NO. 4	9/7/00

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

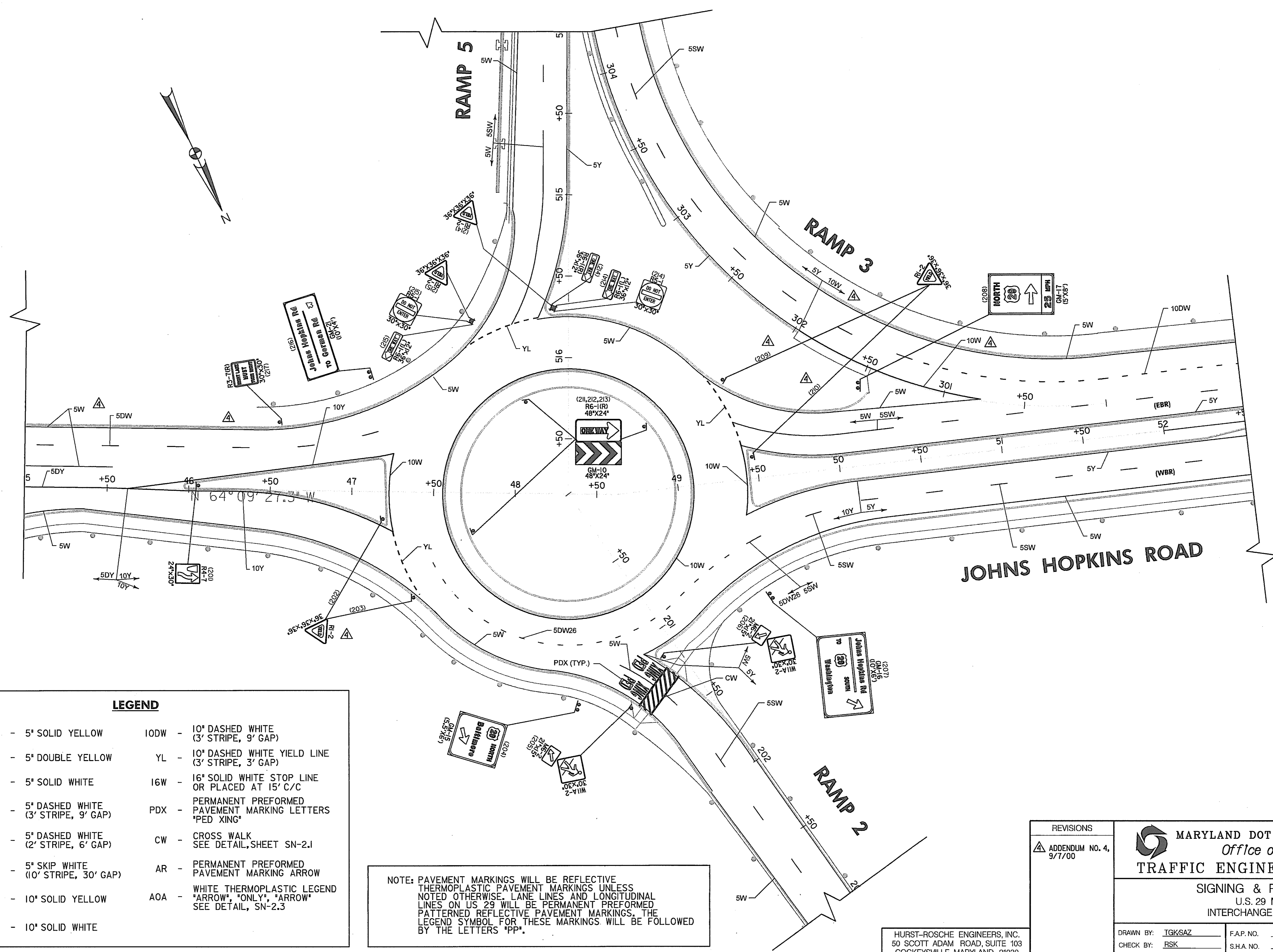
SIGNING & PAVEMENT MARKING PLAN
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

DRAWN BY: SAZ/RSK	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.:
CHECK BY: RSK	S.H.A. NO. HO74IA21	SN-2.1	284 OF 320
SCALE: 1"=100'	COUNTY: HOWARD		

HURST-ROSCHKE ENGINEERS, INC.
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

FILE: P:\user\US29Hopkins\cp01US29.dgn
DATE: 06-29-00

CP01US29.DGN



LEGEND

5Y - 5" SOLID YELLOW	10DW - 10" DASHED WHITE (3' STRIPE, 9' GAP)
5DY - 5" DOUBLE YELLOW	YL - 10" DASHED WHITE YIELD LINE (3' STRIPE, 3' GAP)
5W - 5" SOLID WHITE	16W - 16" SOLID WHITE STOP LINE OR PLACED AT 15' C/C
5DW - 5" DASHED WHITE (3' STRIPE, 9' GAP)	PDX - PERMANENT PREFORMED PAVEMENT MARKING LETTERS "PED XING"
5DW26 - 5" DASHED WHITE (2' STRIPE, 6' GAP)	CW - CROSS WALK SEE DETAIL, SHEET SN-2.1
5SW - 5" SKIP WHITE (10' STRIPE, 30' GAP)	AR - PERMANENT PREFORMED PAVEMENT MARKING ARROW
10Y - 10" SOLID YELLOW	AOA - WHITE THERMOPLASTIC LEGEND "ARROW", "ONLY", "ARROW" SEE DETAIL, SN-2.3
10W - 10" SOLID WHITE	

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50 SCOTT ADAM ROAD, SUITE 103
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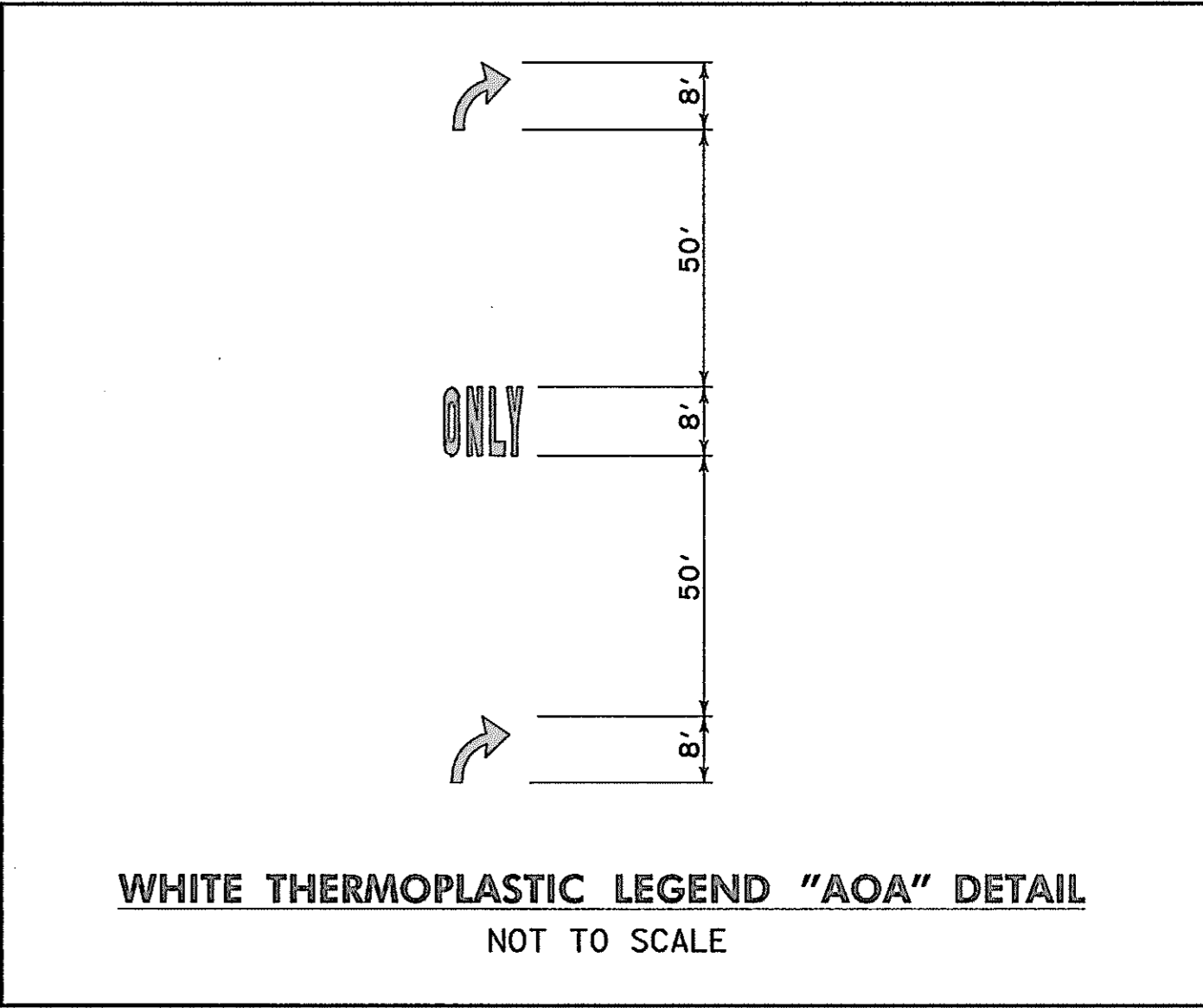
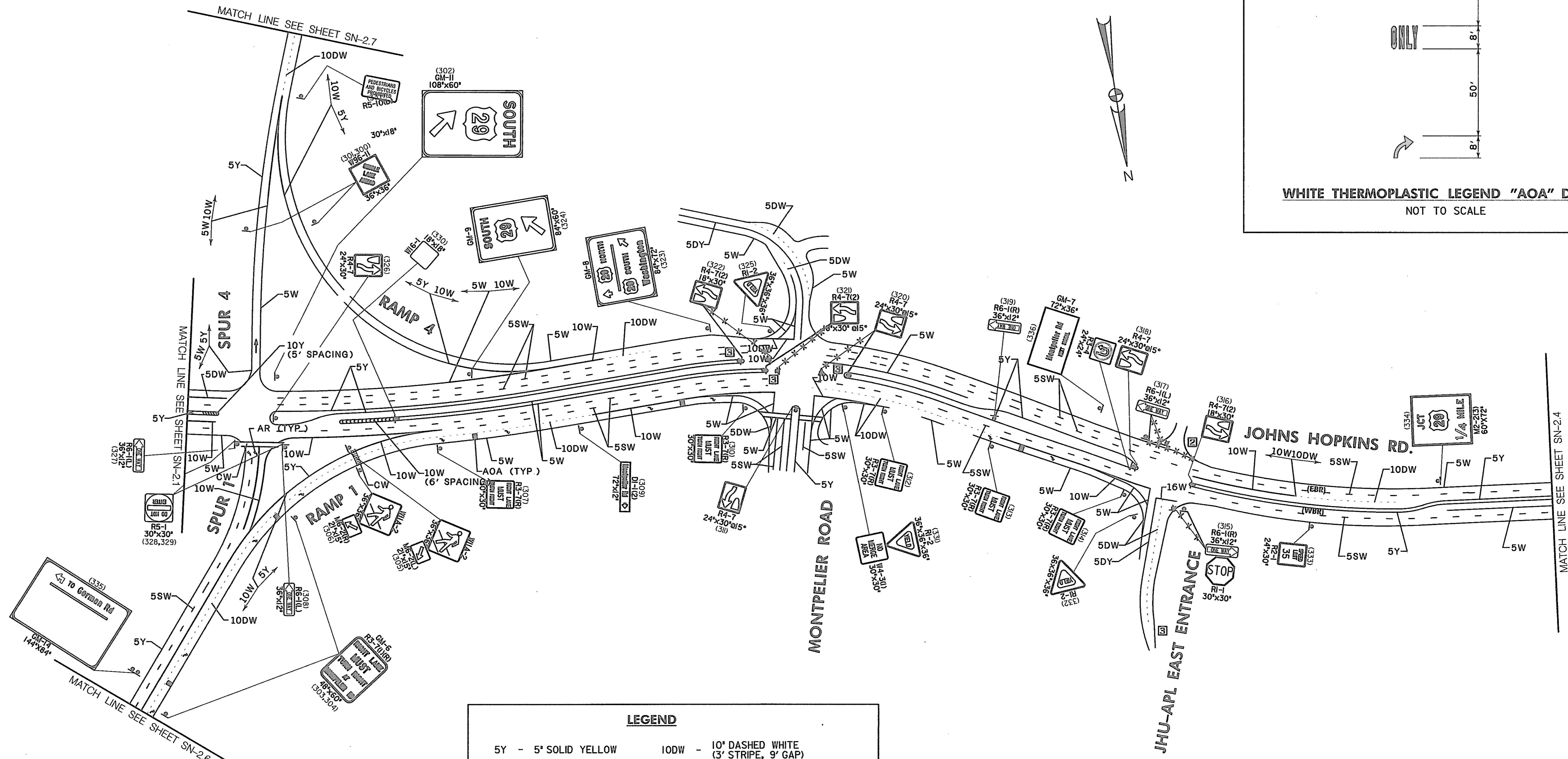
REVISIONS	
ADDENDUM NO. 4, 9/7/00	

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

SIGNING & PAVEMENT MARKING PLAN
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

DRAWN BY: IGKSAZ	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.
CHECK BY: RSK	S.H.A. NO. HQ741A21	SN-2.2	285 OF 320
SCALE: 1" = 30'	COUNTY: HOWARD		

FILE: \Paser\AUS29\hopkins.cpo2\us29.dgn
DATE: 05-SEP-00



LEGEND

5Y - 5" SOLID YELLOW	10DW - 10" DASHED WHITE (3' STRIPE, 9' GAP)
5DY - 5" DOUBLE YELLOW	YL - 10" DASHED WHITE YIELD LINE (3' STRIPE, 3' GAP)
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5DW - 5" DASHED WHITE (3' STRIPE, 9' GAP)	PDX - 8" WHITE LETTERS "PED XING"
5SW - 5" SKIP WHITE (10' STRIPE, 30' GAP)	CW - CROSS WALK SEE DETAIL, SHEET SN-2.1
10Y - 10" SOLID YELLOW	AR - WHITE THERMOPLASTIC ARROW
10W - 10" SOLID WHITE	AOA - WHITE THERMOPLASTIC LEGEND "ARROW", "ONLY", "ARROW" SEE DETAIL, SN-2.3

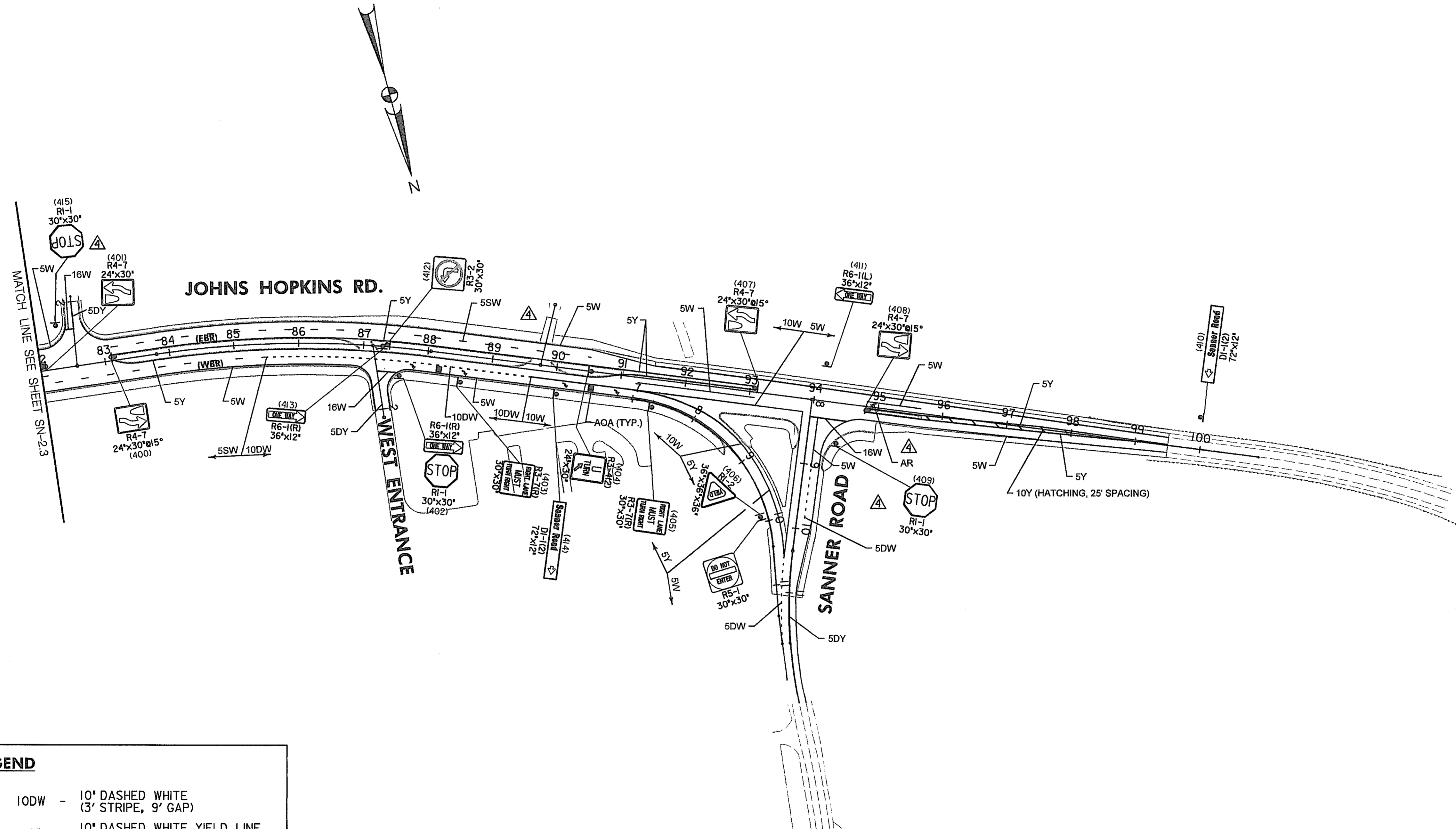
REVISIONS	
2	REDLINE NO.2 DATE: 7/30/01
3	REDLINE NO.3 DATE: 1/31/02

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

SIGNING & PAVEMENT MARKING PLAN
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

DRAWN BY: J.N.L.	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO. SN-2.3	SHEET NO. 286 OF 320
CHECK BY: ATD	S.H.A. NO. HO7415170	COUNTY HOWARD	
SCALE: 1"=100'			

HURST-ROSCHKE ENGINEERS, INC.
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683



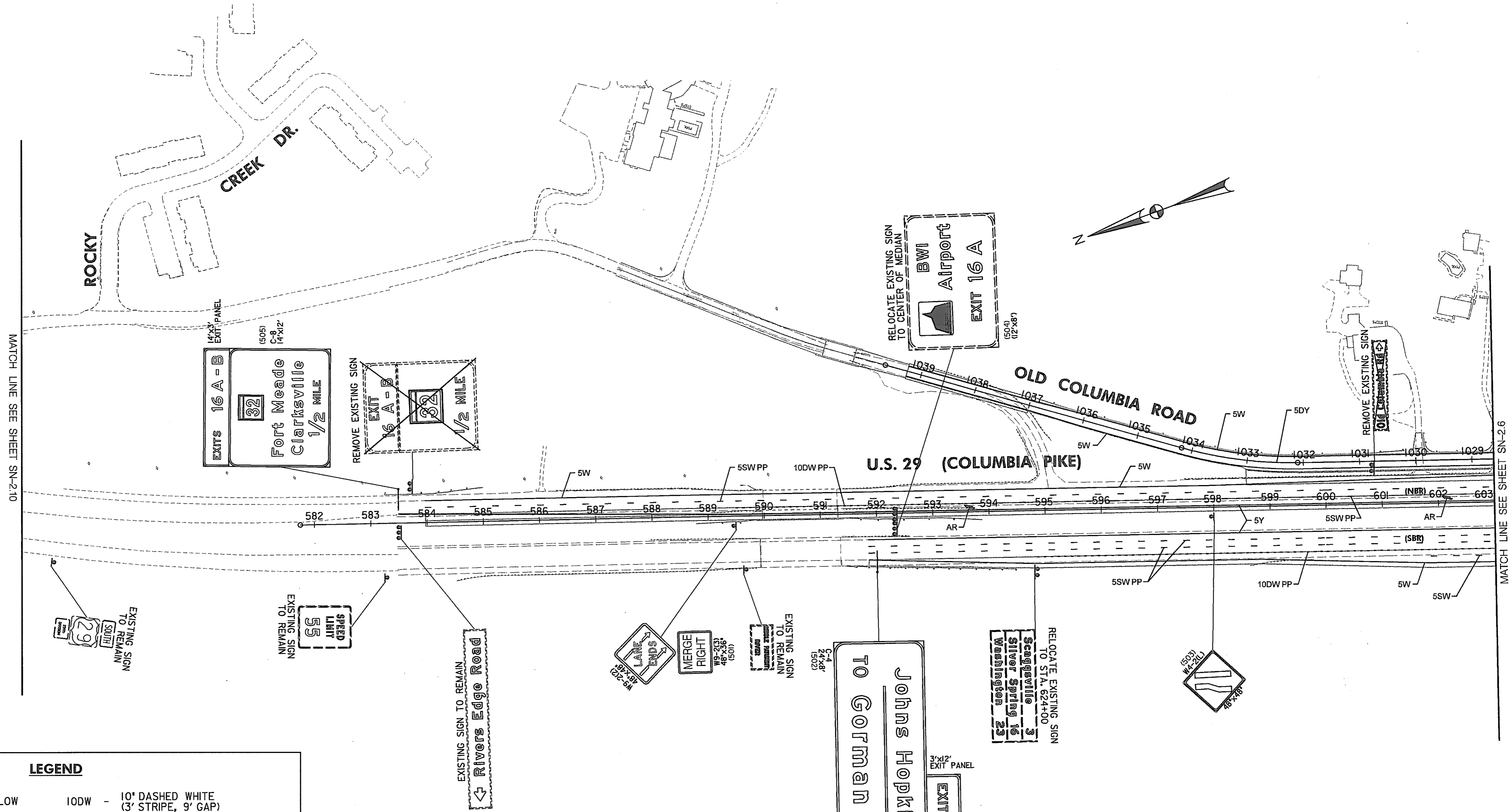
LEGEND

- | | |
|---|--|
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| 10W - 10" SOLID WHITE | AOA - WHITE THERMOPLASTIC LEGEND "ARROW", "ONLY", "ARROW" SEE DETAIL, SN-2.3 |

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REVISIONS ADDENDUM NO. 4, 9/7/00		MARYLAND DOT - STATE HIGHWAY ADMINISTRATION <i>Office of Traffic & Safety</i> TRAFFIC ENGINEERING DESIGN DIVISION	
SIGNING & PAVEMENT MARKING PLAN U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
DRAWN BY: SAZ/RSK CHECK BY: RSK SCALE: 1"=100'	F.A.P. NO. SEE TITLE SHEET S.H.A. NO. HO74IA21 COUNTY HOWARD	PLAN SHEET NO.: SN-2.4 SHEET NO.: 287 OF 320	HURST-ROSCHÉ ENGINEERS, INC. 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683

FILE: P:\user\NUS28\hopkins\cop04ue25.dgn
DATE: 06-SEP-00



MATCH LINE SEE SHEET SN-2.10

MATCH LINE SEE SHEET SN-2.6

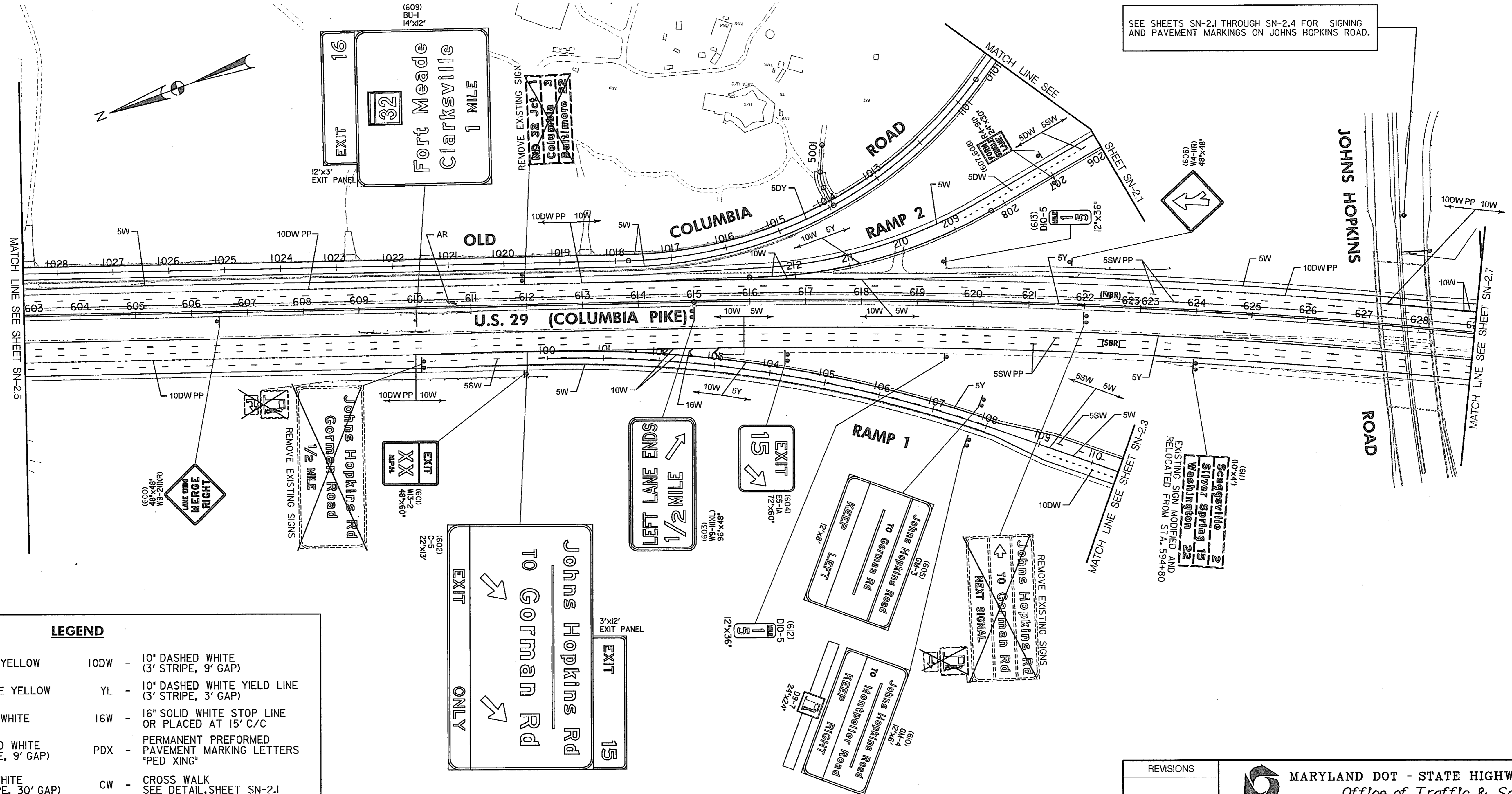
LEGEND	
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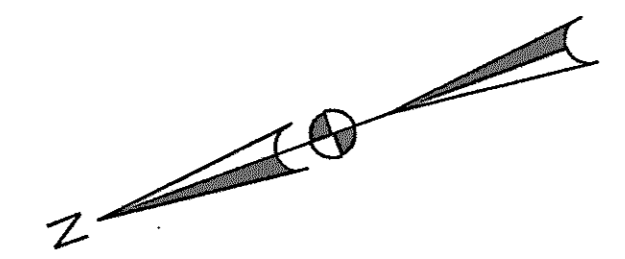
HURST-ROSCHKE ENGINEERS, INC.
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS		MARYLAND DOT - STATE HIGHWAY ADMINISTRATION <i>Office of Traffic & Safety</i> TRAFFIC ENGINEERING DESIGN DIVISION	
SIGNING & PAVEMENT MARKING PLAN U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
DRAWN BY: SAZ /RSK	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO. SN-2.5	SHEET NO. 288 OF 320
CHECK BY: RSK	S.H.A. NO. HO741A21	COUNTY HOWARD	
SCALE: 1"=100'			

FILE: \paser\US29hopkins_cp05us29.dgn
DATE: 29-Jun-00



SEE SHEETS SN-2.1 THROUGH SN-2.4 FOR SIGNING AND PAVEMENT MARKINGS ON JOHNS HOPKINS ROAD.



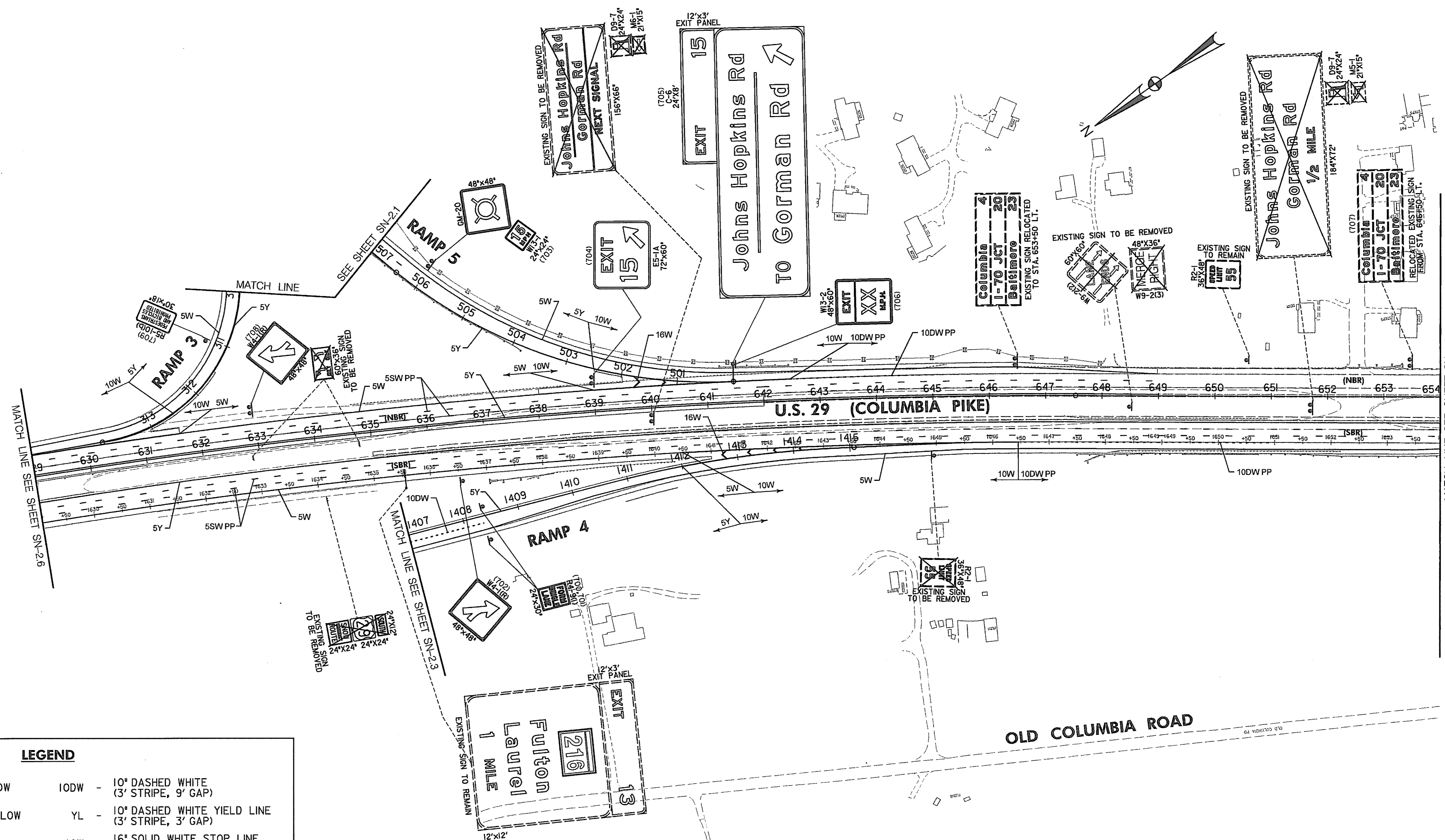
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REVISIONS		MARYLAND DOT - STATE HIGHWAY ADMINISTRATION <i>Office of Traffic & Safety</i> TRAFFIC ENGINEERING DESIGN DIVISION	
SIGNING & PAVEMENT MARKING PLAN U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
DRAWN BY: SAZ /RSK	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO.: SN-2.6	SHEET NO. 289 OF 320
CHECK BY: RSK	S.H.A. NO. HO74IA21	COUNTY: HOWARD	
SCALE: 1"=100'			

FILE: P:\p01\259\us29hopkline\cp06us29.dgn
 DATE: 12-29-00



LEGEND

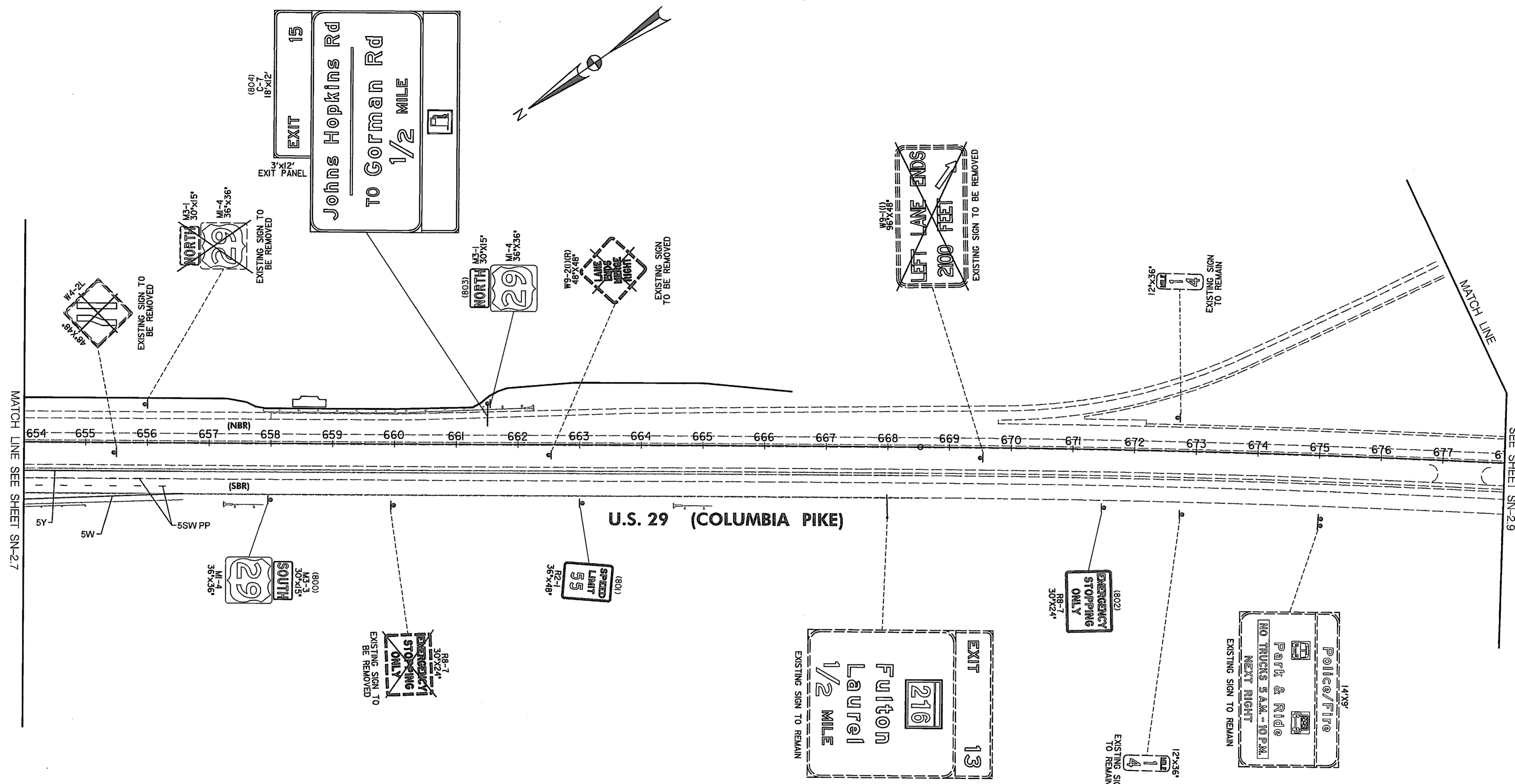
- | | |
|---|--|
| 5Y - 5" SOLID YELLOW | 10DW - 10" DASHED WHITE (3' STRIPE, 9' GAP) |
| 5DY - 5" DOUBLE YELLOW | YL - 10" DASHED WHITE YIELD LINE (3' STRIPE, 3' GAP) |
| 5W - 5" SOLID WHITE | 16W - 16" SOLID WHITE STOP LINE OR PLACED AT 15' C/C |
| 5DW - 5" DASHED WHITE (3' STRIPE, 9' GAP) | PDX - PERMANENT PREFORMED PAVEMENT MARKING LETTERS "PED XING" |
| 5SW - 5" SKIP WHITE (10' STRIPE, 30' GAP) | CW - CROSS WALK SEE DETAIL, SHEET SN-2.1 |
| 10Y - 10" SOLID YELLOW | AR - PERMANENT PREFORMED PAVEMENT MARKING ARROW |
| 10W - 10" SOLID WHITE | AOA - WHITE THERMOPLASTIC LEGEND "ARROW", "ONLY", "ARROW" SEE DETAIL, SN-2.3 |

NOTE: PAVEMENT MARKINGS WILL BE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS UNLESS NOTED OTHERWISE. LANE LINES AND LONGITUDINAL LINES ON US 29 WILL BE PERMANENT PREFORMED PATTERNED REFLECTIVE PAVEMENT MARKINGS. THE LEGEND SYMBOL FOR THESE MARKINGS WILL BE FOLLOWED BY THE LETTERS "PP".

FILE: P:\gser\US29Hopkins\cp07us29.dgn
DATE: 08-MAR-00

HURST-ROSCHÉ ENGINEERS, INC.
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS		MARYLAND DOT - STATE HIGHWAY ADMINISTRATION <i>Office of Traffic & Safety</i> TRAFFIC ENGINEERING DESIGN DIVISION	
DRAWN BY: SAZ /RSK	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO.: SN-2.7	SHEET NO. 290 OF 320
CHECK BY: RSK	S.H.A. NO. H0741A21	COUNTY: HOWARD	
SCALE: 1"=100'			




MATCH LINE SEE SHEET SN-27

SEE SHEET SN-29

LEGEND

5Y - 5" SOLID YELLOW	10DW - 10" DASHED WHITE (3' STRIPE, 9' GAP)
5DY - 5" DOUBLE YELLOW	YL - 10" DASHED WHITE YIELD LINE (3' STRIPE, 3' GAP)
5W - 5" SOLID WHITE	16W - 16" SOLID WHITE STOP LINE OR PLACED AT 15' C/C
5DW - 5" DASHED WHITE (3' STRIPE, 9' GAP)	PDX - PERMANENT PREFORMED PAVEMENT MARKING LETTERS "PED XING"
5SW - 5" SKIP WHITE (10' STRIPE, 30' GAP)	CW - CROSS WALK SEE DETAIL, SHEET SN-2.1
10Y - 10" SOLID YELLOW	AR - PERMANENT PREFORMED PAVEMENT MARKING ARROW
10W - 10" SOLID WHITE	AOA - WHITE THERMOPLASTIC LEGEND "ARROW", "ONLY", "ARROW" SEE DETAIL, SN-2.3

NOTE: PAVEMENT MARKINGS WILL BE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS UNLESS NOTED OTHERWISE. LANE LINES AND LONGITUDINAL LINES ON US 29 WILL BE PERMANENT PREFORMED PATTERNED REFLECTIVE PAVEMENT MARKINGS. THE LEGEND SYMBOL FOR THESE MARKINGS WILL BE FOLLOWED BY THE LETTERS "PP".

 MARYLAND DOT - STATE HIGHWAY ADMINISTRATION <i>Office of Traffic & Safety</i> TRAFFIC ENGINEERING DESIGN DIVISION			
SIGNING & PAVEMENT MARKING PLAN U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
DRAWN BY: SAZ /RSK CHECK BY: RSK SCALE: 1"=100'	F.A.P. NO. SEE TITLE SHEET S.H.A. NO. HO74IA21 COUNTY HOWARD	PLAN SHEET NO.: SN-2.8 SHEET NO.: 291 OF 320	REVISIONS

HURST-ROSCH ENGINEERS, INC.
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

FILE: P:\user\LS29\hopkins\cp080129.dgn
 DATE: 29-JUN-00

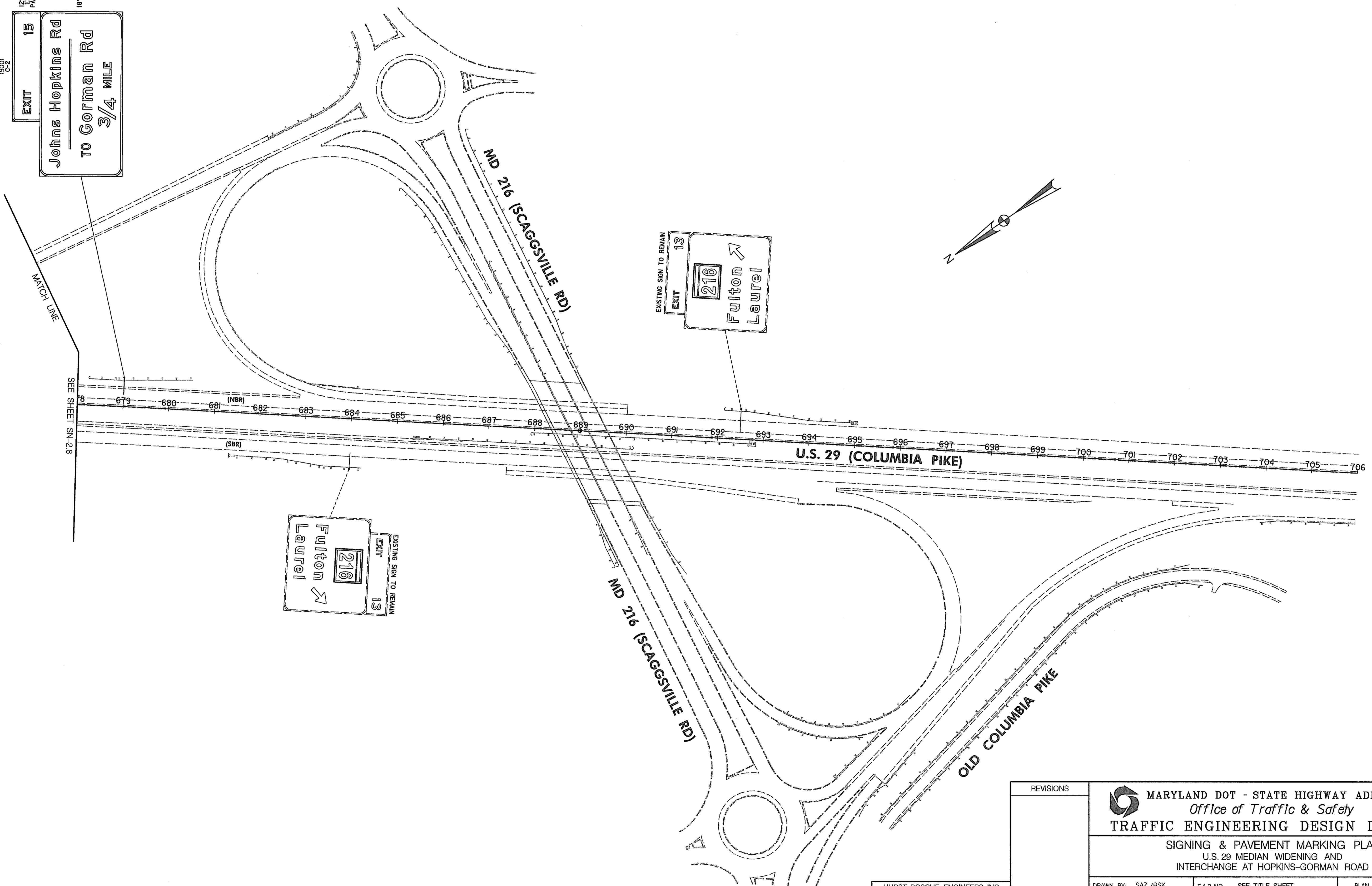
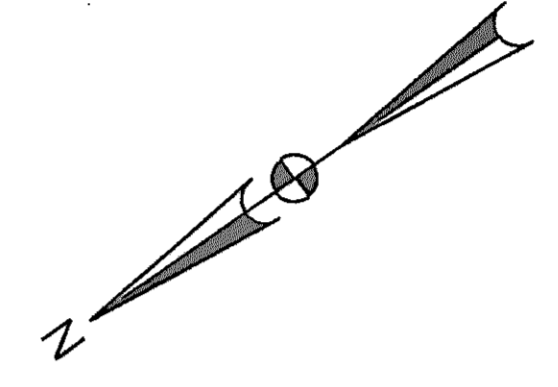
CP080129.DWG

12'x3' EXIT PANEL
 18'x9'

EXIT 15
 Johns Hopkins Rd
 TO Gorman Rd
 3/4 MILE

EXISTING SIGN TO REMAIN
 EXIT 13
 216
 Fuiton
 Laurel

EXISTING SIGN TO REMAIN
 EXIT 13
 216
 Fuiton
 Laurel

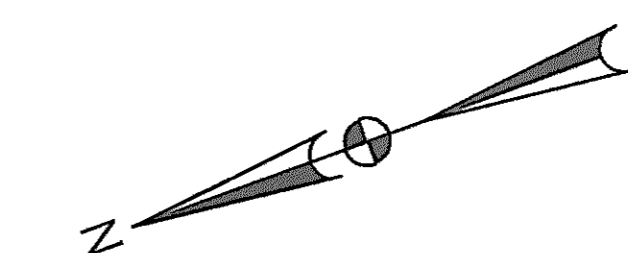
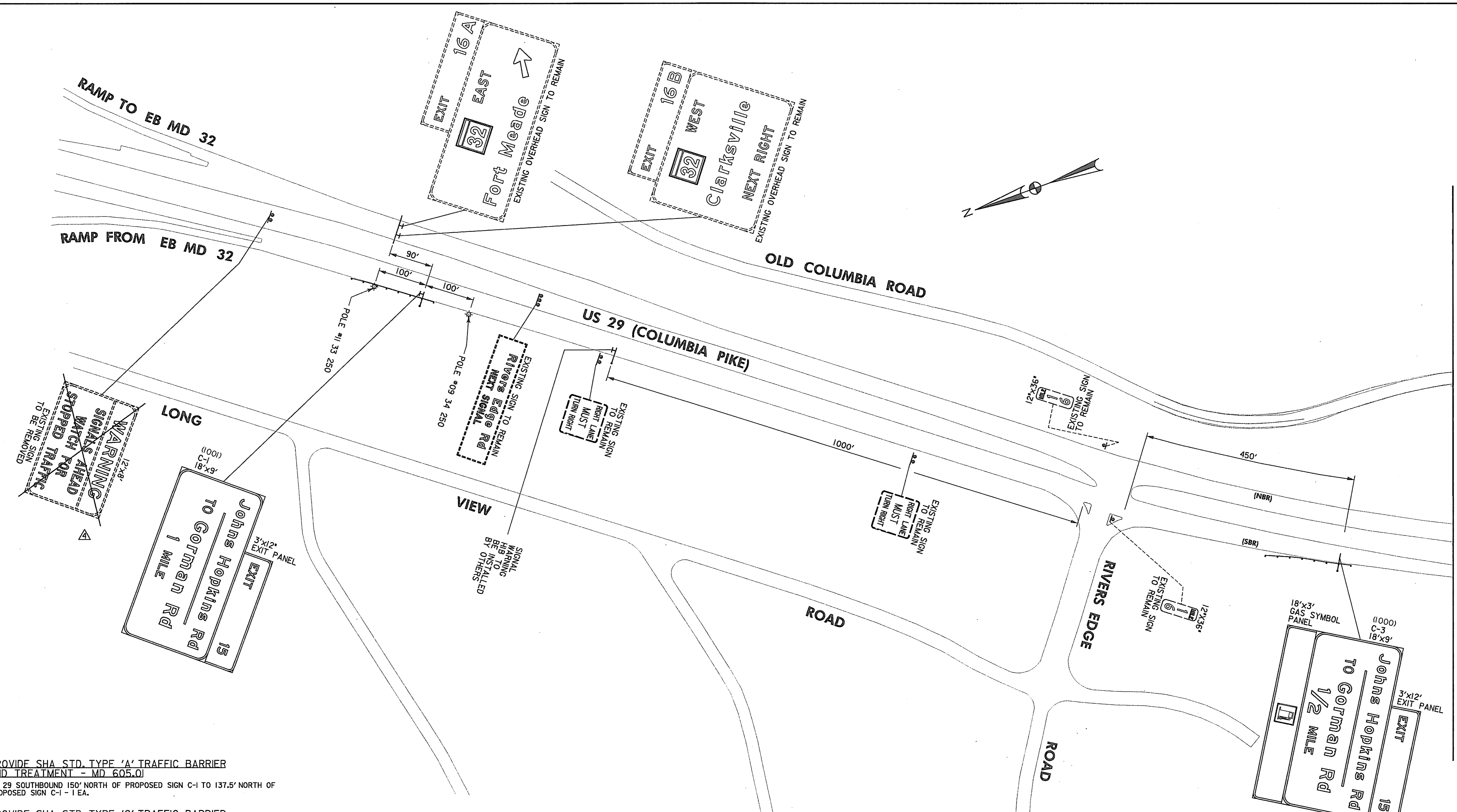


FILE:V:\user\15229hopkins\cp09uas29.dgn
 DATE: 29-Jun-00

HURST-ROSCH ENGINEERS, INC.
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	MARYLAND DOT - STATE HIGHWAY ADMINISTRATION <i>Office of Traffic & Safety</i> TRAFFIC ENGINEERING DESIGN DIVISION			
	SIGNING & PAVEMENT MARKING PLAN U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
DRAWN BY: SAZ /RSK	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO. SN-2.9	SHEET NO. 292 OF 320	
CHECK BY: RSK	S.H.A. NO. HO74IA21	COUNTY HOWARD		
SCALE: 1"=100'				

CP09US29.DGN



MATCH LINE SEE SHEET SN-25

PROVIDE SHA STD. TYPE 'A' TRAFFIC BARRIER
 END TREATMENT - MD 605.0
 US 29 SOUTHBOUND 150' NORTH OF PROPOSED SIGN C-1 TO 137.5' NORTH OF
 PROPOSED SIGN C-1 - 1 EA.

PROVIDE SHA STD. TYPE 'C' TRAFFIC BARRIER
 END TREATMENT - MD 605.03
 US 29 SOUTHBOUND 150' NORTH OF PROPOSED SIGN C-1 TO 100' NORTH OF
 PROPOSED SIGN C-1 - 1 EA. (FLARE AT 50')

PROVIDE SHA STD. TYPE 'I' TRAFFIC BARRIER
 END TREATMENT - MD 605.10
 US 29 SOUTHBOUND 25' SOUTH OF PROPOSED SIGN C-1 - 1 EA.
 US 29 SOUTHBOUND 25' SOUTH OF PROPOSED SIGN C-3 - 1 EA.

PROVIDE SHA STD. TRAFFIC BARRIER W BEAM - MD 660.0
 US 29 SOUTHBOUND 100' NORTH OF PROPOSED SIGN C-1 TO 25' SOUTH
 OF PROPOSED SIGN C-1 - 125 L.F. (FACE OF BARRIER SHALL BE PLACED
 1' FROM THE EDGE OF THE SHOULDER)

US 29 SOUTHBOUND 137.5' NORTH OF PROPOSED SIGN C-3 TO 25' SOUTH
 OF PROPOSED SIGN C-3 - 162.5 L.F. (FACE OF BARRIER SHALL BE PLACED
 2' FROM THE EDGE OF THE SHOULDER)

FILE: P:\perry\US29Hopkins\epi0us29.dgn
 DATE: 06-29-00

HURST-ROSCH ENGINEERS, INC.
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS ADDENDUM NO. 4, 9/7/00		MARYLAND DOT - STATE HIGHWAY ADMINISTRATION <i>Office of Traffic & Safety</i> TRAFFIC ENGINEERING DESIGN DIVISION	
SIGNING & PAVEMENT MARKING PLAN U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
DRAWN BY: SAZ /RSK CHECK BY: RSK SCALE: 1" = 100'	F.A.P. NO.: SEE TITLE SHEET S.H.A. NO.: HO74IA21 COUNTY: HOWARD	PLAN SHEET NO.: SN-2.10 293 OF 320	SHEET NO.

PANEL DESIGNATION	SHEET NO.	QUANTITY	LEGEND	AREA Sq. Ft.	SIZE		COLOR		BORDER		REMARKS	PANEL DESIGNATION	SHEET NO.	QUANTITY	LEGEND	AREA Sq. Ft.	SIZE		COLOR		BORDER		REMARKS				
					WIDTH	HEIGHT	LEGEND	BCKGRND	WIDTH	RADIUS							ARROW	SHIELD (WxH)	WIDTH	HEIGHT	LEGEND	BCKGRND		WIDTH	RADIUS	ARROW	SHIELD (WxH)
C-1	SN-2.10	1		36	12'-0"	3'-0"	W	G	2"	6"	N/A	N/A	EXTRUDED	C-8	SN-2.5	1		42	14'-0"	3'-0"	W	G	2"	6"	N/A	N/A	EXTRUDED
C-2	SN-2.9	1		36	12'-0"	3'-0"	W	G	2"	6"	N/A	N/A	EXTRUDED	C-9	SN-2.1	1		264	22'-0"	12'-0"	W	G	2"	12"	A-2 @ 45° (2)	MI-4 36"x36"	EXTRUDED
C-3	SN-2.10	2		36	12'-0"	3'-0"	W	G	2"	6"	N/A	N/A	EXTRUDED	C-5	SN-2.6	1		36	12'-0"	3'-0"	W	G	2"	6"	N/A	N/A	EXTRUDED
C-7	SN-2.8	2		162	18'-0"	9'-0"	W	G	2"	12"	N/A	N/A	EXTRUDED	C-6	SN-2.7	2		192	24'-0"	8'-0"	W	G	2"	12"	A-3 @ 60°	N/A	EXTRUDED
C-4	SN-2.5	2		36	12'-0"	3'-0"	W	G	2"	6"	N/A	N/A	EXTRUDED	BU-1	SN-2.6	1		36	12'-0"	3'-0"	W	G	2"	6"	N/A	N/A	EXTRUDED
C-6	SN-2.7	2		54	18'-0"	3'-0"	W	B	-	-	N/A	N/A	D9-7 30"x30" EXTRUDED														

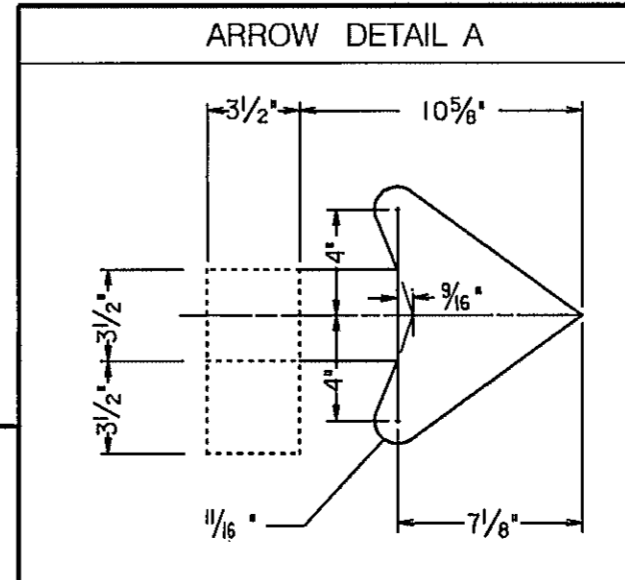
LEGEND & BACKGROUND COLORS: BLK=BLACK, BLU=BLUE, BRO=BROWN, G=GREEN, R=RED, W=WHITE/SILVER, Y=YELLOW

FILE: P:\perry\US29hopkins\sn31us29.dgn
 DATE: 23-Jun-00

REVISIONS		MARYLAND DOT - STATE HIGHWAY ADMINISTRATION <i>Office of Traffic & Safety</i> TRAFFIC ENGINEERING DESIGN DIVISION GUIDE SIGNS - DETAILS AND DIMENSIONS U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD		DRAWN BY: SAZ/RSK	F.A.P. NO.: SEE TITLE SHEET	PLAN SHEET NO.: SN-3.1	SHEET NO.: 294 OF 320	
CHECK BY: RSK				S.H.A. NO.: HO74/A21	COUNTY: HOWARD	SCALE: NOT TO SCALE	DATE: 23-Jun-00	FILE: P:\perry\US29hopkins\sn31us29.dgn
HURST-ROSCH ENGINEERS, INC. 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683				SN31US29.DGN				

PANEL DESIGNATION	SHEET NO.	QUANTITY	LEGEND	AREA Sq. Ft.	SIZE		COLOR		BORDER		REMARKS	PANEL DESIGNATION	SHEET NO.	QUANTITY	LEGEND	AREA Sq. Ft.	SIZE		COLOR		BORDER		REMARKS				
					WIDTH	HEIGHT	LEGEND	BCKGRND	WIDTH	RADIUS							ARROW	SHIELD (WxH)	WIDTH	HEIGHT	LEGEND	BCKGRND		WIDTH	RADIUS	ARROW	SHIELD (WxH)
GM-3	SN-2.6	1		96	12'-0"	8'-0"	W	G	2"	9"	N/A	N/A	EXTRUDED REMAINING MESSAGE YET TO BE DETERMINED	GM-8	SN-2.3	1		42	7'-0"	6'-0"	W	G	2"	9"	N/A	MI-4 18"x18"	EXTRUDED
GM-4	SN-2.6	1		72	12'-0"	6'-0"	W	G	2"	9"	N/A	N/A	EXTRUDED	GM-9	SN-2.3	1		35	5'-0"	7'-0"	W	G	2 3/8"	6"	A-2 45°	MI-4 24"x24"	EXTRUDED
GM-6	SN-2.3	2	<p>* SPACING REDUCED 25%</p>	20	4'-0"	5'-0"	BLK	W	3/4"	3"	N/A	N/A	MODIFIED R3-7(1)(R) SHEET MARGIN = 3/4"	GM-14	SN-2.3	1		84	12'-0"	7'-0"	W	G	2"	9"	ARROW DETAIL 'A'	N/A	EXTRUDED REMAINING MESSAGE YET TO BE DETERMINED
GM-7	SN-2.3	1		18	6'-0"	3'-0"	W	G	1/2"	-	N/A	N/A	MODIFIED D-3(3) SHEET MARGIN = 1/2"	GM-10	SN-2.2	3		8	4'-0"	2'-0"	BLK	Y	-	-	N/A	N/A	SHEET

LEGEND & BACKGROUND COLORS: BLK=BLACK, BLU=BLUE, BRO=BROWN, G=GREEN, R=RED, W=WHITE/SILVER, Y=YELLOW



REVISIONS

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

GUIDE SIGNS - DETAILS AND DIMENSIONS
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

DRAWN BY: SAZ /RSK	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.
CHECK BY: RSK	S.H.A. NO. HO741A21	SN-3.2	295 OF 320
SCALE: NOT TO SCALE	COUNTY: HOWARD		

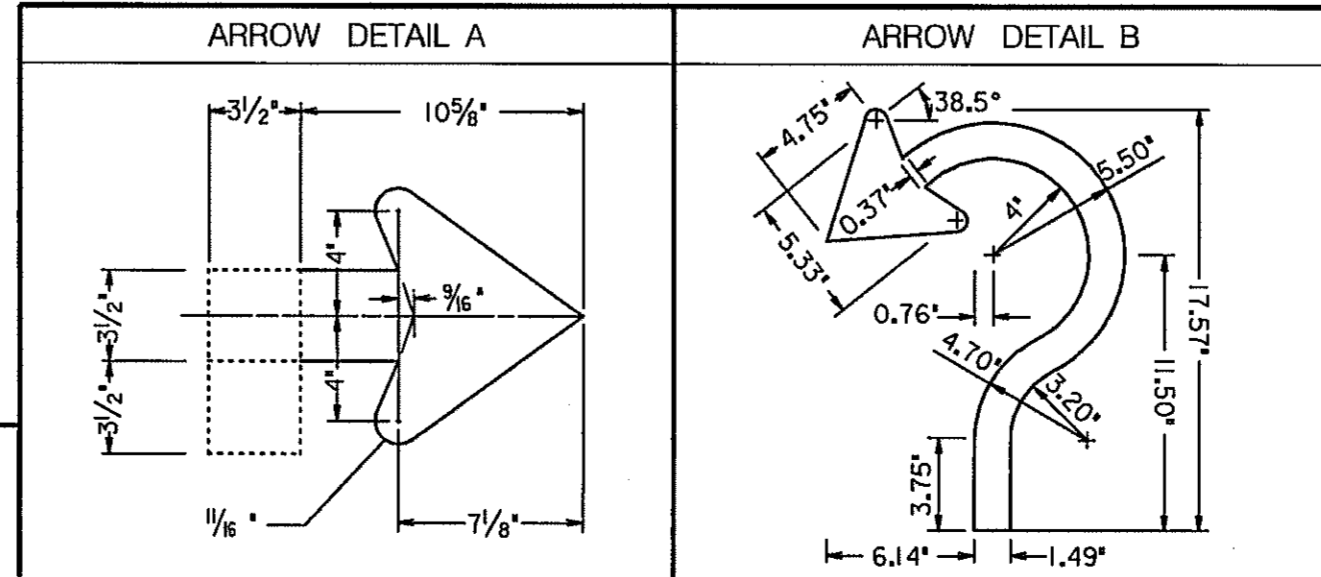
HURST-ROSCHÉ ENGINEERS, INC.
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

FILE: P:\paper\US29Hopkins\sn32us29.dgn
 DATE: 29-Jun-00

SN32US29.DGN

PANEL DESIGNATION	SHEET NO.	QUANTITY	LEGEND	AREA Sq. Ft.	SIZE		COLOR		BORDER		REMARKS	PANEL DESIGNATION	SHEET NO.	QUANTITY	LEGEND	AREA Sq. Ft.	SIZE		COLOR		BORDER		REMARKS				
					WIDTH	HEIGHT	LEGEND	BCKGRND	WIDTH	RADIUS							ARROW	SHIELD (W/H)	WIDTH	HEIGHT	LEGEND	BCKGRND		WIDTH	RADIUS	ARROW	SHIELD (W/H)
GM-11	SN-2.3	1		54	6'-0"	9'-0"	W	G	2"	9"	A-3 @ 45°	MI-4 36"x36"	EXTRUDED	GM-16	SN-2.2	1		60	10'-0"	6'-0"	W	G	2"	9"	A-1 @ 60°	MI-4 18"x18"	EXTRUDED
GM-12	SN-2.1	1		8	2'-0"	4'-0"	W	BLU	1/2"	1/2"	N/A	D9-7 SHEET	GM-17	SN-2.2	1		40	5'-0"	8'-0"	W	G	2"	6"	A-2	MI-4 24"x24"	EXTRUDED	
GM-13 GM-21	SN-2.1 SN-2.2	1 1		40	10'-0"	4'-0"	W	G	1 1/8"	6"	ARROW DETAIL 'A'	N/A	EXTRUDED	GM-18	SN-2.2	1		33	5'-6"	6'-0"	W	G	2"	9"	A-1 @ 30°	MI-4 18"x18"	EXTRUDED
GM-15	SN-2.2	1		33	5'-6"	6'-0"	W	G	2"	9"	A-1 @ 30°	MI-4 18"x18"	EXTRUDED	GM-19 GM-20	SN-2.1 SN-2.7	1 1		16	4'-0"	4'-0"	BLK	Y	1"	3"	N/A	N/A	SHEET MARGIN = 1"

LEGEND & BACKGROUND COLORS: BLK=BLACK, BLU=BLUE, BRO=BROWN, G=GREEN, R=RED, W=WHITE/SILVER, Y=YELLOW



REVISIONS

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

GUIDE SIGNS - DETAILS AND DIMENSIONS
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

DRAWN BY: SAZ /RSK	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.
CHECK BY: RSK	S.H.A. NO. HO74IA21	SN-3.3	296 OF 320
SCALE: NOT TO SCALE	COUNTY: HOWARD		

HURST-ROSCHÉ ENGINEERS, INC.
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

FILE: P:\peter\15229\hopkins\sn33us29.dgn
 DATE: 29-Jun-00

SN33US29.DGN

GUIDE SIGN STEEL SUPPORT CHART

SIGN NO.	PANEL DESIGNATION	SHEET NO.	POST SIZE	*BW OR NBW	SUPPORT L-1	SUPPORT L-2	SUPPORT L-3	LATERAL CLEARANCE CODE
115	GM-13	SN-2.1	W6X9	BW	14'-9"	15'-3"		4
	GM-12							
122	GM-18	SN-2.1	W6X9	BW	12'-8"	12'-8"		5
204	GM-15	SN-2.2	W6X9	NBW	13'-7"	15'-1"		1
207	GM-16	SN-2.2	W6X12	NBW	13'-7"	16'-7"		1
208	GM-17	SN-2.2	W6X9	BW	16'-6"	15'-11"		6
216	GM-21	SN-2.2	W6X9	NBW	11'-8"	13'-9"		1
302	GM-11	SN-2.3	W6X12	NBW	17'-5"	18'-11"		1
323	GM-8	SN-2.3	W6X9	BW	12'-11"	12'-10"		3
324	GM-9	SN-2.3	W6X9	BW	13'-10"	13'-10"		6
334	M2-2(3)	SN-2.3	W6X9	BW	13'-0"	12'-11"		3
335	GM-14	SN-2.3	W6X15	BW	16'-4"	17'-10"		4
603	W9-10(L)	SN-2.6	W6X9	BW	13'-11"	15'-1"		5
604	E5-1A	SN-2.6	W6X9	BW	12'-6"	13'-1"		6
605	GM-3	SN-2.6	W6X12	BW	16'-6"	15'-6"		4
610	GM-4	SN-2.6	W6X12	BW	16'-8"	16'-6"		4
704	E5-1A	SN-2.7	W6X9	BW	15'-2"	15'-9"		6

