



Township of Lower Makefield

July 21, 2025

Docket A-2015-2476976

To: Matthew Homsher, Secretary
Pennsylvania Public Utility Commission

Re: Application of Lower Makefield Township for approval of the alteration of the crossings where Heacock Road (SR 2029) (DOT 589 735 M), Stony Hill Road (SR 2069) (DOT 589 736 U) and Edgewood Road, cross, at grade, the three tracks CSX Transportation, Inc. (CSX) and operated by Southeastern Pennsylvania Transportation Authority (SEPTA) and CSX Transportation, Inc. (CSX), located in Lower Makefield Township, Bucks County.

Dear Secretary Homsher,

In accordance with Page 3, Item 3 of the Pennsylvania Utilities Commission letter dated August 4, 2015 for the case (Docket A-2015-2476976), we are submitting final design plans for the project.

Please note that the final detailed construction plans for the crossing at Stony Hill Road have been revised from the draft plans to utilize a 60-foot-long median with delineators to accommodate the commercial driveway at 510 Stony Hill Road for Arts Auto Repair, which a Pennsylvania State Inspection Station (OIS # 6307).

The final design plans have been emailed to all parties on the Certificate of Service dated July 21, 2025.

Should you have any questions, please feel free to contact me.

James R. Majewski, PE, PP, CFM
Community Development Director
Lower Makefield Township
1100 Edgewood Road
Yardley, PA 19067
267-274-1123
jimm@lmt.org



CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the participants, listed below, in accordance with the requirements of 52 Pa. Code §1.54 (*relating to service by participant*).

SERVICE BY E-MAIL ONLY

Federal Railroad Administration James Payne Crossing & Trespasser Outreach Staff Director James.Payne@dot.gov	Federal Railroad Administration Evelyn Hendricks Grade Crossing Manager, FRA, Region 2 Evelyn.Hendricks@dot.gov
PennDOT Michael K. Anderson District Railroad Admin. District 6-0 7000 Geerdes Boulevard King Of Prussia, Pa 19406-1525 kmanderson@pa.gov	PECO Margaret Morris 2301 Market Street Philadelphia, PA 19103 mmorris@regerlaw.com
Pennsylvania Public Utilities Commission George DiCarlantonio, P.E. Civil Engineer Consultant Rail Safety Division – Engineering Section - Bureau of Technical Utility Services gdicarlant@pa.gov	Bucks County Gail Humphrey Chief Clerk 1265 Almshouse Road Doylestown, PA 18901 ghumphrey@buckscounty.org
SEPTA Timothy Z. Dragan 1234 Market Street, 13 th Floor Philadelphia, PA 19107 tdragan@septa.org	CSX Michael Sliper CSX Public Projects 1 Bell Crossing, Selkirk, NY 12158 michael_sliper@csx.com
Pennsylvania American Water Christopher M Peters 1145 Edgewood Road Yardley PA 19067 Christopher.Peters@amwater.com	Lower Makefield Township David W. Kratzer, Jr., Township Manager dkratzer@lmt.org

Date: July 21, 2025



James R. Majewski, Community Development Director

STONY HILL ROAD (S.R. 2069) QUIET ZONE IMPROVEMENTS

LOWER MAKEFIELD TOWNSHIP BUCKS COUNTY, PENNSYLVANIA

PENNSYLVANIA ACT 287 OF 1974 AS AMENDED UTILITY USERS LIST

COMPANY: PENNSYLVANIA AMERICAN WATER ADDRESS: 1145 EDGEWOOD RD YARDLEY, PA. 19067 CONTACT: ED BAETZEL EMAIL: edward.baetzel@amwater.com	COMPANY: LOWER MAKEFIELD TOWNSHIP ADDRESS: 1100 EDGEWOOD RD YARDLEY, PA. 19067 CONTACT: KEVIN KALL EMAIL: kkall@mt.org
COMPANY: BUCKS COUNTY WATER & SEWER AUTHORITY ADDRESS: 1275 ALMHOUSE RD WARRINGTON, PA. 18976 CONTACT: JAMES NAPOLEON EMAIL: jamesnapoleon@bcwsa.net	COMPANY: ZAYO BANDWIDTH FORMERLY PPL TELCOM LLC ADDRESS: 1060 HARDEES DR UNIT H ABERDEEN, MD. 21001 CONTACT: GEORGE HUSS EMAIL: george.huss@zayo.com
COMPANY: COMCAST CABLEVISION ADDRESS: 55 INDUSTRIAL DRIVE IVYLAND, PA. 18974 CONTACT: KATHIE BROWN	COMPANY: FALLS TOWNSHIP MUNI AUTH ADDRESS: 557 LINCOLN HWY FAIRLESS HILLS, PA. 19030 CONTACT: MARTIN WITT EMAIL: mwitt@tofa-pa.com
COMPANY: USIC ADDRESS: 450 S HENDERSON RD SUITE B KING OF PRUSSIA, PA. 19406 CONTACT: GAVIN HEWITT EMAIL: gavinhe Witt@usicinc.com	COMPANY: VERIZON PENNSYLVANIA LLC ADDRESS: 180 SHEREE BLVD STE 2100 ROOM N/A EXTON, PA. 19341 CONTACT: KELLY BLOUNT EMAIL: kelly.b.blount@verizon.com

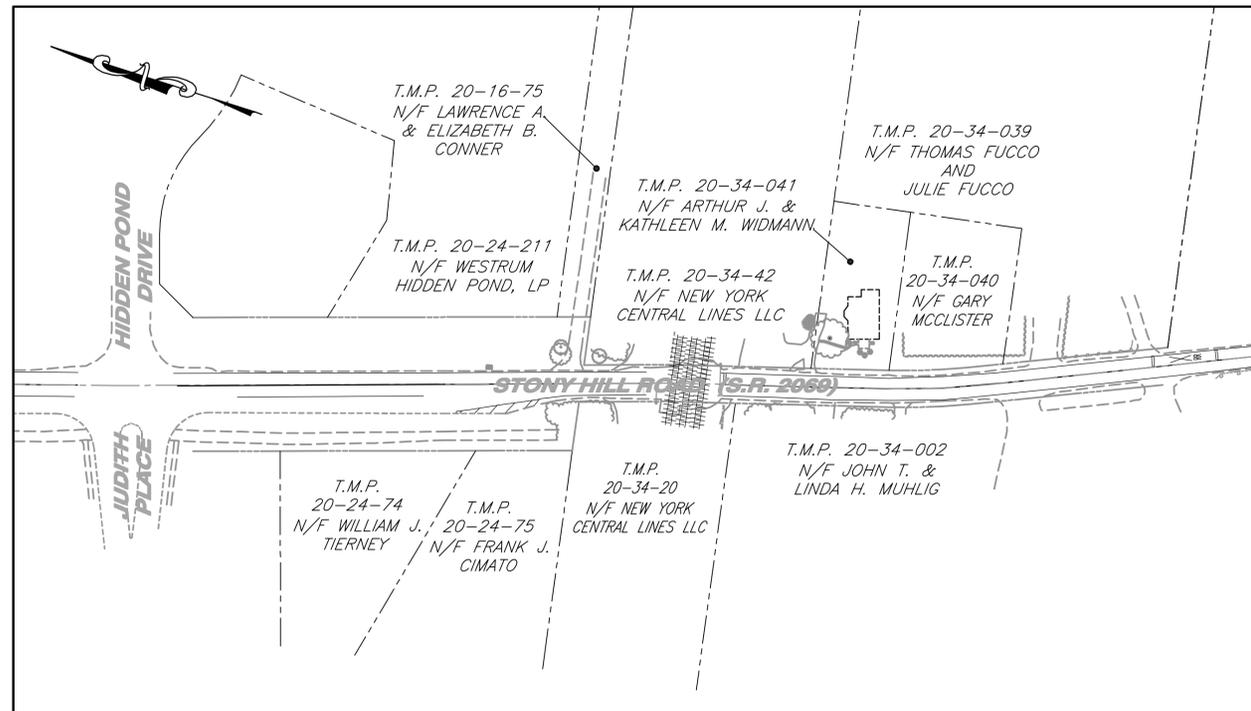


BEFORE YOU DIG ANYWHERE IN
PENNSYLVANIA! CALL 1-800-242-1776
NON-MEMBERS MUST BE CONTACTED DIRECTLY

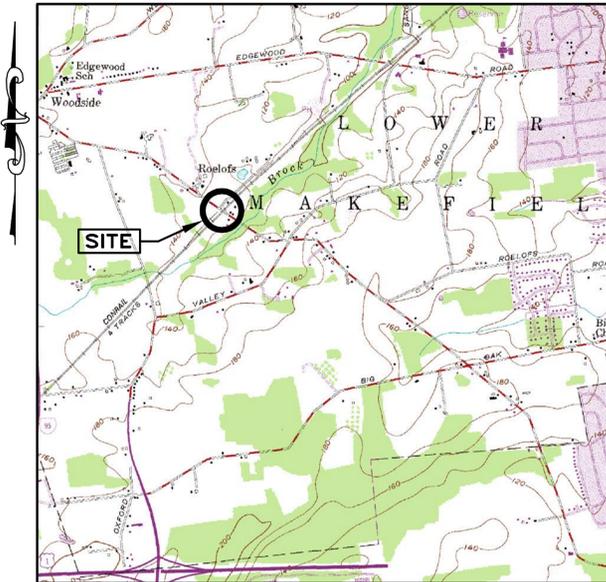
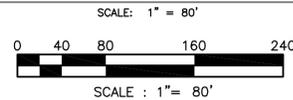
PA LAWS REQUIRES THREE WORKING DAYS
NOTICE TO UTILITIES BEFORE YOU EXCAVATE,
DRILL, BLAST OR DEMOLISH

20151801965

THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF
ALL UNDERGROUND UTILITIES BEFORE THE START OF WORK.

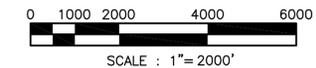


OVERALL SITE



LOCATION MAP

SOURCE MAP: U.S.G.S. QUAD SHEET FOR
TRENTON WEST, N.J. - PA
PHOTOREVISED 1981
SCALE: 1" = 2,000'



DRAWING INDEX

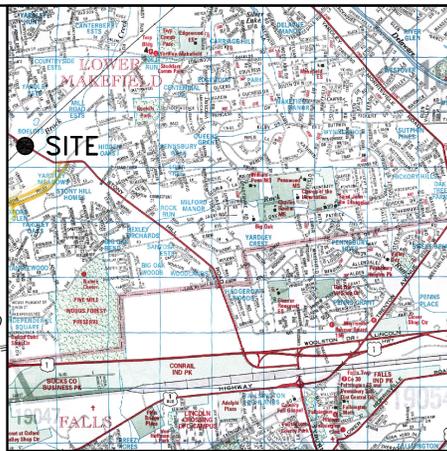
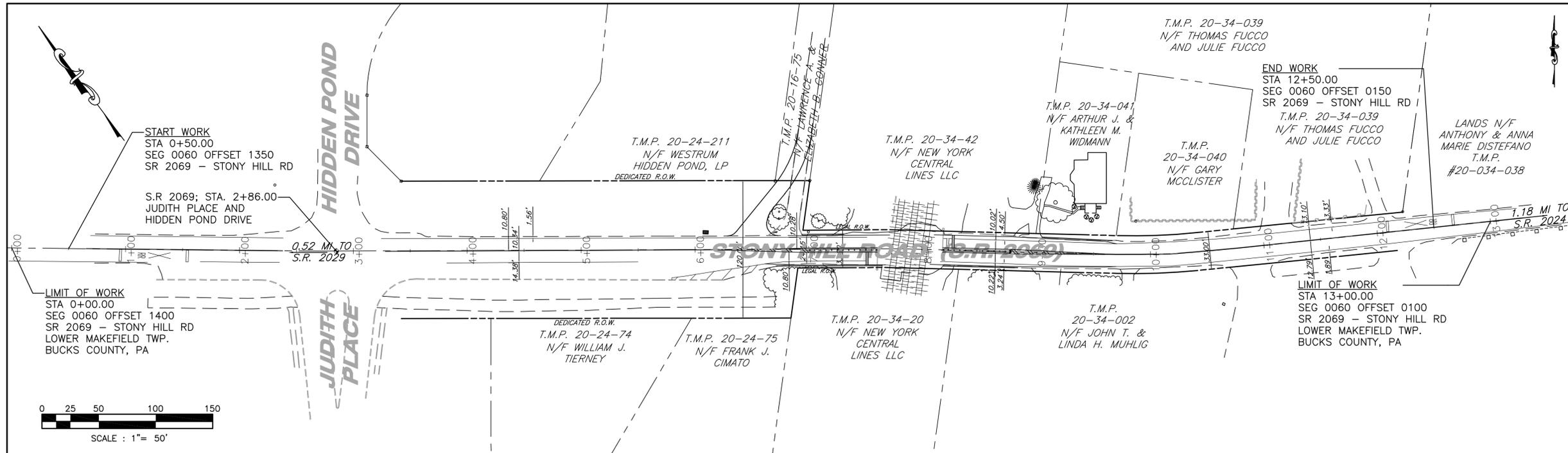
SHEET NO.	TITLE
1 OF 9	COVER SHEET
2 OF 9	INDEX PLAN
3 OF 9	ROADWAY IMPROVEMENT PLAN
4 OF 9	GRADING PLAN
5 OF 9	ROADWAY SECTIONS (1 OF 2)
6 OF 9	ROADWAY SECTIONS (2 OF 2)
7 OF 9	PROPOSED SIGNAGE PLAN
8 OF 9	PROPOSED PAVEMENT MARKING PLAN
9 OF 9	DETOUR PLAN

CIVIL ENGINEERS
Boucher & James, Inc.
CONSULTING ENGINEERS
1456 FERRY ROAD - BUILDING 500
DOYLESTOWN, PA 18901
VOICE: (215) 345-9400
FAX: (215) 345-9401

APPLICANT
LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY, PA 19067
VOICE: (267) 274-1100



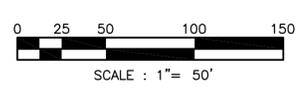
JOB NO. 1377032
JULY 22, 2015
REVISED OCTOBER 23, 2016
REVISED FEBRUARY 17, 2016
REVISED MARCH 25, 2016
REVISED JUNE 1, 2016
LAST REVISED JUNE 29, 2016
SHEET 1 OF 9



LOCATION MAP
SCALE: 1"=2000'
SOURCE: BUCKS COUNTY (PA) ADC STREET MAP, 36
COPYRIGHT ADC, THE MAP PEOPLE, PERMITTED USE # 20902114

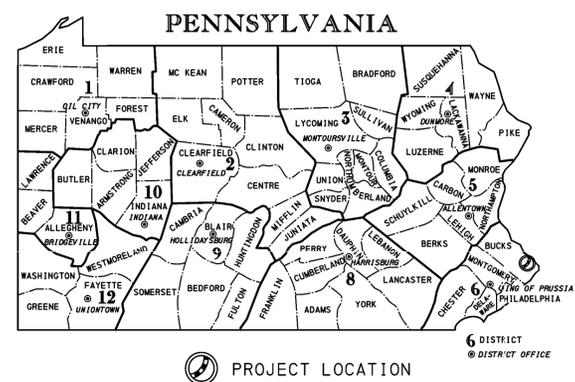
LEGEND

---	ADJOINER LINE
---	EXISTING BOUNDARY
---	EXISTING CENTERLINE
---	EXISTING CURBLINE
---	EXISTING GUIDERAIL
---	EXISTING RIGHT-OF-WAY



TABULATION OF OVERALL LENGTH
STA 0+00.00 TO STA 13+00.00 = 1,300.00 FT. = 0.246 MILES

TABULATION OF CONSTRUCTION LENGTH
STA 0+50.00 TO STA 12+50.00 = 1,200.00 FT. = 0.227 MILES



PennDOT PAVEMENT MARKING STANDARDS (PER PUB. 111)

THE FOLLOWING DETAILS ARE APPLICABLE TO THIS PROJECT:

- TC 13-M; (JUNE 1, 2010).
- TC 28-M; (JUNE 1, 2010).
- TC 64-M; (JUNE 1, 2010).

PennDOT STANDARD DETAILS (PER PUB. 72M)

THE FOLLOWING DETAILS ARE APPLICABLE TO THIS PROJECT:

- TC 8600; (JUNE 13, 2013).
- TC 8604; (JUNE 13, 2013).

RECORD OF EXISTING TYPES OF ROADWAY PAVEMENT

SEG 0060 OFFSET 0100	VARIABLE WIDTH OF 1.5" 9.5mm WEARING COURSE
SEG 0060 OFFSET 1400	2" ID-2 BINDER COURSE
	6" BCBC BASE COURSE
	6" 2A MODIFIED SUBBASE

NOTE: DEPTHS OF MATERIALS TAKEN FROM PENNDOT WEBSITE, PAVEMENT HISTORY LISTING FOR S.R. 2069, BUCKS COUNTY

SEGMENT EQUALITIES

SR 2069 SECTION 0060
SEGMENT 0060, OFFSET 1400 = STATION 00+00.00
SEGMENT 0060, OFFSET 1114 = STATION 02+86.00
INTERSECTION JUDITH DR & HIDDEN POND RD
SEGMENT 0060, OFFSET 1100 = STATION 03+00.00
SEGMENT 0060, OFFSET 0100 = STATION 13+00.00

STRAIGHT LINE DIAGRAM DATA

STATE ROUTE	LIMITS OF CONSTRUCTION		PROPOSED CONSTRUCTION
	CONSTR STA	SEGMENT/OFFSET	
2069	0+50.00 TO 12+50.00	0060/0150 TO 0060/1350	CONSTRUCTION OF 6" MOUNDED CURBED CONCRETE MEDIAN BARRIER FOR RAILROAD QUIET ZONE, PLUS INSTALLATION OF DELINEATORS AND SIGNAGE.

GENERAL NOTES

- BOUNDARY AND RIGHT OF WAY INFORMATION SHOWN HEREON IS BASED ON DEEDS OF RECORD, TAX MAPS AND PROPERTY MARKERS FOUND AT TIME OF SURVEY; AND IS APPROXIMATE.
- EXISTING FEATURES SHOWN HEREON ARE BASED ON A SURVEY COMPLETED BY BOUCHER & JAMES, INC. IN JULY OF 2014 AND REPRESENTS EXISTING CONDITIONS AT THAT TIME.
- DETAILED SURVEYED FEATURES (AS NOTED ABOVE) TAKEN WITHIN STATIONS 5+50 AND STATION 10+50. ALL EXISTING FEATURES OUTSIDE OF THAT STATION RANGE HAVE BEEN TAKEN FROM AVAILABLE AERIAL IMAGERY AND ADDITIONAL SITE VISITS.
- BOUCHER & JAMES, INC. HAS NOT PERFORMED A VERIFICATION SURVEY TO DETERMINE THE EXISTENCE OF ANY UNDERGROUND UTILITY LINES WHICH MAY NOT HAVE BEEN VISIBLE AT THE TIME OF THE SURVEY.
- ROADWAY CENTERLINE SHOWN HEREON IS A BEST-FIT LINE AGAINST THE EXISTING ROADWAY AND RIGHT-OF-WAY INFORMATION.
- THE POSTED SPEED LIMIT ON STONY HILL ROAD (S.R. 2069) IS 40 MPH.

H.O.P. APPLICATION No. 87216

Written dimensions shall have priority over scaled dimensions. All dimensions, elevations, locations, and conditions, shall be verified by the Contractor prior to construction, and the Owner and Boucher & James, Inc. shall be notified of any discrepancies with the information shown on drawings.

Only those plans incorporating the raised or red ink professional seal shall be considered official and relied upon. All ideas, designs and arrangements presented hereon were developed for use on, and in connection with the specified project being prepared for the Owner. These plans may not be reproduced or altered without the expressed written permission of Boucher & James, Inc.

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REVISIONS :

DATE	DESCRIPTION	DATE	DESCRIPTION
10/23/15	REV'D PER PENNDOT LTR DATED 08/21/15		
02/17/16	REV'D PER PENNDOT LTR DATED 11/24/15		
03/25/16	REV'D PER PENNDOT LTR DATED 3/18/16		
06/01/16	REV'D PER PENNDOT LTR DATED 4/29/16		
06/29/16	REV'D PLANS PRIOR TO BIDDING		

PROJECT :
STONY HILL ROAD (S.R. 2069) QUIET ZONE
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA

APPLICANT :
LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY, PA 19067

JOB NO. :
1377032

TITLE :
INDEX PLAN

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN STRoudSBURG
CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
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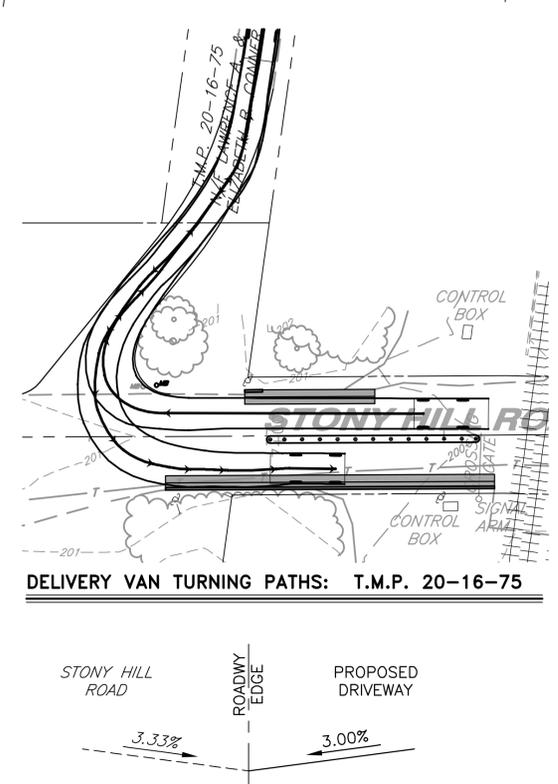
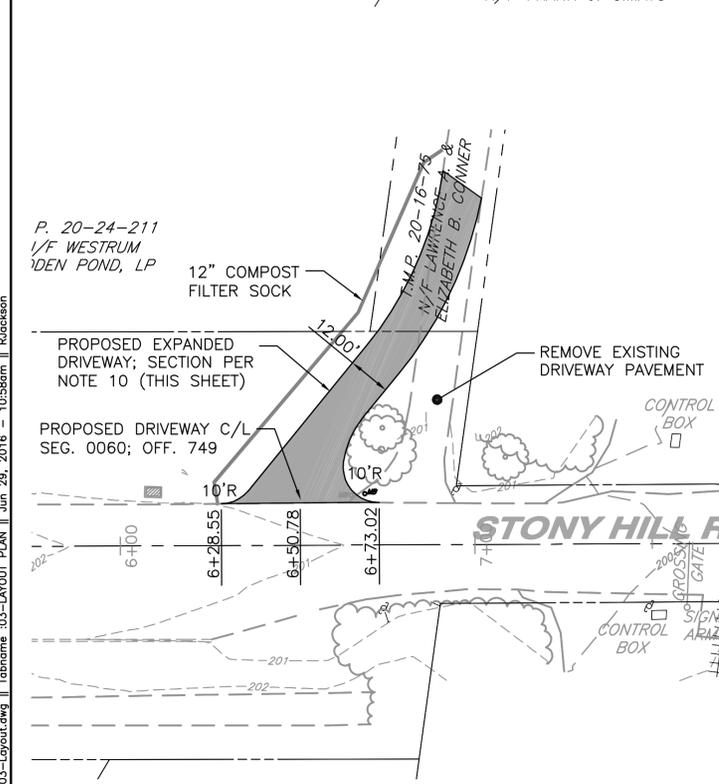
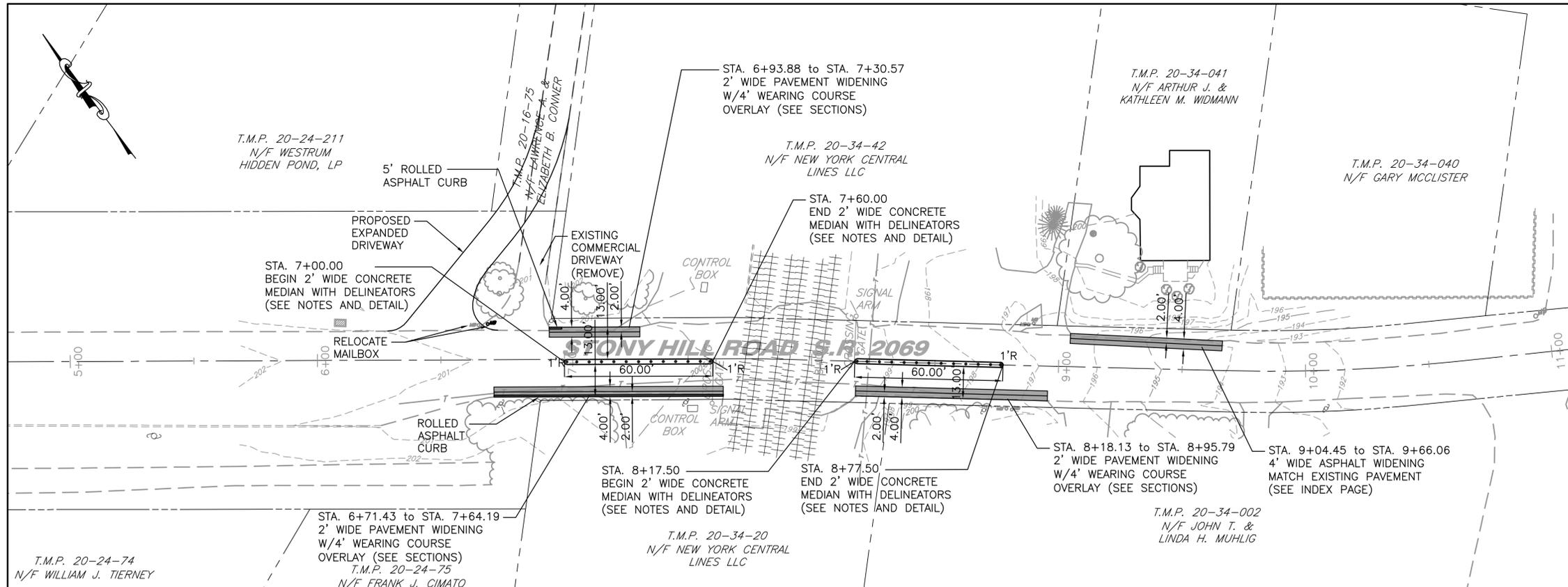
SHEET
2 OF 9

DATE:
JULY 22, 2015

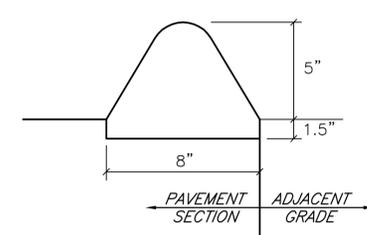
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GENERAL PAVEMENT IMPROVEMENT NOTES

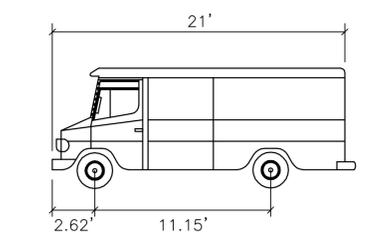
1. ALL PROPOSED STATIONS ARE APPROXIMATE. ADJUSTMENTS SHALL BE PERMITTED WHEN FIELD CONDITIONS WARRANT.
2. PROVIDE 2' WIDE CONCRETE MOUNDED MEDIAN; 6" HIGH MOUND AT CENTER. 6" DEPTH CONCRETE (CLASS A) WITH 6 X 6 WELDED WIRE FABRIC. CONCRETE TO BE SET OVER 6" DEPTH STONE BED (PENNDOT 2B STONE) OVER PREPARED SUBGRADE.
3. PROVIDE YELLOW COLORED TYPE SM-2 SURFACE MOUNTED DELINEATORS IN ACCORDANCE WITH PENNDOT PUBLICATION TC8604. DELINEATORS SET 5' O/C.
4. CENTER MEDIAN EAST OF CROSSING TO BEGIN AT LOCATION WHERE RAILROAD CROSSING ARM LOWERS. MEDIAN TO EXTEND A MINIMUM OF 60 FEET FROM THIS LOCATION. PROPOSED STATION LOCATIONS PROVIDED TO REFLECT THIS REQUIREMENT. ADJUSTMENTS SHALL BE PERMITTED IN THE FIELD TO BE CERTAIN REQUIREMENTS ARE MET.
5. CENTER MEDIAN WEST OF CROSSING TO BEGIN AT LOCATION WHERE RAILROAD CROSSING ARM LOWERS. MEDIAN TO EXTEND A MINIMUM OF 60 FEET FROM THIS LOCATION AND STOP PRIOR TO THE LOCATION OF THE EXISTING COMMERCIAL DRIVEWAY. PROPOSED STATION LOCATIONS PROVIDED TO REFLECT THIS REQUIREMENT. ADJUSTMENTS SHALL BE PERMITTED IN THE FIELD TO BE CERTAIN REQUIREMENTS ARE MET.
6. PROPOSED ASPHALT EDGE WIDENING TO PROVIDE 13' WIDTH FROM EDGE OF PROPOSED MEDIAN TO EDGE OF ROADWAY. LIMITS OF WIDENING REFLECT LOCATIONS WHERE EXISTING ASPHALT PROVIDES THIS DESIGNED WIDTH. ADJUSTMENTS MAY BE PERMITTED IN THE FIELD TO BE CERTAIN DESIGN STANDARD IS MET.
7. PROPOSED PAVEMENT SECTION SHALL MEET EXISTING PAVEMENT SECTION (SEE SHEET 2). SUPREPAVE WEARING AND BINDER COURSES SHALL BE UTILIZED FOR PROPOSED PAVEMENT.
8. ROLLED ASPHALT CURB PROVIDED IN LOCATIONS WHERE EXISTING UTILITIES WILL FALL LESS THAN 4' FROM PROPOSED EDGE OF PAVEMENT. FINAL FACE OF ROLLED CURB TO BE A MINIMUM OF 2' FROM FACE OF POLES.
9. SEAL ALL LONGITUDINAL JOINTS WITH PG64-22.
10. COMMERCIAL DRIVEWAY ALONG THE NORTHERN EDGE OF THE ROADWAY WILL BE RECONSTRUCTED TO SHIFT IT AWAY FROM THE PROPOSED MEDIAN. ALSO, PROPERTY HAS AN EXISTING UTILITY POLE IN CONFLICT WITH ACCESS BY FREQUENT DELIVERIES FROM FED-EX STYLE DELIVERY VANS. THE PROPOSED DRIVEWAY RECONSTRUCTION IS OFFERED TO ADDRESS THESE NEEDS. THE MEDIAN MUST BE CONSTRUCTED AS SHOWN DUE TO THE REQUIREMENTS OF THE QUIET ZONE. PROPOSED DRIVEWAY SECTION SHALL BE SUPERPAVE ASPHALT MIXTURE DESIGN, WMA, WEARING COURSE, PG 64-22, 0.0 TO 3.0 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL L, OVER 6" PENNDOT 2A STONE BASE. PROVIDE 12" COMPOST FILTER SOCK BELOW WORK AREA OF DRIVEWAY INSTALLATION TO PREVENT SEDIMENT LADEN WATER FROM ENTERING ADJACENT STORMWATER MANAGEMENT BASIN.



