

**BOARD OF SUPERVISORS  
TRANSPORTATION AND LAND USE COMMITTEE  
INFORMATION ITEM**

**# 3**

**SUBJECT: EASTERN ROUTE 7 SAFETY PROJECT**

**FORMER ELECTION DISTRICT: Sterling/Sugarland Run/Potomac**

**NEW ELECTION DISTRICT: Algonkian/Sterling**

**STAFF CONTACTS:** Mr. Lewis Rauch, Department of Construction and Waste Management.  
Mr. Jim Rauch, Department of Construction and Waste Management.  
Ms. Terrie Laycock, Office of Transportation Services

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**BACKGROUND:**

The funding for the Eastern Route 7 Safety Project was approved in the Adopted 2006-2008 Capital Improvement Program for spot improvements at Community Plaza/Lakeland Drive, Augusta Drive, Cardinal Glen Circle at Sterling Blvd, Potomac View Drive and Campus Drive along Route 7, Leesburg Pike in Sterling, Virginia. The scope of the work was subsequently changed, as reported at the October 20, 2010 Transportation and Land Use Committee meeting, to include only the intersections of Potomac View Drive, Sterling Blvd, and Augusta Drive. The purpose of this item is to update the Board of Supervisors on the design and construction schedule for the project, as requested at the July 20, 2011 Transportation and Land Use Committee meeting.

The final design documents were submitted to VDOT and the County for review in mid November. VDOT and County review comments were received in mid December, and the consultant is revising the plans to incorporate the comments into approved documents for bidding. Bidding is planned for January 2012. Work is ongoing to obtain the required temporary construction easement at the southwest quadrant of Potomac View and Rt 7 and additional right of way at the northeast quadrant of Augusta and Rt 7. Property owners have been contacted and deeds of easement will be drafted once the final plats are approved. Staff plans to process the deeds of easement concurrently with the bidding phase so as not to impact the start of construction. Construction is planned to begin in the spring/summer of 2012 and the work is planned for completion in the spring/summer of 2013.

**ISSUES:** The work requires that a temporary construction easement and additional right of way be acquired. Staff is working with the property owners to insure that documents are executed in a timely manner so as not to impact the start of construction.

The preliminary estimate for the work at an earlier stage of design was \$2,325,000 and within the project budget. As the design is progressing, however, additional pavement has been added, the size of the storm water management features has increased, and a signal at Potomac View Road must be relocated. These items as well as utility relocation costs may increase the cost of the work. All costs are estimates at this time, and actual costs will be known when the design is completed and the work is put out for bids.

**ATTACHMENTS:**

1. Transportation and Land Use Committee Item #10-B October 19, 2011
2. Transportation and Land Use Committee Item #1 September 21, 2011
3. Transportation and Land Use Committee Item #8 July 20, 2011
4. Transportation and Land Use Committee Item #5 October 20, 2010

Date of Meeting: October 19, 2011

**BOARD OF SUPERVISORS  
TRANSPORTATION AND LAND USE COMMITTEE  
INFORMATION ITEM**

**# IO-B**

**SUBJECT: EASTERN ROUTE 7 SAFETY PROJECT**

**FORMER ELECTION DISTRICT: Sterling/Sugarland Run/Potomac**

**NEW ELECTION DISTRICT: Algonkian/Sterling**

**STAFF CONTACTS:** Mr. Lewis Rauch, Department of Construction and Waste Management.  
Mr. Jim Rauch, Department of Construction and Waste Management.  
Ms. Terrie Laycock, Office of Transportation Services

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**BACKGROUND:**

The funding for the Eastern Route 7 Safety Project was approved in the Adopted 2006-2008 Capital Improvement Program for spot improvements at Community Plaza/Lakeland Drive, Augusta Drive, Cardinal Glen Circle at Sterling Blvd, Potomac View Drive and Campus Drive along Route 7, Leesburg Pike in Sterling, Virginia. The scope of the work was subsequently changed, as reported at the October 20, 2010 Transportation and Land Use Committee meeting, to include only the intersections of Potomac View Drive, Sterling Blvd, and Augusta Drive. The purpose of this item is to update the Board of Supervisors on the design and construction schedule for the project, as requested at the July 20, 2011 Transportation and Land Use Committee meeting.

In accordance with the project schedule, design documents were submitted in mid August to VDOT and the County for review. VDOT review comments were received in mid September. County staff and the design consultant recently met with VDOT to clarify review comments and agree on next steps going forward. Several ongoing issues were resolved such as the replacement of several signal poles and the installation of the curbing/concrete/guardrail in front of the red wall that will not be needed. Action steps from the meeting include coordinating the access and maintenance needs for the storm water management facilities, coordinating landscaping requirements with VDOT, providing options for treatment along 'red wall' for VDOT and County review, reviewing median areas and determining course of action for slopes, providing an updated drainage report to VDOT, and revising the road widening alignment at the intersections.

After the comments are incorporated, final plans will be submitted to the Department of Building and Development and VDOT for approval. Design completion is planned for the end of November 2011 with bids issued in early December, subject to the acquisition of easements and right of way. These plans are being reviewed concurrent with the work to identify the scope of utility relocations and the work to acquire easements and right of way. The design consultant and County staff have met with each utility company to determine the location of existing utilities, and the consultant is reviewing as-built information to determine the extent of any relocation that may be needed. County staff is also working diligently to acquire the temporary construction easement and the right of way that are needed for this project. Now that the alignment at each of the intersections is finalized, negotiations are beginning for each of the 2 locations. Construction is planned to begin in the spring/summer of 2012 and the work is planned for completion in the spring/summer of 2013.

**ISSUES:** The work requires that a temporary construction easement and additional right of way be acquired. Staff is working with the property owners to insure that documents are executed in a timely manner so as not to impact the start of construction.

The preliminary estimate for the work at an earlier stage of design was \$2,325,000 and within the project budget. As the design is progressing, however, additional pavement has been added, the size of the storm water management features has increased, and a signal at Potomac View Road must be relocated. These items as well as utility relocation costs may increase the cost of the work. All costs are estimates at this time, and actual costs will be known when the design is completed and the work is put out for bids.