* BW = BREAKAWAY NBW = NON-BREAKAWAY

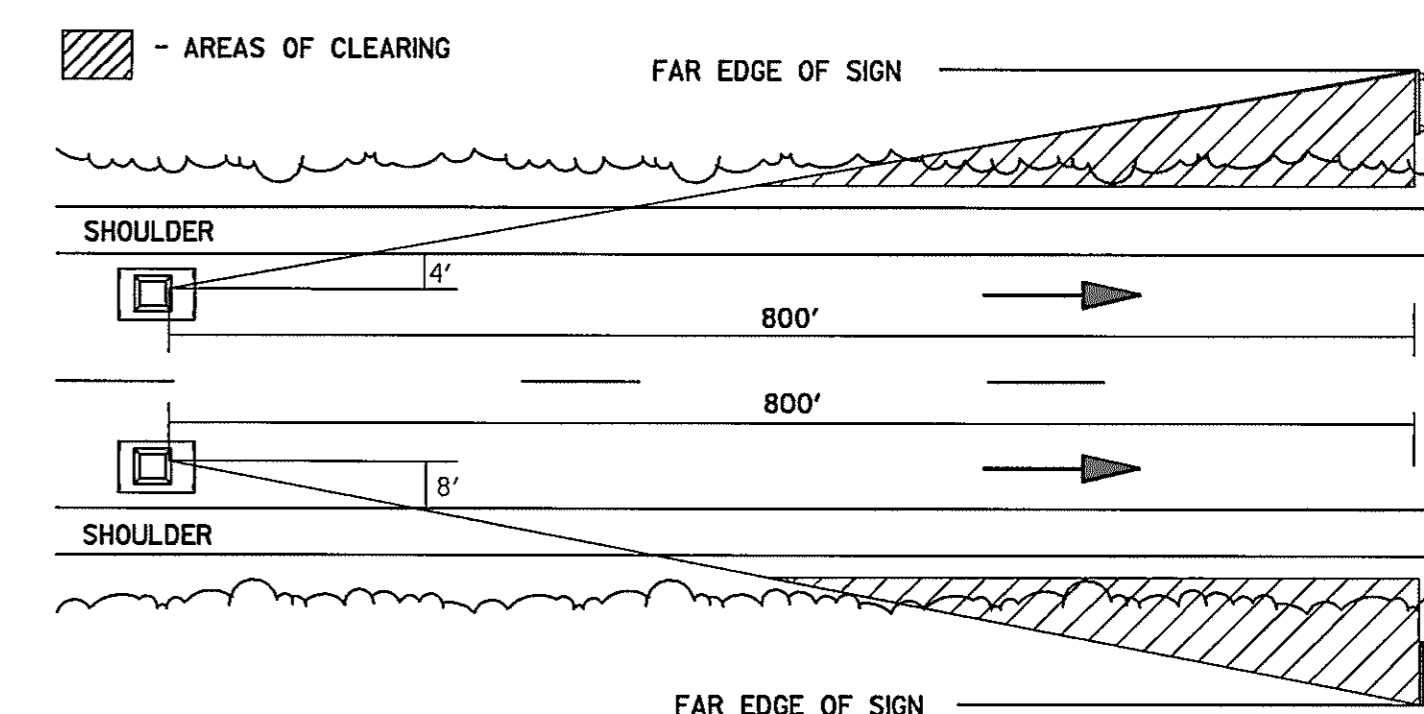
GUIDE SIGN WOOD SUPPORT CHART

SIGN NO.	PANEL DESIGNATION	SHEET NO.	POST SIZE	*BW OR NBW	SUPPORT L-1	SUPPORT L-2	SUPPORT L-3	LATERAL CLEARANCE CODE	SUPPORT SPACING FROM LEFT EDGE OF SIGN
309	DI-1(2)	SN-2.3	4"x6"	BW	13'-3"	14'-0"		3	1'-2", 4'-10"
336	GM-7	SN-2.3	4"x6"	BW	14'-11"	14'-10"		3	1'-2", 4'-10"
410	DI-1(2)	SN-2.4	4"x4"	BW	14'-8"	15'-8"		4	1'-2", 4'-10"
414	DI-1(2)	SN-2.4	4"x4"	BW	12'-8"	12'-7"		4	1'-2", 4'-10"

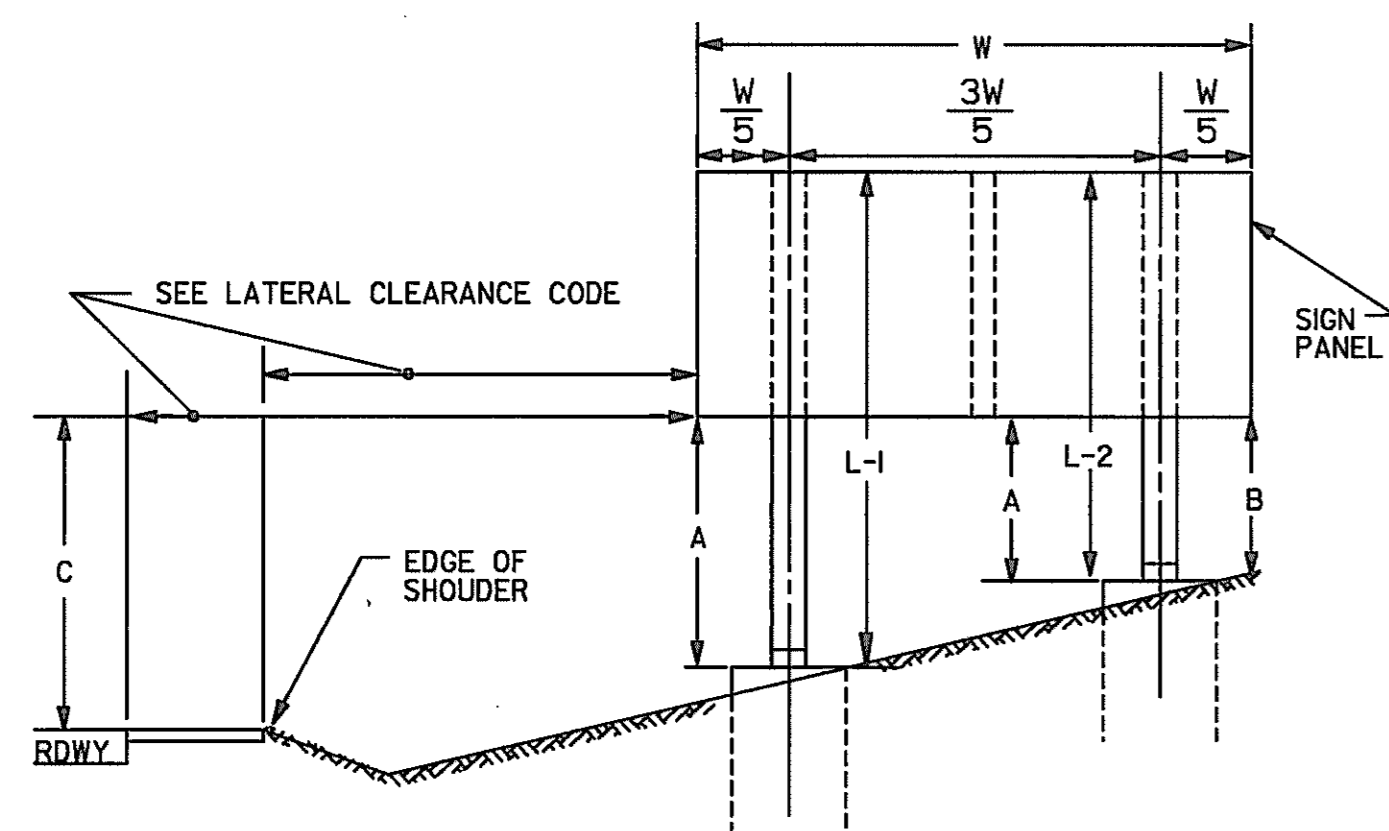
* BW = BREAKAWAY NBW = NON-BREAKAWAY

NOTE: SEE MARYLAND STANDARDS 812.01, 812.04, AND 813.02 FOR WARNING AND REGULATORY SIGN INSTALLATION

FOLIAGE CLEARING FOR SIGN INSTALLATIONS



SIGN STAKEOUT DIMENSIONS

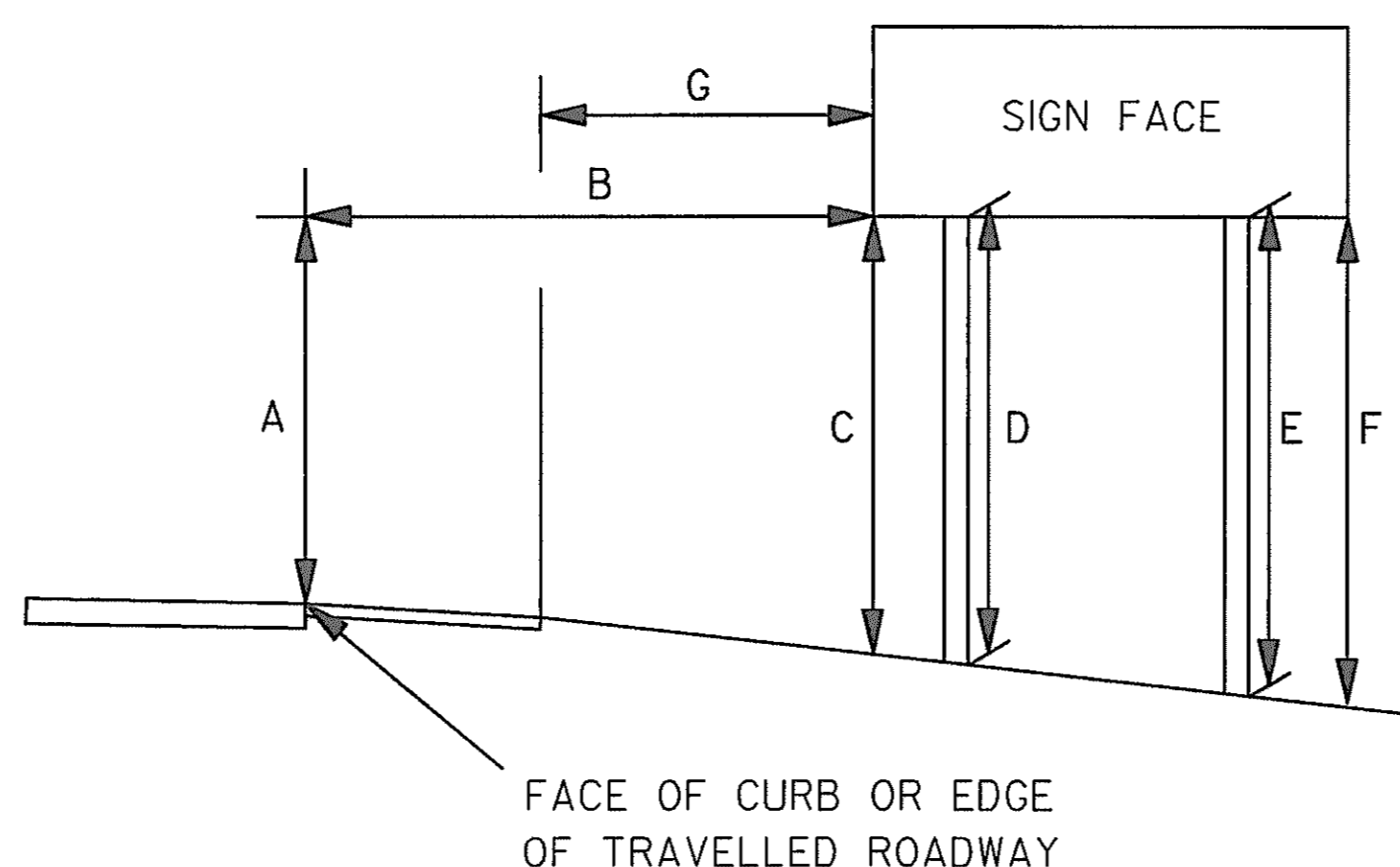


VERTICAL CLEARANCE OF SIGNS

- A. 7'-6" MINIMUM FOR BREAKAWAY SUPPORTS OR 5'-6" FOR NON-BREAKAWAY SUPPORTS.
 - B. 2'-0" MINIMUM
 - C. 7'-6" MINIMUM & PREFERABLE. THIS DIMENSION IS TO BE INCREASED ONLY WHEN REQUIRED TO MEET A = 7'-6" FOR BREAKAWAY OR A (MIN.) = 5'-6" FOR NON-BREAKAWAY AND B (MIN.) 2'-0"
- ALL DIMENSIONS ARE TO BOTTOM OF SIGN

LATERAL CLEARANCE CODE

- 1 = EDGE OF SIGN 6' FROM FACE OF W-BEAM TRAFFIC BARRIER
- 2 = EDGE OF SIGN 30' FROM EDGE OF TRAVELED ROADWAY
- 3 = EDGE OF SIGN 6' MIN. FROM FACE OF CURB
- 4 = EDGE OF SIGN 6' FROM EDGE OF SHOULDER
- 5 = SIGN CENTERED IN MEDIAN
- 6 = EDGE OF SIGN 6' FROM EACH EDGE OF SHOULDER CENTERED IN GORE AREA



NOTE: SEE SECTION 802 IN THE CONTRACT DOCUMENTS FOR SIGN STAKEOUT LOCATIONS.

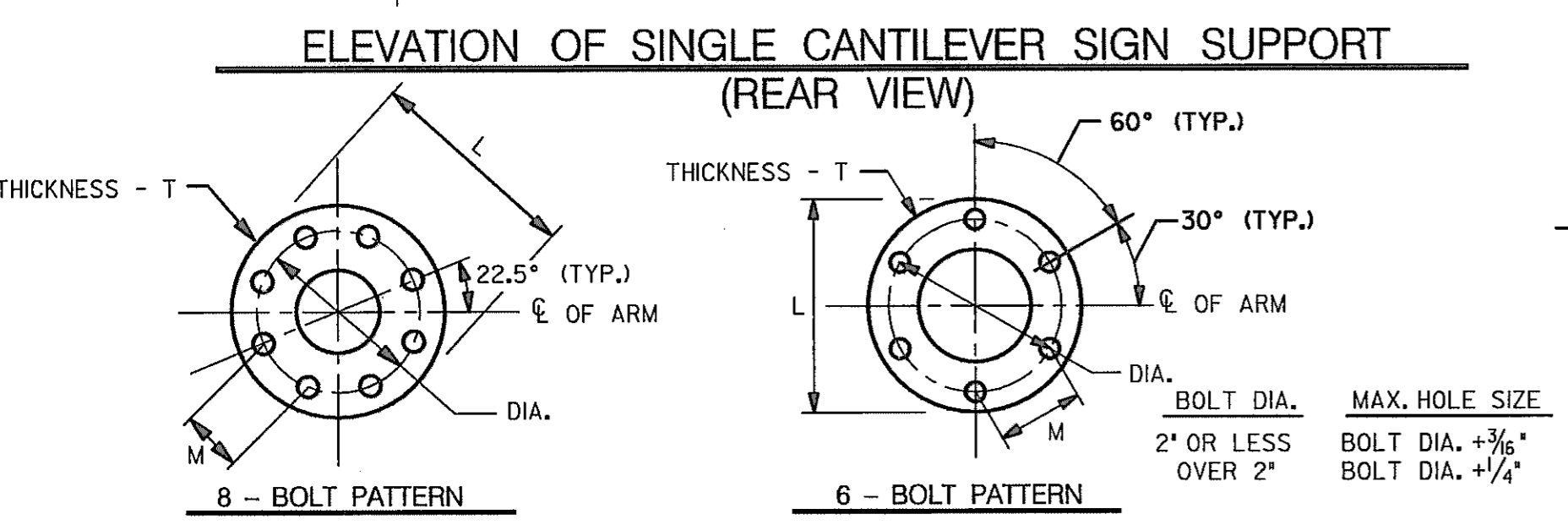
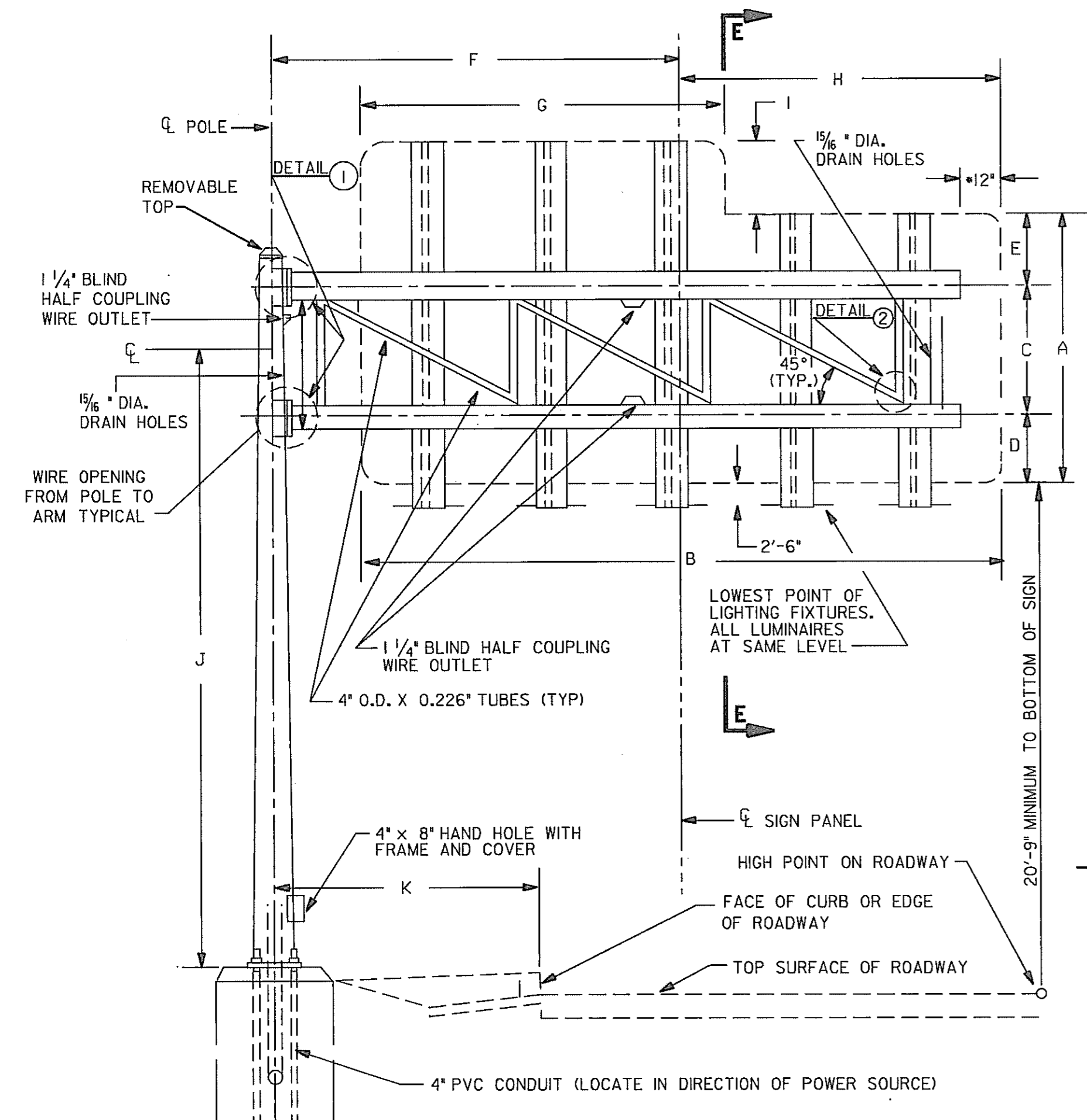
Acceptable Viewing Distance for Sign

Copy Size	Distance
20" u.c.	1000 ft
18" u.c.	800 ft
13.3 u.c.	675 ft
10.67 u.c.	550 ft

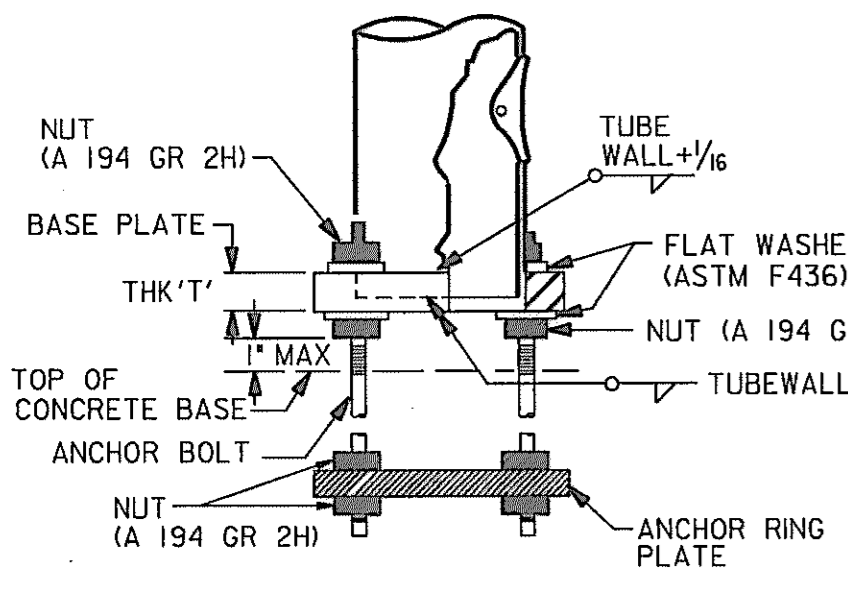
REVISIONS
ADDENDUM NO. 4, 9/7/00

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GUIDE SIGN SUPPORTS
U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD

DRAWN BY: SAZ	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.
CHK. BY: ATD	S.H.A. NO. H0741A21	SCALE: NOT TO SCALE	SN-4 297 OF 320
COUNTY: HOWARD			



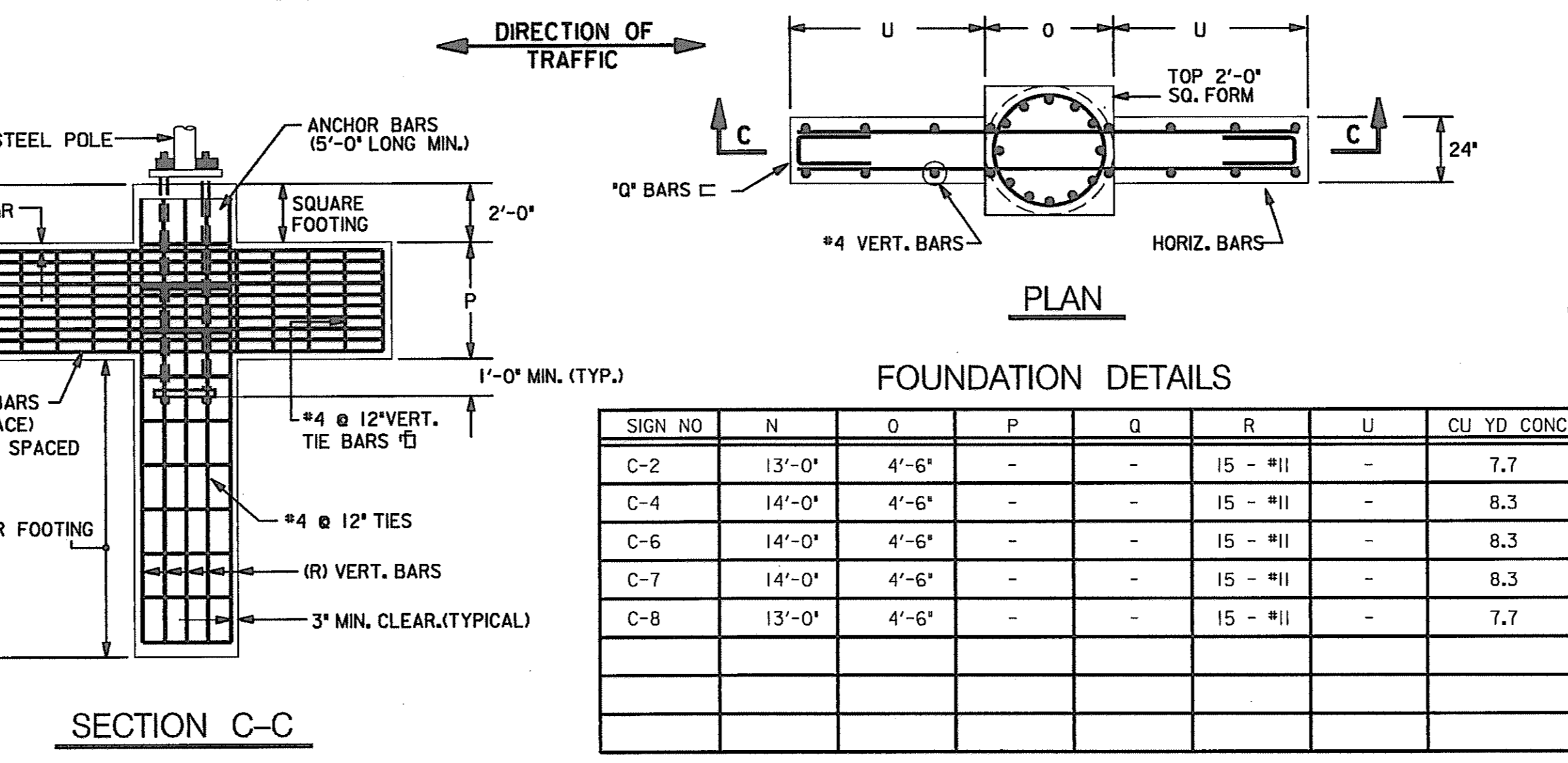
POLE SIZE	BASE PLATE DIMENSIONS				ANCHOR BOLTS	
	L	M	T	DIA.	NUMBER & SIZE	ROUND ANCHOR PLATE
24" O.D. x 0.312" THK	38"	12 3/8"	2 3/4"	3 1/8"	8 - 2 1/4" DIA.	3/4" THK. x 38" DIA.
24" O.D. x 0.344" THK	38"	12 3/8"	2 3/4"	3 1/8"	8 - 2 1/4" DIA.	3/4" THK. x 38" DIA.



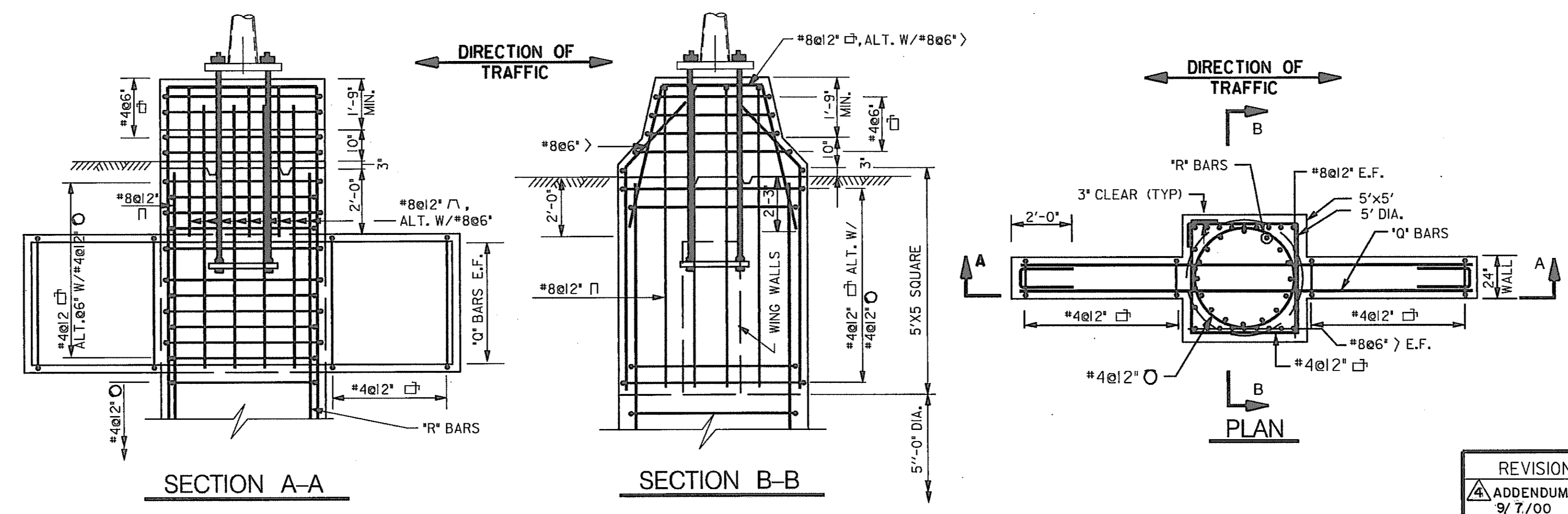
- INSTALLATION NOTES:**
- 1) ALL ANCHOR BOLTS SHALL BE PLUMB AFTER FOUNDATION INSTALLATION.
 - 2) BASE PLATE SHALL BE IN FULL CONTACT WITH ALL FLAT WASHERS
 - 3) ALL ANCHOR BOLT NUTS SHALL BE TIGHTENED USING TURN OF NUT METHOD.
 - 4) GROUT SHALL NOT BE PLACED BETWEEN THE BASE PLATE AND CONCRETE TOP.

SIGN NO.	POLE SIZE	ARM TUBE SIZE	A	B	C	D	E	F	G	H	I	J	K	DESIGN SIGN AREA	CAMBER ΔH	CAMBER ΔV	STRUCTURE LOCATION
C - 2	24" O.D. x 0.312" THK	10.75" O.D. x 0.250" THK	9'-0"	18'-0"	4'-0"	2'-6"	2'-6"	17'-0"	12'-0"	9'-0"	3'-0"	26'-9"	25'-9"	18'-0" (W) x 11'-0" (H) PLUS EXIT PANEL*	1 1/8"	2 3/8"	US 29 (NB) STA. 679+00
C - 4	24" O.D. x 0.344" THK	10.75" O.D. x 0.307" THK	8'-0"	24'-0"	4'-0"	2'-0"	2'-0"	16'-0"	12'-0"	12'-0"	3'-0"	29'-6"	26'-0"	24'-0" (W) x 10'-0" (H) PLUS EXIT PANEL*	1 7/8"	2 5/8"	US 29 (SB) STA. 592+00
C - 6	24" O.D. x 0.344" THK	10.75" O.D. x 0.307" THK	8'-0"	24'-0"	4'-0"	2'-0"	2'-0"	16'-0"	12'-0"	12'-0"	3'-0"	27'-6"	14'-0"	24'-0" (W) x 10'-0" (H) PLUS EXIT PANEL*	1 7/8"	2 5/8"	US 29 (NB) STA. 641+50
C - 7	24" O.D. x 0.344" THK	10.75" O.D. x 0.250" THK	12'-0"	18'-0"	4'-0"	4'-0"	4'-0"	14'-0"	12'-0"	9'-0"	3'-0"	28'-9"	22'-6"	18'-0" (W) x 15'-0" (H) PLUS EXIT PANEL*	1 1/8"	1 3/4"	US 29 (NB) STA. 661+50
C - 8	24" O.D. x 0.312" THK	10.75" O.D. x 0.250" THK	12'-0"	14'-0"	4'-0"	4'-0"	4'-0"	14'-0"	12'-0"	7'-0"	3'-0"	29'-6"	20'-9"	14'-0" (W) x 15'-0" (H) PLUS EXIT PANEL*	1"	1 1/2"	US 29 (NB) STA. 583+50

TYPICAL CANTILEVER FOUNDATION



CANTILEVER FOUNDATION FOR CONCRETE MEDIAN BARRIER



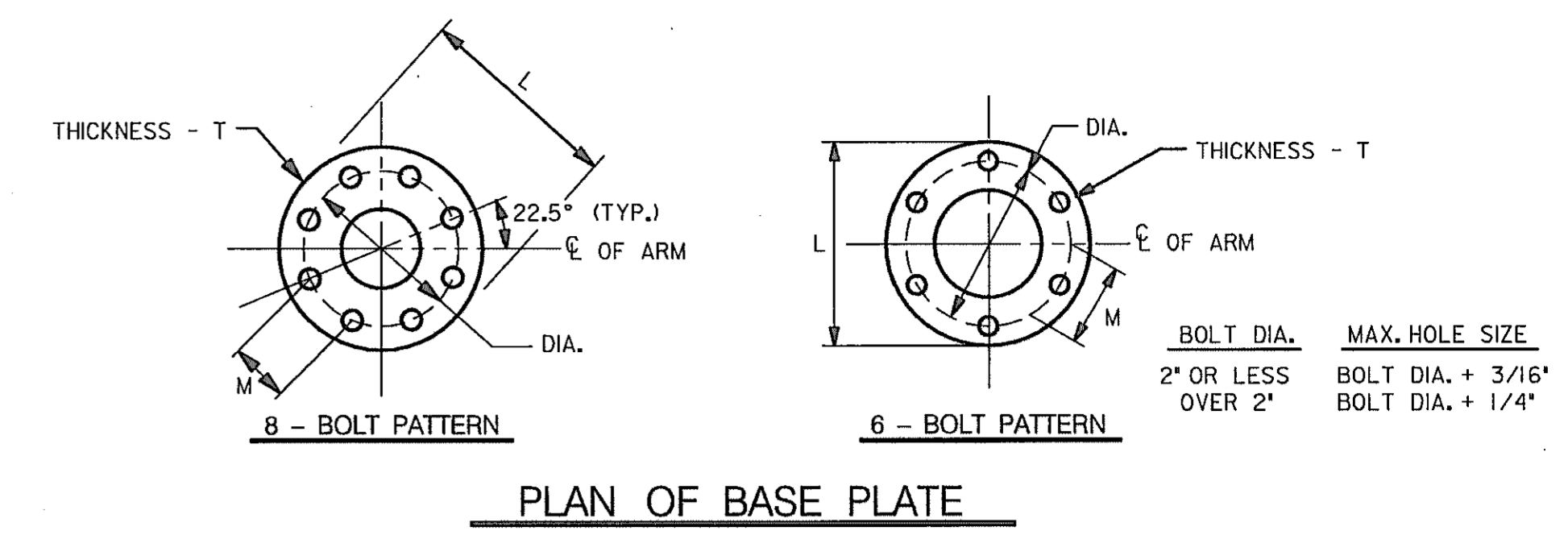
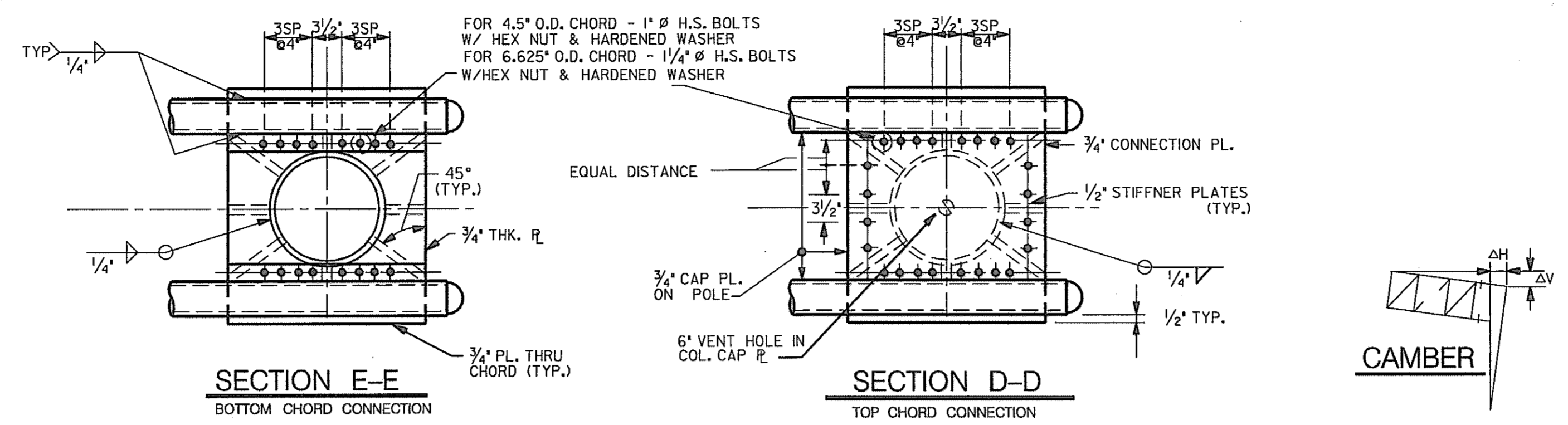
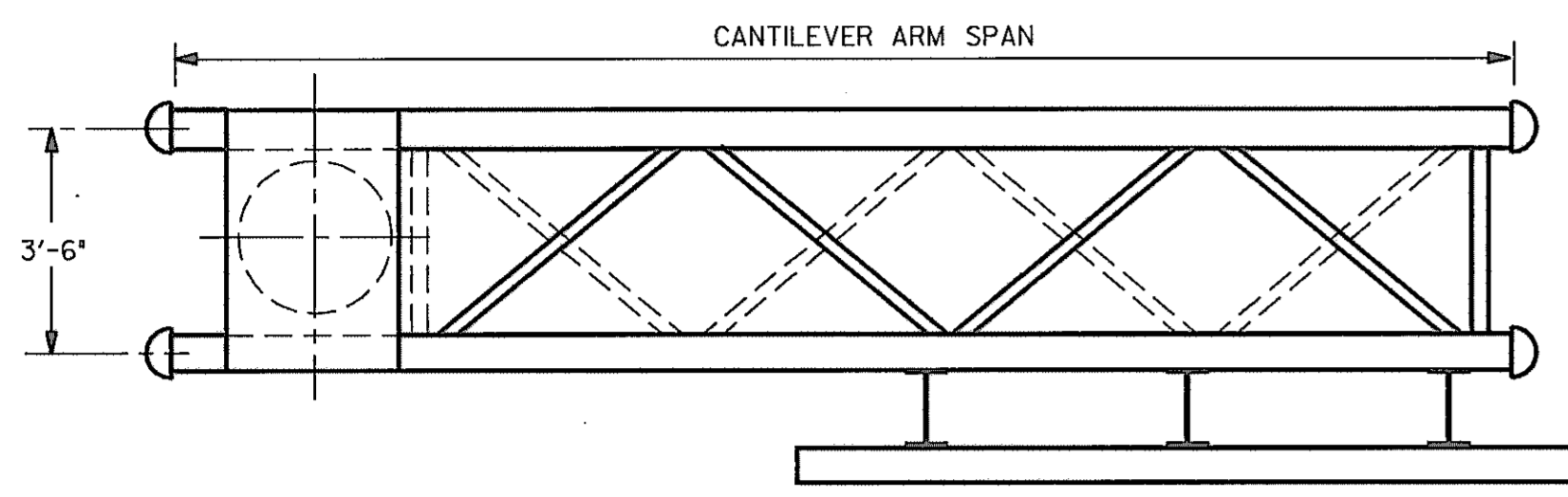
ARM TUBE SIZE	WELD SIZE		ARM TO POST CONNECTION - FLANGE PLATE DIMENSIONS					
	S	T	NO. OF BOLTS	FLANGE PLATE THICK.	W	X	Y	Z
10.75" O.D. x 0.250" THK.	1/4"	3/8"	6 - 1/2" DIA.	2 1/2"	34"	29 1/2"	12 1/2"	17"
10.75" O.D. x 0.307" THK.	3/8"	3/4"	6 - 1/2" DIA.	2 1/2"	34"	29 1/2"	12 1/2"	17"

REVISIONS
 ADDENDUM NO. 4
 9/7/00

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
 Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS - GORMAN ROAD
CANTILEVER SIGN STRUCTURE (SINGLE PANEL)

DRAWN BY: SSC	F.A.P. NO.	SEE TITLE SHEET	PLAN SHEET NO.: SN-9A	SHEET NO. 297A OF 320
CHECK BY: SA	S.H.A. NO.	HO 7415170		
SCALE: NONE	COUNTY	HOWARD		

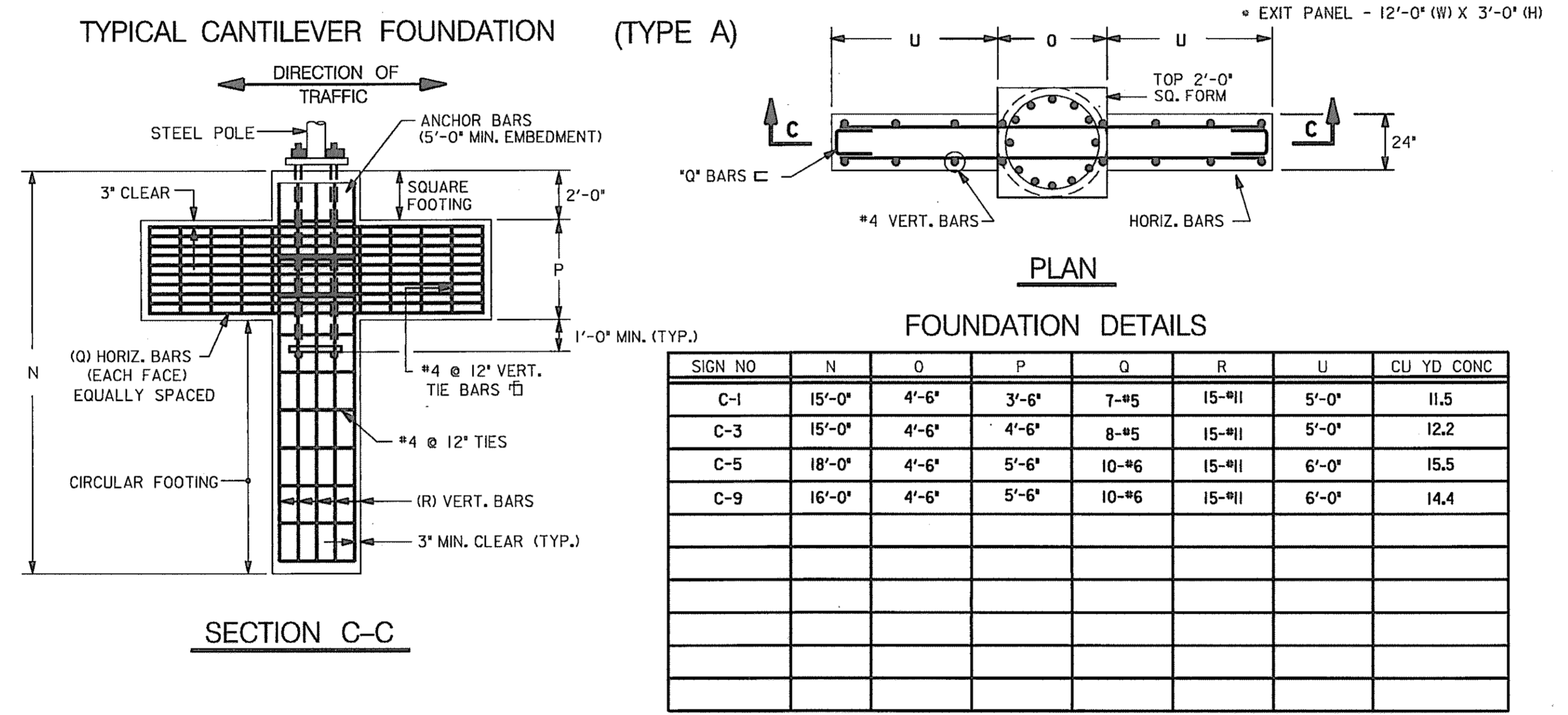
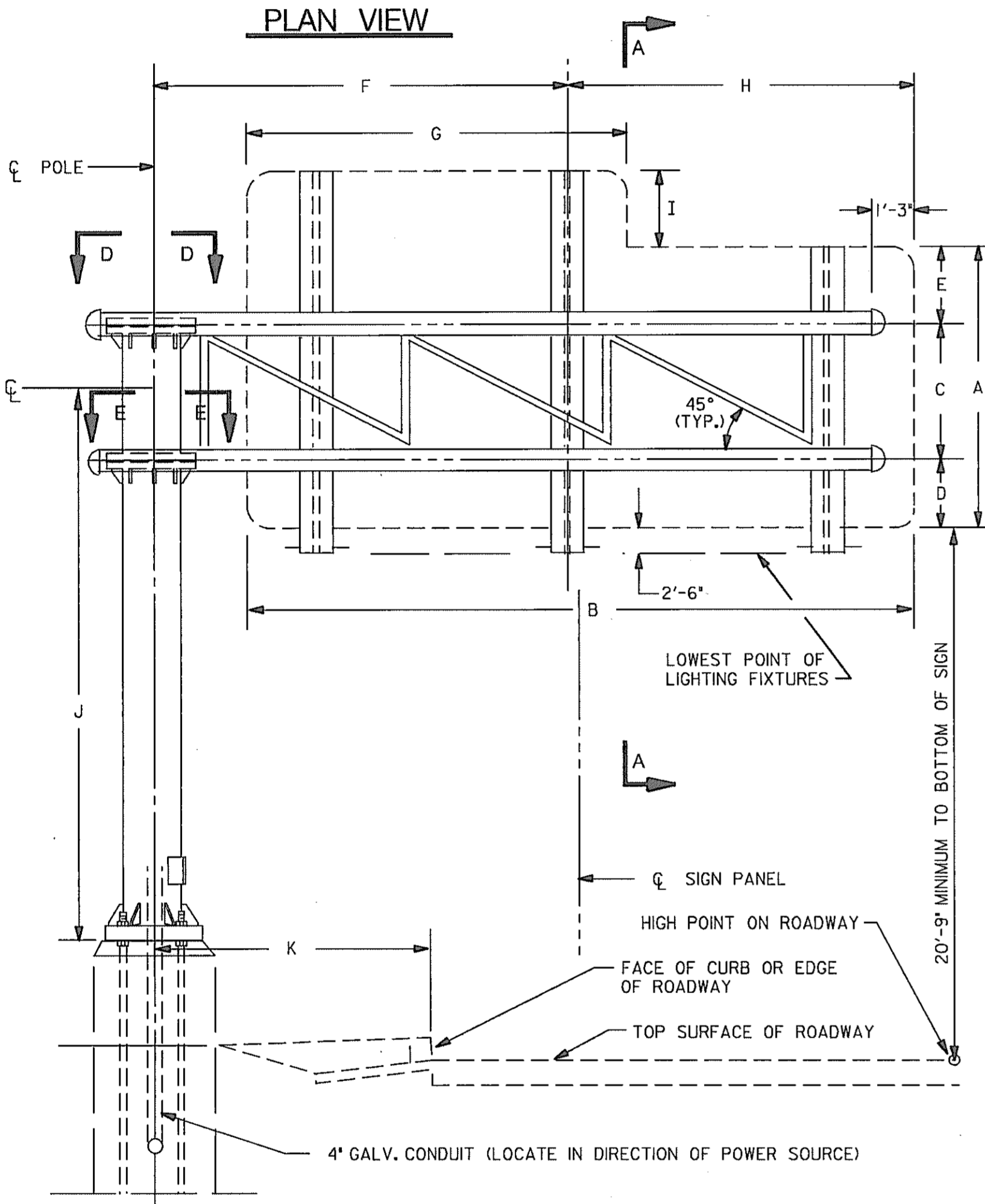
25 AUG 2000
 c:\transport\bridge division\95018 sho-raf\50 sign str design\singlecont.dgn



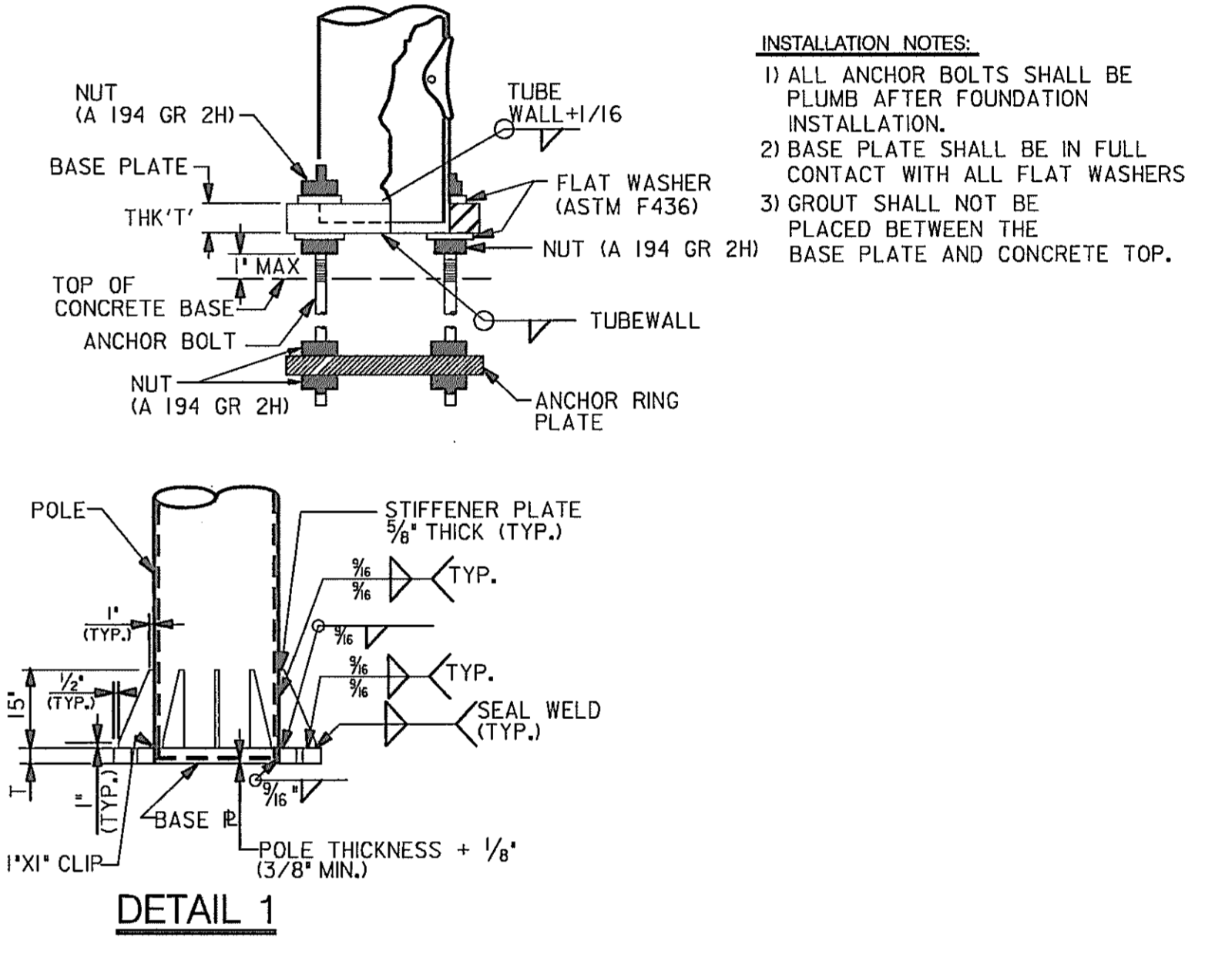
BASE PLATE DIMENSIONS				ANCHOR BOLTS		
POLE SIZE	L	M	T	DIA.	NUMBER & SIZE 55,000 PSI	ROUND ANCHOR PLATE
24\"/>						

NOTE: FOR THICK. 'T' LARGER THAN 2\"/>

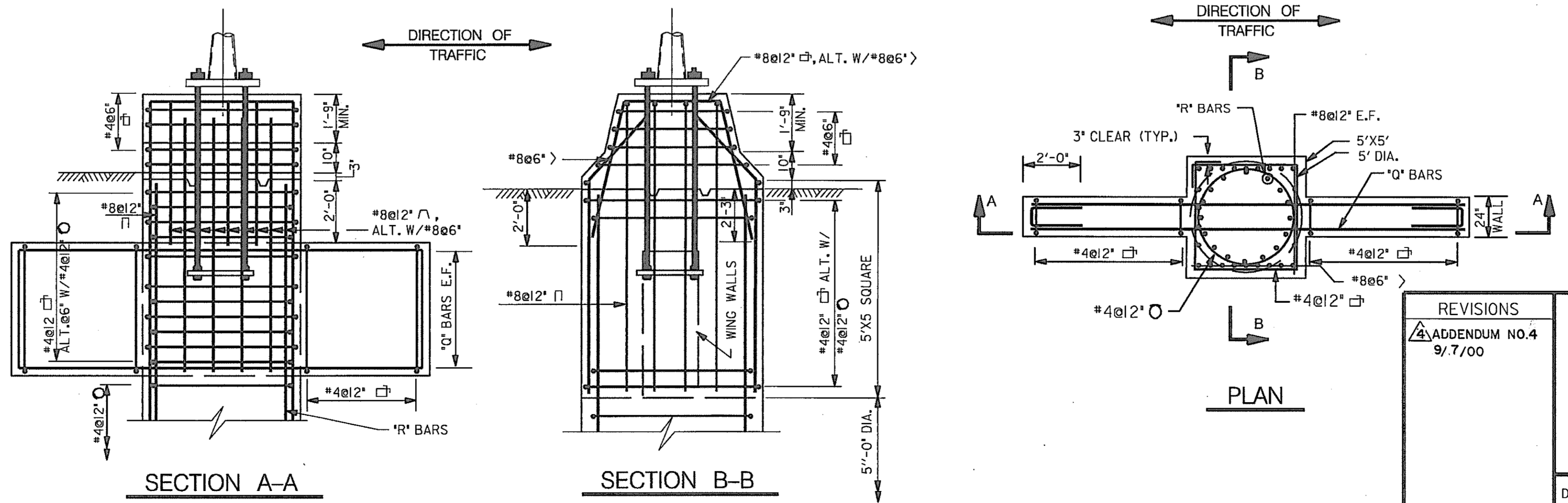
CANTILEVER SPAN DETAILS														DESIGN SIGN AREA	ΔV	ΔH	STRUCTURE LOCATION	
SIGN NO.	POLE SIZE	ARM CHORD	ARM DIAGONAL	A	B	C	D	E	F	G	H	I	J	K				
C-1	24\"/>																	



SIGN NO	N	O	P	Q	R	U	CU YD CONC
C-1	15'-0"	4'-6"	3'-6"	7'-#5	15'-#11	5'-0"	11.5
C-3	15'-0"	4'-6"	4'-6"	8'-#5	15'-#11	5'-0"	12.2
C-5	18'-0"	4'-6"	5'-6"	10'-#6	15'-#11	6'-0"	15.5
C-9	16'-0"	4'-6"	5'-6"	10'-#6	15'-#11	6'-0"	14.4



- INSTALLATION NOTES:
- 1) ALL ANCHOR BOLTS SHALL BE PLUMB AFTER FOUNDATION INSTALLATION.
 - 2) BASE PLATE SHALL BE IN FULL CONTACT WITH ALL FLAT WASHERS
 - 3) GROUT SHALL NOT BE PLACED BETWEEN THE BASE PLATE AND CONCRETE TOP.
- NOTES:
- 1) SEE S.P. AND MD STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS FOR STRUCTURAL STEEL.
 - 2) REFER TO ROADWAY LIGHTING PLAN SN-2 FOR LIGHTING CHARTS.
 - 3) ALL STRUCTURAL MAIN TUBES SHALL HAVE MIN. 52 KSI YIELD STRENGTH.
 - 4) ALL OTHER TUBES SHALL HAVE MIN. 30 KSI YIELD STRENGTH.
 - 5) ANY ALTERNATE DESIGN SHALL BE STRUCTURALLY EQUIVALENT.
 - 6) ALL STRUCTURES SHALL BE DESIGNED FOR APPROX. 25% MORE SIGN AREA U.L.O. (ADJUSTED IN SIGN HEIGHT ONLY).
 - 7) MOUNTING HEIGHT 'J' SHALL BE (20'-9"+1/2" DESIGN SIGN HEIGHT \pm ELEVATION DIFFERENCE FROM HIGH PT. ROADWAY).
 - 8) ALL CANTILEVER STRUCTURE SUPPORTS SHALL BE LOCATED BEHIND PHYSICAL TRAFFIC BARRIERS.
 - 9) ALL ALTERNATE DESIGNS MUST BE SIMILAR TO THE DESIGN SHOWN ON THE PLANS.
 - 10) ALL ALTERNATE DESIGNS ARE SUBJECT TO APPROVAL BY THE ENGINEER.
 - 11) STEEL TEMPLATES SHALL BE USED TO SET ANCHOR BOLTS PLUMB WHEN POURING THE FOUNDATION.
 - 12) ALL ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF F1554 GRADE 55 SI.
 - 13) ALL CONNECTION BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325, WASHERS F436 & NUTS A194 GRADE 2 OR 2H. THE BOLTS SHALL HAVE A FLAT WASHER UNDER THE ELEMENT TO BE TURNED.
 - 14) USE LOCK NUTS AND FLAT WASHERS FOR ALL "U" BOLTS.