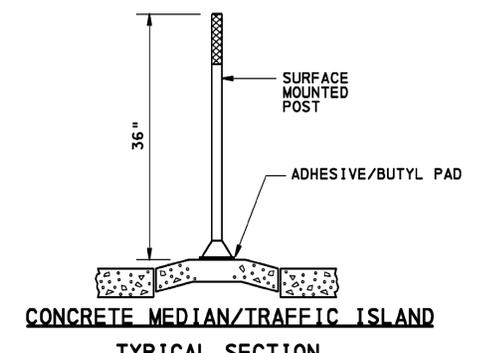
1. CURB SHALL BE SUPERPAVE ASPHALT MIXTURE DESIGN, WMA, BINDER COURSE, PG 64-22, 0.0 TO 3.0 MILLION ESALS, 19.0 MM MIX
2. INSTALL CURB BEFORE WEARING COURSE INSTALLATION.



ROLLED ASPHALT CURB



TAC-1999 (CA) LSU VAN



CONCRETE MEDIAN/TRAFFIC ISLAND TYPICAL SECTION

Written dimensions shall have priority over scaled dimensions. All dimensions, elevations, locations, and conditions, shall be verified by the Contractor prior to construction, and the Owner and Boucher & James, Inc. shall be notified of any discrepancies with the information shown on drawings.

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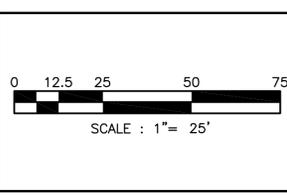
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PROJECT : STONY HILL ROAD (S.R. 2069) QUIET ZONE
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA

APPLICANT : LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY, PA 19067



JOB NO.: 1377032

DRAWN BY: R.D.J.

CHECKED BY: M.W.E.

SCALE: 1" = 25'

PLAN STATUS:

TITLE : ROADWAY IMPROVEMENT PLAN

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN STRAUSSBURG
CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401
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H.O.P. APPLICATION No. 87216

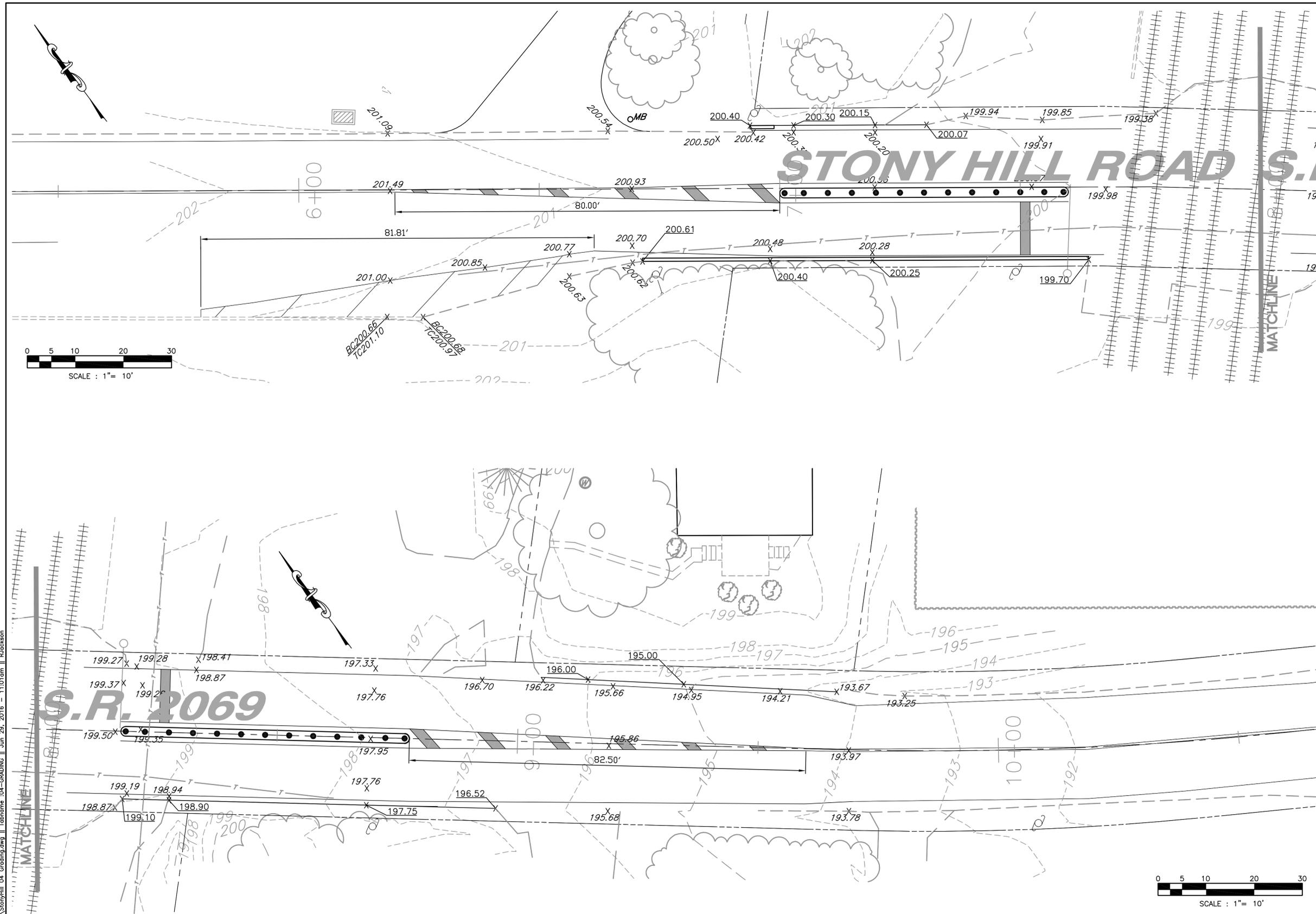
SHEET 3 OF 9

DATE: JULY 22, 2015

P:\2013\1377032\Draw\StonyHill_03-Layout.dwg | Tabname: 03-Layout PLAN | Jun 29, 2016 - 10:58am | Ruckson

GRADING NOTES

1. DIMENSIONS PROVIDED FOR EXISTING AND PROPOSED LANE TRANSITIONS.
2. ELEVATIONS PROVIDED AT PROPOSED ROLLED ASPHALT CURB AND PROPOSED CONCRETE MEDIAN ARE FOR WEARING COURSE PAVEMENT ELEVATIONS, AND DO NOT REFLECT ANY ELEVATIONS CHANGES FROM CONCRETE MOUND OR TOP-OF-CURB ELEVATIONS.



C:\2013\1377032\Drawings\Grading\Stony Hill 04 Grading.dwg | Tabname: 04-GRADING | Jun 29, 2016 - 11:01am | Rucabson

H.O.P. APPLICATION No. 87216

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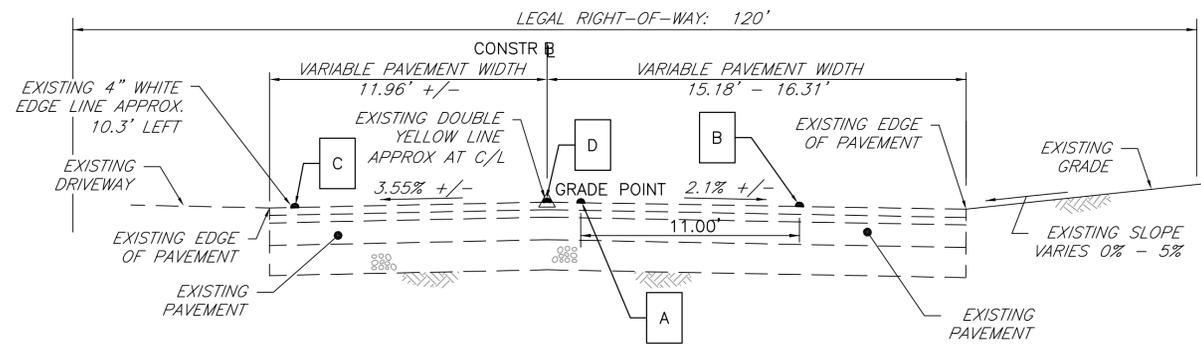
PROJECT :
STONY HILL ROAD (S.R. 2069) QUIET ZONE
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY, PENNSYLVANIA
APPLICANT :
LOWER MAKEFIELD TOWNSHIP
 1100 EDGEWOOD ROAD
 YARDLEY, PA 19067

JOB NO.:
 1377032
TITLE :
GRADING PLAN

DRAWN BY:
 R.D.J.
CHECKED BY:
 M.W.E.
SCALE:
 1" = 10'
PLAN STATUS:

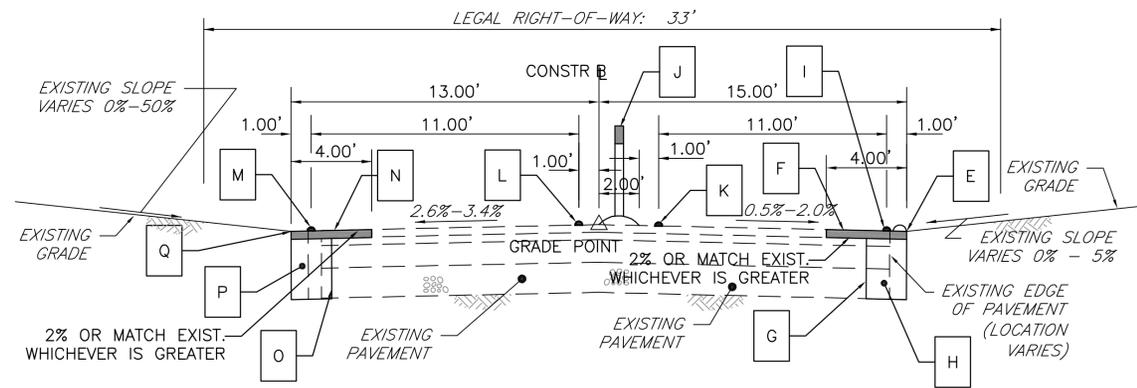
Boucher & James, Inc.
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 VOICE: (215) 345-9400 FAX: (215) 345-9401
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SHEET
4 OF 9
DATE:
 JULY 22, 2015



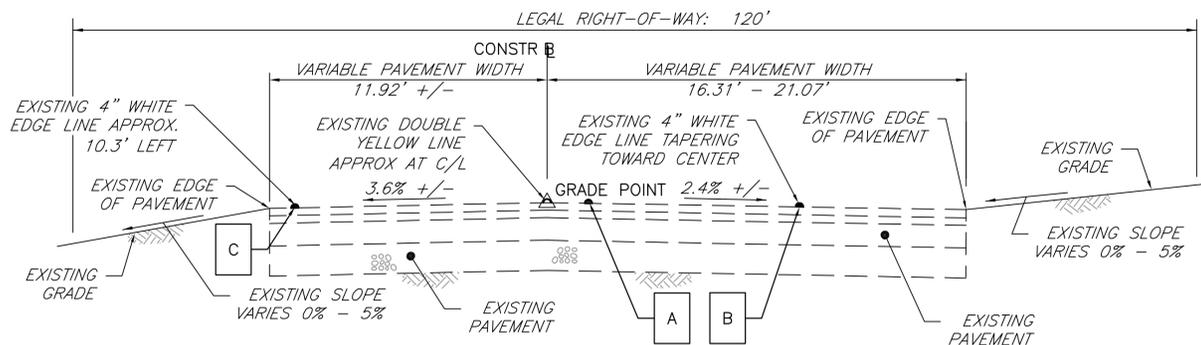
TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 06+61.38 TO STA. 06+70.00

NOT TO SCALE



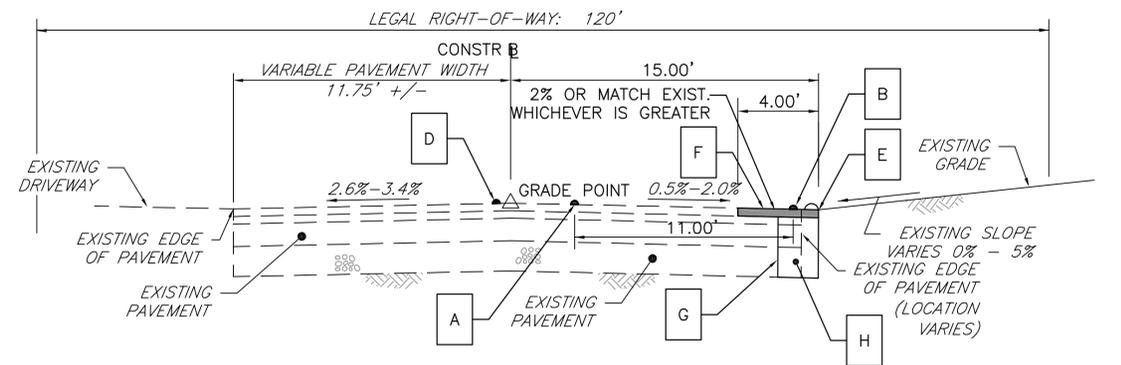
TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 07+00.00 TO STA. 07+30.57

NOT TO SCALE



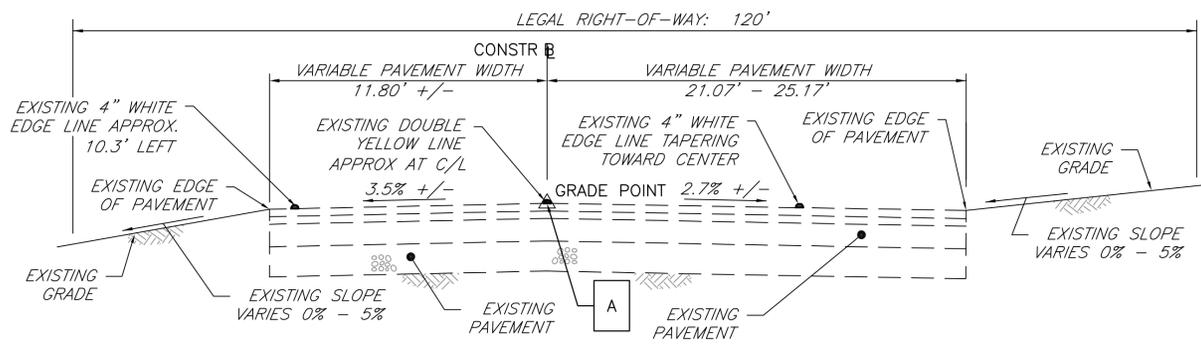
TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 06+20.00 TO STA. 06+61.38

NOT TO SCALE



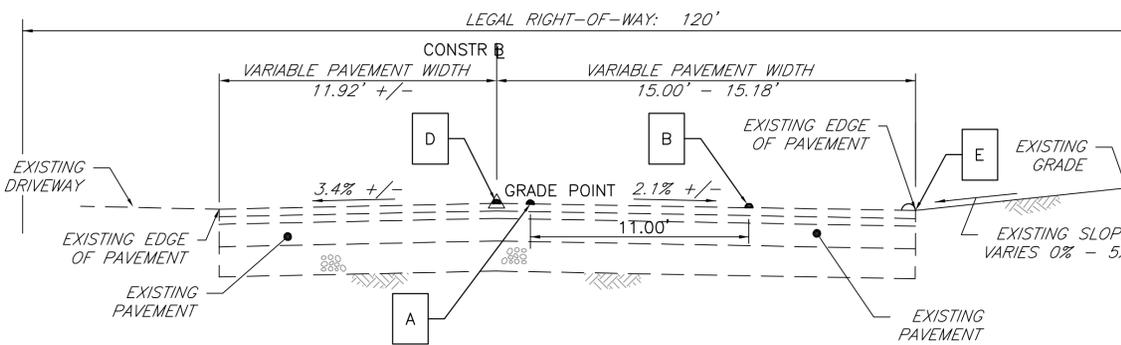
TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 06+71.43 TO STA. 07+00.00

NOT TO SCALE



TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 06+00.00 TO STA. 06+20.00

NOT TO SCALE



TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 06+70.00 TO STA. 06+71.43

NOT TO SCALE

LEGEND

- A REMOVE RIGHT HALF OF EXISTING DOUBLE YELLOW LINE FROM STA. 6+20.00 TO RAILROAD CROSSING. BEGIN PROPOSED 4" YELLOW LINE FROM STA. 6+20.00 TO STA. 7+00.00, TAPERED FROM EXISTING TO 3.00' RIGHT.
- B REMOVE 4" WHITE EDGE LINE FROM STATION 6+61.38 TO CROSSING. NEW 4" WHITE LINE BEGINNING AT CENTER-LINE AT STATION 6+61.38, SET 11.00' RIGHT OF CORRESPONDING 4" YELLOW LINE.
- C REMOVE EXISTING 4" WHITE EDGE LINE FROM STATION 6+61.38 TO CROSSING.
- D REMOVE EXISTING LEFT-SIDE YELLOW CENTER LINE FROM STATION 6+70.00 TO THE CROSSING. NEW 4" YELLOW LINE BEGINNING AT CENTER-LINE AT STATION 6+70.00, TAPERING TO 1.00' L AT STATION 7+00.00.
- E PROPOSED ROLLED ASPHALT CURB SET ON EDGE OF PAVEMENT AT 15.00' R, BEGINNING AT STATION 6+71.43 EXTENDING TO STATION 7+64.19.
- F MILL WEARING COURSE 1-1/2" FROM 11.00' R TO EDGE OF PAVEMENT, BEGINNING AT STATION 6+71.43 EXTENDING TO STATION 7+64.19. PROVIDE 4' WIDTH 1-1/2" SUPERPAVE WEARING COURSE OVERLAY (11.00' R TO 15.00' R) FROM STATION 6+71.43 EXTENDING TO STATION 7+64.19.
- G SAWCUT AND REMOVE EXISTING PAVEMENT FROM 13.00' R TO EXISTING EDGE.
- H CONSTRUCT 2' WIDTH PROPOSED PAVEMENT SECTION (STONE BASE, ASPHALT BASE COURSE, AND ASPHALT BINDER COURSE) FROM STATION 6+71.43 EXTENDING TO STATION 7+64.19 13.00' R TO 15.00' R.
- I 4" WHITE EDGE LINE SET AT 14.00' R, FROM STATION 6+95.00 TO STATION 7+60.00.
- J CHANNELIZATION DELINEATORS AND 2' WIDTH CONCRETE MEDIAN (SEE DETAIL SHEET 3) CENTERED AT 1.00' R FROM STATION 6+95.00 TO 7+60.00.
- K PROPOSED 4" YELLOW LINE 3.00' R FROM STATION 6+95.00 TO STATION 7+60.00.
- L PROPOSED 4" YELLOW LINE 1.00' L FROM STATION 6+95.00 TO STATION 7+60.00.
- M 4" WHITE EDGE LINE SET AT 12.00' L, FROM STATION 6+95.00 TO STATION 7+60.00.
- N MILL WEARING COURSE 1-1/2" FROM 9.00' L TO EDGE OF PAVEMENT, BEGINNING AT STATION 6+95.00 EXTENDING TO STATION 7+30.57. PROVIDE 4' WIDTH 1-1/2" SUPERPAVE WEARING COURSE OVERLAY (9.00' L TO 13.00' L) FROM STATION 6+95.00 EXTENDING TO STATION 7+30.57.
- O SAWCUT AND REMOVE EXISTING PAVEMENT FROM 9.00' L TO EXISTING EDGE.
- P CONSTRUCT 2' WIDTH PROPOSED PAVEMENT SECTION (STONE BASE, ASPHALT BASE COURSE, AND ASPHALT BINDER COURSE) FROM STATION 6+95.00 EXTENDING TO STATION 7+30.57; 11.00' L TO 13.00' L.
- Q PROPOSED EDGE OF PAVEMENT AT 13.00' L, BEGINNING AT STATION 6+95.00 EXTENDING TO STATION 7+30.57.

H.O.P. APPLICATION No. 87216

P:\2013\1377032.dwg Stony Hill 05-Typical Sections.dwg | Tabname: 05-Typical Sections.dwg | Jun 29, 2016 - 11:02am | Rubickson

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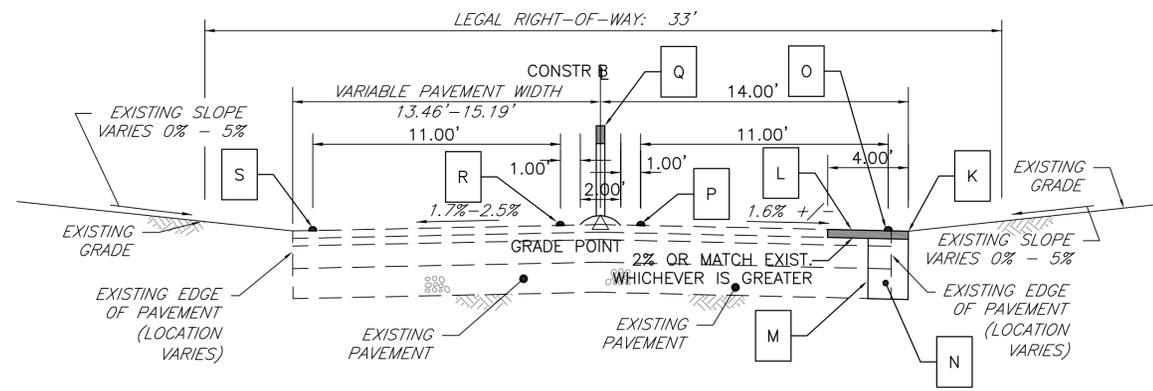
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02/17/16	REV'D PER PENNDOT LTR DATED 11/24/15		
03/25/16	REV'D PER PENNDOT LTR DATED 3/18/16		
06/01/16	REV'D PER PENNDOT LTR DATED 4/29/16		
06/29/16	REV'D PLANS PRIOR TO BIDDING		

PROJECT: STONY HILL ROAD (S.R. 2069) QUIET ZONE
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA
APPLICANT: LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY, PA 19067

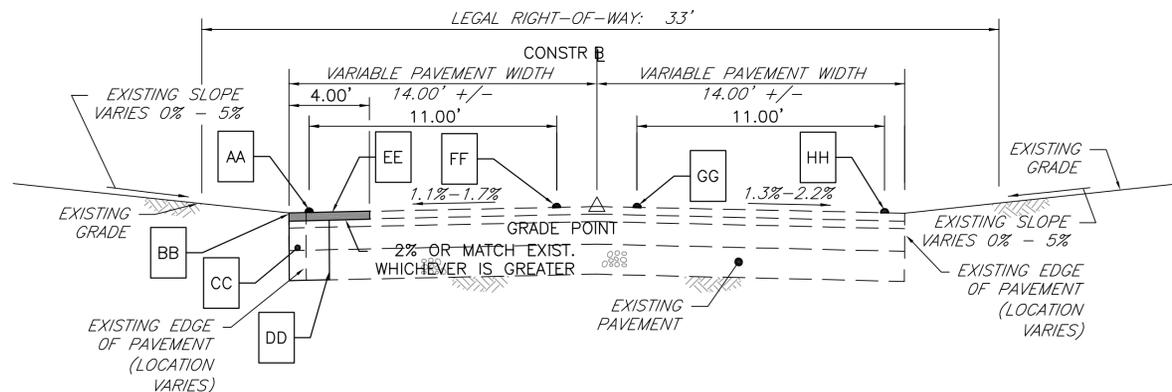
JOB NO.: 1377032
TITLE: ROADWAY SECTIONS (1 OF 2)
DRAWN BY: R.D.J.
CHECKED BY: M.W.E.
SCALE: NO SCALE
PLAN STATUS: PROJECT NAME: STONY HILL ROAD (S.R. 2069) QUIET ZONE

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN STRUDLSBURG
CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401
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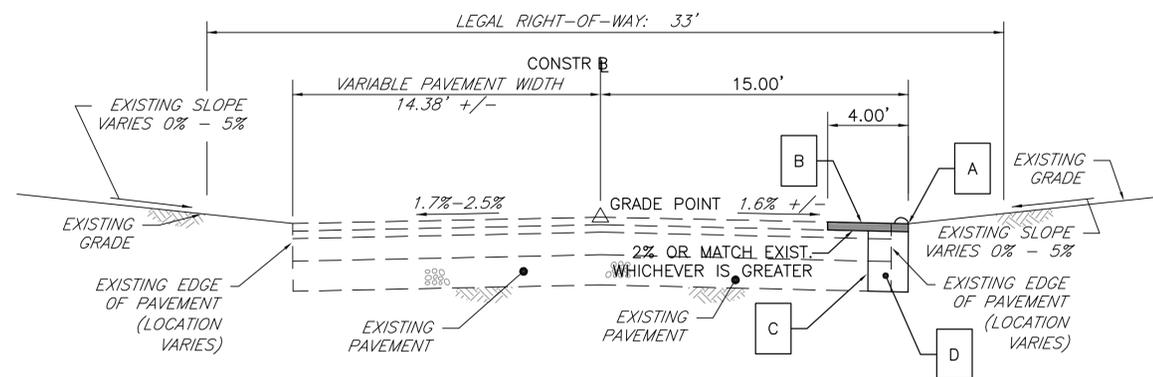
SHEET 5 OF 9
DATE: JULY 22, 2015



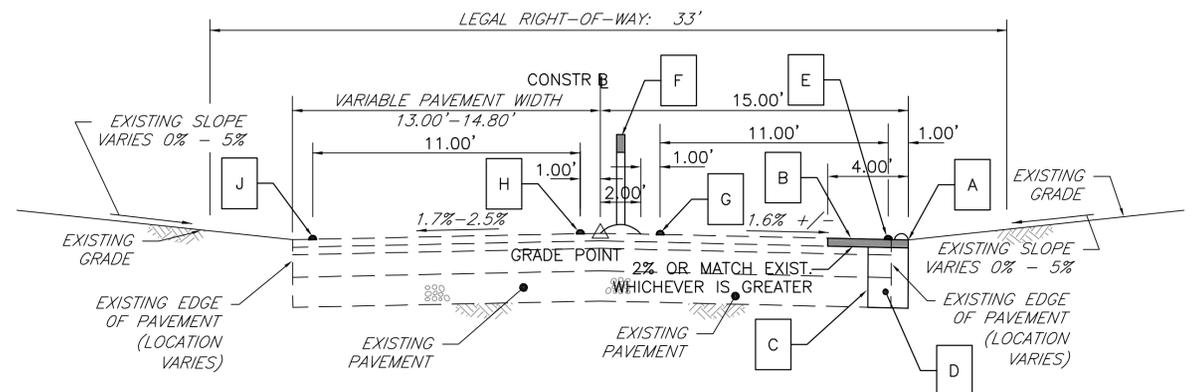
TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 08+17.50 TO STA. 08+77.50
NOT TO SCALE



TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 08+77.50 TO STA. 9+70.00
NOT TO SCALE



TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 07+60.00 TO STA. 07+64.19
NOT TO SCALE



TYPICAL SECTION - STONY HILL ROAD (S.R. 2069) STA. 07+30.57 TO STA. 07+60.00
NOT TO SCALE

LEGEND

- [A] PROPOSED ROLLED ASPHALT CURB AT EDGE OF PAVEMENT AT 15.00' R, BEGINNING AT STATION 6+71.43 EXTENDING TO STATION 7+64.19.
- [B] MILL WEARING COURSE 1-1/2" FROM 11.00' R TO EDGE OF PAVEMENT, BEGINNING AT STATION 6+71.43 EXTENDING TO STATION 7+64.19. PROVIDE 4' WIDTH 1-1/2" SUPERPAVE WEARING COURSE OVERLAY (11.00' R TO 15.00' R) FROM STATION 6+71.43 EXTENDING TO STATION 7+64.19.
- [C] SAWCUT AND REMOVE EXISTING PAVEMENT FROM 13.00' R TO EXISTING EDGE.
- [D] CONSTRUCT 2' WIDTH PROPOSED PAVEMENT SECTION (STONE BASE, ASPHALT BASE COURSE, AND ASPHALT BINDER COURSE) FROM STATION 6+71.43 EXTENDING TO STATION 7+64.19.
- [E] 4" WHITE EDGE LINE SET AT 14.00' R, FROM STATION 6+95.00 TO STATION 7+60.00.
- [F] CHANNELIZATION DELINEATORS AND 2' WIDTH CONCRETE MEDIAN (SEE DETAIL SHEET 3) CENTERED AT 1.00' R FROM STATION 6+95.00 TO 7+60.00.
- [G] PROPOSED 4" YELLOW LINE 3.00' R FROM STATION 6+95.00 TO STATION 7+60.00.
- [H] PROPOSED 4" YELLOW LINE 1.00' L FROM STATION 6+95.00 TO STATION 7+60.00.
- [J] 4" WHITE EDGE LINE SET AT 12.00' L, FROM STATION 6+95.00 TO STATION 7+60.00.
- [K] PROPOSED EDGE OF PAVEMENT AT 14.00' R, BEGINNING AT STATION 8+17.50 EXTENDING TO STATION 8+83.70.
- [L] MILL WEARING COURSE 1-1/2" FROM 10.00' R TO EDGE OF PAVEMENT, BEGINNING AT STATION 8+17.50 EXTENDING TO STATION 8+83.70. PROVIDE 4' WIDTH 1-1/2" SUPERPAVE WEARING COURSE OVERLAY (10.00' R TO 14.00' R) FROM STATION 8+17.50 EXTENDING TO STATION 8+83.70.
- [M] SAWCUT AND REMOVE EXISTING PAVEMENT FROM 12.00' R TO EXISTING EDGE, BEGINNING AT STATION 8+17.50 EXTENDING TO STATION 8+83.70.
- [N] CONSTRUCT 2' WIDTH PROPOSED PAVEMENT SECTION (STONE BASE, ASPHALT BASE COURSE, AND ASPHALT BINDER COURSE) FROM STATION 8+17.50 EXTENDING TO STATION 8+83.70.
- [O] 4" WHITE EDGE LINE SET AT 13.00' R, FROM STATION 8+17.50 TO STATION 8+77.50.
- [P] PROPOSED 4" YELLOW LINE 2.00' R FROM STATION 8+17.50 TO STATION 8+77.50.
- [Q] CHANNELIZATION DELINEATORS AND 2' WIDTH CONCRETE MEDIAN (SEE DETAIL SHEET 3) ON CENTERLINE FROM STATION 8+17.50 TO STATION 8+77.50.
- [R] PROPOSED 4" YELLOW LINE 2.00' L FROM STATION 8+17.50 TO STATION 8+77.50.
- [S] 4" WHITE EDGE LINE SET AT 13.00' L, FROM STATION 8+17.50 TO STATION 8+77.50.
- [AA] 4" WHITE EDGE LINE TAPERED TO EXISTING EDGE LINE. BEGIN AT STATION 8+77.50, 13.00' L TAPERED TOWARDS EXISTING WHITE EDGE LINE AT STATION 9+60.00. MAINTAIN 11' SEPARATION FROM CORRESPONDING 4" YELLOW LINE AT ROADWAY CENTER. FIELD ADJUST FINAL CONNECTION AS WARRANTED.
- [BB] PROPOSED EDGE OF PAVEMENT AT 14.00' L, BEGIN AT STATION 9+04.54, TAPERED TO EXISTING EDGE OF PAVEMENT AT STATION 9+66.00. MAINTAIN 12' SEPARATION FROM 4" YELLOW LINE AT ROADWAY CENTER.
- [CC] CONSTRUCT 2' WIDTH PROPOSED PAVEMENT SECTION (STONE BASE, ASPHALT BASE COURSE, AND ASPHALT BINDER COURSE) BEGIN AT STATION 9+04.54, TAPERED TO EXISTING EDGE OF PAVEMENT AT STATION 9+66.00. MAINTAIN 12' SEPARATION FROM 4" YELLOW LINE AT ROADWAY CENTER.
- [DD] SAWCUT AND REMOVE EXISTING PAVEMENT BEGIN AT STATION 9+04.54, TAPERED TO EXISTING EDGE OF PAVEMENT AT STATION 9+66.00. DESIRED 12' SEPARATION FROM PROPOSED 4" YELLOW LINE AT ROADWAY CENTER.
- [EE] MILL WEARING COURSE 1-1/2" FROM 10.00' L TO EDGE OF PAVEMENT, BEGINNING AT STATION 9+04.54 EXTENDING TO STATION 9+66.00. PROVIDE 4' WIDTH 1-1/2" SUPERPAVE WEARING COURSE OVERLAY (10.00' L TO 14.00' L) FROM STATION 9+04.54 EXTENDING TO STATION 9+66.00.
- [FF] 4" WHITE YELLOW LINE TAPERED TO EXISTING DOUBLE YELLOW LINE. BEGIN AT STATION 8+77.50, 2.00' L TAPERED TO EXISTING DOUBLE YELLOW LINE AT STATION 9+60.00.
- [GG] 4" WHITE YELLOW LINE TAPERED TO EXISTING DOUBLE YELLOW LINE. BEGIN AT STATION 8+77.50, 2.00' R TAPERED TO EXISTING DOUBLE YELLOW LINE AT STATION 9+60.00.
- [HH] 4" WHITE EDGE LINE TAPERED TO EXISTING EDGE LINE. BEGIN AT STATION 8+77.70, 13.00' R TAPERED TO EXISTING WHITE EDGE LINE AT STATION 9+70.00. MAINTAIN 11' SEPARATION FROM CORRESPONDING 4" YELLOW LINE AT ROADWAY CENTER.