**BOARD OF SUPERVISORS  
TRANSPORTATION AND LAND USE COMMITTEE  
INFORMATION ITEM**

**# 1**

**SUBJECT: EASTERN ROUTE 7 SAFETY PROJECT**

**FORMER ELECTION DISTRICT: Sterling/Sugarland Run/Potomac**

**NEW ELECTION DISTRICT: Algonkian/Sterling**

**STAFF CONTACTS:** Mr. Lewis Rauch, Department of Construction and Waste Management.  
Mr. Jim Rauch, Department of Construction and Waste Management.  
Ms. Terrie Laycock, Office of Transportation Services

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**BACKGROUND:**

The funding for the Eastern Route 7 Safety Project was approved in the Adopted 2006-2008 Capital Improvement Program for spot improvements at Community Plaza/Lakeland Drive, Augusta Drive, Cardinal Glen Circle at Sterling Blvd, Potomac View Drive and Campus Drive along Route 7, Leesburg Pike in Sterling, Virginia. The scope of the work was subsequently changed, as reported at the October 20, 2010 Transportation and Land Use Committee meeting, to include only the intersections of Potomac View Drive, Sterling Blvd, and Augusta Drive. The purpose of this item is to update the Board of Supervisors on the design and construction schedule for the project, as requested at the July 20, 2011 Transportation and Land Use Committee meeting.

In accordance with the project schedule, design documents were submitted in mid August to VDOT and the County for review. After the review is completed and comments incorporated, final plans will be submitted to the Department of Building and Development and VDOT for approval. Design completion is planned for November 2011 with bids issued in early December, subject to the acquisition of easements and right of way. These plans are being reviewed concurrent with the work to identify the scope of utility relocations and the work to acquire easements and right of way. The design consultant and County staff have met with each utility company to determine the location of existing utilities, and the consultant is reviewing as-built information to determine the extent of any relocation that may be needed. County staff is also working diligently to acquire the temporary construction easement and the right of way that are needed for this project. Construction is planned to begin in the spring/summer of 2012 and the work is planned for completion in the spring/summer of 2013.

**ISSUES:** The work requires that a temporary construction easement and additional right of way be acquired. Staff is working with the property owners to insure that documents are executed in a timely manner so as not to impact the start of construction.

The preliminary estimate for the work at an earlier stage of design was \$2,325,000 and within the project budget. As the design is progressing, however, additional pavement has been added, the size of the storm water management features has increased, and a signal at Potomac View Road must be relocated. These items as well as utility relocation costs may increase the cost of the work. All costs are estimates at this time, and actual costs will be known when the design is completed and the work is put out for bids.

Staff will be present at the September 21<sup>st</sup>, 2011 Committee meeting to provide an update on the project and respond to questions from committee members.

Date of Meeting: July 20, 2011

**BOARD OF SUPERVISORS  
TRANSPORTATION AND LAND USE COMMITTEE  
INFORMATION ITEM**

**# 8**

**SUBJECT: EASTERN ROUTE 7 SAFETY PROJECT**

**FORMER ELECTION DISTRICT: Sterling/Sugarland Run/Potomac**

**NEW ELECTION DISTRICT: Algonkian/Sterling**

**STAFF CONTACTS:** Mr. Lewis Rauch, Department of Construction and Waste Management.  
Mr. Jim Rauch, Department of Construction and Waste Management.

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**BACKGROUND:**

The funding for the Eastern Route 7 Safety Project was approved in the Adopted 2006-2008 Capital Improvement Program for spot improvements at Community Plaza/Lakeland Drive, Augusta Drive, Cardinal Glen Circle at Sterling Blvd, Potomac View Drive and Campus Drive along Route 7, Leesburg Pike in Sterling, Virginia. The scope of the work was subsequently changed, as reported at the October 20, 2010 Transportation and Land Use Committee meeting, to include only the intersections of Potomac View Drive, Sterling Blvd, and Augusta Drive. The purpose of this item is to update the Board of Supervisors on the design and construction schedule for the project.

As reported at the October 20, 2010 Transportation and Land Use Committee meeting, some amount of redesign was necessary to incorporate earlier VDOT review comments. A subsequent design package was sent to VDOT for review in January 2011. The design engineer has been working diligently on addressing those VDOT review comments as well as coordinating the resolution of utility conflicts. Design waivers are needed for the interior paved shoulder width and the grading of the median slope. VDOT has received, accepted and begun the review of the waivers. Upon approval of the design waivers, the consultant will proceed with the final design work to include: all drainage/environmental impact studies, utility coordination and remediation, and easement acquisition. The final plans will be submitted to the Department of Building and Development and VDOT for approval. Final VDOT review and permit submission are planned for August 2011 with design completion and bids issued in November 2011, subject to the acquisition of required easements. Construction is planned to begin in the spring/summer 2012 and work will be completed in the spring/summer of 2013.

**ISSUES:** A public information session was held on June 30, 2011 to present the scope and status of the project. Citizens asked whether pedestrian improvements and intersection lighting were included in the scope of the project. Staff advised that neither pedestrian improvements nor lighting were included. Other comments were made concerning landscaping, the visibility from

the turn lane at Potomac View Road onto Route 7, standard traffic signs for better visibility and the need for informational signs in advance of the intersections. Staff and the design consultant are responding to each of these.

The preliminary estimate for the work at an earlier stage of design was \$2,325,000 and within the project budget. As the design is progressing, however, additional pavement has been added and the size of the storm water management features has increased. These items as well as utility relocation costs may increase the cost of the work. All costs are estimates at this time, and actual costs will be known when the design is completed and the work is put out for bids.

Staff and the design consultant will be present at the July 20 Committee meeting to provide an update on the project and respond to questions from committee members.



**BOARD OF SUPERVISORS  
TRANSPORTATION AND LAND USE COMMITTEE  
INFORMATION ITEM**

**SUBJECT:** EASTERN ROUTE 7 SAFETY PROJECT

**STAFF CONTACT:** Mr. Jim Rauch, Department of Construction and Waste Management.  
Mr. Andrew Beacher, Office of Transportation Services

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**BACKGROUND:**

The funding for the Eastern Route 7 Safety Project was approved in the Adopted 2007 and 2008 Capital Improvement Program for spot improvements at Community Plaza/Lakeland Drive, Augusta Drive, Cardinal Glen Circle at Sterling Blvd, Potomac View Drive and Campus Drive along Route 7, Leesburg Pike in Sterling, Virginia. The purpose of this item is to update the Board of Supervisors to changes in the project scope and schedule since the inception of this project.