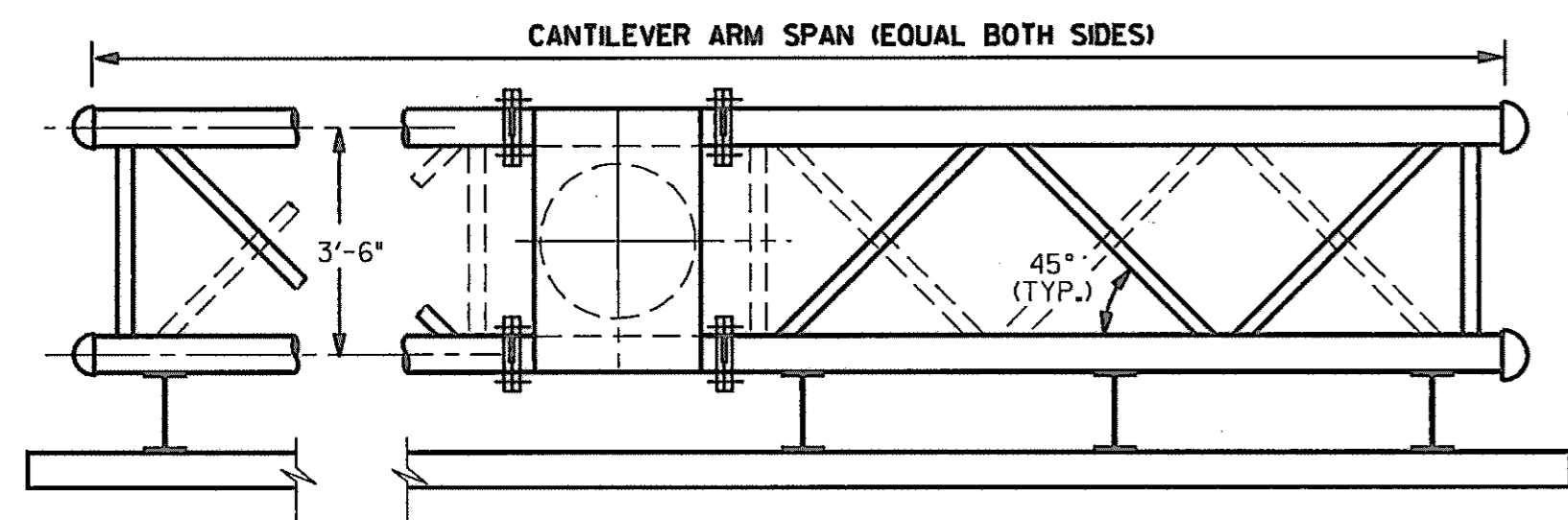


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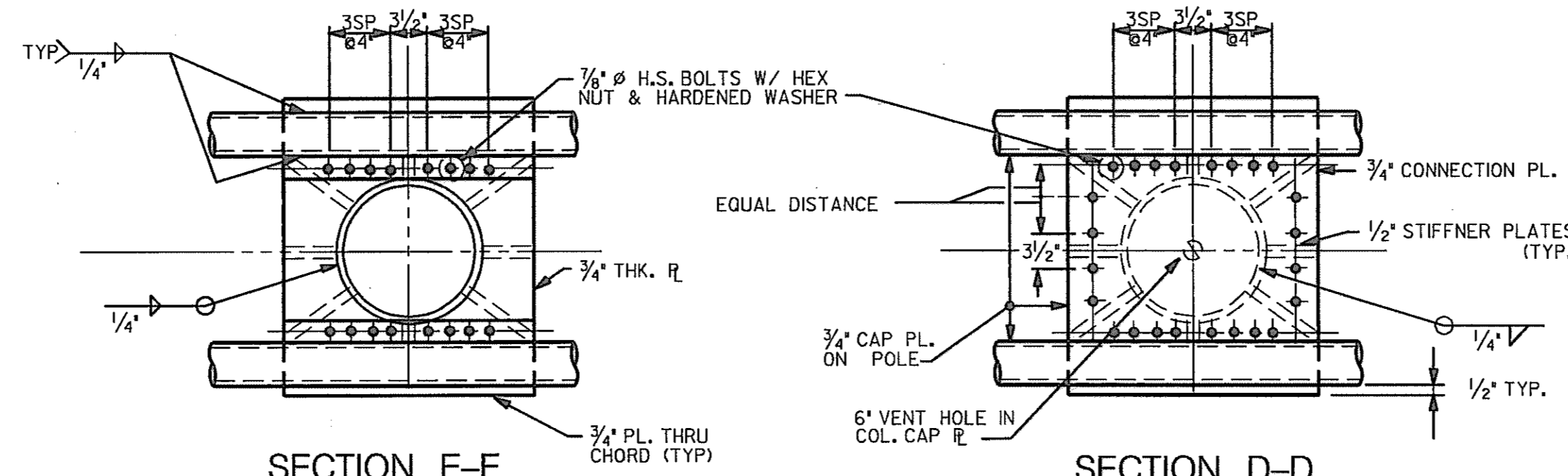
MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
 Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS - GORMAN ROAD
BOX TRUSS SPAN CANTILEVER

DRAWN BY: SC	F.A.P. NO.	SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.
CHECK BY: SA	S.H.A. NO.	HO 7415170	SN-9E	297B OF 320
SCALE: NONE	COUNTY	HOWARD		

25 AUG 2000 c:\transport\bridge division\95018 sha-traf\50 sign str design\sign9e.dgn

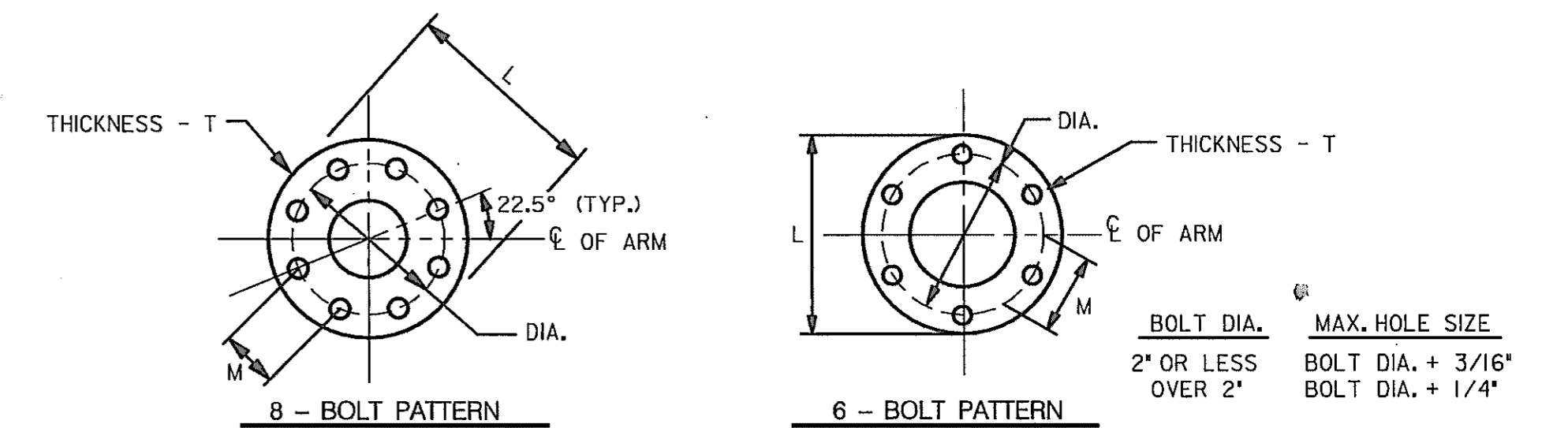


PLAN VIEW



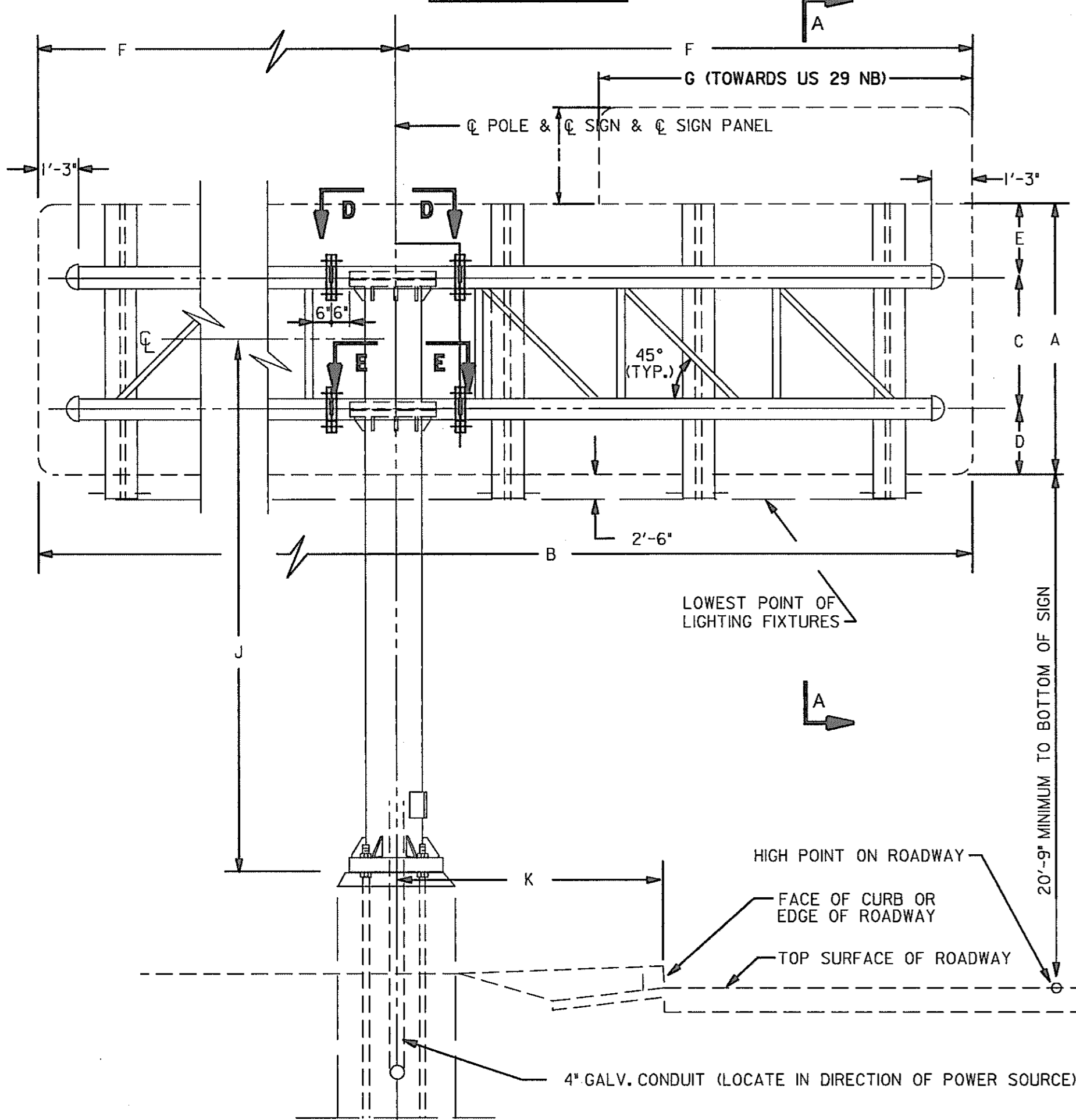
SECTION E-E
BOTTOM CHORD CONNECTION

SECTION D-D
TOP CHORD CONNECTION

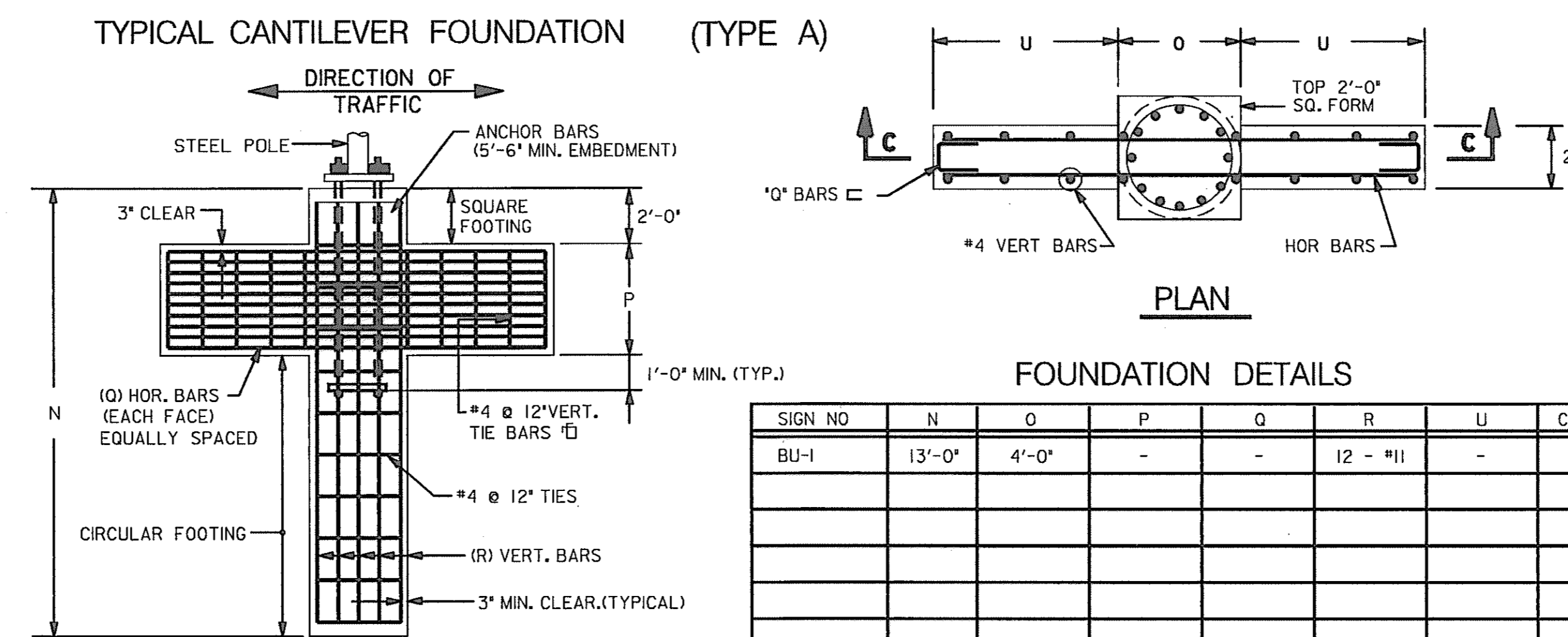


PLAN OF BASE PLATE

CANTILEVER SPAN DETAILS														DESIGN SIGN AREA	ΔV	ΔH	STRUCTURE LOCATION	
SIGN NO.	POLE SIZE	ARM CHORD	ARM DIAGONAL	A	B	C	D	E	F	G	H	I	J	K				
BU-1	18" O.D. x 0.375" THK.	3.5" O.D. x 0.188" THK.	1.900" O.D. x 0.145" THK.	12'-0"	14'-0"	4'-0"	4'-0"	4'-0"	7'-0"	12'-0"	-	3'-0"	29'-0"	28'-3" (NB)	14'-0" (W) X 15'-0" (H) PLUS 12'-0" (W) X 3'-0" (H) EXIT PANEL	0'	0'	US 29 (NB) MEDIAN STA. 610+00



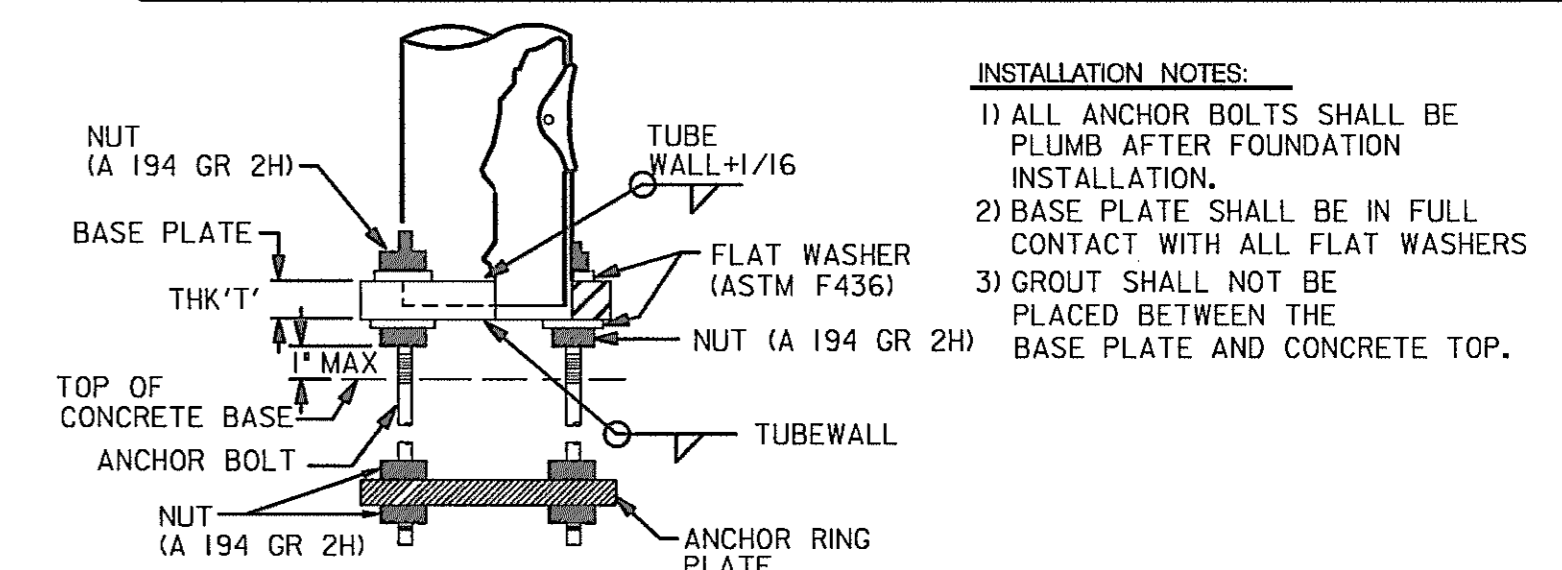
ELEVATION OF BUTTERFLY CANTILEVER SIGN SUPPORT (REAR VIEW)



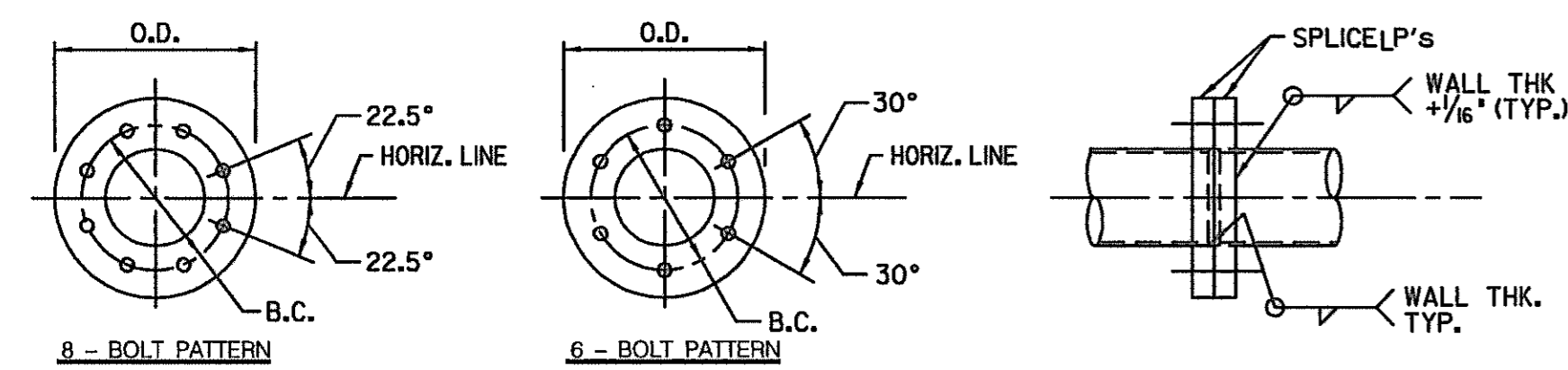
SECTION C-C

FOUNDATION DETAILS								CU YD CONC
SIGN NO	N	O	P	Q	R	U		
BU-1	13'-0"	4'-0"	-	-	12 - #11	-		6.10

BASE PLATE DIMENSIONS				ANCHOR BOLTS		
POLE SIZE	L	M	T	DIA.	NUMBER & SIZE 55,000 PSI	ROUND ANCHOR PLATE
18" O.D. x 0.375" THK.	33'	13 3/8' ±	3'	25 1/2"	6 - 2 1/2" DIA.	3/4" x 33" DIA.

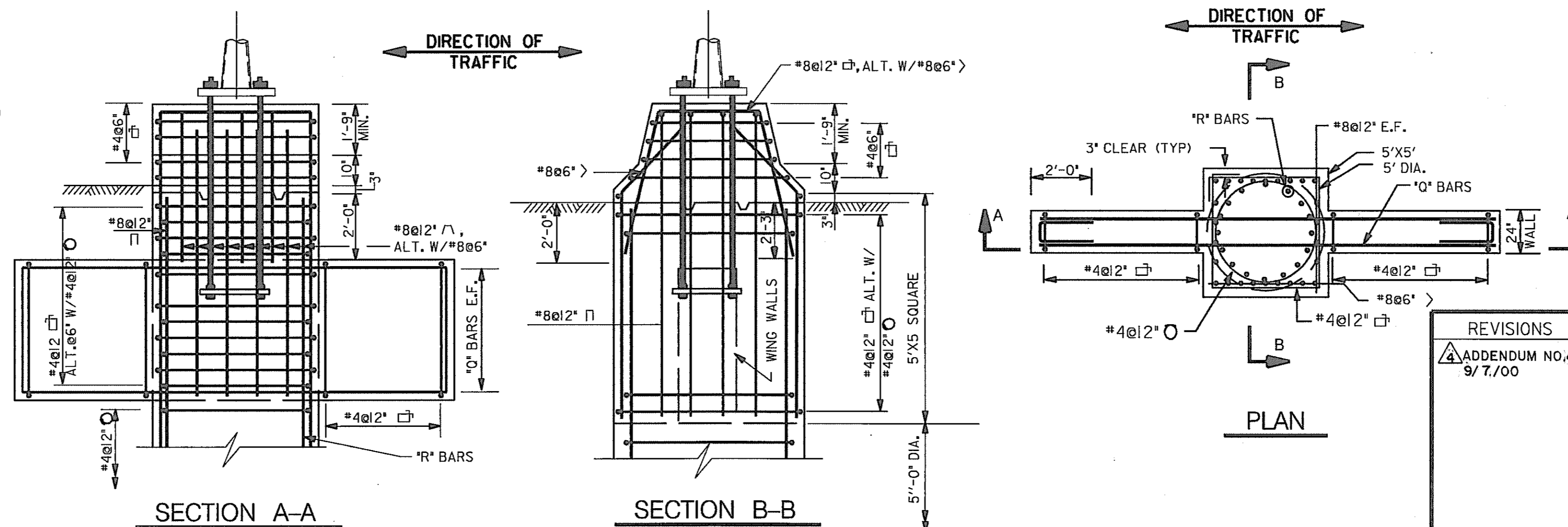


- INSTALLATION NOTES:
- 1) ALL ANCHOR BOLTS SHALL BE PLUMB AFTER FOUNDATION INSTALLATION.
 - 2) BASE PLATE SHALL BE IN FULL CONTACT WITH ALL FLAT WASHERS
 - 3) GROUT SHALL NOT BE PLACED BETWEEN THE BASE PLATE AND CONCRETE TOP.



ARM CHORD SPLICE DETAIL

SPLICE PLATE SCHEDULE				
ARM CHORD	O.D.	B.C.	NO. & SIZE OF BOLTS	PLATE THICKNESS
3.5" O.D. x 0.188" THK.	9 1/2"	6 1/2"	6 - 3/4" DIA.	1 1/4"



SECTION A-A

SECTION B-B

PLAN

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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
 U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS - GORMAN ROAD
BOX TRUSS SPAN CANTILEVER BUTTERFLY

DRAWN BY: SSC	F.A.P. NO.	SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.
CHECK BY: SA	S.H.A. NO.	HO 7415170	SN-9E-A	297C OF 320
SCALE: NONE	COUNTY	HOWARD		

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SIGNING QUANTITIES

SHEET NO.	LOC. NO.	REMARKS																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SN-2.1	100	R2-1 (24"x30") SPEED LIMIT 30																			
SN-2.1	101	RI-1 (30"x30") STOP																			
SN-2.1	102	R2-1 (24"x30") SPEED LIMIT 30																			
SN-2.1	103	RI-1 (30"x30") STOP																			
SN-2.1	104	RI-1 (30"x30") STOP																			
SN-2.1	105	W3-1a (36"x36") STOP AHEAD SYMBOL																			
SN-2.1	106	R2-1 (24"x30") SPEED LIMIT 30																			
SN-2.1	107	W3-1a (36"x36") STOP AHEAD SYMBOL																			
SN-2.1	108	RI-2 (36"x36"x36") YIELD																			
SN-2.1	109	W96-II (36"x36") SINGLE LANE AHEAD																			
SN-2.1	110	W96-II (36"x36") SINGLE LANE AHEAD																			
SN-2.1	111	RI-1 (30"x30") STOP																			
SN-2.1	112	R4-9(I) (36"x48") FORM SINGLE LANE																			
SN-2.1	113	R4-9(I) (36"x48") FORM SINGLE LANE																			
SN-2.1	115	GM-13 (10'x4') Johns Hopkins Rd, TO Gorman Rd, GM-12 (24"x48") GAS																			
SN-2.1	116	WI-1(R) (30"x30") TURN																			
SN-2.1	117	W96-II (36"x36") SINGLE LANE AHEAD																			
SN-2.1	118	W96-II (36"x36") SINGLE LANE AHEAD																			
SN-2.1	119	R5-1a (36"x24") WRONG WAY																			
SN-2.1	120	R5-1a (36"x24") WRONG WAY																			
SN-2.1	121	GM-19 (48"x48") ROUNDABOUT SYMBOL, WI3-1 (24"x24") 15 MPH																			
SN-2.1	122	GM-18 (5.5'x6') @South, Washington,																			
SN-2.1	123	C-9 (22'x12') ROUNDABOUT SYMBOL, 15 MPH, @North, Baltimore, Only																			
SN-2.1	124	M2-1 (21'x15") JUNCTION, MI-4 (24"x24") @																			
SN-2.1	125	W9-2(I)(L) (36"x36") LANE ENDS MERGE LEFT																			
SN-2.1	126	W4-2(R) (36"x36") LANE WIDTH TRANSITION																			
SN-2.2	201	R4-7 (24"x30") Keep Right																			
SN-2.2	202	RI-2 (36"x36"x36") YIELD																			
SN-2.2	203	RI-2 (36"x36"x36") YIELD																			
SN-2.2	204	GM-15 (5.5'x6') @North, Baltimore,																			
SN-2.2	205	W11A-2 (30"x30") PEDESTRIAN CROSSING SYMBOL, M6-2 (21'x15")																			
SN-2.2	206	W11A-2 (30"x30") PEDESTRIAN CROSSING SYMBOL, M6-2 (21'x15")																			
SN-2.2	207	GM-16 (10'x6') Johns Hopkins Rd, TO @South, Washington																			
SN-2.2	208	GM-17 (5'x8') @North, ⇒ 25 MPH																			
SN-2.2	209	RI-2 (36"x36"x36") YIELD																			
SN-2.2	210	RI-2 (36"x36"x36") YIELD																			
SN-2.2	211	R6-1(R) (48"x24") ONE WAY, GM-10 (48"x24")																			
SN-2.2	212	R6-1(R) (48"x24") ONE WAY, GM-10 (48"x24")																			
SN-2.2	213	R6-1(R) (48"x24") ONE WAY, GM-10 (48"x24")																			
SN-2.2	214	R6-1(R) (36"x12") ONE WAY, RI-2 (36"x36"x36") YIELD,																			
		R5-1 (30"x30") DO NOT ENTER, R6-1(L) (36"x12") ONE WAY																			
SN-2.2	215	RI-2 (36"x36"x36") YIELD, R6-1(L) (36"x12") ONE WAY,																			
		R5-1 (30"x30") DO NOT ENTER																			
SN-2.2	216	GM-21 (10'x4') John Hopkins Rd, TO Gorman Rd																			
SN-2.2	217	R3-7(R) (30"x30") RIGHT LANE MUST TURN RIGHT																			
SHEET SN-II.I SUBTOTALS			313.9	510.0	431.6	224.9	141.8	30.2	0	6	13.08	1	0	0	0	0					

CODE NUMBER DESCRIPTION & UNIT

CODE NUMBERS	DESCRIPTION	UNIT	CODE NUMBERS	DESCRIPTION	UNIT
1	FURNISH AND INSTALL SHEET ALUMINUM SIGNS	S.F.	11	RELOCATE EXISTING GROUND MOUNTED SIGNS	S.F.
2	FURNISH AND INSTALL EXTRUDED ALUMINUM SIGNS	S.F.	12	MODIFY MESSAGE ON EXISTING SIGN - EACH CHARACTER	EA.
3	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 INCH X 4 INCH	L.F.	13	FURNISH AND INSTALL BUTTERFLY SIGN STRUCTURE	EA.
4	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 INCH X 6 INCH	L.F.	14	BAND SIGN TO SIGN SUPPORT	EA.
5	FURNISH AND INSTALL GALVANIZED STEEL BEAMS W(6x9)	L.F.			
6	FURNISH AND INSTALL GALVANIZED STEEL BEAMS W(6x12)	L.F.			
7	FURNISH AND INSTALL GALVANIZED STEEL BEAMS W(6x15)	L.F.			
8	FURNISH AND INSTALL BREAKAWAY BASE SUPPORT SYSTEM FOR STEEL BEAMS	EA.			
9	FURNISH AND INSTALL CONCRETE FOR SIGN FOUNDATION	C.Y.			
10	FURNISH AND INSTALL CANTILEVER SIGN STRUCTURE	EA.			

REVISIONS

ADDENDUM NO. 4, 9/7/00



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

INDEX OF SIGNING QUANTITIES
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

DRAWN BY: SAZ /RSK	F.A.P. NO. SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.
CHECK BY: RSK	S.H.A. NO. HO74IA21		
SCALE: NOT TO SCALE	COUNTY HOWARD	SN-11.1	

HURST-ROSCHKE ENGINEERS, INC.
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

SIGNING QUANTITIES

SHEET NO.	LOC. NO.	REMARKS																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SN-2.3	300	W96-11 (36"x36") SINGLE LANE AHEAD	MOUNT ON ONE BW 4"x6" W.P.		9.0			18.1													
SN-2.3	301	W96-11 (36"x36") SINGLE LANE AHEAD	MOUNT ON ONE BW 4"x6" W.P.		9.0			18.4													
SN-2.3	302	GM-11 (72"x108") South, (S), (S)	MOUNT ON TWO NBW W6x12 S.B.			54.0				36.3			2.18								
SN-2.3	303	GM-6 (48"x60") RIGHT LANE MUST TURN RIGHT AT MONTPELIER RD	MOUNT ON TWO BW 4"x6" W.P.		20.0			37.0													
SN-2.3	304	GM-6 (48"x60") RIGHT LANE MUST TURN RIGHT AT MONTPELIER RD	MOUNT ON TWO BW 4"x6" W.P.		20.0			37.0													
SN-2.3	305	W11A-2 (36"x36") PEDESTRIAN CROSSING SYMBOL, M6-2 (21"x15")	MOUNT ON ONE BW 4"x6" W.P.		11.2			18.1													
SN-2.3	306	W11A-2 (36"x36") PEDESTRIAN CROSSING SYMBOL, M6-2 (21"x15")	MOUNT ON ONE BW 4"x6" W.P.		11.2			15.6													
SN-2.3	307	R3-7(R) (30"x30") RIGHT LANE MUST TURN RIGHT	MOUNT ON ONE 4"x4" W.P.		6.3		14.6														
SN-2.3	308	R6-1(L) (36"x12") ONE WAY, R5-1 (30"x30") DO NOT ENTER	MOUNT ON ONE 4"x4" W.P.		9.3		15.3														
SN-2.3	309	D1-1(2) (72"x12") Montpelier Rd →	MOUNT ON TWO 4"x4" W.P.		6.0		27.3														
SN-2.3	310	R3-7(R) (30"x30") RIGHT LANE MUST TURN RIGHT	MOUNT ON ONE 4"x4" W.P.		6.3		14.6														
SN-2.3	311	R4-7 (24"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.		5.0		14.3														
SN-2.3	312	R3-7(R) (30"x30") RIGHT LANE MUST TURN RIGHT	MOUNT ON ONE 4"x4" W.P.		6.3		14.6														
SN-2.3	313	R3-7(R) (30"x30") RIGHT LANE MUST TURN RIGHT	MOUNT ON ONE 4"x4" W.P.		6.3		14.6														
SN-2.3	314	R3-7(R) (30"x30") RIGHT LANE MUST TURN RIGHT	MOUNT ON ONE 4"x4" W.P.		6.3		14.6														
SN-2.3	315	R6-1(R) (36"x12") ONE WAY, R1-1 (30"x30") STOP	MOUNT ON ONE 4"x4" W.P.		9.2		16.4														
SN-2.3	316	R4-7(2) (18"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.		3.8		14.3														
SN-2.3	317	R6-1(L) (36"x12") ONE WAY	MOUNT ON ONE 4"x4" W.P.		3.0		12.8														
SN-2.3	318	R4-7 (24"x30") KEEP RIGHT, R3-4 (24"x24") NO U TURN	MOUNT ON ONE 4"x4" W.P.		9.0		14.3														
SN-2.3	319	R6-1(R) (36"x12") ONE WAY	MOUNT ON ONE 4"x4" W.P.		3.0		12.8														
SN-2.3	320	R4-7 (24"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.		5.0		14.3														
SN-2.3	321	R4-7(2) (18"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.		3.8		14.3														
SN-2.3	322	R4-7(2) (18"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.		3.8		14.3														
SN-2.3	323	GM-8 (84"x72") South, Washington, (S), (S)	MOUNT ON TWO BW W6x9 S.B.			42.0		25.8			2	2.18									
SN-2.3	324	GM-9 (60"x84") South, (S), (S)	MOUNT ON TWO BW W6x9 S.B.			35.0		27.7			2	2.18									
SN-2.3	325	R1-2 (36"x36"x36") YIELD	MOUNT ON ONE 4"x4" W.P.		3.9		14.4														
SN-2.3	326	R4-7 (24"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.		5.0		14.3														
SN-2.3	327	R6-1(L) (36"x12") ONE WAY, R5-1 (30"x30") DO NOT ENTER	MOUNT ON ONE 4"x4" W.P.		9.3		15.3														
SN-2.3	328	R5-1a (36"x24") WRONG WAY	MOUNT ON TWO 4"x4" W.P.		6.0		31.6														
SN-2.3	329	R5-1a (36"x24") WRONG WAY	MOUNT ON TWO 4"x4" W.P.		6.0		31.0														
SN-2.3	330	W16-1 (18"x18") OBJECT MARKER	MOUNT ON ONE 4"x4" W.P.		2.3		14.0														
SN-2.3	331	R1-2 (36"x36"x36") YIELD, W4-3(1) (30"x30") NO MERGE AREA	MOUNT ON ONE 4"x4" W.P.		10.2		17.0														
SN-2.3	332	R1-2 (36"x36"x36") YIELD	MOUNT ON ONE 4"x4" W.P.		3.9		14.4														
SN-2.3	333	R2-1 (24"x30") SPEED LIMIT 35	MOUNT ON ONE 4"x4" W.P.		5.0		14.5														
SN-2.3	334	M2-2(3) (60"x72") JCT, (S), 1/4 MILE	MOUNT ON TWO BW W6x9 S.B.			30.0		25.9				2	2.18								
SN-2.3	335	GM-14 (12"x7") TO Gorman Rd	MOUNT ON TWO BW W6x15 S.B.			84.0				34.2		2	2.36								
SN-2.3	336	GM-7 (6"x3") Montpelier Rd, NEXT SIGNAL	MOUNT ON TWO BW 4"x6" W.P.			18.0		29.8													
SN-2.3	337	R5-10(b) (30"x18") PEDESTRIANS AND BICYCLES PROHIBITED	MOUNT ON ONE 4"x4" W.P.		3.8		15.2														
SN-2.4	400	R4-7 (24"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.		5.0		14.4														
SN-2.4	401	R4-7 (24"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.		5.0		14.4														
SN-2.4	402	R6-1(R) (36"x12") ONE WAY, R1-1 (30"x30") STOP	MOUNT ON ONE 4"x4" W.P.		9.3		15.6														
SN-2.4	403	R3-7(R) (30"x30") RIGHT LANE MUST TURN RIGHT	MOUNT ON ONE 4"x4" W.P.		6.3		14.3														
SN-2.4	404	R3-4(2) (24"x30") U TURN	MOUNT ON ONE 4"x4" W.P.		5.0		14.3														
SN-2.4	405	R3-7(R) (30"x30") RIGHT LANE MUST TURN RIGHT	MOUNT ON ONE 4"x4" W.P.		6.3		14.3														
SHEET SN-11.2 SUBTOTALS			265.1	263.0	512.4	174.0	79.4	36.3	34.2	8	11.08	0	0	0	0	0	0	0	0	0	0

CODE NUMBER DESCRIPTION & UNIT

CODE NUMBERS	DESCRIPTION	UNIT	CODE NUMBERS	DESCRIPTION	UNIT
1	FURNISH AND INSTALL SHEET ALUMINUM SIGNS	S.F.	11	RELOCATE EXISTING GROUND MOUNTED SIGNS	S.F.
2	FURNISH AND INSTALL EXTRUDED ALUMINUM SIGNS	S.F.	12	MODIFY MESSAGE ON EXISTING SIGN - EACH CHARACTER	EA.
3	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 INCH X 4 INCH	L.F.	13	FURNISH AND INSTALL BUTTERFLY SIGN STRUCTURE	EA.
4	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 INCH X 6 INCH	L.F.	14	BAND SIGN TO SIGN SUPPORT	EA.
5	FURNISH AND INSTALL GALVANIZED STEEL BEAMS W(6x9)	L.F.			
6	FURNISH AND INSTALL GALVANIZED STEEL BEAMS W(6x12)	L.F.			
7	FURNISH AND INSTALL GALVANIZED STEEL BEAMS W(6x15)	L.F.			
8	FURNISH AND INSTALL BREAKAWAY BASE SUPPORT SYSTEM FOR STEEL BEAMS	EA.			
9	FURNISH AND INSTALL CONCRETE FOR SIGN FOUNDATION	C.Y.			
10	FURNISH AND INSTALL CANTILEVER SIGN STRUCTURE	EA.			

REVISIONS ADDENDUM NO. 4 9/7/00	MARYLAND DOT - STATE HIGHWAY ADMINISTRATION Office of Traffic & Safety TRAFFIC ENGINEERING DESIGN DIVISION
INDEX OF SIGNING QUANTITIES U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
DRAWN BY: SAZ /RSK CHECK BY: RSK SCALE: NOT TO SCALE	F.A.P. NO. SEE TITLE SHEET S.H.A. NO. HO741A21 COUNTY HOWARD
PLAN SHEET NO.: SN-11.2	SHEET NO.: 299 OF 320

HURST-ROSCHKE ENGINEERS, INC.
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

FILE: P:\posser\AUS298\hopkins\sm12u293.dgn
 DATE: 06-Sep-00

SIGNING QUANTITIES

SHEET NO.	LOC. NO.	REMARKS																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SN-2.4	406	RI-2 (36"x36"x36") YIELD, R5-1 (30"x30") DO NOT ENTER (ON BACK OF RI-2)	MOUNT ON ONE 4"x4" W.P.	10.2		15.7															
SN-2.4	407	R4-7 (24"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.	5.0		14.4															
SN-2.4	408	R4-7 (24"x30") KEEP RIGHT	MOUNT ON ONE 4"x4" W.P.	5.0		14.4															
SN-2.4	409	RI-1 (30"x30") STOP	MOUNT ON ONE 4"x4" W.P.	6.3		14.3															
SN-2.4	410	DI-1(2) (72"x12") ← Sanner Road	MOUNT ON TWO 4"x4" W.P.	6.0		30.6															
SN-2.4	411	R6-1(L) (36"x12") ONE WAY	MOUNT ON ONE 4"x4" W.P.	3.0		12.8															
SN-2.4	412	R3-2 (30"x30") NO LEFT TURN SYMBOL	MOUNT ON ONE 4"x4" W.P.	6.3		14.3															
SN-2.4	413	R6-1(R) (36"x12") ONE WAY	MOUNT ON ONE 4"x4" W.P.	3.0		12.8															
SN-2.4	414	DI-1(2) (72"x12") Sanner Road →	MOUNT ON TWO 4"x4" W.P.	6.0		25.5															
SN-2.4	415	RI-1 (30"x30") STOP	MOUNT ON ONE 4"x4" W.P.	6.3		15.2															
SN-2.5	501	W9-2(2) (48"x48") LANE ENDS, W9-2(3) (48"x36") MERGE RIGHT	MOUNT ON TWO NBW 4"x6" W.P.	28.0			40.8														
SN-2.5	502	C-4 (12"x3') EXIT 15, (24"x8') Johns Hopkins Rd, TO Gorman Rd ↗			228.0																
SN-2.5	503	W4-2(L) (48"x48") LANE WIDTH TRANSITION	MOUNT ON TWO BW 4"x6" W.P.	16.0			38.3														
SN-2.5	504	EXISTING SIGN (12"x8') BW Airport, EXIT 16A																			96.0
SN-2.5	505	C-8 (14"x3') EXIT 16A-B, (14"x12') ↘, Fort Meade, Clarksville, 1/2 MILE			210.0																
SN-2.6	600	W9-2(1)(R) (48"x48") LANE ENDS MERGE RIGHT	MOUNT ON TWO BW 4"x6" W.P.	16.0			38.3														
SN-2.6	601	W13-2 (48"x60") EXIT, ...M.P.H.		20.0																	
SN-2.6	602	C-5 (12"x3') EXIT 15, (22"x13') Johns Hopkins Rd, TO Gorman Rd, ↗ EXIT, ↗ ONLY			322.0																
SN-2.6	603	W9-1(1)(L) (96"x48") LEFT LANE ENDS, 1/2 MILE ↘	MOUNT ON TWO BW W6x9 S.B.		32.0			29.0													
SN-2.6	604	E5-1a (72"x60") EXIT, 15 ↗	MOUNT ON TWO BW W6x9 S.B.		30.0			25.6													
SN-2.6	605	GM-3 (12"x8') Johns Hopkins Rd, TO Gorman Rd, Keep Left	MOUNT ON TWO BW W6x12 S.B.		96.0																
SN-2.6	606	W4-1(R) (48"x48") MERGE	MOUNT ON TWO BW 4"x6" W.P.	16.0			40.0														
SN-2.6	607	R4-9(1) (24"x30") FORM SINGLE LANE	MOUNT ON ONE 4"x4" W.P.	5.0		16.0															
SN-2.6	608	R4-9(1) (24"x30") FORM SINGLE LANE	MOUNT ON ONE 4"x4" W.P.	5.0		16.4															
SN-2.6	609	BU-1 (12"x3') EXIT 16, (14"x12') ↘ Fort Meade, Clarksville, 1 MILE			204.0																
SN-2.6	610	GM-4 (12"x6') John Hopkins Road, TO Montpelier Road, KEEP RIGHT	MOUNT ON TWO BW W6x12 S.B.	4.0		84.0															
		D9-7 (24"x24") [1]																			
SN-2.6	611	MOD EXISTING SIGN (10' x4') Scaggsville 2, Silver Spring 15, Washington 22																			
SN-2.6	612	D10-5 (12"x36") MILEPOST MARKER (MILE 15)	MOUNT ON ONE 4"x4" W.P.	3.0		16.7															
SN-2.6	613	D10-5 (12"x36") MILEPOST MARKER (MILE 15)	MOUNT ON ONE 4"x4" W.P.	3.0		16.6															
SN-2.7	700	R4-9(1) (24"x30") FORM SINGLE LANE	MOUNT ON ONE 4"x4" W.P.	5.0		15.9															
SN-2.7	701	R4-9(1) (24"x30") FORM SINGLE LANE	MOUNT ON ONE 4"x4" W.P.	5.0		15.8															
SN-2.7	702	W4-1(R) (48"x48") MERGE	MOUNT ON TWO BW 4"x6" W.P.	16.0			37.0														
SN-2.7	703	GM20 (48"x48") ROUNDABOUT SYMBOL, W13-1 (24"x24) 15 MPH	MOUNT ON TWO BW 4"x6" W.P.	20.0			38.1														
SN-2.7	704	E5-1a (72"x60") EXIT, 15 ↗	MOUNT ON TWO BW W6x9 S.B.		30.0			30.9													
SN-2.7	705	C-6 (12"x3') EXIT 15, (24"x8') Johns Hopkins Rd, TO Gorman Rd ↗			228.0																
SN-2.7	706	W13-2 (48"x60") EXIT, ...M.P.H.		20.0																	
SN-2.7	707	EXISTING SIGN (10'x4') Columbia 4, I-70 JCT 20, Baltimore 23																			
SN-2.7	708	W4-1(R) (48"x48") MERGE	MOUNT ON TWO BW 4"x6" W.P.	16.0			38.1														
SN-2.7	709	R5-10(b) (30"x18") PEDESTRIANS AND BICYCLES PROHIBITED	MOUNT ON ONE 4"x4" W.P.	3.8		15.7															
SHEET SN-11.3 TOTALS				258.9	1464.0	283.1	270.6	85.5	65.2	0	10	10.90	4	176	6	1	2				

CODE NUMBER DESCRIPTION & UNIT

CODE NUMBERS	DESCRIPTION	UNIT	CODE NUMBERS	DESCRIPTION	UNIT
1	FURNISH AND INSTALL SHEET ALUMINUM SIGNS	S.F.	11	RELOCATE EXISTING GROUND MOUNTED SIGNS	S.F.
2	FURNISH AND INSTALL EXTRUDED ALUMINUM SIGNS	S.F.	12	MODIFY MESSAGE ON EXISTING SIGN - EACH CHARACTER	EA.
3	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 INCH X 4 INCH	L.F.	13	FURNISH AND INSTALL BUTTERFLY SIGN STRUCTURE	EA.
4	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 INCH X 6 INCH	L.F.	14	BAND SIGN TO SIGN SUPPORT	EA.
5	FURNISH AND INSTALL GALVANIZED STEEL BEAMS W(6x9)	L.F.			
6	FURNISH AND INSTALL GALVANIZED STEEL BEAMS W(6x12)	L.F.			
7	FURNISH AND INSTALL GALVANIZED STEEL BEAMS W(6x15)	L.F.			
8	FURNISH AND INSTALL BREAKAWAY BASE SUPPORT SYSTEM FOR STEEL BEAMS	EA.			
9	FURNISH AND INSTALL CONCRETE FOR SIGN FOUNDATION	C.Y.			
10	FURNISH AND INSTALL CANTILEVER SIGN STRUCTURE	EA.			

REVISIONS

ADDENDUM NO. 4
9/7/00



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

INDEX OF SIGNING QUANTITIES
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

HURST-ROSCHKE ENGINEERS, INC.
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

DRAWN BY: SAZ /RSK	F.A.P. NO.:	SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.
CHECK BY: RSK	S.H.A. NO.:	H0741A21		
SCALE: NOT TO SCALE	COUNTY:	HOWARD	SN-11.3	300 OF 320

PAVEMENT MARKING ITEMS

SHEET NO.	LOC. NO.	REMARKS																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
SN-2.1		ENTIRE SHEET	7187	9428	352	2177	200	73	97	0	0									
SN-2.2		INCLUDED IN SHEET SN-2.1																		
SN-2.3		ENTIRE SHEET	5823 5563	11,452 11,374	85	2839	519	0	0	7	8									
SN-2.4		ENTIRE SHEET	2190	5353	1526	587	0	0	84	4	8									
SN-2.5		ENTIRE SHEET	3245	6410	0	311	0	0	0	2	0									
SN-2.6		ENTIRE SHEET	10,081	13,262	0	2722	0	65	0	1	0									
SN-2.7		ENTIRE SHEET	5200	7305	0	2451	0	0	0	0	0									
SN-2.8		ENTIRE SHEET	250	551	0	0	0	0	0	0	0									
SN-2.9		ENTIRE SHEET																		
SN-2.10		ENTIRE SHEET																		
SHEET SN-11.4 TOTALS			33,716	53,683	1963	11,087	719	138	181	14	16	1000	1000							

CODE NUMBER DESCRIPTION & UNIT					
CODE NUMBERS	DESCRIPTION	UNIT	CODE NUMBERS	DESCRIPTION	UNIT
1	5 INCH YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT M'K'G'	L.F.	11	REMOVE EXISTING PAVEMENT MARKINGS - ANY WIDTH	L.F.
2	5 INCH WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARK'G	L.F.			
3	10 INCH YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT M'K'G'	L.F.			
4	10 INCH WHITE REFLECTIVE THERMOPLASTIC PAVEMENT M'K'G'	L.F.			
5	12 INCH WHITE PERMANENT PREFORMED PAVEMENT M'K'G' TAPE	L.F.			
6	16 INCH WHITE PERMANENT PREFORMED PAVEMENT M'K'G' TAPE	L.F.			
7	24 INCH WHITE PERMANENT PREFORMED PAVEMENT M'K'G' TAPE	L.F.			
8	PERMANENT PREFORMED PAVEMENT MARKING ARROW	EA.			
9	PERMANENT PREFORMED PAVEMENT MARKING LETTER	EA.			
10	PLOWABLE RAISED PAVEMENT MARKERS	EA.			

HURST-ROSCHKE ENGINEERS, INC.
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

APPROVALS	REVISIONS
CHIEF, DESIGN SECTION	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> 3 REDLINE NO. 3 DATE: 1/31/02 </div>
ASST. DISTRICT ENGINEER, TRAFFIC	
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION	
DIRECTOR, TRAFFIC & SAFETY	

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

SIGNING PLAN
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

DRAWN BY: _____	F.A.P. NO. <u>SEE TITLE SHEET</u>	PLAN SHEET NO.: <u>SN-14</u>	SHEET NO. <u>300A</u> OF <u>320</u>
CHECK BY: _____	S.H.A. NO. <u>PG8745172</u>	COUNTY <u>HOWARD</u>	
SCALE: <u>NOT TO SCALE</u>			

PAVEMENT MARKING ITEMS

SHEET NO.	LOC. NO.	REMARKS																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
SN-2.1		ENTIRE SHEET	8229	10,560 Δ	0	415	1118	0	156	114	6 Δ	22	0		86	0				
SN-2.2		INCLUDED IN SHEET SN-2.1																		
SN-2.3		ENTIRE SHEET	7290 7550	12,815 Δ 12,693	0	50	3376 Δ	0	330	38	14 Δ	20	0		12	0	260 Δ			
SN-2.4		ENTIRE SHEET	4074	5426	0	104	519	0	0	90	4	8	0		0	0				
SN-2.5		ENTIRE SHEET	5200	5174	1273	0	0	305	0	0	2	0	136		25	28				
SN-2.6		ENTIRE SHEET	10,120	10,780	2600	0	2118	415	0	67	1	0	286		27	85				
SN-2.7		ENTIRE SHEET	5700	5713	2250	0	2335	176	0	108	0	0	206		16	60				
SN-2.8		ENTIRE SHEET	250	250	126	0	0	0	0	0	0	0	8		1	2				
SN-2.9		ENTIRE SHEET	0	0	0	0	0	0	0	0	0	0	0		0	0				
SN-2.10		ENTIRE SHEET	0	0	0	0	0	0	0	0	0	0	0		6	0				
SHEET SN-11.5 TOTALS			41,123 Δ	50,518 Δ	6249	569	9466 Δ	896	486	417	27 Δ	50	636	500	173	175	260 Δ			

CODE NUMBER DESCRIPTION & UNIT

CODE NUMBERS	DESCRIPTION	UNIT	CODE NUMBERS	DESCRIPTION	UNIT
1	5 INCH YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.	11	PLOWABLE RAISED PAVEMENT MARKERS	EA.
2	5 INCH WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.	12	REMOVE EXISTING PAVEMENT MARKINGS - ANY WIDTH	L.F.
3	5 INCH WHITE PERMANENT PREFORMED PATTERNED REFL PVT MARKINGS	L.F.	13	RAIL RIDERS TRAFFIC BARRIER W BEAM DELINEATORS	EA.
4	10 INCH YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.	14	FURNISH AND INSTALL POST MOUNTED DELINEATORS	EA.
5	10 INCH WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.	15	24 INCH WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.
6	10 INCH WHITE PERMANENT PREFORMED PATTERNED REFL PVT MARKINGS	L.F.			
7	12 INCH WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.			
8	16 INCH WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.			
9	PERMANENT PREFORMED PAVEMENT MARKING ARROW	EA.			
10	PERMANENT PREFORMED PAVEMENT MARKING LETTER	EA.			

REVISIONS Δ ADDENDUM NO. 4 9/7/00 \square REDLINE NO. 3 DATE:	MARYLAND DOT - STATE HIGHWAY ADMINISTRATION <i>Office of Traffic & Safety</i> TRAFFIC ENGINEERING DESIGN DIVISION INDEX OF PAVEMENT MARKING QUANTITIES U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	DRAWN BY: SAZ /RSK CHECK BY: RSK SCALE: NOT TO SCALE F.A.P. NO. SEE TITLE SHEET S.H.A. NO. HO74IA21 COUNTY HOWARD
PLAN SHEET NO.: SN-11.5 SHEET NO.: 301 OF 320		

FILE: \cgsenrv\022\hopkins\sn11.5.2.dgn
 DATE: 08-Sep-00

TO I-95

TO PINDELL SCHOOL ROAD

**LIMIT OF WORK
STA. 39+90.00
JOHNS HOPKINS ROAD
MEET EX. CONDITIONS**

**LIMIT OF WORK
STA. 2000+52.29
GORMAN ROAD
MEET EX. CONDITIONS**

KEY

REFORESTATION PLANTING AREAS

④ A - MESIC

① B - MESIC/DRY

DESIGNED LANDSCAPE

MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD

KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE: LSO1							
FP	12	<i>Fraxinus pennsylvanica</i>	GREEN ASH	5'	CONT.	35' O.C.	
LS	8	<i>Liquidambar styraciflua</i>	SWEETGUM	2" CAL.	B&B	35' O.C.	
PS	50 3/4	<i>Pinus strobus</i>	WHITE PINE	8'	B&B	35' O.C.	FULL TO BASE
QP	10	<i>Quercus phellos</i>	WILLOW OAK	2" CAL.	B&B	35' O.C.	
ENHANCEMENT PLANTING: LSO1							
PLANT LIST							
CO	10	<i>Celtis occidentalis</i>	HACKBERRY	5'	B&B		
LS	12	<i>Liquidambar styraciflua</i>	SWEET GUM	2" CAL.	B&B		
QR	11	<i>Quercus rubra</i>	NORTHERN RED OAK	2" CAL.	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

REFORESTATION PLANT SCHEDULE

KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A = .44 ACRES				
CANOPY				
LT	11	<i>LIRIODENDRON TULIPIFERA</i>	YELLOW POPLAR	5' B&B
NS	11	<i>NYSSA SYLVATICA</i>	BLACKGUM	5' CONT.
QA	11	<i>QUERCUS ALBA</i>	WHITE OAK	2" CAL. B&B
UNDERSTORY TREES/SHRUBS				
ST	7	<i>STAPHYLEA TRIFOLIATA</i>	BLADDERNUT	3'-5'
VD	7	<i>VIBURNUM DENTATUM</i>	ARROWWOOD	3' 3 GAL. CONT.
CONDITION B = .22 ACRES				
CANOPY				
CO	6	<i>CARYA OVATA</i>	SHAGBARK HICKORY	3'-5'
PV	6	<i>PINUS VIRGINIANA</i>	VIRGINIA PINE	3'-5'
QA	6	<i>QUERCUS ALBA</i>	WHITE OAK	2" B&B
UNDERSTORY TREES/SHRUBS				
CR	4	<i>CORNUS RACEMOSA</i>	GRAY DOGWOOD	3' B.R.
VD	4	<i>VIBURNUM DENTATUM</i>	ARROWWOOD	3' 3 GAL. CONT.

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS

ADDENDUM NO. 4	DATE: 9/7/00
RED LINE REV. NO. 4	DATE: 8/5/02

LANDSCAPE PLAN

LS 01 OF 18

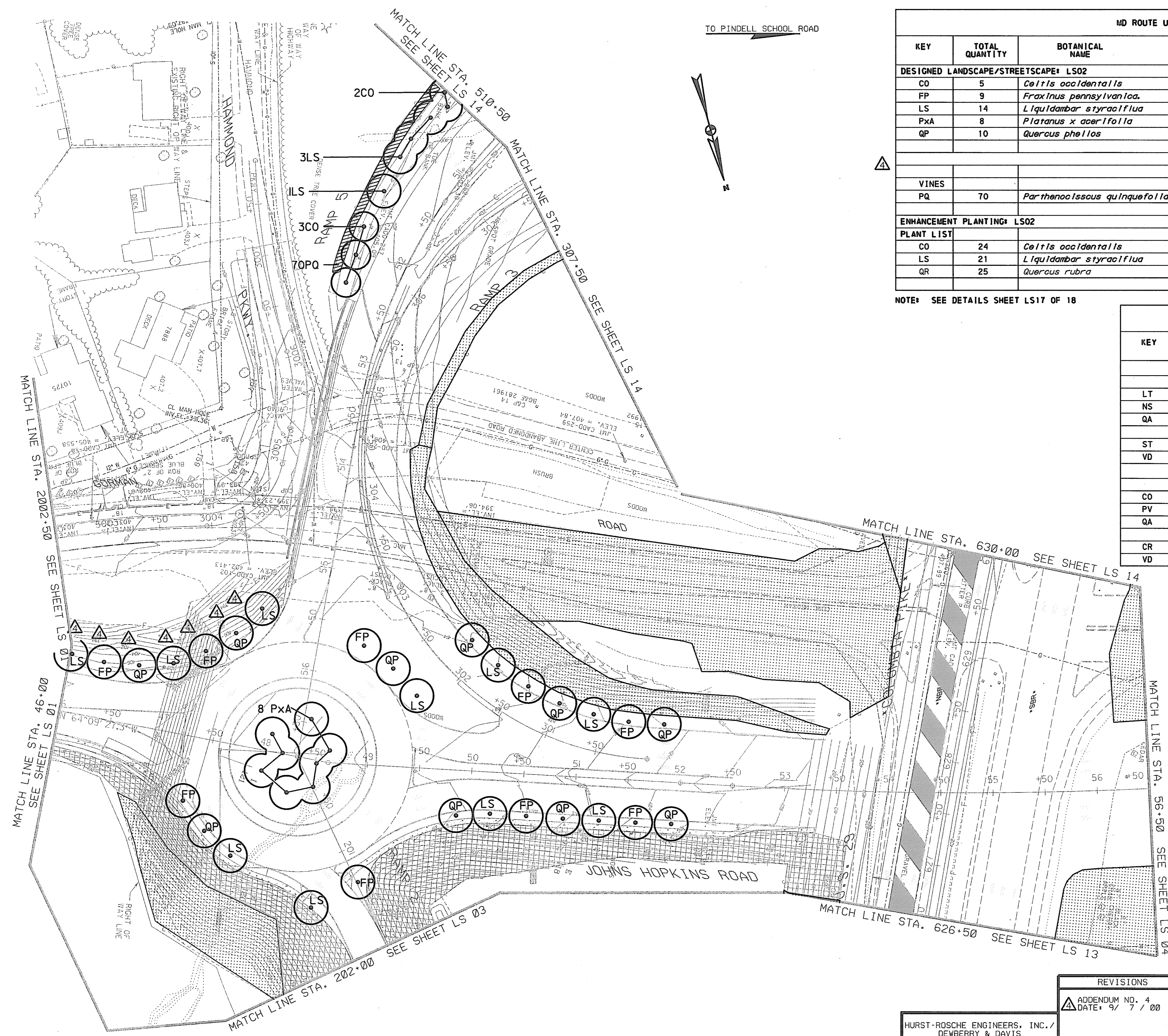
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 302 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

SCALE PLAN: 1" = 50'

TO I-95

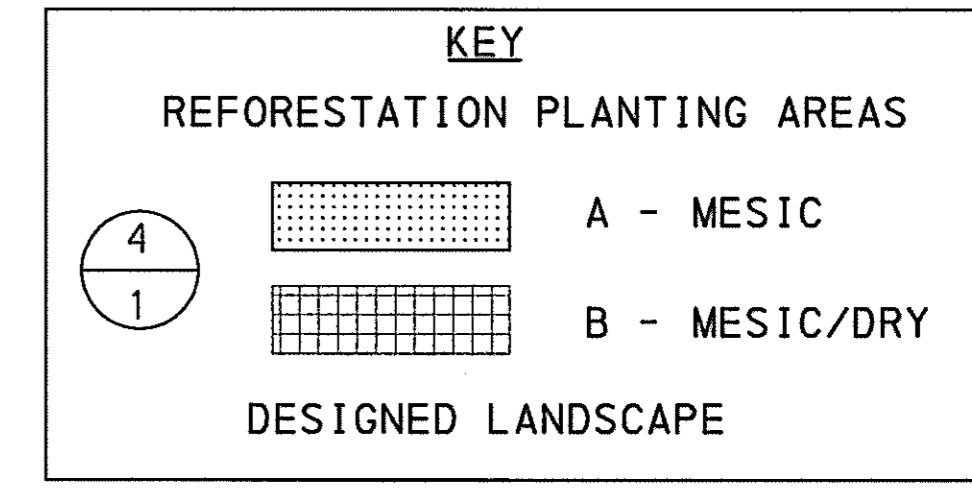
TO PINDELL SCHOOL ROAD



MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETScape: LS02							
CO	5	<i>Celtis occidentalis</i>	HACKBERRY	5'	B&B	35' O.C.	
FP	9	<i>Fraxinus pennsylvanica</i>	GREEN ASH	5'	CONT.	35' O.C.	
LS	14	<i>Liquidambar styraciflua</i>	SWEET GUM	2" CAL.	B&B	35' O.C.	
PxA	8	<i>Platanus x acerifolia</i>	LONDON PLANE TREE	3" CAL.	B&B	35' O.C.	
QP	10	<i>Quercus phellos</i>	WILLOW OAK	2" CAL.	B&B	35' O.C.	
VINES							
PQ	70	<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER	1 GAL.	CONT.	3'-4" O.C.	Plant along Noise Barrier
ENHANCEMENT PLANTING: LS02							
PLANT LIST							
CO	24	<i>Celtis occidentalis</i>	HACKBERRY	5'	B&B		
LS	21	<i>Liquidambar styraciflua</i>	SWEET GUM	2" CAL.	B&B		
QR	25	<i>Quercus rubra</i>	NORTHERN RED OAK	2" CAL.	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

REForestation PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A : 1.54 ACRES				
CANOPY				
LT	39	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	39	<i>Nyssa sylvatica</i>	BLACKGUM	5' CONT.
QA	39	<i>Quercus alba</i>	WHITE OAK	2" CAL. B&B
UNDERSTORY TREES/SHRUBS				
ST	25	<i>Staphylea trifoliata</i>	BLADDERNUT	3'-5'
VD	25	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.
CONDITION B : .68 ACRES				
CANOPY				
CO	17	<i>Carya ovata</i>	SHAGBARK HICKORY	3'-5'
PV	17	<i>Pinus virginiana</i>	VIRGINIA PINE	3'-5'
QA	17	<i>Quercus alba</i>	WHITE OAK	2" B&B
UNDERSTORY TREES/SHRUBS				
CR	11	<i>Cornus racemosa</i>	GRAY DOGWOOD	3' B.R.
VD	11	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.



SCALE : 1" = 50'

HURST-ROSCH ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 4
DATE: 9/7/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

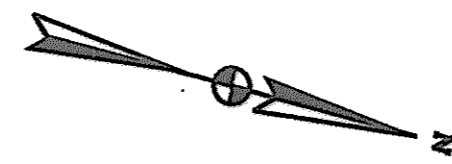
CONT. NO. HD7415170 F.A.P. NO. SEE TITLE SHEET NO. 303 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

LS 02 OF 18

LS020529D00

TO HOPKINS-GORMAN RD.

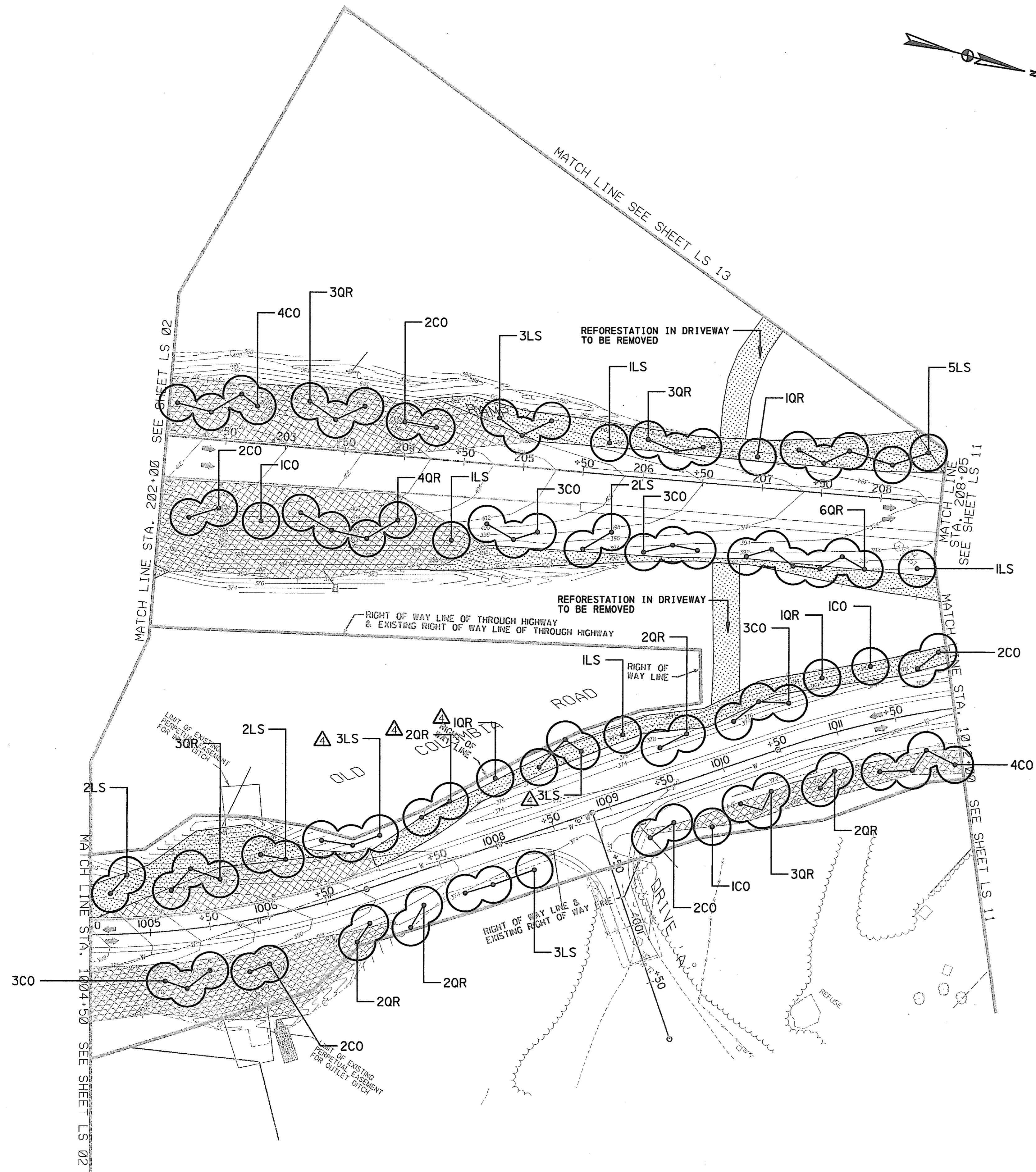
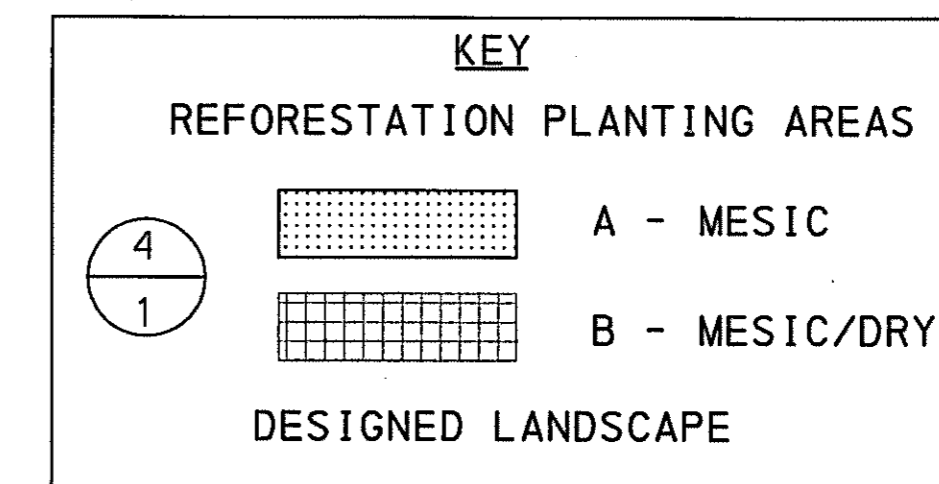
TO OLD COLUMBIA RD.



MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
ENHANCEMENT PLANTING#		LS03					
PLANT LIST							
CO	33	<i>Celtis occidentalis</i>	HACKBERRY	5'	B&B		
LS	27	<i>Liquidambar styraciflua</i>	SWEET GUM	2" CAL.	B&B		
QR	35	<i>Quercus rubra</i>	NORTHERN RED OAK	2" CAL.	B&B		

REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A : .71 ACRES				
CANOPY				
LT	18	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	18	<i>Nyssa sylvatica</i>	BLACKGUM	5' CONT.
QA	18	<i>Quercus alba</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	17	<i>Staphylea trifoliata</i>	BLADDERNUT	3'-5'
VD	17	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.
CONDITION B : 1.16 ACRES				
CANOPY				
CO	29	<i>Carya ovata</i>	SHAGBARK HICKORY	3'-5'
PV	29	<i>Pinus virginiana</i>	VIRGINIA PINE	3'-5'
QA	29	<i>Quercus alba</i>	WHITE OAK	2" B&B
UNDERSTORY TREES/SHRUBS				
CR	19	<i>Cornus racemosa</i>	GRAY DOGWOOD	3' B.R.
VD	19	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.

NOTE: SEE DETAILS SHEET LS17 OF 18



SCALE : 1" = 50'

LANDSCAPE PLAN

LS 03 OF 18

HURST-ROSCH ENGINEERS, INC. /
 DEWBERRY & DAVIS
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 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
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REVISIONS
ADDENDUM NO. 4 DATE: 9/7/00

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 304 OF 320
 PREL. TRAC. BY _____ FINAL TRAC. BY _____

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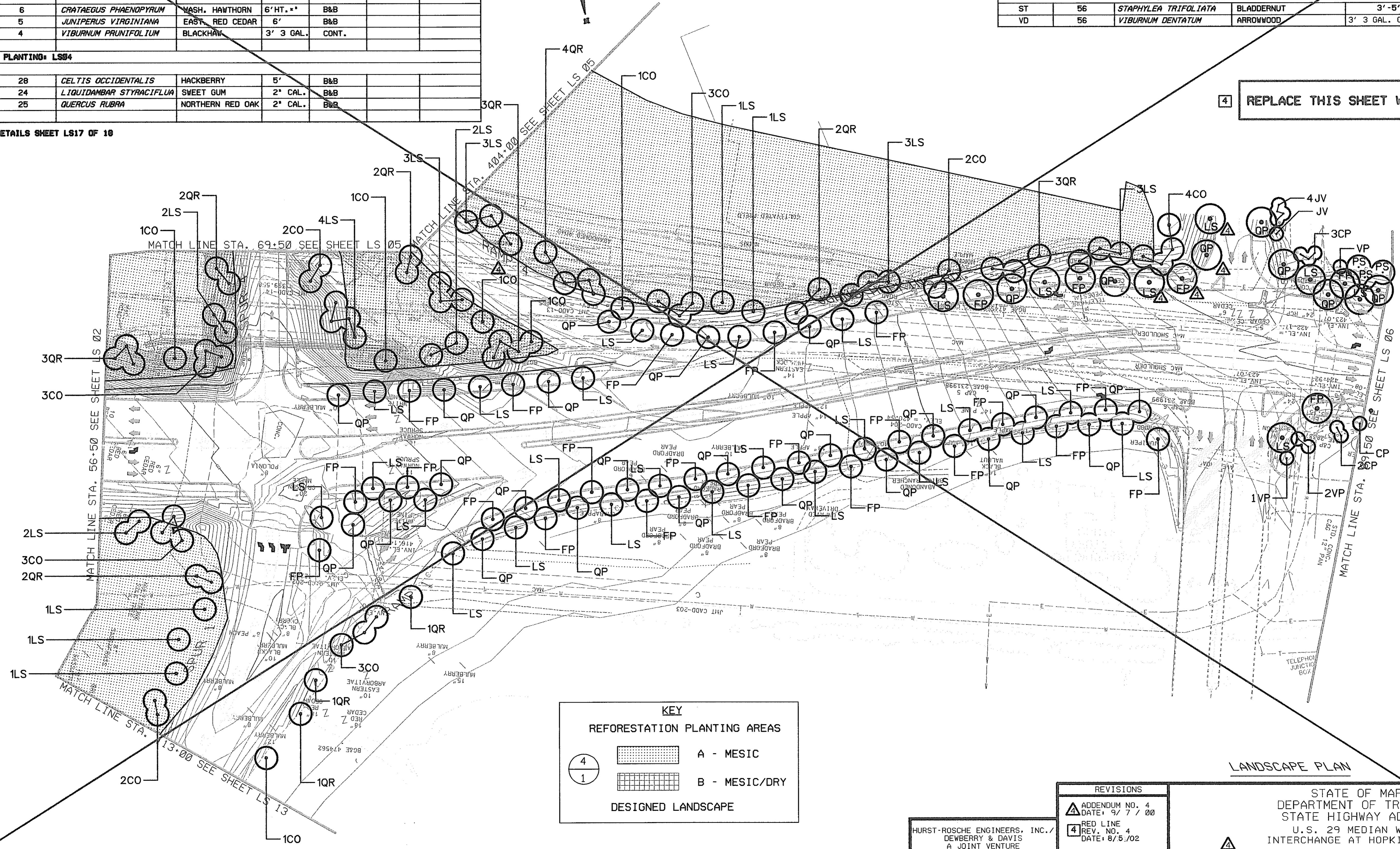
MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD

KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE LS04							
CANOPY							
FP	27	<i>FRAXINUS PENNSYLVANICA</i>	GREEN ASH	5'	CONT.	35' O.C.	
LS	28	<i>LIQUIDAMBAR STYRACIFLUA</i>	SWEETGUM	2 GAL.	B&B	35' O.C.	
PS	3	<i>PINUS STROBUS</i>	WHITE PINE	8'	B&B	35' O.C.	FULL TO BASE
QP	30	<i>QUERCUS PHELLOS</i>	WILLOW OAK	2" CAL.	B&B	35' O.C.	
UNDERSTORY							
CP	6	<i>CRATAEGUS PHAENOPYRUM</i>	WASH. HAWTHORN	6' HT.**	B&B		
JV	5	<i>JUNIPERUS VIRGINIANA</i>	EAST. RED CEDAR	6'	B&B		
VP	4	<i>VIBURNUM PRUNIFOLIUM</i>	BLACKHAWK	3' 3 GAL.	CONT.		
ENHANCEMENT PLANTING LS04							
PLANT LIST							
CO	28	<i>CELTIS OCCIDENTALIS</i>	HACKBERRY	5'	B&B		
LS	24	<i>LIQUIDAMBAR STYRACIFLUA</i>	SWEET GUM	2" CAL.	B&B		
QR	25	<i>QUERCUS RUBRA</i>	NORTHERN RED OAK	2" CAL.	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A = 3.44 ACRES				
CANOPY				
LT	87	<i>LIRIODENDON TULIPIFERA</i>	YELLOW POPLAR	5' B&B
NS	87	<i>NYSSA SYLVATICA</i>	BLACKGUM	5' CONT.
QA	87	<i>QUERCUS ALBA</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	56	<i>STAPHYLEA TRIFOLIATA</i>	BLADDERNUT	3'-5'
VD	56	<i>VIBURNUM DENTATUM</i>	ARROWWOOD	3' 3 GAL. CONT.