P:\2013\137032.dwg Stony Hill 05-Typical Sections.dwg | Tabname: 06-StonySection-02 | Jun 29, 2016 - 11:03am | Ruckstein

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REVISIONS :		DATE	DESCRIPTION
10/23/15	REV'D PER PENNDOT LTR DATED 08/21/15		
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PROJECT :
STONY HILL ROAD (S.R. 2069) QUIET ZONE
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA

APPLICANT :
LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY, PA 19067

JOB NO.:
1377032

TITLE :
ROADWAY SECTIONS (2 OF 2)

DRAWN BY:
R.D.J.

CHECKED BY:
M.W.E.

SCALE:
NO SCALE

PLAN STATUS:

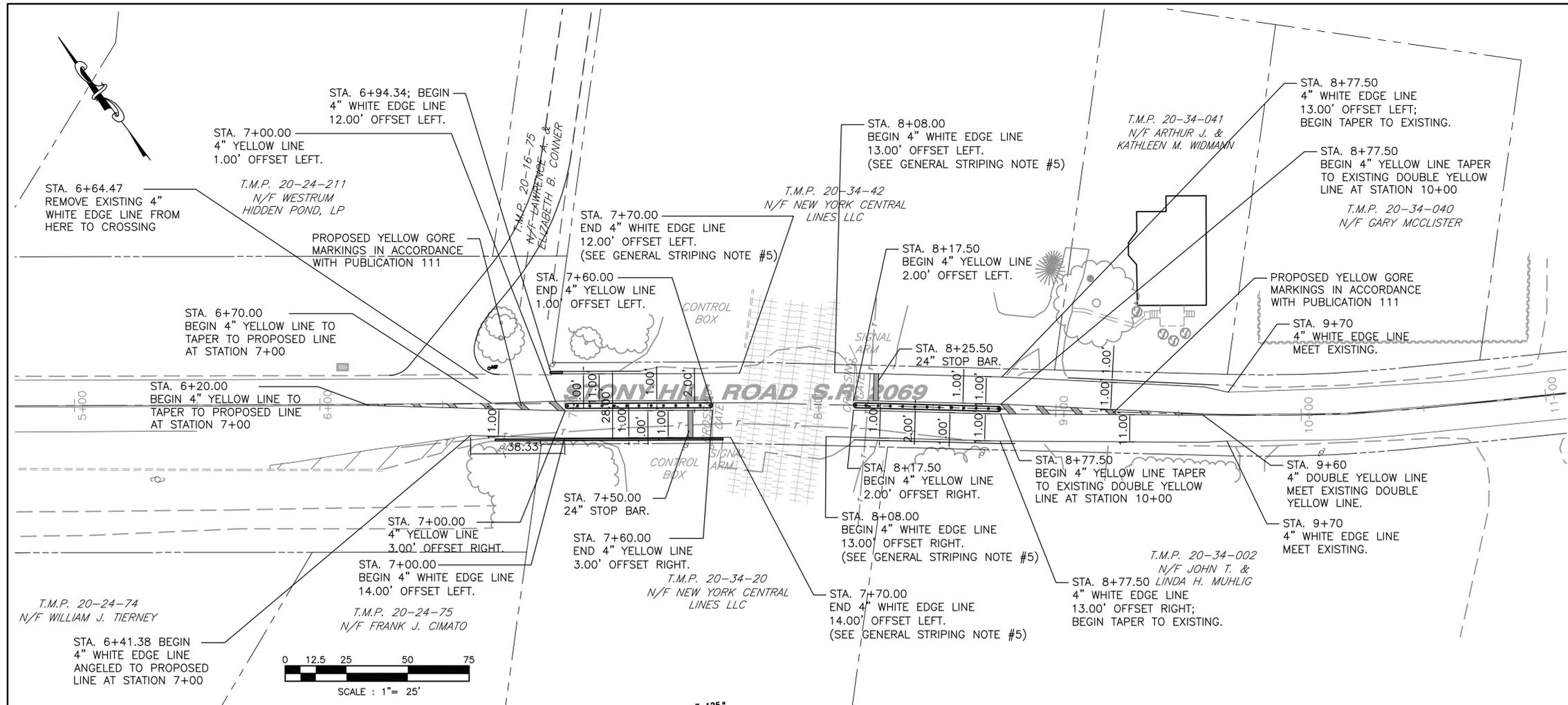
PROJECT NAME :
STONY HILL ROAD (S.R. 2069) QUIET ZONE

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN STRUDSBURG
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SHEET
6 OF 9

DATE:
JULY 22, 2015

H.O.P. APPLICATION No. 87216



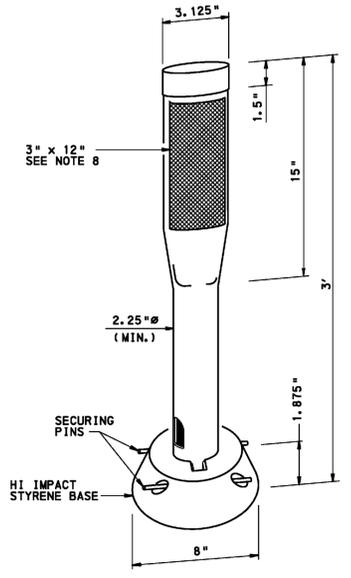
- ### STRIPING NOTES
- #### REMOVALS
1. REMOVE CENTER DOUBLE YELLOW LINE STRIPING FROM STATION 06+20 TO STATION 9+60.
 2. REMOVE EXISTING 4" WHITE EDGE STRIPES FROM STATION 06+61.38 TO STATION 9+70.
- #### PROPOSED
1. 4" YELLOW STRIPE FROM STATION 6+70 TO STATION 7+00; TAPER FROM EXISTING TO 1.00' OFFSET LEFT.
 2. 4" YELLOW STRIPE FROM STATION 7+00 TO STATION 7+60; 1.00' OFFSET LEFT.
 3. 4" YELLOW STRIPE FROM STATION 6+20 TO STATION 7+00; TAPER FROM EXISTING TO 3.00' OFFSET R.
 4. 4" YELLOW STRIPE FROM STATION 7+00 TO STATION 7+60; 3.00' OFFSET RIGHT.
 5. 4" WHITE EDGE STRIPE FROM STATION 6+94.34 TO STATION 7+70, 12.00' OFFSET LEFT.
 6. 4" WHITE EDGE STRIPE FROM STATION 7+00 WESTWARD TO STATION 7+70, 14.00' OFFSET RIGHT. TAPER 4" WHITE EDGE LINE FROM STATION 7+00 TO MATCH EXISTING AT APPROXIMATELY 6+61.38; MAINTAIN 11' LANE WIDTH.
 7. 24" WHITE STOP BAR FROM STATION 7+50 TO STATION 7+52. FULL WIDTH OF LANE. (NOTE: STOP BAR MUST BE 8' FROM GATE)
 8. 4" YELLOW STRIPE FROM STATION 8+17.50 TO STATION 8+77.50; 2.00' OFFSET LEFT.
 9. 4" YELLOW STRIPE FROM STATION 8+17.50 TO STATION 8+77.50; 2.00' OFFSET RIGHT.
 10. 4" YELLOW STRIPE, 2.00' OFFSET RIGHT, TAPERED BACK TO EXISTING DOUBLE YELLOW LINE; FROM STATION 8+77.50 TO STATION 9+60; NORTHERN EDGE.
 11. 4" YELLOW STRIPE, 2.00' OFFSET LEFT, TAPERED BACK TO EXISTING DOUBLE YELLOW LINE; FROM STATION 8+77.50 TO STATION 9+60; SOUTHERN EDGE.
 12. 4" WHITE STRIPE FROM STATION 8+08 TO STATION 8+77.50; 13.00' OFFSET LEFT.
 13. 4" WHITE STRIPE FROM STATION 8+08 TO STATION 8+77.50; 13.00' OFFSET RIGHT.
 14. 24" WHITE STOP BAR FROM STATION 8+25.50 TO STATION 8+27.50, FULL WIDTH OF LANE. (NOTE: STOP BAR MUST BE 8' FROM GATE)
 15. 4" WHITE STRIPE TAPERED BACK TO EXISTING EDGE 4" WHITE STRIPE; FROM STATION 8+77.50 TO STATION 9+70; NORTHERN EDGE. MAINTAIN 11.00' LANE WIDTH AS APPLICABLE. TAPER TO EXISTING NEAR END.
 16. 4" WHITE STRIPE TAPERED BACK TO EXISTING EDGE 4" WHITE STRIPE; FROM STATION 8+77.50 TO STATION 9+70; SOUTHERN EDGE. MAINTAIN 11.00' LANE WIDTH AS APPLICABLE. TAPER TO EXISTING NEAR END.

PAVEMENT STRIPING TAPER CALCULATIONS

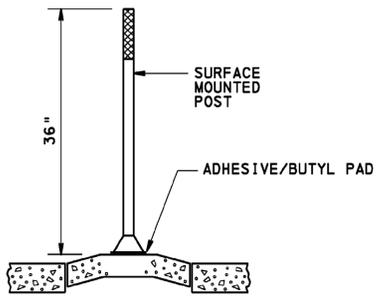
POSTED SPEED LIMIT IS 40 MPH; THEREFORE;

$$L = \frac{WS^2}{60}$$

1. NORTH-BOUND LANE; NORTH OF TRACKS
 $L = \frac{WS^2}{60} \quad W=1 \quad S=40 \quad \frac{(1)(40)^2}{60} = \frac{1,600}{60} = 26.67; \quad 30' \text{ DESIGNED}$
2. SOUTH-BOUND LANE; NORTH OF TRACKS
 $L = \frac{WS^2}{60} \quad W=3 \quad S=40 \quad \frac{(3)(40)^2}{60} = \frac{4,800}{60} = 80; \quad 80' \text{ DESIGNED}$
3. NORTH-BOUND LANE; SOUTH OF TRACKS
 $L = \frac{WS^2}{60} \quad W=2 \quad S=40 \quad \frac{(2)(40)^2}{60} = \frac{3,200}{60} = 53.33; \quad 82.5' \text{ DESIGNED}$
4. SOUTH-BOUND LANE; SOUTH OF TRACKS
 $L = \frac{WS^2}{60} \quad W=2 \quad S=40 \quad \frac{(2)(40)^2}{60} = \frac{3,200}{60} = 53.33; \quad 82.5' \text{ DESIGNED}$



TYPE SM-2
SURFACE-MOUNTED POSTS



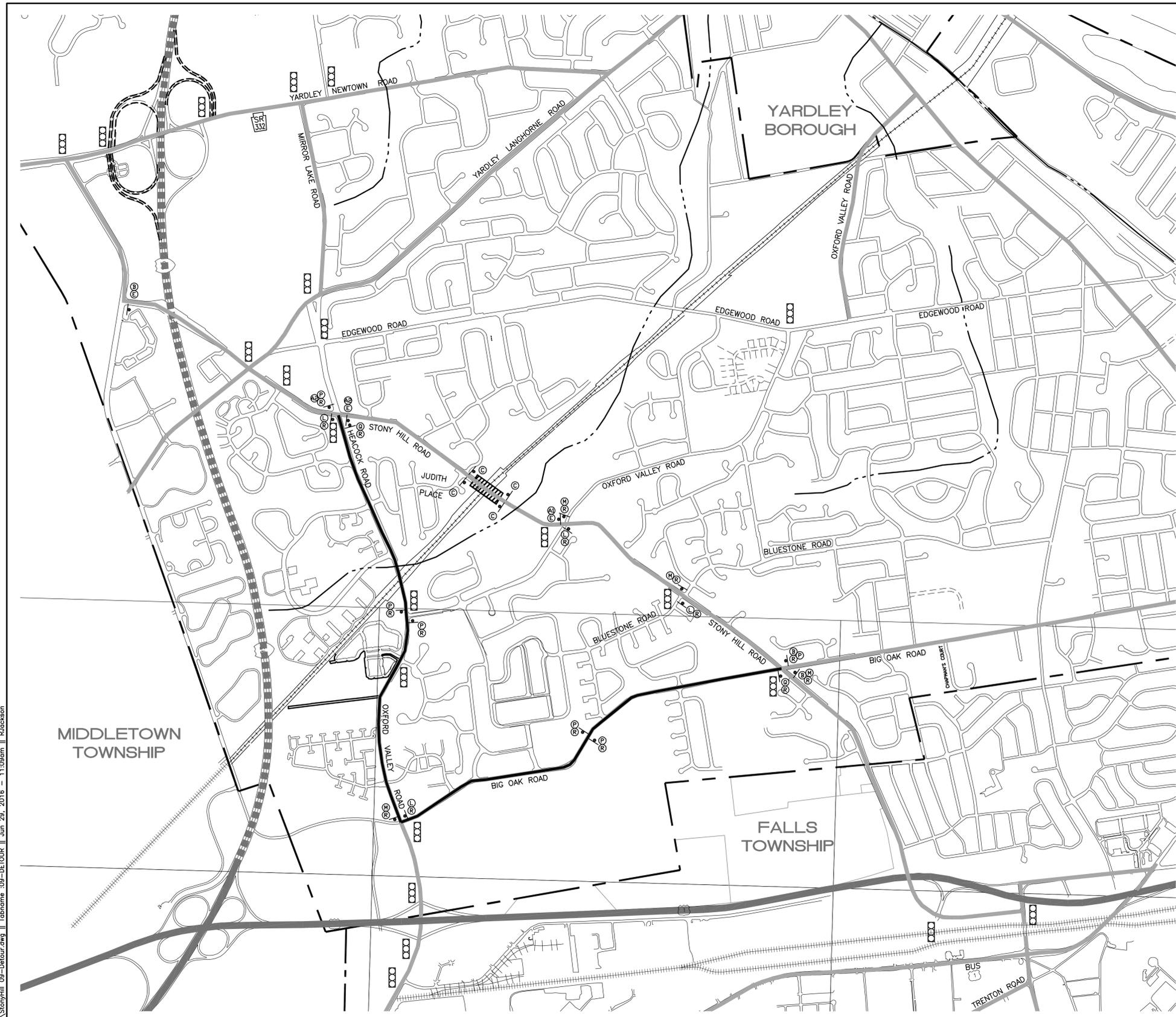
CONCRETE MEDIAN/TRAFFIC ISLAND
TYPICAL SECTION

GENERAL STRIPING NOTES

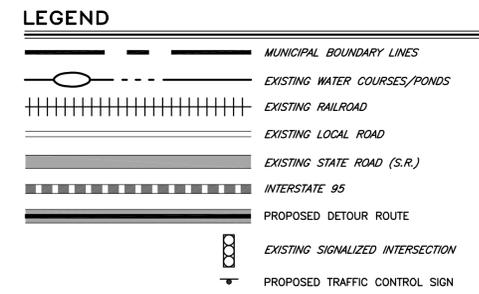
1. PROVIDE STRIPING IN ACCORDANCE WITH PENNDOT PUBLICATION TC8600.
2. ALL PROPOSED STATIONS ARE APPROXIMATE. ADJUSTMENTS SHALL BE PERMITTED WHEN FIELD CONDITIONS WARRANT.
3. ALL EXISTING PAVEMENT MARKINGS WHICH ARE NO LONGER APPROPRIATE SHALL BE ERADICATED BY THE PERMITTEE. THE PERMITTEE SHALL PLACE ALL REQUIRED NEW PAVEMENT MARKINGS.
4. ALL PAVEMENT MARKINGS OTHER THAN LONGITUDINAL LINES TO BE HOT THERMOPLASTIC.
5. 4" WHITE EDGE LINES SHALL END 4' FROM TRACK, IN ACCORDANCE WITH PENNDOT PUBLICATION 111.
6. MATCH EXISTING PAVEMENT MARKINGS AT THE LIMIT OF WORK.
7. EXISTING STRIPING ALONG WESTERN EDGE OF SOUTHBOUND LANE NORTH OF CROSSING TO REMAIN AS EXISTING. NO CALCULATIONS PROVIDED.
8. REPLACE EXISTING RAILROAD CROSSING PAVEMENT MARKINGS AT STATIONS 1+00 TO 1+50 AND 12+00 TO 12+60 WITH NEW MARKINGS PER TC-8600.

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		REVISIONS : <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>10/23/15</td> <td>REV'D PER PENNDOT LTR DATED 08/21/15</td> <td></td> <td></td> </tr> <tr> <td>02/17/16</td> <td>REV'D PER PENNDOT LTR DATED 11/24/15</td> <td></td> <td></td> </tr> <tr> <td>03/25/16</td> <td>REV'D PER PENNDOT LTR DATED 3/18/16</td> <td></td> <td></td> </tr> <tr> <td>06/01/16</td> <td>REV'D PER PENNDOT LTR DATED 4/29/16</td> <td></td> <td></td> </tr> <tr> <td>06/29/16</td> <td>REV'D PLANS PRIOR TO BIDDING</td> <td></td> <td></td> </tr> </tbody> </table>		DATE	DESCRIPTION	DATE	DESCRIPTION	10/23/15	REV'D PER PENNDOT LTR DATED 08/21/15			02/17/16	REV'D PER PENNDOT LTR DATED 11/24/15			03/25/16	REV'D PER PENNDOT LTR DATED 3/18/16			06/01/16	REV'D PER PENNDOT LTR DATED 4/29/16			06/29/16	REV'D PLANS PRIOR TO BIDDING			PROJECT : STONY HILL ROAD (S.R. 2069) QUIET ZONE LOWER MAKEFIELD TOWNSHIP BUCKS COUNTY, PENNSYLVANIA	
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APPLICANT : LOWER MAKEFIELD TOWNSHIP 1100 EDGEWOOD ROAD YARDLEY, PA 19067		JOB NO.: 1377032		TITLE : PROPOSED PAVEMENT MARKING PLAN																									
DRAWN BY: R.D.J. CHECKED BY: M.W.E. SCALE: 1" = 25' PLAN STATUS:				SHEET 8 OF 9 DATE: JULY 22, 2015																									
PENNSYLVANIA ACT 801 OF 2012 (AS AMENDED) REGISTERED PROFESSIONAL ENGINEER PA ONE-CALL SERIAL NO. 2015001956 JUNE 29, 2015		CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901 VOICE: (215) 345-9400 FAX: (215) 345-9401 www.bjengineers.com		STONY HILL ROAD (S.R. 2069) QUIET ZONE																									

C:\2013\1377032\Draw\StonyHill_08_Markings.dwg | Tabname: 08-Pavement Marking Plan | Jun 29, 2015 - 1:05pm | Ruckson



- NOTES:**
1. UNDER NON-DETOUR CONDITIONS, NO TRAFFIC RESTRICTIONS OR LANE CLOSURES ARE PERMITTED BETWEEN THE HOURS OF 6:00 AM TO 9:00 AM AND 3:00 PM TO 6:00 PM, MONDAY THROUGH FRIDAY AND LEGAL HOLIDAYS.
 2. ADVANCE NOTICE OF DETOUR SIGNS (SIGN E) MUST BE POSTED AT LEAST TWO WEEKS PRIOR TO THE BEGINNING OF THE DETOUR.
 3. THE CONTRACTOR MUST NOTIFY THE BUCKS COUNTY MAINTENANCE OFFICE AT LEAST ONE WEEK IN ADVANCE OF THE PROPOSED ROAD CLOSURE.
 4. ACCESS TO ALL DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES.
 5. THE CONTRACTOR IS RESPONSIBLE FOR SIGNAL TIMING CHANGE ON DETOUR ROUTE IF REQUIRED FOR BACK-UP TRAFFIC IN PEAK HOURS.



SIGN LEGEND

A1 ROAD CLOSED 300 FEET AHEAD LOCAL TRAFFIC ONLY

A2 ROAD CLOSED 500 FEET AHEAD LOCAL TRAFFIC ONLY

B ROAD CLOSED 1/4 MILE AHEAD LOCAL TRAFFIC ONLY

C ROAD CLOSED

F ROAD CLOSED 500 FT

G ROAD CLOSED 1000 FT

H ROAD CLOSED 1500 FT

I DETOUR 500 FT

J DETOUR 1000 FT

K DETOUR 1500 FT

L DETOUR

M DETOUR

N DETOUR

O DETOUR

P DETOUR

Q END DETOUR

R STONY HILL ROAD

S STONY HILL ROAD CLOSED BETWEEN JUDITH PLACE AND OXFORD VALLEY ROAD FOLLOW DETOUR

T THIS ROAD TO BE CLOSED XXX-XX-XXXX

U SPECIAL (60" X 54") 3.0" RADIUS; 1.3" BORDER; 0.8" INDENT; BLACK ON ORANGE

V SPECIAL (48" X 36") 2.3" RADIUS; 0.9" BORDER; 0.6" INDENT; BLACK ON ORANGE

Written dimensions shall have priority over scaled dimensions. All dimensions, elevations, locations, and conditions, shall be verified by the Contractor prior to construction, and the Owner and Boucher & James, Inc. shall be notified of any discrepancies with the information shown on drawings.

Only those plans incorporating the raised or red ink professional seal shall be considered official and relied upon. All ideas, designs and arrangements presented herein were developed for use on, and in connection with, the specified project being prepared for the Owner. These plans may not be reproduced or altered without the expressed written permission of Boucher & James, Inc.

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DATE	DESCRIPTION	DATE	DESCRIPTION
10/23/15	REV'D PER PENNDOT LTR DATED 08/21/15		
02/17/16	REV'D PER PENNDOT LTR DATED 11/24/15		
03/25/16	REV'D PER PENNDOT LTR DATED 3/18/16		
06/01/16	REV'D PER PENNDOT LTR DATED 4/29/16		
06/29/16	REV'D PLANS PRIOR TO BIDDING		

PROJECT: STONY HILL ROAD (S.R. 2069) QUIET ZONE
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA

APPLICANT: LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY, PA 19067

SCALE: 1" = 200'

SCALE BAR: 0 100 200 400 600

JOB NO.: 1377032

TITLE: DETOUR PLAN

DRAWN BY: R.D.J.

CHECKED BY: M.W.E.

SCALE: 1" = 200'

PLAN STATUS:

PROJECT NAME: STONY HILL ROAD (S.R. 2069) QUIET ZONE

H.O.P. APPLICATION No. 87216

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN, STROULDSTOWN
CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401
www.bjengineers.com

SHEET 9 OF 9

DATE: JULY 22, 2015

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HEACOCK ROAD (S.R. 2029) QUIET ZONE IMPROVEMENTS

LOWER MAKEFIELD TOWNSHIP BUCKS COUNTY, PENNSYLVANIA

PENNSYLVANIA ACT 287 OF 1974 AS AMENDED UTILITY USERS LIST

COMPANY: PENNSYLVANIA AMERICAN WATER ADDRESS: 1145 EDGEWOOD RD YARDLEY, PA. 19067 CONTACT: ED BAETZEL EMAIL: edward.baetzel@amwater.com	COMPANY: LOWER MAKEFIELD TOWNSHIP ADDRESS: 1100 EDGEWOOD RD YARDLEY, PA. 19067 CONTACT: KEVIN KALL EMAIL: kkall@lmt.org
COMPANY: BUCKS COUNTY WATER & SEWER AUTHORITY ADDRESS: 1275 ALMHOUSE RD WARRINGTON, PA. 18976 CONTACT: JAMES NAPOLEON EMAIL: jamesnapoleon@bcwsa.net	COMPANY: ZAYO BANDWIDTH FORMERLY PPL TELCOM LLC ADDRESS: 1060 HARDEES DR UNIT H ABERDEEN, MD. 21001 CONTACT: GEORGE HUSS EMAIL: george.huss@zayo.com
COMPANY: COMCAST CABLEVISION ADDRESS: 55 INDUSTRIAL DRIVE IVYLAND, PA. 18974 CONTACT: KATHIE BROWN	COMPANY: FALLS TOWNSHIP MUNI AUTH ADDRESS: 557 LINCOLN HWY FAIRLESS HILLS, PA. 19030 CONTACT: MARTIN WITT EMAIL: mwitt@tofa-pa.com
COMPANY: USIC ADDRESS: 450 S HENDERSON RD SUITE B KING OF PRUSSIA, PA. 19406 CONTACT: GAVIN HEWITT EMAIL: gavinhe Witt@usicinc.com	COMPANY: VERIZON PENNSYLVANIA LLC ADDRESS: 180 SHEREE BLVD STE 2100 ROOM N/A EXTON, PA. 19341 CONTACT: KELLY BLOUNT EMAIL: kelly.b.blount@verizon.com



BEFORE YOU DIG ANYWHERE IN
PENNSYLVANIA! CALL 1-800-242-1776
NON-MEMBERS MUST BE CONTACTED DIRECTLY

PA LAWS REQUIRES THREE WORKING DAYS
NOTICE TO UTILITIES BEFORE YOU EXCAVATE,
DRILL, BLAST OR DEMOLISH

20151801897

THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF
ALL UNDERGROUND UTILITIES BEFORE THE START OF WORK.

CIVIL ENGINEERS

Boucher & James, Inc.