The Board of Supervisors approved the contract award in August, 2006 to A. Morton Thomas & Associates, Inc. (AMT) to provide a design to mitigate traffic congestion on the Route 7 corridor between the intersections of Lakeland Drive and Campus Drive, inclusive. Specifically, the intent of the design was to provide localized or "spot" improvements at Campus Drive, Potomac View Drive, Sterling Boulevard, Augusta Drive and Lakeland Drive, and Route 7 itself. The design proceeded with planned improvements to the aforementioned five intersections. During the course of the design, several meetings were held with the public. During a public meeting held to consider the improvements at Campus Drive, concerns were raised regarding the feasibility of access restrictions into the Northern Virginia Community College from Route 7. As a result, the improvements at Campus Drive were eliminated from the original scope. Also during the design, the recommended intersections were reanalyzed for the relative value and benefit of cost versus travel time/safety. An evaluation by AMT determined that the improvements at Lakeland Drive would only reduce the travel time by approximately one second. The estimated cost to improve Lakeland Drive and Route 7 was approximately \$56,000; therefore the travel time saved did not justify the cost. Additionally, the preliminary estimates for the total cost of five intersections, dated May and September, 2007, were \$4,962,985, exceeding the then budget of \$3,176,000. Based on this information, the design proceeded to include only the most problematic three intersections of Augusta Drive, Sterling Blvd and Potomac View Blvd. As such, the 90% complete design was presented to Loudoun County and VDOT for review in April, 2009.

The review of the 90% plans was completed with over 300 comments and concerns identified by VDOT and Loudoun County. Several of the comments from VDOT were of a significant nature. In September 2009, VDOT and Loudoun County staff met to discuss the status of the project, the

impact of the numerous comments and the proper course of action. The meeting revealed two important issues: 1) VDOT reviewed the project assuming a complete design in accordance with applicable NHS standards/VDOT Design Manual, and 2) The original traffic impact analysis (TIA) performed by Vanasse Hangen Brustlin, Inc. (VHB) from November, 2005 was now outdated. Item No. 1 was contrary to the original scope of "spot improvements" as agreed to with VDOT, and had the potential to increase the cost and time to complete the project. Item No. 2 also created a change of scope for AMT, requiring an updated TIA that could potentially affect the overall design of the project.

As a result of the meeting with VDOT, staff proceeded to pursue the execution of an updated traffic impact analysis (TIA). Since that time, an updated TIA has been completed, along with three design scenarios (consistent with the original scope) that have been reviewed by VDOT and Loudoun County. Scenario 1 was not a viable option, therefore only Scenarios 2 & 3 were further developed in design form. AMT, Loudoun County and VDOT have discussed the results of the TIA and agreed that Scenario 3 is the best design concept, based on the results of the most current TIA and previous project history. The difference between Scenario 2 and 3 occurs at Sterling Blvd, with Scenario 2 providing concurrent left turning movements and Scenario 3 providing split phasing of the left turns at Sterling Blvd.

Scenario 3 will widen the intersection of Potomac View and add a transition lane on Route 7, widen Sterling Blvd to have split phasing of the left turns onto Rt. 7 westbound, increase the length of the turn lanes on Sterling Blvd and add transition lanes on Route 7, and provide improvements to the intersection for turning and through movements at Augusta Drive. The preliminary cost estimate for these improvements is within the project budget. The redesign of the project is underway and the plans will be completed for review by December, 2010. A review of the plans will be performed by Loudoun County and VDOT, and construction is anticipated to start in the Spring of 2011.

**ISSUES:** None.

**FISCAL IMPACT:** The preliminary estimate for the work based on design Scenario 3 is \$2,325,000. The total project cost, including right of way acquisition, contingencies, and 3<sup>rd</sup> party testing is projected to be within the capital project account balance of \$2,783,223. All costs are estimates at this time, and actual costs will be known when the design is completed and the work is put out for bids. If actual costs exceed the appropriation, supplemental funding or a change in project scope may be required. Those options would be presented in the construction award Item for the Board's consideration.

**ATTACHMENTS:**

1. Design Scenario 3

No. Marking Sign  
 4" Tree  
 Guy Pole  
 Combination Pole No. V1 0L31  
 2-Turn Lanes Sign  
 Fly Station 30  
 110' Sign

Combination Pole No. 703R2LS  
 Combination Pole No. 703R2 VP 0D17 (CUT OFF)

Grate Inlet  
 Top = 37.75  
 Inv. = 34.11  
 In P. 60-15" RCP

End Pipe  
 In. Dia = 34.11

Drop Inlet  
 Top = 352.87  
 In. = 124.7  
 In P. 24" 15" RCP

Storm Manhole  
 Top = 385.85  
 In. = 152.7  
 In. = 347.0  
 In. = 347.45  
 C. Inv. = 348.35  
 In P. 24" 30" RCP

Turn Lane Sign  
 Gas Meter  
 2-Water Line Marker  
 2-Water Valve

Traffic Signal Pole  
 Traffic Signal Pole  
 Combination Pole  
 No. V1 0D12  
 4-Guy Wire  
 Power Pole  
 Turn Lane Sign  
 Elec. Bar

Storm Manhole  
 Top = 351.84  
 In. = 345.60  
 In. = 343.8  
 In P. 24" RCP

Storm Manhole  
 Top = 354.27  
 CL Inv. = 345.81  
 In P. 117-18" CMP  
 Inv. = 332.17  
 Inv. = 352.04  
 Traffic Control Box  
 Traffic Signal Pole