4 REPLACE THIS SHEET WITH SHEET LS04A



KEY	
REFORESTATION PLANTING AREAS	
	A - MESIC
	B - MESIC/DRY
DESIGNED LANDSCAPE	

SCALE PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
	ADDENDUM NO. 4 DATE: 9/7/00
	RED LINE REV. NO. 4 DATE: 8/5/02

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

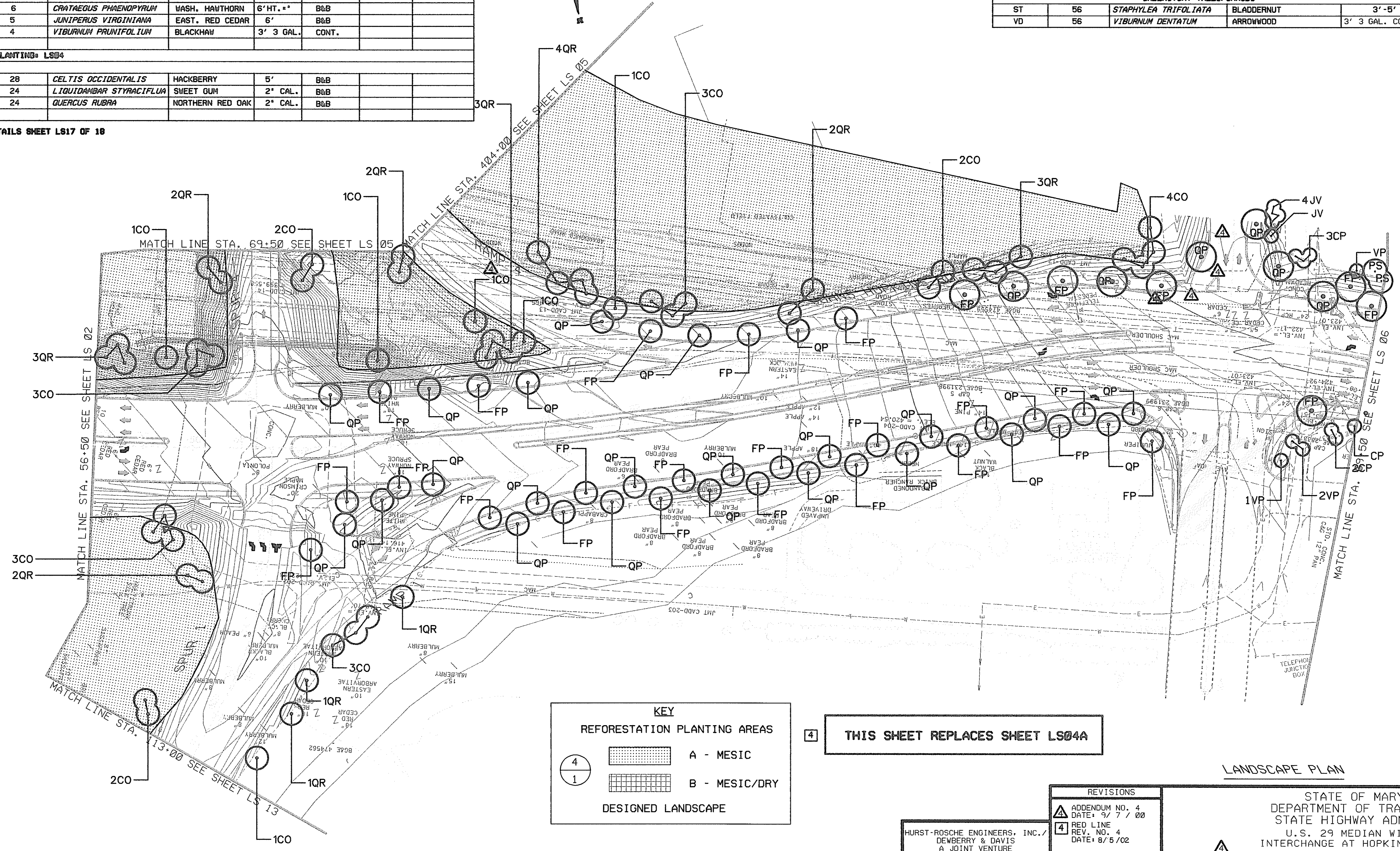
CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 305 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

4 MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD

KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETScape LS04							
CANOPY							
FP	28	<i>FRAXINUS PENNSYLVANICA</i>	GREEN ASH	5'	CONT.	50' O.C.	
PS	2	<i>PINUS STROBUS</i>	WHITE PINE	8'	B&B	50' O.C.	FULL TO BASE
QP	29	<i>QUERCUS PHELLOS</i>	WILLOW OAK	2" CAL.	B&B	50' O.C.	
UNDERSTORY							
CP	6	<i>CRATAEGUS PHAENOPYRUM</i>	WASH. HAWTHORN	6' HT. **	B&B		
JV	5	<i>JUNIPERUS VIRGINIANA</i>	EAST. RED CEDAR	6'	B&B		
VP	4	<i>VIBURNUM PRUNIFOLIUM</i>	BLACKHAW	3' 3 GAL.	CONT.		
ENHANCEMENT PLANTING: LS04							
PLANT LIST							
CO	28	<i>CELTIS OCCIDENTALIS</i>	HACKBERRY	5'	B&B		
LS	24	<i>LIQUIDAMBAR STYRACIFLUA</i>	SWEET GUM	2" CAL.	B&B		
QR	24	<i>QUERCUS RUBRA</i>	NORTHERN RED OAK	2" CAL.	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A : 3.44 ACRES				
CANOPY				
LT	87	<i>LIRIODENDON TULIPIFERA</i>	YELLOW POPLAR	5' B&B
NS	87	<i>NYSSA SYLVATICA</i>	BLACKGUM	5' CONT.
QA	87	<i>QUERCUS ALBA</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	56	<i>STAPHYLEA TRIFOLIATA</i>	BLADDERNUT	3'-5'
VD	56	<i>VIBURNUM DENTATUM</i>	ARROWWOOD	3' 3 GAL. CONT.



THIS SHEET REPLACES SHEET LS04A

KEY

REFORESTATION PLANTING AREAS

A - MESIC

B - MESIC/DRY

DESIGNED LANDSCAPE

4

1

SCALE PLAN: 1" = 50'

REVISIONS	
4	ADDENDUM NO. 4 DATE: 9/7/00
4	RED LINE REV. NO. 4 DATE: 8/5/02

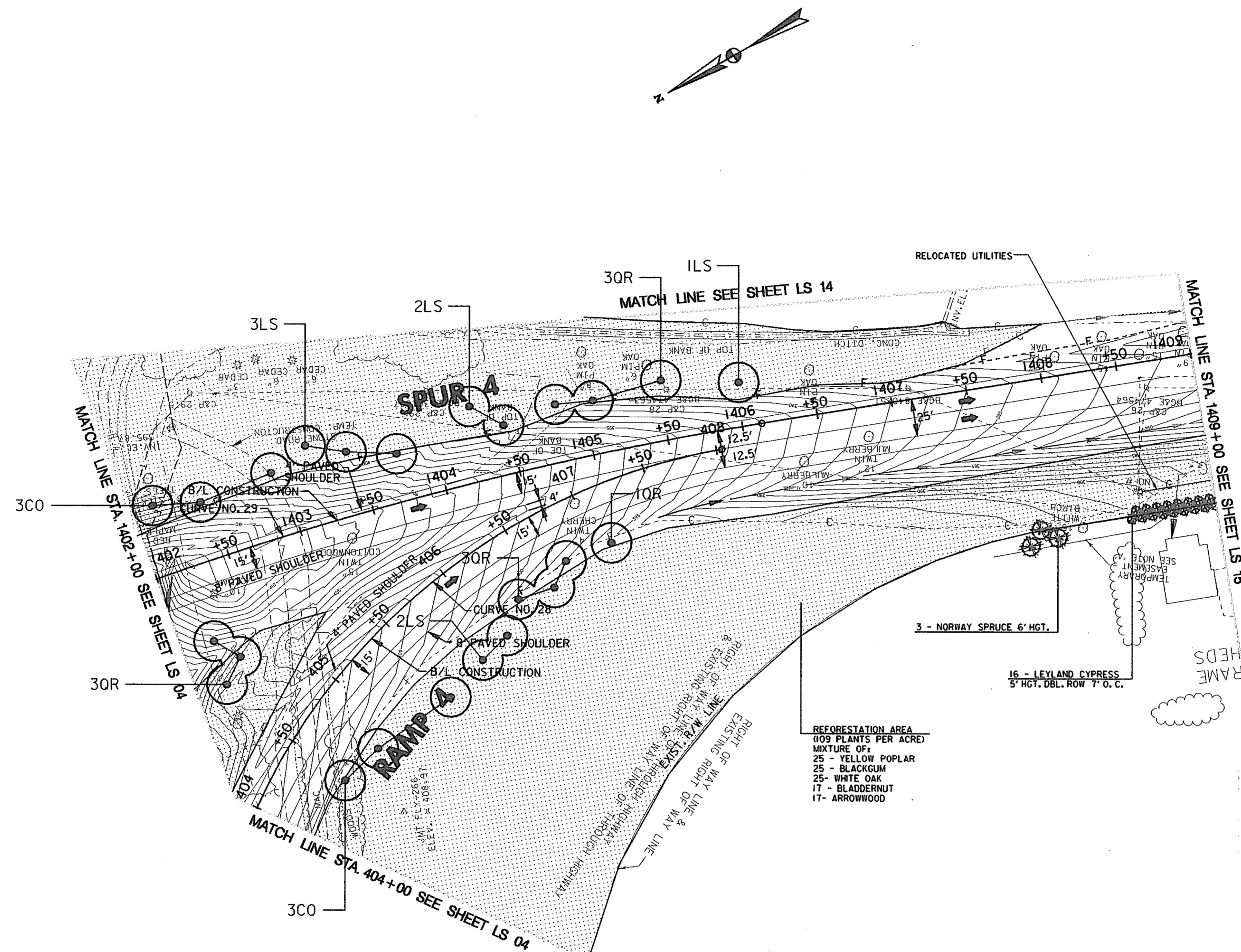
HURST-ROSCH ENGINEERS, INC./
DENBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

LANDSCAPE PLAN

LS 04A OF 18

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

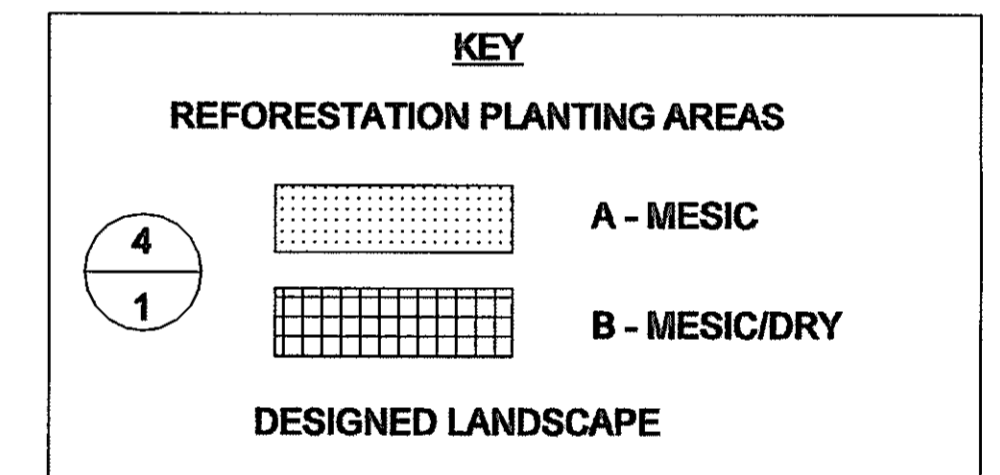
CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 305A OF 320
PREL. TRAC. BY FINAL TRAC. BY



MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
ENHANCEMENT PLANTING: LS05							
PLANT LIST							
CO	6	<i>Celtis occidentalis</i>	HACKBERRY	5'	B&B		
LS	8	<i>Liquidambar styraciflua</i>	SWEET GUM	2" CAL	B&B		
QR	10	<i>Quercus rubra</i>	NORTHERN RED OAK	2" CAL	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A: 2.43 ACRES				
CANOPY				
LT	87	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	87	<i>Nyssa sylvatica</i>	BLACKGUM	5' CONT.
QA	87	<i>Quercus alba</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	56	<i>Staphylea trifoliata</i>	BLADDERNUT	3'-5'
VD	56	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.



MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
ENHANCEMENT PLANTING: LS05							
PLANT LIST							
CL	16	<i>X Cupressocyparis leylandii</i>	LEYLAND CYPRESS	5'	B&B	7' O.C.	DBL ROW
PA	3	<i>Picea abies</i>	NORWAY SPRUCE	6'	B&B		

REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CANOPY				
LT	25	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	25	<i>Nyssa sylvatica</i>	BLACKGUM	5' CONT.
QA	25	<i>Quercus alba</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	17	<i>Staphylea trifoliata</i>	BLADDERNUT	3'-5'
VD	17	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.

SCALE: PLAN: 1"=50'

HURST-ROSCH ENGINEERS, INC/
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1883

REVISIONS	
4	ADDENDUM NO. 4 DATE: 9/7/00
5	REDLINE NO. 5 DATE: 03/29/03

LANDSCAPE PLAN

LS 05 OF 18

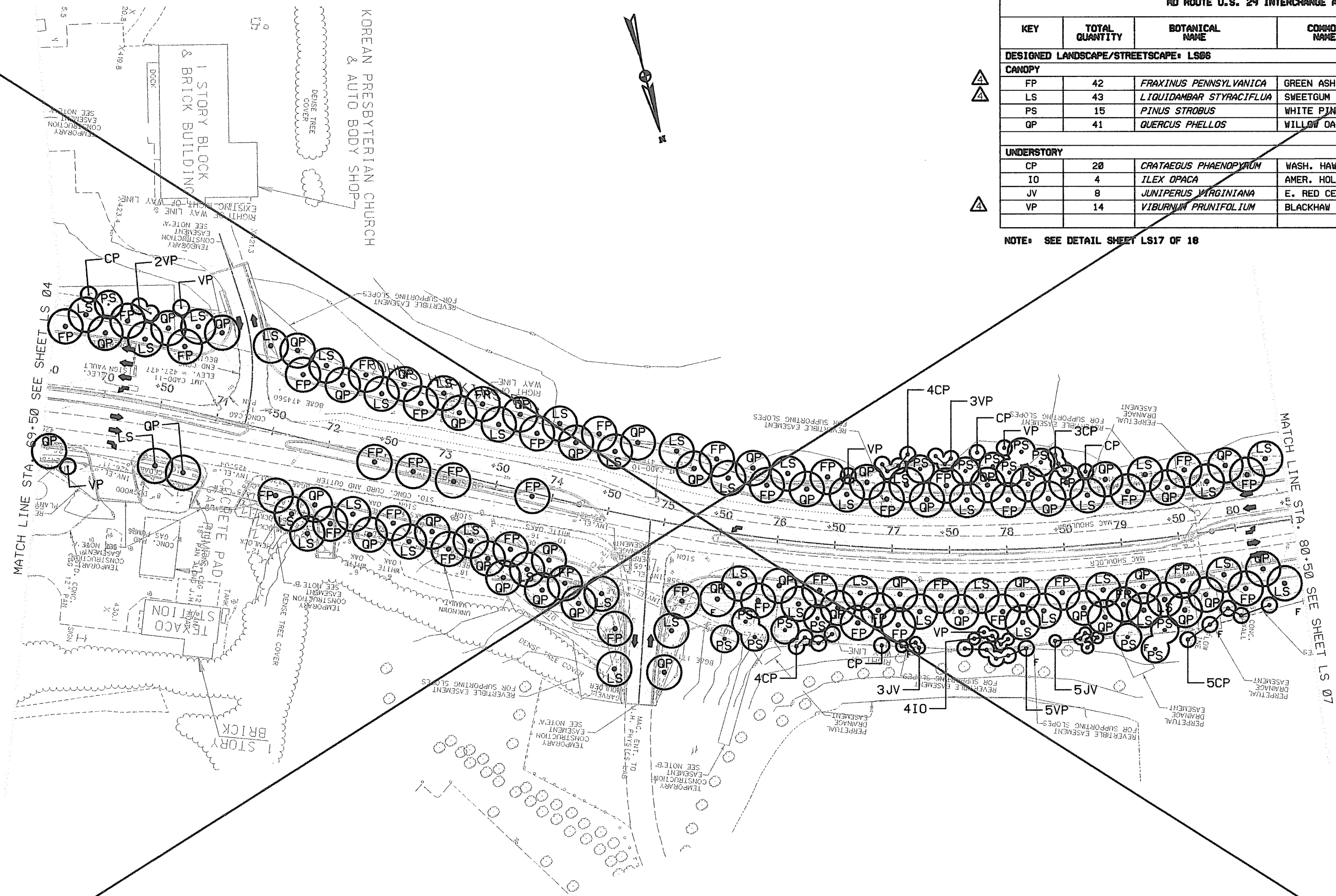
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD			
CONT. NO.	HO7415170	F.A.P. NO.	SEE TITLE SHEET
PREL. TRAC. BY		FINAL TRAC. BY	
SHEET NO.	306	OF	320

TO US RTE. 29

TO SANNER ROAD

MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE: LS06							
CANOPY							
FP	42	<i>FRAXINUS PENNSYLVANICA</i>	GREEN ASH	5'	CONT.		
LS	43	<i>LIQUIDAMBAR STYRACIFLUA</i>	SWEETGUM	2" CAL.	B&B		
PS	15	<i>PINUS STROBUS</i>	WHITE PINE	8'	B&B		FULL TO BASE
QP	41	<i>QUERCUS PHELLOS</i>	WILLOW OAK	2" CAL.	B&B		
UNDERSTORY							
CP	20	<i>CRATAEGUS PHAENOPYRUM</i>	WASH. HAWTHORN	6'	** CAL.	B&B	
IO	4	<i>ILEX OPACA</i>	AMER. HOLLY	5'			FULL TO BASE
JV	8	<i>JUNIPERUS VIRGINIANA</i>	E. RED CEDAR	6'		B&B	
VP	14	<i>VIBURNUM PRUNIFOLIUM</i>	BLACKHAW	3'		B&B	

NOTE: SEE DETAIL SHEET LS17 OF 18



4 REPLACE THIS SHEET WITH SHEET LS06A

LANDSCAPE PLAN

LS 06 OF 18

SCALE PLAN: 1" = 50'

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 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
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 (410) 683-1683

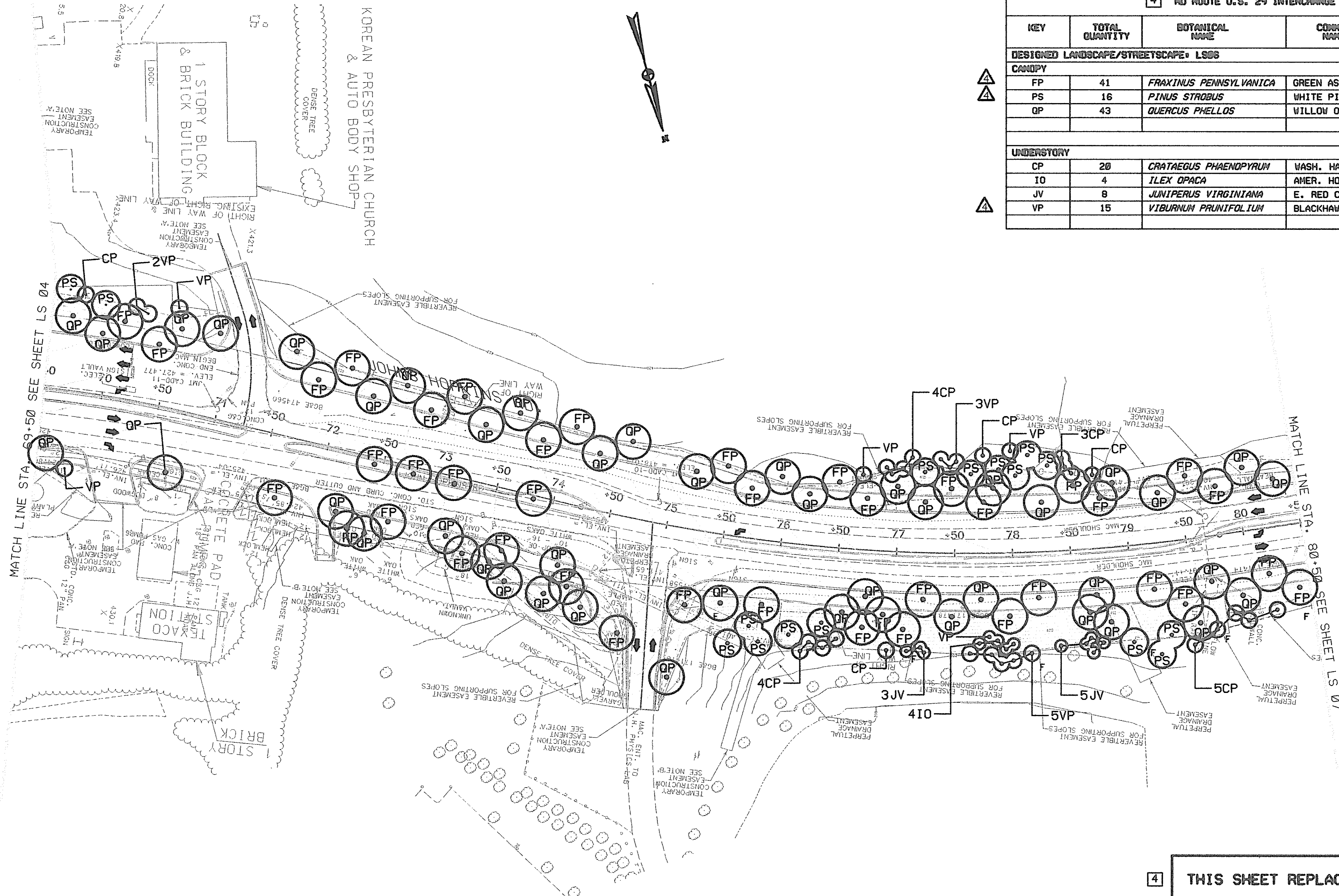
REVISIONS	
ADDENDUM NO. 4	DATE: 9/7/00
4 RED LINE	REV. NO. 4 DATE: 8/5/02

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET NO. 307 OF 320
 PREL. TRAC. BY FINAL TRAC. BY

TO US RTE. 29

TO SANNER ROAD



4 MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE LS06							
CANOPY							
FP	41	FRAXINUS PENNSYLVANICA	GREEN ASH	5'	CONT.		
PS	16	PINUS STROBUS	WHITE PINE	8'	B&B		FULL TO BASE
QP	43	QUERCUS PHELLOS	WILLOW OAK	2" CAL. B&B			
UNDERSTORY							
CP	20	CRATAEGUS PHAENOPYRUM	WASH. HAWTHORN	6'	" CAL. B&B		
IO	4	ILEX OPACA	AMER. HOLLY	5'			FULL TO BASE
JV	8	JUNIPERUS VIRGINIANA	E. RED CEDAR	6'	B&B		
VP	15	VITURNUM PRUNIFOLIUM	BLACKHAW	3'	B&B		

4 THIS SHEET REPLACES SHEET LS06

LANDSCAPE PLAN

LS 06A OF 18

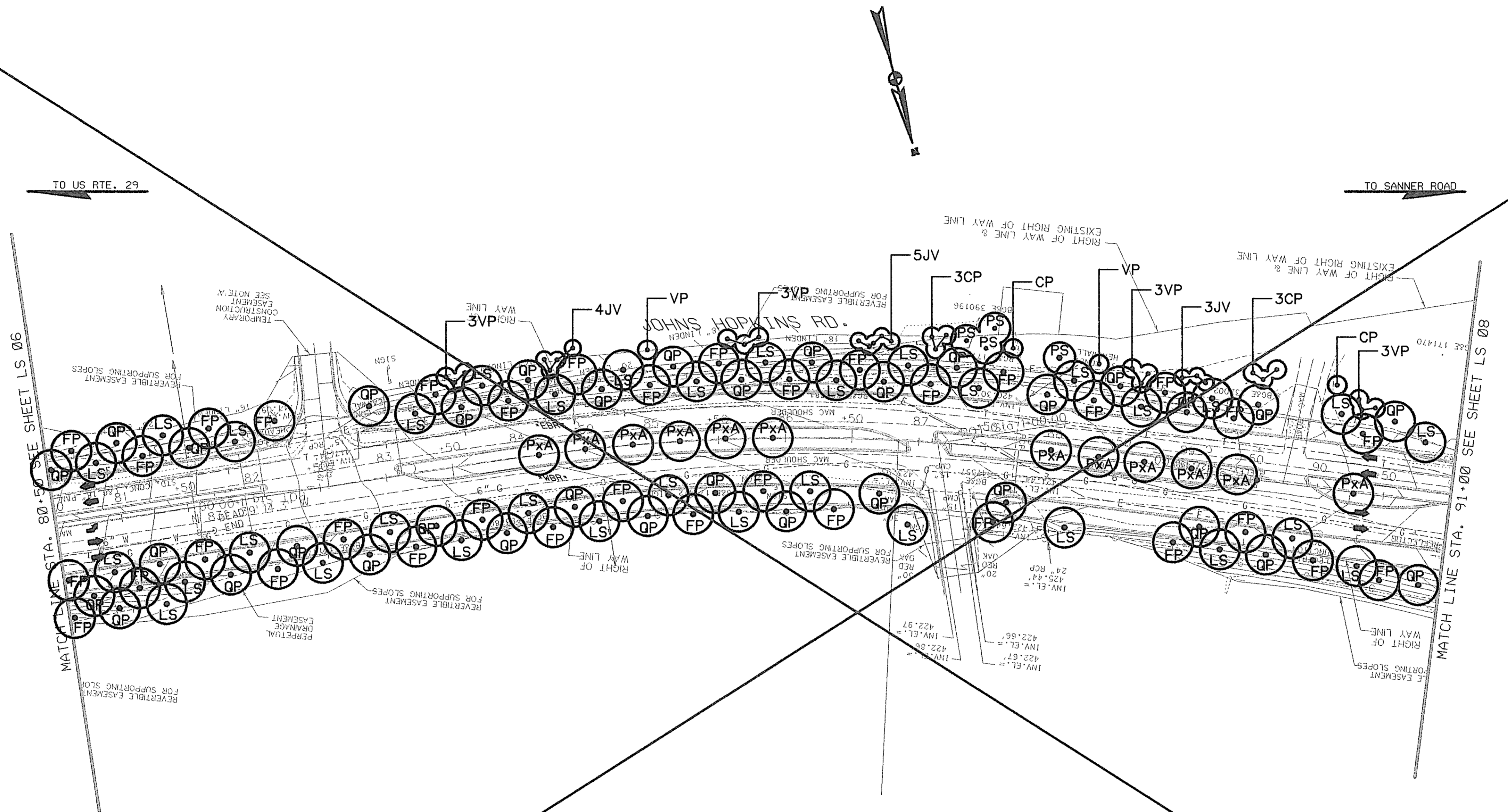
SCALE PLAN: 1" = 50'

HURST-ROSCH ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

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STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 307A OF 320
 PREL. TRAC. BY FINAL TRAC. BY



TO US RTE. 29

TO SANNER ROAD

MATCH LINE STA. 80+50 SEE SHEET LS 06

MATCH LINE STA. 91+00 SEE SHEET LS 08

4 REPLACE THIS SHEET WITH SHEET LS07A

MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE: LS07							
△ CANOPY							
FP	35	<i>FRAXINUS PENNSYLVANICA</i>	GREEN ASH	5'	CONT.	35' O.C.	
LS	34	<i>LIQUIDAMBAR STYRACIFLUA</i>	SWEETGUM	2" CAL.	B&B	35' O.C.	
PS	4	<i>PINUS STROBUS</i>	WHITE PINE	8'	B&B	35' O.C.	FULL TO BASE △
QP	34	<i>QUERCUS PHELLOS</i>	WILLOW OAK	2" CAL.	B&B	35' O.C.	
PXA	12	<i>PLATANUS X ACERIFOLIA</i>	LONDON PLANETREE	3" CAL.	B&B	35' O.C.	
UNDERSTORY							
CP	8	<i>CRATAEGUS PHAENOPYRUM</i>	WASH. HAWTHORN	6" * CAL.	B&B		
JV	12	<i>JUNIPERUS VIRGINIANA</i>	E. RED CEDAR	6'	B&B		
VP	14	<i>VIBURNUM PRUNIFOLIUM</i>	BLACKHAW	3'	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

LANDSCAPE PLAN

LS 07 OF 18

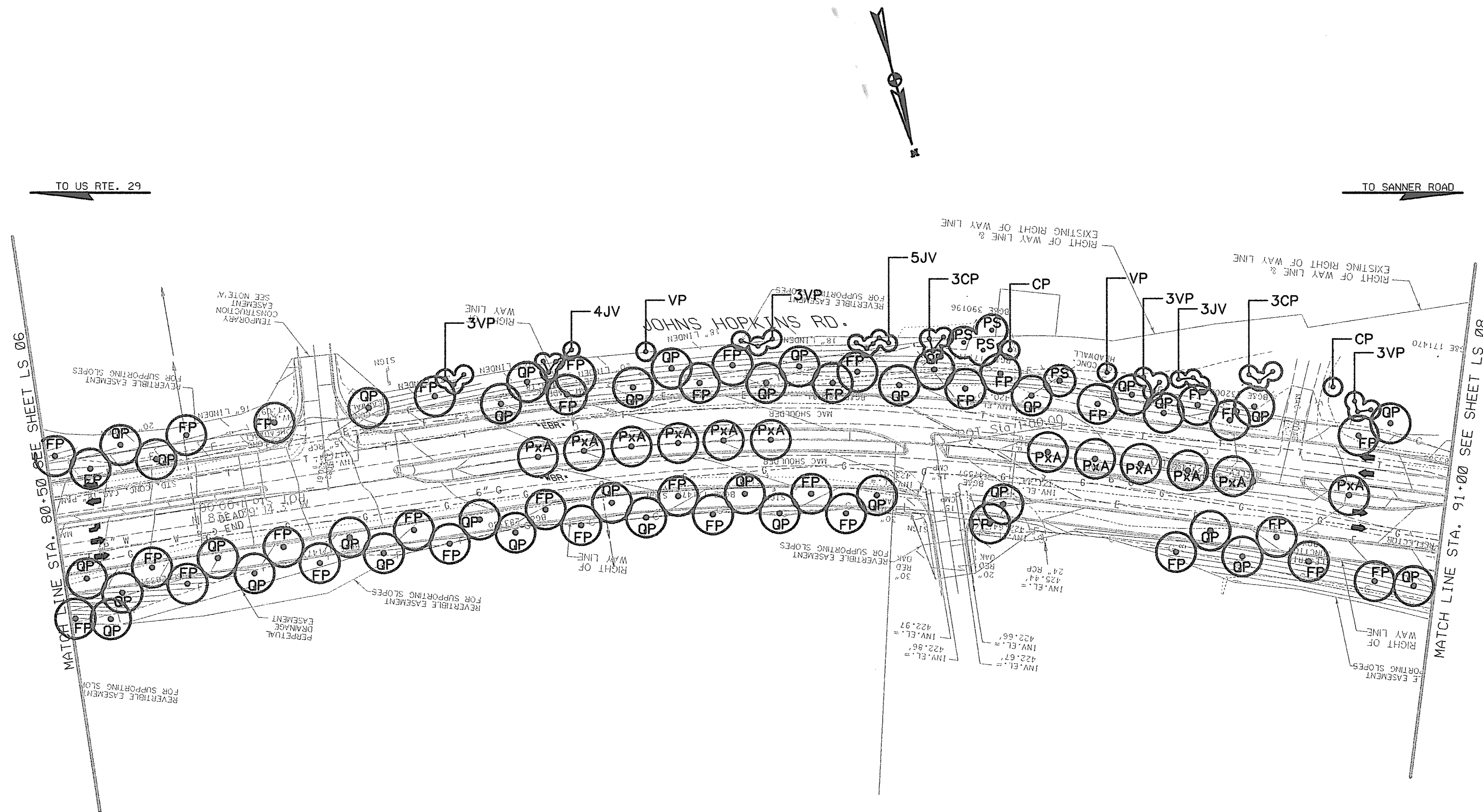
SCALE PLAN: 1" = 50'

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
△	ADDENDUM NO. 4 DATE: 9/7/00
4	RED LINE REV. NO. 4 DATE: 8/15/02

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 308 OF 320
PREL. TRAC. BY FINAL TRAC. BY



4 MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE: LS07							
CANOPY							
FP	35	FRAXINUS PENNSYLVANICA	GREEN ASH	5'	CONT.	50' O.C.	
PS	4	PINUS STROBUS	WHITE PINE	8'	B&B	20' O.C.	FULL TO BASE
QP	34	QUERCUS PHELLOS	WILLOW OAK	2" CAL.	B&B	50' O.C.	
PxA	12	PLATANUS X ACERIFOLIA	LONDON PLANETREE	3" CAL.	B&B	35' O.C.	
UNDERSTORY							
CP	8	CRATAEGUS PHAENOPYRUM	WASH. HAWTHORN	6" * CAL.	B&B		
JV	12	JUNIPERUS VIRGINIANA	E. RED CEDAR	6'	B&B		
VP	14	VIBURNUM PRUNIFOLIUM	BLACKHAW	3'	B&B		

4 THIS SHEET REPLACES SHEET LS07

NOTE: SEE DETAILS SHEET LS17 OF 18

LANDSCAPE PLAN

LS 07A OF 18

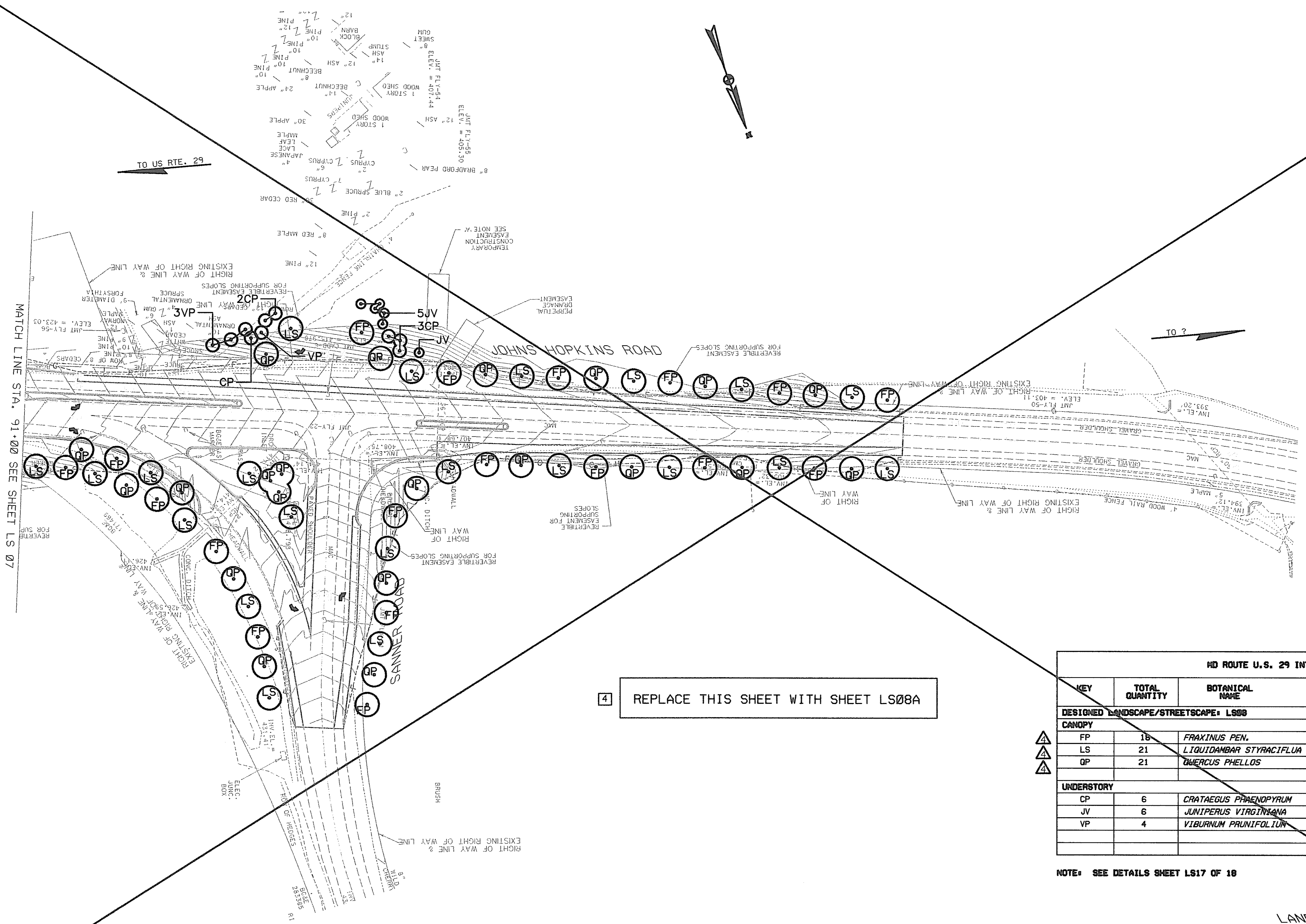
SCALE PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 4	DATE: 9/7/00
4 RED LINE	REV. NO. 4
	DATE: 8/5/02

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 308A OF 320
PREL. TRAC. BY FINAL TRAC. BY



4 REPLACE THIS SHEET WITH SHEET LS08A

MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE: L508							
CANOPY							
FP	18	<i>FRAXINUS PEN.</i>	GREEN ASH	5'	CONT.		
LS	21	<i>LIQUIDAMBAR STYRACIFLUA</i>	SWEETGUM	2" CAL.	B&B		
QP	21	<i>QUERCUS PHELLOS</i>	WILLOW OAK	2" CAL.	B&B		
UNDERSTORY							
CP	6	<i>CRATAEGUS PRAENOPYRUM</i>	WASH. HAWTHORN	6" * CAL.	B&B		
JV	6	<i>JUNIPERUS VIRGINIANA</i>	E. RED CEDAR	6'	B&B		
VP	4	<i>VIBURNUM PRUNIFOLIUM</i>	BLACKHAW	3'	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

LANDSCAPE PLAN

LS 08 OF 18

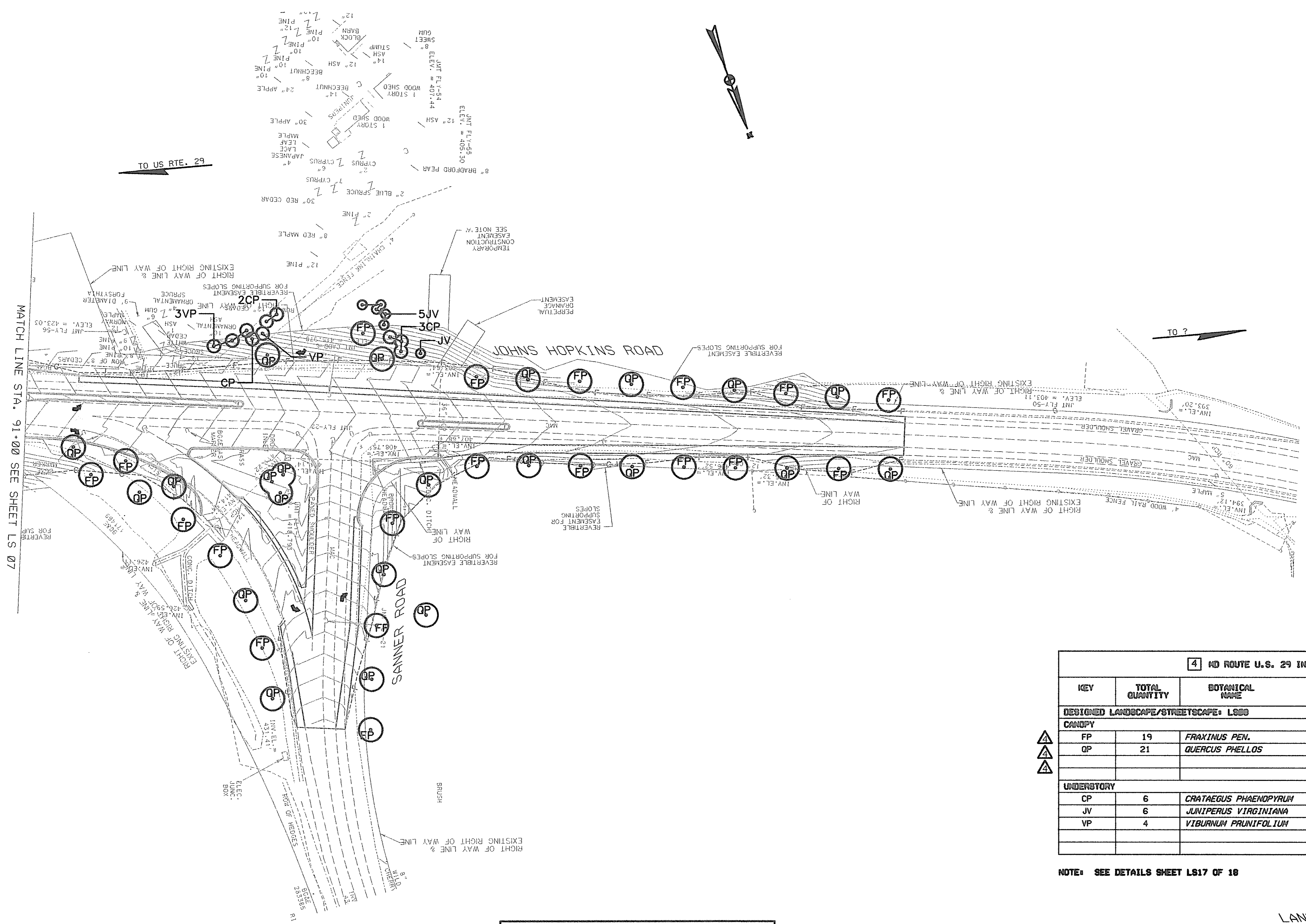
SCALE PLAN: 1" = 50'

HURST-ROSCHKE ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 4	DATE: 9/7/00
4 RED LINE	REV. NO. 4
	DATE: 8/5/02

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 309 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____



MATCH LINE STA. 91+00 SEE SHEET LS 07

TO US RTE. 29

TO ?

4 MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE: LOSS							
CANOPY							
FP	19	<i>FRAXINUS PEN.</i>	GREEN ASH	5'	CONT.		
QP	21	<i>QUERCUS PHELLOS</i>	WILLOW OAK	2" CAL.	B&B		
UNDERSTORY							
CP	6	<i>CRATAEGUS PHAENOPYRUM</i>	WASH. HAWTHORN	6" * CAL.	B&B		
JV	6	<i>JUNIPERUS VIRGINIANA</i>	E. RED CEDAR	6'	B&B		
VP	4	<i>VIBURNUM PRUNIFOLIUM</i>	BLACKHAW	3'	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

THIS SHEET REPLACES SHEET LS08

SCALE PLAN: 1" = 50'

LANDSCAPE PLAN

LS 08A OF 18

HURST-ROSCH ENGINEERS, INC.
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 4	DATE: 9/7/00
RED LINE REV. NO. 4	DATE: 8/5/02

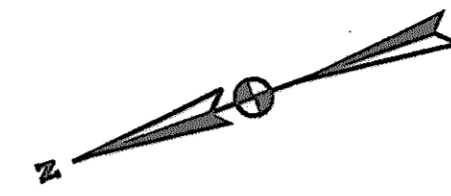
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 309 OF 320
PREL. TRAC. BY FINAL TRAC. BY

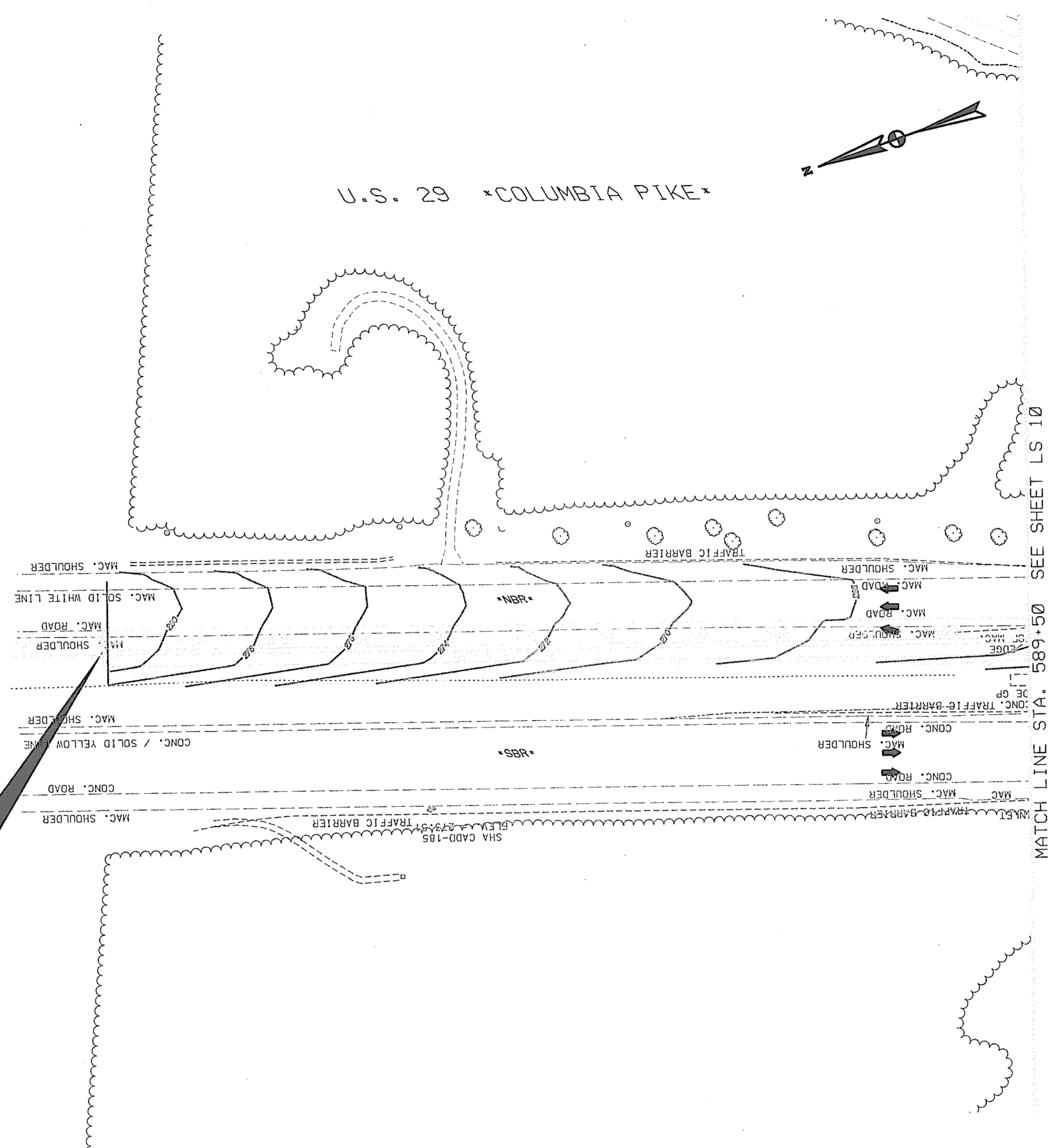
TO BALTIMORE

TO WASHINGTON

U.S. 29 *COLUMBIA PIKE*



LIMIT OF WORK
STA. 583+97.50
U.S. 29
MEET EX. CONDITIONS



MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
NO DESIGNED PLANTINGS/STREETSCAPE ON THIS SHEET							

SCALE : 1" = 50'

LANDSCAPE PLAN

LS 09 OF 18

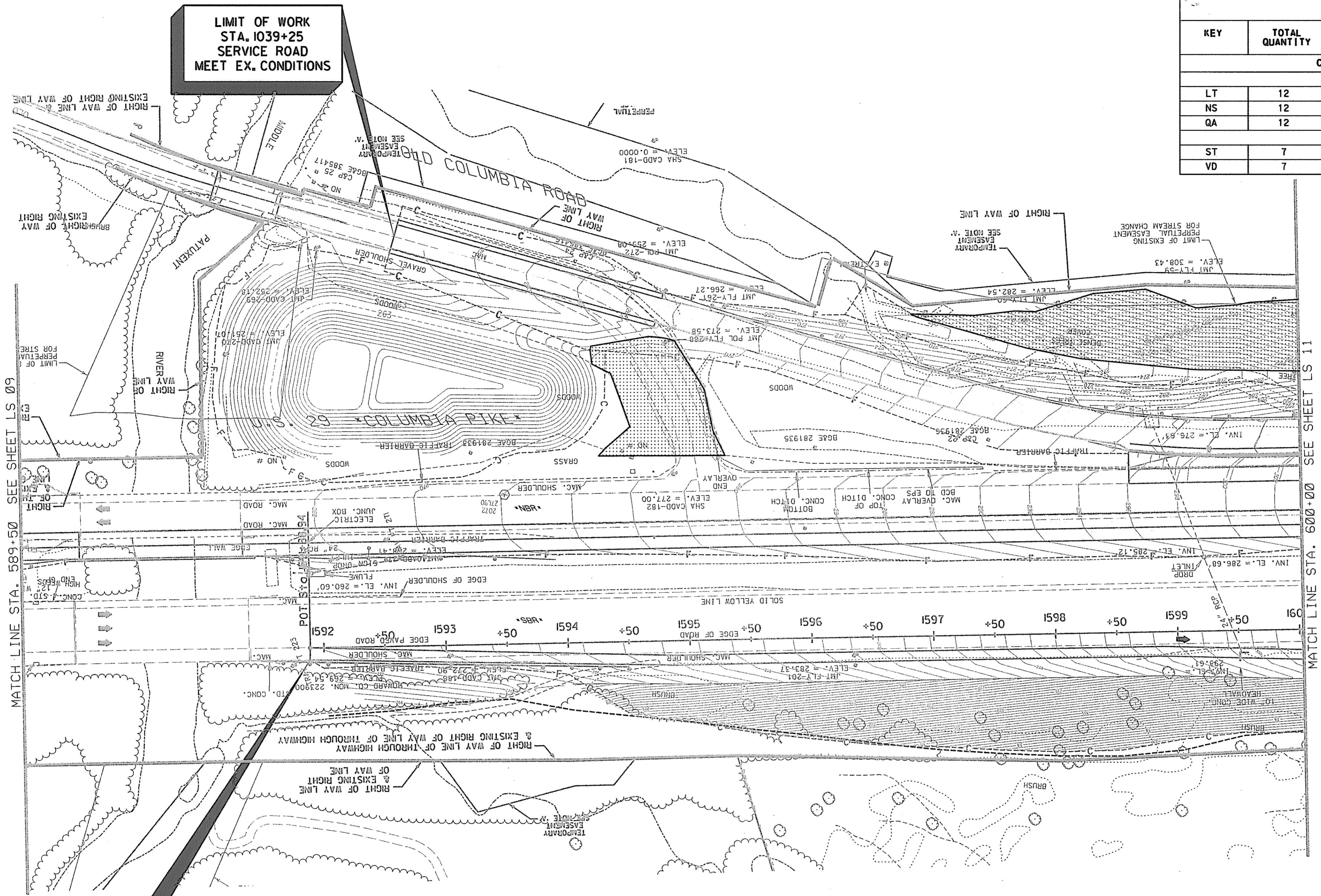
HURST-ROSCH ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 4 DATE: 9/7/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 310 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A : .46 ACRES				
CANOPY				
LT	12	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	12	<i>Nyssa sylvatica</i>	BLACKGLUM	5' CONT.
QA	12	<i>Quercus alba</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	7	<i>Staphylea trifoliata</i>	BLADDERNUT	3' - 5'
VD	7	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.



KEY	
REFORESTATION PLANTING AREAS	
(4)	A - MESIC
(1)	B - MESIC/DRY
DESIGNED LANDSCAPE	

MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
NO DESIGNED PLANTING/STREETSCAPE ON THIS SHEET							

SCALE PLAN: 1" = 50'

HURST-ROSCH ENGINEERS, INC.
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

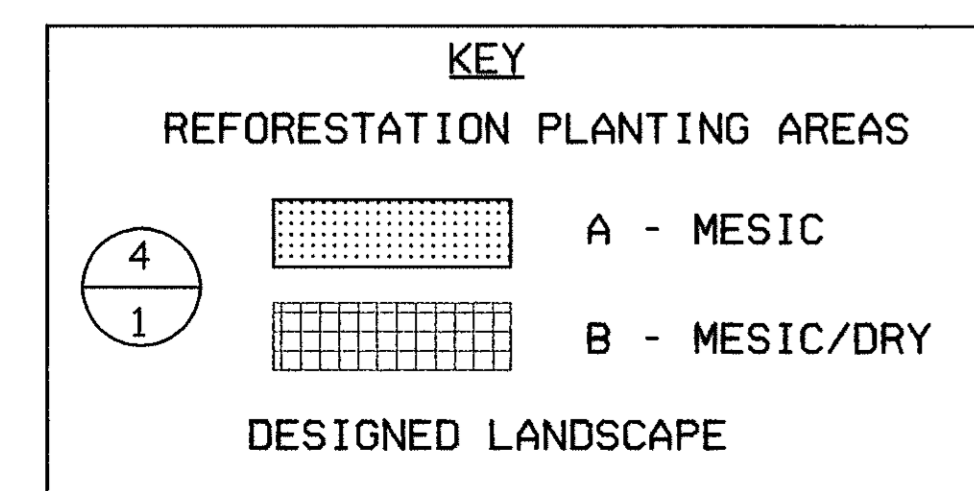
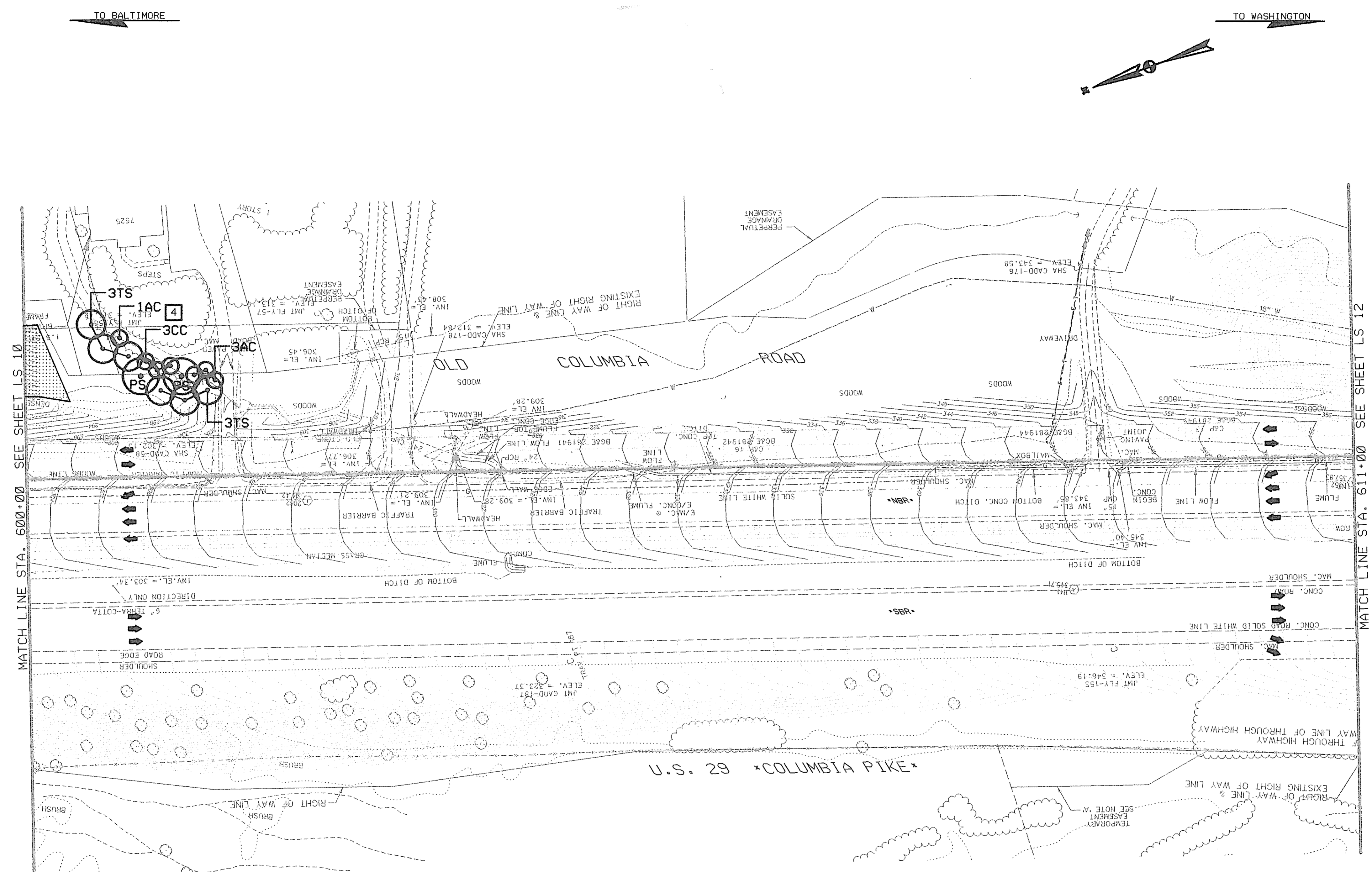
REVISIONS
ADDENDUM NO. 4 DATE: 9/7/00

LANDSCAPE PLAN LS 10 OF 18

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 311 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

DATE PLOTTED: 11/10/00 11:00 AM



4 MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE LSS4							
CANOPY							
TS	6	<i>TSUGA CANADENSIS</i>	EASTERN HEMLOCK	8'	B&B	35' O.C.	FULL TO BASE
PS	2	<i>PINUS STROBUS</i>	WHITE PINE	8'	B&B	35' O.C.	FULL TO BASE
UNDERSTORY							
CC	3	<i>CERCIS CANADENSIS</i>	EASTERN REDBUD	6' HT. *	B&B		
AC	4	<i>AMELANCHIER CANADENSIS</i>	SERVICEBERRY	3' 3 GAL.	CONT.		

NOTE: SEE DETAILS SHEET LS17 OF 10

SCALE PLAN: 1" = 50'

REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A = .03 ACRES				
CANOPY				
LT	1	<i>LIRIODENDON TULIPIFERA</i>	YELLOW POPLAR	5' B&B
NS	1	<i>NYSSA SYLVATICA</i>	BLACKGUM	5' CONT.
UNDERSTORY TREES/SHRUBS				
ST	1	<i>STAPHYLEA TRIFOLIATA</i>	BLADDERNUT	3'-5'

LANDSCAPE PLAN

LS 11 OF 18

HURST-ROSCHKE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

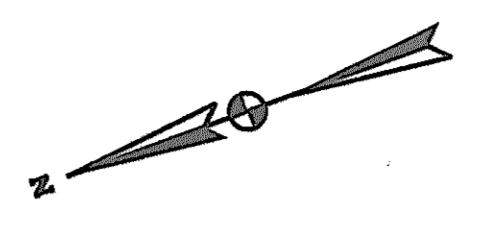
REVISIONS	
4	ADDENDUM NO. 4 DATE: 9/7/00
4	RED LINE REV. NO. 4 DATE: 8/5/02

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 U.S. 29 MEDIAN WIDENING AND
 INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 312 OF 320
 PREL. TRAC. BY. FINAL TRAC. BY.

TO BALTIMORE

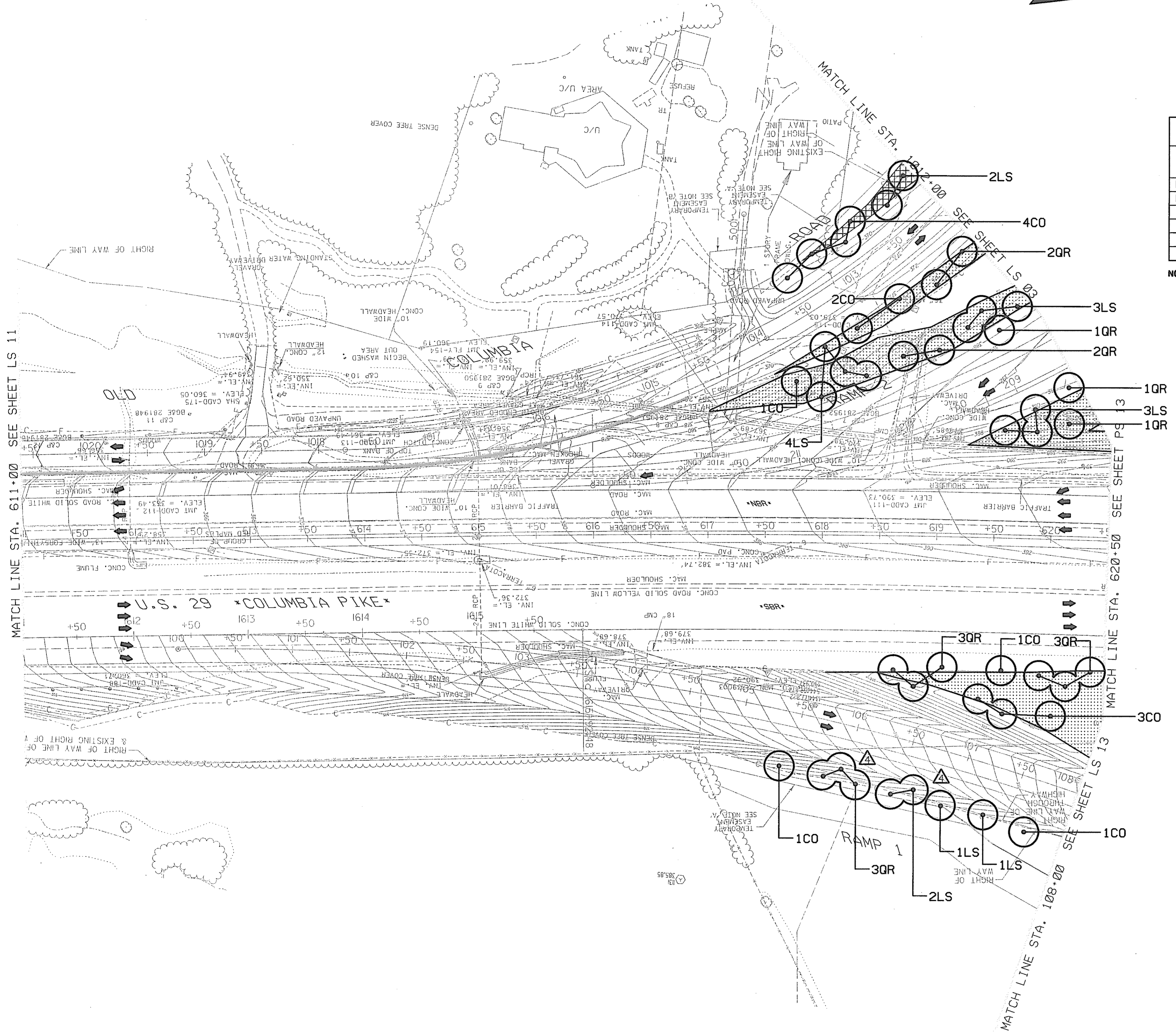
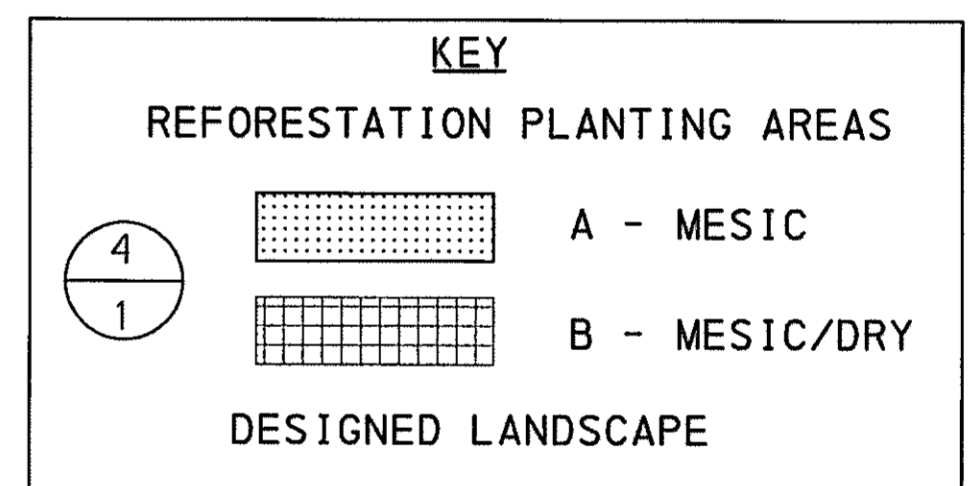
TO WASHINGTON



MD ROUTE U. S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
ENHANCEMENT PLANTING: LS12							
PLANT LIST							
CO	13	<i>Celtis occidentalis</i>	HACKBERRY	5'	B&B		
LS	16	<i>Liquidambar styraciflua</i>	SWEET GUM	2" CAL.	B&B		
QR	16	<i>Quercus rubra</i>	NORTHERN RED OAK	2" CAL.	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A : .43 ACRES				
CANOPY				
LT	11	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	11	<i>Nyssa sylvatica</i>	BLACKGUM	5' CONT.
QA	11	<i>Quercus alba</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	7	<i>Staphylea trifoliata</i>	BLADDERNUT	3'-5'
VD	7	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.
CONDITION B : .03 ACRES				
CANOPY				
CO	1	<i>Carya ovata</i>	SHAGBARK HICKORY	3'-5'
PV	1	<i>Pinus virginiana</i>	VIRGINIA PINE	3'-5'
QA	1	<i>Quercus alba</i>	WHITE OAK	2" B&B
UNDERSTORY TREES/SHRUBS				
CR	1	<i>Cornus racemosa</i>	GRAY DOGWOOD	3' B.R.