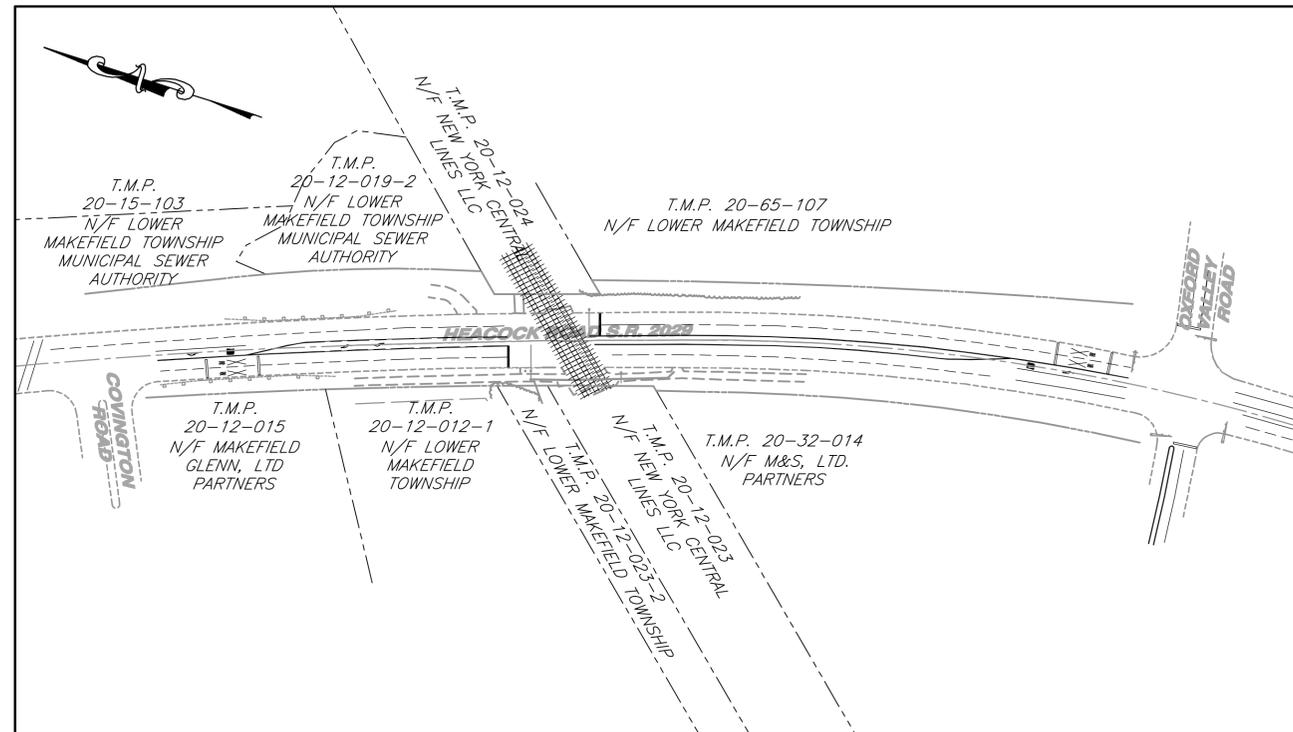
CONSULTING ENGINEERS

1456 FERRY ROAD - BUILDING 500

DOYLESTOWN, PA 18901

VOICE: (215) 345-9400

FAX: (215) 345-9401

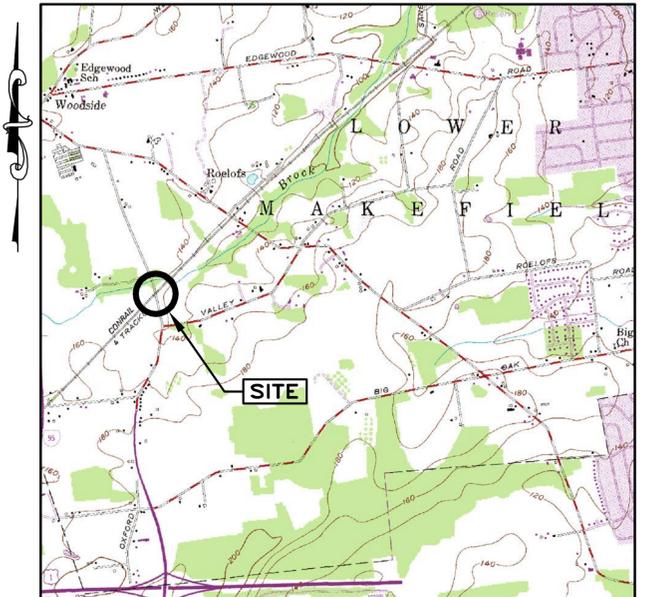


OVERALL SITE

SCALE: 1" = 100'



SCALE: 1" = 100'



LOCATION MAP

SOURCE MAP: U.S.G.S. QUAD SHEET FOR
TRENTON WEST, N.J. - PA
PHOTOREVISED 1981
SCALE: 1" = 2,000'



SCALE: 1" = 2000'

DRAWING INDEX

SHEET NO.	TITLE
1 OF 6	COVER SHEET
2 OF 6	INDEX PLAN
3 OF 6	GRADING PLAN
4 OF 6	PROPOSED SIGNAGE PLAN
5 OF 6	WORK ZONE FIGURES (1 OF 2)
6 OF 6	WORK ZONE FIGURES (2 OF 2)

APPLICANT LOWER MAKEFIELD TOWNSHIP

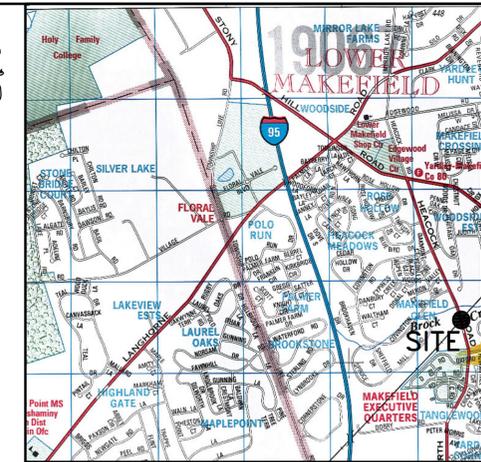
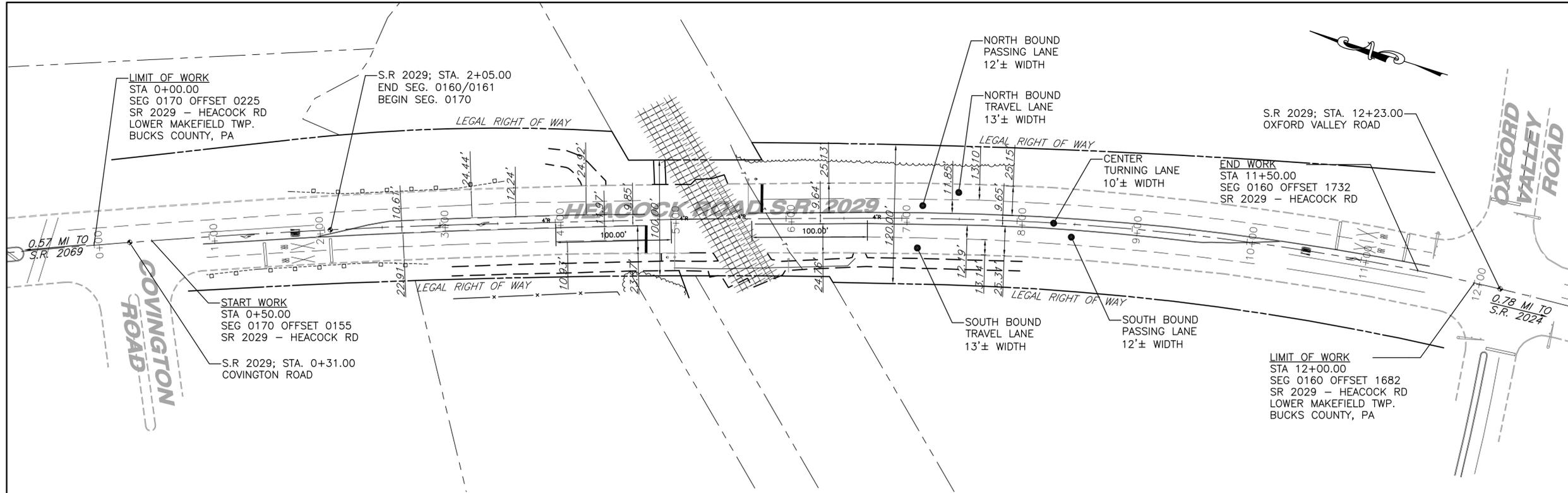
1100 EDGEWOOD ROAD

YARDLEY, PA 19067

VOICE: (267) 274-1100



JOB NO. 1377032
JULY 22, 2015
REVISED OCTOBER 23, 2016
REVISED FEBRUARY 17, 2016
LAST REVISED MARCH 25, 2016
SHEET 1 OF 6



LOCATION MAP
 SCALE: 1"=2000'
 SOURCE: BUCKS COUNTY (PA) ADC STREET MAP, 36
 COPYRIGHT ADC, THE MAP PEOPLE, PERMITTED USE # 20902114

LEGEND

---	ADJOINER LINE
---	EXISTING BOUNDARY
---	EXISTING CENTERLINE
---	EXISTING CURBLINE
---	EXISTING GUIDERAIL
---	EXISTING RIGHT-OF-WAY

PENNDOT SPECIFIC DETAILS

THE FOLLOWING STANDARD RC DETAILS FROM PENNDOT PUBLICATION 72M ARE PROPOSED FOR USE ON THIS PROJECT.

RC-64M: LAST REVISED JUNE 1, 2010.

TABULATION OF OVERALL LENGTH
 STA 0+00.00 TO STA 12+00.00 = 1,200.00 FT. = 0.227 MILES

TABULATION OF CONSTRUCTION LENGTH
 STA 0+50.00 TO STA 11+50.00 = 1,100.00 FT. = 0.208 MILES

RECORD OF EXISTING TYPES OF ROADWAY PAVEMENT

SEG 0160 OFFSET 1659 TO SEG 0160 OFFSET 2658 (SEG 0170 OFFSET 0000)	VARIABLE WIDTH OF 1.5" 12.5mm WEARING COURSE 2" ID-2 BINDER COURSE 6" BCBC BASE COURSE 6" 2A MODIFIED SUBBASE
SEG 0161 OFFSET 1659 TO SEG 0161 OFFSET 2658 (SEG 0170 OFFSET 0000)	VARIABLE WIDTH OF 1.5" 12.5mm WEARING COURSE 2" ID-2 BINDER COURSE 6" BCBC BASE COURSE 6" 2A MODIFIED SUBBASE
SEG 0170 OFFSET 0000 TO SEG 0170 OFFSET 0225	VARIABLE WIDTH OF 1.5" 12.5mm WEARING COURSE 2" ID-2 BINDER COURSE 6" BCBC BASE COURSE 6" 2A MODIFIED SUBBASE

SEGMENT EQUALITIES
 SR 2029 SECTION 0160/0161 & SECTION 0170

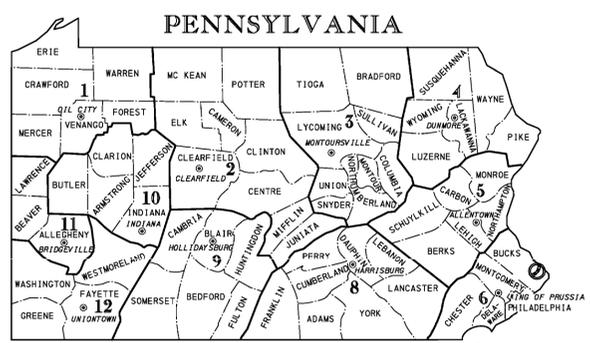
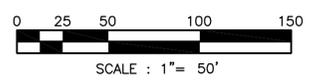
SEGMENT 0160, OFFSET 1659 = STATION 12+23.00
SEGMENT 0161, OFFSET 1659 = STATION 12+23.00
SEGMENT 0160, OFFSET 1682 = STATION 12+00.00
SEGMENT 0161, OFFSET 1682 = STATION 12+00.00
SEGMENT 0160, OFFSET 2667 = STATION 02+05.00
SEGMENT 0161, OFFSET 2667 = STATION 02+05.00
SEGMENT 0170, OFFSET 0000 = STATION 02+05.00
SEGMENT 0170, OFFSET 0155 = STATION 00+50.00
SEGMENT 0170, OFFSET 0174 = STATION 00+31.00
SEGMENT 0170, OFFSET 0205 = STATION 00+00.00

STRAIGHT LINE DIAGRAM DATA

STATE ROUTE	LIMITS OF CONSTRUCTION		PROPOSED CONSTRUCTION
	CONSTR STA	SEGMENT/OFFSET	
2029	0+50.00 TO 11+50.00	0170/0174 TO 0160/1659	CONSTRUCTION OF 8" CURBED CONCRETE MEDIAN BARRIER FOR RAILROAD QUIET ZONE, PLUS INSTALLATION OF APPROPRIATE SIGNAGE.

GENERAL NOTES

- BOUNDARY AND RIGHT OF WAY INFORMATION SHOWN HEREON IS BASED ON DEEDS OF RECORD, TAX MAPS AND PROPERTY MARKERS FOUND AT TIME OF SURVEY; AND IS APPROXIMATE.
- RIGHT-OF-WAY INFORMATION REVIEWED AGAINST PENNDOT PLANS FOR S.R. 2029, SECTION L01, DATED NOVEMBER 17, 1994. PLAN RIGHT-OF-WAY INFORMATION ADJUSTED TO MEET SURVEY INFORMATION OBTAINED DURING SURVEY NOTED BELOW.
- EXISTING FEATURES SHOWN HEREON ARE BASED ON A SURVEY COMPLETED BY BOUCHER & JAMES, INC. IN JULY OF 2014 AND REPRESENTS EXISTING CONDITIONS AT THAT TIME.
- DETAILED SURVEYED FEATURES (AS NOTED ABOVE) TAKEN BETWEEN STATION 3+00 AND STATION 8+00. ALL EXISTING FEATURES OUTSIDE OF THAT STATION RANGE HAVE BEEN TAKEN FROM AVAILABLE AERIAL IMAGERY AND ADDITIONAL SITE VISITS.
- BOUCHER & JAMES, INC. HAS NOT PERFORMED A VERIFICATION SURVEY TO DETERMINE THE EXISTENCE OF ANY UNDERGROUND UTILITY LINES WHICH MAY NOT HAVE BEEN VISIBLE AT THE TIME OF THE SURVEY.
- ROADWAY CENTERLINE SHOWN HEREON IS A BEST-FIT LINE AGAINST THE EXISTING ROADWAY AND RIGHT-OF-WAY INFORMATION.
- THE POSTED SPEED LIMIT ON HEACOCK ROAD (S.R. 2029) IS 40 MPH.



NOTE: DEPTHS OF MATERIALS TAKEN FROM PENNDOT WEBSITE, PAVEMENT HISTORY LISTING FOR S.R. 2029, BUCKS COUNTY

H.O.P. APPLICATION No. 87222

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REVISIONS :

DATE	DESCRIPTION	DATE	DESCRIPTION
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PROJECT :
 HEACOCK ROAD (S.R. 2029) QUIET ZONE
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY, PENNSYLVANIA

APPLICANT :
 LOWER MAKEFIELD TOWNSHIP
 1100 EDGEWOOD ROAD
 YARDLEY, PA 19067

JOB NO.:
 1377032

TITLE :
 INDEX PLAN

DRAWN BY:
 R.D.J.

CHECKED BY:
 M.W.E.

SCALE:
 1" = 50'

PLAN STATUS:

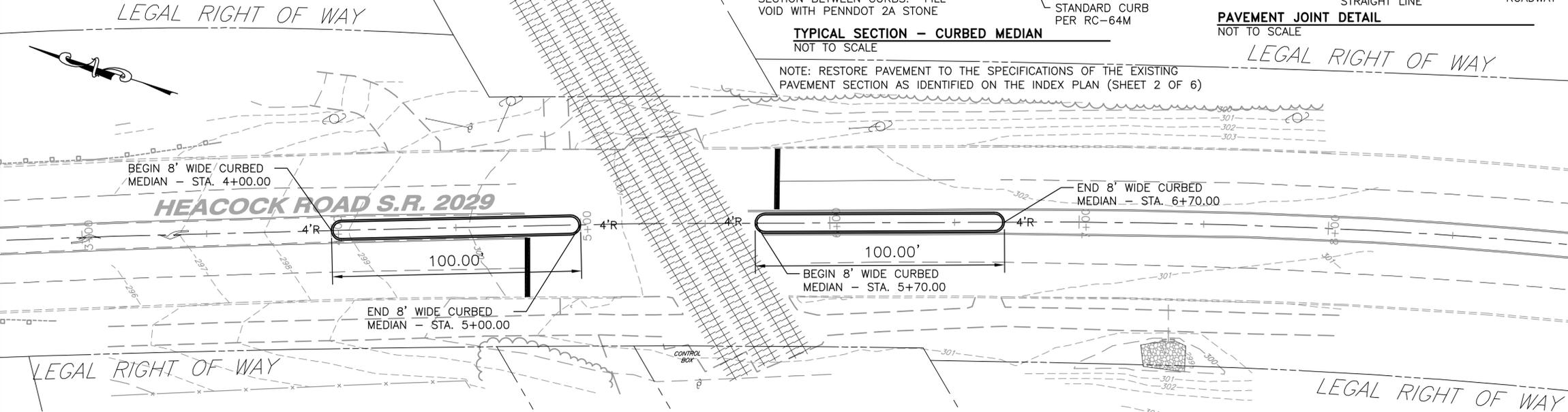
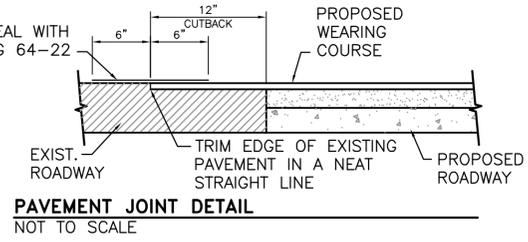
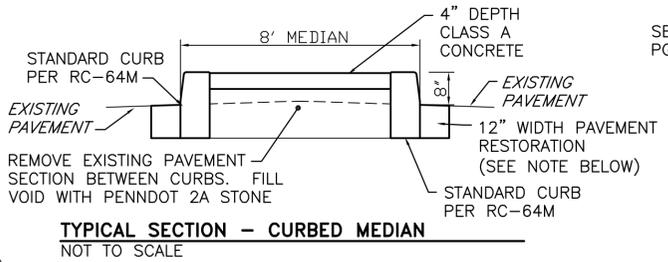
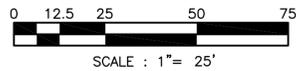
PROJECT NAME :
 HEACOCK ROAD (S.R. 2029) QUIET ZONE

Boucher & James, Inc.
 CONSULTING ENGINEERS
 DOYLESTOWN STRUDSBURG
 CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18011
 VOICE: (215) 345-9400 FAX: (215) 345-9401
 www.bjengineers.com

SHEET
 2 OF 6

DATE:
 JULY 22, 2015

P:\2015\1377032\Draws\Heacock 02-index.dwg | Tabname: 02 HEACOCK INDEX | Mar 25, 2016 - 10:28am | R:\dskson



STATION	OFFSET	ELEVATION	NOTES
3+75.00	30.13' L	297.57	EXISTING BOTTOM OF CURB
	17.62' L	297.78	EXISTING LANE STRIPE
	5.55' L	297.97	CENTER OF MEDIAN LANE STRIPING
	C/L	298.05	CENTER LINE PAVEMENT ELEVATION
	5.00' R	297.96	CENTER OF MEDIAN LANE STRIPING
	16.71' R	297.73	EXISTING LANE STRIPE
	27.78' R	297.50	EXISTING BOTTOM OF CURB
3+90.00	30.26' L	297.99	EXISTING BOTTOM OF CURB
	17.37' L	298.21	EXISTING LANE STRIPE
	5.63' L	298.40	CENTER OF MEDIAN LANE STRIPING
	C/L	298.50	CENTER LINE PAVEMENT ELEVATION
	C/L	299.17	PROPOSED TOP OF MEDIAN CURB
	4.96' R	298.40	CENTER OF MEDIAN LANE STRIPING
	16.70' R	298.18	EXISTING LANE STRIPE
	27.70' R	297.97	EXISTING BOTTOM OF CURB
4+00.00	30.36' L	298.28	EXISTING BOTTOM OF CURB
	17.20' L	298.50	EXISTING LANE STRIPE
	5.69' L	298.70	CENTER OF MEDIAN LANE STRIPING
	C/L	298.79	EX. PAVE/BOTTOM PROP. MEDIAN
	C/L	299.46	TOP OF CURB AT PROP. MEDIAN
	4.93' R	298.70	CENTER OF MEDIAN LANE STRIPING
	16.68' R	298.48	EXISTING LANE STRIPE
	27.64' R	298.28	EXISTING BOTTOM OF CURB
4+04.00	17.14' L	298.63	EXISTING LANE STRIPE
	5.72' L	298.82	CENTER OF MEDIAN LANE STRIPING
	4.00' L	298.85	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	299.52	TOP OF CURB AT PROP. MEDIAN
	C/L	299.58	TOP OF CURB AT PROP. MEDIAN
	4.00' R	299.51	TOP OF CURB AT PROP. MEDIAN
	4.00' R	298.84	EX. PAVE/BOTTOM PROP. MEDIAN
	4.91' R	298.83	CENTER OF MEDIAN LANE STRIPING
	16.67' R	298.61	EXISTING LANE STRIPE

- GENERAL NOTES**
- PROPOSED CURB MEDIAN TO BE STANDARD 8" REVEAL CURB, NOT MOUNTABLE CURB.
 - CONSTRUCTION OF PROPOSED MEDIAN IS THE ONLY PROPOSED CONSTRUCTION REQUIRING ALTERATION OF THE ROADWAY SURFACE. REMAINING WORK INVOLVES PLACEMENT OF NEW SIGNAGE AND PAVEMENT MARKINGS.
 - PROVIDE CONSTRUCTION IN ACCORDANCE WITH PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION (PUBLICATION 72M), JUNE 2010, RC63 AND RC64, AND IN ACCORDANCE WITH PENNDOT SPECIFICATIONS (PUBLICATION 408).
 - PURSUANT TO RAILROAD REGULATIONS THE CURBED MEDIAN SHALL BEGIN AT THE POINT WHERE THE CROSSING ARM FALLS DURING A TRAIN CROSSING. THE PROPOSED CURBED MEDIAN, AS SHOWN, HAS BEEN SET AT APPROXIMATELY THAT LOCATION. HOWEVER, FIELD ADJUSTMENTS SHALL BE PERMITTED TO BE CERTAIN FINAL LOCATION OF CURBED MEDIAN IS IN ACCORDANCE WITH APPLICABLE REGULATIONS.
 - PURSUANT TO RAILROAD REGULATIONS THE CURBED MEDIAN SHALL EXTEND AT LEAST 100 FEET FROM THE POINT WHERE THE CROSSING ARM FALLS DURING A TRAIN CROSSING. THE PROPOSED CURBED MEDIAN, AS SHOWN, HAS BEEN SET AT APPROXIMATELY THAT LOCATION. HOWEVER, FIELD ADJUSTMENTS SHALL BE PERMITTED TO BE CERTAIN FINAL LOCATION OF CURBED MEDIAN IS IN ACCORDANCE WITH APPLICABLE REGULATIONS.

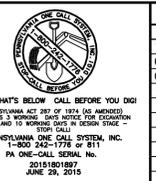
STATION	OFFSET	ELEVATION	NOTES
4+25.00	5.60' L	299.31	CENTER OF MEDIAN LANE STRIPING
	4.00' L	299.34	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	300.01	TOP OF CURB AT PROP. MEDIAN
	C/L	300.07	TOP OF PROPOSED MEDIAN
	4.00' R	300.01	TOP OF CURB AT PROP. MEDIAN
	4.00' R	299.34	EX. PAVE/BOTTOM PROP. MEDIAN
	4.87' R	299.33	CENTER OF MEDIAN LANE STRIPING
4+50.00	5.25' L	299.86	CENTER OF MEDIAN LANE STRIPING
	4.00' L	299.88	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	300.55	TOP OF CURB AT PROP. MEDIAN
	C/L	300.57	TOP OF PROPOSED MEDIAN
	4.00' R	300.53	TOP OF CURB AT PROP. MEDIAN
	4.00' R	299.86	EX. PAVE/BOTTOM PROP. MEDIAN
	4.83' R	299.86	CENTER OF MEDIAN LANE STRIPING

STATION	OFFSET	ELEVATION	NOTES
4+75.00	4.97' L	300.32	CENTER OF MEDIAN LANE STRIPING
	4.00' L	300.33	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	301.00	TOP OF CURB AT PROP. MEDIAN
	C/L	301.02	TOP OF PROPOSED MEDIAN
	4.00' R	300.98	TOP OF CURB AT PROP. MEDIAN
	4.00' R	300.31	EX. PAVE/BOTTOM PROP. MEDIAN
	4.83' R	300.30	CENTER OF MEDIAN LANE STRIPING
4+96.00	30.33' L	300.52	EDGE OF PAVEMENT
	4.00' L	300.67	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	301.33	TOP OF CURB AT PROP. MEDIAN
	C/L	301.34	TOP OF PROPOSED MEDIAN
	4.00' R	301.32	TOP OF CURB AT PROP. MEDIAN
	4.00' R	300.65	EX. PAVE/BOTTOM PROP. MEDIAN
	28.81' R	300.49	EXISTING BOTTOM OF CURB
5+00.00	30.23' L	300.62	EDGE OF PAVEMENT
	C/L	300.74	EX. PAVE/BOTTOM PROP. MEDIAN
	C/L	301.41	TOP OF CURB AT PROP. MEDIAN
	28.89' R	300.55	EXISTING BOTTOM OF CURB
5+70.00	29.83' L	301.47	EXISTING BOTTOM OF CURB
	4.87' L	301.51	CENTER OF MEDIAN LANE STRIPING
	C/L	301.64	EX. PAVE/BOTTOM PROP. MEDIAN
	C/L	302.31	TOP OF CURB AT PROP. MEDIAN
5+74.00	29.86' L	301.52	EXISTING BOTTOM OF CURB
	4.88' L	301.51	CENTER OF MEDIAN LANE STRIPING
	4.00' L	301.54	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	302.21	TOP OF CURB AT PROP. MEDIAN
	C/L	302.33	TOP OF PROPOSED MEDIAN
	4.00' R	302.23	TOP OF CURB AT PROP. MEDIAN
	4.00' R	301.57	EX. PAVE/BOTTOM PROP. MEDIAN
	4.59' R	301.56	CENTER OF MEDIAN LANE STRIPING

STATION	OFFSET	ELEVATION	NOTES
6+00.00	4.92' L	301.66	CENTER OF MEDIAN LANE STRIPING
	4.00' L	301.66	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	302.33	TOP OF CURB AT PROP. MEDIAN
	C/L	302.33	TOP OF PROPOSED MEDIAN
	4.00' R	302.28	TOP OF CURB AT PROP. MEDIAN
	4.00' R	301.61	EX. PAVE/BOTTOM PROP. MEDIAN
	4.63' R	301.60	CENTER OF MEDIAN LANE STRIPING
6+25.00	4.96' L	301.73	CENTER OF MEDIAN LANE STRIPING
	4.00' L	301.71	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	302.38	TOP OF CURB AT PROP. MEDIAN
	C/L	302.33	TOP OF PROPOSED MEDIAN
	4.00' R	302.26	TOP OF CURB AT PROP. MEDIAN
	4.00' R	301.59	EX. PAVE/BOTTOM PROP. MEDIAN
	4.66' R	301.59	CENTER OF MEDIAN LANE STRIPING
6+50.00	5.05' L	301.79	CENTER OF MEDIAN LANE STRIPING
	4.00' L	301.77	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	302.44	TOP OF CURB AT PROP. MEDIAN
	C/L	302.35	TOP OF PROPOSED MEDIAN
	4.00' R	302.26	TOP OF CURB AT PROP. MEDIAN
	4.00' R	301.59	EX. PAVE/BOTTOM PROP. MEDIAN
	4.63' R	301.58	CENTER OF MEDIAN LANE STRIPING
6+66.00	30.04' L	302.52	EXISTING BOTTOM OF CURB
	17.07' L	302.09	EXISTING LANE STRIPE
	5.11' L	301.80	CENTER OF MEDIAN LANE STRIPING
	4.00' L	301.77	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	302.45	TOP OF CURB AT PROP. MEDIAN
	C/L	302.36	TOP OF PROPOSED MEDIAN
	4.00' R	302.29	TOP OF CURB AT PROP. MEDIAN
	4.00' R	301.62	EX. PAVE/BOTTOM PROP. MEDIAN
	4.62' R	301.60	CENTER OF MEDIAN LANE STRIPING
	16.01' R	301.36	EXISTING LANE STRIPE
	29.76' R	301.07	EXISTING BOTTOM OF CURB
6+75.00	30.00' L	302.59	EXISTING BOTTOM OF CURB
	16.96' L	302.16	EXISTING LANE STRIPE
	5.06' L	301.82	CENTER OF MEDIAN LANE STRIPING
	4.00' L	301.79	EX. PAVE/BOTTOM PROP. MEDIAN
	4.00' L	302.46	TOP OF CURB AT PROP. MEDIAN
	C/L	302.37	TOP OF PROPOSED MEDIAN
	4.00' R	302.30	TOP OF CURB AT PROP. MEDIAN
	4.00' R	301.63	EX. PAVE/BOTTOM PROP. MEDIAN
	4.72' R	301.61	CENTER OF MEDIAN LANE STRIPING
	16.17' R	301.35	EXISTING LANE STRIPE
	29.95' R	301.00	EXISTING BOTTOM OF CURB
6+70.00	30.03' L	302.56	EXISTING BOTTOM OF CURB
	17.06' L	302.11	EXISTING LANE STRIPE
	5.12' L	301.79	CENTER OF MEDIAN LANE STRIPING
	C/L	301.69	EX. PAVE/BOTTOM PROP. MEDIAN
	C/L	302.36	PROPOSED TOP OF MEDIAN CURB
	4.62' R	301.61	CENTER OF MEDIAN LANE STRIPING
	16.05' R	301.36	EXISTING LANE STRIPE
	29.88' R	301.10	EXISTING BOTTOM OF CURB
7+00.00	29.98' L	302.75	EXISTING BOTTOM OF CURB
	16.65' L	302.30	EXISTING LANE STRIPE
	4.93' L	301.91	CENTER OF MEDIAN LANE STRIPING
	C/L	301.75	CENTER LINE PAVEMENT ELEVATION
	5.05' R	301.60	CENTER OF MEDIAN LANE STRIPING
	16.63' R	301.27	EXISTING LANE STRIPE
	30.10' R	300.88	EXISTING BOTTOM OF CURB

P:\2013\1377032\Draws\Final Draw\Heacock 03-690.dwg | Tabname: 03 HEACOCK GRADING | Apr 05, 2016 - 9:27am | Ruckason

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02/17/16	REV'D PER PENNDOT LTR DATED 11/24/15		
03/25/16	REV'D PER PENNDOT LTR DATED 03/18/16		

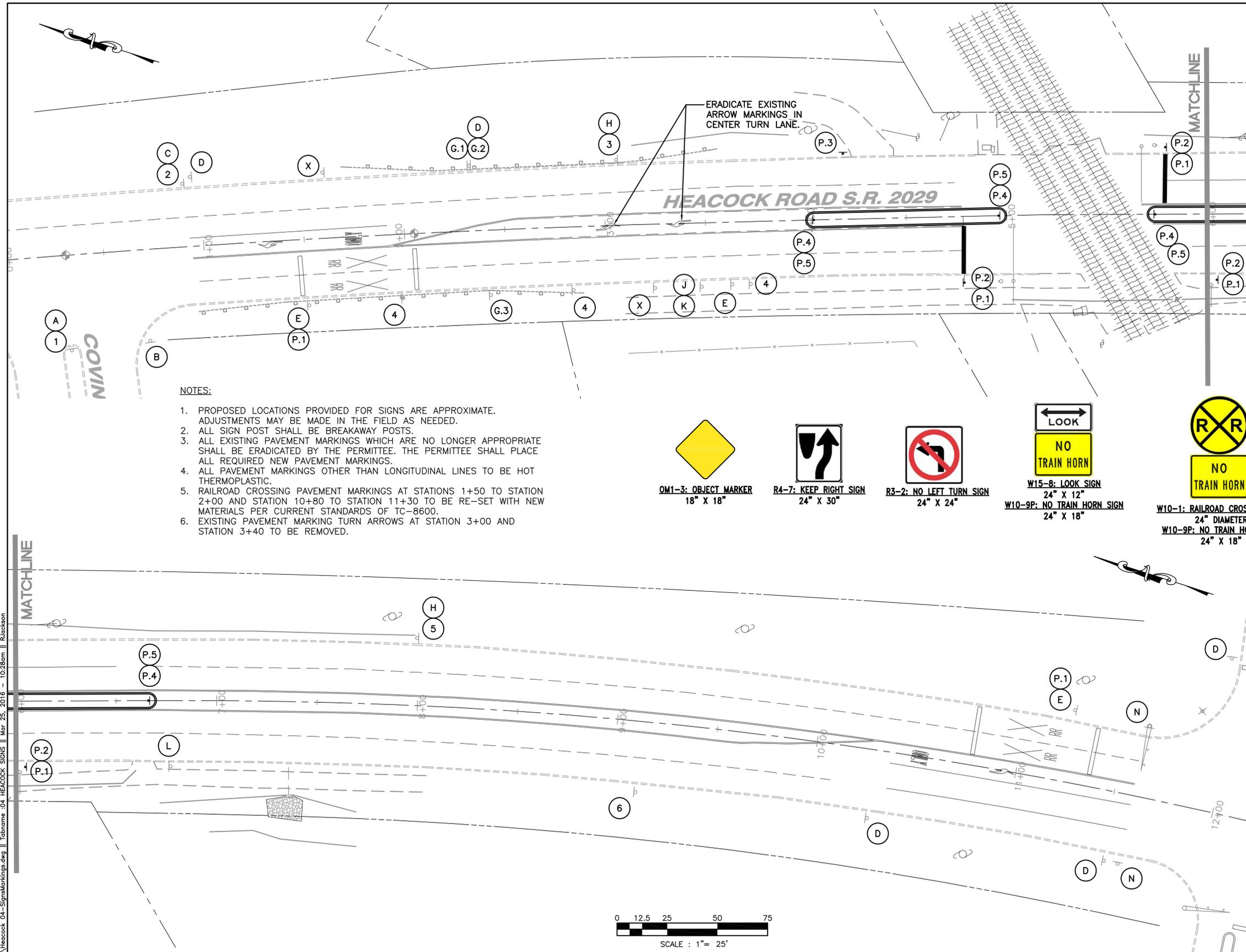
PROJECT :
HEACOCK ROAD (S.R. 2029) QUIET ZONE
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY, PENNSYLVANIA
APPLICANT :
LOWER MAKEFIELD TOWNSHIP
 1100 EDGEWOOD ROAD
 YARDLEY, PA 19067

JOB NO.:
1377032
TITLE :
GRADING PLAN
DRAWN BY:
 R.D.J.
CHECKED BY:
 M.W.E.
SCALE:
 1" = 25'
PLAN STATUS:
PROJECT NAME :
HEACOCK ROAD (S.R. 2029) QUIET ZONE

Boucher & James, Inc.
 CONSULTING ENGINEERS
 DOYLESTOWN STRUDSBURG
 CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
 VOICE: (215) 345-9400 FAX: (215) 345-9401
 www.bjengineers.com

SHEET
3 OF 6
DATE:
 JULY 22, 2015

H.O.P. APPLICATION No. 87222



NOTES:

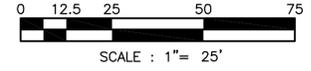
1. PROPOSED LOCATIONS PROVIDED FOR SIGNS ARE APPROXIMATE. ADJUSTMENTS MAY BE MADE IN THE FIELD AS NEEDED.
2. ALL SIGN POST SHALL BE BREAKAWAY POSTS.
3. ALL EXISTING PAVEMENT MARKINGS WHICH ARE NO LONGER APPROPRIATE SHALL BE ERADICATED BY THE PERMITTEE. THE PERMITTEE SHALL PLACE ALL REQUIRED NEW PAVEMENT MARKINGS.
4. ALL PAVEMENT MARKINGS OTHER THAN LONGITUDINAL LINES TO BE HOT THERMOPLASTIC.
5. RAILROAD CROSSING PAVEMENT MARKINGS AT STATIONS 1+50 TO STATION 2+00 AND STATION 10+80 TO STATION 11+30 TO BE RE-SET WITH NEW MATERIALS PER CURRENT STANDARDS OF TC-8600.
6. EXISTING PAVEMENT MARKING TURN ARROWS AT STATION 3+00 AND STATION 3+40 TO BE REMOVED.