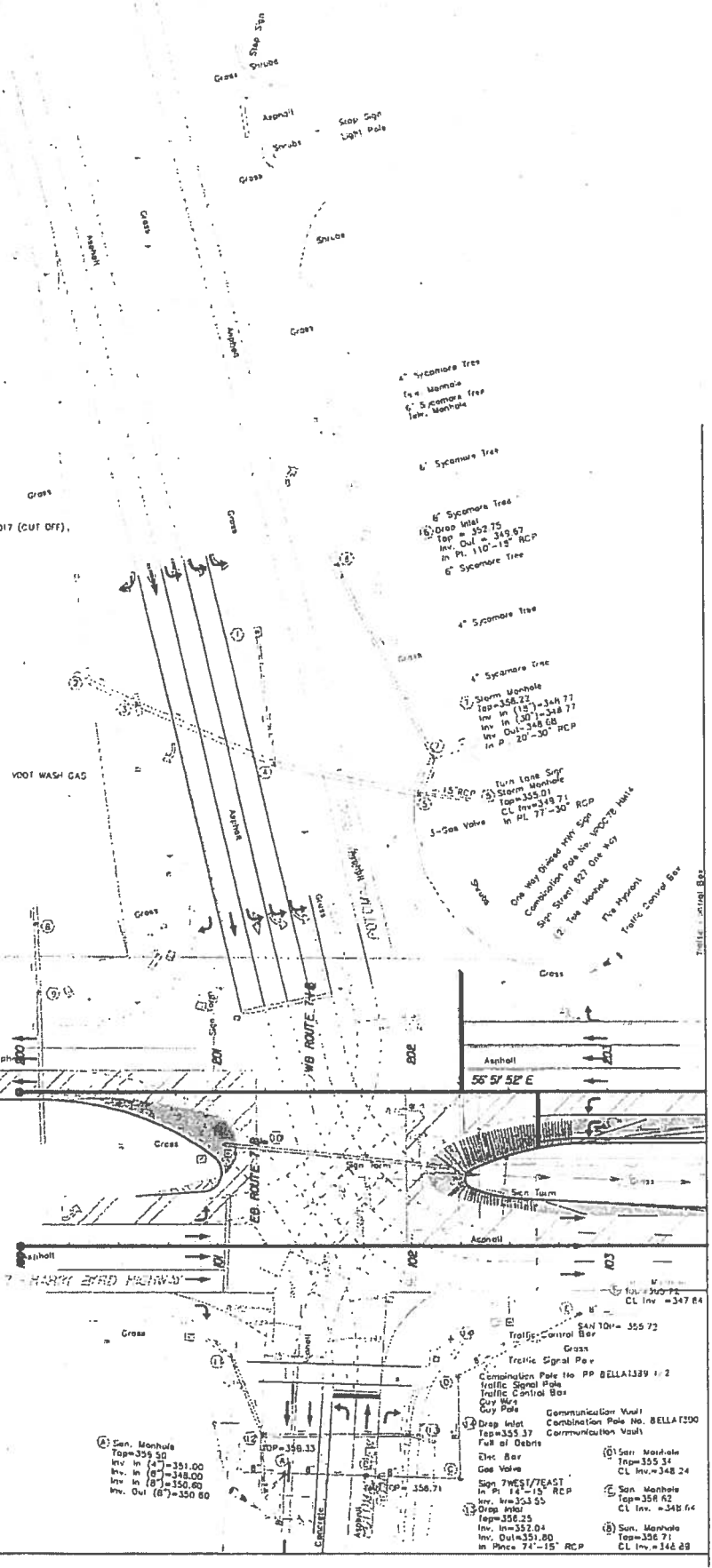
Storm Manhole  
 Top = 355.58  
 Inv. = Not Obtained

Traffic Manhole  
 5' Fall Gate Chamber  
 Traffic Control Box

Storm Manhole  
 Top = 355.60  
 C. Inv. = 350.55  
 In P. 18" RCP  
 Communication Vault

Combination Pole  
 No. 703R2 VP 0D17  
 4-Guy Wire

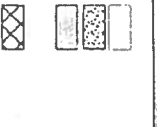
Drop Inlet  
 Top = 350.31  
 In. = 15" = 350.93  
 In. = 15" = 351.43  
 Inv. = 350.1