SCALE PLAN: 1" = 50'

LANDSCAPE PLAN

LS 12 OF 18

HURST-ROSCH ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 4 DATE: 9/7/00

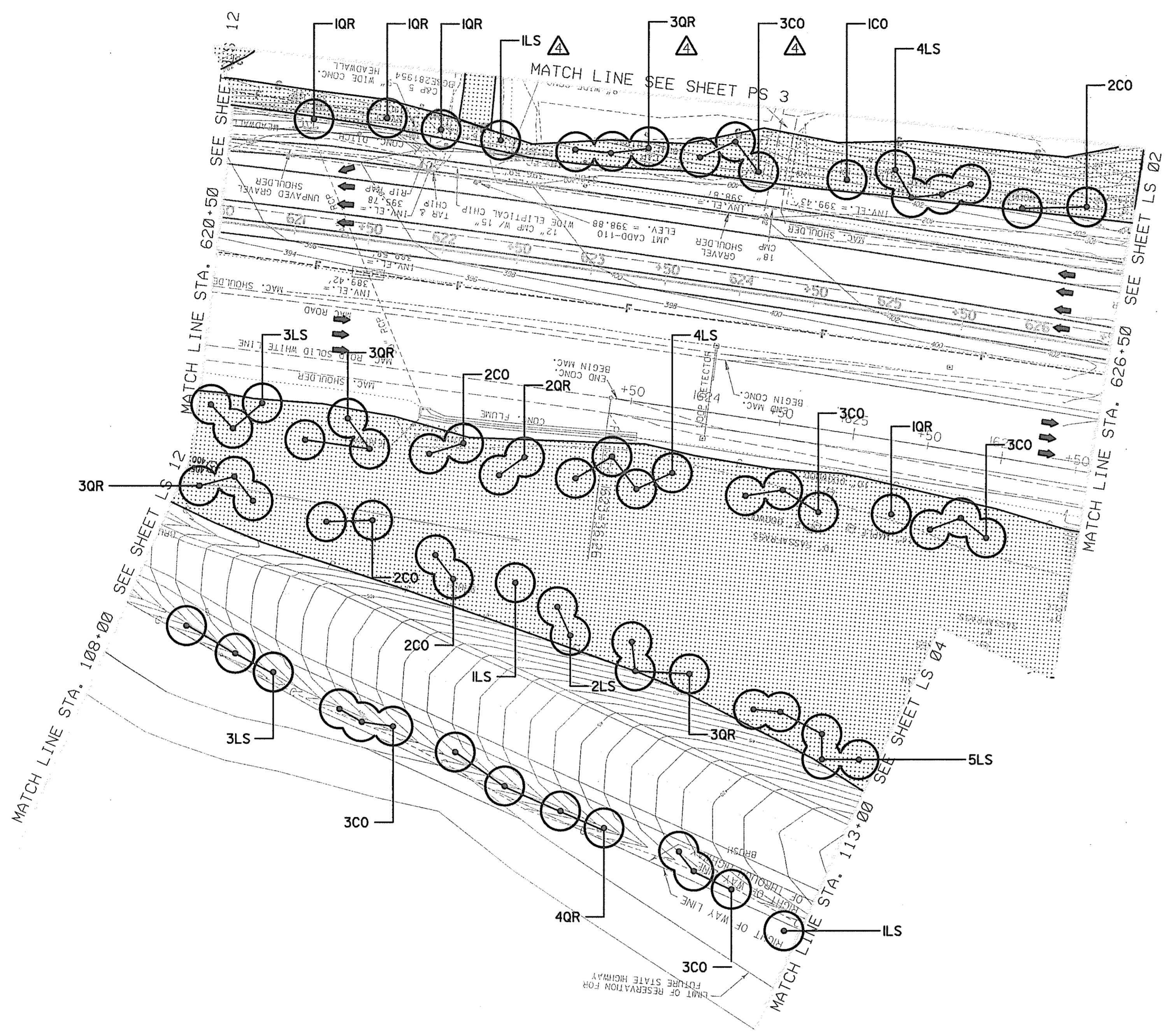
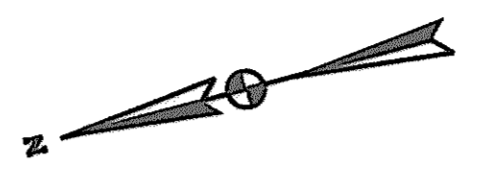
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U. S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET NO. 313 OF 320
PREL. TRAC. BY FINAL TRAC. BY

13/05/2000 12:56:14

TO BALTIMORE

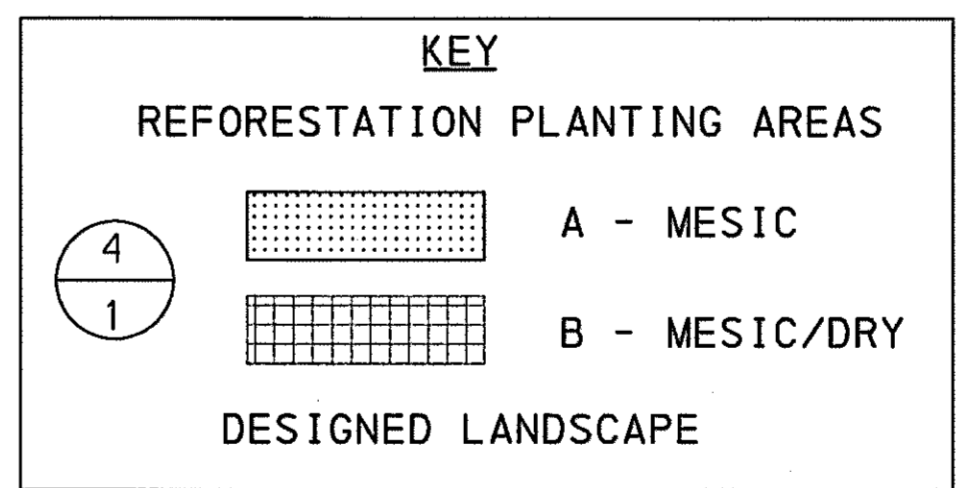
TO WASHINGTON



REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A : 2.14 ACRES				
CANOPY				
LT	12	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	12	<i>Nyssa sylvatica</i>	BLACKGUM	5' CONT.
QA	12	<i>Quercus alba</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	7	<i>Staphylea trifoliata</i>	BLADDERNUT	3'-5'
VD	7	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.

MD ROUTE U. S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
ENHANCEMENT PLANTING: LS13							
CO	24	<i>Celtis occidentalis</i>	HACKBERRY	5'	CONT.		
LS	24	<i>Liquidambar styraciflua</i>	SWEET GUM	2" CAL.	B&B		
QR	22	<i>Quercus rubra</i>	NORTHERN RED OAK	2" CAL.	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18



LANDSCAPE PLAN

LS 13 OF 18

HURST-ROSCH ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 4
DATE: 9/7/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U. S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET NO. 314 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

SCALE PLAN: 1" = 50'

LS130529D00

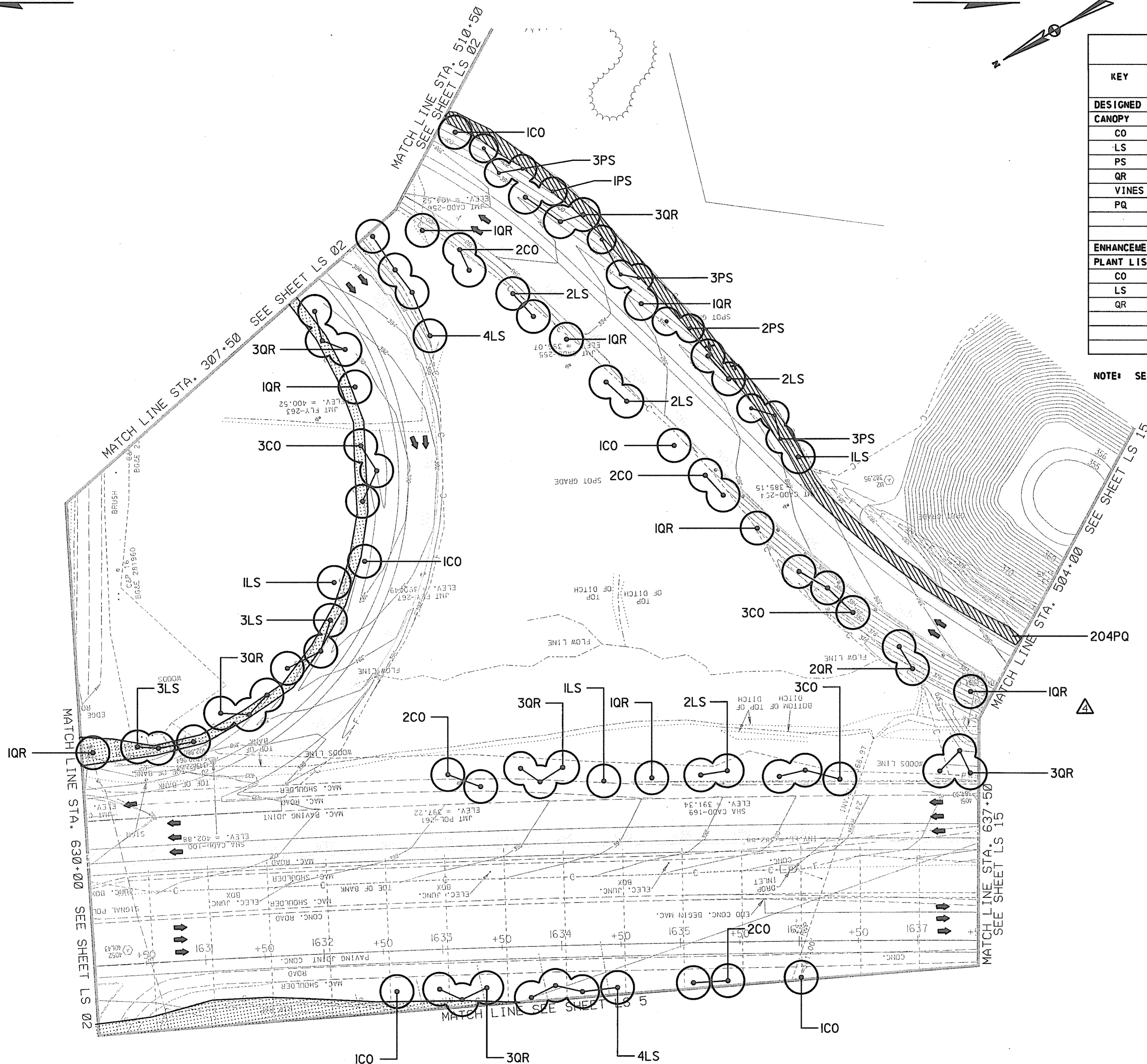
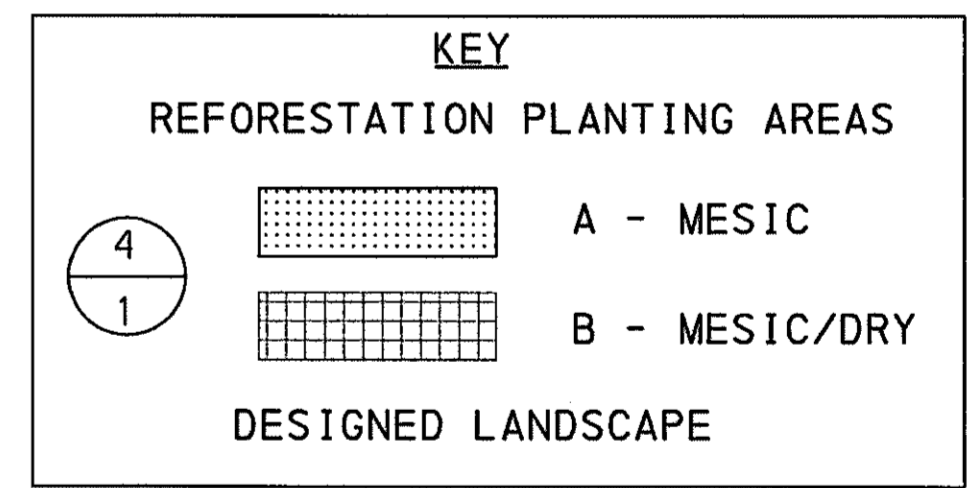
TO BALTIMORE

TO WASHINGTON

MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE: LS14 (NOISE BARRIER AREA)							
CANOPY							
CO	5	<i>Celtis occidentalis</i>	HACKBERRY	5'	CONT.		
LS	10	<i>Liquidambar styraciflua</i>	SWEET GUM	2" CAL.	B&B		
PS	12	<i>Pinus strobus</i>	WHITE PINE	8'	B&B		FULL TO BASE
QR	8	<i>Quercus phellos</i>	WILLOW OAK	2" CAL.	B&B		
VINES							
PQ	36	<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER	24-36"	CONT.	3'-4" O.C.	
ENHANCEMENT PLANTING: LS14							
PLANT LIST							
CO	21	<i>Celtis occidentalis</i>	HACKBERRY	5'	B&B		
LS	22	<i>Liquidambar styraciflua</i>	SWEET GUM	2" CAL.	B&B		
QR	24	<i>Quercus rubra</i>	NORTHERN RED OAK	2" CAL.	B&B		

NOTE: SEE DETAILS SHEET LS17 OF 18

REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A : .22 ACRES				
CANOPY				
LT	6	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	6	<i>Nyssa sylvatica</i>	BLACKGUM	5' CONT.
QA	6	<i>Quercus alba</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	4	<i>Staphylea trifoliata</i>	BLADDERNUT	3'-5'
VD	4	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.



SCALE PLAN: 1" = 50'

LANDSCAPE PLAN

LS 14 OF 18

HURST-ROSCH ENGINEERS, INC.
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS	
ADDENDUM NO. 4	DATE: 9/7/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

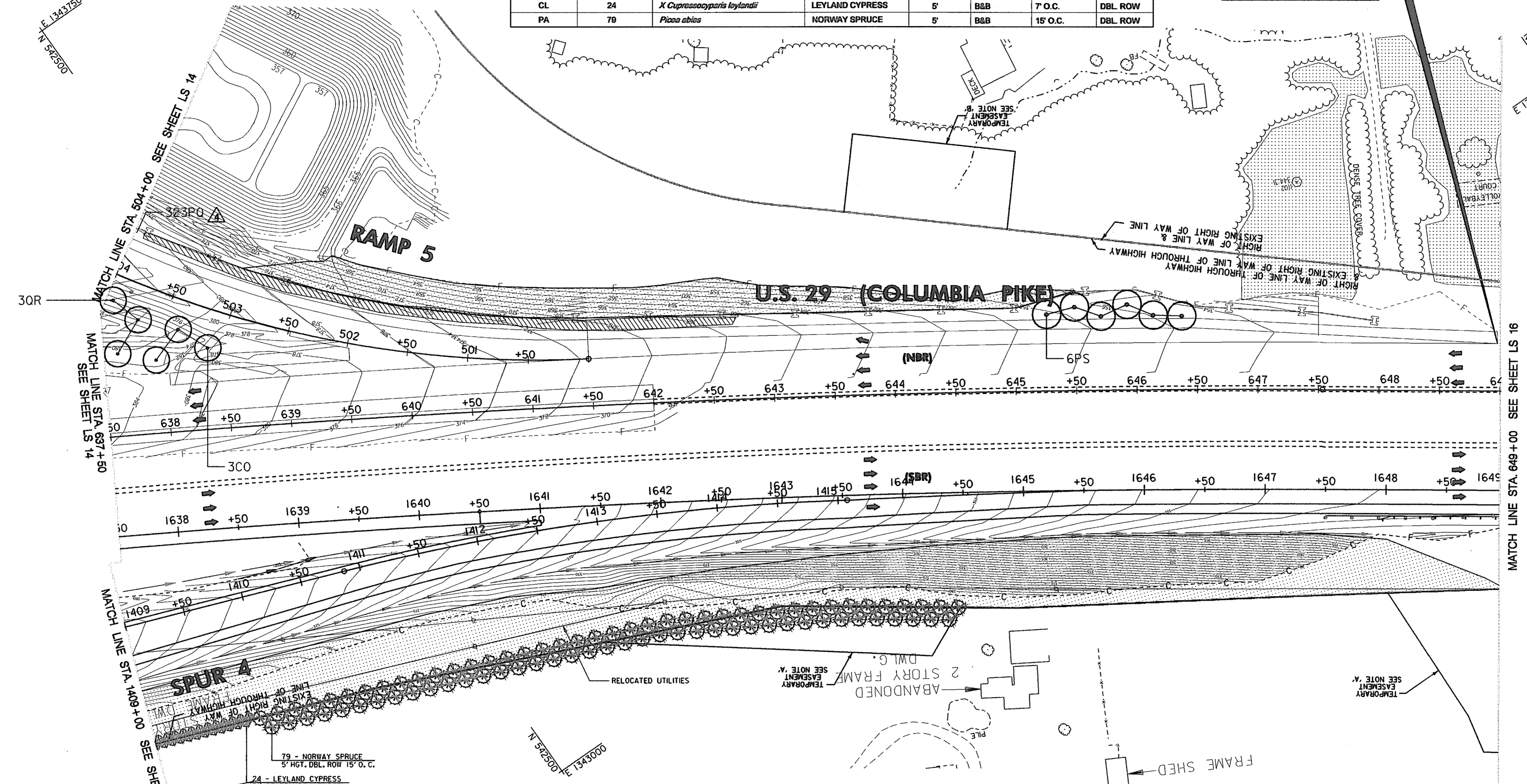
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET NO. 315 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

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REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CONDITION A : 2.1 ACRES				
CANOPY				
LT	53	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	53	<i>Nyssa sylvatica</i>	BLACKGUM	5' CONT.
QA	53	<i>Quercus alba</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
ST	34	<i>Staphylea trifoliata</i>	BLADDERNUT	3'-5'
VD	34	<i>Viburnum dentatum</i>	ARROWWOOD	3' 3 GAL. CONT.

MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
ENHANCEMENT PLANTING: LS15							
PLANT LIST							
CL	24	<i>X Cupressocyparis leylandii</i>	LEYLAND CYPRESS	5'	B&B	7' O.C.	DBL ROW
PA	79	<i>Picea abies</i>	NORWAY SPRUCE	5'	B&B	15' O.C.	DBL ROW

LIMIT OF WORK
STA. 648+98
NORTHBOUND U.S. 29
MEET EX. CONDITIONS



MD ROUTE U.S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
DESIGNED LANDSCAPE/STREETSCAPE: LS15 (NOISE BARRIER AREA)							
CANOPY							
PS	6	<i>Pinus strobus</i>	WHITE PINE	8'	B&B		FULL TO BASE
VINES							
PQ	323	<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER	24"-38"	CONT.	3'-4" O.C.	PLANT ALONG NOISE BARRIER
ENHANCEMENT PLANTING: LS15							
PLANT LIST							
CO	3	<i>Celtis occidentalis</i>	HACKBERRY	5'	CONT.		
QR	3	<i>Quercus rubra</i>	NORTHERN RED OAK	2" CAL.	B&B		

KEY

REFORESTATION PLANTING AREAS

4
1

A - MESIC
B - MESIC/DRY

DESIGNED LANDSCAPE

REVISIONS	
4	ADDENDUM NO. 4 DATE: 9/7/00
5	REDLINE NO. 5 DATE: 03/29/03

HURST-ROSCH ENGINEERS, INC/
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

**LANDSCAPE PLAN
ROADWAY PLAN**

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

LS 15 OF 18

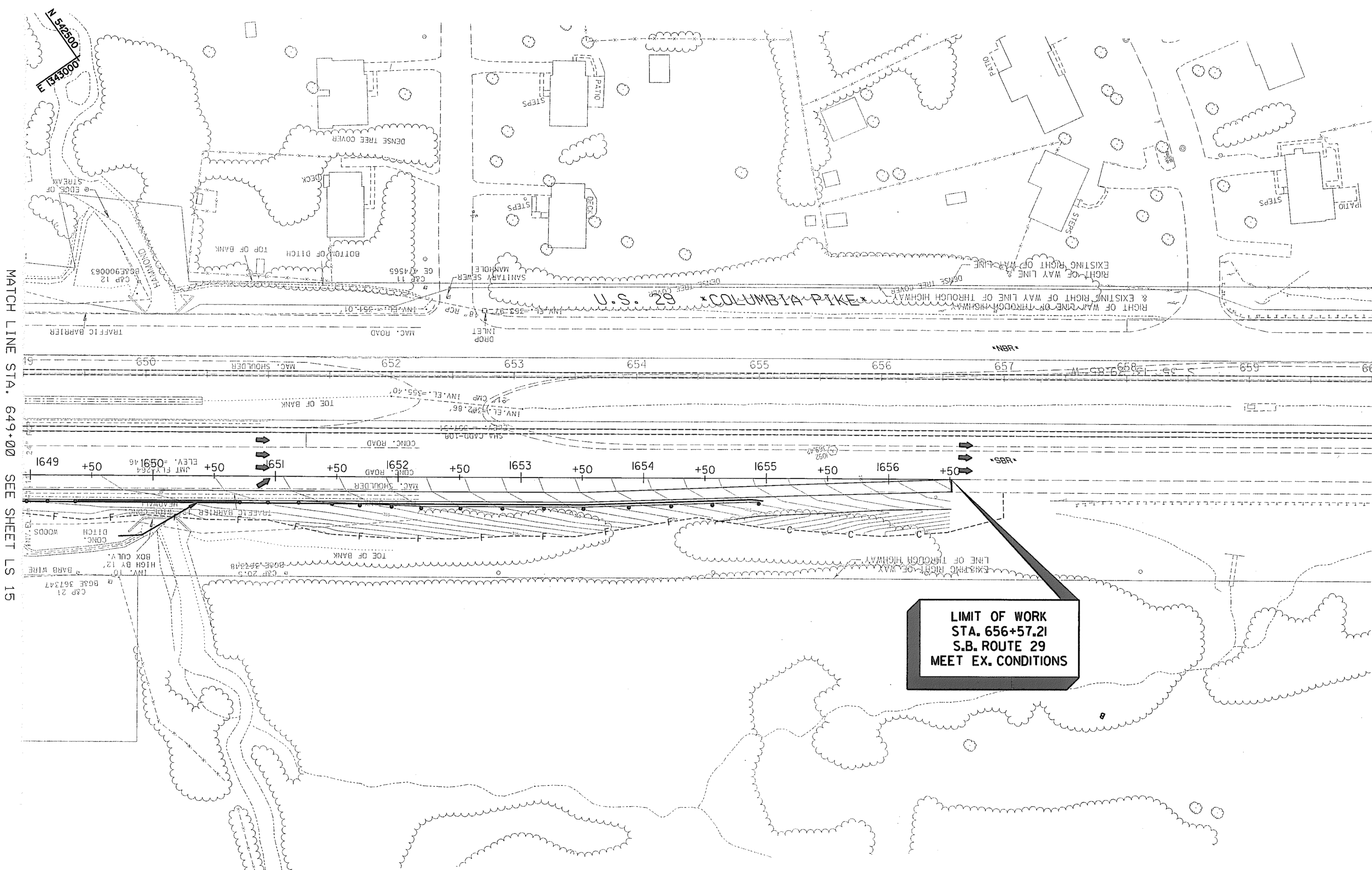
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 316 OF 320
PREL. TRAC. BY FINAL TRAC. BY

NOTE: SEE DETAILS SHEET LS17 OF 18

SCALE: PLAN: 1" = 50'

TO BALTIMORE

TO WASHINGTON



MATCH LINE STA. 649+00 SEE SHEET LS 15

**LIMIT OF WORK
STA. 656+57.21
S.B. ROUTE 29
MEET EX. CONDITIONS**

MD ROUTE U. S. 29 INTERCHANGE AT HOPKINS-GORMAN ROAD							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
NO DESIGNED PLANTINGS/STREETSCAPE ON THIS SHEET							

SCALE PLAN: 1" = 50'

HURST-ROSCH ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 4 DATE: 9/7/00

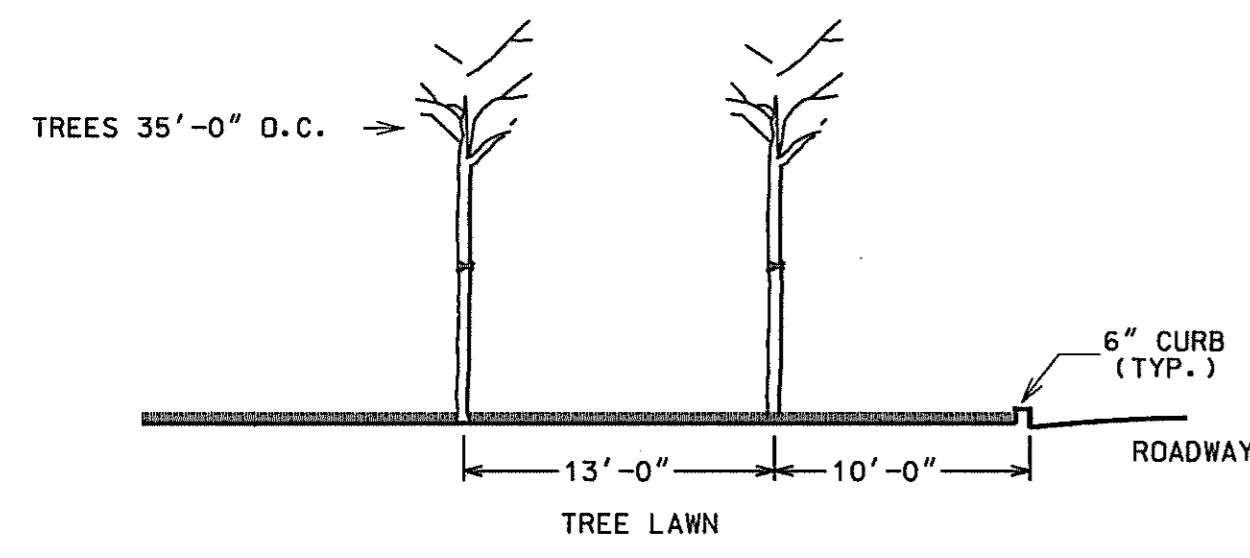
LANDSCAPE PLAN

LS 16 OF 18

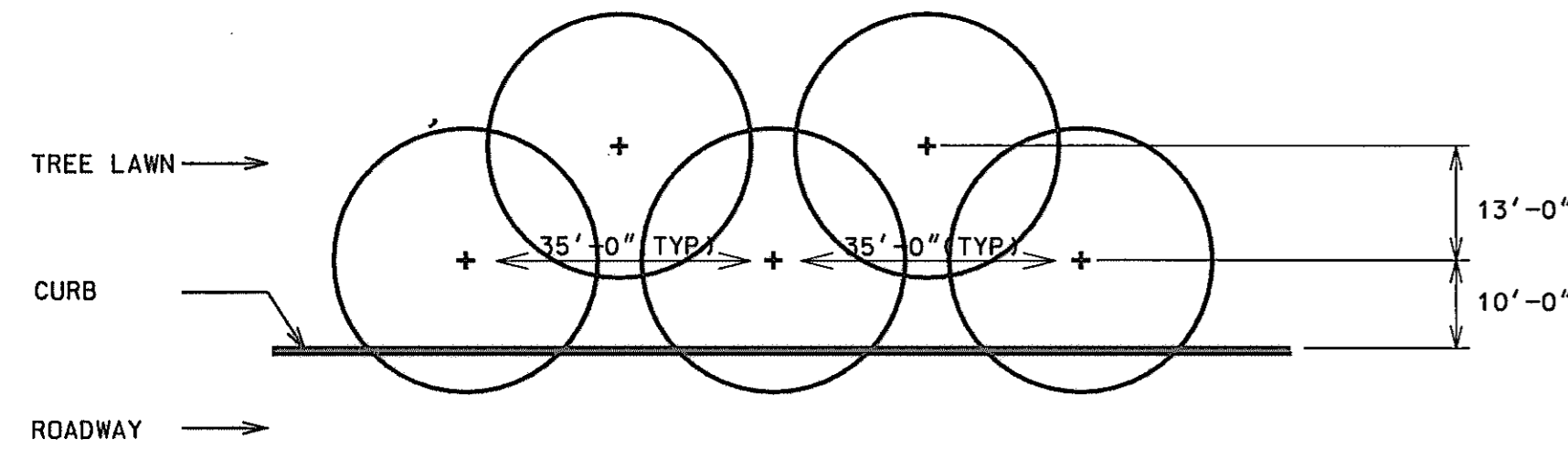
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U. S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET NO. 317 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

1581852970

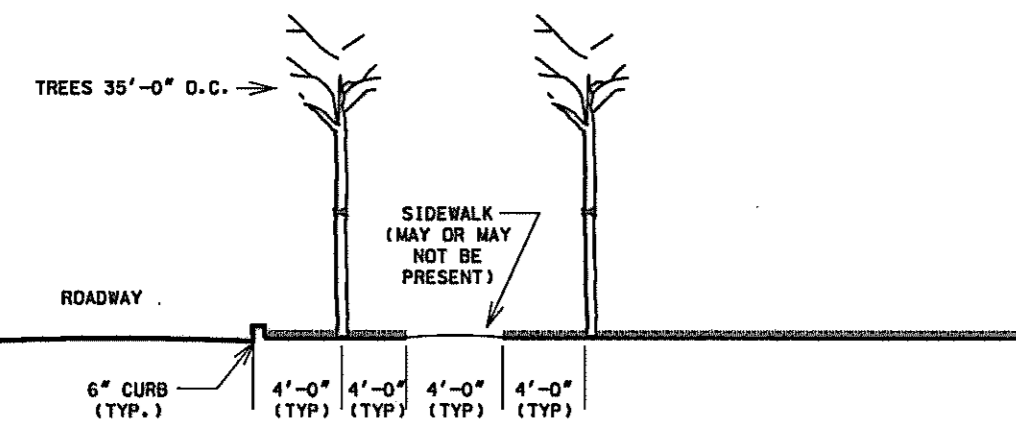


SECTION: STREET TREES SOUTH SIDE OF GORMAN ROAD, SP 75-91

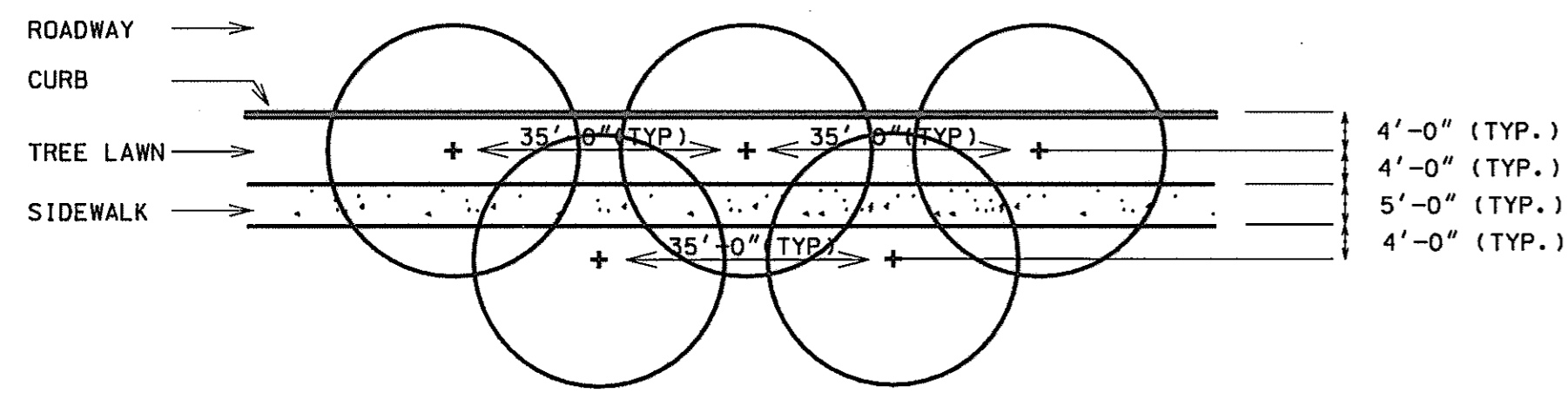


1
1
DETAIL PLAN: STREET TREES, SOUTH SIDE OF GORMAN RD., SP 75-91

SCALE 1" = 20'-0"
STATION 39+50 TO 44+50 SHEET LS 01 OF 18

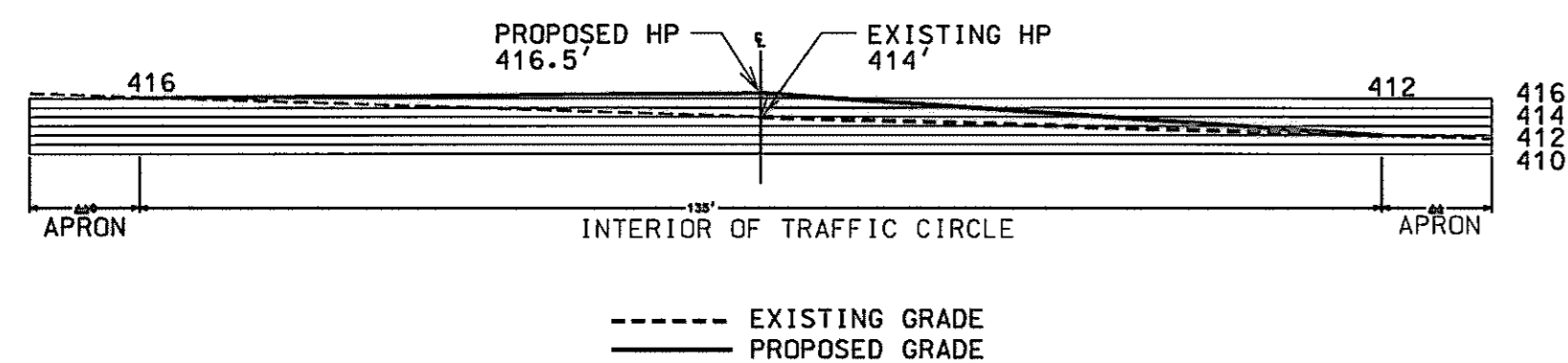


SECTION: STREET TREES, DOUBLE ROW WITH OR WITHOUT SIDEWALK (TYP.)



2
1
DETAIL PLAN: STREET TREES, DOUBLE ROW WITH OR WITHOUT SIDEWALK (TYP.)

SCALE 1" = 20'-0"
STATION 60+00 TO 69+50 SHEET LS 04 OF 18
STATION 69+50 TO 80+50 SHEET LS 06 OF 18
STATION 80+50 TO 91+00 SHEET LS 07 OF 18
STATION 91+00 TO 93+00 SHEET LS 08 OF 18

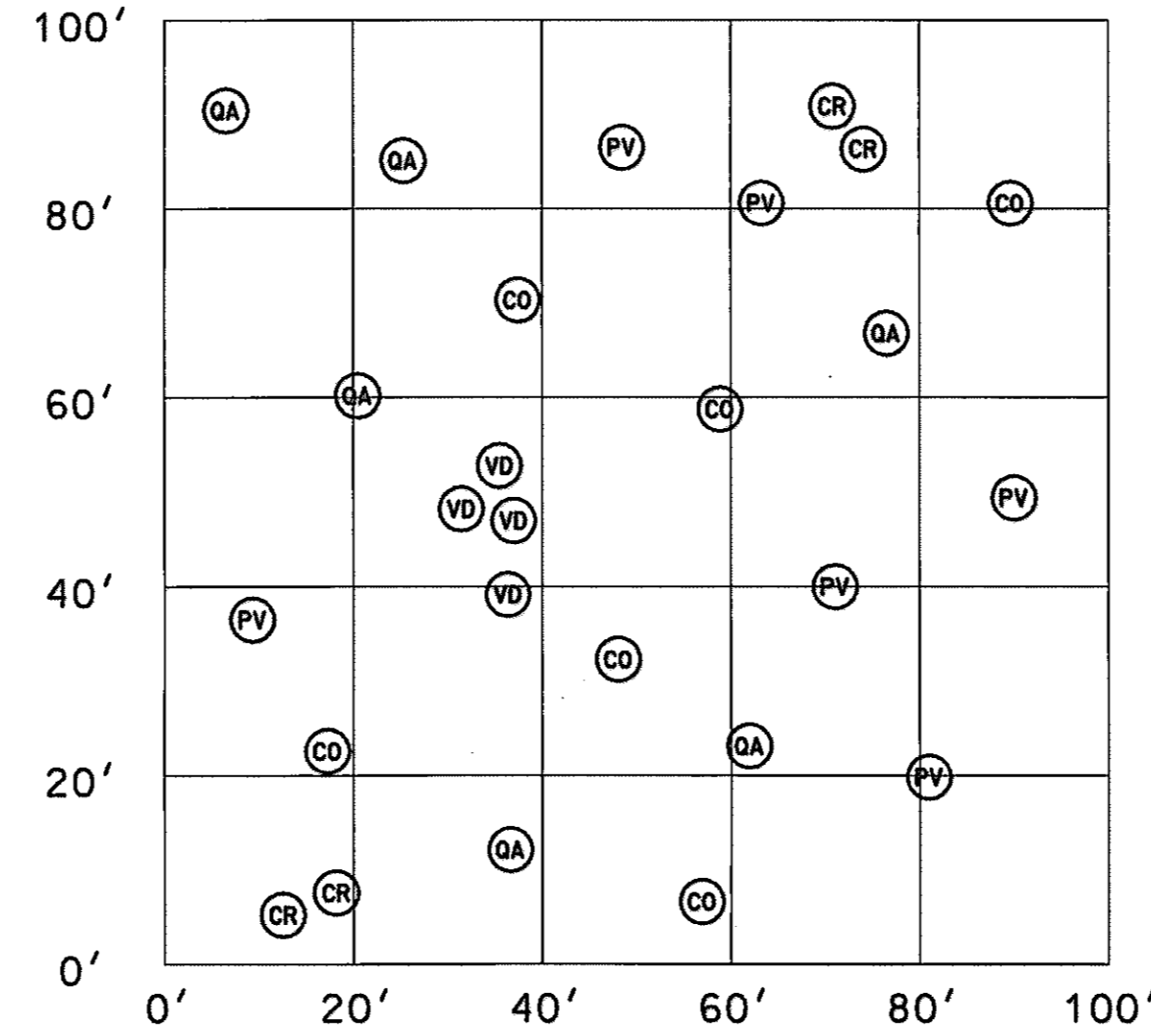


3
1
SECTION: PROPOSED MOUNDING OF TRAFFIC CIRCLE

SCALE 1" = 20'-0"
STATION 47+50 TO 49+50 SHEET LS 02 OF 18

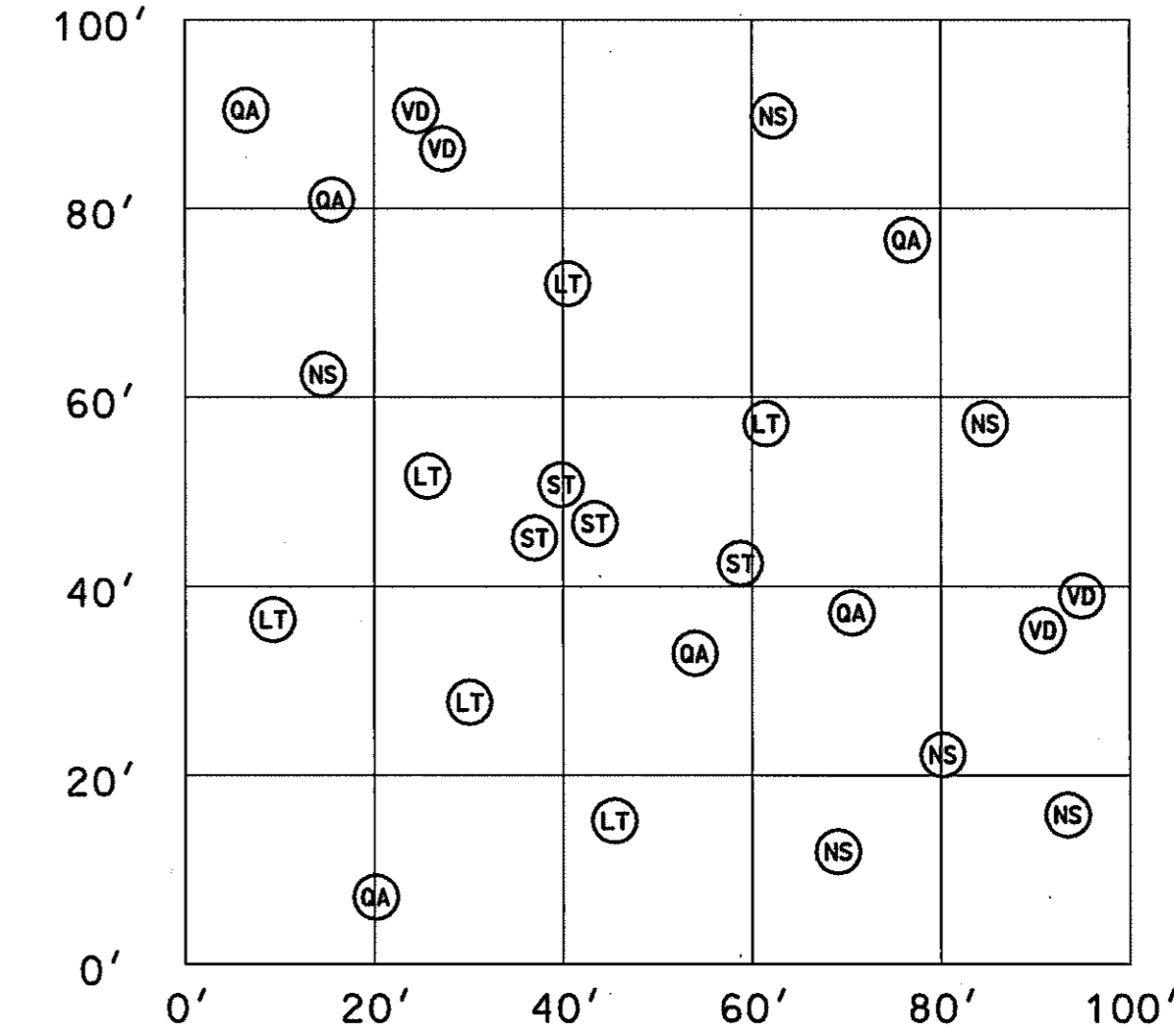
SCALE N.T.S.

PREPARED BY: A.D. MARBLE OCT, 1999
HABITAT DESCRIPTION: MESIC DRY (CONDITION B)
PLANT COMMUNITY: OAK - HICKORY



PLAN SHOWING DISTRIBUTION OF PROPOSED SPECIES
CONDITION B - MESIC DRY

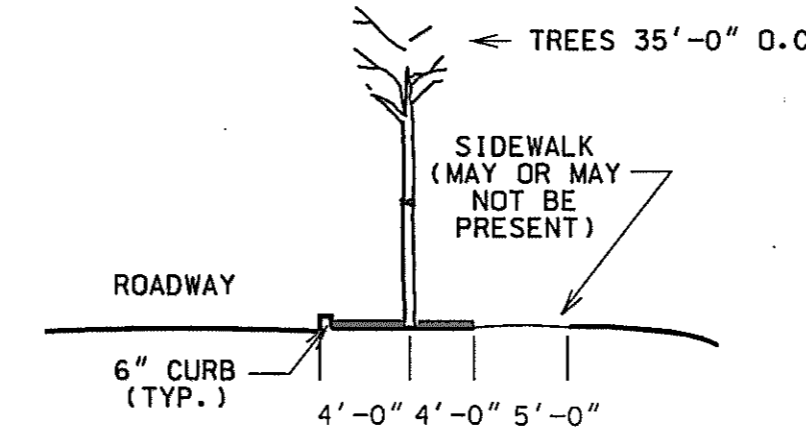
PREPARED BY: A.D. MARBLE OCT, 1999
HABITAT DESCRIPTION: MESIC (CONDITION A)
PLANT COMMUNITY: TULIPTREE - OAK



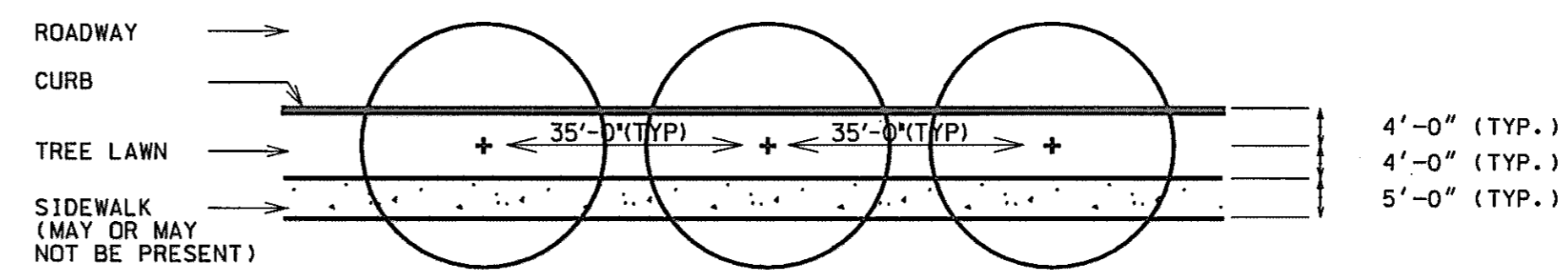
PLAN SHOWING DISTRIBUTION OF PROPOSED SPECIES
CONDITION A - MESIC

4
1
REFORESTATION PLANTING MODULES

SCALE 1" = 20'-0"



SECTION: STREET TREES, SINGLE ROW WITH OR WITHOUT SIDEWALK (TYP.)



5
1
DETAIL PLAN: STREET TREES, SINGLE ROW WITH OR WITHOUT SIDEWALK (TYP.)

SCALE 1" = 20'-0"

LANDSCAPE AND REFORESTATION
SCHEDULES AND DETAILS

LS 17 OF 18

REVISIONS	
ADDENDUM NO. 4	DATE: 9/7/00

HURST-ROSCH ENGINEERS, INC./
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 693-1683

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U.S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. HD7415170 F.A.P. NO. SEE TITLE SHEET NO. 318 OF 320
PREL. TRAC. BY _____ FINAL TRAC. BY _____

LS17US29.DGN

MASTER LANDSCAPE PLANT SCHEDULE							
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
CO	172	<i>Celtis Occidentalis</i>	HACKBERRY	5'	B&B	35' O.C.	
CF	7	<i>Cornus Florida</i>	FLOWERING DOGWOOD	6' 7/8" CAL.	B&B		
CP	54	<i>Crataegus Phaenopyrum</i>	WASHINGTON HAWTHORN	6' 7/8" CAL.	B&B		
FP	123	<i>Fraxinus Pennsylvanica</i>	GREEN ASH	5'	CONT.	35' O.C.	
IO	32	<i>Ilex Opaca</i>	AMERICAN HOLLY	5'	B&B		
JV	31	<i>Juniperus Virginiana</i>	EASTERN RED CEDAR	6'	B&B		
LS	312	<i>Liquidambar Styraciflua</i>	SWEETGUM	2" CAL.	B&B	35' O.C.	
PQ	429	<i>Parthenocissus Quinquefolia</i>	VIRGINIA CREEPER	1 GAL.	CONT.	3'-4" O.C.	
PS	75	<i>Pinus Stobius</i>	WHITE PINE	8'	B&B	35' O.C.	
PxA	20	<i>Platanus X. Acerif.</i>	LONDON PLANE TREE	3" CAL.	B&B	35' O.C.	
QP	154	<i>Quercus Phellos</i>	WILLOW OAK	2" CAL.	B&B	35' O.C.	
QR	171	<i>Quercus Rubra</i>	NORTHERN RED OAK	2" CAL.	B&B		
VP	56	<i>Viburnum Prunifolium</i>	BLACKHAW	3'	B&B		

MASTER REFORESTATION PLANT SCHEDULE				
KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE (HEIGHT)
CONDITION A : 13.94 ACRES				
CANOPY				
LT	337	<i>Liriodendron tulipifera</i>	YELLOW POPLAR	5' B&B
NS	337	<i>Nyssa sylvatica</i>	BLACKGUM	5' CONT.
QA	336	<i>Quercus alba</i>	WHITE OAK	2" B&B
UNDERSTORY TREES/SHRUBS				
ST	221	<i>Staphylea trifoliata</i>	BLADDERNUT	3'-5'
VD	221	<i>Viburnum dentatum</i>	ARROWWOOD	3 GAL. CONT.
CONDITION B : 2.09 ACRES				
CANOPY				
CO	53	<i>Carya ovata</i>	SHAGBARK HICKORY	3'-5'
PV	53	<i>Pinus virginiana</i>	VIRGINIA PINE	3'-5'
QA	53	<i>Quercus alba</i>	WHITE OAK	2" CAL B&B
UNDERSTORY TREES/SHRUBS				
CR	34	<i>Cornus racemosa</i>	GRAY DOGWOOD	3' B.R.
VD	33	<i>Viburnum dentatum</i>	ARROWWOOD	3 GAL CONT.

GENERAL REFORESTATION PLANTING NOTES:
STEM DENSITY: 109 PER ACRE AT 3'-5' HEIGHT
70% CANOPY TREE SPECIES (= 76.3 CANOPY TREES PER ACRE)
30% UNDERSTORY TREES AND SHRUB SPECIES (= 32.7 UNDERSTORY TREES, SHRUBS PER ACRE)
EACH PLANTING MODULE = 100 FT. X 100 FT. OR 10,000 SQ. FT. = 0.23 ACRES PER MODULE
17.40 CANOPY / 3 SPECIES = 5.79 OR 6 OF EACH CANOPY SPECIE
7.46 UNDERSTORY / SHRUB / 2 SPECIES = 3.73 OR 4 OF EACH SPECIE

LANDSCAPE PLAN

LS 18 OF 18

HURST-ROSCHKE ENGINEERS, INC. /
DEWBERRY & DAVIS
A JOINT VENTURE
50 SCOTT ADAM ROAD, SUITE 103
COCKEYSVILLE, MARYLAND 21030
(410) 683-1683

REVISIONS
ADDENDUM NO. 4
DATE: 9/7/00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
U. S. 29 MEDIAN WIDENING AND
INTERCHANGE AT HOPKINS-GORMAN ROAD

CONT. NO. H07415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 319 OF 320
PREL. TRAC. BY FINAL TRAC. BY

LS180529200

U.S. 29 INTERCHANGE AT JOHNS HOPKINS / GORMAN ROADS AND OLD COLUMBIA ROAD 8-INCH, 12-INCH AND 16-INCH WATER MAIN RELOCATIONS

**CAPITAL PROJECT W-8212
CONTRACT NO. 44-3868**

GENERAL NOTES

PART I

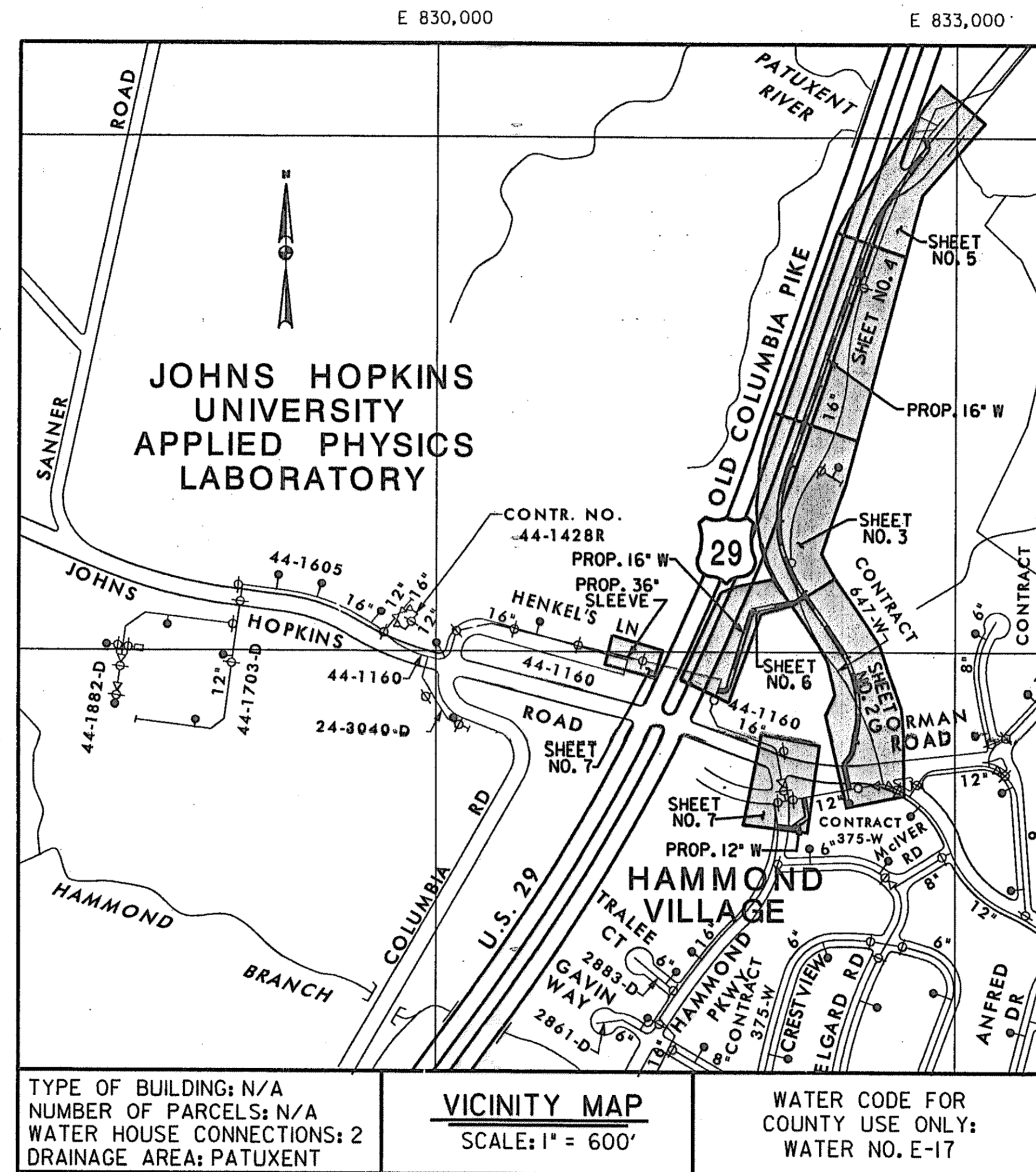
1. APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83/91.
3. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 1 FOOT. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
6. SEE THE SPECIAL PROVISIONS FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS. THE CONTRACTOR SHALL HAVE A COPY OF THE SPECIAL PROVISIONS ON THE JOB.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL \odot AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.
 - AT&T CABLE HAZARD CENTER.....1-800-252-1133
 - AT&T MONROVIA, MARYLAND.....1-301-865-3801
 - BGE (CONTRACTOR SERVICES).....410-850-4620
 - BGE (UNDERGROUND DAMAGE CONTROL).....410-787-9068
 - BUREAU OF UTILITIES.....410-313-4900
 - BELL ATLANTIC MARYLAND, INC.....1-800-621-9900
 - COLONIAL PIPELINE CO.....410-795-1390
 - MISS UTILITY.....1-800-257-7777
 - STATE HIGHWAY ADMINISTRATION.....410-531-5533
9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR CONSTRUCTION OF THE MAIN.
11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(c) OF THE HOWARD COUNTY CODE.
12. THE ROADWAY CONTRACTOR WILL BE THE PRIME CONTRACTOR AND WILL BE RESPONSIBLE FOR FURNISHING AND ERECTING ALL TEMPORARY SIGNING AND PRIMARY TEMPORARY CHANNELIZATION. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING FLAGGER CONTROL AND LOCALIZED TEMPORARY CHANNELIZATION TO MAINTAIN TWO-WAY TRAFFIC DURING CONSTRUCTION OF THE WATER MAINS IN THE INTERSECTING STREETS AND IN LOCALIZED AREAS WHEN CONSTRUCTING TIE-INS. ALL STANDARD REGULATORY AND WARNING SIGNS USED FOR MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD LATEST EDITION) AND MARYLAND EDITION OF THE BOOKLET STANDARD HIGHWAY "SIGNS". IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROCURE THE LATEST EDITION AND SUPPLEMENTS OF EACH OF THESE PUBLICATIONS FOR HIS/HER USE.

PART II WATER

1. ALL WATER MAINS SHALL BE D.I.P. CLASS 52.
2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
4. ALL FITTINGS SHALL BE RESTRAINED JOINTS AND BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
5. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
6. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED TO THE FOLLOWING PERCENTAGES OF MAXIMUM LABORATORY DENSITY AT OPTIMUM MOISTURE DETERMINED BY AASHTO METHOD T-180A:
 - A. 95% IN THE TOP TWO FEET OF THE TRENCH BELOW FINAL SUBGRADE.
 - B. 90% FROM TWO FEET BELOW FINAL SUBGRADE TO THE TOP OF THE PIPE BEDDING.

ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATED	AS BUILT		
3/4 INCH WATER HOUSE SERVICE	150 L.F.		COPPER TUBING	
6 INCH WATER	282 L.F.		D.I.P. CLASS 52	
8 INCH WATER	124 L.F.		D.I.P. CLASS 52	
12 INCH WATER	116 L.F.		D.I.P. CLASS 52	
16 INCH WATER	4950 L.F.		D.I.P. CLASS 52	
36 INCH O.D. CASING	94 L.F.		3/8" THICK STEEL	
FIRE HYDRANTS	11 EA.			
2" COMBINATION AIR VALVE AND MANHOLE	1 EA.			
6 INCH RESILIENT SEATED GATE VALVES	11 EA.		AWWA C509	
8 INCH RESILIENT SEATED GATE VALVES	1 EA.		AWWA C509	
16 INCH RESILIENT SEATED GATE VALVES	4 EA.		AWWA C509	
12" X 12" TAPPING SLEEVE & VALVES (R.S.G.V.)	2 EA.		AWWA C509	
16" X 12" TAPPING SLEEVE & VALVES (R.S.G.V.)	1 EA.		AWWA C509	
16" X 16" TAPPING SLEEVE & VALVES (R.S.G.V.)	2 EA.		AWWA C509	
12 INCH LINE STOP	1 EA.		RATED TO 150 PSI	
16 INCH LINE STOP	4 EA.		RATED TO 150 PSI	

INDEX OF SHEETS	
DRAWING NO.	DESCRIPTION
U-1	TITLE SHEET
U-2	PLAN AND PROFILE - OLD COLUMBIA RD. STA. 1001+00 TO STA. 1009+50
U-3	PLAN AND PROFILE - OLD COLUMBIA RD. STA. 1009+50 TO STA. 1020+50
U-4	PLAN AND PROFILE - OLD COLUMBIA RD. STA. 1020+50 TO STA. 1031+50
U-5	PLAN AND PROFILE - OLD COLUMBIA RD. STA. 1031+50 TO STA. 1040+30
U-6	PLAN AND PROFILE - EXISTING S.H.A. SALT DOME ENTRANCE
U-7	PLAN AND PROFILE - HAMMOND PARKWAY/RAMP I AND SPUR I (BY OTHERS)
U-8	FIRE HYDRANT PROFILES, CONNECTION DETAILS, STEEL SLEEVE DETAILS
U-9	SPLIT STEEL SLEEVE DETAILS, TRENCH DETAIL, SEQUENCE OF CONSTRUCTION, COMBINATION AIR VALVE MANHOLE DETAILS
U-10	CATHODIC PROTECTION DETAILS
U-11	CATHODIC PROTECTION DETAILS
U-12	CATHODIC PROTECTION DETAILS
U-13	CATHODIC PROTECTION DETAILS
U-14	CATHODIC PROTECTION DETAILS - CATHODIC PROTECTION DETAILS



S.H.A. CONTRACT NO. H07415170

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND
 DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 6/29/00
 CHIEF, BUREAU OF ENGINEERING: *[Signature]* DATE: 6/29/00
 CHIEF, BUREAU OF UTILITIES: *[Signature]* DATE: 6-29-00
 CHIEF, UTILITY DESIGN DIVISION: *[Signature]* DATE: 6-29-00

THE WILSON T. BALLARD CO.
 CONSULTING ENGINEERS
 OWINGS MILLS, MARYLAND

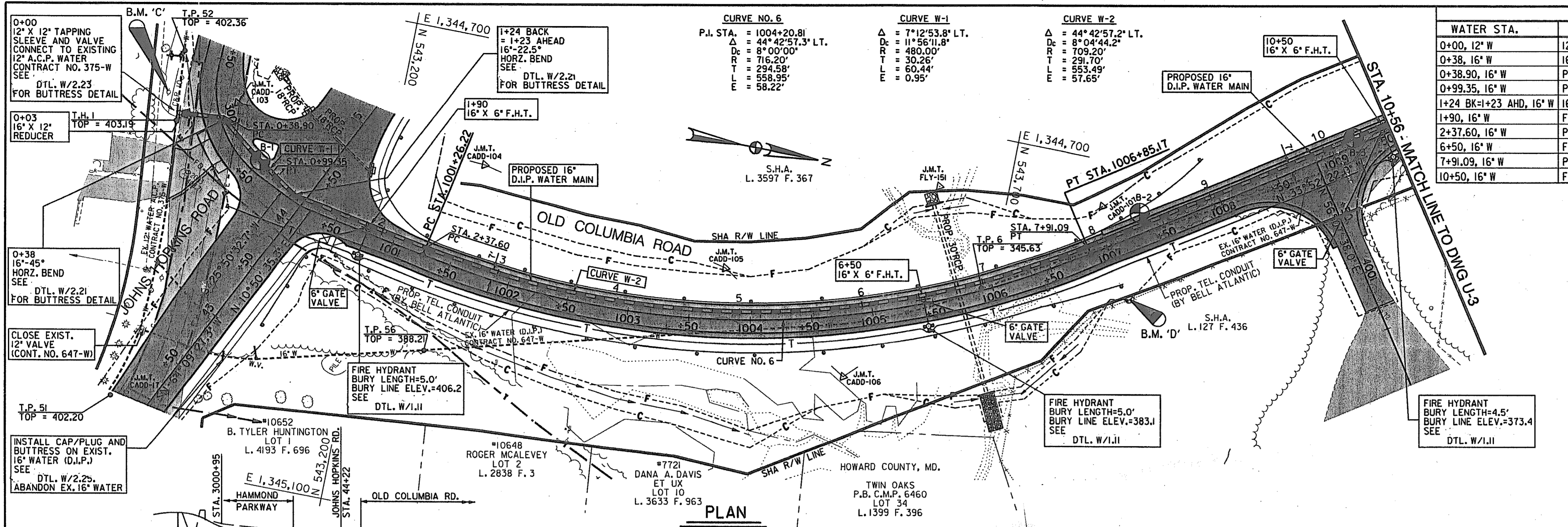


DES: JSZ	
DWN: GFP	
CHK: KLE	
DATE: 6/28/00	
BY NO.	REVISION

TITLE SHEET

**U.S. 29 INTERCHANGE AT JOHNS HOPKINS/
GORMAN ROADS AND OLD COLUMBIA ROAD
CAPITAL PROJECT W-8212
CONTRACT NO. 44-3368
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND**

SCALE AS SHOWN
 DWG U-1
 SHEET
 31 OF 320



WATER STAKEOUT DATA				
WATER STA.	DESCRIPTION	ROADWAY STATION & OFFSET	NORTHING	EASTING
0+00, 12" W	12" X 12" T.S. & V.	JOHNS HOPKINS RD. STA. 44+15.61, 126.78' LT.	543022.5519	1344811.4679
0+38, 16" W	16"-45° HORZ. BEND	JOHNS HOPKINS RD. STA. 44+34.78, 93.96' LT.	543060.4378	1344808.5249
0+38.90, 16" W	PC	JOHNS HOPKINS RD. STA. 44+34.55, 93.09' LT.	543061.1237	1344809.1119
0+99.35, 16" W	PT	JOHNS HOPKINS RD. STA. 44+22.91, 33.82' LT.	543109.3957	1344845.4223
1+24 BK-1+23 AHD, 16" W	16"-22.5° HORZ. BEND	JOHNS HOPKINS RD. STA. 44+19.64, 8.97' LT.	543130.3336	1344859.1983
1+90, 16" W	F.H.	OLD COLUMBIA RD. STA. 1000+78.62, 19.00' RT.	543191.6378	1344897.4133
2+37.60, 16" W	PC	OLD COLUMBIA RD. STA. 1001+26.22, 7.00' LT.	543243.2803	1344880.8324
6+50, 16" W	F.H.	OLD COLUMBIA RD. STA. 1005+42.69, 19.00' RT.	543657.7397	1344863.6564
7+91.09, 16" W	PT	OLD COLUMBIA RD. STA. 1006+85.17, 7.00' LT.	543771.9681	1344773.1271
10+50, 16" W	F.H.	OLD COLUMBIA RD. STA. 1009+44.08, 19.00' RT.	544001.4283	1344650.4105

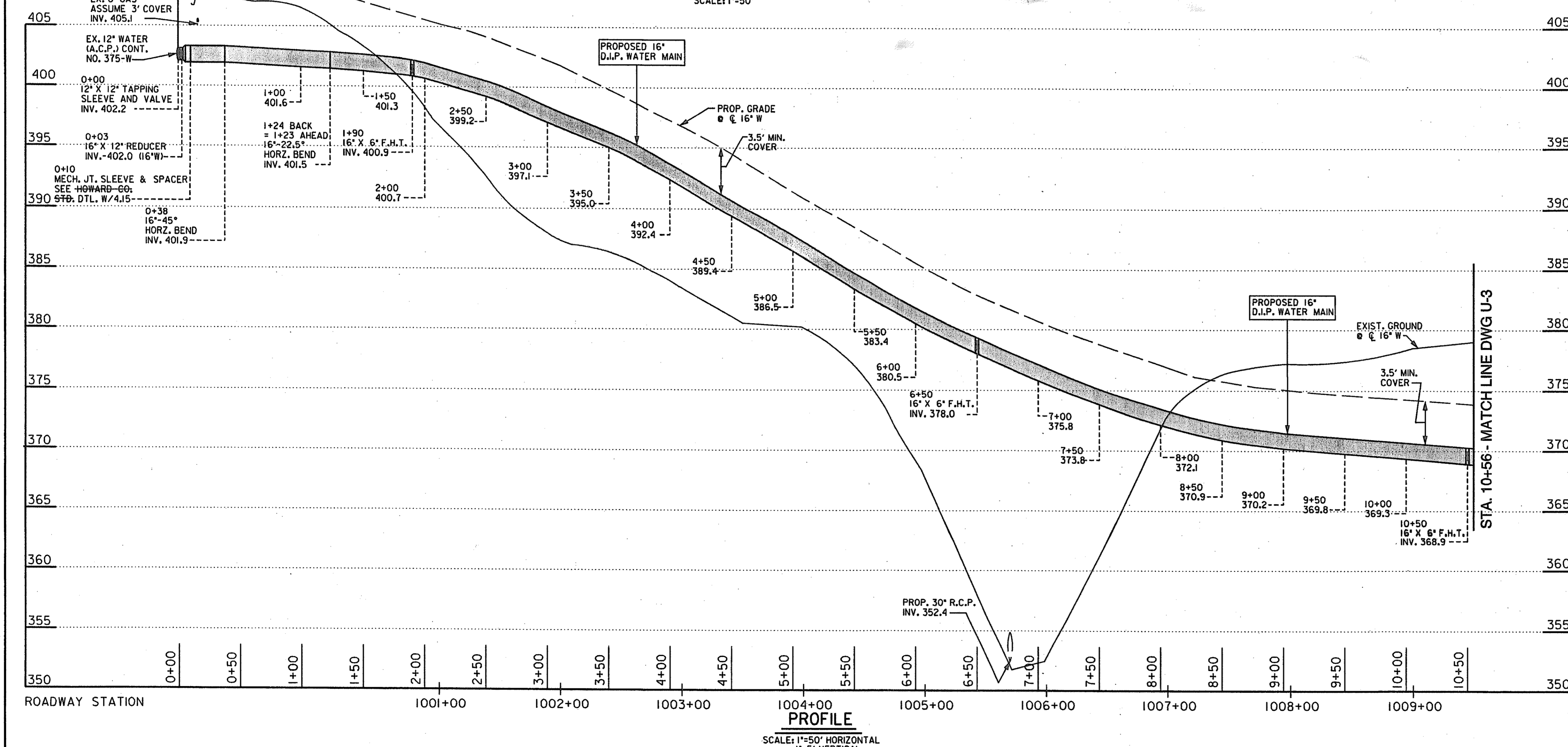
NOTE: ALL FINAL RESTORATION ON THIS SHEET WILL BE COMPLETED BY THE ROADWAY CONTRACTOR.