SIGN TABULATION

EXISTING TRAFFIC SIGNS (PENNDOT APPROVED)		
ID	SERIES NUMBER/ DESCRIPTION	QTY.
A	R4-7: KEEP RIGHT SIGN	1
B	R1-1: STOP SIGN	1
B.1	R1-1: STOP SIGN (PEDESTRIAN PATHWAY - SMALLER)	1
C	W11-1: BICYCLE WARNING SIGN	1
D	R3-7L: LEFT LANE MUST TURN LEFT SIGN	5
E	W10-1: RAILROAD WARNING SIGN	3
G.1	STATE ROUTE SECTION PLAQUE (S.R. 2029 160)	1
G.2	STATE ROUTE SECTION PLAQUE (S.R. 2029 170)	1
G.3	STATE ROUTE SECTION PLAQUE (S.R. 2029 161)	1
H	W4-2R: PAVEMENT WIDTH TRANSITION - RIGHT LANE ENDS SIGN	2
J	R3-9-3: BEGIN SIGN	1
K	R3-9B: CENTER LANE - LEFT TURN ONLY SIGN	1
L	R2-1: SPEED LIMIT SIGN (40 MPH)	1
N	R9-3A: NO PEDESTRIAN CROSSING SIGN	2
R	R5-3: NO MOTOR VEHICLES	1
X	EXISTING SIGN POST - NO SIGN PRESENT	2

EXISTING TRAFFIC SIGNS (NOT PER PENNDOT)		
ID	DESCRIPTION / TEXT	QTY.
1	"PRIVATE PROPERTY POSITIVELY NO SOLICITING"	1
2	"SOCCER FIELD PARKING" WITH DIRECTION ARROW	1
3	"250 FEET" YELLOW DISTANCE PLAQUE	1
4	R7-1: "NO PARKING ANY TIME" SIGN	3
5	"750 FEET" YELLOW DISTANCE PLAQUE	1
6	RED DETOUR SIGN WITH DIRECTION ARROW	1

PROPOSED SIGNS		
ID	DESCRIPTION / TEXT	QTY.
P.1	W10-9P: "NO TRAIN HORN" SIGN LOCATION: STA. 1+50, 32.82' R; ADDED TO EX. SIGN POST	1
P.1	W10-9P: "NO TRAIN HORN" SIGN LOCATION: STA. 4+78.32, 33.11' R; NEW SIGN & POST	1
P.1	W10-9P: "NO TRAIN HORN" SIGN LOCATION: STA. 5+79.12, 33.29' L; NEW SIGN & POST	1
P.1	W10-9P: "NO TRAIN HORN" SIGN LOCATION: STA. 6+04.55, 32.70' R; NEW SIGN & POST	1
P.1	W10-9P: "NO TRAIN HORN" SIGN LOCATION: STA. 11+25 36.00' L; ADDED TO EX. SIGN POST	1
P.2	R15-8: "LOOK" SIGN LOCATION: STA. 4+78.32, 33.11' R; NEW SIGN & POST	1
P.2	R15-8: "LOOK" SIGN LOCATION: STA. 5+79.12, 33.29' L; NEW SIGN & POST	1
P.2	R15-8: "LOOK" SIGN LOCATION: STA. 6+04.55, 32.70' R; NEW SIGN & POST	1
P.3	R3-2: NO LEFT TURN SIGN LOCATION: STA. 4+19.24, 32.58' L; NEW SIGN & POST	1
P.4	R4-7: KEEP RIGHT SIGN LOCATION; OM1-3 OBJECT MARKER; STA. 4+04.00, ON CENTER	1 EA
P.4	R4-7: KEEP RIGHT SIGN LOCATION; OM1-3 OBJECT MARKER; STA. 4+96.00, ON CENTER	1 EA
P.4	R4-7: KEEP RIGHT SIGN LOCATION; OM1-3 OBJECT MARKER; STA. 5+74.00, ON CENTER	1 EA
P.4	R4-7: KEEP RIGHT SIGN LOCATION; OM1-3 OBJECT MARKER; STA. 6+66.00, ON CENTER	1 EA



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PROJECT : **HEACOCK ROAD (S.R. 2029) QUIET ZONE**
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY, PENNSYLVANIA
 APPLICANT : **LOWER MAKEFIELD TOWNSHIP**
 1100 EDGEWOOD ROAD
 YARDLEY, PA 19067

JOB NO.: **1377032**
 DRAWN BY: **R.D.J.**
 CHECKED BY: **M.W.E.**
 SCALE: **1" = 25'**
 PLAN STATUS:

TITLE : **PROPOSED SIGNAGE PLAN**

Boucher & James, Inc.
 CONSULTING ENGINEERS
 DOYLESTOWN STRUDSBURG
 CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
 VOICE: (215) 345-9400 FAX: (215) 345-9401
 www.bjengineers.com

SHEET **4 OF 6**
 DATE: **JULY 22, 2015**

H.O.P. APPLICATION No. 87222

HEACOCK ROAD (S.R. 2029) QUIET ZONE

PATA 102 (Old PATA 7) - Notes

1. If the work space is completely within a parking lane and parking is present, the taper or shadow vehicle is not required.
2. For operations of 15 minutes or less:
 - a. The Road Work (W20-1) sign is not required.
 - b. All channelizing devices may be eliminated if a shadow vehicle is present.
3. For divided highways and one-way highways where it is physically possible, advance warning signs should also be placed on the left-hand side of the roadway.
4. When a shadow vehicle is not used, distance E is measured from end of taper to beginning of work space.

Signs



W20-1

Sign Spacing Chart

Condition	Distance			
	A	B	C	F
	Feet	Feet	Feet	Feet
Urban 35 MPH or less	100	100	100	100
Urban Greater than 35 MPH	350	350	350	350
Rural	500	500	500	500

When multiple distance plaques are used on advance warning signs, they shall all be of the same series type.
Example: either all "AHEAD" or XXX FEET.

Taper Length Formulas

S	L
40 MPH or less	$L = \frac{WS^2}{60}$
45 MPH or more	$L = WS$

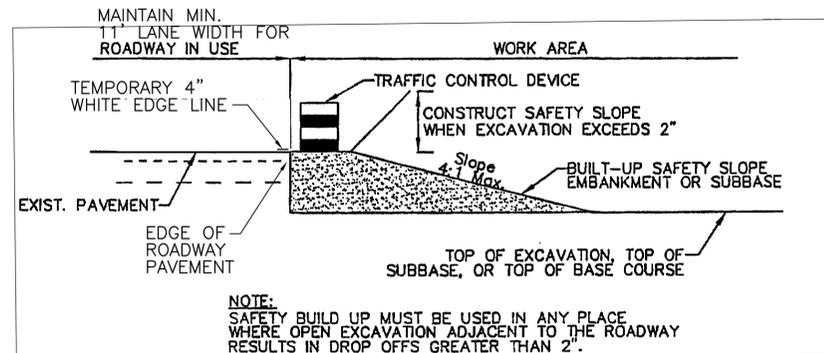
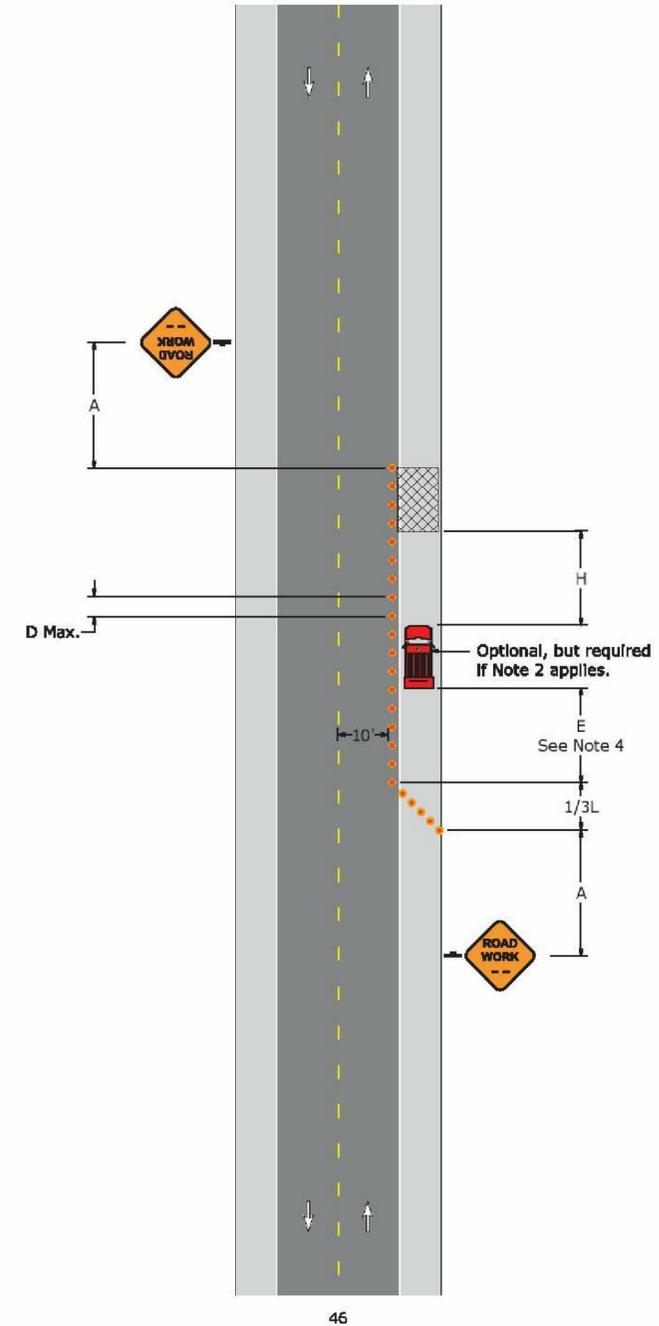
S = Regulatory Speed Limit
W = Width of Offset
L = Length

Distance and Spacing Quick Reference Chart

Speed MPH	W Feet	L Feet	1/2L Feet	1/3L Feet	Min. Channelizing Devices Per Taper Type (Length)				D Feet	E Feet	H Feet
					L	1/2L	1/3L	50'			
25	10	105	55	35					50	155	150
	11	115	60	40	6	6	6	6			
	12	125	65	45							
30	10	150	75	50	6				60	200	150
	11	165	85	55	7	6	6	6			
	12	180	90	60	7						
35	10	205	105	70	7				70	250	150
	11	225	115	75	8	6	6	6			
	12	245	125	85	8						
40	10	270	135	90	8				80	305	150
	11	295	150	100	9	6	6	6			
	12	320	160	110	9						
45	10	450	225	150	11	6					
	11	495	250	165	12	7	6	6	90	360	150
	12	540	270	180	13	7					
50	10	500	250	170	11	6					
	11	550	275	185	12	7	6	6	100	425	250
	12	600	300	200	13	7					
55	10	550	275	185	11	6					
	11	605	305	205	12	7	6	6	110	495	250
	12	660	330	220	13	7					

Note: Channelizing devices used in taper shall be equally spaced at 1/2 D Max.

**PATA 102 (Old PATA 7)
Work Space On Or Beyond The Shoulder (Minor Roadway Encroachment)**



DROPOFF TREATMENT FOR MAINTAINING TWO LANE TRAFFIC
NOT TO SCALE

H.O.P. APPLICATION No. 87222

P:\2015\1377032\Draws\Final Draw\Heacock 05-Traffic Control Diagrams.dwg | Tabname: 05 HEACOCK FIGURES | Mar 25, 2016 - 10:31am | Ruckless

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PROJECT :
HEACOCK ROAD (S.R. 2029) QUIET ZONE
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA

APPLICANT :
LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY, PA 19067

JOB NO.:
1377032

TITLE :
WORK ZONE FIGURES (1 OF 2)

DRAWN BY:
R.D.J.

CHECKED BY:
M.W.E.

SCALE:
NO SCALE

PLAN STATUS:

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN STRODSBURG
CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401
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SHEET
5 OF 6

DATE:
JULY 22, 2015

PATA 121 (Old PATA 15) - Notes

1. When shadow vehicles are not used, distance E is measured from end of taper to beginning of work space.

Signs



Sign Spacing Chart

Condition	Distance			
	A	B	C	F
Feet	Feet	Feet	Feet	Feet
Urban 35 MPH or less	100	100	100	100
Urban Greater than 35 MPH	350	350	350	350
Rural	500	500	500	500

When multiple distance plaques are used on advance warning signs, they shall all be of the same series type.
Example: either all "AHEAD" or XXX FEET.

Taper Length Formulas

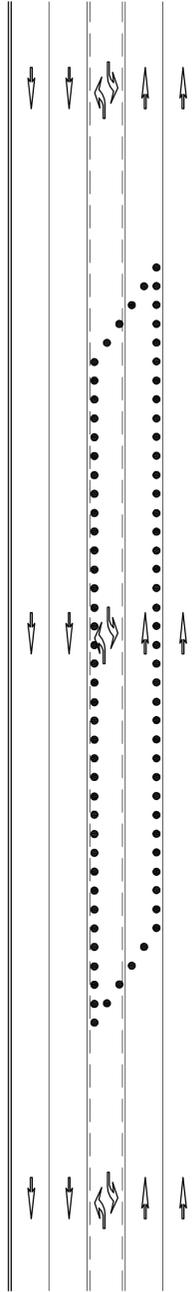
S	L
40 MPH or less	$L = \frac{WS^2}{60}$
45 MPH or more	$L = WS$

S = Regulatory Speed Limit
W = Width of Offset
L = Length

Distance and Spacing Quick Reference Chart

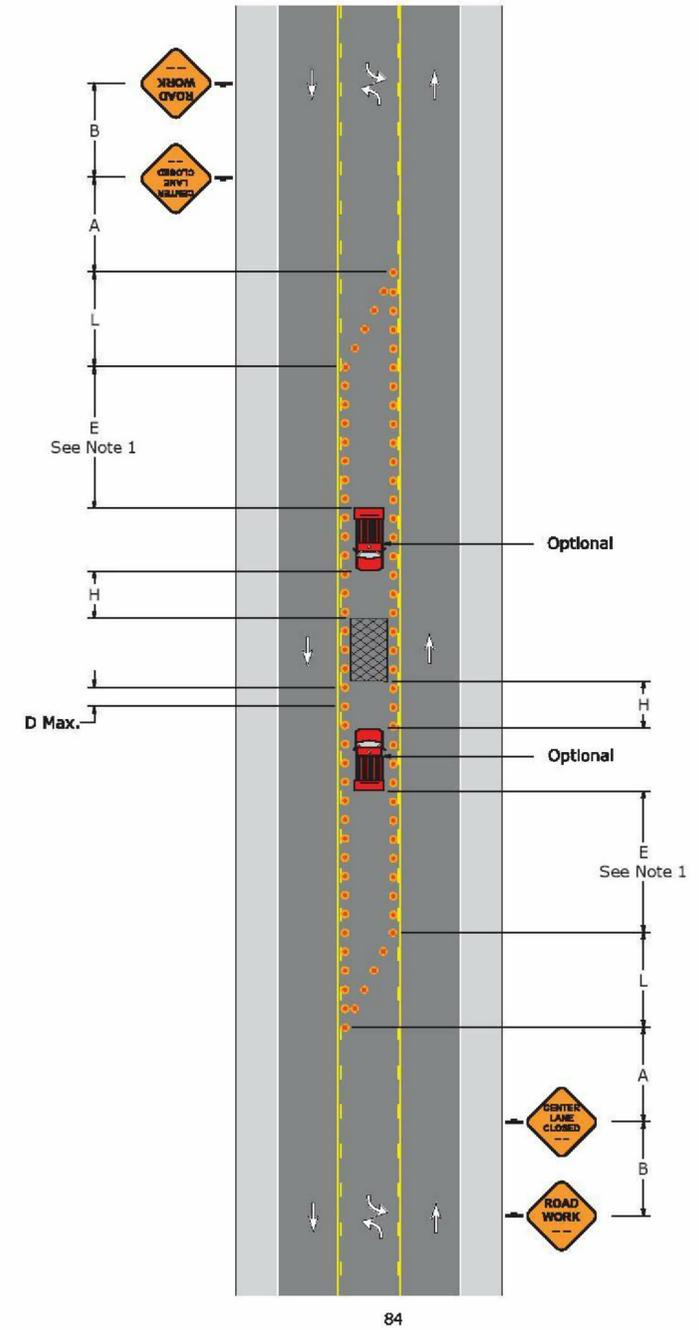
Speed	W	L	1/2L	1/3L	Min. Channelizing Devices Per Taper Type (Length)	D	E	H			
									MPH	Feet	Feet
25	10	105	55	35	6	6	6	6	50	155	150
	11	115	60	40							
	12	125	65	45							
30	10	150	75	50	6	6	6	6	60	200	150
	11	165	85	55							
	12	180	90	60							
35	10	205	105	70	6	6	6	6	70	250	150
	11	225	115	75							
	12	245	125	85							
40	10	270	135	90	6	6	6	6	80	305	150
	11	295	150	100							
	12	320	160	110							
45	10	450	225	150	6	6	6	6	90	360	150
	11	495	250	165							
	12	540	270	180							
50	10	500	250	170	6	6	6	6	100	425	250
	11	550	275	185							
	12	600	300	200							
55	10	550	275	185	6	6	6	6	110	495	250
	11	605	305	205							
	12	660	330	220							

Note: Channelizing devices used in taper shall be equally spaced at 1/2 D Max.



AMENDED PATA 121
NOT TO SCALE

PATA 121 (Old PATA 15)
Work Space In The Two-Way Left Turn Lane



WORK ZONE NOTES:

PENNDOT PUBLICATION 213 DOES NOT CONTAIN A FIGURE THAT ACCURATELY REPRESENTS THE PROPOSED WORK ZONE TO BE UTILIZED DURING CONSTRUCTION OF THE CENTER CURBED MEDIAN. PATA 121 MOST CLOSELY REFLECTS THE PROPOSED WORK ZONE. THE FOLLOWING NOTES ARE OFFERED TO PROVIDE ADDITIONAL GUIDANCE TO THE CONTRACTORS.

HEACOCK ROAD IS A FOUR LANE ROADWAY WITH A CENTRAL TURNING LANE; TWO LANES OF TRAVEL IN EACH DIRECTION. WORK WILL BE PERFORMED WITHIN THE CENTRAL TURNING LANE TO CONSTRUCT A CURBED MEDIAN. IT WILL BE NECESSARY FOR THE CENTRAL TURNING LANE TO BE CLOSED (AS SHOWN WITHIN PATA 121) AS WELL AS FOR ONE OF THE INNER TRAVEL LANES TO BE CLOSED FOR STAGING DURING CONSTRUCTION.

AUGMENT PATA 121 BY EXTENDING THE CONES TO COVER THE INNER LANE OF EITHER DIRECTION OF TRAFFIC. PLACE W4-2L SIGN 250 FEET IN ADVANCE OF LANE CLOSURE.



W4-2L

H.O.P. APPLICATION No. 87222

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LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA

APPLICANT :
LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY, PA 19067

JOB NO.:
1377032

TITLE :
WORK ZONE FIGURES (2 OF 2)

DRAWN BY:
R.D.J.

CHECKED BY:
M.W.E.

SCALE:
NO SCALE

PLAN STATUS:

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN STROUDSBURG

CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401

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SHEET
6 OF 6

DATE:
JULY 22, 2015

EDGEWOOD ROAD QUIET ZONE IMPROVEMENTS

LOWER MAKEFIELD TOWNSHIP BUCKS COUNTY, PENNSYLVANIA

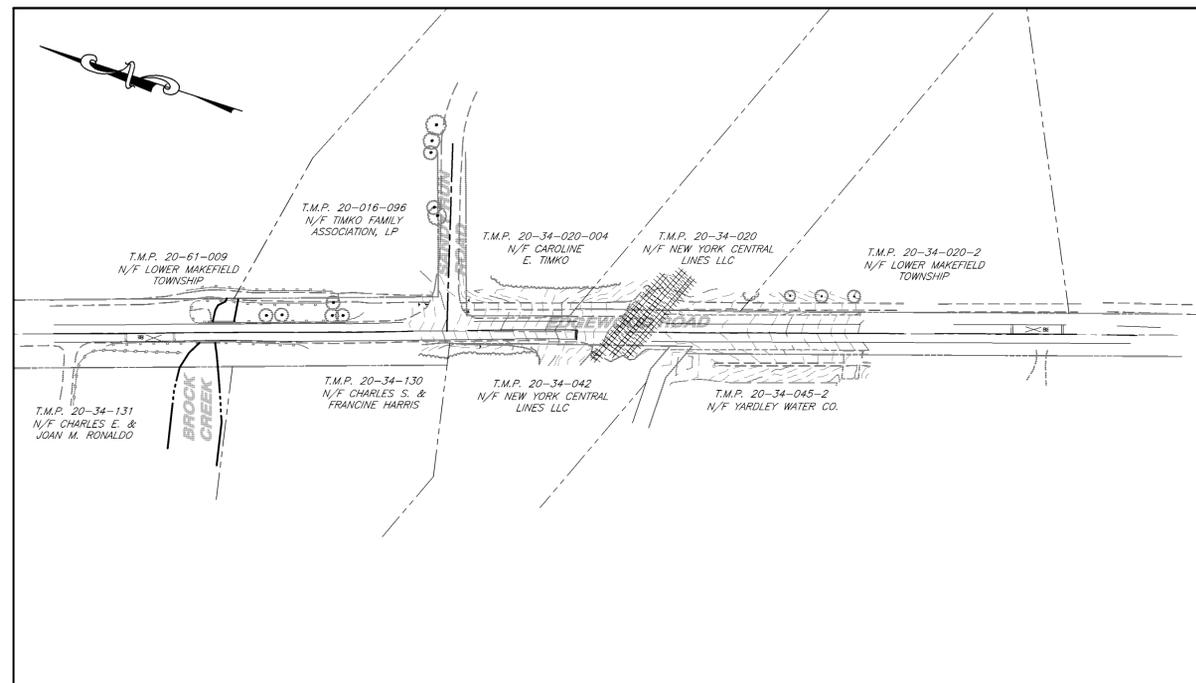
PENNSYLVANIA ACT 287 OF 1974 AS AMENDED UTILITY USERS LIST

COMPANY: PENNSYLVANIA AMERICAN WATER ADDRESS: 1145 EDGEWOOD RD YARDLEY, PA. 19067 CONTACT: ED BAETZEL EMAIL: edward.baetzel@amwater.com	COMPANY: LOWER MAKEFIELD TOWNSHIP ADDRESS: 1100 EDGEWOOD RD YARDLEY, PA. 19067 CONTACT: KEVIN KALL EMAIL: kkall@mt.org
COMPANY: BUCKS COUNTY WATER & SEWER AUTHORITY ADDRESS: 1275 ALMSHOUSE RD WARRINGTON, PA. 18976 CONTACT: JAMES NAPOLEON EMAIL: jamesnapoleon@bcwsa.net	COMPANY: ZAYO BANDWIDTH FORMERLY PPL TELCOM LLC ADDRESS: 1060 HARDEES DR UNIT H ABERDEEN, MD. 21001 CONTACT: GEORGE HUSS EMAIL: george.huss@zayo.com
COMPANY: COMCAST CABLEVISION ADDRESS: 55 INDUSTRIAL DRIVE MYLAND, PA. 18974 CONTACT: KATHIE BROWN	COMPANY: FALLS TOWNSHIP MUNI AUTH ADDRESS: 557 LINCOLN HWY FAIRLESS HILLS, PA. 19030 CONTACT: MARTIN WITT EMAIL: mwitt@tofo-pa.com
COMPANY: USIC ADDRESS: 450 S HENDERSON RD SUITE B KING OF PRUSSIA, PA. 19406 CONTACT: GAVIN HEWITT EMAIL: gavinhe Witt@usicinc.com	COMPANY: VERIZON PENNSYLVANIA LLC ADDRESS: 180 SHEREE BLVD STE 2100 ROOM N/A EXTON, PA. 19341 CONTACT: KELLY BLOUNT EMAIL: kelly.b.blount@verizon.com

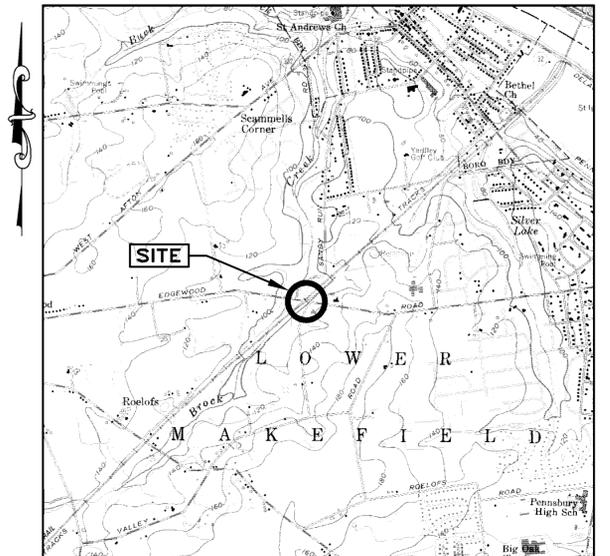
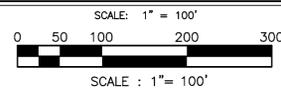


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NON-MEMBERS MUST BE CONTACTED DIRECTLY
PA LAWS REQUIRES THREE WORKING DAYS
NOTICE TO UTILITIES BEFORE YOU EXCAVATE,
DRILL, BLAST OR DEMOLISH
20151801897

THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF
ALL UNDERGROUND UTILITIES BEFORE THE START OF WORK.

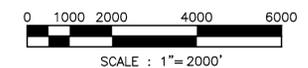


OVERALL SITE



LOCATION MAP

SOURCE MAP: U.S.G.S. QUAD SHEET FOR TRENTON WEST, N.J. - PA
PHOTOREVISED 1981
SCALE: 1" = 2,000'



DRAWING INDEX

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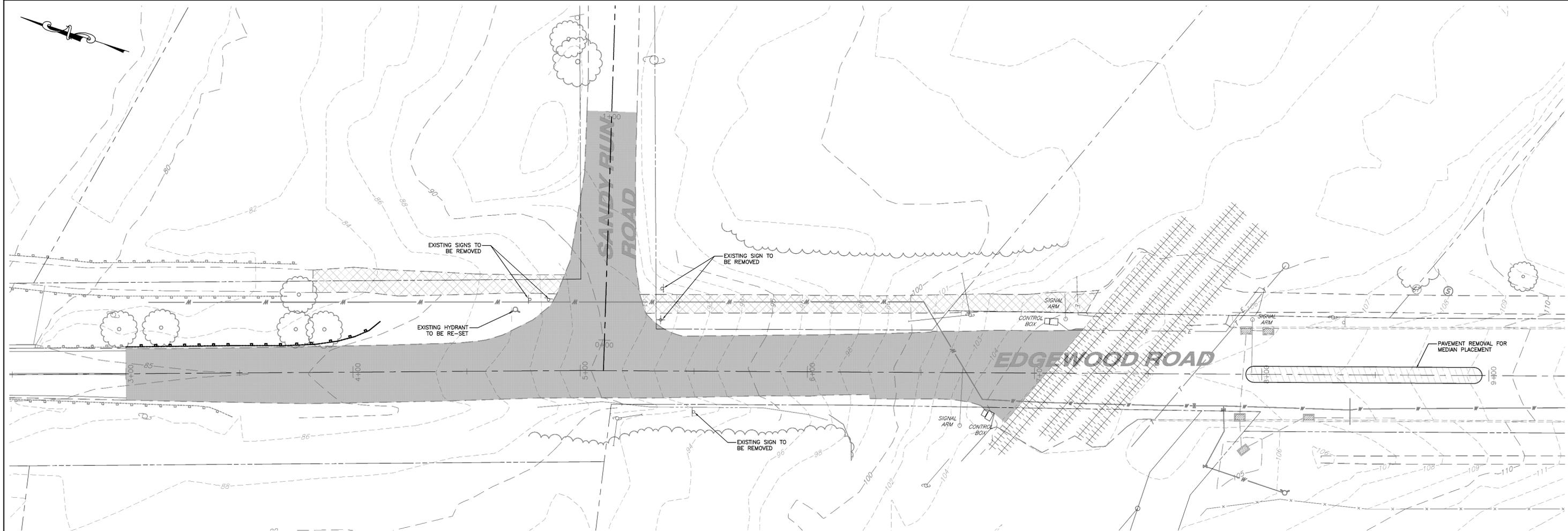
CIVIL ENGINEERS

Boucher & James, Inc.
CONSULTING ENGINEERS
1456 FERRY ROAD - BUILDING 500
DOYLESTOWN, PA 18901
VOICE: (215) 345-9400
FAX: (215) 345-9401

APPLICANT

LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY, PA 19067
VOICE: (267) 274-1100

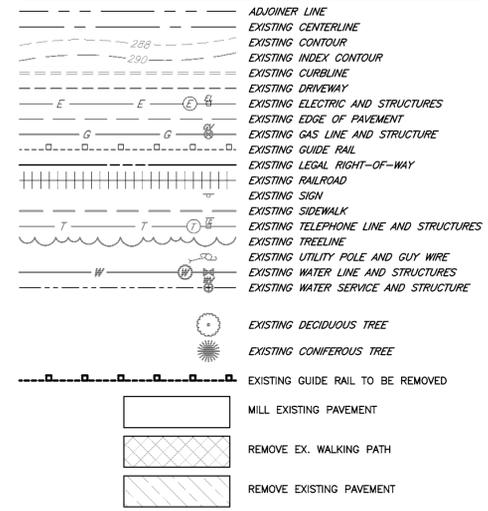
JOB NO. 1377032
APRIL 8, 2016
LAST REVISED JUNE 29, 2015
SHEET 1 OF 13



DEMOLITION NOTES

- MILL EXISTING WEARING COURSE OVER EXTENT OF PROPOSED PAVEMENT IMPROVEMENTS. MILLINGS MAY BE UTILIZED FOR CONSTRUCTION PURPOSES FOLLOWING INSPECTION BY THE LOWER MAKEFIELD TOWNSHIP ENGINEER.
- REMOVE EXISTING ASPHALT WALKING PATH AND STONE BASE AS SHOWN.
- REMOVE EXISTING PAVEMENT SURROUNDING PROPOSED CONCRETE MEDIAN. EXTENT OF PAVEMENT REMOVAL TAKEN TO BE 2' OFF OF PROPOSED CURB FACE.
- EXISTING SIGNS WITHIN SCOPE OF PAVEMENT IMPROVEMENTS SHALL BE REMOVED PRIOR TO PAVEMENT DEMOLITION. CONDITION OF EXISTING SIGNS TO BE EVALUATED BY A REPRESENTATIVE OF LOWER MAKEFIELD TOWNSHIP. REPRESENTATIVE SHALL DETERMINE IF THE CONDITION OF THE SIGN PERMITS IT TO BE REPLACED ONCE PAVEMENT IMPROVEMENTS ARE COMPLETED, OR IF A NEW SIGN MUST BE UTILIZED.
- EXISTING FIRE HYDRANT SHALL BE ADJUSTED FOR ELEVATION BASED UPON THE FINAL GRADE ELEVATION.
- GUIDE RAIL ALONG EASTERN EDGE OF EDGEWOOD ROAD PROPOSED FOR REMOVAL AND REPLACEMENT DUE TO GRADE CHANGES AS WELL AS PAVEMENT REVISIONS. GUIDE RAIL ALONG WESTERN EDGE MAY REMAIN IN PLACE.