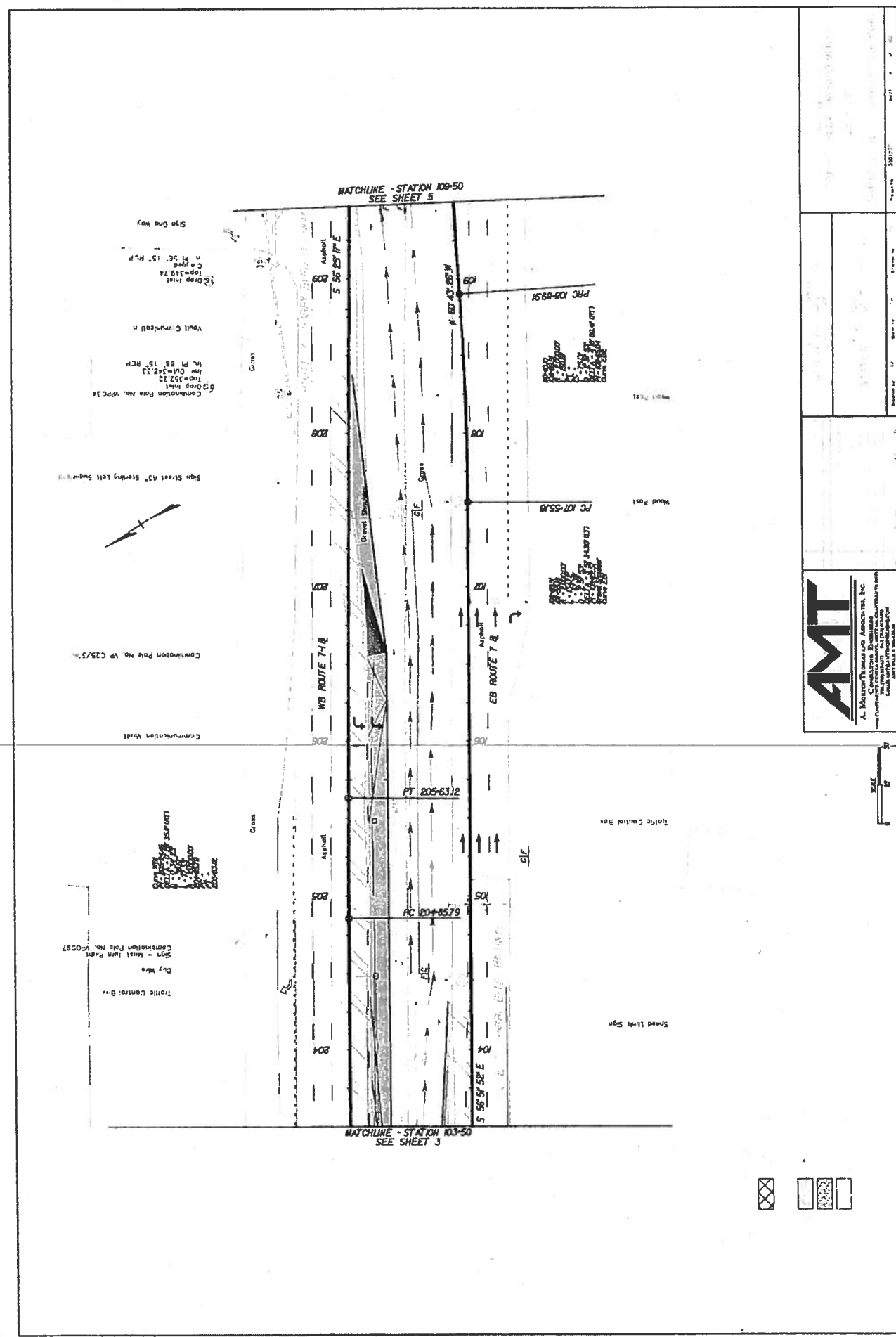


TRAILER - SIGNAL BOX  
 MATCHLINE - STATION 103+50  
 SEE SHEET 4



A. Municipal Engineers and Associates, Inc.  
 1000 North 10th Street, Suite 100  
 Lincoln, Nebraska 68502  
 Phone: (402) 441-1111  
 Fax: (402) 441-1112  
 E-Mail: ameng@aol.com  
 Website: www.ameng.com





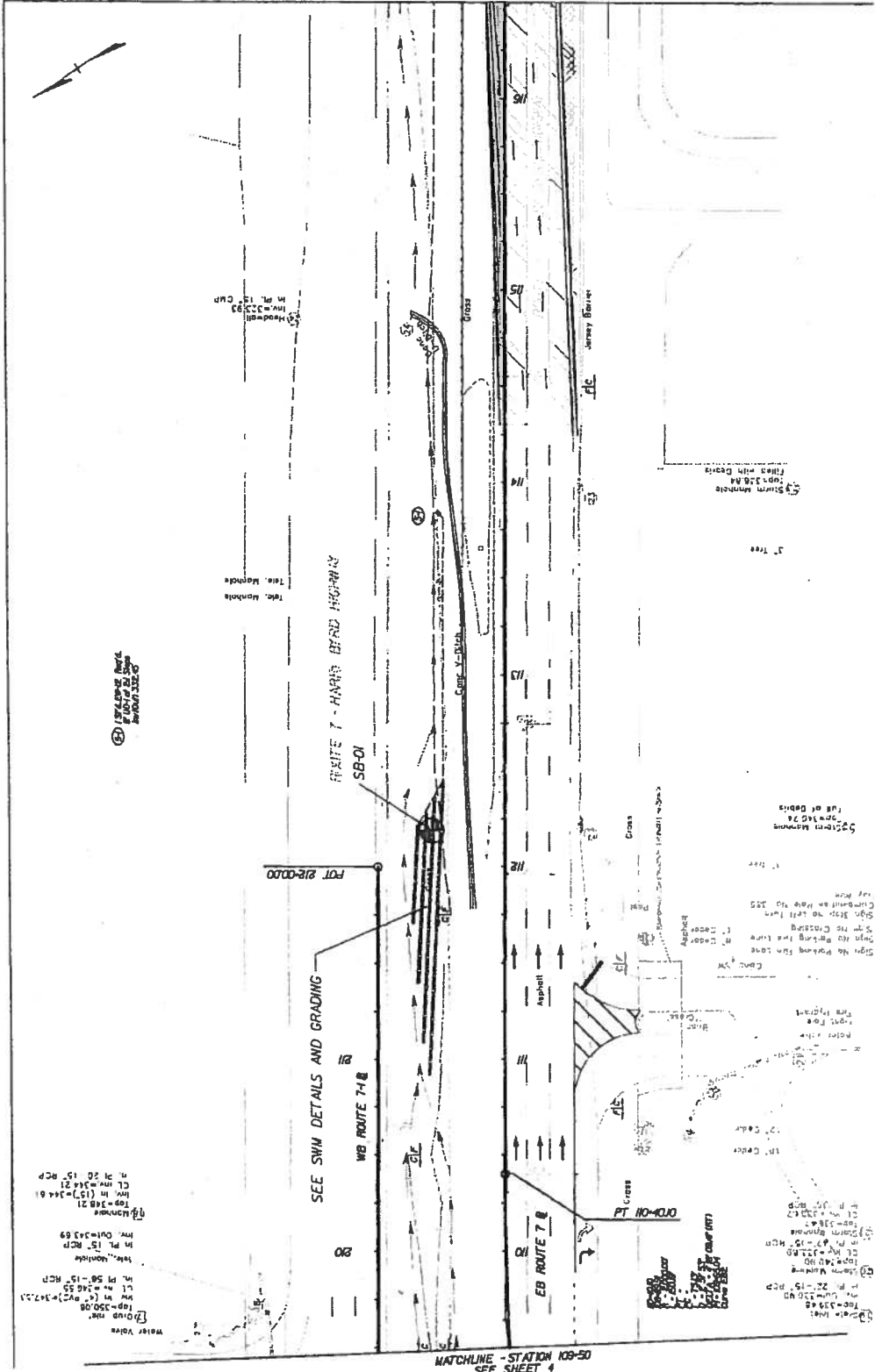
10 Drop Inlet  
 Top=119.74  
 C=19.04  
 n=1.56  
 15' RCP  
 Wait C. Currcell n  
 10 Drop Inlet  
 Top=152.22  
 C=14.13  
 n=1.56  
 15' RCP  
 Construction Pole No. 10PC1A

Sign Street A37 Steering Left Supp. 10  
 Construction Pole No. VP C25/57  
 Construction Vault

Traffic Control Box  
 Curb Wre  
 Sign - Metal Lum. Post  
 Construction Pole No. 10C297


  
 A. M. Thompson & Associates, Inc.  
 Civil Engineering  
 1000 North Main Street  
 Suite 100  
 St. Louis, MO 63103  
 Phone: (314) 433-1100  
 Fax: (314) 433-1101  
 E-mail: amt@amt.com





MATCHLINE - STATION 109+50  
SEE SHEET 4

MATCHLINE - STATION 118+00  
SEE SHEET 6

SEE SWM DETAILS AND GRADING

WB ROUTE 7 & SB-01

EB ROUTE 7 &

PT 110+00.00

PT 212+00.00

SEE SWM DETAILS AND GRADING

SEE SWM DETAILS AND GRADING



DATE: 05/11/11

SCALE: 1"=40'