BENCH MARKS
B.M. 'C'
 SPIKE NAIL SET IN C&P POLE # 10
 JOHNS HOPKINS RD. STA. 44+24.2, 141.5' LT.
 N 543013.0171 E 1344797.2923
 ELEV.= 408.35
B.M. 'D'
 SPIKE NAIL SET IN 21" SYCAMORE TREE
 OLD COLUMBIA RD. STA. 1006+95.9, 45.4' RT.
 N 543810.1263 E 1344810.6793
 ELEV.= 373.44

PAVING LEGEND

 EXISTING PAVEMENT
 PROPOSED PAVING (BY OTHERS)

TRAVERSE POINTS			
POINT	NORTHING	EASTING	ELEVATION
J.M.T. CADD-17	543054.4610	1345042.4168	-
J.M.T. CADD-103	543069.9928	1344793.7506	406.72
J.M.T. CADD-104	543276.9928	1344803.7109	394.02
J.M.T. CADD-105	543486.0614	1344849.1652	382.41
J.M.T. CADD-106	543597.2596	1344917.7783	369.26
J.M.T. CADD-107	543777.4576	1344737.7566	376.75



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: [Signature] DATE: 6/29/00
 Chief, Bureau of Engineering: [Signature] DATE: 6/29/00
 Chief, Bureau of Utilities: [Signature] DATE: 6-29-00
 Chief, Utility Design Division: [Signature] DATE: 6-29-00

THE WILSON T. BALLARD CO.
 CONSULTING ENGINEERS
 OWINGS MILLS, MARYLAND
 State of Maryland Professional Engineer Seal: [Signature]

DES: JSZ	BY: NO.	REVISION	DATE: 6/28/00
DWN: GFP			
CHK: KLE			

U.S. 29 INTERCHANGE AT JOHNS HOPKINS/
 GORMAN ROADS AND OLD COLUMBIA ROAD
 CAPITAL PROJECT W-8212
 CONTRACT NO. 44-3868
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN
 DWG U-2
 SHEET 319B OF 320

BENCH MARKS

B.M. 'A'
 R.R. SPIKE FOUND IN C&P POLE # 12
 HAMMOND PARKWAY STA. 3005+13.5, 63.4' LT.
 N 542999.7949 E 1344481.9049
 ELEV.= 406.21

B.M. 'B'
 R.R. SPIKE FOUND IN C&P POLE # 2
 HAMMOND PARKWAY STA. 3006+08.9, 25.3' LT.
 N 542938.0471 E 1344426.2282
 ELEV.= 405.08

CURVE NO. 15

P.I. STA. = 3005+72.25
 Δ = 30°03'44.3" RT.
 Dc = 38°11'49.9"
 R = 150.00'
 T = 40.28'
 L = 78.70'
 E = 5.31'

CURVE NO. 16

P.I. STA. = 3007+02.23
 Δ = 14°14'21.6" RT.
 Dc = 7°48'59.8"
 R = 733.00'
 T = 91.56'
 L = 182.17'
 E = 5.70'

CURVE W-9

Δ = 11°20'17.7" RT.
 Dc = 19°45'25.8"
 R = 290.00'
 T = 28.79'
 L = 57.97'
 E = 1.43'

WATER STAKEOUT DATA				
WATER STA.	DESCRIPTION	ROADWAY STATION & OFFSET	NORTHING	EASTING
0+00, 12" W	12" X 12" T.S.&V.	HAMMOND PARKWAY STA. 3005+62.14, 2.34' RT.	542984.4225	1344403.8877
0+20.00, 12" W	PC	HAMMOND PARKWAY STA. 3005+81.16, 4.26' LT.	542964.5960	1344406.5158
0+77.39, 12" W	PT	HAMMOND PARKWAY STA. 3006+38.95, 7.49' LT.	542907.3324	1344408.3970
0+87, 12" W	12°-45° HORZ. BEND	HAMMOND PARKWAY STA. 3006+48.49, 7.10' LT.	542897.7084	1344407.7599
0+97, 12" W	12°-45° HORZ. BEND	HAMMOND PARKWAY STA. 3006+55.50, 0	542890.9357	1344400.4025
1+13, 12" W	16" X 12" T.S.&V.	HAMMOND PARKWAY STA. 3006+55.50, 16.00' RT.	542897.5972	1344384.4162

TRAVERSE POINTS			
POINT	NORTHING	EASTING	ELEVATION
J.M.T. CADD-102	543075.9727	1344480.4367	402.41
J.M.T. CADD-258	543044.9159	1344362.1001	406.19

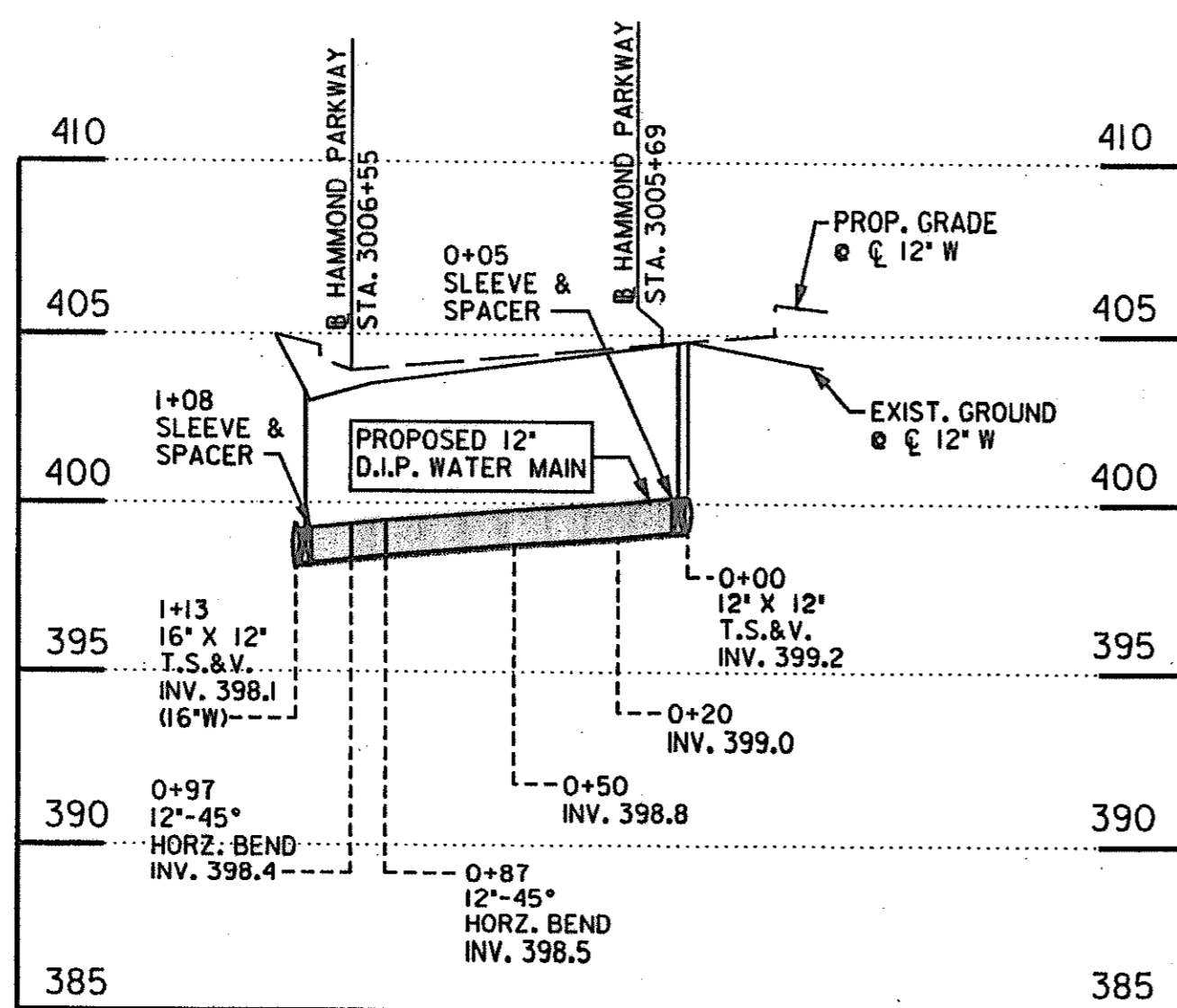
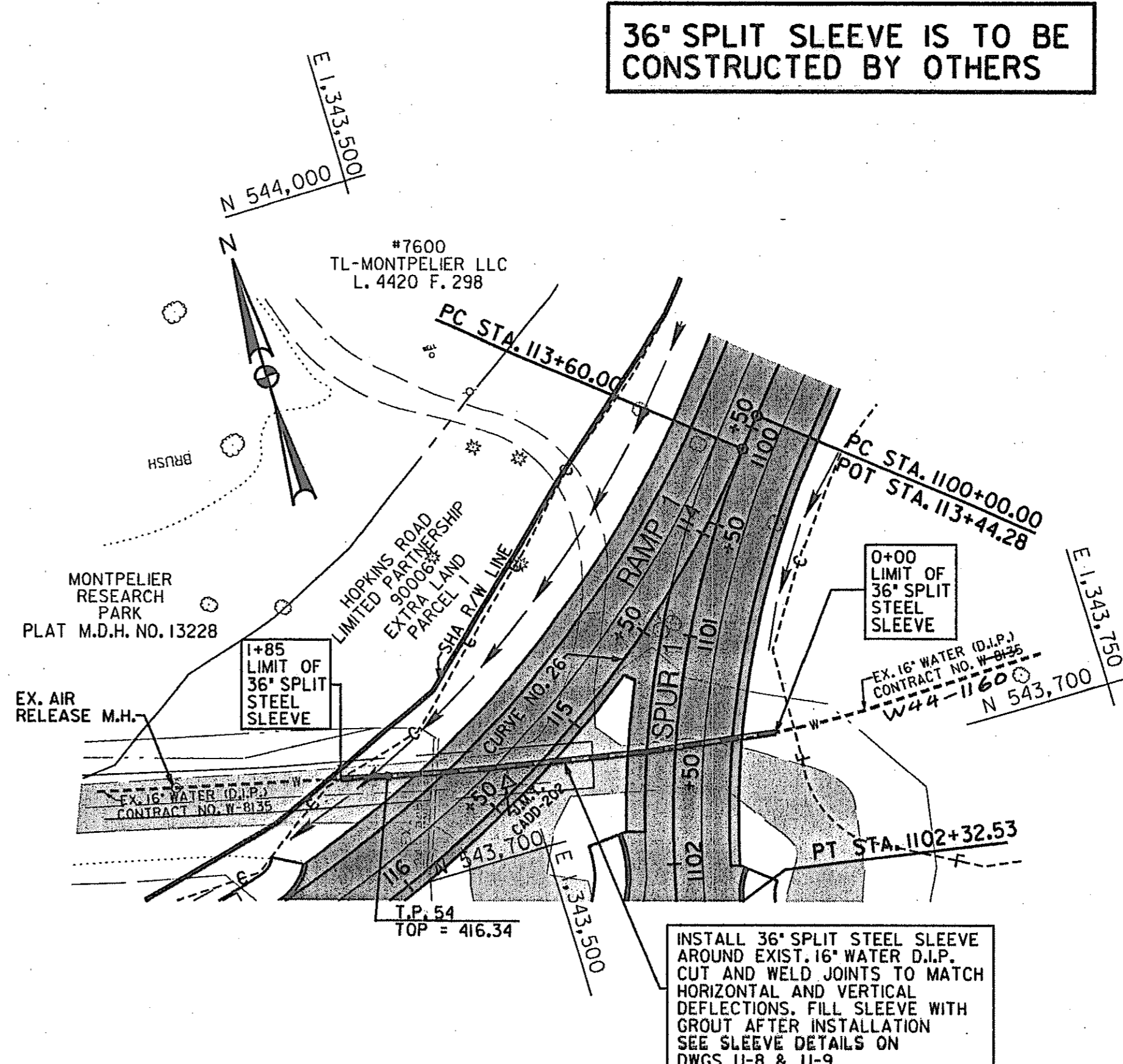
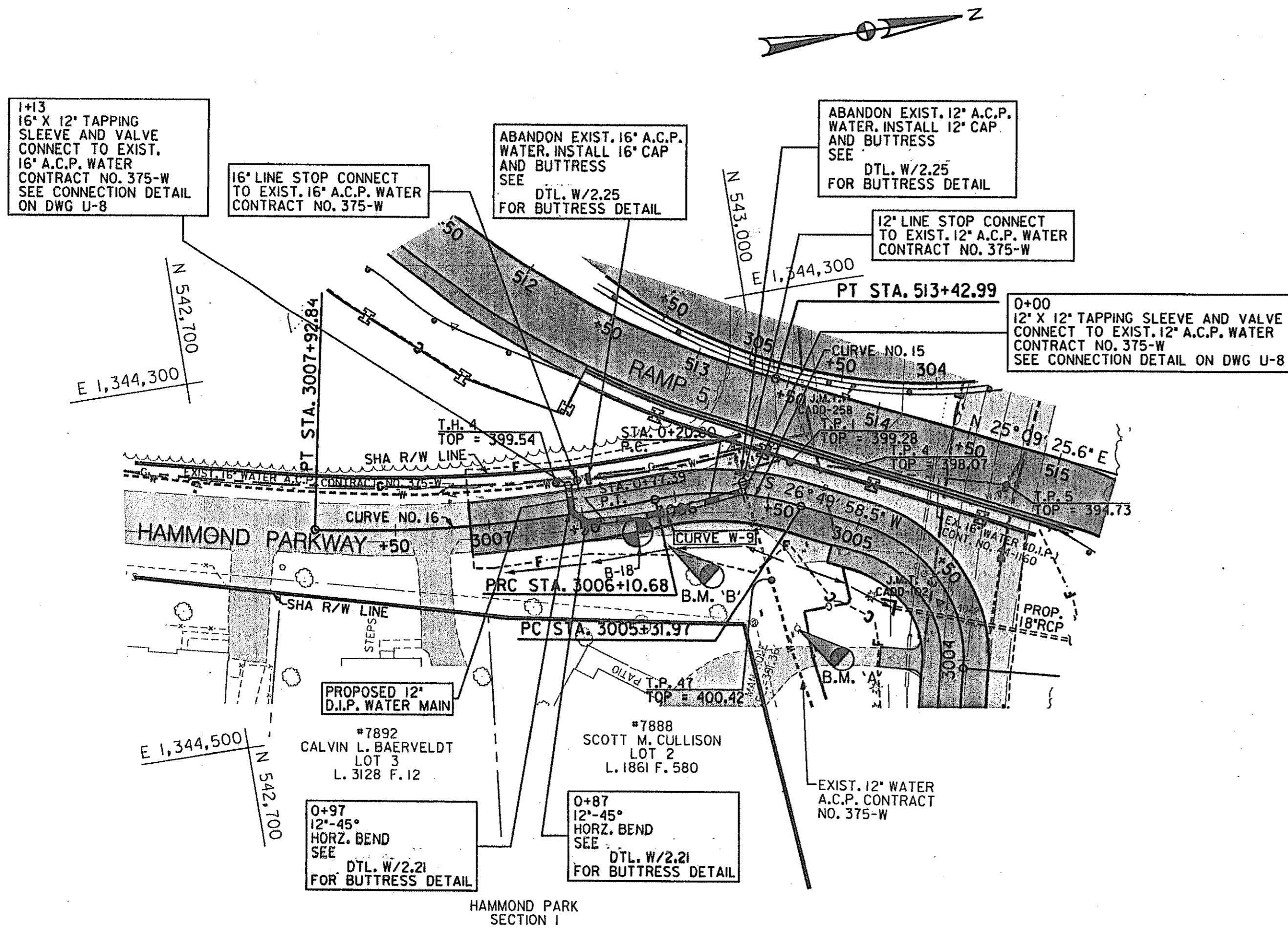
PAVING LEGEND

EXISTING PAVEMENT
 PROPOSED PAVING (BY OTHERS)

NOTE:
 ALL FINAL RESTORATION ON THIS SHEET WILL
 BE COMPLETED BY THE ROADWAY CONTRACTOR

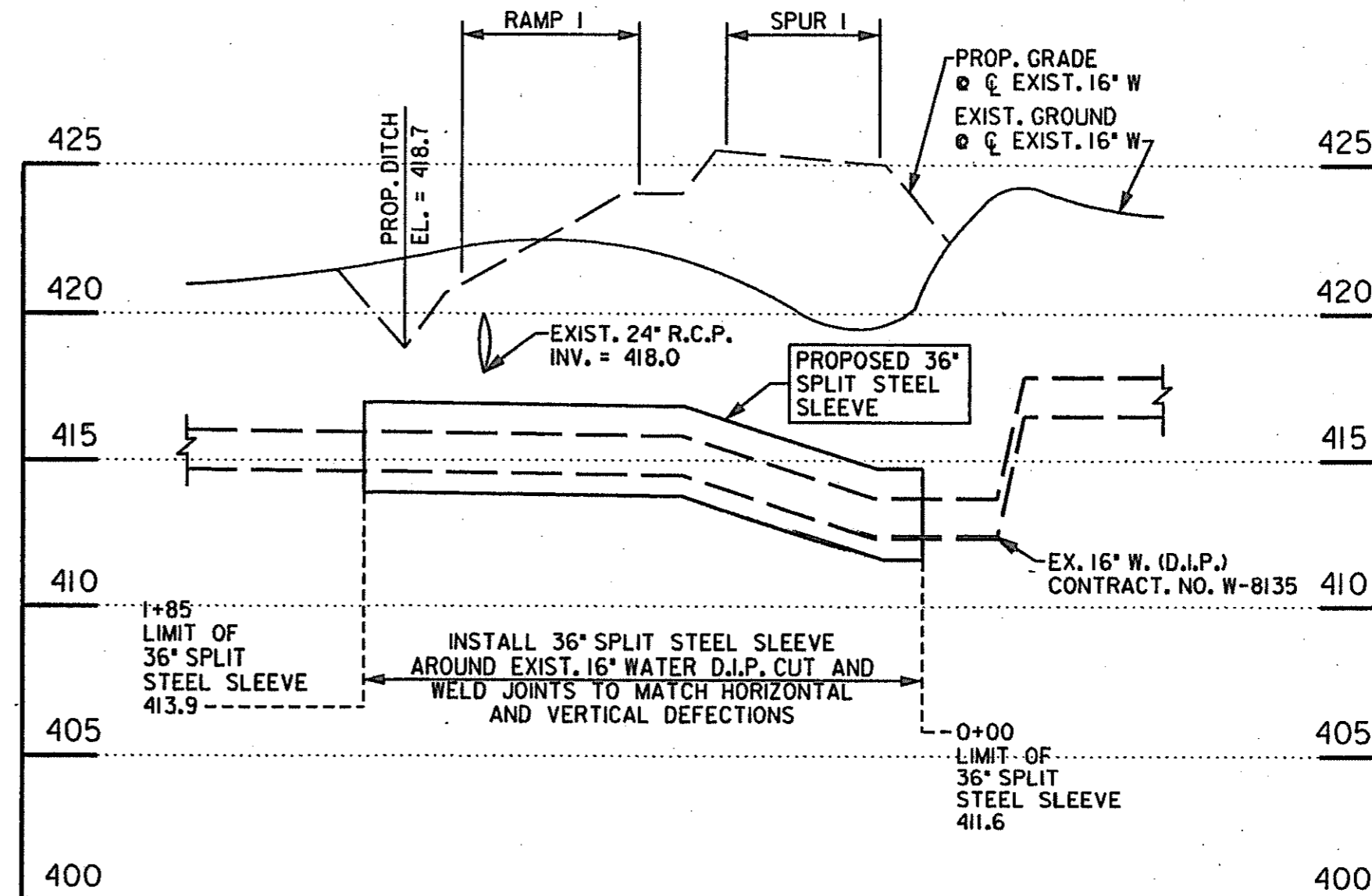
SLEEVE STAKEOUT DATA				
SLEEVE STA.	DESCRIPTION	ROADWAY STATION & OFFSET	NORTHING	EASTING
0+00, 36" S.S.	LIMIT OF 36" SPLIT SLEEVE	RAMP 2 STA. 114+56.06, 70.30' LT.	543719.9956	1343606.6602
1+85, 36" S.S.	LIMIT OF 36" SPLIT SLEEVE	RAMP 2 STA. 115+92.24, 53.93' RT.	543753.4987	1343424.8395

CURVE NO. 26
 P.I. STA. = 116+08.43
 Δ = 53°59'43.3" RT.
 Dc = 11°45'0.00"
 R = 487.62'
 T = 248.83'
 L = 459.54'
 E = 59.64'



PROFILE
 SCALE: 1"=50' HORIZONTAL
 1"=5' VERTICAL

NOTE:
 SEE DTL. W/4.15
 1/ FOR MECH. UT. SLEEVE & SPACER DETAILS.
 2/ CONTRACTOR TO SUBMIT MOT PLAN FOR
 APPROVAL PRIOR TO ANY INSTALLATION OF
 THE WATER MAIN ON HAMMOND HIGHWAY.

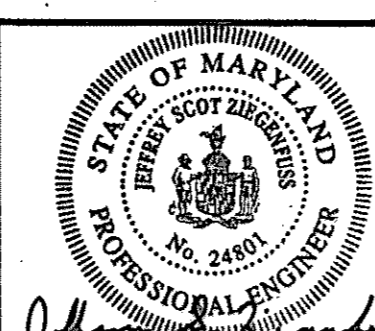


PROFILE
 SCALE: 1"=50' HORIZONTAL
 1"=5' VERTICAL

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND
 Director of Public Works: *[Signature]* DATE: 6/29/00
 Chief, Bureau of Engineering: *[Signature]* DATE: 6/29/00
 Chief, Bureau of Utilities: *[Signature]* DATE: 6/29/00

THE WILSON T. BALLARD CO.
 CONSULTING ENGINEERS
 OWINGS MILLS, MARYLAND

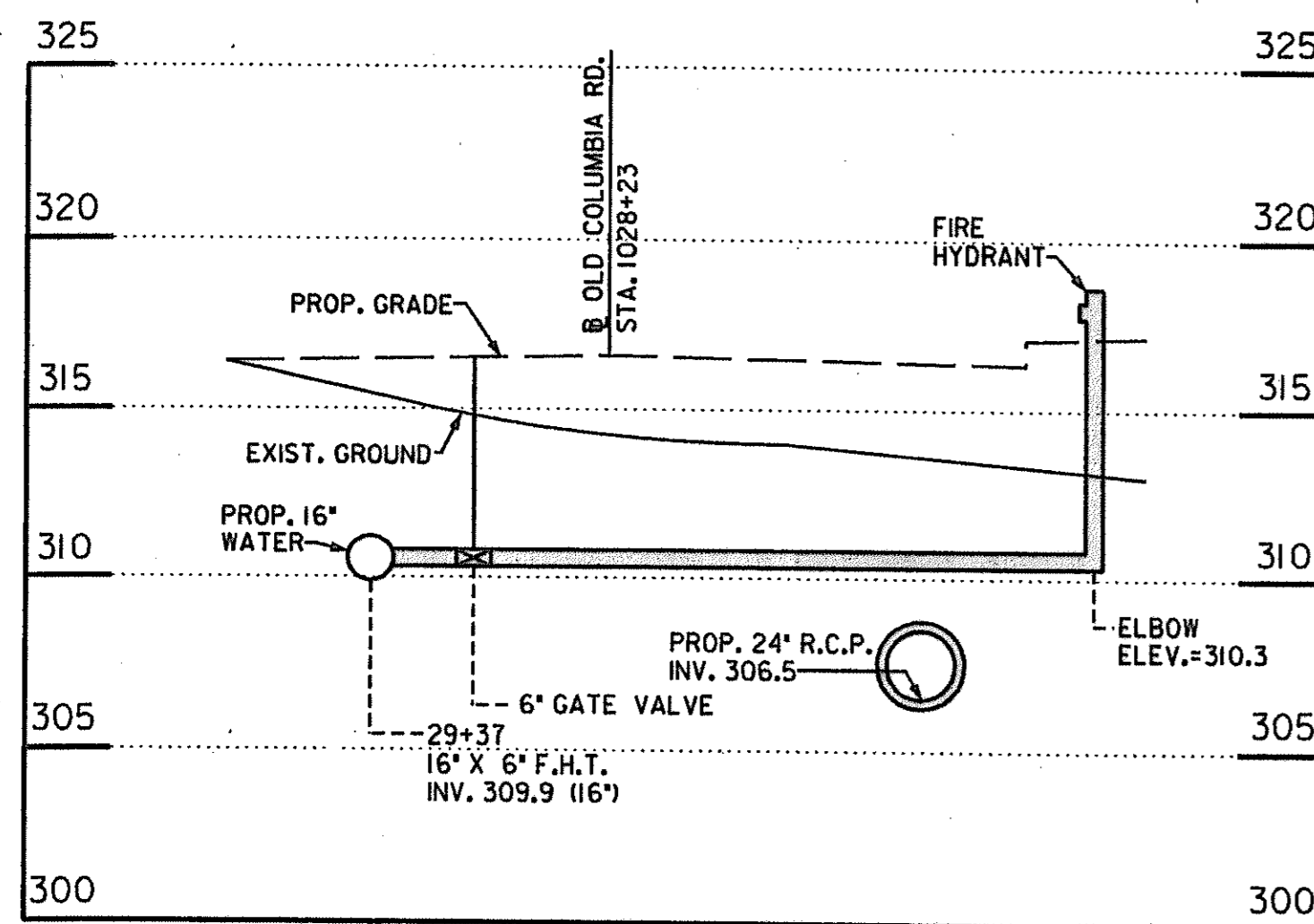


DES: JSZ			
DWN: GFP			
CHK: KLE			
DATE: 6/28/00	BY: NO.	REVISION	DATE

PLAN AND PROFILE SHEET

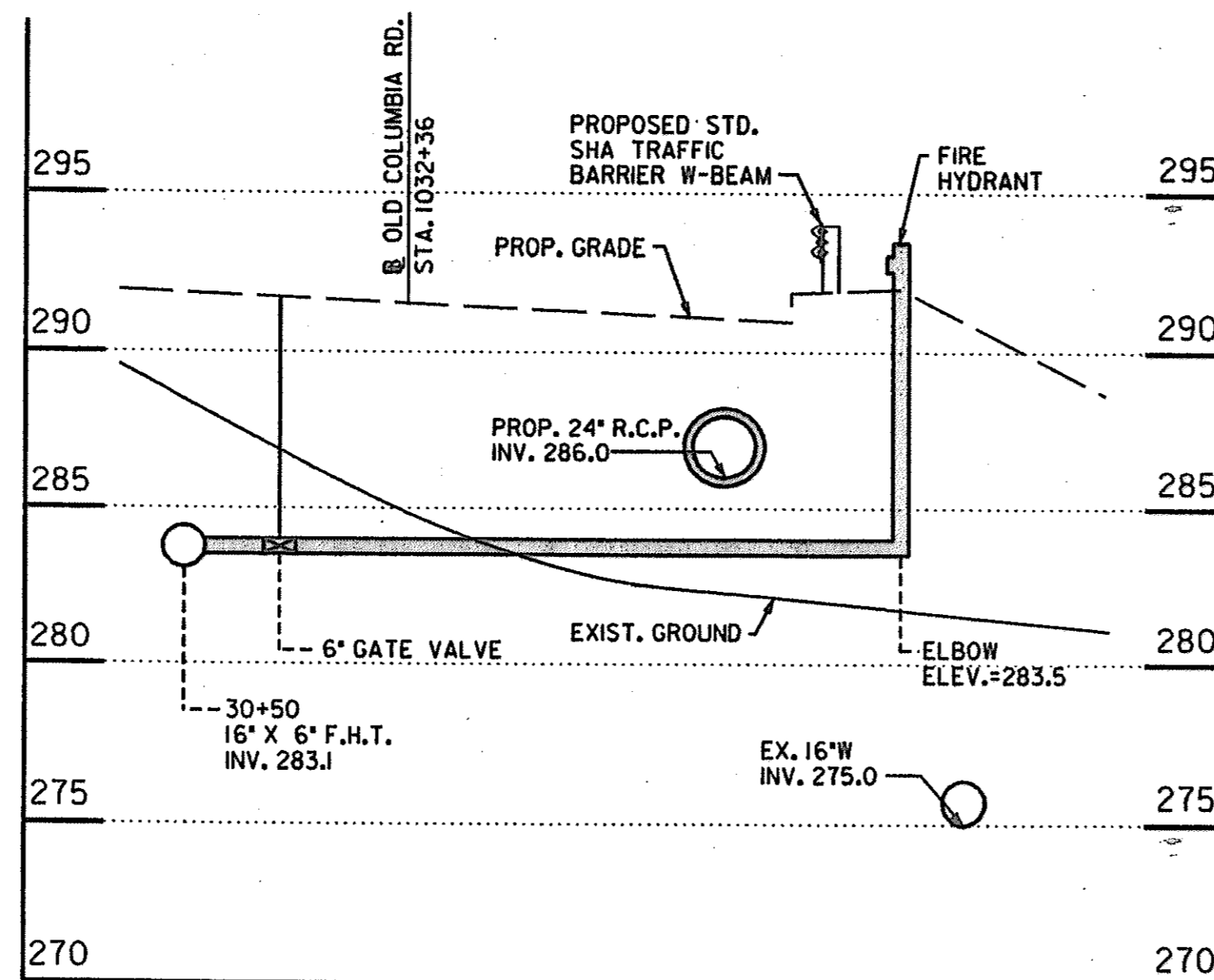
U.S. 29 INTERCHANGE AT JOHNS HOPKINS/
 GORMAN ROADS AND OLD COLUMBIA ROAD
 CAPITAL PROJECT W-8212
 CONTRACT NO. 44-3868
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 DWG U-7
 SHEET
 319 OF 320



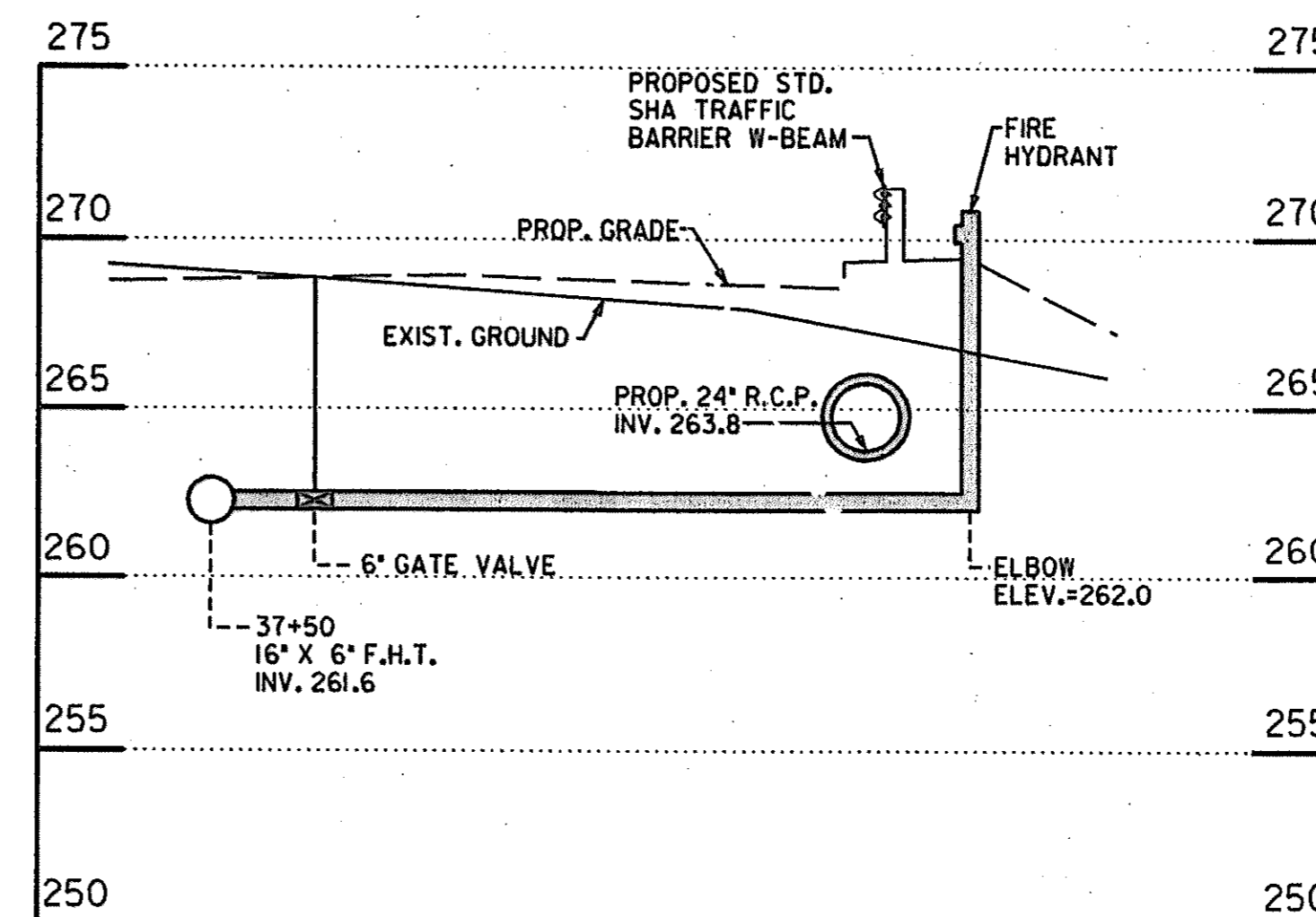
PROFILE - FIRE HYDRANT
RT. OLD COLUMBIA RD. STA. 1028+23

SCALE: 1"=5' HORIZONTAL
1"=5' VERTICAL



PROFILE - FIRE HYDRANT
RT. OLD COLUMBIA RD. STA. 1032+36

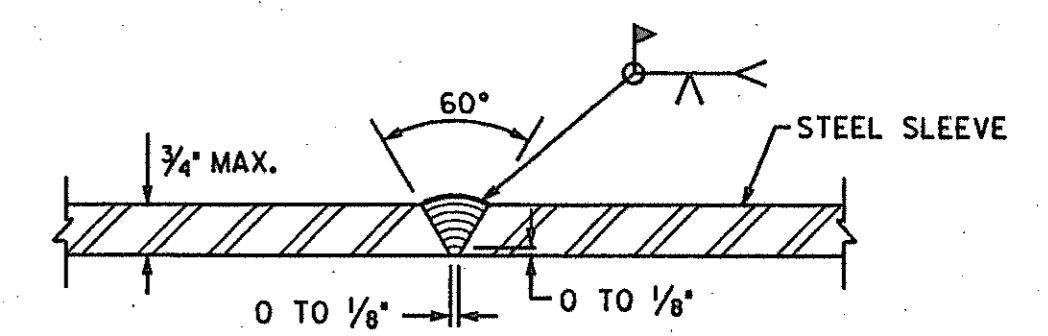
SCALE: 1"=5' HORIZONTAL
1"=5' VERTICAL



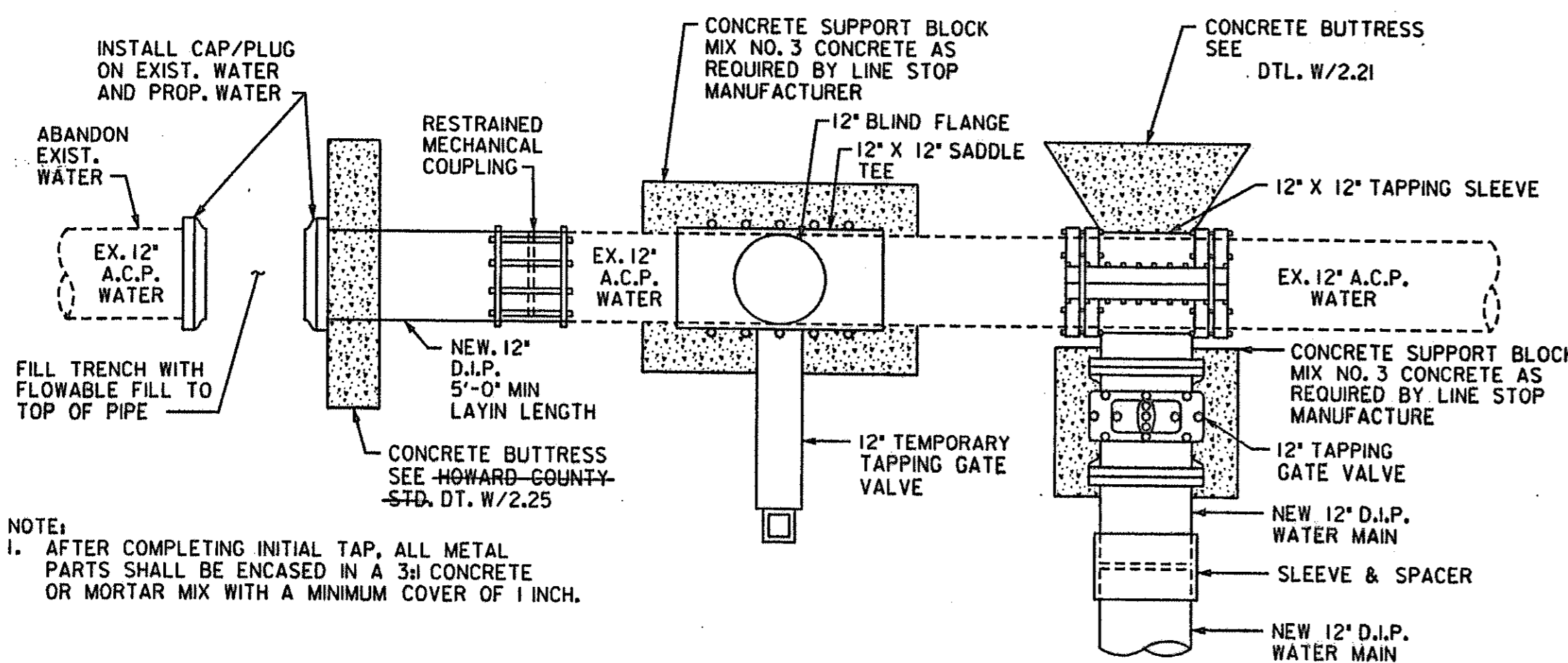
PROFILE - FIRE HYDRANT
RT. OLD COLUMBIA RD. STA. 1036+34

SCALE: 1"=5' HORIZONTAL
1"=5' VERTICAL

- NOTES:**
1. PROVIDE 8" THICK BRICK BULKHEAD AT EACH END OF CASING AS SHOWN ON
 2. 36" DIA. STEEL SLEEVE TO BE 3/8" THICK. JOINTS TO BE WELDED FULL CIRCUMFERENCE.
 3. FILL ANNULAR SPACE WITH FLO-ASH. PROVIDE TWO-2" DRAINS THROUGH BRICK BULKHEAD WHILE FILLING WITH FLO-ASH TO PREVENT POCKETS OF WATER IN CASING.

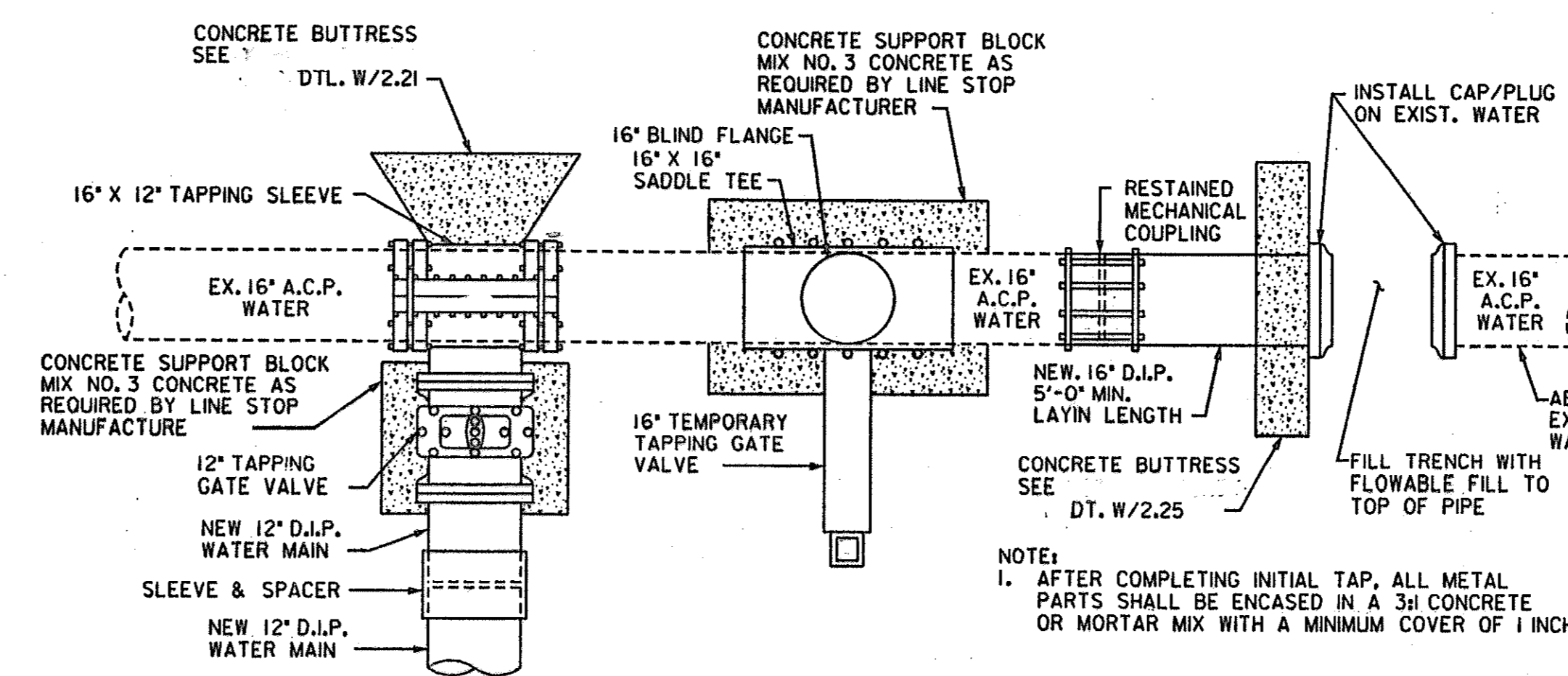


STEEL CASING WELD DETAIL (TYP.)



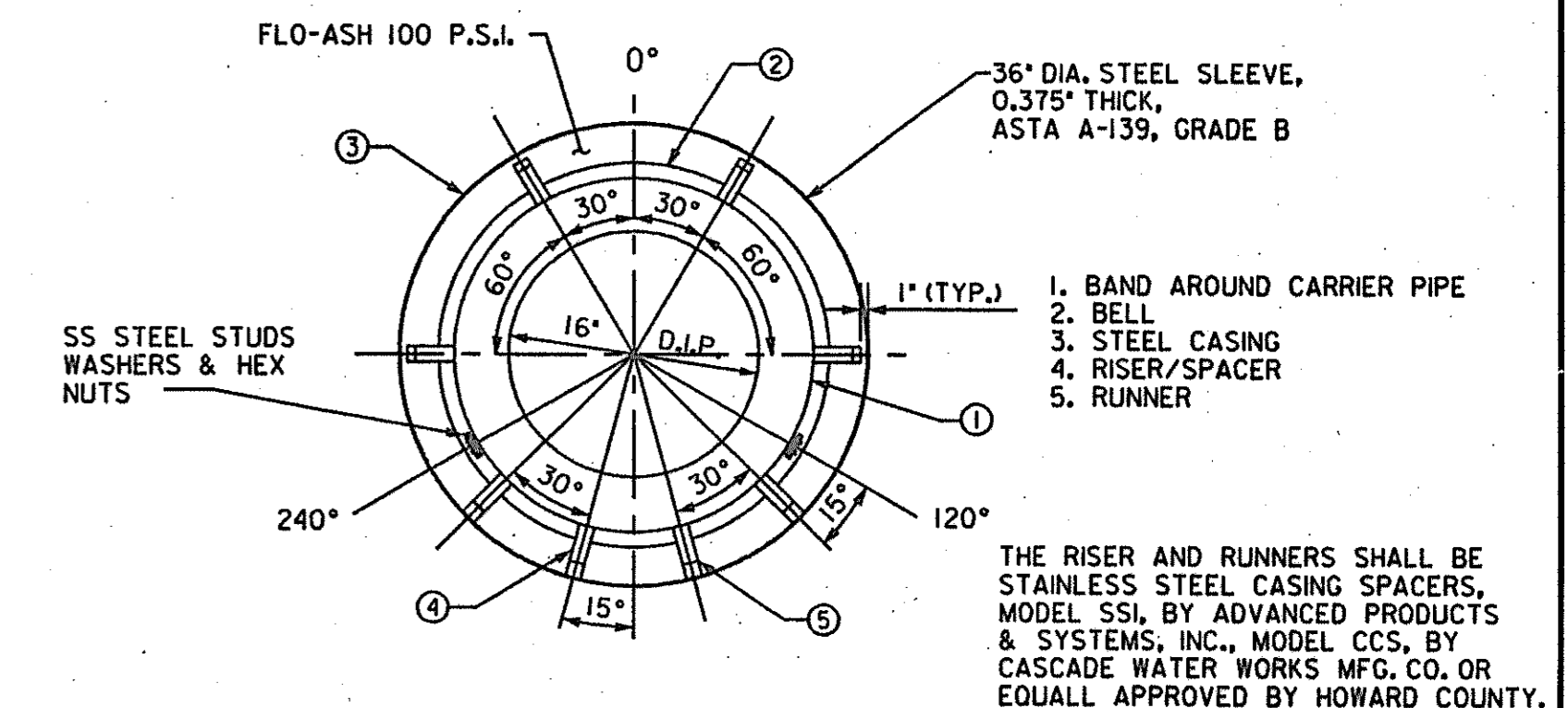
CONNECTION DETAIL
ALONG HAMMOND PARKWAY - 12" W STA. 0+00

NOT TO SCALE



CONNECTION DETAIL
ALONG HAMMOND PARKWAY - 12" W STA. 1+13

NOT TO SCALE



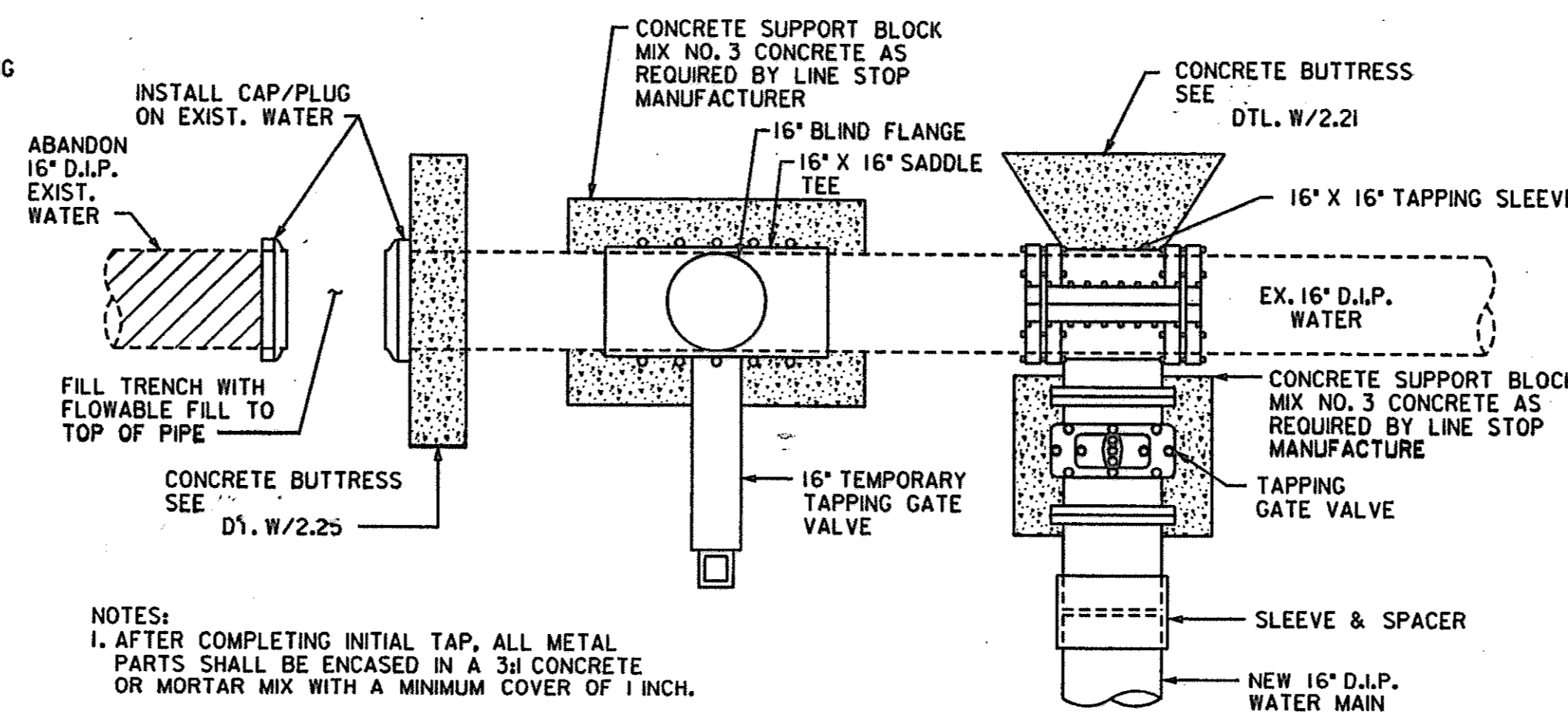
RISER LOCATION FOR 16" DUCTILE IRON PIPE WATER MAIN WITH 12" BAND WIDTH

SEQUENCE OF CONSTRUCTION FOR HAMMOND PARKWAY CONNECTIONS

TAPPING SLEEVE & VALVE OPERATIONS

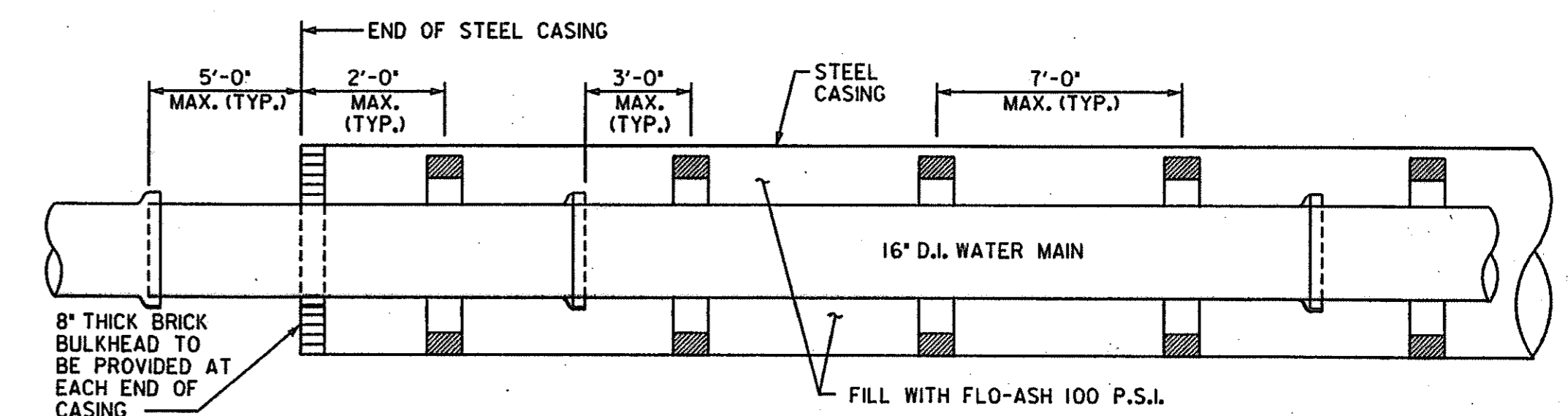
1. INSTALL 16" X 12" TAPPING SLEEVE & GATE VALVE ON THE EXISTING 16" A.C.P. WATER (CONTRACT NO. 375-W) AT 12" W STA. 1+13. CLOSE 12" VALVE.
2. POUR CONCRETE BUTTRESS AT 16" X 12" TAPPING SLEEVE & GATE VALVE.
3. ATTACH TAPPING MACHINE TO 12" VALVE. OPEN VALVE AND CUT 12" HOLE IN EXISTING PIPE. RETRACT CUTTER WITH PIPE COUPON. CLOSE 12" VALVE AND REMOVE TAPPING MACHINE.
4. REPEAT STEPS 1, 2 AND 3 FOR WET TAP CONNECTION ON THE EXISTING 12" A.C.P. WATER (CONTRACT NO. 375-W AT 12" W STA. 0+00).
5. INSTALL AND TEST RELOCATED 12-INCH WATER MAIN.
6. INSTALL A SHORT PIECE ON 12" VALVES AT BOTH CONNECTION AND CONNECT ENDS OF MAIN WITH SLEEVES AND SPACERS.
7. OPEN BOTH 12" VALVES AND PUT NEW MAIN IN SERVICE.
8. INSTALL SADDLE TEES WITH ATTACHED TEMPORARY GATE VALVES AT 12" W STA. 0+00 AND STA. 1+13. CLOSE TEMPORARY GATE VALVES.
9. ATTACH TAPPING MACHINE TO TEMPORARY VALVES AT 12" W STA. 0+00 AND STA. 1+13. OPEN VALVE AND CUT HOLES IN EXISTING PIPE. RETRACT CUTTER WITH PIPE COUPON. CLOSE VALVES AND REMOVE TAPPING MACHINE.
10. INSTALL LINESTOPPING MACHINES ON EACH TEMPORARY GATE VALVE.
11. OPEN TEMPORARY GATE VALVES AND SIMULTANEOUSLY INSERT LINE STOPPING PLUG HEADS AT EACH LOCATION TO STOP FLOW THROUGH EXISTING MAIN. ALL FLOW WILL CONTINUE THROUGH THE RELOCATED MAIN.
12. CUT EXISTING PIPE AT EACH LOCATION. INSTALL MECHANICAL COUPLINGS, CAPS/PLUGS, BUTTRESSES, FLOWABLE FILL, ETC...
13. REMOVE LINESTOPPING MACHINES. ATTACH COMPLETION MACHINES AND INSTALL COMPLETION PLUGS IN EACH TEE OUTLET.
14. REMOVE COMPLETION MACHINE AND TEMPORARY VALVES. INSTALL 12" X 16" BLIND FLANGES ON EACH TEE OUTLET.

NOTES:
RESTRAIN ALL PERMANENT FITTINGS WITH "MEGALUG" SERIES 1100 OR APPROVED EQUAL.



CONNECTION DETAIL
ALONG OLD COLUMBIA RD. - 16" W STA. 41+38
ALONG U.S. 29 N.B.R. - 16" W STA. 8+14

NOT TO SCALE



TYPICAL D.I. PIPE AND SPACER LAYOUT INSIDE STAINLESS STEEL CASING

36" STEEL CASING DETAILS UNDER RAMP 2

NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND
 Director of Public Works: Robert M. Burt
 Chief, Bureau of Engineering: [Signature]
 Chief, Bureau of Utilities: [Signature]

THE WILSON T. BALLARD CO.
 CONSULTING ENGINEERS
 OWINGS MILLS, MARYLAND



DES: JSZ			
DWN: GFP			
CHK: KLE			
DATE: 6/28/00	BY NO.	REVISION	DATE

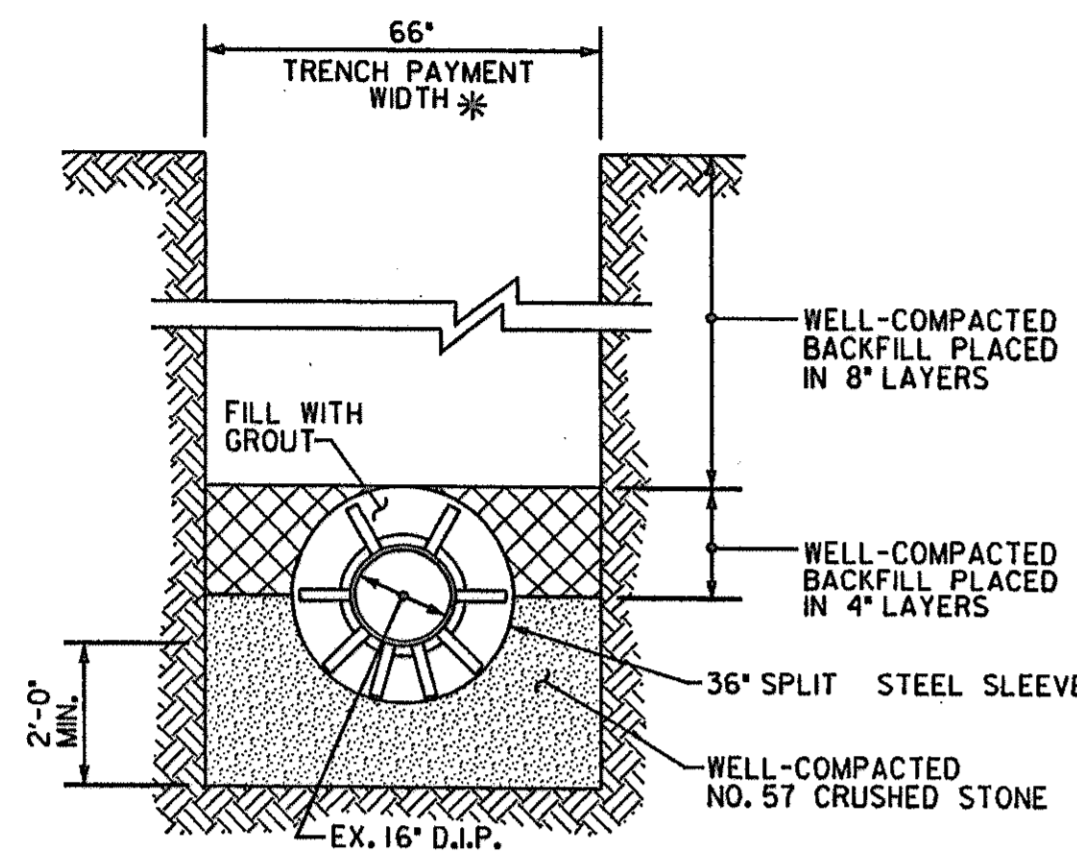
PROFILE & DETAIL SHEET

U.S. 29 INTERCHANGE AT JOHNS HOPKINS/
 GORMAN ROADS AND OLD COLUMBIA ROAD
 CAPITAL PROJECT W-8212
 CONTRACT NO. 44-3868
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 DWG U-8
 SHEET
 319 OF 320

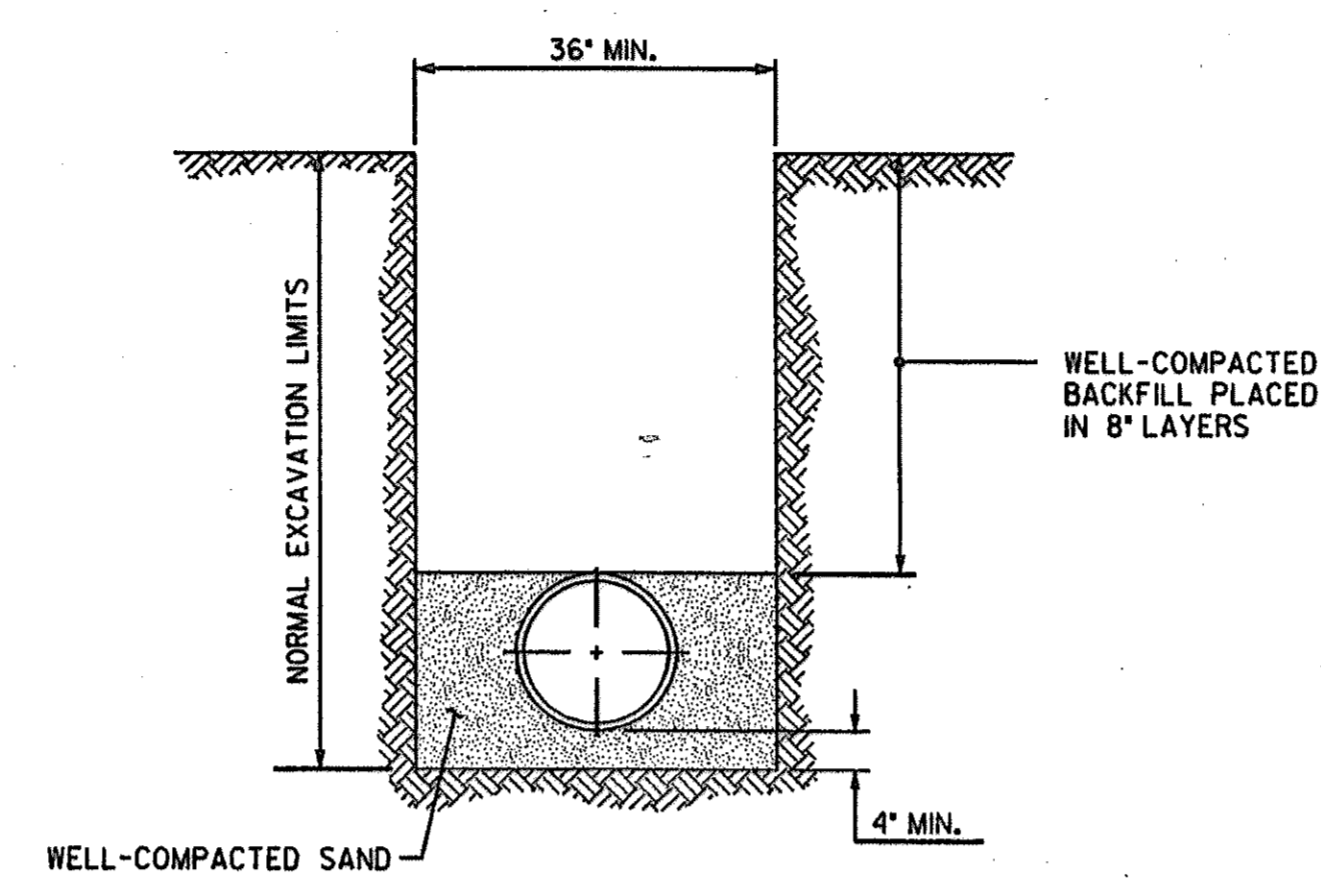
SEQUENCE OF CONSTRUCTION

- I. THE FOLLOWING WATER MAIN WORK IS TO BE COMPLETED AFTER THE ROADWAY CONTRACTOR HAS REACHED SUBGRADE AT JOHNS HOPKINS ROAD STA. 44+20± DURING PHASE 1A:
 - A. 16" MAIN IN JOHNS HOPKINS ROAD FROM 16' W STA. 0+38 TO STA. 2+38 AS SHOWN ON DWG U-2.
- THE FOLLOWING WATER MAIN WORK SHALL BE COORDINATED WITH AND PERFORMED DURING THE GRADING OPERATIONS FOR TRAFFIC CONTROL PLAN PHASE 1B:
 - A. 16-INCH MAIN FROM EAST SIDE OF U.S. 29 N.B.R. (16' W STA. 8+14) TO OLD COLUMBIA ROAD (16' W STA. 0+00) AS SHOWN ON DRAWINGS U-3 AND U-6.
 - B. 16-INCH MAIN AND 8-INCH MAIN IN OLD COLUMBIA ROAD, 16' W STA. 11+26 TO STA. 41+38 AS SHOWN ON DWGS U-3, U-4 AND U-5.
 - C. INSTALL LINE STOP FOR THE TIE-IN CONNECTION AT STA. 41+38.
 - D. ABANDON THE EXIST. 16-INCH WATER MAIN (CONTRACT NO. 647-W) IN OLD COLUMBIA ROAD, THE EXISTING 12-INCH WATER MAIN (CONTRACT NO. 375-W) AND THE EXISTING 16-INCH WATER MAIN (CONTRACT NO. 44-1160) IN JOHNS HOPKINS ROAD **MUST** REMAIN IN SERVICE.
- II. THE FOLLOWING WATER MAIN WORK MUST BE COMPLETED AND PUT IN SERVICE PRIOR TO ABANDONING THE EXISTING MAINS IN JOHNS HOPKINS ROAD:
 - A. 16-INCH MAIN IN OLD COLUMBIA ROAD, 16' W STA. 2+38 TO STA. 11+26 AND 16' W STA. 0+00 TO STA. 0+38 AS SHOWN ON DRAWINGS U-2 AND U-3.
 - B. 12-INCH MAIN IN HAMMOND PARKWAY, 12' W STA. 0+00 TO STA. 1+13 AS SHOWN ON DRAWING U-7.