LEGEND



P:\2013\1377032.dwg Final Plan Edgewood 02-Demolition.dwg | Tabname: 02 Demolition | Jun 29, 2016 - 11:35am | Ruckason

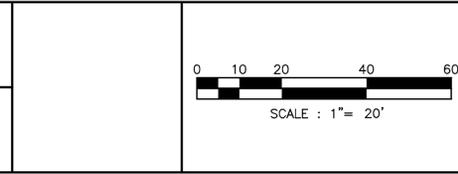
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REVISIONS :			
DATE	DESCRIPTION	DATE	DESCRIPTION
06/29/16	REV'D PLANS PRIOR TO BIDDING		

PROJECT : **EDGEWOOD ROAD QUIET ZONE**
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY, PA

APPLICANT : **LOWER MAKEFIELD TOWNSHIP**
 1100 EDGEWOOD ROAD
 YARDLEY PA, 19067



JOB NO: **1377032**

DRAWN BY: R.D.J.

CHECKED BY: M.W.E.

SCALE: 1" = 20'

PLAN STATUS: **FINAL**

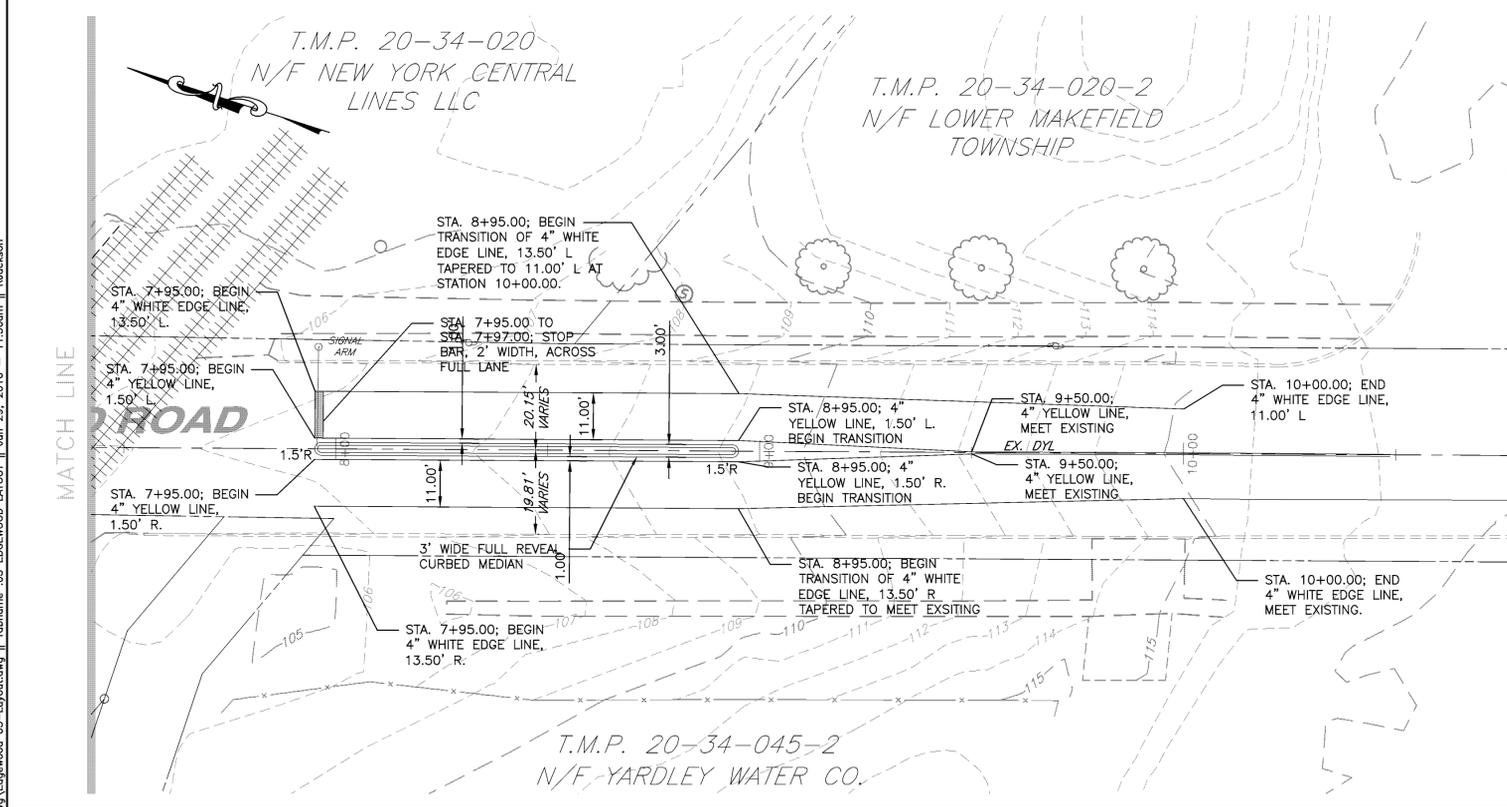
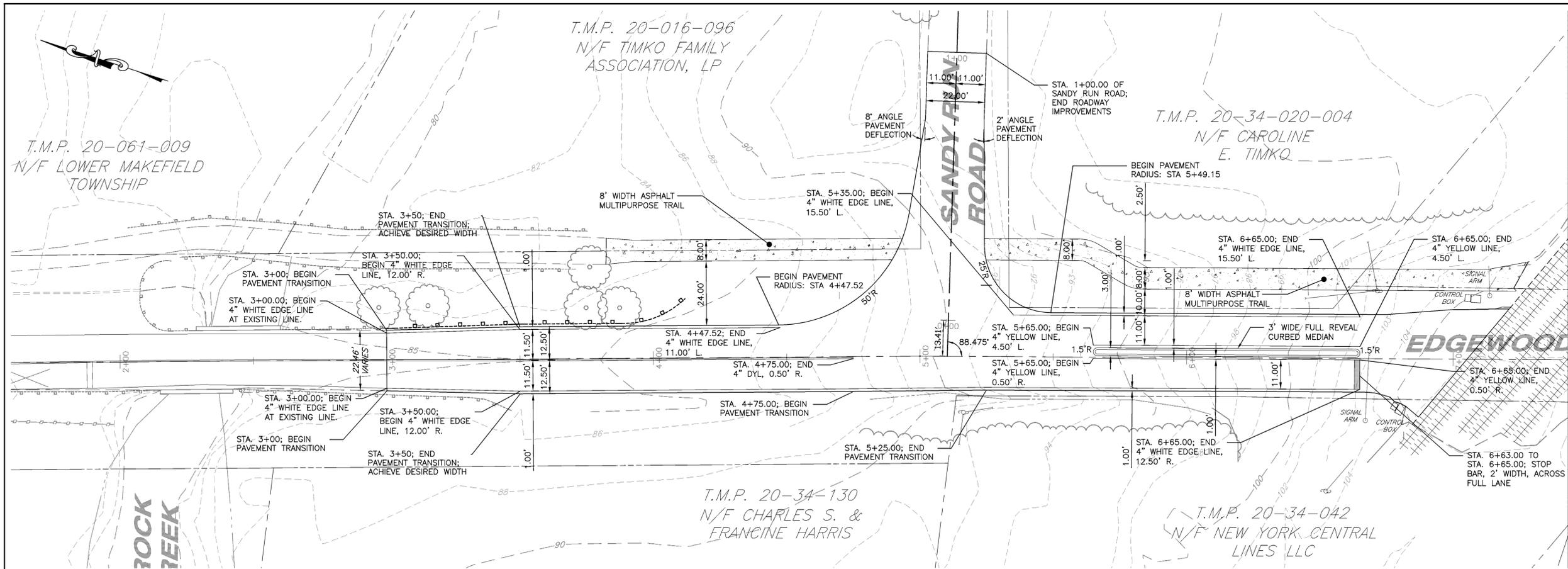
FILE : **DEMOLITION PLAN**

Boucher & James, Inc.
 CONSULTING ENGINEERS
 DOYLESTOWN STRODSBERG
 CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
 VOICE: (215) 345-9400 FAX: (215) 345-9401

SHEET
2 OF 13

DATE: **APRIL 8, 2016**

PROJECT NAME : **EDGEWOOD ROAD QUIET ZONE**



LEGEND

	ADJOINER LINE
	EXISTING CENTERLINE
	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
	EXISTING CURBLE LINE
	EXISTING DRIVEWAY
	EXISTING ELECTRIC AND STRUCTURES
	EXISTING EDGE OF PAVEMENT
	EXISTING GAS LINE AND STRUCTURE
	EXISTING GUIDE RAIL
	EXISTING LEGAL RIGHT-OF-WAY
	EXISTING RAILROAD
	EXISTING SIDEWALK
	EXISTING TELEPHONE LINE AND STRUCTURES
	EXISTING TREE LINE
	EXISTING UTILITY POLE AND GUY WIRE
	EXISTING WATER LINE AND STRUCTURES
	EXISTING WATER SERVICE AND STRUCTURE
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	PROPOSED GUIDE RAIL
	PROPOSED CURB
	PROPOSED ASPHALT PAVEMENT
	PROPOSED ASPHALT WALKING PATH

GENERAL STRIPING NOTES

1. PROVIDE STRIPING IN ACCORDANCE WITH PENNDOT PUBLICATION TC8600.
2. ALL PROPOSED STATIONS ARE APPROXIMATE. ADJUSTMENTS SHALL BE PERMITTED WHEN FIELD CONDITIONS WARRANT.
3. ALL EXISTING PAVEMENT MARKINGS WHICH ARE NO LONGER APPROPRIATE SHALL BE ERADICATED BY THE PERMITTEE. THE PERMITTEE SHALL PLACE ALL REQUIRED NEW PAVEMENT MARKINGS.
4. ALL PAVEMENT MARKINGS TO BE HOT THERMOPLASTIC.
5. 4" WHITE EDGE LINES SHALL END 4' FROM TRACK, IN ACCORDANCE WITH PENNDOT PUBLICATION 111.
6. MATCH EXISTING PAVEMENT MARKINGS AT THE LIMIT OF WORK.
7. REPLACE EXISTING RAILROAD CROSSING PAVEMENT MARKINGS AT STATIONS 1+30 TO 1+80 AND 11+75 TO 12+40 WITH NEW MARKINGS PER PENNDOT PUBLICATION 111 (TC-8600).

GENERAL NOTES

1. WIDTH OF ASPHALT WALKING PATHS CHOSEN TO MIRROR EXISTING PATH DIMENSIONS. PROVIDE 2' LENGTH DETECTABLE WARNING SURFACE ACROSS FULL WIDTH OF WALKING SURFACE.
2. GUIDERAIL ALONG EASTERN EDGE OF ROADWAY PROPOSED FOR REMOVAL AND REPLACEMENT BECAUSE OF INCREASED GRADE CHANGE.
3. PROPOSED PAVEMENT AROUND PROPOSED MEDIAN SOUTH OF CROSSING NOT SHOWN ON THIS PLAN. PAVEMENT REQUIRED AS PART OF RESTORATION FOR MEDIAN INSTALLATION.

Written dimensions shall have priority over scaled dimensions. All dimensions, elevations, locations, and conditions shall be verified by the Contractor prior to construction, and the Owner and Boucher & James, Inc. shall be notified of any discrepancies with the information shown on drawings.

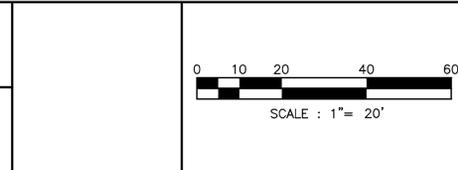
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LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PA

APPLICANT : LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY PA, 19067



JOB NO. : 1377032

FILE :

DRAWN BY : R.D.J.

CHECKED BY : M.W.E.

SCALE : 1" = 20'

PLAN STATUS : FINAL

PAVEMENT MARKING AND LAYOUT PLAN

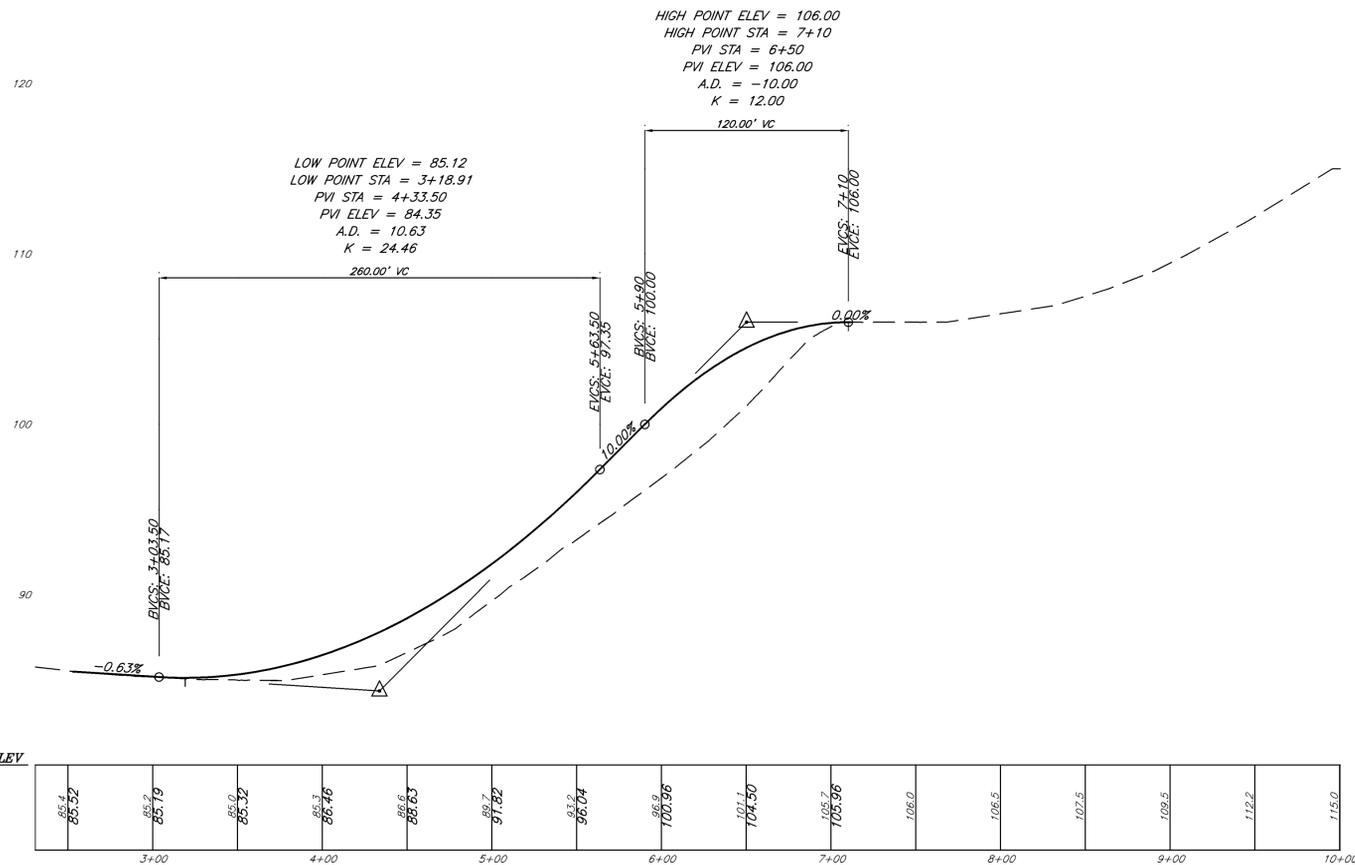
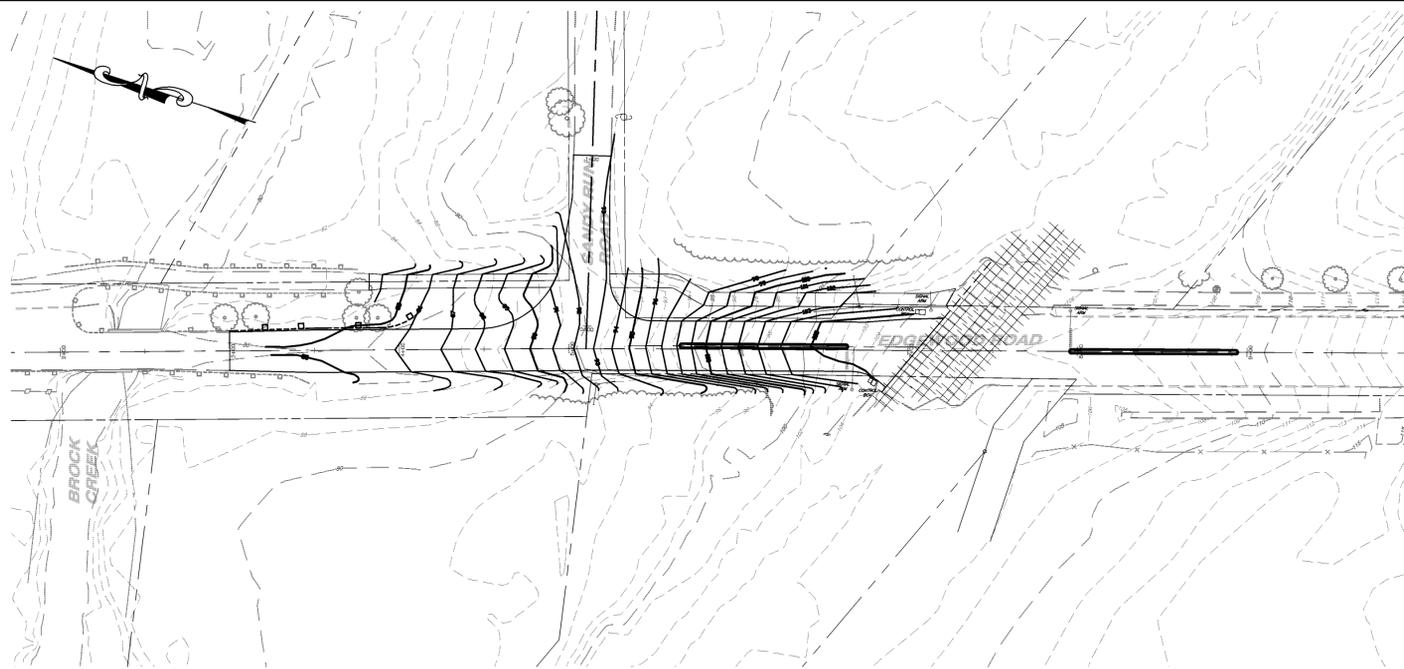
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CONSULTING ENGINEERS
DOYLESTOWN STRODSBURG

CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401

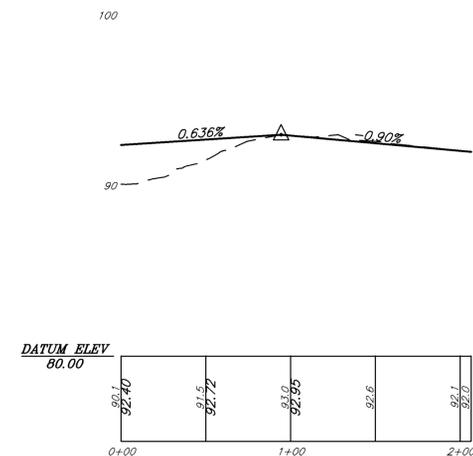
SHEET 3 of 13

DATE: APRIL 8, 2016

PROJECT NAME : EDGEWOOD ROAD QUIET ZONE



SANDY RUN ROAD FIT LINE EXTENDS TO MEET EDGEWOOD CL AT 5+10.22
 PROPOSED CROSS SLOPE WILL YIELD 0.35 FT DROP FROM CL TO EOP
 SANDY RUN ROAD PROFILE STARTS AT EDGE OF EDGEWOOD ROAD



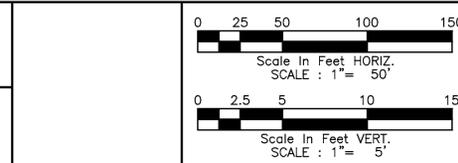
P:\2013\1377032.dwg Final Plan Edgewood 04-Crossing.dwg Tabname: 05 EDGEWOOD PROFILES Jun 29, 2016 - 11:37am Reaction

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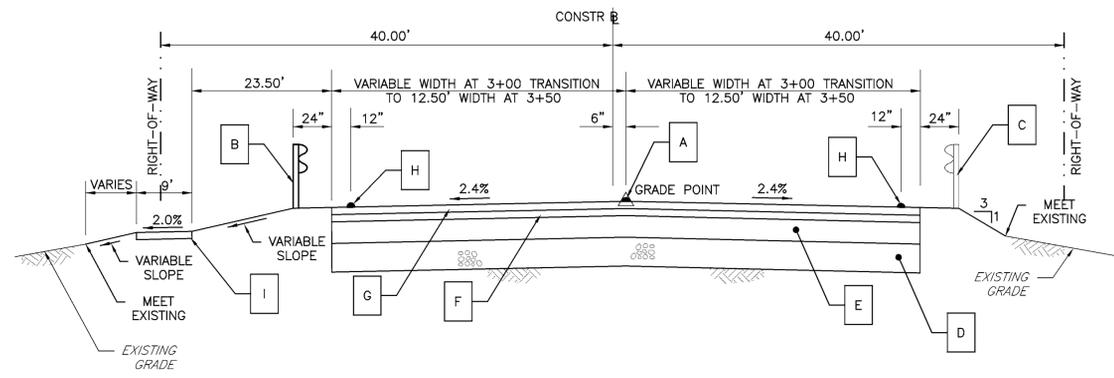
PROJECT : EDGEWOOD ROAD QUIET ZONE
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY, PA
 APPLICANT : LOWER MAKEFIELD TOWNSHIP
 1100 EDGEWOOD ROAD
 YARDLEY PA, 19067



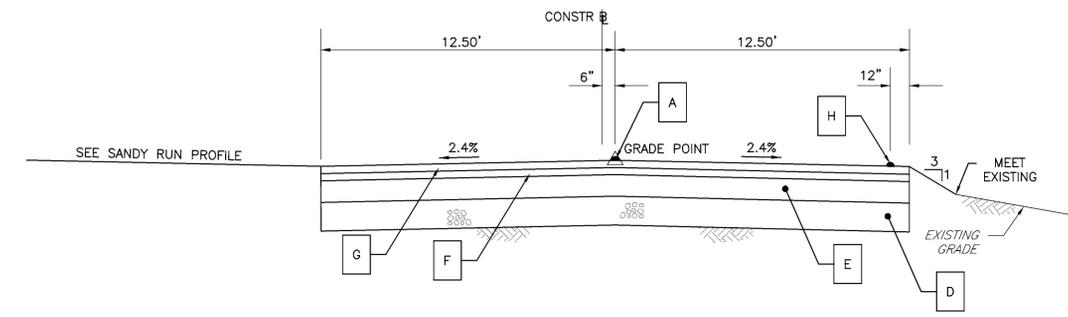
JOB NO.: 1377032
 DRAWN BY: R.D.J.
 CHECKED BY: M.W.E.
 SCALE: 1" = 50'
 PLAN STATUS: FINAL

ROADWAY PROFILES
Boucher & James, Inc.
 CONSULTING ENGINEERS
 DOYLESTOWN STRODSBURG
 CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
 VOICE: (215) 345-9400 FAX: (215) 345-9401
EDGEWOOD ROAD QUIET ZONE

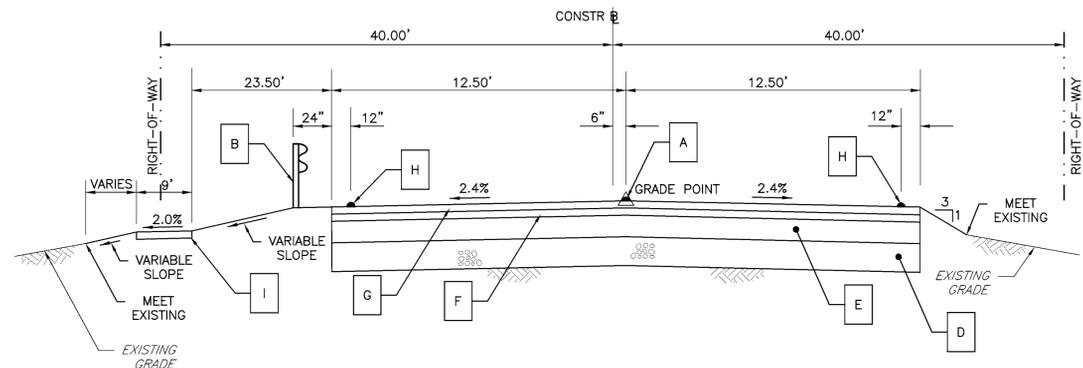
SHEET 5 OF 13
 DATE: APRIL 8, 2016



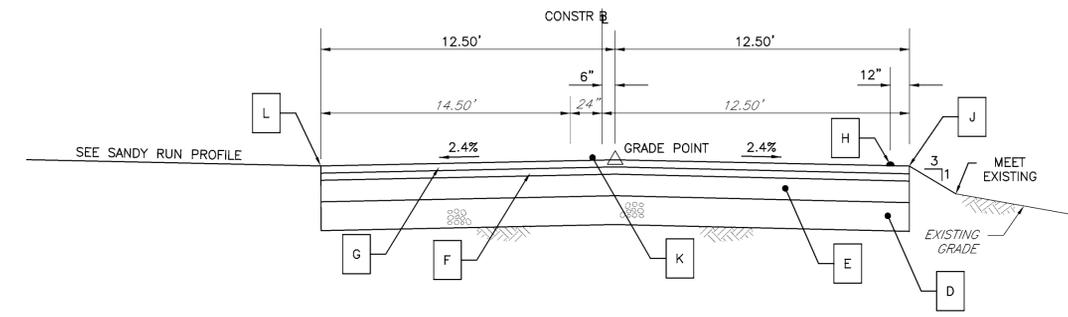
TYPICAL SECTION - EDGEWOOD ROAD STA. 03+00.00 TO STA. 03+50.00
NOT TO SCALE



TYPICAL SECTION - EDGEWOOD ROAD STA. 04+50.00 TO STA. 04+75.00
NOT TO SCALE



TYPICAL SECTION - EDGEWOOD ROAD STA. 03+50.00 TO STA. 04+00.00
NOT TO SCALE



TRANSITION SECTION - EDGEWOOD ROAD STA. 04+75.00 TO STA. 05+25.00
NOT TO SCALE

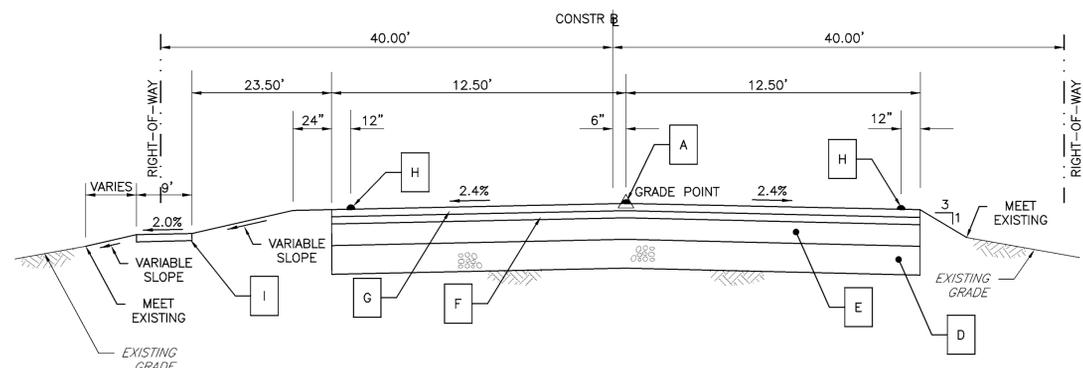
- LEGEND**
- A PROPOSED DOUBLE YELLOW LINE IN ACCORDANCE WITH PENNDOT PUBLICATION 111M; TC8600. FROM STATION 3+00 (MEET EXISTING) TO STATION 4+75.00.
 - B PROPOSED TYPE 2, STRONG POST GUIDE RAIL, PER PENNDOT PUBLICATION 72M, RC50 THROUGH RC54. FROM STATION 3+00 (MEET EXISTING) TO STATION 4+12.00 (APPROXIMATE). REFER TO GRADING PLAN AND LAYOUT PLANS FOR PROPOSED EXTENT OF GUIDE RAIL.
 - C EXISTING GUIDE RAIL TO REMAIN.
 - D VARIABLE DEPTH PENNDOT 2A STONE SUBBASE. STONE SUBBASE TO BE PLACED WITHIN ROADWAY SECTIONS TO PROPER DEPTH TO 9" BELOW FINAL SURFACE ELEVATION OF PAVEMENT. PLACE STONE IN 12" LIFTS AND ROLL EACH LIFT.
 - E 5" DEPTH SUPERPAVE ASPHALT BASE COURSE (SEE DETAIL).
 - F 2.5" DEPTH SUPERPAVE ASPHALT BINDER COURSE (SEE DETAIL).
 - G 1.5" DEPTH SUPERPAVE ASPHALT WEARING COURSE (SEE DETAIL).
 - H PROPOSED 4" WHITE EDGE LINE IN ACCORDANCE WITH PENNDOT PUBLICATION 111M; TC8600.
 - I ASPHALT WALKING PATH (VARIABLE WIDTH). SEE DETAIL FOR CONSTRUCTION.

TRANSITION NOTES: STATION 4+75.00 TO STATION 5+25.00

THE FOLLOWING TRANSITIONS IN PAVEMENT PAVEMENT AND GRADING ARE TO OCCUR UNIFORMLY BETWEEN STATION 4+75.00 AND STATION 5+25.00.

- J SOUTHERN EDGE OF PAVEMENT TO SHIFT 6" NORTH.
- K ROADWAY CROWN (GRADE POINT) TO SHIFT 24" NORTH.
- L NORTHERN EDGE OF PAVEMENT TO SHIFT 4'-6" NORTH.

