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SWIFT RD

SR 0332

W. JACOBINE RD

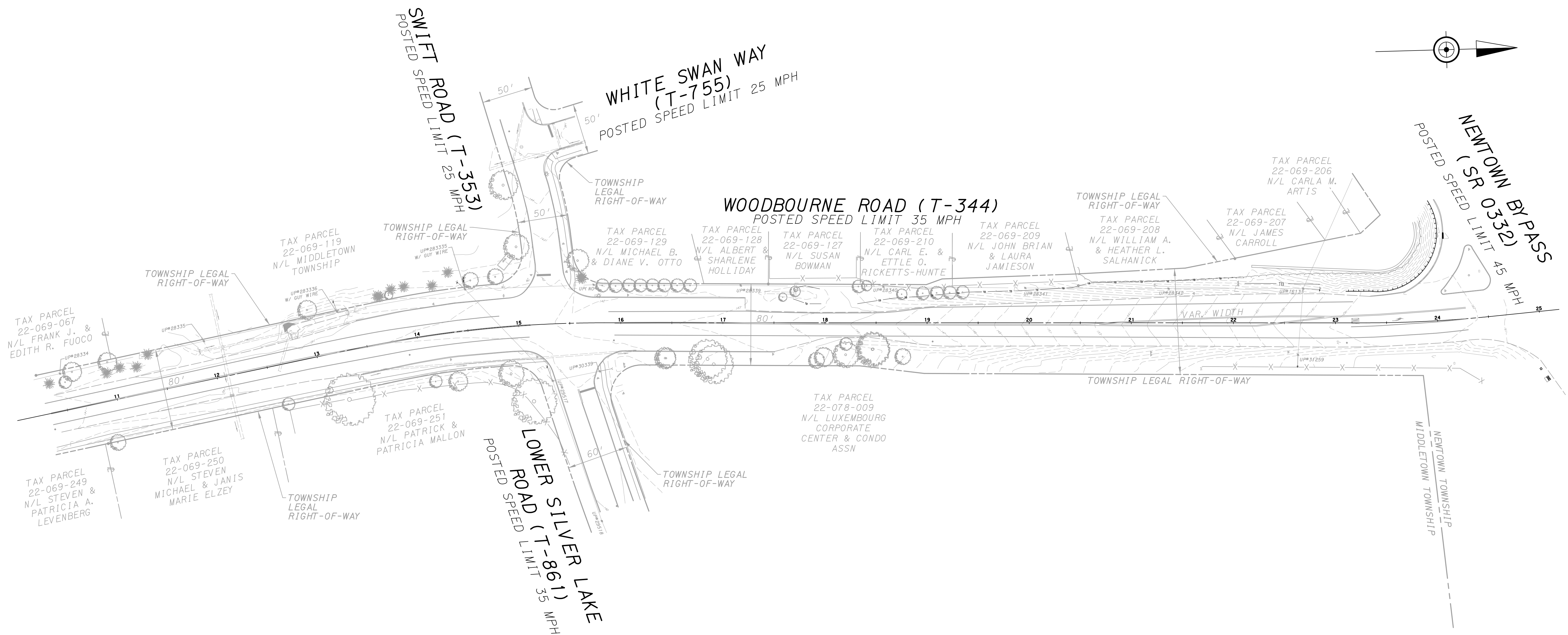
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LOWER SILVER LAKE RD

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
| 6-0 | BUCKS | T-344 | | 2 OF 13 |
| MIDDLETOWN TOWNSHIP | | | | |
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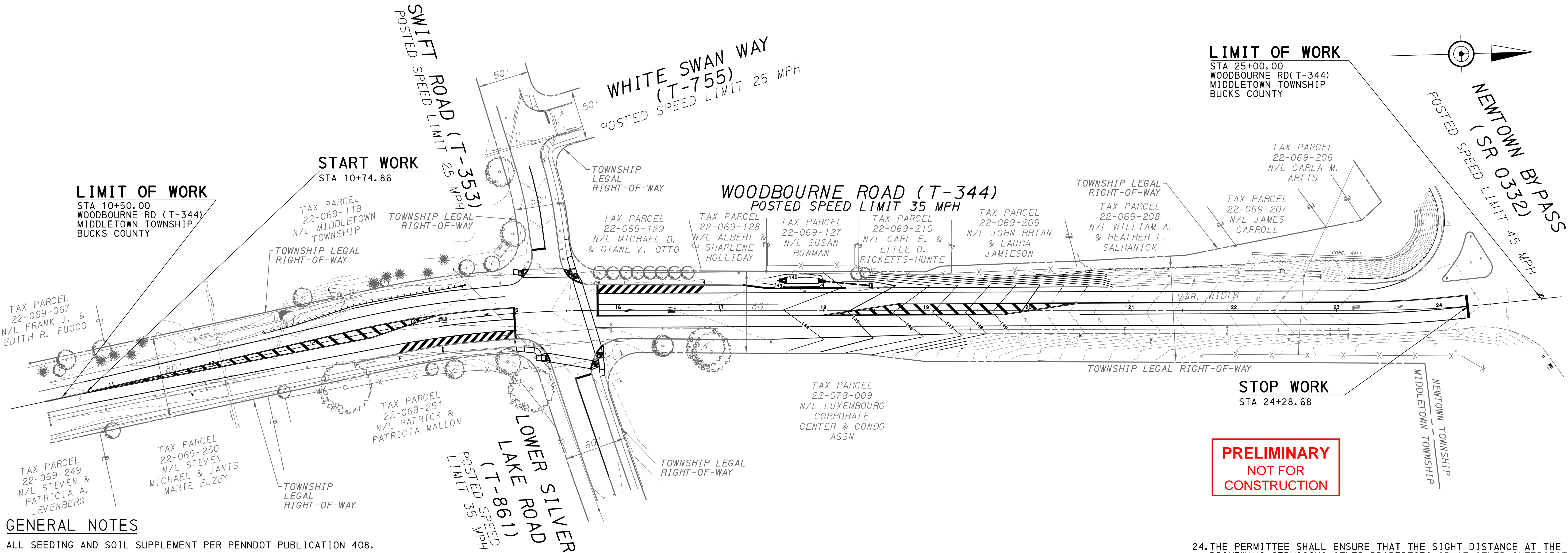
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|  TRAFFIC PLANNING AND DESIGN, INC. www.TrafficPD.com 610.326.3100 TPD@TrafficPD.com | | |
| DATE: 2/2/22 | PROJECT DESIGNER: SPG | JOB NO: MTTO.00027 |
| EXISTING CONDITIONS PLAN | | |
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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET | |
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| 6-0 | BUCKS | T-344 | | 3 OF 13 | |
| MIDDLETOWN TOWNSHIP | | | | | |
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GENERAL NOTES