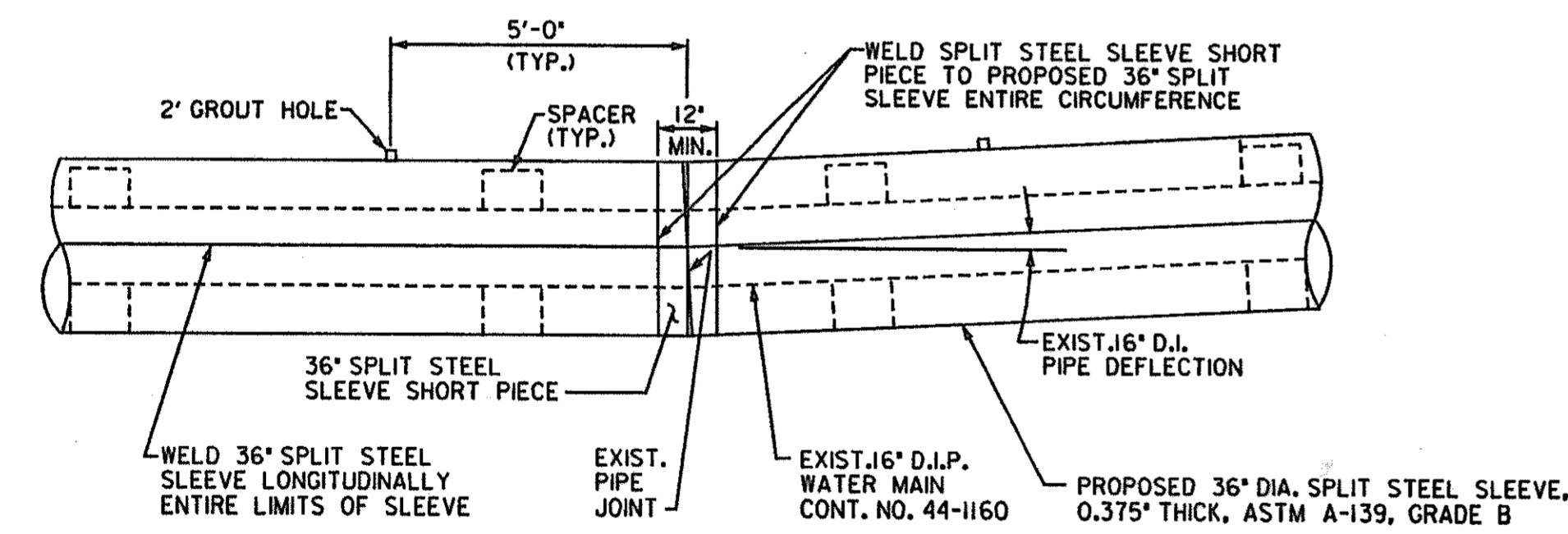
SECTION
SCALE: 3/8" = 1'-0"

* TRENCH PAYMENT WIDTH FOR EXCAVATION AND REFILL OF UNSUITABLE MATERIAL ENCOUNTERED BELOW SUBGRADE OF TRENCH.



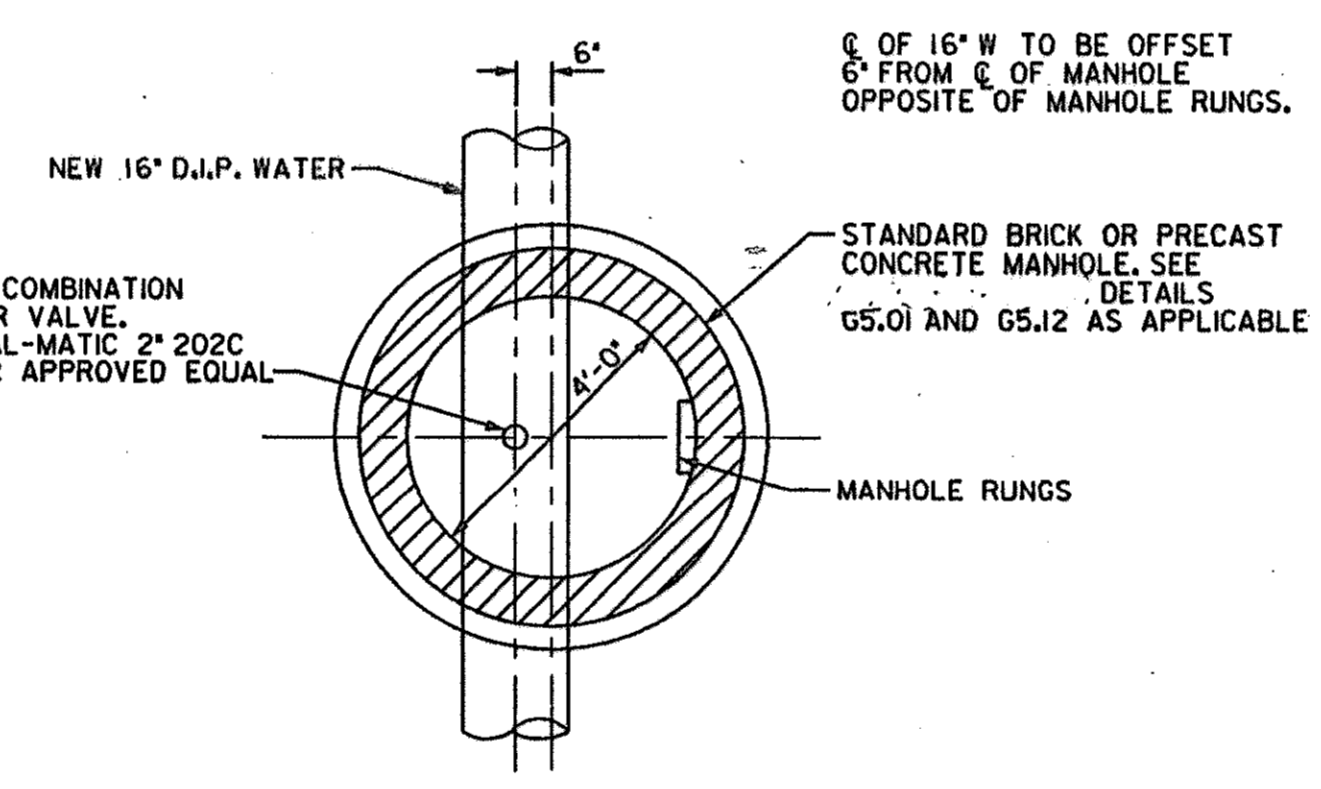
WATER MAIN TRENCH DETAIL
NOT TO SCALE

- NOTES:
1. SEE DWG U-8 FOR SPACER DETAILS AND SPACER LAYOUT INSIDE STEEL SLEEVE.
 2. PROVIDE 2" DIA. GROUT HOLES 5 FEET FROM EACH END OF EXIST. PIPE JOINT.
 3. EACH END OF SPLIT STEEL SLEEVE TO BE WITHIN 2 FEET OF AN EXISTING 16" PIPE JOINT.
 4. AFTER SPLIT STEEL SLEEVE INSTALLATION IS COMPLETE, FILL SLEEVE WITH GROUT.
 5. PROVIDE 8" BRICK BULKHEAD AT EACH END OF SLEEVE WITH 2" DIAMETER PIPE THROUGH EACH BULKHEAD FOR DRAINAGE PRIOR TO FILLING WITH GROUT.



ELEVATION
SCALE: 3/8" = 1'-0"

36" SPLIT STEEL SLEEVE DETAIL UNDER RAMP/SPUR I
BY OTHERS



COMBINATION AIR VALVE MANHOLE DETAIL
SCALE: 3/8" = 1'-0"

FIRE HYDRANT RELOCATIONS						
ROADWAY STATION	EXIST. OFFSET	NEW OFFSET	EX. BURY LINE ELEV.	NEW BURY LINE ELEV.	EXIST. ELBOW ELEVATION	F.H. EXT. KIT
JOHNS HOPKINS ROAD STA. 73+54	35' RT.	49' RT.	421.9	423.1	412.7	1'-6"
JOHNS HOPKINS ROAD STA. 77+25	29' RT.	37' RT.	411.8	414.9	408.3	3'-6"
JOHNS HOPKINS ROAD STA. 80+70	25' RT.	37' RT.	414.9	417.6	410.9	3'-0"

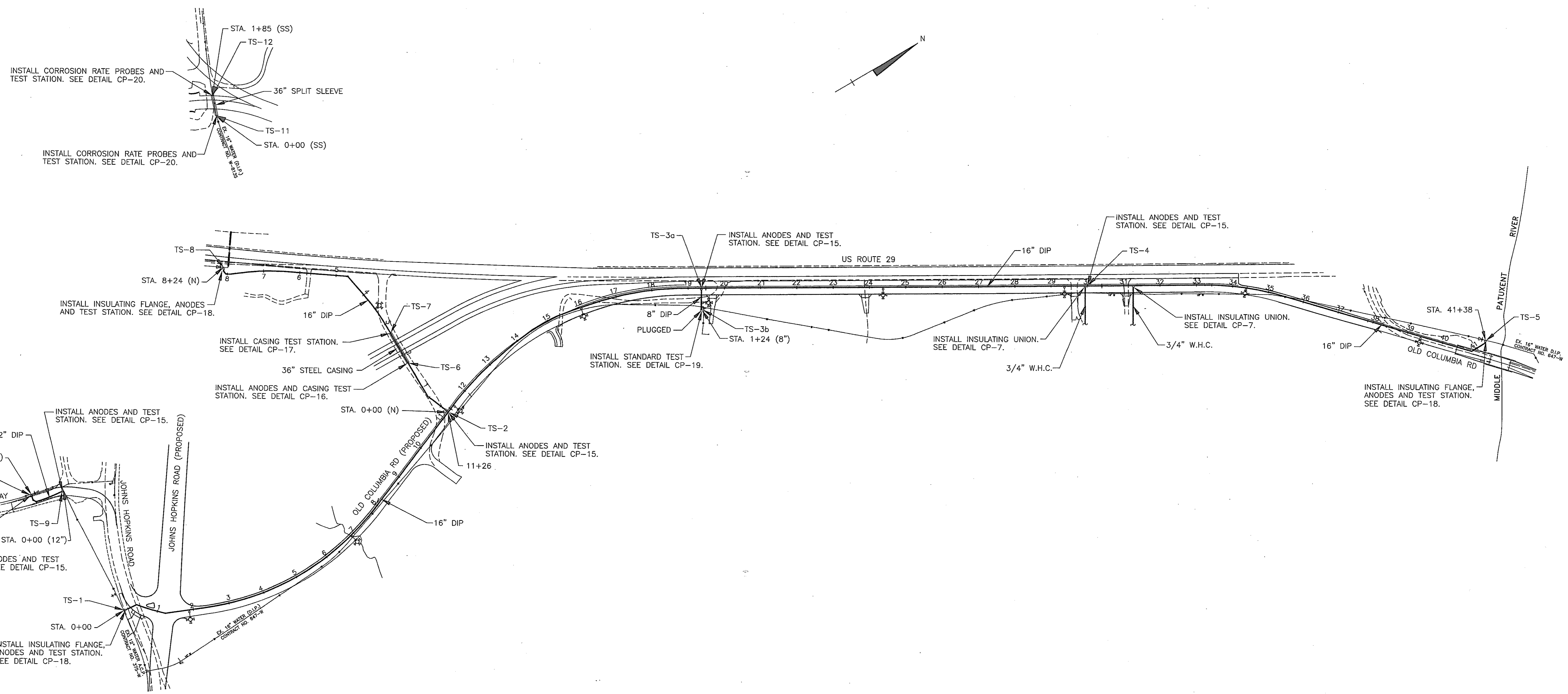
NOTE: REMOVE EXISTING HYDRANT. EXTEND FIRE HYDRANT LEAD. REINSTALL EXISTING HYDRANT WITH REQUIRED EXTENSION KIT AT NEW LOCATION.

NOTE: ELBOW ELEVATIONS BASED ON RECORD PLANS (INGVD 29) AND ADJUSTED TO NAVD 88.

ROADWAY SURFACE ADJUSTMENTS			
ITEM	ROADWAY STATION AND OFFSET	EXIST. ELEV.	PROP. ELEV.
SANITARY MH FRAME & COVER	JOHNS HOPKINS STA. 40+35, 24' LT.	401.8	405.2
WATER VALVE BOX	JOHNS HOPKINS STA. 42+52, 40' LT.	406.0	407.5
WATER VALVE BOX	HAMMOND PARKWAY STA. 3001+44, 31' LT.	406.4	406.1
WATER VALVE BOX	JOHNS HOPKINS ROAD STA. 69+21, 70' RT.	428.3	429.5
FIRE HYDRANT (BURY LINE)	JOHNS HOPKINS ROAD STA. 69+24, 73' RT.	428.4	428.9
MANHOLE FRAME & COVER	JOHNS HOPKINS ROAD STA. 69+32, 59' RT.	428.5	429.8
WATER VALVE FRAME & COVER	JOHNS HOPKINS ROAD STA. 73+19, 37' RT.	422.9	422.8
WATER VALVE FRAME & COVER	JOHNS HOPKINS ROAD STA. 73+24, 37' RT.	422.8	422.7
WATER VALVE FRAME & COVER	JOHNS HOPKINS ROAD STA. 73+44, 27' RT.	421.8	422.2
WATER VALVE FRAME & COVER	JOHNS HOPKINS ROAD STA. 73+55, 30' RT.	421.7	422.0
WATER VALVE BOX	JOHNS HOPKINS ROAD STA. 77+25, 25' RT.	412.5	414.1
WATER VALVE BOX	JOHNS HOPKINS ROAD STA. 80+70, 22' RT.	415.0	416.8
WATER VALVE BOX	JOHNS HOPKINS ROAD STA. 81+55, 20' RT.	418.0	418.9
WATER VALVE BOX	JOHNS HOPKINS ROAD STA. 81+58, 24' RT.	417.8	419.1

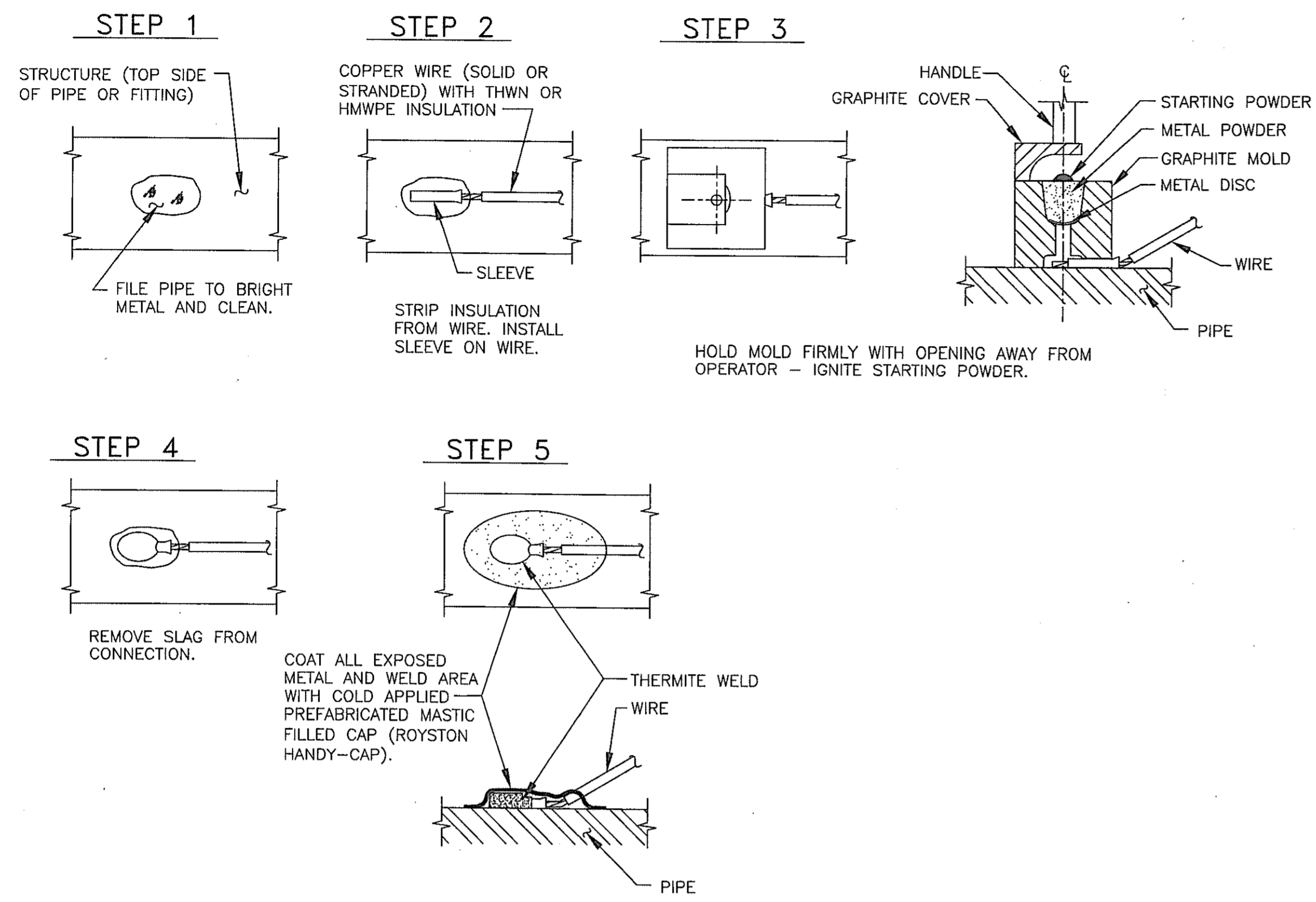
- ① REMOVE EXISTING MANHOLE FRAME & COVER, AND CONE. INSTALL NEW RISER SECTION. REINSTALL EXISTING CONE SECTION AND MANHOLE FRAME & COVER TO MEET PROPOSED GRADE.
- ② INSTALL EXTENSION KIT ON EXISTING HYDRANT.

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>James H. ...</i> 6/29/00 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Robert ...</i> 6-29-00 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>THE WILSON T. BALLARD CO. CONSULTING ENGINEERS OWINGS MILLS, MARYLAND</p>		<p>DES: JSZ</p> <p>DWN: GFP</p> <p>CHK: KLE</p> <p>DATE: 6/28/00</p>	<p>PROFILE & DETAIL SHEET</p>	<p>U.S. 29 INTERCHANGE AT JOHNS HOPKINS/ GORMAN ROADS AND OLD COLUMBIA ROAD CAPITAL PROJECT W-8212 CONTRACT NO. 44-3868 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>DWG U-9</p> <p>SHEET 3 OF 3</p>
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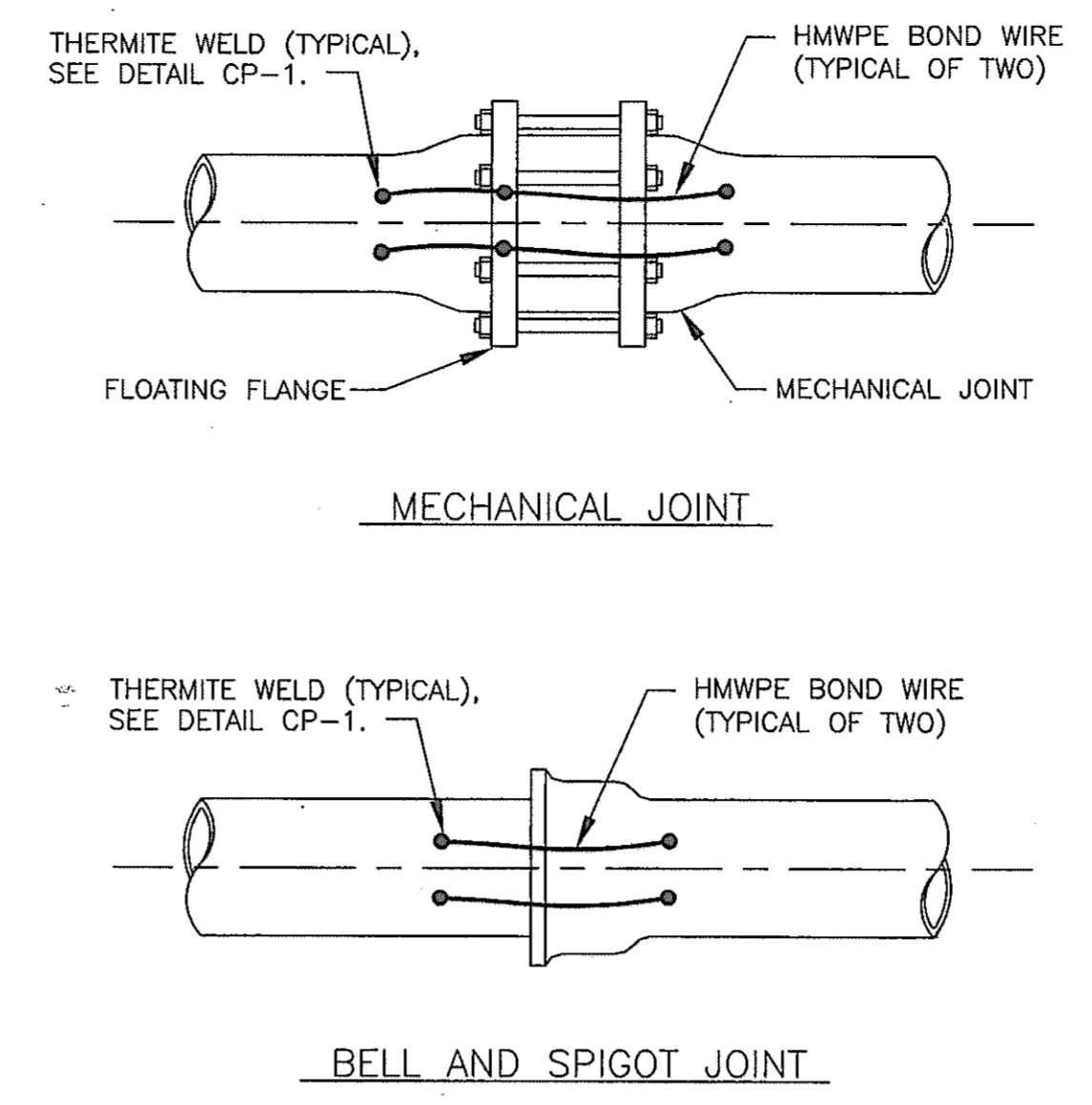


CATHODIC PROTECTION LAYOUT
NOT TO SCALE

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> 6/29/00 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>[Signature]</i> 6/29/00 CHIEF, BUREAU OF ENGINEERING DATE</p> <p><i>[Signature]</i> 6-29-00 CHIEF, BUREAU OF UTILITIES DATE</p> <p><i>[Signature]</i> 6-29-00 CHIEF, WATER & SEWER DIVISION DATE</p>	<p align="center">RUSSELL CORROSION CONSULTANTS, INC.</p> <p>5405 TWIN KNOLLS RD., SUITE 3 COLUMBIA, MD 21045</p>	<p align="center">STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER <i>[Signature]</i> NO. 12345</p>	<p>DES: MJS</p> <p>DRN: DJD</p> <p>CHK: MJS</p> <p>DATE: 6/28/00</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>BY</th> <th>NO.</th> <th>REVISION</th> <th>NO.</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	BY	NO.	REVISION	NO.					<p align="center">CATHODIC PROTECTION LAYOUT</p> <p>600' SCALE MAP NO. <u>W41</u> BLOCK NO. <u> </u></p>	<p align="center">U.S. 29 INTERCHANGE AT JOHNS HOPKINS/ GORMAN ROADS AND OLD COLUMBIA ROAD CAPITAL PROJECT W-8212 CONTRACT NO. 44-3868 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND</p>	<p>SCALE: NONE</p> <p>SHEET 319 OF 320</p>
BY	NO.	REVISION	NO.												



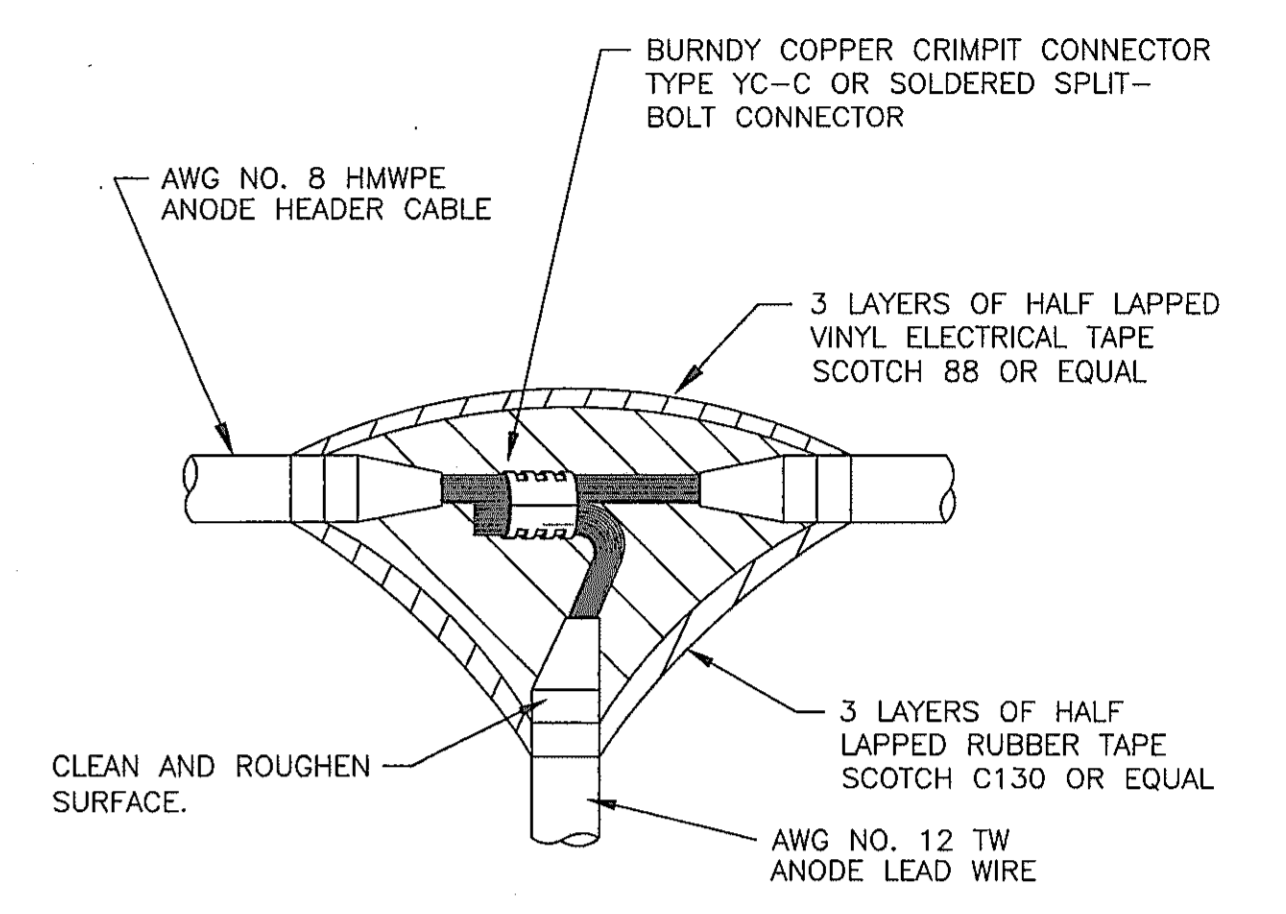
CP-1: TYPICAL THERMITE WELD



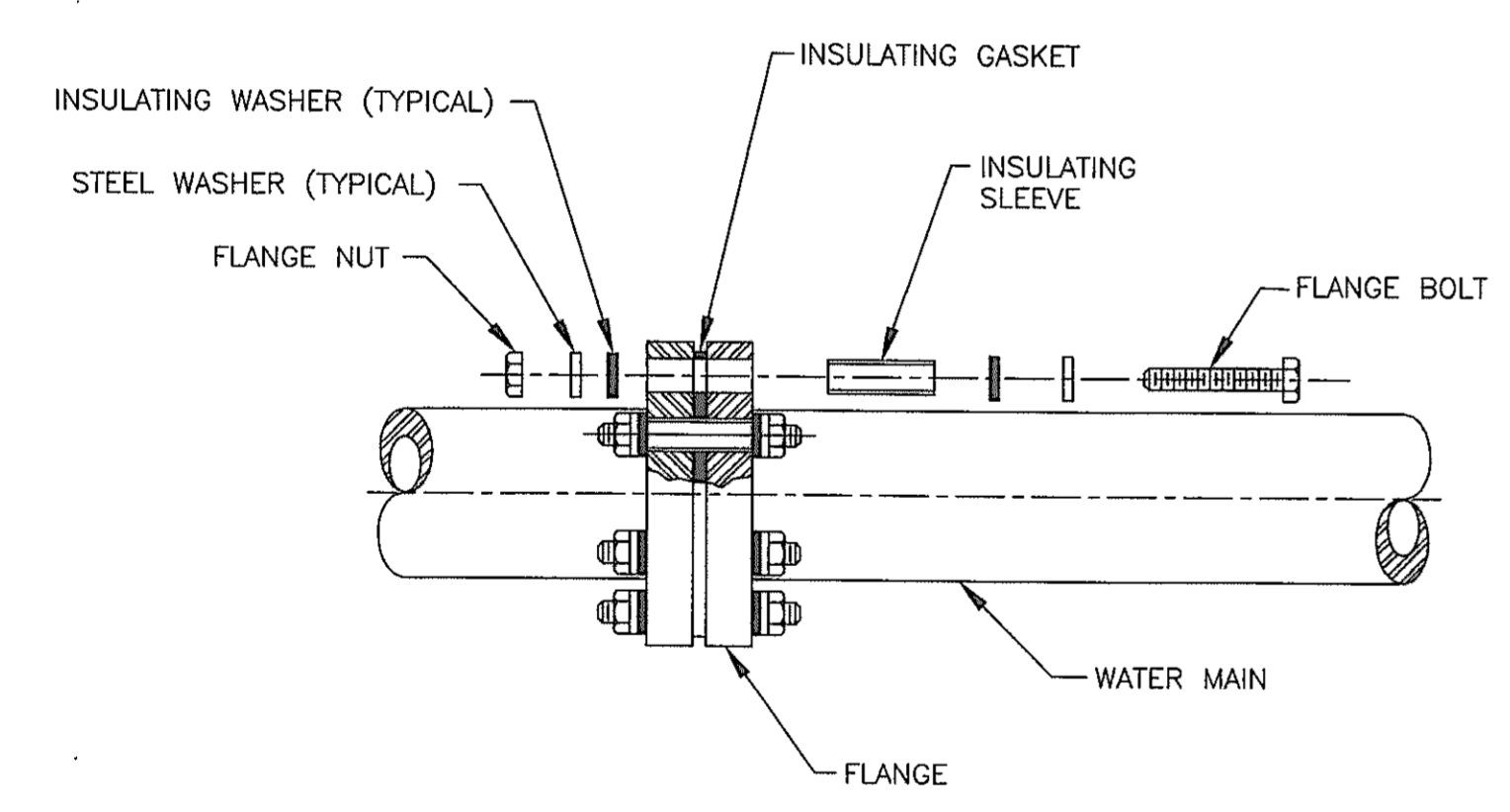
NOTE:
ALL JOINTS ARE TO BE BONDED WITH TWO INSULATED COPPER CABLES AS FOLLOWS BASED ON PIPE SIZE:

PIPE SIZE	WIRE SIZE
LARGER THAN 32"	AWG NO. 2
16" TO 32"	AWG NO. 4
12" AND SMALLER	AWG NO. 6

CP-2: TYPICAL PIPE JOINT BOND

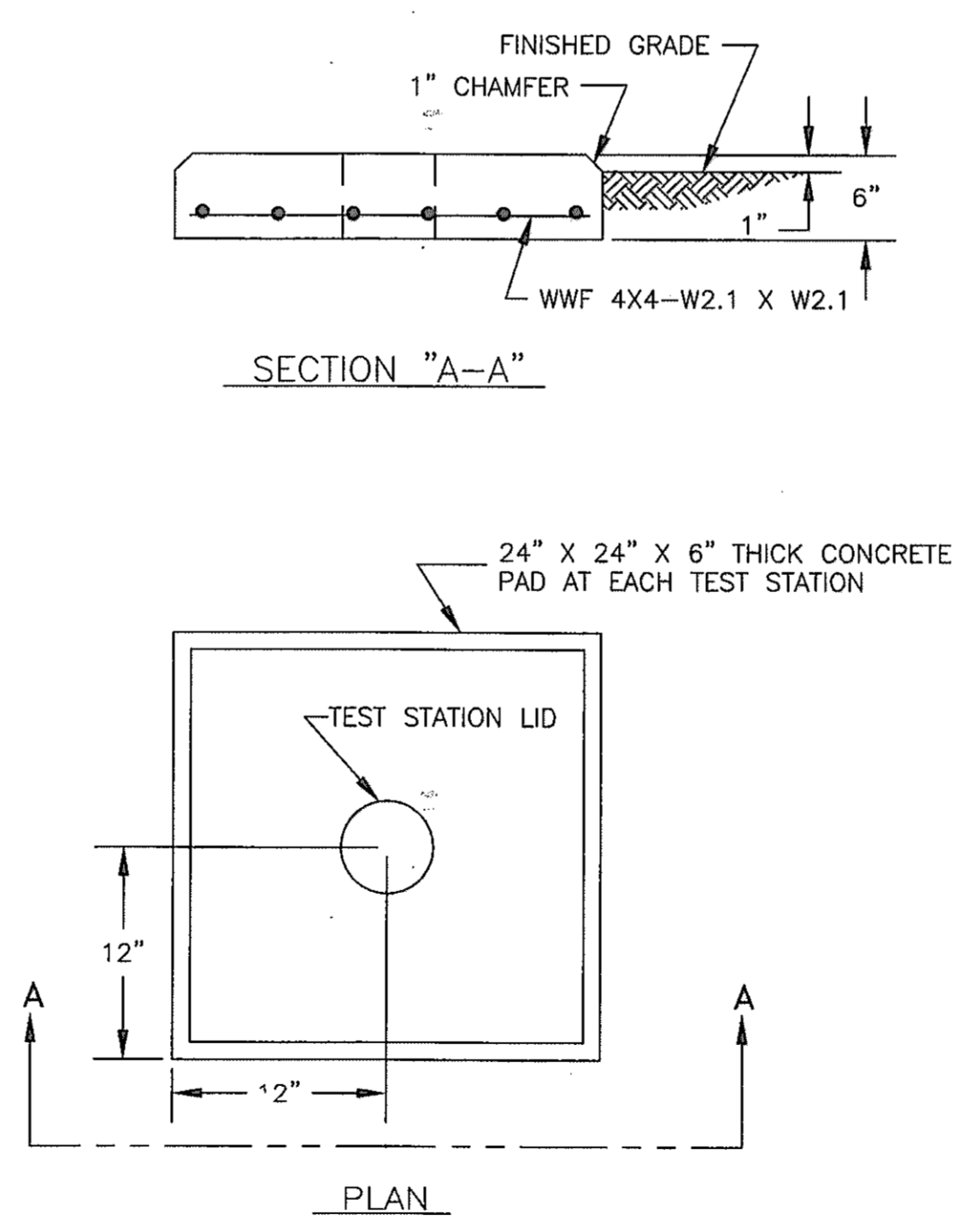


CP-3: ANODE SPLICE

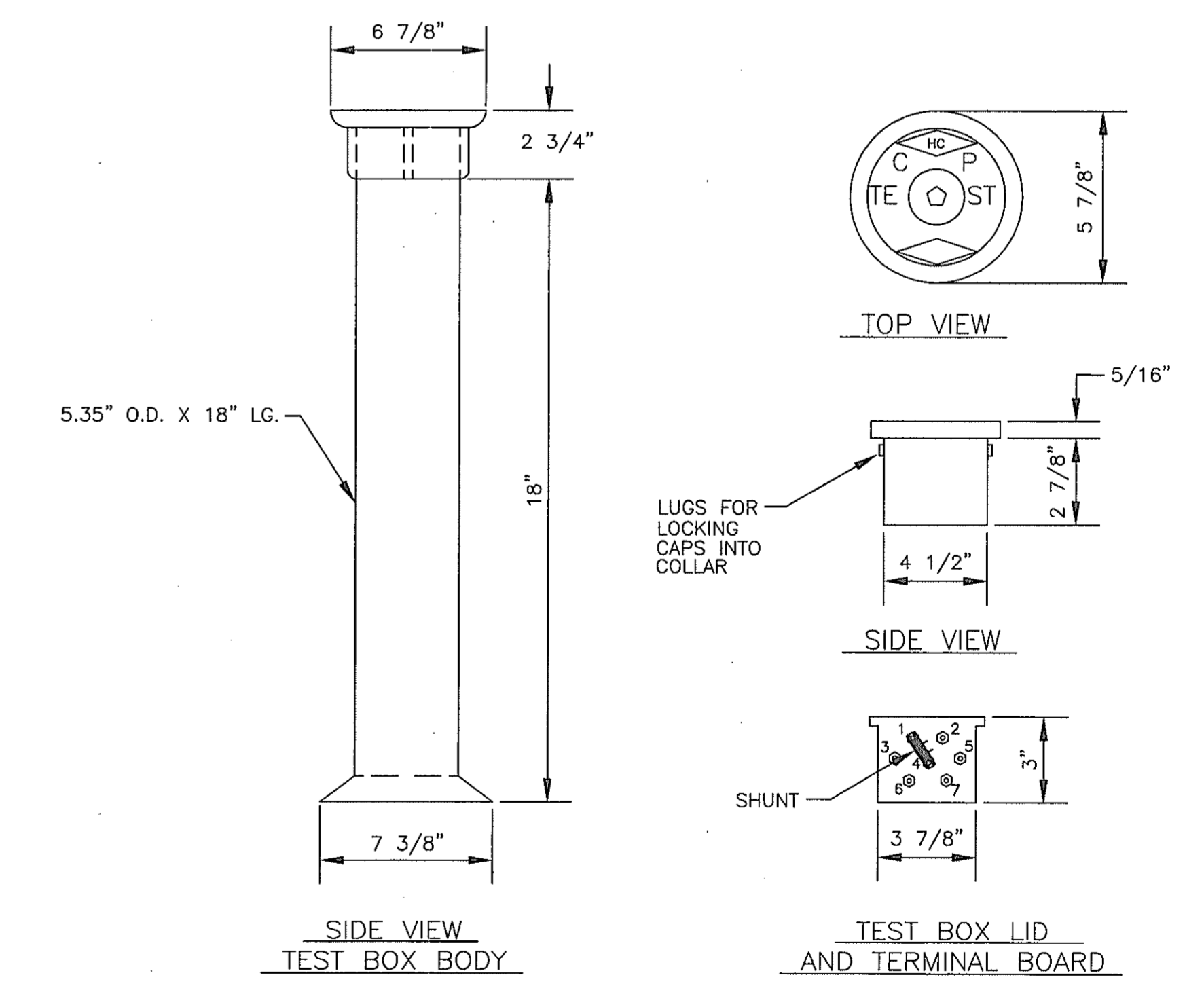


NOTE:
SEE SPECIFICATIONS FOR EXTERNAL COATING OF INSULATING FLANGE.

CP-4: INSULATING FLANGE



CP-5: TEST STATION PAD



CP-6: TEST BOX

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

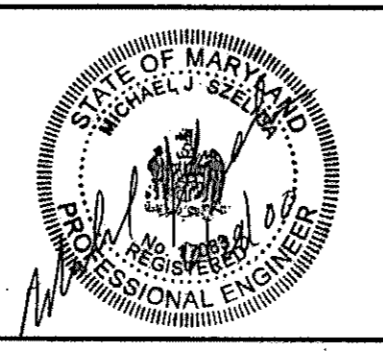
John A. Clow 6/29/00
DIRECTOR OF PUBLIC WORKS
DATE

Robert J. Bennett 6-29-00
CHIEF, BUREAU OF UTILITIES
DATE

Robert J. Bennett 6/29/00
CHIEF, BUREAU OF ENGINEERING
DATE

Robert J. Bennett 6-29-00
CHIEF, WATER & SEWER DIVISION
DATE

RUSSELL CORROSION CONSULTANTS, INC.
5405 THIN KNOLLS RD., SUITE 3
COLUMBIA, MD 21045



DES: MJS			
DRN: DJD			
CHK: MJS			
DATE: 6/28/00	BY	NO.	REVISION

CATHODIC PROTECTION
DETAILS - 1

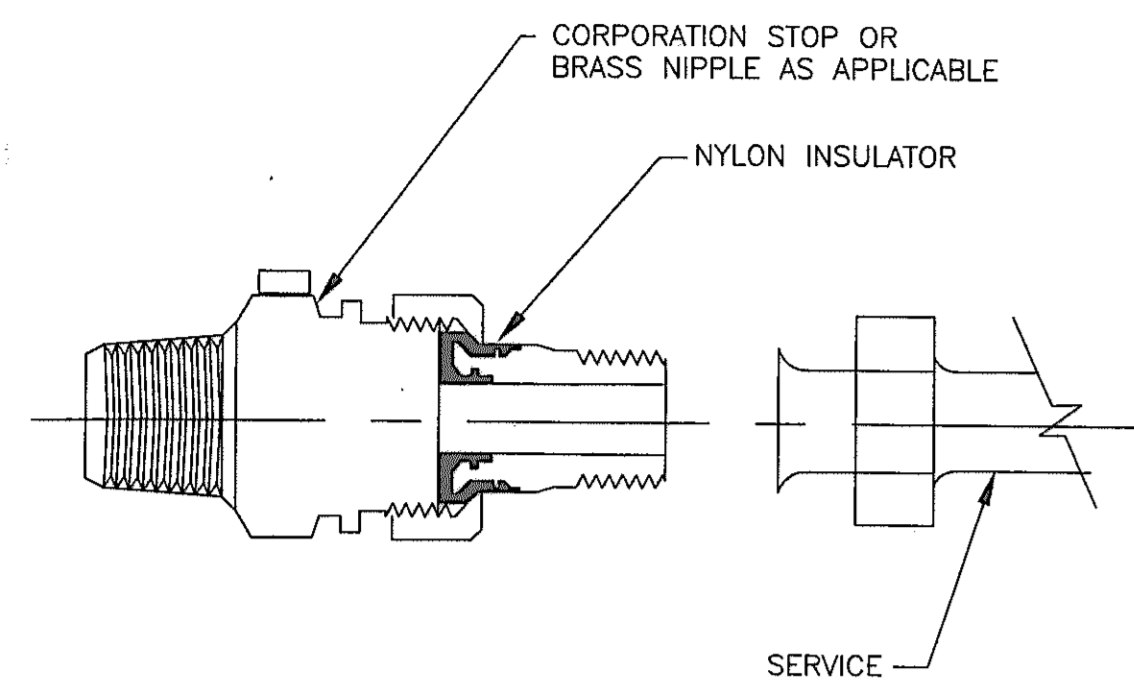
600' SCALE MAP NO. W41 BLOCK NO.

U.S. 29 INTERCHANGE AT JOHNS HOPKINS/
GORMAN ROADS AND OLD COLUMBIA ROAD
CAPITAL PROJECT W-8212
CONTRACT NO. 44-3868
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE:
NONE

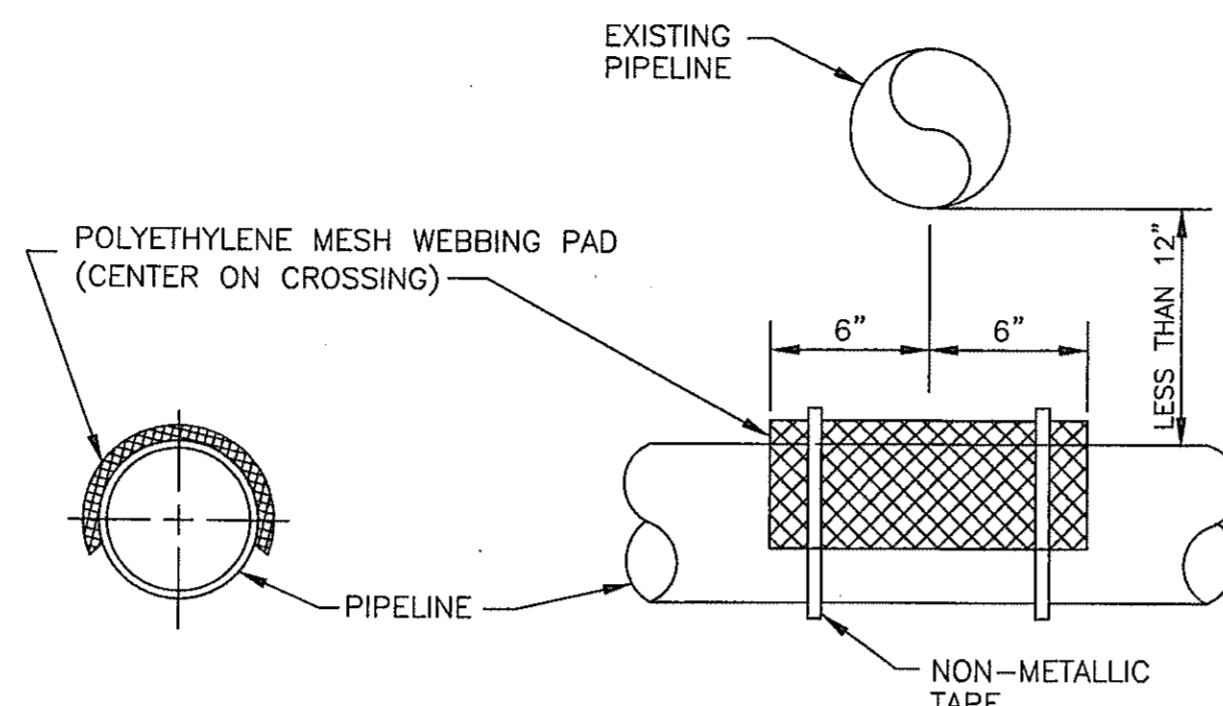
DWG U-10/11

SHEET
319K OF 320



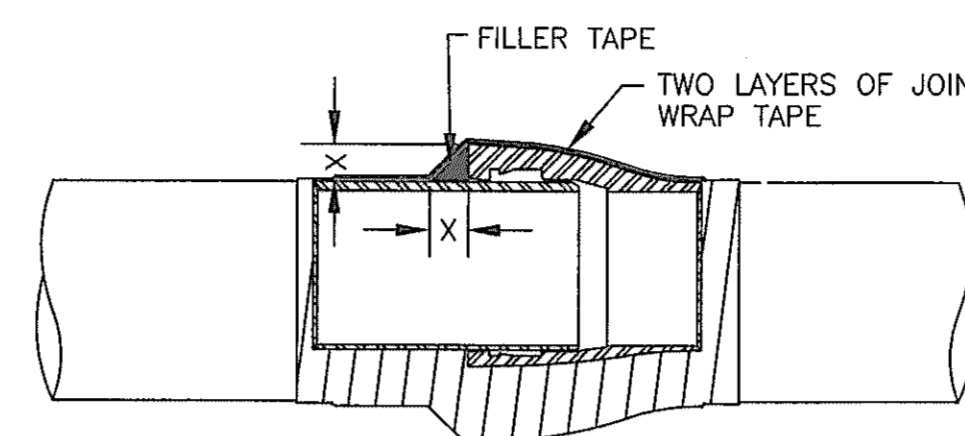
NOTES:
 1. INSTALL ELECTRICAL ISOLATION ON ALL WATER SERVICE CONNECTIONS TO DUCTILE IRON MAIN.
 2. COAT EXTERIOR OF SERVICE PIPING WITH TWO COATS OF COAL TAR MASTIC (20 MILS TOTAL) FOR A DISTANCE OF 12 INCHES ON EITHER SIDE OF INSULATOR.

CP-7: INSULATING UNION FOR SERVICE



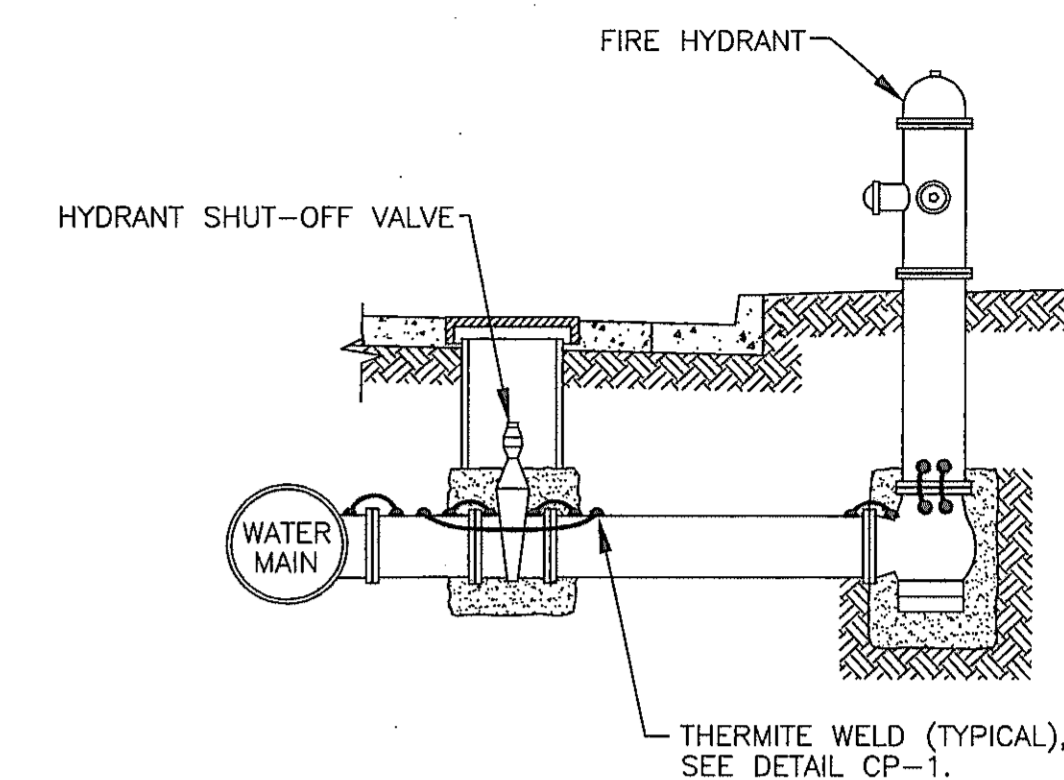
NOTE:
 1. USE ONLY WHEN PIPES ARE LESS THAN 12" APART.

CP-8: SEPARATOR TO AVOID ELECTRICAL CONTACT



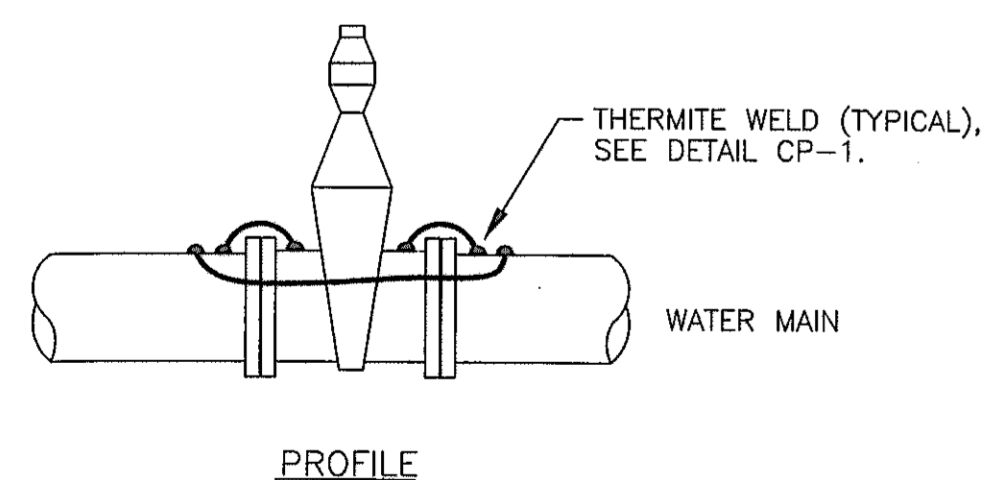
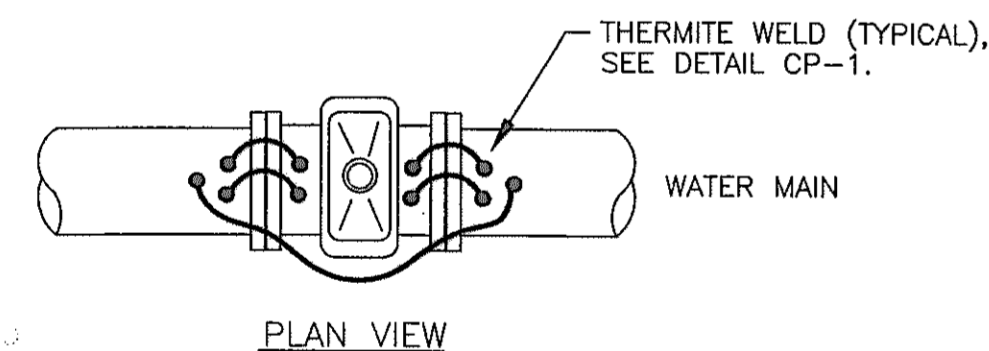
NOTES:
 1. CLEAN JOINT OF ALL FOREIGN MATERIAL BY WIRE BRUSHING.
 2. APPLY COATING PRIMER TO JOINT.
 3. INSTALL FILLER TAPE AS SHOWN.
 4. APPLY TWO LAYERS OF JOINT WRAP TAPE.
 5. COAT PIPE FITTINGS IN A SIMILAR MANNER.

CP-9: JOINT COATING

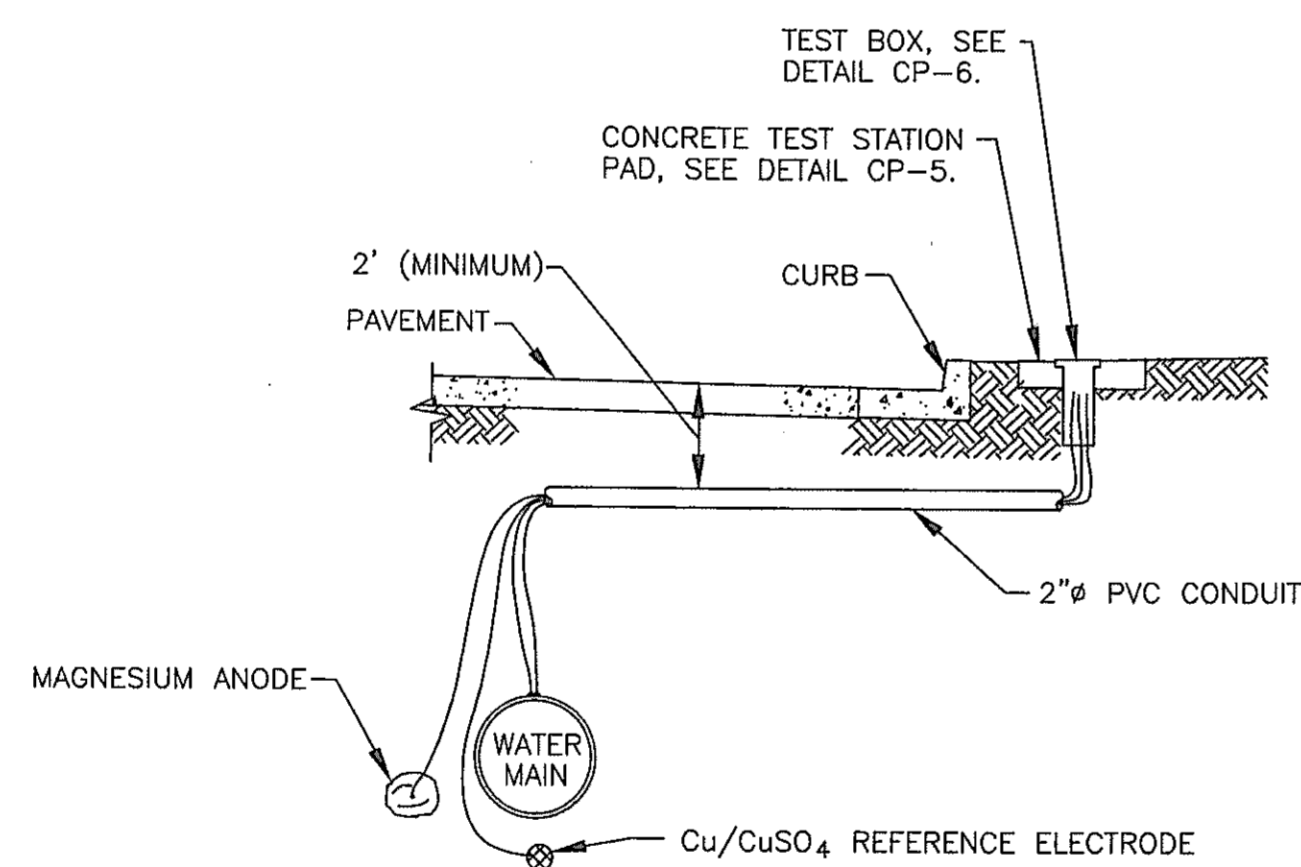


NOTES:
 1. BOND ALL DUCTILE IRON COMPONENTS TOGETHER WITH AWG NO. 6 HMWPE WIRES.
 2. INSTALL BOND WIRES ON TOP OF PIPE OR FITTING WHERE POSSIBLE.
 3. INSTALL A MINIMUM OF TWO BOND CABLES ACROSS EACH PIPE JOINT.
 4. SEE DETAIL CP-11 FOR BONDING OF VALVE.

CP-10: ELECTRICAL BONDING OF HYDRANT PIPING

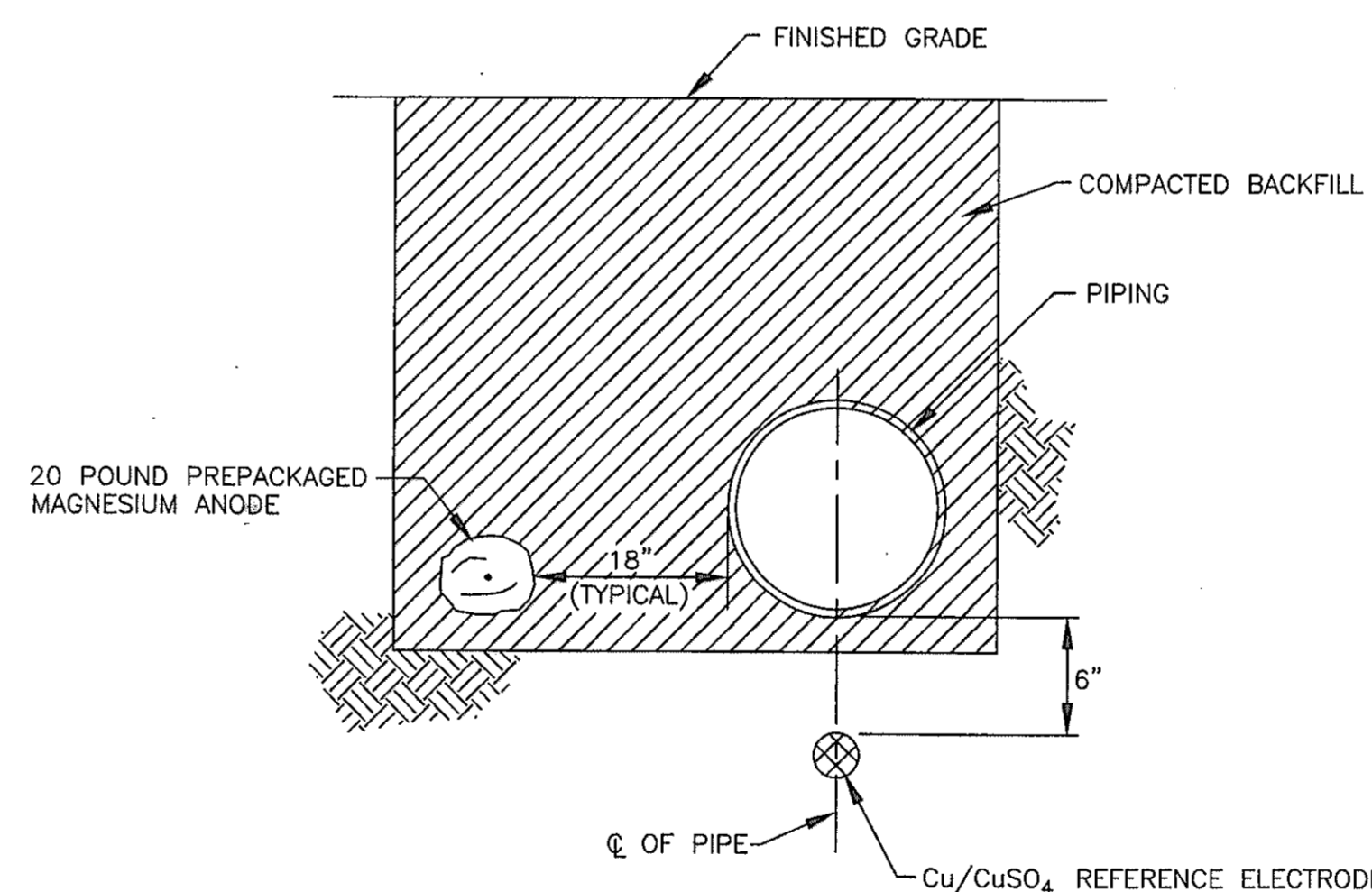


CP-11 : BONDING OF VALVES



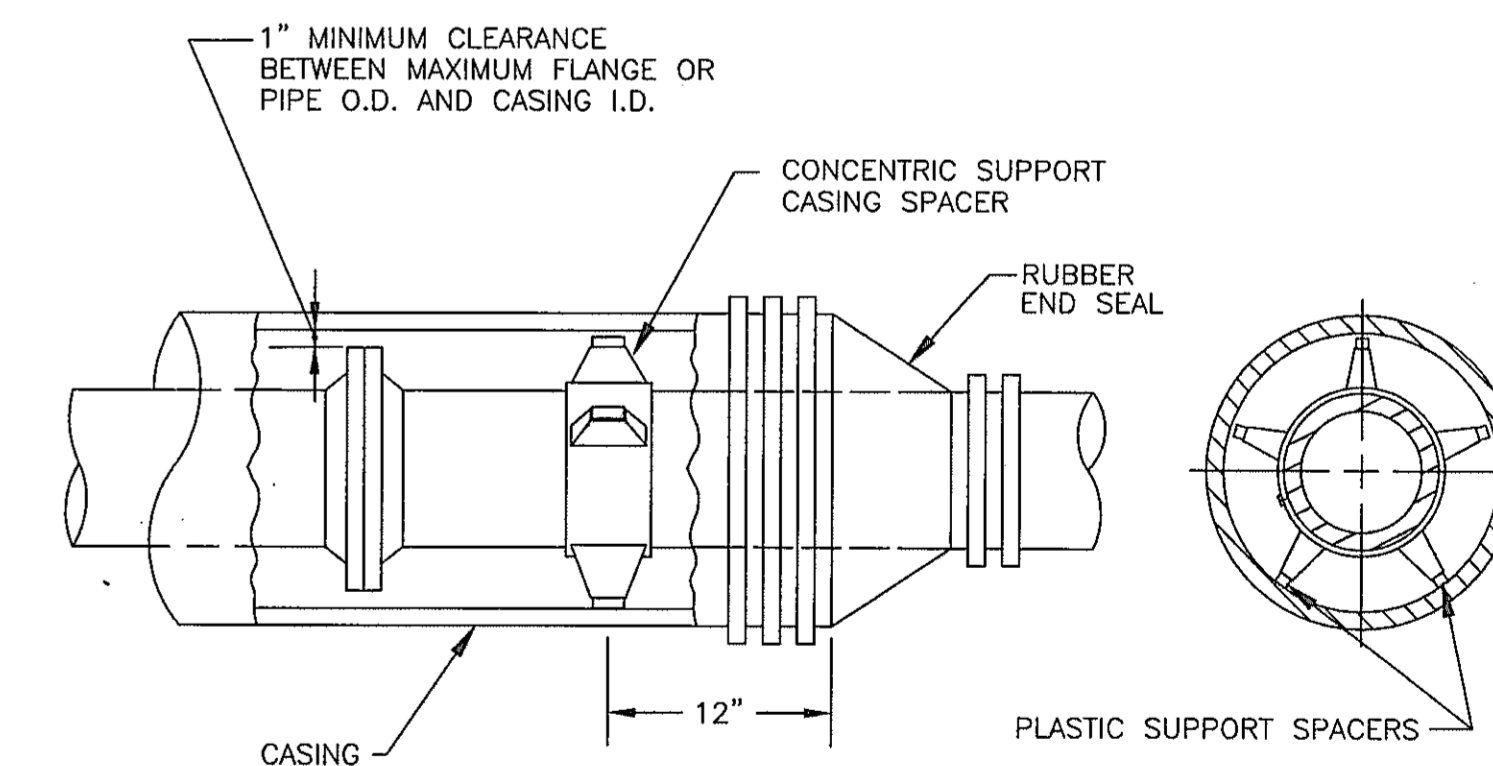
NOTES:
 1. INSTALL TEST BOX DIRECTLY ABOVE PIPING IN NON-PAVED AREAS.
 2. IN PAVED AREAS, INSTALL TEST BOX OUTSIDE OF PAVEMENT.
 3. ROUTE TEST LEADS THROUGH CONDUIT TO TEST BOX WHEN TEST BOX IS NOT IMMEDIATELY ABOVE PIPING.