THE TRANSITION ELEMENTS DESCRIBED ABOVE OCCUR ALONG EDGEWOOD ROAD WITHIN ITS INTERSECTION WITH SANDY RUN ROAD. IN ADDITION, AT STATION 5+00 THE "FIT" CENTERLINE OF THE ROADWAY ROTATES AN ANGLE OF 0.7289° SOUTH.



TYPICAL SECTION - EDGEWOOD ROAD STA. 04+00.00 TO STA. 04+50.00
NOT TO SCALE

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LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PA

APPLICANT :
LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY PA, 19067

JOB NO.:
1377032

FILE :

DRAWN BY:
R.D.J.

CHECKED BY:
M.W.E.

SCALE:
NO SCALE

PLAN STATUS:
FINAL

ROADWAY SECTIONS (1 OF 2)

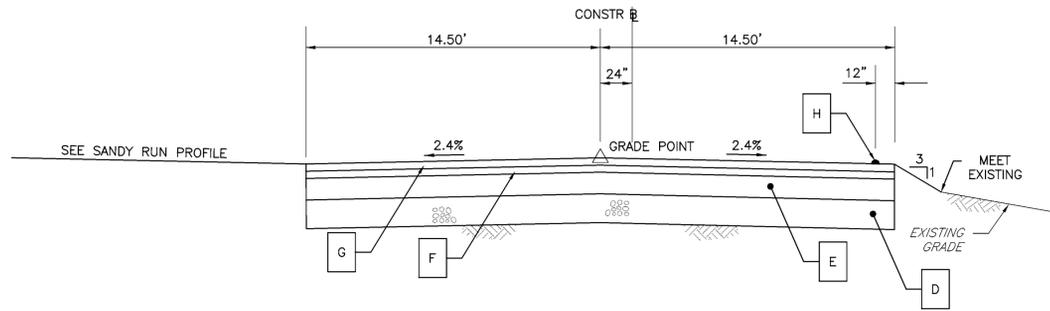
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DOYLESTOWN STRODSBURG

CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401

SHEET
6 OF 13

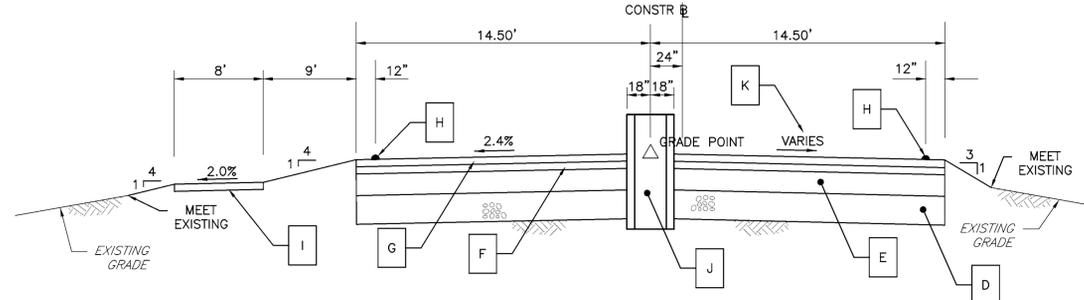
EDGEWOOD ROAD QUIET ZONE

DATE:
APRIL 8, 2016



TYPICAL SECTION – EDGEWOOD ROAD STA. 05+25.00 TO STA. 05+50.00

NOT TO SCALE

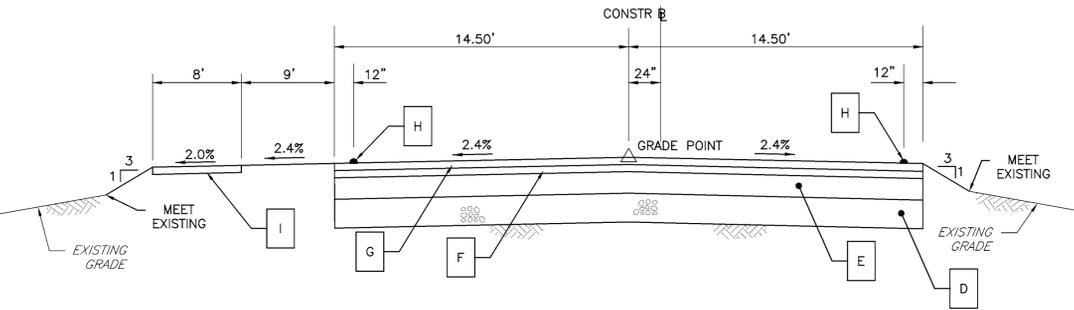


TYPICAL SECTION – EDGEWOOD ROAD STA. 06+25.00 TO STA. 06+65.00

NOT TO SCALE

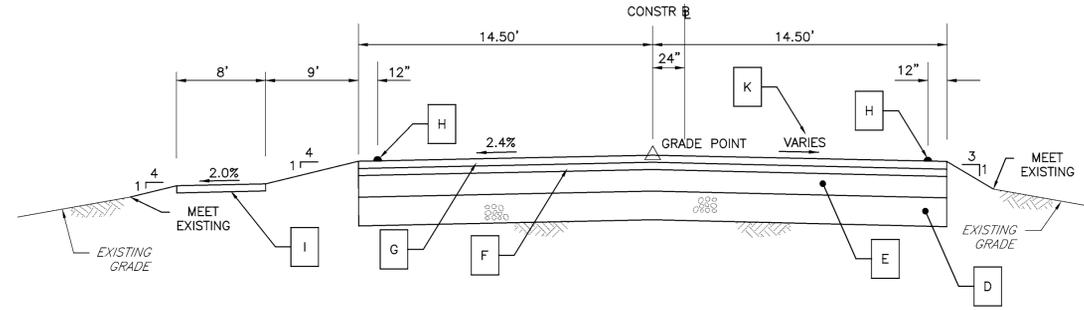
LEGEND

- A PROPOSED DOUBLE YELLOW LINE IN ACCORDANCE WITH PENNDOT PUBLICATION 111M; TC8600. FROM STATION 3+00 (MEET EXISTING) TO STATION 4+75.00.
- B PROPOSED TYPE 2, STRONG POST GUIDE RAIL, PER PENNDOT PUBLICATION 72M, RC50 THROUGH RC54. FROM STATION 3+00 (MEET EXISTING) TO STATION 4+12.00 (APPROXIMATE). REFER TO GRADING PLAN AND LAYOUT PLANS FOR PROPOSED EXTENT OF GUIDE RAIL.
- C EXISTING GUIDE RAIL TO REMAIN.
- D VARIABLE DEPTH PENNDOT 2A STONE SUBBASE. STONE SUBBASE TO BE PLACED WITHIN ROADWAY SECTIONS TO PROPER DEPTH TO 9" BELOW FINAL SURFACE ELEVATION OF PAVEMENT. PLACE STONE IN 12" LIFTS AND ROLL EACH LIFT.
- E 5" DEPTH SUPERPAVE ASPHALT BASE COURSE (SEE DETAIL).
- F 2.5" DEPTH SUPERPAVE ASPHALT BINDER COURSE (SEE DETAIL).
- G 1.5" DEPTH SUPERPAVE ASPHALT WEARING COURSE (SEE DETAIL).
- H PROPOSED 4" WHITE EDGE LINE IN ACCORDANCE WITH PENNDOT PUBLICATION 111M; TC8600.
- I ASPHALT WALKING PATH (VARIABLE WIDTH). SEE DETAIL FOR CONSTRUCTION.
- J 3' WIDE CONCRETE MEDIAN; FULL CURB REVEAL. SEE DETAIL.
- K PROPOSED ROAD CROSS SLOPE ALONG WESTERN HALF OF EDGEWOOD ROAD AS IT NEARS THE RAILROAD CROSSING WILL REQUIRE ADJUSTMENT TO MEET THE EXISTING EDGE OF ROADWAY. REFER TO GRADING PLAN FOR GRADING INFORMATION.



TYPICAL SECTION – EDGEWOOD ROAD STA. 05+50.00 TO STA. 05+65.00

NOT TO SCALE



TYPICAL SECTION – EDGEWOOD ROAD STA. 06+65.00 TO STA. 07+10.00

NOT TO SCALE

NOTE: SANDY RUN ROAD

TYPICAL SECTION OF SANDY RUN ROAD NOT PROVIDED DUE TO VARIANCES IN WIDTHS AND SLOPES REQUIRED FOR ROADWAY CONSTRUCTION. SEE GRADING PLAN (SHEET 4 OF 13) FOR INFORMATION. PAVEMENT SECTION SHALL CONFORM TO DETAIL AS REFLECTED BELOW.

SUPERPAVE ASPHALT MIXTURE DESIGN, WMA, BINDER COURSE, PG 64-22, 0.0 TO 3.0 MILLION ESALS, 19 MM MIX, 2.5" DEPTH

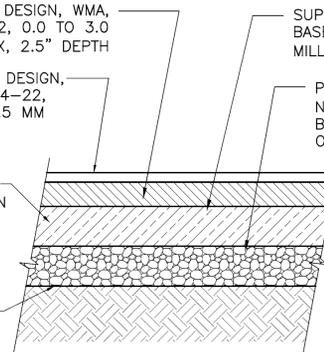
SUPERPAVE ASPHALT MIXTURE DESIGN, WMA, WEARING COURSE, PG 64-22, 0.0 TO 3.0 MILLION ESALS, 9.5 MM MIX, 1-1/2" DEPTH, SRL G

SUPERPAVE ASPHALT MIXTURE DESIGN, WMA, BASE COURSE, PG 64-22, 0.0 TO 3.0 MILLION ESALS, 25 MM MIX, 5" DEPTH

PROVIDE 6" (MIN. - SEE NOTE) PENNDOT 2A STONE BASE OVER MILLED PAVEMENT OR EARTHEN SUBBAE.

CLEAN & TACK COAT IF BINDER HAS BEEN IN PLACE MORE THAN 24 HOURS.

SUBGRADE - COMPACTED TO 95% MODIFIED PROCTOR DENSITY VALUE.



NOTE: PLACEMENT OF STONE BASE TO BE PLACED AT FINAL DEPTH TO ALLOW FOR 9" TO FINAL PAVEMENT SURFACE ELEVATION, TO ALLOW FOR ASPHALT PAVEMENT COURSES.

BITUMINOUS PAVEMENT – SECTION

NOT TO SCALE

TYPICAL SECTION – EDGEWOOD ROAD STA. 05+65.00 TO STA. 06+25.00

NOT TO SCALE

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APPLICANT :	LOWER MAKEFIELD TOWNSHIP 1100 EDGEWOOD ROAD YARDLEY PA, 19067

JOB NO.:	1377032
DRAWN BY:	R.D.J.
CHECKED BY:	M.W.E.
SCALE:	NO SCALE
PLAN STATUS:	FINAL

ROADWAY SECTIONS (2 OF 2)

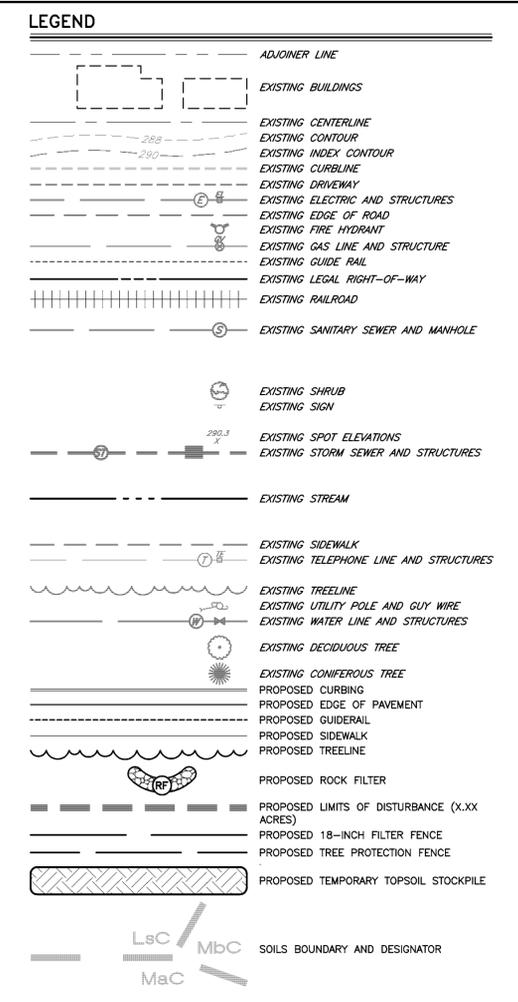
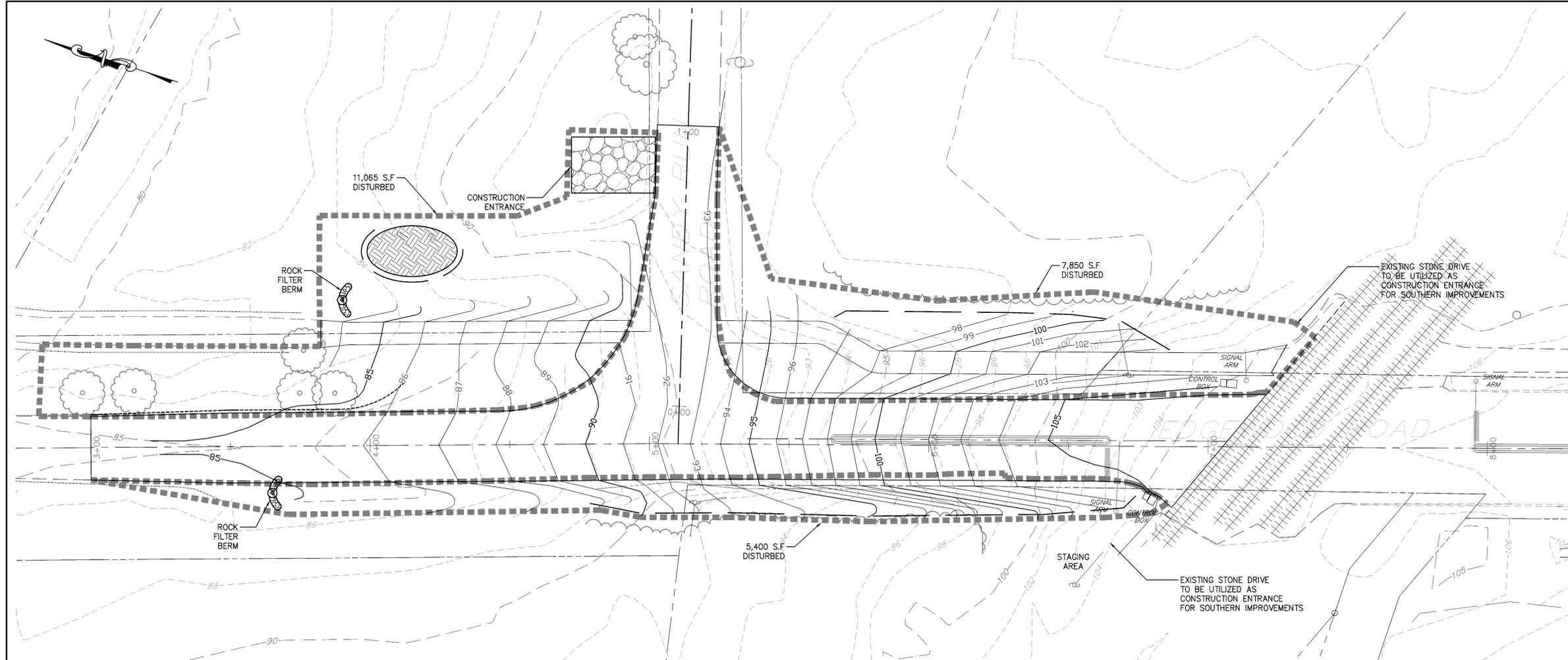
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SHEET	7 of 13
DATE:	APRIL 8, 2016

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CONSTRUCTION SEQUENCE

1. AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITY, THE O/RP SHALL INVITE ALL CONTRACTORS INVOLVED IN THAT ACTIVITY, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN DESIGNER AND THE BUCKS COUNTY CONSERVATION DISTRICT TO A PRE-CONSTRUCTION MEETING. ALSO, AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITY, ALL CONTRACTORS INVOLVED IN THAT ACTIVITY SHALL NOTIFY THE PENNSYLVANIA ONE-CALL SYSTEM INC. AT 1-800-242-1776 TO DETERMINE ANY UNDERGROUND UTILITIES LOCATIONS.
2. ESTABLISH ROAD CLOSURES AND DETOURS.
3. ESTABLISH STAGING AREA AND INSTALL ROCK CONSTRUCTION ENTRANCE(S).
4. INSTALL SILT FENCE AND TREE PROTECTION FENCE.
5. STRIP AND STOCKPILE TOPSOIL.
6. CONSTRUCT ROCK FILTERS.
7. CLEAR AND GRUB TREES AND BRUSH AS NECESSARY FOR CONSTRUCTION AS INDICATED ON EXISTING FEATURES/DEMOLITION PLAN.
8. STRIP TOPSOIL. STOCKPILE TOPSOIL ON THE DESIGNATED AREA AS INDICATED ON PLAN. INSTALL THE STOCKPILE PERIMETER FILTER FABRIC FENCE AND IMMEDIATELY APPLY TEMPORARY SEEDING AND MULCHING. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
9. RESET ELEVATION OF EXISTING FIRE HYDRANT.
10. REMOVE EXISTING GUIDE RAIL.
11. REMOVE EXISTING SIGNS AT INTERSECTION.
12. MILL EXISTING PAVEMENT AS REQUIRED.
13. CONSTRUCT ROADWAY IMPROVEMENTS. CONSTRUCT ASPHALT BASE COURSE AND BINDER COURSE. WEARING COURSE TO BE INSTALLED LATER.
14. INSTALL PROPOSED GUIDE RAIL.
15. INSTALL PROPOSED SIGNS.
16. INSTALL ASPHALT WEARING COURSE.
17. INSTALL PAVEMENT STRIPING.
18. PROVIDE TOPSOIL SPREADING, SEED AND MULCH.
19. STABILIZE DISTURBED AREAS. TEMPORARY EROSION AND SEDIMENT CONTROL FEATURES MAY BE REMOVED WHEN STABILIZATION HAS ACHIEVED 70% COVERAGE OVER DISTURBED AREAS. IMMEDIATELY STABILIZE ANY AREAS DISTURBED DURING REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

DISPOSAL/RECYCLING OF CONSTRUCTION MATERIAL

ALL CONSTRUCTION WASTES ARE TO BE RECYCLED TO THE GREATEST EXTENT PRACTICAL AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL MUNICIPALITY REQUIREMENTS AND GUIDELINES.

CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE.)

CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEP'S POLICY "MANAGEMENT OF FILL". ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL.

ENVIRONMENTAL DUE DILIGENCE: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECT TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEP'S POLICY "MANAGEMENT OF FILL".

FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEP'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.

Written dimensions shall have priority over scaled dimensions. All dimensions, elevations, locations, and conditions, shall be verified by the Contractor prior to construction, and the Owner and Boucher & James, Inc. shall be notified of any discrepancies with the information shown on drawings.

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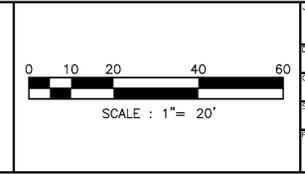
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REVISIONS :			
DATE	DESCRIPTION	DATE	DESCRIPTION
06/29/16	REV'D PLANS PRIOR TO BIDDING		

PROJECT : **EDGEWOOD ROAD QUIET ZONE**
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PA

APPLICANT : **LOWER MAKEFIELD TOWNSHIP**
1100 EDGEWOOD ROAD
YARDLEY PA, 19067



JOB NO. : 1377032	FILE :	EROSION AND SEDIMENT CONTROL PLAN	
DRAWN BY : R.D.J.	CHECKED BY : M.W.E.	Boucher & James, Inc. CONSULTING ENGINEERS DOYLESTOWN • STROUBURG CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901 VOICE: (215) 345-9400 FAX: (215) 345-9401 	
SCALE: 1" = 20'	PLAN STATUS: FINAL		
PROJECT NAME : EDGEWOOD ROAD QUIET ZONE		SHEET	DATE: APRIL 8, 2016
		8 of 13	

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EROSION & SEDIMENT CONTROL NOTES

STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET; STOCKPILE SLOPES MUST NOT EXCEED 2:1.

THE OPERATOR/RESPONSIBLE PERSON (O/RP) ON SITE SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.

IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE O/RP SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES (BMPs) TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.

THE O/RP SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED AND APPROVED BY THE BUCKS COUNTY CONSERVATION DISTRICT AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOILS AND/OR ROCK SPOIL AND BORROW AREAS REGARDLESS OF THEIR LOCATIONS.

ALL PUMPING OF SEDIMENT-LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER AN UNDISTURBED AREA.

A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE ON THE PROJECT SITE AT ALL TIMES.

EROSION AND SEDIMENT BMPs MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPs.

AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING THE REMOVAL OF THE BMPs MUST BE STABILIZED IMMEDIATELY.

AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITY, THE O/RP SHALL NOTIFY ALL CONTRACTORS INVOLVED IN THAT ACTIVITY, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN DESIGNER AND THE BUCKS COUNTY CONSERVATION DISTRICT TO A PRE-CONSTRUCTION MEETING. ALSO, AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITY, ALL CONTRACTORS INVOLVED IN THAT ACTIVITY SHALL NOTIFY THE PENNSYLVANIA ONE-CALL SYSTEM, INC. AT 1-800-242-1778 TO DETERMINE ANY UNDERGROUND UTILITIES LOCATIONS.

IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITY CEASES, THE O/RP SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITY. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT SPECIFIED RATES. DISTURBED AREAS THAT ARE NOT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS.

DISTURBED AREAS THAT ARE AT A FINISHED GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

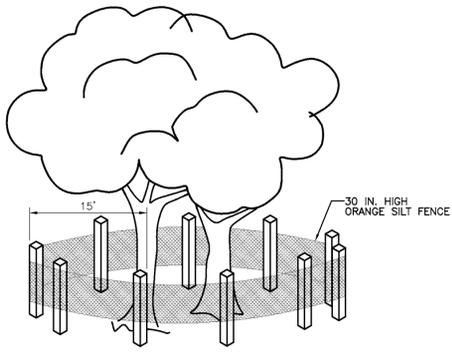
AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% VEGETATIVE OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER FAILURES.

UPON THE INSTALLATION OF TEMPORARY SEDIMENT BASIN RISERS(S), A QUALIFIED SITE REPRESENTATIVE SHALL CONDUCT AN IMMEDIATE INSPECTION OF THE RISER(S), WHEREUPON THE BUCKS COUNTY CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING THAT THE RISER IS SEALED (WATERTIGHT).

UNTIL A SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION CONTROL BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEANOUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING AND RE-SETTING MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED, WILL BE REQUIRED.

SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF ON-SITE IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED OR PLACED IN SOIL STOCKPILES AND STABILIZED.

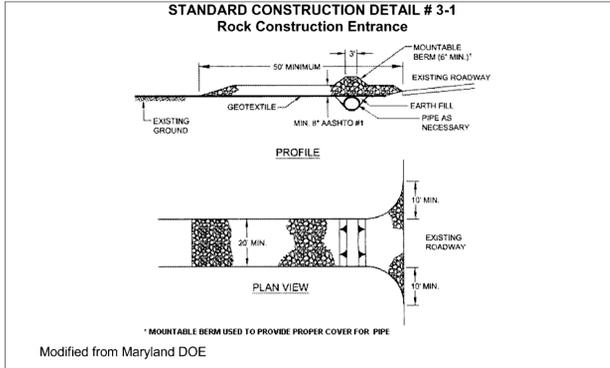
ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED IN ACCORDANCE WITH DEP'S SOLID WASTE REGULATIONS (25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ.) AND/OR ANY ADDITIONAL LOCAL, STATE OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WASTE MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.



- NOTES:**
- TREE PROTECTION FENCE TO BE LOCATED AT A MINIMUM OF 15' FROM TRUNK, OR AT EDGE OF DRIP LINE, WHICHEVER IS GREATER TO PREVENT INJURY TO TREE.
 - BOARDS SHALL NOT BE NAILED TO TREES DURING BUILDING OPERATIONS.
 - NO MORE THAN 1/3 OF FEEDER ROOTS SHALL BE CUT IN AN AREA INSIDE THE DRIP LINE OF THE TREE.
 - DAMAGED TRUNKS OR EXPOSED ROOTS SHALL BE PRESCRIBED BY A PROFESSIONAL FORESTER OR LICENSED TREE EXPERT.
 - TREE LIMB REMOVAL, WHERE NECESSARY, SHALL BE CUT FLUSH TO TRUNK OR MAIN BRANCH OF THAT STUB. TREES SHALL BE PRUNED AFTER PLANTING, OR BY THE NURSERYMAN AT THE TIME OF DIGGING, TO BALANCE TOP GROWTH WITH ROOTS AND TO PRESERVE THEIR NATURAL CHARACTER AND SHAPE. PRUNING SHALL BE RESTRICTED IN GENERAL TO THE SECONDARY BRANCHES AND SOFT SUCKER GROWTH.

TREE PROTECTION DURING CONSTRUCTION

NOT TO SCALE



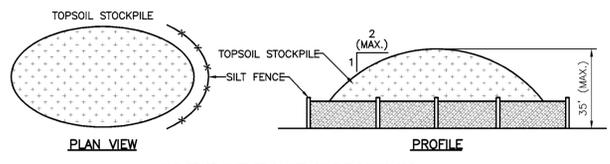
Modified from Maryland DOE

Remove topsoil prior to installation of rock construction entrance. Extend rock over full width of entrance.

Runoff shall be diverted from roadway to a suitable sediment removal BMP prior to entering rock construction entrance.

Mountable berm shall be installed wherever optional culvert pipe is used and proper pipe cover as specified by manufacturer is not otherwise provided. Pipe shall be sized appropriately for size of ditch being crossed.

MAINTENANCE: Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. All sediment deposited on paved roadways shall be removed and returned to the construction site immediately. If excessive amounts of sediment are being deposited on roadway, extend length of rock construction entrance by 50 foot increments until condition is alleviated or install wash rack. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.



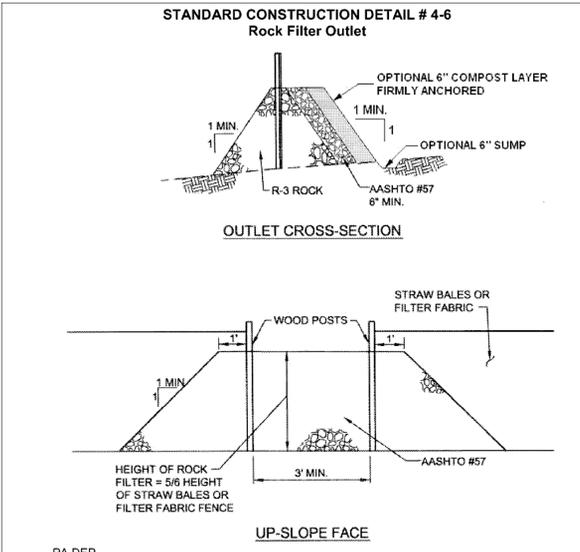
SILT FENCE MUST BE PLACED ON THE DOWNSLOPE SIDE OF SOIL STOCKPILES IMMEDIATELY APPLY TEMPORARY SEEDING TO ALL STOCKPILES WHICH WILL BE IN PLACE FOR 20 DAYS OR MORE.

TOPSOIL STOCKPILE AREA DETAIL

NOT TO SCALE

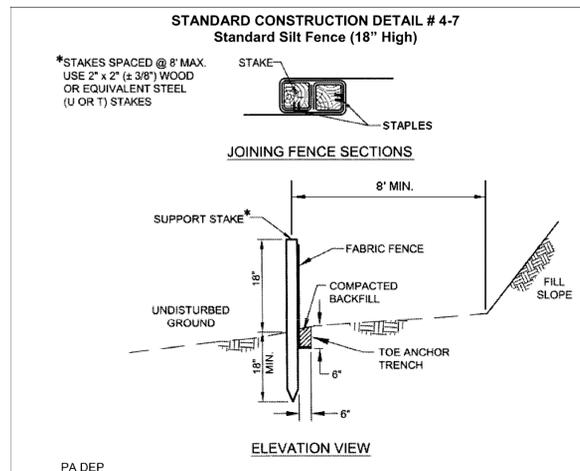
SEEDING SPECIFICATIONS

- TEMPORARY:**
- A. ANNUAL RYEGRASS: 100%; 1 LB/1,000 SQ.FT. MARCH 1 - JUNE 15 AUGUST 15 - SEPTEMBER 15
 - B. WINTER RYE: 100%; 3.5 LB/1,000 SQ.FT. AUGUST 15 - OCTOBER 15
 - C. ANNUAL RYEGRASS: 25%; 2 LB/1,000 SQ.FT. SPRING OATS: 75% MARCH 1 - JUNE 15
- PERMANENT:**
- A. KENTUCKY 31 TALL FESCUE: 38%; 1-2 LB/1,000 SQ.FT. MARCH 1 - MAY 20 15 CREEPING RED FESCUE: 50% RED TOP: 12 (3) JULY 25 - SEPTEMBER
 - B. KENTUCKY 31 TALL FESCUE: 55%; 1/2-1 LB/1,000 SQ.FT. OR REED CANARY GRASS OR SMOOTH BROME GRASS AND BIRDSFOOT TREFOL: 45% (1,2,3) APRIL 1 - JUNE 15
- MULCH:** TEMPORARY AND PERMANENT - HAY/STRAW 3 TONS/ACRE
- FERTILIZER:** TEMPORARY - 5-5-5 1,000 LBS/ACRE PERMANENT - 10-20-20 1,000 LBS/ACRE
- LIME:** TEMPORARY - 1 TON/ACRE PERMANENT - 2-3 TON/ACRE
- NOTES:**
- LIME, FERTILIZER, SEED AND MULCH 20 DAYS PRIOR TO THE END OF EACH SEEDING PERIOD AS INDICATED ABOVE.
 - DISTURBED AREAS ON WHICH ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED FOR MORE THAN 20 DAYS MUST BE SEEDING AND MULCHED IMMEDIATELY. DURING NON-GERMINATING PERIODS (OCTOBER 15 THRU MARCH 1) MULCH MUST BE APPLIED AT THE RECOMMENDED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MAY BE SEEDING AND MULCHED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDING AND MULCHED WITH A PERMANENT SEED MIXTURE AND MULCH. AREAS MULCHED DURING THOSE PERIODS MUST BE LIMED, FERTILIZED, SEEDING AND MULCHED WITHIN 20 DAYS OF THE ENDING OF THOSE PERIODS.



A rock filter outlet shall be installed where failure of a silt fence or straw bale barrier has occurred due to concentrated flow. Anchored compost layer shall be used on upslope face in HQ and EV watersheds.

Sediment shall be removed when accumulations reach 1/3 the height of the outlet.



Fabric shall have the minimum properties as shown in Table 4.3.

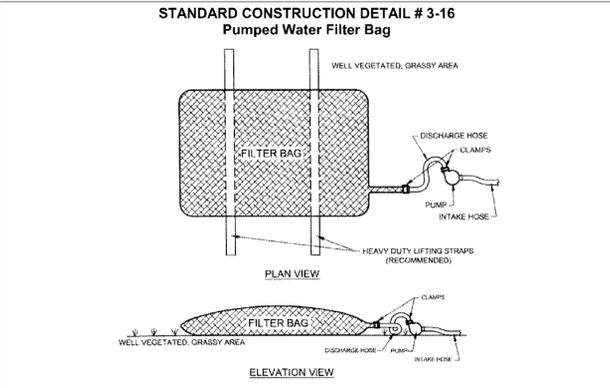
Fabric width shall be 30" minimum. Stakes shall be hardwood or equivalent steel (U or T) stakes.