DATE: 05/11/11

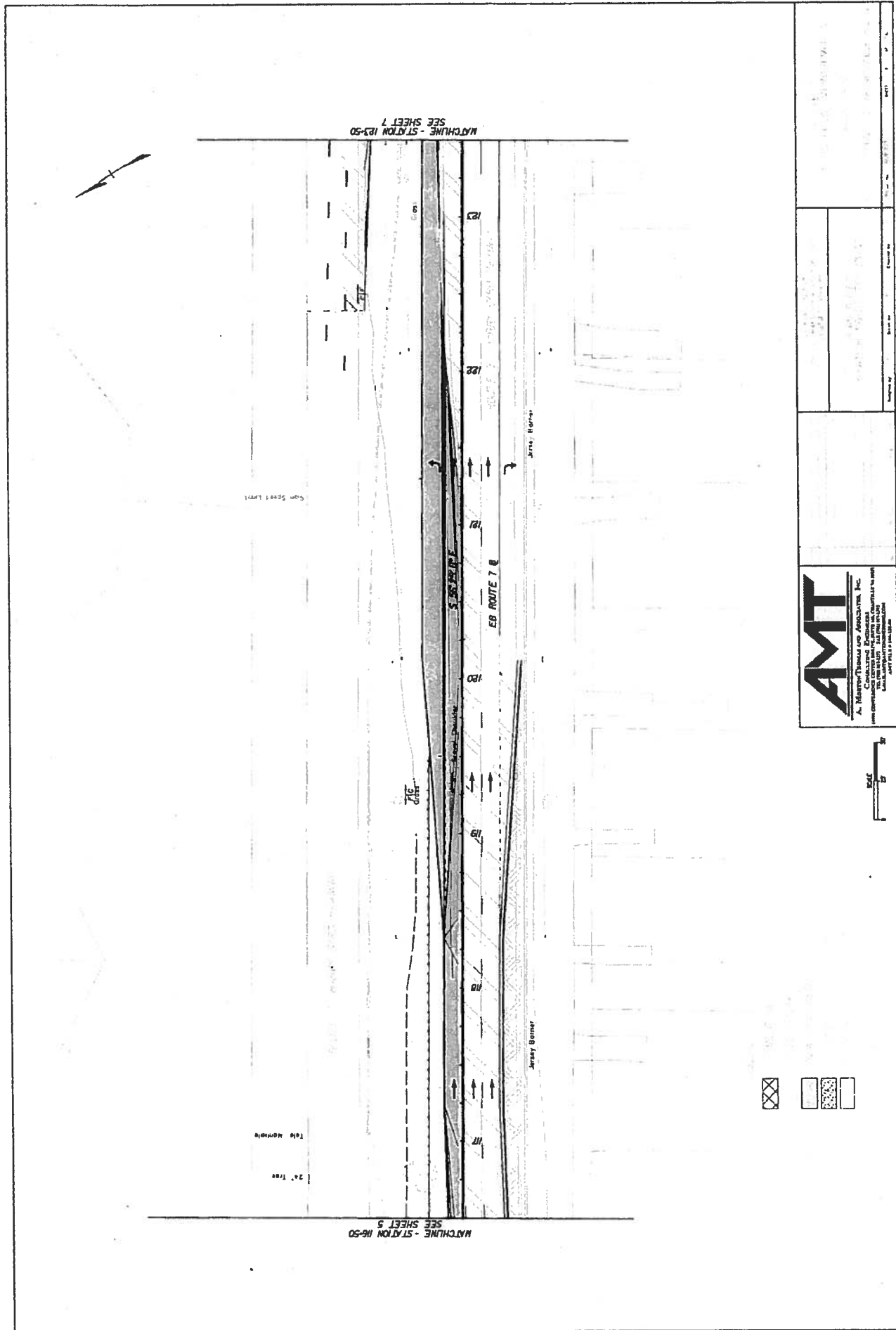
SCALE: 1"=40'

DATE: 05/11/11

SCALE: 1"=40'

DATE: 05/11/11

SCALE: 1"=40'



**AMT**  
 A. MASTROPIEROU AND ASSOCIATES, INC.  
 1000 COMMERCIAL CENTER BLVD., SUITE 1000  
 NEWTON, MASSACHUSETTS 02459  
 TEL: 617/552-1000 FAX: 617/552-1001  
 WWW.AMT-INC.COM



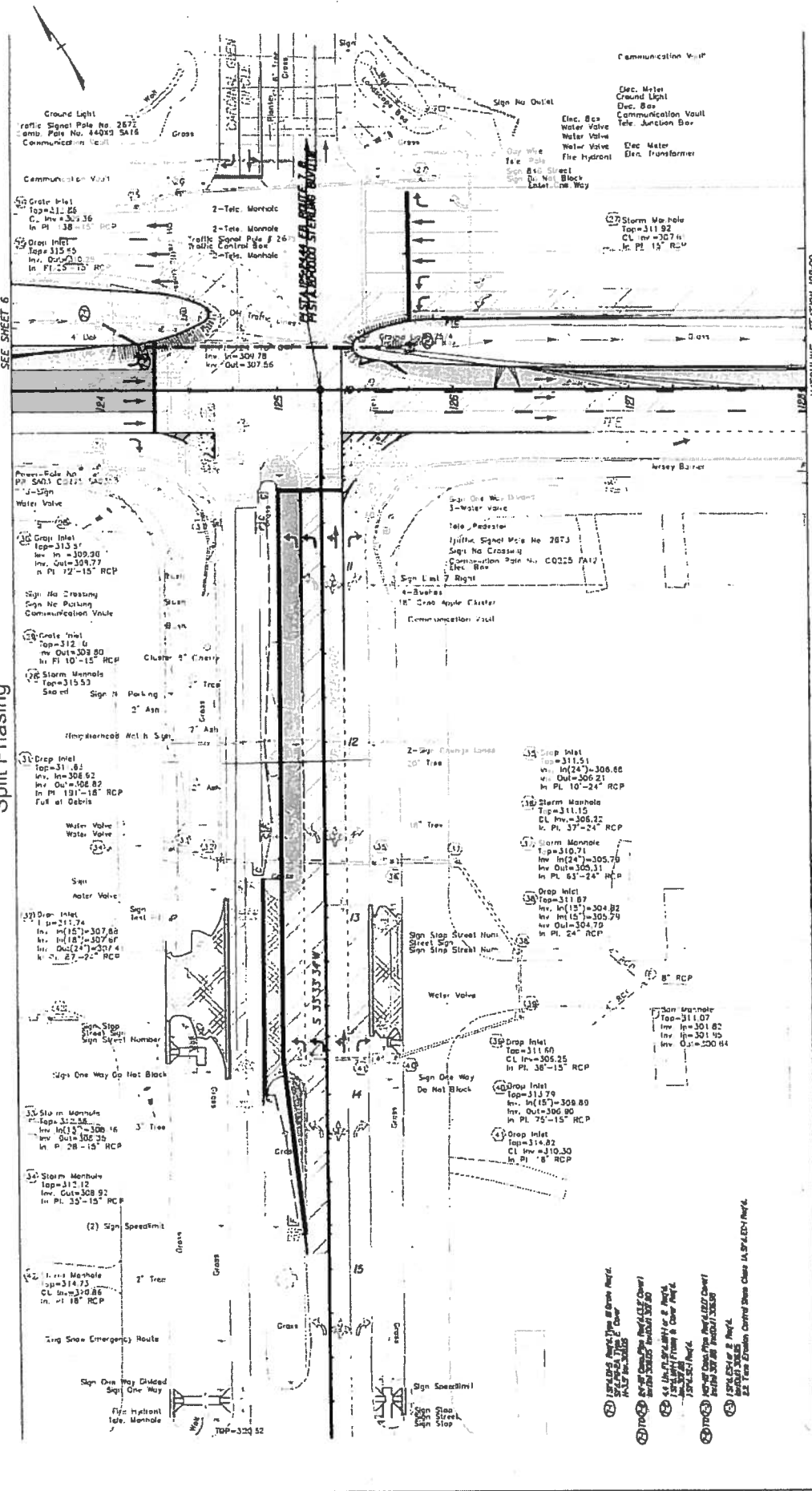
Legend symbols:  
 - Hatched pattern (diagonal lines) for embankment  
 - Stippled pattern for gravel  
 - Solid black pattern for concrete  
 - Dashed pattern for utility lines  
 - Cross-hatched pattern for other materials