CP-12 : TEST STATION PLACEMENT



NOTE:
 1. INSTALL ANODES AND REFERENCE ELECTRODES IN NATIVE SOIL. DO NOT BACKFILL ANODES OR REFERENCE ELECTRODES WITH SAND OR STONE.

CP-13 : ANODE AND REFERENCE ELECTRODE PLACEMENT



NOTE:
 1. INSTALL CASING SPACERS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

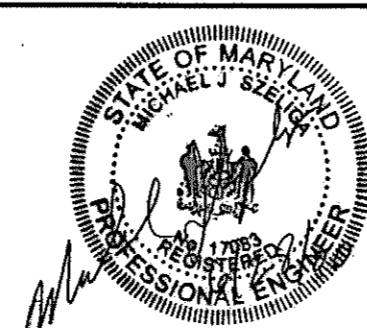
CP-14 : CASING ISOLATION

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Robert M. Switzer
 DIRECTOR OF PUBLIC WORKS
 DATE: 6-29-00

Robert M. Switzer
 CHIEF, BUREAU OF ENGINEERING
 DATE: 6-29-00

RUSSELL CORROSION CONSULTANTS INC.
 5405 TWIN KNOLLS RD., SUITE 3
 COLUMBIA, MD 21045

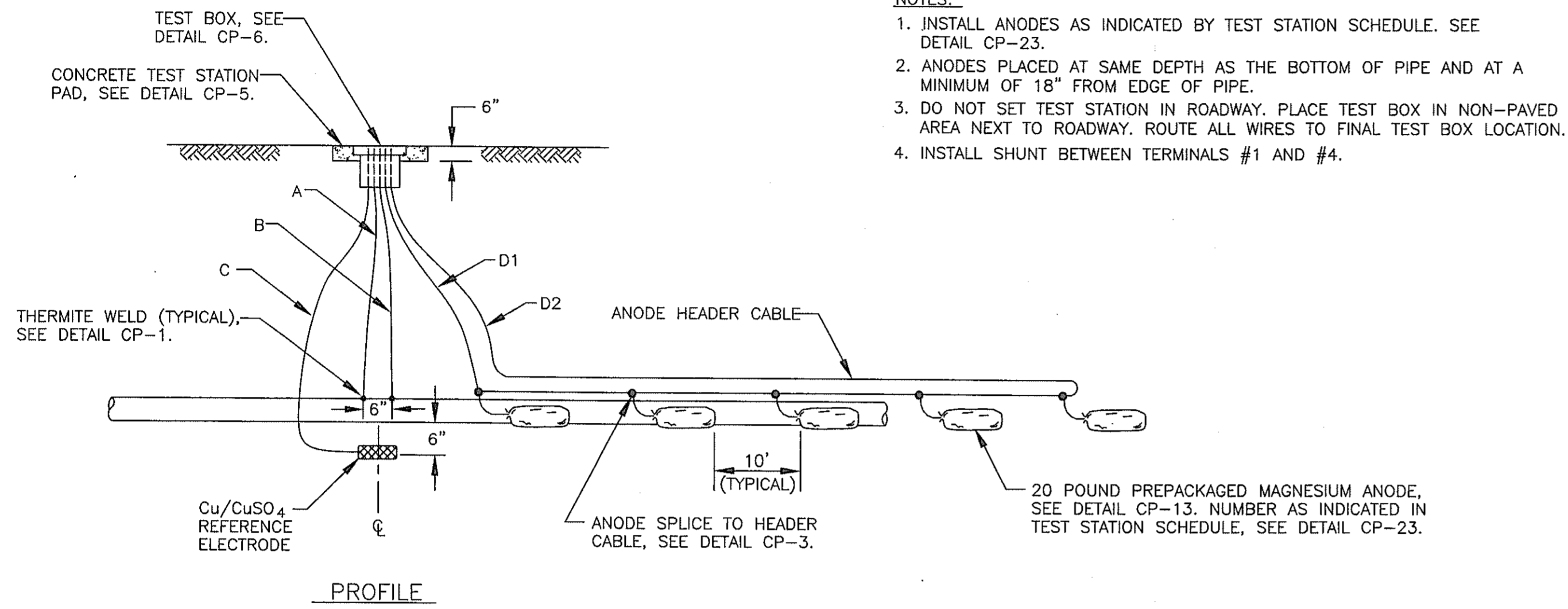
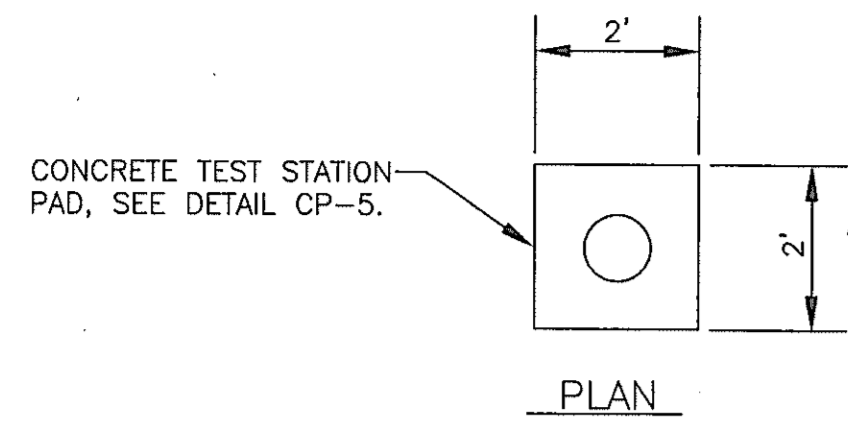


DES:	MJS			
DRN:	DJD			
CHK:	MJS			
DATE:	6/28/00	BY:	NO.	
		REVISION		
		NO.		

CATHODIC PROTECTION
 DETAILS - 2

U.S. 29 INTERCHANGE AT JOHNS HOPKINS/
 GORMAN ROADS AND OLD COLUMBIA ROAD
 CAPITAL PROJECT W-8212
 CONTRACT NO. 44-3868
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND

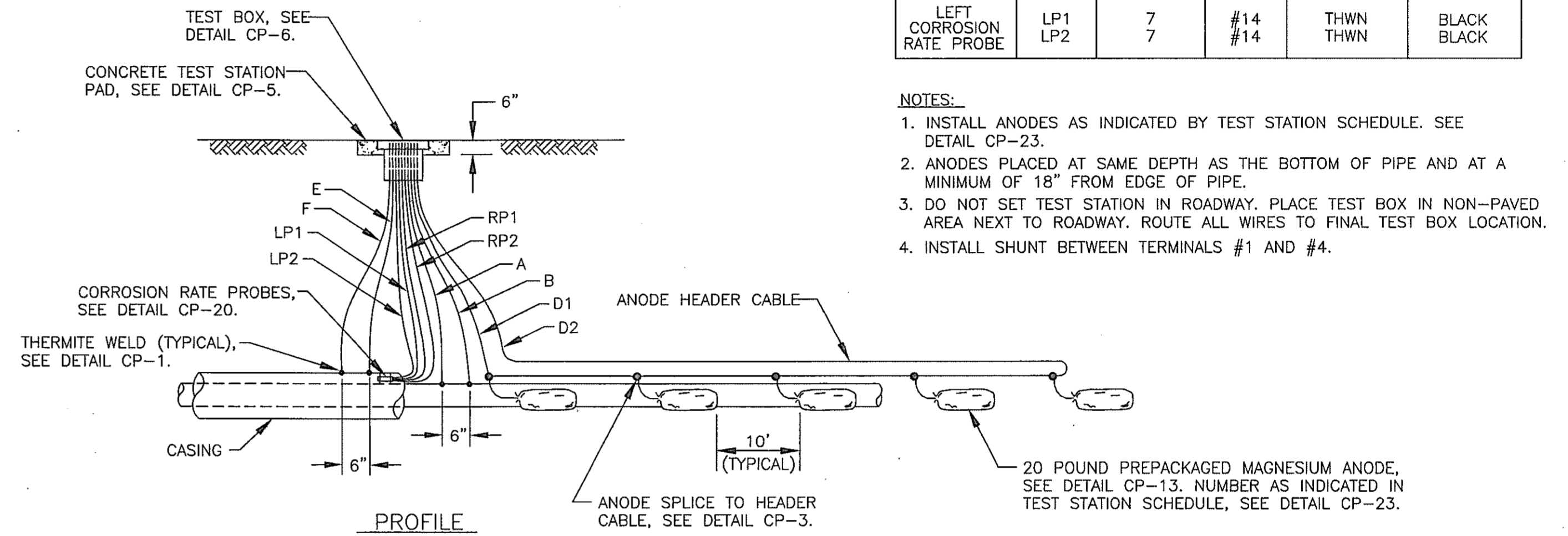
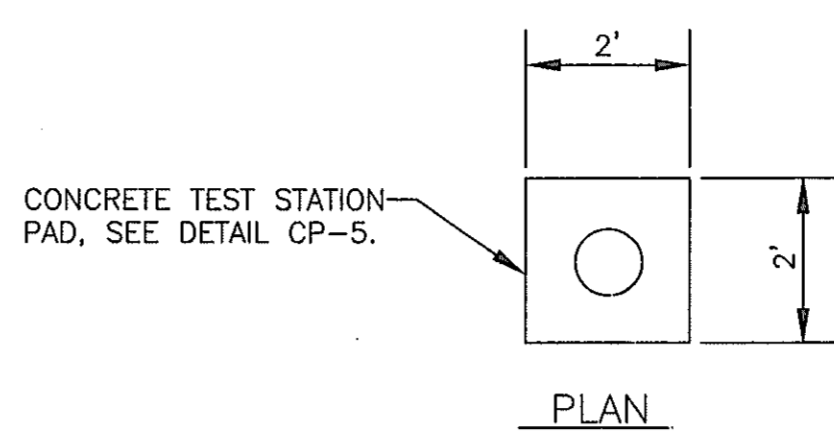
SCALE:
 NONE
 DWG U-17
 SHEET
 319L OF 320



CP-15: ANODE TEST STATION

WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
NEW PIPE	A B	1 3	#10 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	YELLOW
MAGNESIUM ANODE HEADER CABLE	D1 D2	4 7	#8 #8	HMWPE HMWPE	BLACK BLACK

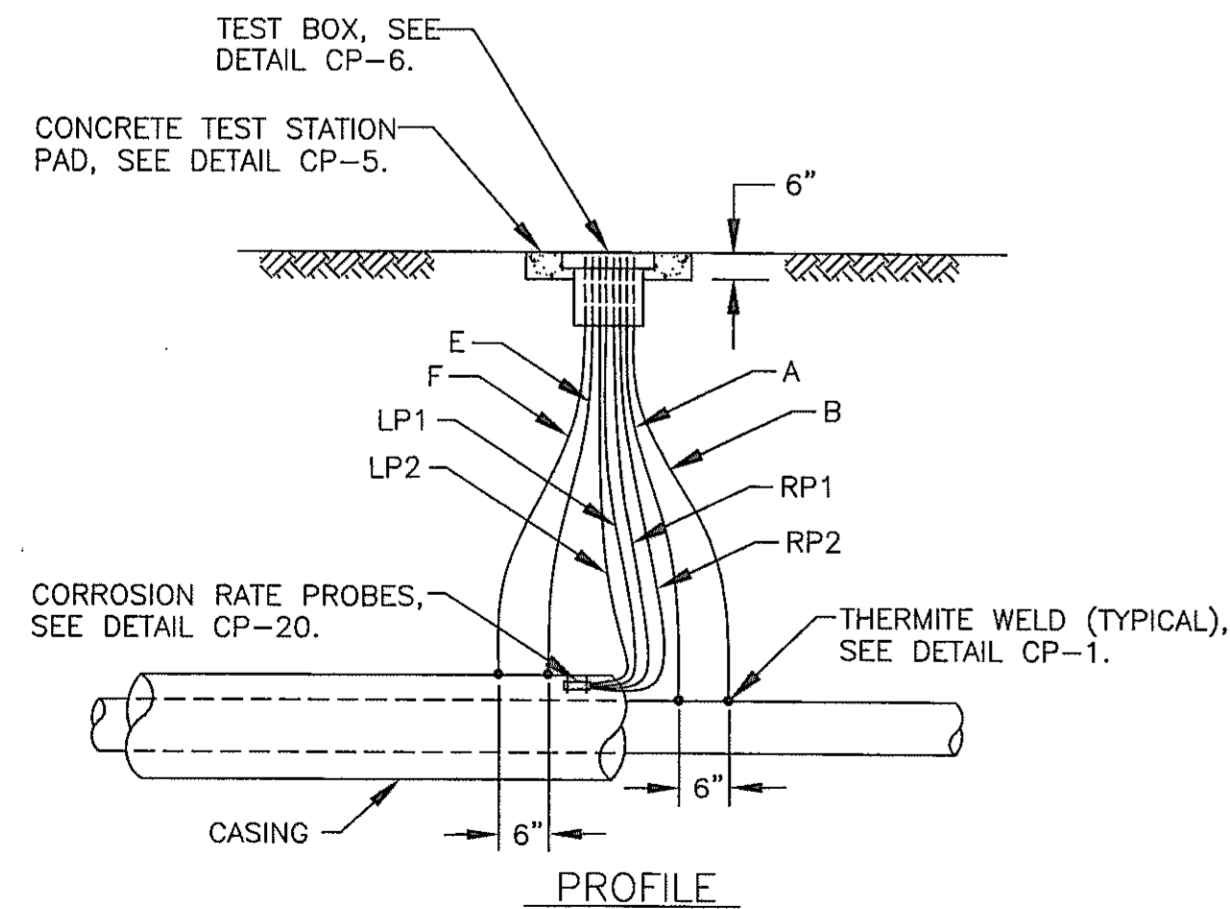
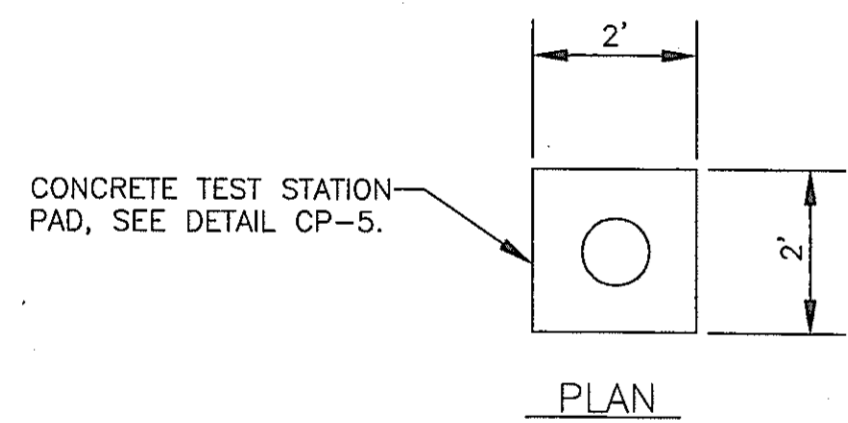
- NOTES:
1. INSTALL ANODES AS INDICATED BY TEST STATION SCHEDULE. SEE DETAIL CP-23.
 2. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 18" FROM EDGE OF PIPE.
 3. DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES TO FINAL TEST BOX LOCATION.
 4. INSTALL SHUNT BETWEEN TERMINALS #1 AND #4.



CP-16: CASING TEST STATION (WITH ANODES)

WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
NEW PIPE	A B	1 3	#10 #10	THWN THWN	BLUE BLUE
CASING	E F	2 5	#10 #10	THWN THWN	WHITE WHITE
MAGNESIUM ANODE HEADER CABLE	D1 D2	4 4	#8 #8	HMWPE HMWPE	BLACK BLACK
RIGHT CORROSION RATE PROBE	RP1 RP2	6 6	#14 #14	THWN THWN	BLACK BLACK
LEFT CORROSION RATE PROBE	LP1 LP2	7 7	#14 #14	THWN THWN	BLACK BLACK

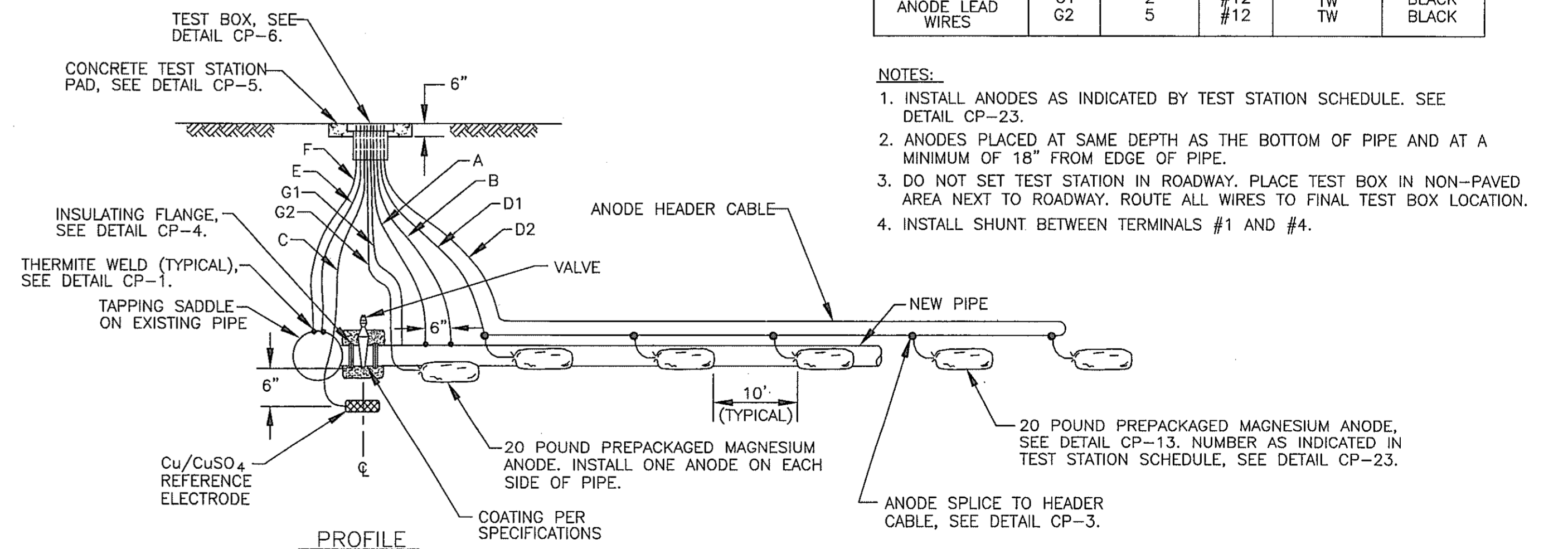
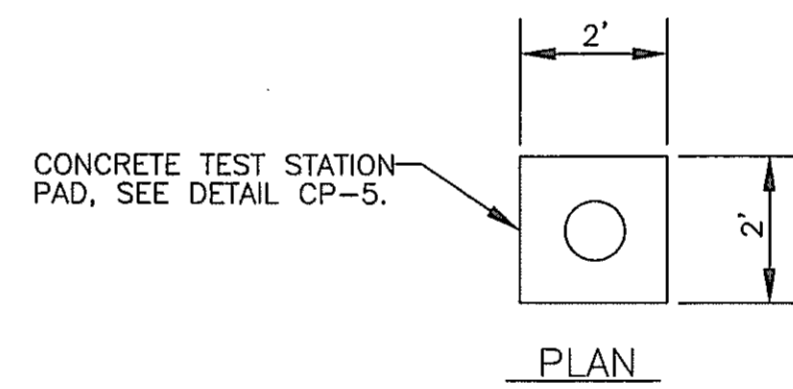
- NOTES:
1. INSTALL ANODES AS INDICATED BY TEST STATION SCHEDULE. SEE DETAIL CP-23.
 2. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 18" FROM EDGE OF PIPE.
 3. DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES TO FINAL TEST BOX LOCATION.
 4. INSTALL SHUNT BETWEEN TERMINALS #1 AND #4.



CP-17: CASING TEST STATION (WITHOUT ANODES)

WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
NEW PIPE	A B	1 3	#10 #10	THWN THWN	BLUE BLUE
CASING	E F	2 5	#10 #10	THWN THWN	WHITE WHITE
RIGHT CORROSION RATE PROBE	RP1 RP2	6 6	#14 #14	THWN THWN	BLACK BLACK
LEFT CORROSION RATE PROBE	LP1 LP2	7 7	#14 #14	THWN THWN	BLACK BLACK

- NOTE:
1. DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES TO FINAL TEST BOX LOCATION.



CP-18: INSULATING JOINT TEST STATION (WITH ANODES)

WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
NEW PIPE	A B	1 3	#10 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	YELLOW
MAGNESIUM ANODE HEADER CABLE	D1 D2	4 7	#8 #8	HMWPE HMWPE	BLACK BLACK
EXISTING PIPE	E F	2 5	#10 #10	THWN THWN	WHITE WHITE
MAGNESIUM ANODE LEAD WIRES	G1 G2	2 5	#12 #12	TW TW	BLACK BLACK

- NOTES:
1. INSTALL ANODES AS INDICATED BY TEST STATION SCHEDULE. SEE DETAIL CP-23.
 2. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 18" FROM EDGE OF PIPE.
 3. DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES TO FINAL TEST BOX LOCATION.
 4. INSTALL SHUNT BETWEEN TERMINALS #1 AND #4.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James Chen
DIRECTOR OF PUBLIC WORKS
DATE: 6-29-00
CHIEF, BUREAU OF UTILITIES

Robert Johnson
CHIEF, BUREAU OF ENGINEERING
DATE: 6-29-00
CHIEF, WATER & SEWER DIVISION

RUSSELL CORROSION CONSULTANTS, INC.
5405 TWIN KNOLLS RD., SUITE 3
COLUMBIA, MD 21045

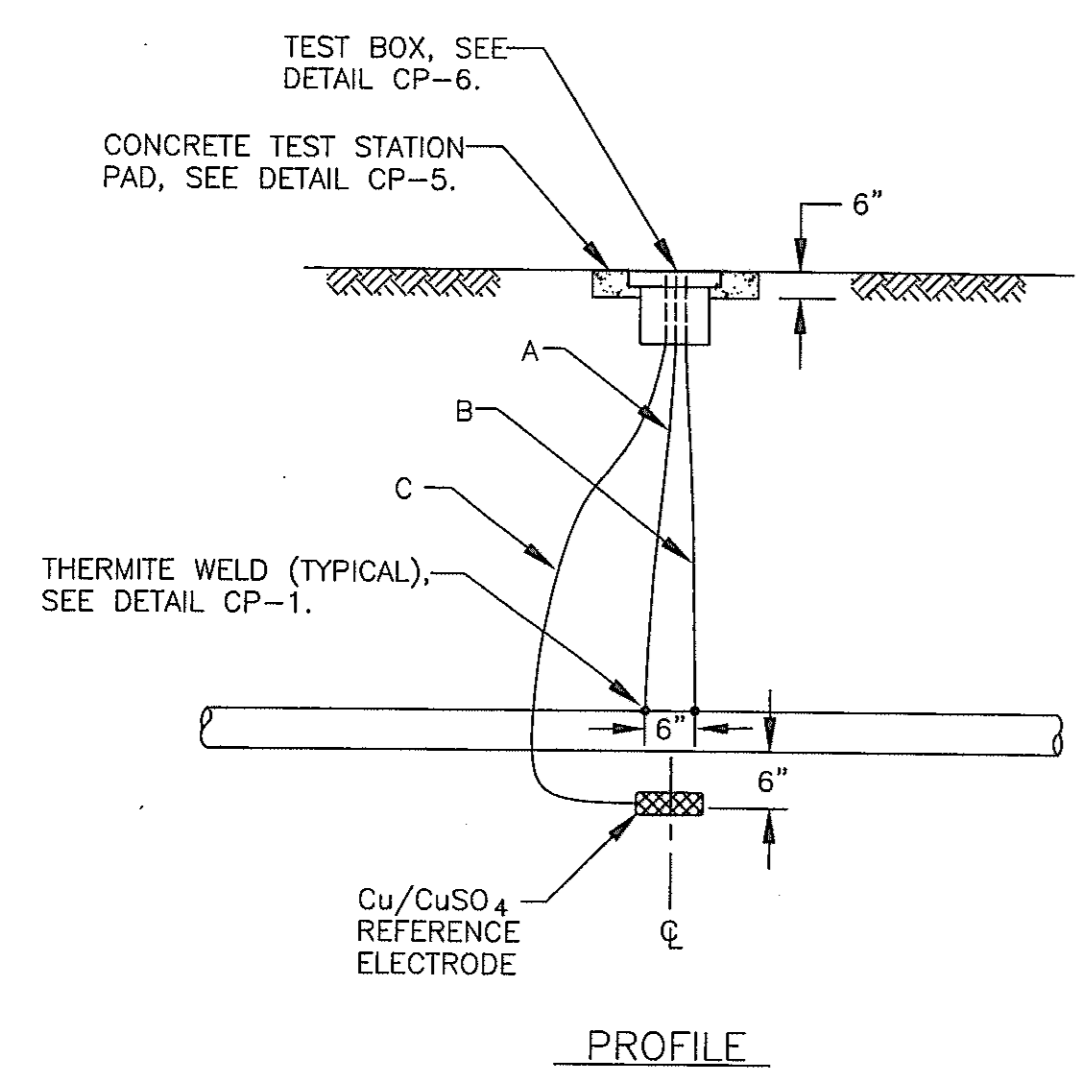
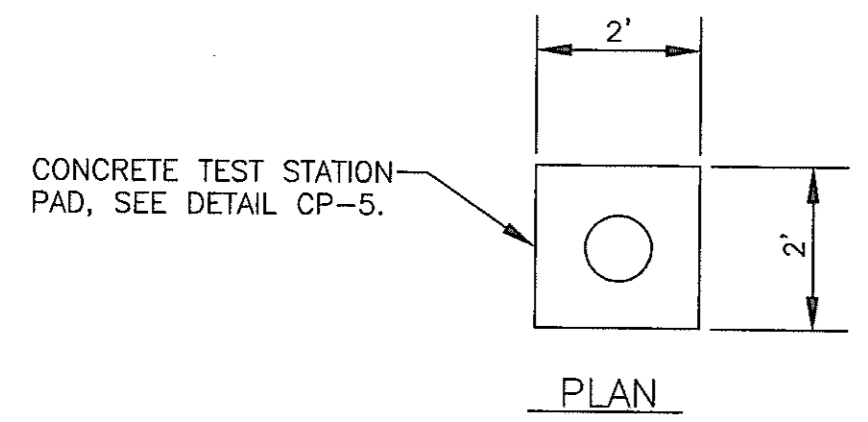


DES: MJS
DRN: DJD
CHK: MJS
DATE: 6/28/00

CATHODIC PROTECTION
DETAILS - 3

U.S. 29 INTERCHANGE AT JOHNS HOPKINS/
GORMAN ROADS AND OLD COLUMBIA ROAD
CAPITAL PROJECT W-8212
CONTRACT NO. 44-3868
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

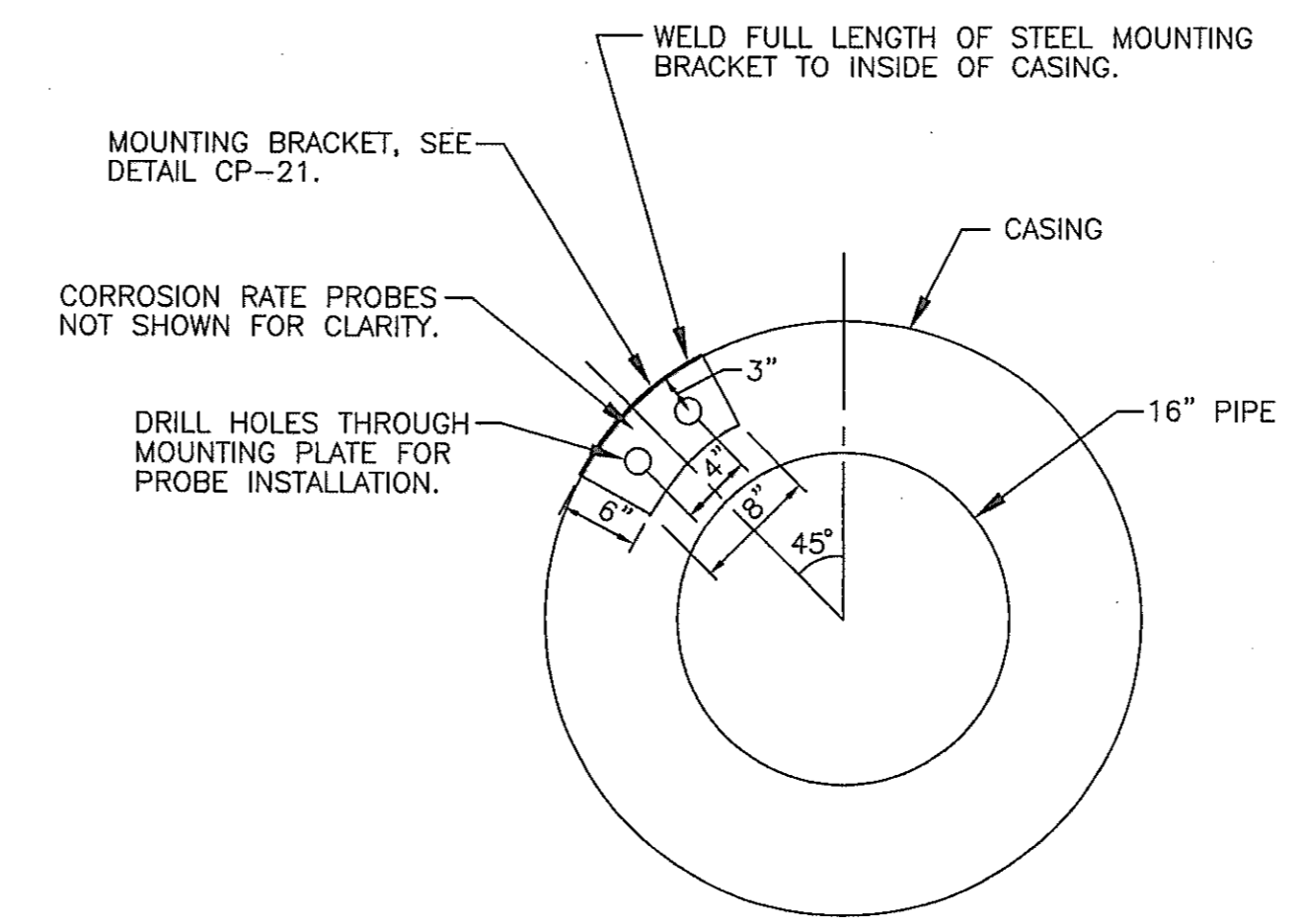
SCALE:
NONE
DWG U-12
SHEET
319M OF 320



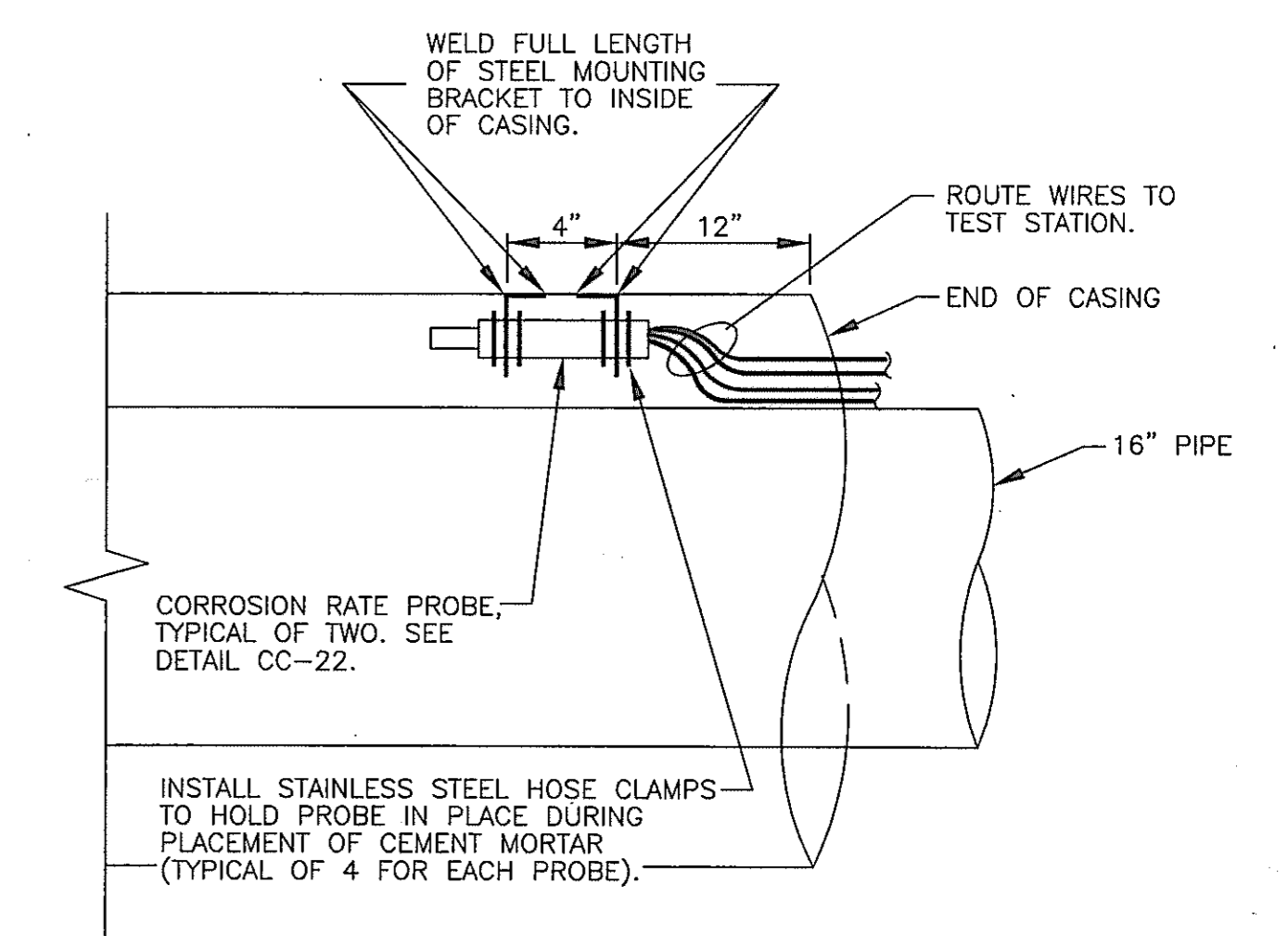
CP-19: STANDARD TEST STATION

WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
NEW PIPE	A B	1 3	#10 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	YELLOW

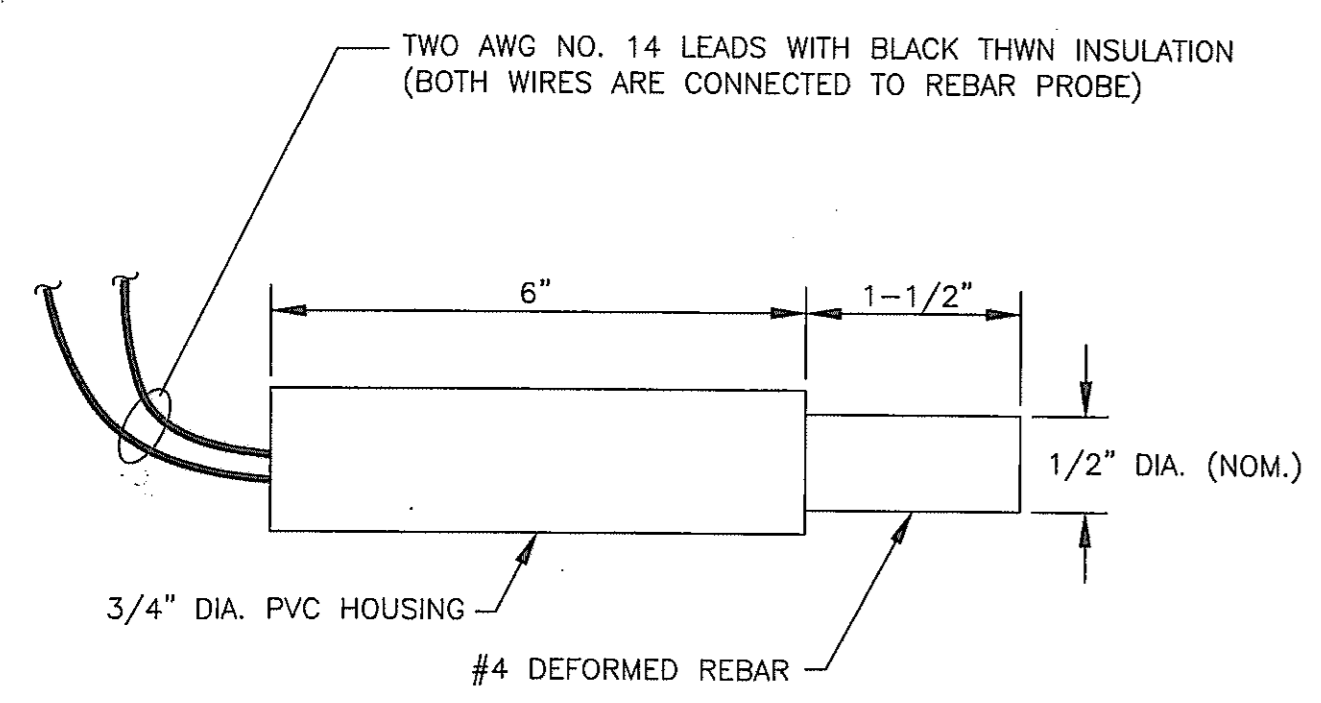
NOTE:
1. DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES TO FINAL TEST BOX LOCATION.



CP-20: CORROSION RATE PROBES PLACEMENT



CP-21: CORROSION RATE PROBES MOUNTING BRACKET



REBAR PROBE MODEL #CP-REB-CW040(6") AS MANUFACTURED BY ELECTROCHEMICAL DEVICES, INC.

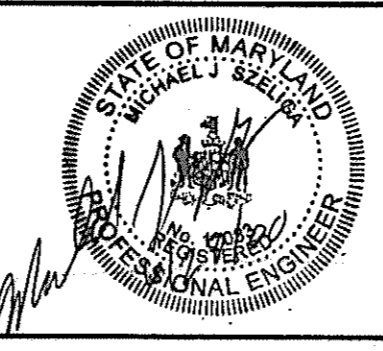
CP-22: CORROSION RATE PROBE

CATHODIC PROTECTION TEST STATION SCHEDULE U.S. ROUTE 29 & JOHNS HOPKINS ROAD				
STATION NUMBER	TEST STATION NUMBER	TEST STATION TYPE	NUMBER OF ANODES	DETAIL NUMBER
0+00	TS-1	INSULATING JOINT WITH ANODES	5 PLUS 2	CP-18
11+26	TS-2	ANODE	5	CP-15
19+33	TS-3a	ANODE	5	CP-15
1+24 (8")	TS-3b	STANDARD	NONE	CP-19
29+90	NONE	INSULATING UNION	NONE	CP-7
30+00	TS-4	ANODE	5	CP-15
31+25	NONE	INSULATING UNION	NONE	CP-7
41+38	TS-5	INSULATING JOINT WITH ANODES	5 PLUS 2	CP-18
1+77 (N)	TS-6	CASING WITH ANODES	5	CP-16
2+71 (N)	TS-7	CASING	NONE	CP-17
8+24 (N)	TS-8	INSULATING JOINT WITH ANODES	5 PLUS 2	CP-18
0+00 (12")	TS-9	ANODE	2	CP-15
1+13 (12")	TS-10	ANODE	2	CP-15
0+00 (SS)	TS-11	CASING	NONE	CP-17
1+85 (SS)	TS-12	CASING	NONE	CP-17

CP-23: TEST STATION SCHEDULE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
 Director of Public Works: *Robert M. Bunn* 6/29/00
 Chief, Bureau of Engineering: *Robert M. Bunn* 6/29/00
 Chief, Bureau of Utilities: *Robert M. Bunn* 6/29/00
 Chief, Water & Sewer Division: *Robert M. Bunn* 6/29/00

RUSSELL CORROSION CONSULTANTS, INC.
 5405 TWIN KNOLLS RD., SUITE 3
 COLUMBIA, MD 21045



DES: MJS	
DRN: DJD	
CHK: MJS	
DATE: 6/28/00	
BY NO.	REVISION
NO.	

CATHODIC PROTECTION
DETAILS - 4
 600' SCALE MAP NO. W41 BLOCK NO.

U.S. 29 INTERCHANGE AT JOHNS HOPKINS/
GORMAN ROADS AND OLD COLUMBIA ROAD
CAPITAL PROJECT W-8212
CONTRACT NO. 44-3868
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE: NONE
 DWG. U-14
 SHEET 319 OF 320

SUMMARY OF EARTHWORK (PHASE 1A)

STATION		CUT	EMBANKMENT		TOP SOIL		UNSUITABLE MATERIAL		CLASS 2	CUT ADJUSTED	CUT DENSIFIED	REMARKS
FROM	TO	C.Y.	BELOW CAPPING	CAPPING	CUT	FILL	CUT	FILL	C.Y.			
43+00	53+24.73	808	99372	0	0	83	0	3265		808	679	JOHNS HOPKINS ROAD
1000+00	1001+26.22	11	280	0	13	0	0	52		-2	-2	OLD COLUMBIA ROAD
201+50	205+50	512	36093	0	0	0	104	1119		408	343	RAMP 2
300+00	302+00	98	7276	0	0	0	30	288		68	57	RAMP 3
500+00	512+50	10029	11834	0	0	0	999	1106		9030	7585	RAMP 5
3000+42.44	3000+79.03	58	149	0	0	0	0	32		58	49	HAMMOND PARKWAY
POND 3		2883	0	0	41	0	675	0		2167	1821	
584+00	627+50	4715	1613	0	0	2109	0	0		4715	3961	U.S. 29 (MEDIAN)
641+48	649+00	903	2167	0	0	0	53	381		850	714	U.S. 29 (WIDENING, DECEL RAMP 5)
56+50	99+50	8352	32320	0	1846	3046	0	0		6506	5465	JOHNS HOPKINS ROAD
407+00	408+00	22	1467	0	93	814	0	0		-71	-60	RAMP 4
1403+00	1415+00	8028	4319	0	910	465	0	0		7118	5979	SPUR 4
102+00	118+00	12499	4455	0	1437	782	0	0		11062	9292	RAMP 1
1100+00	1102+00	1188	1029	0	108	146	0	0		1080	907	SPUR 1
1592+00	1615+50	27426	1985	0	2372	353	0	0		25054	21045	U.S. 29 (WIDENING, DECEL RAMP 1)
1643+50	1659+50	10189	2300	0	1131	461	0	0		9058	7609	U.S. 29 (WIDENING, ACCEL RAMP 4)
8+50	11+00	1308	1053	0	0	50	0	0		1308	1099	SANNER ROAD
7+00	11+00	1800	451	0	0	0	0	0		1800	1512	RAMP TO SANNER ROAD
TOTAL		90829	208163	0	7951	8309	1861	6243	0	81017	68055	

CLASS I EXCAVATION

CUT _____ 90829 C.Y.
 PLUS TOPSOIL REMOVED UNDER FILL _____ 8309 C.Y.
 PLUS ROOT MAT REMOVED UNDER FILL _____ 6243 C.Y.
 TOTAL CLASS I EXCAVATION _____ 105381 C.Y.

CLASS IA EXCAVATION

MUCK REMOVAL (IF ANY) _____
 UNDERCUTTING _____
 TOTAL CLASS IA EXCAVATION _____

EXCAVATION AVAILABLE FOR EMBANKMENT

TOTAL CLASS I EXCAVATION _____ 105381 C.Y.
 MINUS:
 TOPSOIL REMOVED IN CUT _____ 7951 C.Y.
 TOPSOIL REMOVED UNDER FILL _____ 8309 C.Y.
 ROOT MAT REMOVED IN CUT _____ 1861 C.Y.
 ROOT MAT REMOVED UNDER FILL _____ 6243 C.Y.
 CUT ADJUSTED _____ 81017 C.Y.
 CUT DENSIFIED (84% UNLESS OTHERWISE NOTED) _____ 68055 C.Y.
 PLUS CLASS 2 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 0 C.Y.
 TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT _____ 68055 C.Y.

EMBANKMENT REQUIRED

EMBANKMENT BELOW CAPPING _____ 208163 C.Y.
 PLUS: REFILL FOR TOPSOIL REMOVED UNDER FILL _____ 8309 C.Y.
 PLUS: REFILL FOR ROOT MAT REMOVED UNDER FILL _____ 6243 C.Y.
 TOTAL _____ 222715 C.Y.
 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 68055 C.Y.
 BORROW REQUIRED _____ 154660 C.Y.
 BORROW DENSIFIED (19%) _____ 29386 C.Y.
 TOTAL COMMON BORROW _____ 184046 C.Y.

SELECT BORROW EXCAVATION / CAPPING

CAPPING REQUIRED _____
 REFILL FOR CLASS I-A EXCAVATION _____
 MISCELLANEOUS CAPPING _____
 CAPPING BORROW _____
 CAPPING BORROW DENSIFIED (17%) _____
 TOTAL CAPPING BORROW _____

NOTE: STONE FOR EMBANKMENT CONSTRUCTION NOT INCLUDED IN THIS CHART. FOR LOCATION OF STONE FOR EMBANKMENT CONSTRUCTION SEE SPECIAL PROVISIONS.

GRADING TABLE & SUMMARY OF EARTHWORK

HURST-ROSCHÉ ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683	REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD
CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 319 OF 320 PREL. TRAC. BY HR / D&D FINAL TRAC. BY HR / D&D		

SUMMARY OF EARTHWORK (PHASE 1B)

STATION		CUT C.Y.	EMBANKMENT		TOP SOIL		UNSUITABLE MATERIAL		CLASS 2 C.Y.	CUT ADJUSTED	CUT DENSIFIED	REMARKS
FROM	TO		BELOW CAPPING	CAPPING	CUT	FILL	CUT	FILL				
38+86.28	42+50	154	271	0	31	201	0	0		123	103	JOHNS HOPKINS ROAD
1001+26.22 1031+00	1028+00 & 1039+00	29410	35339	0	576	242	1943	2361		26891	22588	OLD COLUMBIA ROAD
1028+00	1031+00	785	790	0	0	0	0	224		785	793	OLD COLUMBIA ROAD (1.01 SHRINKAGE FACTOR)
205+50	212+82.33	267	15744	0	0	0	60	1308		207	174	RAMP 2
62+50	99+50	5173	13078	0	1024	1017	0	0		4149	3485	JOHNS HOPKINS ROAD
10+50	14+00	253	4184	0	0	150	0	0		253	213	OLD COLUMBIA ROAD
20+50	21+50	136	406	0	5	25	0	0		131	110	BODY SHOP ENTRANCE EAST
2401+00	2409+50	1026	1279	0	0	400	0	0		1026	862	TEMPORARY RAMP 4
598+50	623+00	2543	1134	0	23	0	51	137		2469	2074	U.S. 29 (WIDENING, ACCEL RAMP 2 & 3)
TOTAL		39747	72225	0	1659	2004	2054	4030	0	36034	30402	

CLASS I EXCAVATION

CUT _____ 39747 C.Y.
 PLUS TOPSOIL REMOVED UNDER FILL _____ 2004 C.Y.
 PLUS ROOT MAT REMOVED UNDER FILL _____ 4030 C.Y.
 TOTAL CLASS I EXCAVATION _____ 45781 C.Y.

CLASS IA EXCAVATION

MUCK REMOVAL (IF ANY) _____
 UNDERCUTTING _____
 TOTAL CLASS IA EXCAVATION _____

EXCAVATION AVAILABLE FOR EMBANKMENT

TOTAL CLASS I EXCAVATION _____ 45781 C.Y.
 MINUS:
 TOPSOIL REMOVED IN CUT _____ 1659 C.Y.
 TOPSOIL REMOVED UNDER FILL _____ 2004 C.Y.
 ROOT MAT REMOVED IN CUT _____ 2054 C.Y.
 ROOT MAT REMOVED UNDER FILL _____ 4030 C.Y.
 CUT ADJUSTED _____ 36034 C.Y.
 CUT DENSIFIED (84% UNLESS OTHERWISE NOTED) _____ 30832 C.Y.
 PLUS CLASS 2 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 0 C.Y.
 TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT _____ 30832 C.Y.

EMBANKMENT REQUIRED

EMBANKMENT BELOW CAPPING _____ 72225 C.Y.
 PLUS REFILL FOR TOPSOIL REMOVED UNDER FILL _____ 2004 C.Y.
 PLUS REFILL FOR ROOT MAT REMOVED UNDER FILL _____ 4030 C.Y.
 TOTAL _____ 78259 C.Y.
 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 30402 C.Y.
 BORROW REQUIRED _____ 47538 C.Y.
 BORROW DENSIFIED (19%) _____ 9093 C.Y.
 TOTAL COMMON BORROW _____ 56631 C.Y.
 TOTAL WASTE _____ 0 C.Y.

SELECT BORROW EXCAVATION / CAPPING

CAPPING REQUIRED _____
 REFILL FOR CLASS I-A EXCAVATION _____
 MISCELLANEOUS CAPPING _____
 CAPPING BORROW _____
 CAPPING BORROW DENSIFIED (17%) _____
 TOTAL CAPPING BORROW _____

NOTE: STONE FOR EMBANKMENT CONSTRUCTION NOT INCLUDED IN THIS CHART. FOR LOCATION OF STONE FOR EMBANKMENT CONSTRUCTION SEE SPECIAL PROVISIONS.

GRADING TABLE & SUMMARY OF EARTHWORK

HURST-ROSCHE ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	
CONT. NO. HO7415170	F.A.P. NO. SEE TITLE SHEET
PREL. TRAC. BY HR / D&D	SHEET NO. 3190 OF 320 FINAL TRAC. BY HR / D&D

SUMMARY OF EARTHWORK (PHASE 2A)

STATION		CUT C.Y.	EMBANKMENT		TOP SOIL		UNSUITABLE MATERIAL		CLASS 2 C.Y.	CUT ADJUSTED	CUT DENSIFIED	REMARKS
FROM	TO		BELOW CAPPING	CAPPING	CUT	FILL	CUT	FILL				
627+50	642+00	1977	331	0	144	373	0	0		1833	1540	U.S. 29 (MEDIAN)
2401+00	2409+50	1279	0	0	0	0	0	0		1279	1074	TEMPORARY RAMP 4 REMOVAL
TOTAL		3256	331	0	144	373	0	0	0	3112	2614	

CLASS I EXCAVATION

CUT _____ 3256 C.Y.
 PLUS TOPSOIL REMOVED UNDER FILL _____ 373 C.Y.
 PLUS ROOT MAT REMOVED UNDER FILL _____ 0 C.Y.
 TOTAL CLASS I EXCAVATION _____ 3629 C.Y.

CLASS IA EXCAVATION

MUCK REMOVAL (IF ANY) _____
 UNDERCUTTING _____
 TOTAL CLASS IA EXCAVATION _____

EXCAVATION AVAILABLE FOR EMBANKMENT

TOTAL CLASS I EXCAVATION _____ 3629 C.Y.
 MINUS:
 TOPSOIL REMOVED IN CUT _____ 144 C.Y.
 TOPSOIL REMOVED UNDER FILL _____ 373 C.Y.
 ROOT MAT REMOVED IN CUT _____ 0 C.Y.
 ROOT MAT REMOVED UNDER FILL _____ 0 C.Y.
 CUT ADJUSTED _____ 3112 C.Y.
 CUT DENSIFIED (84% UNLESS OTHERWISE NOTED) _____ 2614 C.Y.
 PLUS CLASS 2 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 0 C.Y.
 TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT _____ 2614 C.Y.

EMBANKMENT REQUIRED

EMBANKMENT BELOW CAPPING _____ 331 C.Y.
 PLUS REFILL FOR TOPSOIL REMOVED UNDER FILL _____ 373 C.Y.
 PLUS REFILL FOR ROOT MAT REMOVED UNDER FILL _____ 0 C.Y.
 TOTAL _____ 704 C.Y.
 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 2614 C.Y.
 BORROW REQUIRED _____ 0 C.Y.
 BORROW DENSIFIED (19%) _____ 0 C.Y.
 TOTAL COMMON BORROW _____ 0 C.Y.
 TOTAL WASTE _____ 2283 C.Y.

SELECT BORROW EXCAVATION / CAPPING

CAPPING REQUIRED _____
 REFILL FOR CLASS I-A EXCAVATION _____
 MISCELLANEOUS CAPPING _____
 CAPPING BORROW _____
 CAPPING BORROW DENSIFIED (17%) _____
 TOTAL CAPPING BORROW _____

NOTE: STONE FOR EMBANKMENT CONSTRUCTION NOT INCLUDED IN THIS CHART. FOR LOCATION OF STONE FOR EMBANKMENT CONSTRUCTION SEE SPECIAL PROVISIONS.

GRADING TABLE & SUMMARY OF EARTHWORK

HURST-ROSCHÉ ENGINEERS, INC./
 DEWBERRY & DAVIS
 A JOINT VENTURE
 50 SCOTT ADAM ROAD, SUITE 103
 COCKEYSVILLE, MARYLAND 21030
 (410) 683-1683

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD
	CONT. NO. <u>HO7415170</u> F.A.P. NO. <u>SEE TITLE SHEET</u> SHEET NO. <u>319R</u> OF <u>320</u> PREL. TRAC. BY <u>HR / D&D</u> FINAL TRAC. BY <u>HR / D&D</u>

SUMMARY OF EARTHWORK (PHASE 2A)

STATION		CUT C.Y.	EMBANKMENT		TOP SOIL		UNSUITABLE MATERIAL		CLASS 2 C.Y.	CUT ADJUSTED	CUT DENSIFIED	REMARKS
FROM	TO		BELOW CAPPING	CAPPING	CUT	FILL	CUT	FILL				
627+50	642+00	1977	331	0	144	373	0	0		1833	1540	U.S. 29 (MEDIAN)
2401+00	2409+50	1279	0	0	0	0	0	0		1279	1074	TEMPORARY RAMP 4 REMOVAL
TOTAL		3256	331	0	144	373	0	0	0	3112	2614	

CLASS I EXCAVATION

CUT _____ 3256 C.Y.
 PLUS TOPSOIL REMOVED UNDER FILL _____ 373 C.Y.
 PLUS ROOT MAT REMOVED UNDER FILL _____ 0 C.Y.
 TOTAL CLASS I EXCAVATION _____ 3629 C.Y.

CLASS IA EXCAVATION

MUCK REMOVAL (IF ANY) _____
 UNDERCUTTING _____
 TOTAL CLASS IA EXCAVATION _____

EXCAVATION AVAILABLE FOR EMBANKMENT

TOTAL CLASS I EXCAVATION _____ 3629 C.Y.
 MINUS:
 TOPSOIL REMOVED IN CUT _____ 144 C.Y.
 TOPSOIL REMOVED UNDER FILL _____ 373 C.Y.
 ROOT MAT REMOVED IN CUT _____ 0 C.Y.
 ROOT MAT REMOVED UNDER FILL _____ 0 C.Y.
 CUT ADJUSTED _____ 3112 C.Y.
 CUT DENSIFIED (84% UNLESS OTHERWISE NOTED) _____ 2614 C.Y.
 PLUS CLASS 2 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 0 C.Y.
 TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT _____ 2614 C.Y.

EMBANKMENT REQUIRED

EMBANKMENT BELOW CAPPING _____ 331 C.Y.
 PLUS REFILL FOR TOPSOIL REMOVED UNDER FILL _____ 373 C.Y.
 PLUS REFILL FOR ROOT MAT REMOVED UNDER FILL _____ 0 C.Y.
 TOTAL _____ 704 C.Y.
 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 2614 C.Y.
 BORROW REQUIRED _____ 0 C.Y.
 BORROW DENSIFIED (19%) _____ 0 C.Y.
 TOTAL COMMON BORROW _____ 0 C.Y.
 TOTAL WASTE _____ 2283 C.Y.

SELECT BORROW EXCAVATION / CAPPING

CAPPING REQUIRED _____
 REFILL FOR CLASS I-A EXCAVATION _____
 MISCELLANEOUS CAPPING _____
 CAPPING BORROW _____
 CAPPING BORROW DENSIFIED (17%) _____
 TOTAL CAPPING BORROW _____

NOTE: STONE FOR EMBANKMENT CONSTRUCTION NOT INCLUDED IN THIS CHART. FOR LOCATION OF STONE FOR EMBANKMENT CONSTRUCTION SEE SPECIAL PROVISIONS.

GRADING TABLE & SUMMARY OF EARTHWORK

REVISIONS ADDENDUM NO. 2 DATE: 8/29/00	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD
HURST-ROSCHKE ENGINEERS, INC./ DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683	CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 319T OF 320 PREL. TRAC. BY HR / D&D FINAL TRAC. BY HR / D&D

SUMMARY OF EARTHWORK (PHASE 2B)

STATION		CUT C.Y.	EMBANKMENT		TOP SOIL		UNSUITABLE MATERIAL		CLASS 2 C.Y.	CUT ADJUSTED	CUT DENSIFIED	REMARKS
FROM	TO		BELOW CAPPING	CAPPING	CUT	FILL	CUT	FILL				
401+00	407+00	523	7427	0	9	29	0	0		514	432	RAMP 4
1400+50	1403+00	131	9987	0	0	468	0	0		131	110	SPUR 4
65+50	99+50	2632	1466	0	0	0	0	0		2632	2211	JOHNS HOPKINS ROAD
1623+50	1640+50	3229	1083	0	755	0	0	0		2474	2078	U.S. 29 SHOULDER IMPROVEMENTS
POND 1		39750	0	0	0	0	1395	0		38355	32218	
2000+52.29	2001+50	76	28	0	0	19	0	0		76	64	GORMAN ROAD
623+00	631+50	5851	48	0	31	67	0	0		5820	4889	U.S. 29 (WIDENING, ACCEL RAMP 3)
302+00	313+91.29	13418	8405	0	195	190	842	264		12381	10400	RAMP 3
512+50	515+50	556	5644	0	0	0	182	0		374	-314	RAMP 5
3000+79.03	3007+00	778	942	0	0	200	0	0		778	654	HAMMOND PARKWAY
TOTAL		66944	35030	0	990	973	2419	264	0	63535	53370	

CLASS I EXCAVATION

CUT _____ 66944 C.Y.
 PLUS TOPSOIL REMOVED UNDER FILL _____ 973 C.Y.
 PLUS ROOT MAT REMOVED UNDER FILL _____ 264 C.Y.
 TOTAL CLASS I EXCAVATION _____ 68181 C.Y.

CLASS IA EXCAVATION

MUCK REMOVAL (IF ANY) _____
 UNDERCUTTING _____
 TOTAL CLASS IA EXCAVATION _____

EXCAVATION AVAILABLE FOR EMBANKMENT

TOTAL CLASS I EXCAVATION _____ 68181 C.Y.
 MINUS:
 TOPSOIL REMOVED IN CUT _____ 990 C.Y.
 TOPSOIL REMOVED UNDER FILL _____ 973 C.Y.
 ROOT MAT REMOVED IN CUT _____ 2419 C.Y.
 ROOT MAT REMOVED UNDER FILL _____ 264 C.Y.
 CUT ADJUSTED _____ 63535 C.Y.
 CUT DENSIFIED (84% UNLESS OTHERWISE NOTED) _____ 53370 C.Y.
 PLUS CLASS 2 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 0 C.Y.
 TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT _____ 53370 C.Y.

EMBANKMENT REQUIRED

EMBANKMENT BELOW CAPPING _____ 35030 C.Y.
 PLUS REFILL FOR TOPSOIL REMOVED UNDER FILL _____ 973 C.Y.
 PLUS REFILL FOR ROOT MAT REMOVED UNDER FILL _____ 264 C.Y.
 TOTAL _____ 36267 C.Y.
 EXCAVATION AVAILABLE FOR EMBANKMENT _____ 53370 C.Y.
 BORROW REQUIRED _____ 0 C.Y.
 BORROW DENSIFIED (19%) _____ 0 C.Y.
 TOTAL COMMON BORROW _____ 0 C.Y.
 TOTAL WASTE _____ 17103 C.Y.

SELECT BORROW EXCAVATION / CAPPING

CAPPING REQUIRED _____
 REFILL FOR CLASS I-A EXCAVATION _____
 MISCELLANEOUS CAPPING _____
 CAPPING BORROW _____
 CAPPING BORROW DENSIFIED (17%) _____
 TOTAL CAPPING BORROW _____

PROPOSAL QUANTITIES

CLASS I EXCAVATION _____ 223000 C.Y.
 CLASS I-A EXCAVATION _____ 21000 C.Y.
 CLASS 2 EXCAVATION _____ 0 C.Y.
 COMMON BORROW _____ 240700 C.Y.
 CAPPING BORROW _____ 0 C.Y.

EARTHWORK SHEET TOTALS

CLASS I EXCAVATION: 10538] C.Y. (PHASE 1A), 4578] C.Y. (PHASE 1B), 3629 C.Y. (PHASE 2A), 6818] C.Y. (PHASE 2B) = 222972 C.Y. (TOTAL)
 COMMON BORROW: 184046 C.Y. (PHASE 1A), 5663] C.Y. (PHASE 1B), 0 C.Y. (PHASE 2A), 0 C.Y. (PHASE 2B) = 240677 C.Y. (TOTAL)

NOTE: STONE FOR EMBANKMENT CONSTRUCTION NOT INCLUDED IN THIS CHART. FOR LOCATION OF STONE FOR EMBANKMENT CONSTRUCTION SEE SPECIAL PROVISIONS.

GRADING TABLE & SUMMARY OF EARTHWORK

REVISIONS ADDENDUM NO. 2 DATE: 8/25/00	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION U.S. 29 MEDIAN WIDENING AND INTERCHANGE AT HOPKINS-GORMAN ROAD	CONT. NO. HO7415170 F.A.P. NO. SEE TITLE SHEET SHEET NO. 320 OF 320 PREL. TRAC. BY HR / D&D FINAL TRAC. BY HR / D&D
HURST-ROSCH ENGINEERS, INC. / DEWBERRY & DAVIS A JOINT VENTURE 50 SCOTT ADAM ROAD, SUITE 103 COCKEYSVILLE, MARYLAND 21030 (410) 683-1683		