Silt fence shall be placed at level existing grade. Both ends of the fence shall be extended at least 8 feet up slope at 45 degrees to the main fence alignment (see Figure 4.1).

Sediment shall be removed when accumulations reach half the aboveground height of the fence.

Any section of silt fence which has been undermined or topped shall be immediately replaced with a rock filter outlet (Standard Construction Detail # 4-6).

Fence shall be removed and properly disposed of when tributary area is permanently stabilized.



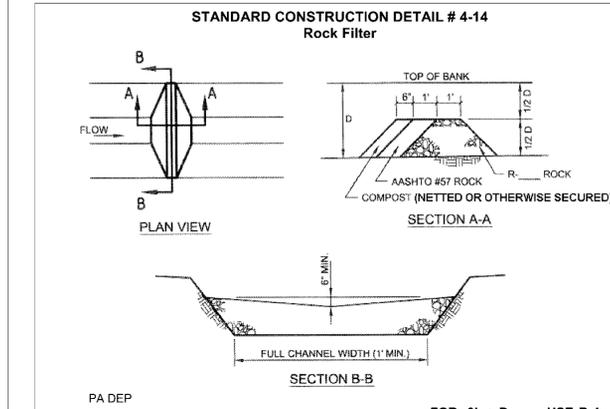
Low volume filter bags shall be made from non-woven geotextile material sewn with high strength, double stitched "J" type seams. They shall be capable of trapping particles larger than 150 microns. High volume filter bags shall be made from woven geotextiles that meet the following standards:

Property	Test Method	Minimum Standard
Avg. Wide Width Strength	ASTM D-4884	60 lb/in
Grab Tensile	ASTM D-4632	205 lb
Puncture	ASTM D-4833	110 lb
Mullen Burst	ASTM D-3786	350 psi
UV Resistance	ASTM D-4355	70%
AOS % Retained	ASTM D-4751	80 Sieve

A suitable means of accessing the bag with machinery required for disposal purposes shall be provided. Filter bags shall be replaced when they become 1/2 full of sediment. Spare bags shall be kept available for replacement of those that have failed or are filled. Bags shall be placed on straps to facilitate removal unless bags come with lifting straps already attached.

Bags shall be located in well-vegetated (grassy) area, and discharge onto stable, erosion resistant areas. Where this is not possible, a geotextile underlayment and flow path shall be provided. Bags may be placed on filter stone to increase discharge capacity. Bags shall not be placed on slopes greater than 5%. For slopes exceeding 5%, clean rock or other non-erodible and non-polluting material may be placed under the bag to reduce slope steepness.

No downslope sediment barrier is required for most installations. Compost berm or compost filter sock shall be installed below bags located in HQ or EV watersheds, within 50 feet of any receiving surface water or where grassy area is not available.



NOTE: This table is intentionally blank and should be filled in by the plan preparer.

ROCK FILTER NO.	LOCATION	D (FT.)	R/RAP SIZE

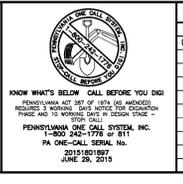
Sediment shall be removed when accumulations reach 1/2 the height of the filter.

Immediately upon stabilization of each channel, installer shall remove accumulated sediment, remove rock filter, and stabilize disturbed areas.

Written dimensions shall have priority over scaled dimensions. All dimensions, elevations, locations, and conditions, shall be verified by the Contractor prior to construction, and the Owner and Boucher & James, Inc. shall be notified of any discrepancies with the information shown on drawings.

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REVISIONS:	DATE	DESCRIPTION	DATE	DESCRIPTION
06/29/16	REV'D PLANS PRIOR TO BIDDING			

PROJECT: EDGEWOOD ROAD QUIET ZONE LOWER MAKEFIELD TOWNSHIP BUCKS COUNTY, PA

APPLICANT: LOWER MAKEFIELD TOWNSHIP 1100 EDGEWOOD ROAD YARDLEY PA, 19067

JOB NO.: 1377032

FILE: EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

DRAWN BY: R.D.J.

CHECKED BY: M.W.E.

SCALE: NO SCALE

PLAN STATUS: FINAL

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN STRAUSSBURG

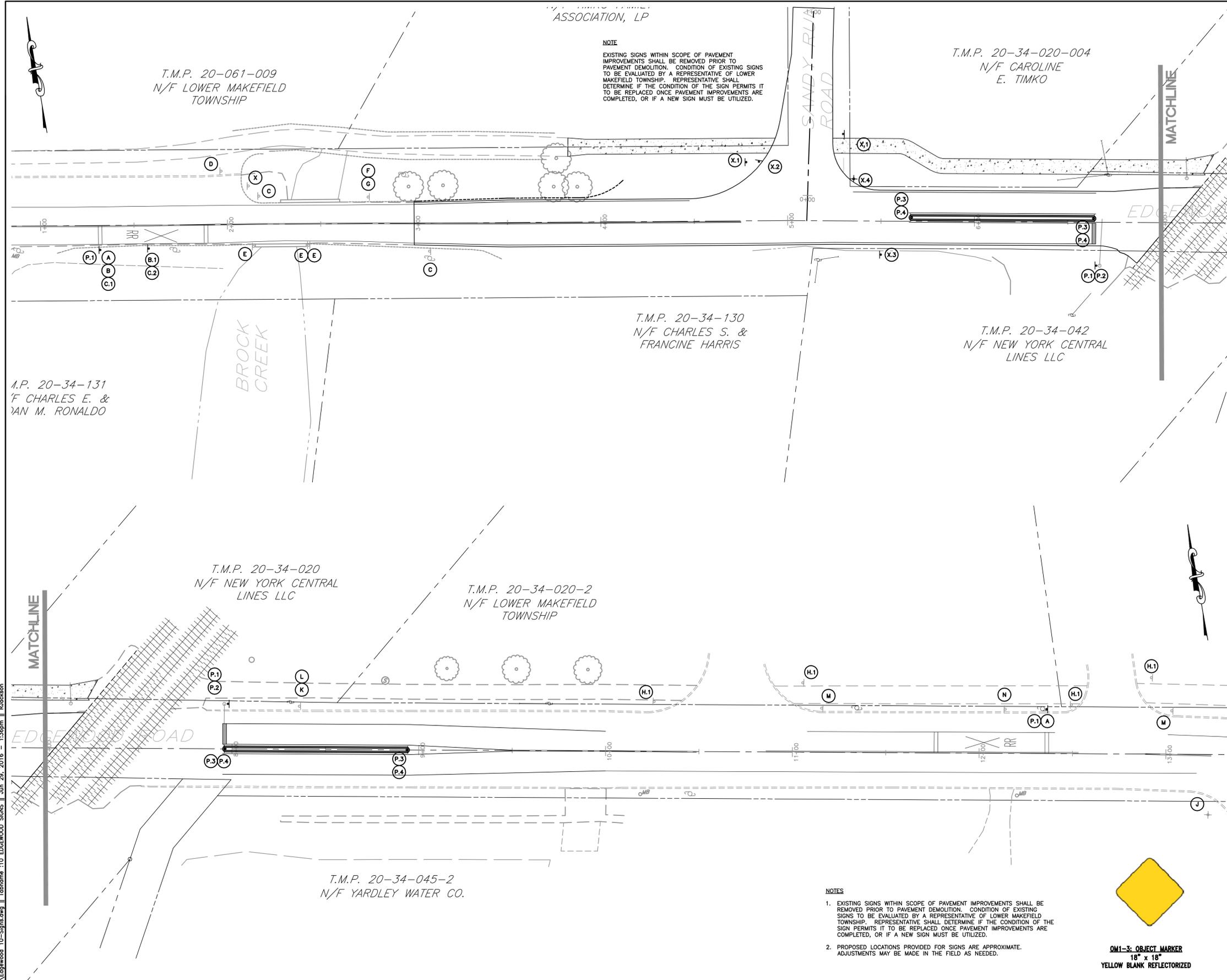
CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401

EDGEWOOD ROAD QUIET ZONE

SHEET 9 OF 13

DATE: APRIL 8, 2016

P:\2013\1377032.dwg Final Plan\EdgeWood 09-ES-DET.dwg | Tabname: 09_EDGEWOOD_ES_DET | Jun 29, 2016 - 1:34pm | Buckson



NOTE
 EXISTING SIGNS WITHIN SCOPE OF PAVEMENT IMPROVEMENTS SHALL BE REMOVED PRIOR TO PAVEMENT DEMOLITION. CONDITION OF EXISTING SIGNS TO BE EVALUATED BY A REPRESENTATIVE OF LOWER MAKEFIELD TOWNSHIP. REPRESENTATIVE SHALL DETERMINE IF THE CONDITION OF THE SIGN PERMITS IT TO BE REPLACED ONCE PAVEMENT IMPROVEMENTS ARE COMPLETED, OR IF A NEW SIGN MUST BE UTILIZED.

NOTES
 1. EXISTING SIGNS WITHIN SCOPE OF PAVEMENT IMPROVEMENTS SHALL BE REMOVED PRIOR TO PAVEMENT DEMOLITION. CONDITION OF EXISTING SIGNS TO BE EVALUATED BY A REPRESENTATIVE OF LOWER MAKEFIELD TOWNSHIP. REPRESENTATIVE SHALL DETERMINE IF THE CONDITION OF THE SIGN PERMITS IT TO BE REPLACED ONCE PAVEMENT IMPROVEMENTS ARE COMPLETED, OR IF A NEW SIGN MUST BE UTILIZED.
 2. PROPOSED LOCATIONS PROVIDED FOR SIGNS ARE APPROXIMATE. ADJUSTMENTS MAY BE MADE IN THE FIELD AS NEEDED.



SIGN TABULATION

EXISTING TRAFFIC SIGNS (PENNDOT APPROVED)		
ID	SERIES NUMBER/ DESCRIPTION	QTY.
A	W10-1: RAILROAD WARNING SIGN	2
C	OM-3R: RIGHT CLEARANCE MARKER	2
F	W11-2: PEDESTRIAN SIGN	1
K	R2-1: SPEED LIMIT 25 SIGN	1
L	W2-2: SIDE ROAD SIGN	1
X	EXISTING SIGN POST - NO SIGN PRESENT	1

EXISTING TRAFFIC SIGNS (NOT PER PENNDOT)		
ID	DESCRIPTION / TEXT	QTY.
D	BIKE PATH SUBJECT TO FLOODING SIGN	1
E	STATE ROUTE SECTION SIGN "SR 2030 22"	3
G	DISTANCE PLAQUE - "NEXT 500 FEET"	1
H.1	STOP SIGN (SMALLER FOR BIKE PATH)	4
J	STREET SIGN	1
M	DO NOT BLOCK DRIVEWAY SIGN	2
N	COMMUNITY SPECIFIC SIGN	1

EXISTING SIGNS TO BE RELOCATED		
ID	SERIES NUMBER/ DESCRIPTION	QTY.
B	R2-5: REDUCED SPEED 25 AHEAD SIGN LOCATION: STA. 1+31.79, 13.02' R; EXISTING SIGN TO BE RELOCATED	1
B.1	R2-5: REDUCED SPEED 25 AHEAD SIGN LOCATION: STA. 1+57.80, 12.48' R; PROPOSED RELOCATED SIGN POSITION	1
C.1	OM-3R: RIGHT CLEARANCE MARKER LOCATION: 1+31.79, 13.02' R; EXISTING SIGN TO BE RELOCATED	1
C.2	OM-3R: RIGHT CLEARANCE MARKER LOCATION: 1+57.80, 12.48' R; PROPOSED RELOCATED SIGN POSITION	1

PROPOSED SIGNS			
ID	SERIES NUMBER/ DESCRIPTION	QTY.	
P.1	W10-9P: "NO TRAIN HORN" SIGN LOCATION: STA. 1+31.79, 13.02' R; ADDED TO EX. SIGN POST	1	
P.1	W10-9P: "NO TRAIN HORN" SIGN LOCATION: STA. 6+65.79, 16.70' R; NEW SIGN & POST	1	
P.1	W10-9P: "NO TRAIN HORN" SIGN LOCATION: STA. 7+97.70, 24.02' L; NEW SIGN & POST	1	
P.1	W10-9P: "NO TRAIN HORN" SIGN LOCATION: STA. 12+36.11, 23.41' L; ADDED TO EX. SIGN POST	1	
P.2	R15-8: "LOOK" SIGN LOCATION: STA. 6+65.79, 16.70' R; NEW SIGN & POST	1	
P.2	R15-8: "LOOK" SIGN LOCATION: STA. 7+97.70, 24.02' L; NEW SIGN & POST	1	
P.3	P.4	R4-7: KEEP RIGHT SIGN; OMI-3 OBJECT MARKER LOCATION: STA. 5+73.00, 2.00' L; NEW SIGN & POST	1 EA
P.3	P.4	R4-7: KEEP RIGHT SIGN; OMI-3 OBJECT MARKER LOCATION: STA. 6+67.00, 1.68' L; NEW SIGN & POST	1 EA
P.3	P.4	R4-7: KEEP RIGHT SIGN; OMI-3 OBJECT MARKER LOCATION: STA. 7+98.00, ON CENTER; NEW SIGN & POST	1 EA
P.3	P.4	R4-7: KEEP RIGHT SIGN; OMI-3 OBJECT MARKER LOCATION: STA. 9+2.00, ON CENTER; NEW SIGN & POST	1 EA

SIGNS AFFECTED BY INTERSECTION RECONSTRUCTION		
ID	DESCRIPTION / TEXT	QTY.
X.1	STOP SIGN (SMALLER FOR BIKE PATH)	2
X.2	R1-1: STOP SIGN	1
X.3	R2-1: SPEED LIMIT 25 SIGN	1
X.4	STREET SIGN	1

P:\2013\1377032.dwg | Tabname: 10_Edgewood_Signs | Jun 29, 2016 - 1:35pm | Boucher

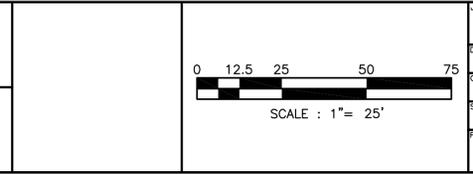
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REVISIONS :			
DATE	DESCRIPTION	DATE	DESCRIPTION
06/29/16	REV'D PLANS PRIOR TO BIDDING		

PROJECT :
EDGEWOOD ROAD QUIET ZONE
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY, PA

APPLICANT :
LOWER MAKEFIELD TOWNSHIP
 1100 EDGEWOOD ROAD
 YARDLEY PA, 19067



JOB NO.:
1377032

DRAWN BY:
 R.D.J.

CHECKED BY:
 M.W.E.

SCALE:
 1" = 25'

PLAN STATUS:
FINAL

TITLE :
PROPOSED SIGNAGE PLAN

Boucher & James, Inc.
 CONSULTING ENGINEERS
 DOYLESTOWN STRUDSBURG
 CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
 VOICE: (215) 345-9400 FAX: (215) 345-9401
 www.bjengineers.com

SHEET
10 of 13

DATE:
APRIL 8, 2016

PATA 104 (Old PATA 9a S) - Notes

- The lanes on either side of the center work space should have a minimum width of 10' as measured from the near edge of the channelizing devices to the edge of pavement or the outside edge of paved shoulder.
- Right Reverse Curve (W1-4R) sign shall only be used when lane shifts onto shoulder.
- When a shadow vehicle is not used, distance E is measured from end of taper to beginning of work space.
- Refer to PATA 008 for reverse curve/turn signing.



Sign Spacing Chart

Condition	Distance			
	A	B	C	F
	Feet	Feet	Feet	Feet
Urban 35 MPH or less	100	100	100	100
Urban Greater than 35 MPH	350	350	350	350
Rural	500	500	500	500

Distance and Spacing Quick Reference Chart

Speed	W	L	1/2L	1/3L	Min. Channelizing Devices Per Taper Type (Length)	D	E	H		
									Feet	Feet
25	10	105	55	35	6	6	6	50	155	150
30	11	115	60	40	6	6	6	60	200	150
35	12	125	65	45	6	6	6	70	250	150
40	13	135	70	50	6	6	6	80	305	150
45	14	145	75	55	6	6	6	90	360	150
50	15	155	80	60	6	6	6	100	425	250
55	16	165	85	65	6	6	6	110	495	250

When multiple distance plaques are used on advance warning signs, they shall all be of the same series type. Example: either all "AHEAD" or "XXX FEET."

Taper Length Formulas

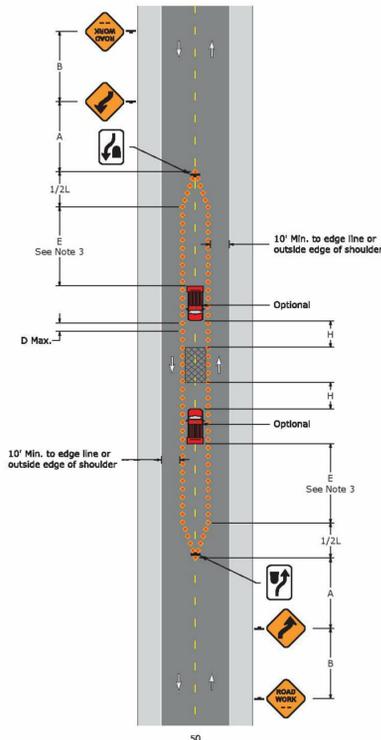
S	L
40 MPH or less	$L = \frac{WS^2}{60}$
45 MPH or more	$L = WS$

S = Regulatory Speed Limit
W = Width of Offset
L = Length

Note: Channelizing devices used in taper shall be equally spaced at 1/2 D Max.

49

PATA 104 (Old PATA 9a S) Work Space In Center Of Roadway



PATA 115 (Old PATA 11e) - Notes

- This figure applies for stationary operations where it is not feasible to maintain alternate one direction traffic flow.
- This setup is to be used during daylight hours only and only on roadways with an ADT of 1500 or less. The PATA may be approved by the District Traffic Engineer for use on other roads.
- Hours of work should not interfere with rush hour (6:00-9:00 AM and 3:00-6:00 PM) or school bus schedules and the work site must be capable of accommodating emergency vehicles with as little delay as possible.
- At locations where there are overlapping detours or several detours within the same area, street names may be added to the M4-9 series signs or signs with different colored arrows may be used to designate different detour routes. The design and application of signs displaying colored arrows shall comply with PennDOT Publication 236.
- The Road Closed-Local Traffic Only (R11-3A) sign may be used in place of the Road Closed To Thru Traffic (R11-4) sign.
- This Street To Be Closed For Maintenance Next Week (W23-101) signs should be installed for scheduled work. Install the signs at most appropriate locations.



Sign Spacing Chart

Condition	Distance			
	A	B	C	F
	Feet	Feet	Feet	Feet
Urban 35 MPH or less	100	100	100	100
Urban Greater than 35 MPH	350	350	350	350
Rural	500	500	500	500

Distance and Spacing Quick Reference Chart

Speed	W	L	1/2L	1/3L	Min. Channelizing Devices Per Taper Type (Length)	D	E	H		
									Feet	Feet
25	10	105	55	35	6	6	6	50	155	150
30	11	115	60	40	6	6	6	60	200	150
35	12	125	65	45	6	6	6	70	250	150
40	13	135	70	50	6	6	6	80	305	150
45	14	145	75	55	6	6	6	90	360	150
50	15	155	80	60	6	6	6	100	425	250
55	16	165	85	65	6	6	6	110	495	250

When multiple distance plaques are used on advance warning signs, they shall all be of the same series type. Example: either all "AHEAD" or "XXX FEET."

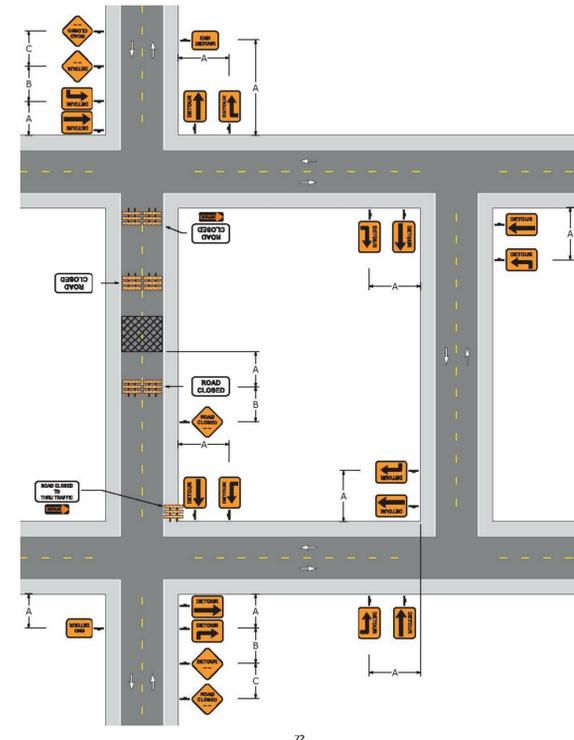
Taper Length Formulas

S	L
40 MPH or less	$L = \frac{WS^2}{60}$
45 MPH or more	$L = WS$

S = Regulatory Speed Limit
W = Width of Offset
L = Length

71

PATA 115 (Old PATA 11e) Road Closure With Detour



72

PATA 108 (New PATA) - Notes

- Each flagger shall be clearly visible to traffic for a minimum distance of E and shall be in constant communication with all other flaggers.
- For operations of 15 minutes or less:
 - The Road Work (W20-1), One Lane Road (W20-4), Be Prepared to Stop (W3-4), and Flagger Symbol (W20-7) signs are not required.
 - All channelizing devices may be eliminated if a shadow vehicle is present.
- The buffer space shall be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.
- When a shadow vehicle is not used, distance E is measured from end of taper to beginning of work space.



Sign Spacing Chart

Condition	Distance			
	A	B	C	F
	Feet	Feet	Feet	Feet
Urban 35 MPH or less	100	100	100	100
Urban Greater than 35 MPH	350	350	350	350
Rural	500	500	500	500

Distance and Spacing Quick Reference Chart

Speed	W	L	1/2L	1/3L	Min. Channelizing Devices Per Taper Type (Length)	D	E	H		
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35	12	125	65	45	6	6	6	70	250	150
40	13	135	70	50	6	6	6	80	305	150
45	14	145	75	55	6	6	6	90	360	150
50	15	155	80	60	6	6	6	100	425	250
55	16	165	85	65	6	6	6	110	495	250

When multiple distance plaques are used on advance warning signs, they shall all be of the same series type. Example: either all "AHEAD" or "XXX FEET."

Taper Length Formulas

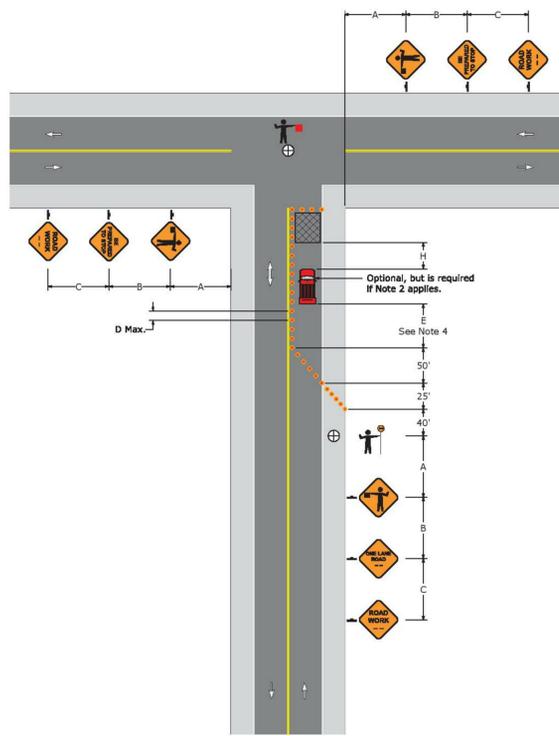
S	L
40 MPH or less	$L = \frac{WS^2}{60}$
45 MPH or more	$L = WS$

S = Regulatory Speed Limit
W = Width of Offset
L = Length

Note: Channelizing devices used in taper shall be equally spaced at 1/2 D Max.

57

PATA 108 (New PATA) Three-Leg Intersection Flagging Operation



58

PATA 103 (Old PATA 08) - Notes

- Right Reverse Curve (W1-4R) sign shall only be used when lane shifts onto shoulder.
- When a shadow vehicle is not used, distance E is measured from end of taper to beginning of work space.
- Refer to PATA 008 for reverse curve/turn signing.



Sign Spacing Chart

Condition	Distance			
	A	B	C	F
	Feet	Feet	Feet	Feet
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Distance and Spacing Quick Reference Chart

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35	12	125	65	45	6	6	6	70	250	150
40	13	135	70	50	6	6	6	80	305	150
45	14	145	75	55	6	6	6	90	360	150
50	15	155	80	60	6	6	6	100	425	250
55	16	165	85	65	6	6	6	110	495	250

When multiple distance plaques are used on advance warning signs, they shall all be of the same series type. Example: either all "AHEAD" or "XXX FEET."

Taper Length Formulas

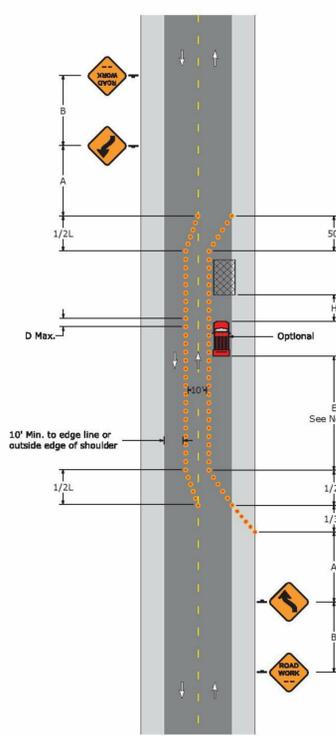
S	L
40 MPH or less	$L = \frac{WS^2}{60}$
45 MPH or more	$L = WS$

S = Regulatory Speed Limit
W = Width of Offset
L = Length

Note: Channelizing devices used in taper shall be equally spaced at 1/2 D Max.

47

PATA 103 (Old PATA 8) Work Space Has A Major Encroachment On The Roadway



48

P:\2013\1377032.dwg Final Plan\Edgewood 11-WorkZone.dwg | Tabname: 11-WorkZone | Jun 29, 2016 1:39pm | Rockton

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REVISIONS:		DATE	DESCRIPTION
06/29/16	REV'D PLANS PRIOR TO BIDDING		

PROJECT: **EDGEWOOD ROAD QUIET ZONE**
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PA

APPLICANT: **LOWER MAKEFIELD TOWNSHIP**
1100 EDGEWOOD ROAD
YARDLEY PA, 19067

JOB NO.: 1377032

DRAWN BY: R.D.J.

CHECKED BY: M.W.E.

SCALE: NO SCALE

PLAN STATUS: FINAL

TITLE: **WORK ZONE FIGURES**

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN STRUDSBURG

CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401

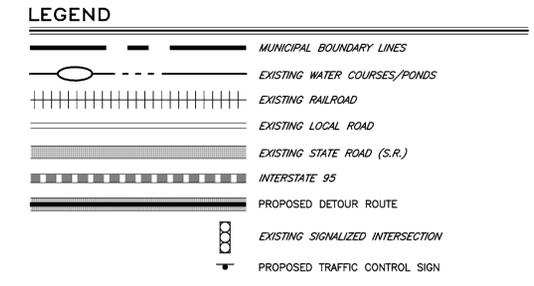
www.bjengineers.com

SHEET **11 of 13**

DATE: APRIL 8, 2016



- NOTES:**
1. UNDER NON-DETOUR CONDITIONS, NO TRAFFIC RESTRICTIONS OR LANE CLOSURES ARE PERMITTED BETWEEN THE HOURS OF 6:00 AM TO 9:00 AM AND 3:00 PM TO 6:00 PM, MONDAY THROUGH FRIDAY AND LEGAL HOLIDAYS.
 2. ADVANCE NOTICE OF DETOUR SIGNS (SIGN E) MUST BE POSTED AT LEAST TWO WEEKS PRIOR TO THE BEGINNING OF THE DETOUR.
 3. THE CONTRACTOR MUST NOTIFY THE BUCKS COUNTY MAINTENANCE OFFICE AT LEAST ONE WEEK IN ADVANCE OF THE PROPOSED ROAD CLOSURE.
 4. ACCESS TO ALL DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES.
 5. THE CONTRACTOR IS RESPONSIBLE FOR SIGNAL TIMING CHANGE ON DETOUR ROUTE IF REQUIRED FOR BACK-UP TRAFFIC IN PEAK HOURS.



SIGN LEGEND

(A) ROAD CLOSED 400 FEET AHEAD LOCAL TRAFFIC ONLY

(B) ROAD CLOSED 1/4 MILE AHEAD LOCAL TRAFFIC ONLY

(C) ROAD CLOSED

(D) THIS ROAD TO BE CLOSED XXX-XX-XXXX

(E) SPECIAL (48" X 36") 3.0" RADIUS, 0.6" BORDER, 0.6" INDENT; BLACK ON ORANGE

(F) ROAD CLOSED 500 FT

(G) ROAD CLOSED 1000 FT

(H) ROAD CLOSED 1500 FT

(I) DETOUR 500 FT

(J) DETOUR 1000 FT

(K) DETOUR 1500 FT

(L) DETOUR

(M) DETOUR

(N) DETOUR

(O) DETOUR

(P) DETOUR

(Q) END DETOUR

(R) EDGEWOOD ROAD SPECIAL (30" X 24")

(S) SANDY RUN ROAD SPECIAL (30" X 24")

(T) SPECIAL (60" X 54") 3.0" RADIUS, 1.3" BORDER, 0.8" INDENT; BLACK ON ORANGE

(U) SPECIAL (60" X 54") 3.0" RADIUS, 1.3" BORDER, 0.8" INDENT; BLACK ON ORANGE

EDGEWOOD ROAD CLOSED BETWEEN MILL ROAD AND SCHUYELR DRIVE FOLLOW DETOUR

SANDY RUN ROAD CLOSED BETWEEN INTERSECTION WITH EDGEWOOD ROAD FOLLOW DETOUR

SCALE: 1" = 500'

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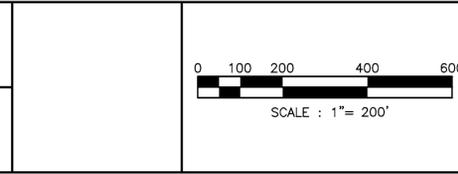
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LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY, PA

APPLICANT : LOWER MAKEFIELD TOWNSHIP
1100 EDGEWOOD ROAD
YARDLEY PA, 19067



JOB NO.: 1377032

DRAWN BY: R.D.J.

CHECKED BY: M.W.E.

SCALE: 1" = 500'

PLAN STATUS: FINAL

FILE : DETOUR PLAN

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN STRODSBURG

CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401

PROJECT NAME : EDGEWOOD ROAD QUIET ZONE

SHEET
13 of 13

DATE: APRIL 8, 2016