DATE: 11/11/2010  
 TIME: 10:00 AM  
 DRAWN BY: JERRY BOMER  
 CHECKED BY: JERRY BOMER  
 PROJECT NO.: 10-001  
 SHEET NO.: 1 OF 1

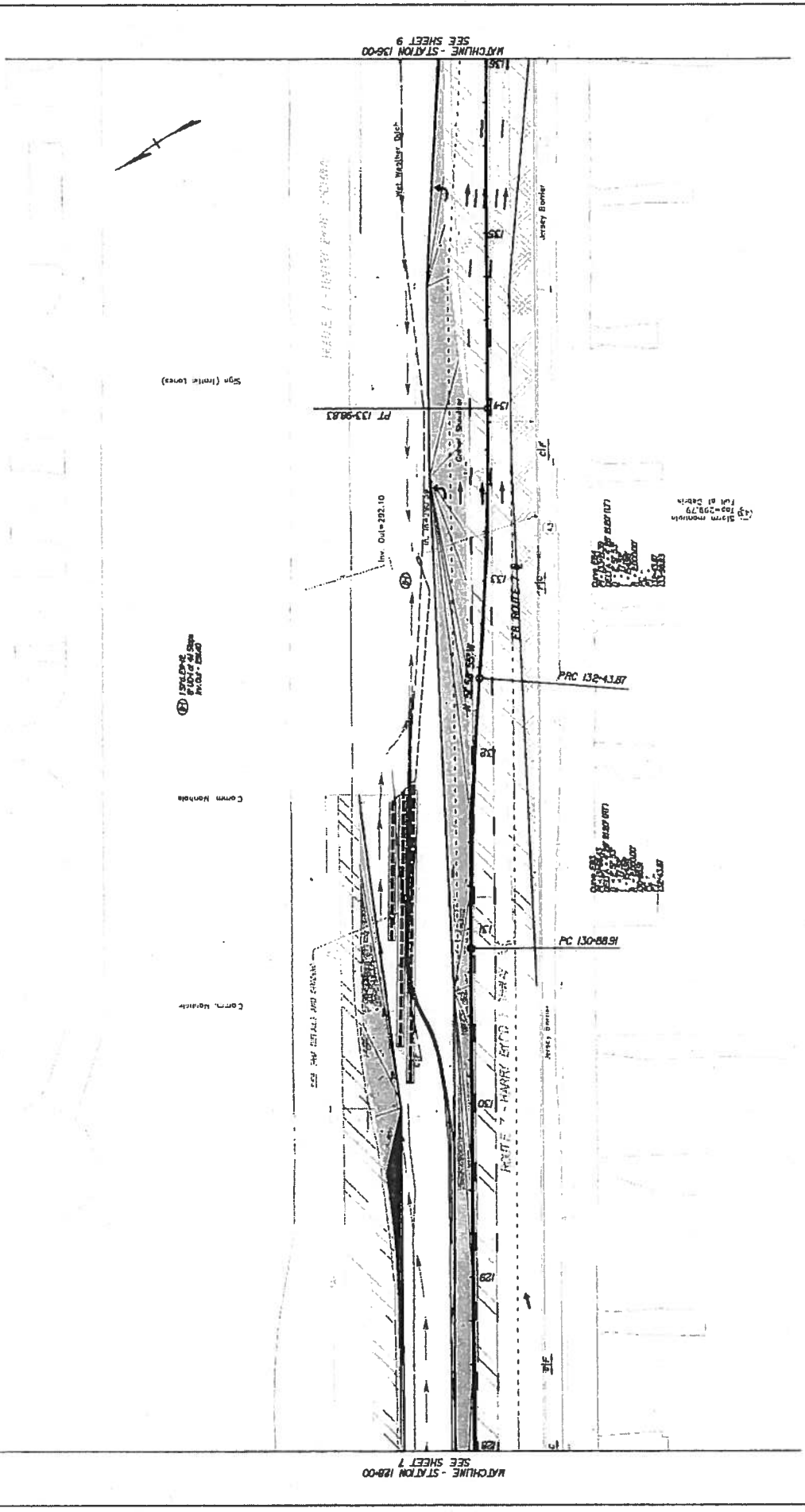
**Concept 3  
Split Phasing**

MATCHLINE - STATION 123+50  
SEE SHEET 6

MATCHLINE - STATION 128+00  
SEE SHEET 8



- 1. EXISTING MANHOLE TOPS TO BE MAINTAINED AS SHOWN UNLESS OTHERWISE NOTED.
- 2. ALL NEW MANHOLES TO BE CONCRETE WITH 18" DIA. TOPS AND 30" DIA. BODIES.
- 3. ALL NEW MANHOLES TO BE CONCRETE WITH 18" DIA. TOPS AND 30" DIA. BODIES.
- 4. ALL NEW MANHOLES TO BE CONCRETE WITH 18" DIA. TOPS AND 30" DIA. BODIES.
- 5. ALL NEW MANHOLES TO BE CONCRETE WITH 18" DIA. TOPS AND 30" DIA. BODIES.
- 6. ALL NEW MANHOLES TO BE CONCRETE WITH 18" DIA. TOPS AND 30" DIA. BODIES.
- 7. ALL NEW MANHOLES TO BE CONCRETE WITH 18" DIA. TOPS AND 30" DIA. BODIES.
- 8. ALL NEW MANHOLES TO BE CONCRETE WITH 18" DIA. TOPS AND 30" DIA. BODIES.
- 9. ALL NEW MANHOLES TO BE CONCRETE WITH 18" DIA. TOPS AND 30" DIA. BODIES.
- 10. ALL NEW MANHOLES TO BE CONCRETE WITH 18" DIA. TOPS AND 30" DIA. BODIES.



See (inter lines)

① 1/2" = 10' (1/4" = 5')

Comm. Number

Comm. Number

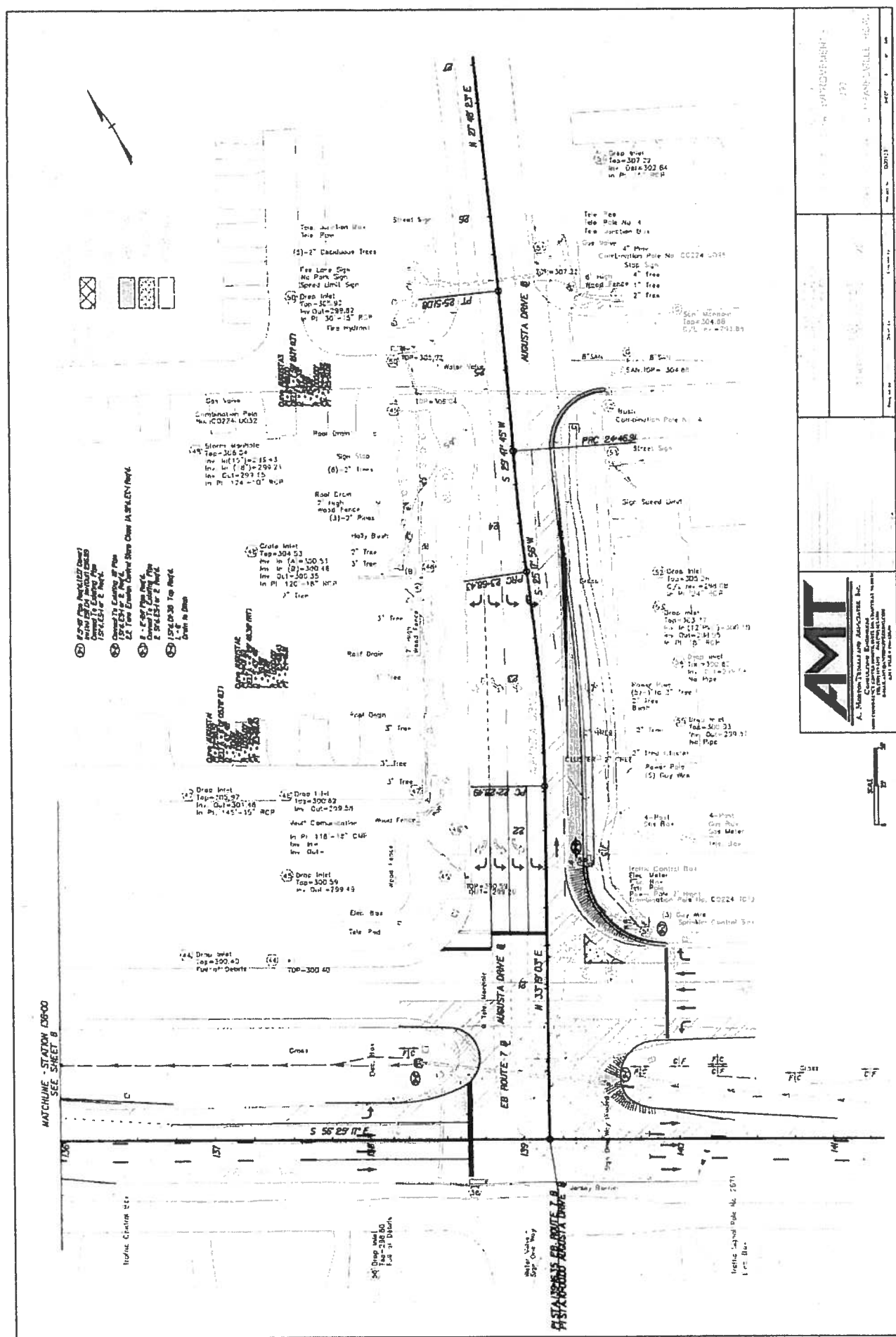


**AMT**  
 A. MASON TOWNSEND ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 1000 W. 10TH AVENUE, SUITE 100  
 DENVER, COLORADO 80202  
 PHONE: 303.733.1100  
 FAX: 303.733.1101  
 WWW.AMT-INC.COM

DATE: 08/11/08

Project No.	130-01
Sheet No.	130-01-01
Scale	1/2" = 10'
Author	J. M. [unreadable]
Checker	[unreadable]
Appr.	[unreadable]





- 1. 2" Gas Valve
- 2. 2" Water Valve
- 3. 2" Sewer Valve
- 4. 2" Storm Valve

ATCHLINE - STATION 05+00  
SEE SHEET B



PROJECT NO.	10000
DATE	10/13/00
SCALE	AS SHOWN
DRAWN BY	J. J. ...
CHECKED BY	...
APPROVED BY	...

AUGUSTA DRIVE  
 EB ROUTE 7 B  
 N ST 48 ST E  
 N ST 47 ST E  
 N ST 46 ST E  
 N ST 45 ST E  
 N ST 44 ST E  
 N ST 43 ST E  
 N ST 42 ST E  
 N ST 41 ST E  
 N ST 40 ST E  
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