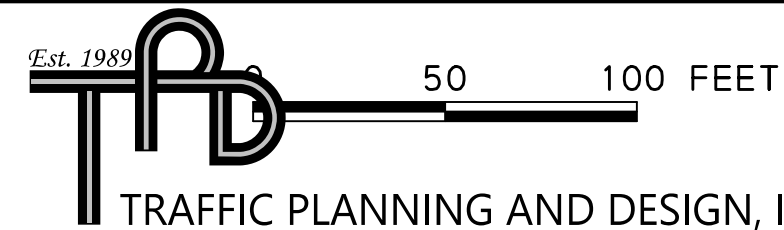
1. ALL SEEDING AND SOIL SUPPLEMENT PER PENNDOT PUBLICATION 408.
2. DO NOT INTERFERE WITH THE OPERATION OF ANY FIRE HYDRANTS, FIRE CALL BOX OR POLICE CALL BOX.
3. ALL CURVE DATA IS BASED ON THE ARC DEFINITION UNLESS OTHERWISE INDICATED.
4. BEFORE THE START OF ANY PAVING OPERATIONS, THE DEVELOPER (PERMITEE) IS RESPONSIBLE FOR ENSURING THAT ALL UTILITY POLES WITHIN THE PROPOSED PAVING AREA ARE RELOCATED OUTSIDE OF THE PAVED AREAS AND SHOULDERS ACCORDING TO PENNDOT DESIGN MANUAL 5. THE RELOCATED POSITIONS ARE TO BE CONSIDERED APPROXIMATE AND ARE SUBJECT TO THE UTILITY POLE RELOCATION PERMIT.
5. IT IS THE PERMITEE'S RESPONSIBILITY TO VERIFY ALL UTILITY COMPANIES AND RELATED FACILITIES LOCATED WITHIN THE LIMITS OF WORK PRIOR TO COMMENCING CONSTRUCTION. IT IS FURTHER THE PERMITEE'S RESPONSIBILITY TO OBTAIN ACCURATE FIELD LOCATIONS OF ALL UNDERGROUND AND AERIAL UTILITIES FROM THE UTILITY COMPANIES OR BY TEST PITS PRIOR TO BEGINNING WORK.
6. PRIOR TO THE START OF ANY UTILITY INSTALLATION, PERMITEES ARE TO ACCURATELY FIELD MEASURE LOCATIONS AND ELEVATIONS OF EXISTING UTILITY LINES AT PROPOSED CONNECTIONS. PERMITEES ARE TO IMMEDIATELY NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE PLAN INFORMATION.
7. ANY SCALED DIMENSION FROM THIS PLAN SHALL NOT BE USED FOR CONSTRUCTION WITHOUT CONFIRMATION BY TRAFFIC PLANNING AND DESIGN, INC., CONSULTING ENGINEERS.
8. ALL PECO AND VERIZON TELEPHONE POLE RELOCATIONS WILL BE ADDRESSED BY THE RESPECTIVE PARTIES.
9. APPLICABILITY OF PAVEMENT SECTION TO BE EVALUATED DURING CONSTRUCTION WITH ADJUSTMENTS COMMENSURATE WITH ACTUAL PAVEMENT SUBGRADE CONDITIONS.
10. EXISTING BASE SURVEY, INCLUDING ROW, BY REMINGTON & VERNICK ENGINEERS, INC.
11. SCHEDULE AND CONDUCT ALL CONSTRUCTION TO MINIMIZE EROSION. PROVIDE AND MAINTAIN APPROVED EROSION AND SEDIMENTATION CONTROL MEASURES UNTIL ALL WORK IS COMPLETED.
12. LANDSCAPED AREAS SHALL BE DRESSED WITH A MINIMUM OF 4 INCHES OF TOPSOIL AND SEEDED.
13. MATCH SURFACE COLOR OF NEW PAVEMENT TO COLOR OF EXISTING PAVEMENT AS CLOSE AS POSSIBLE.
14. POST-DEVELOPMENT RUNOFF SHALL NOT EXCEED PRE-DEVELOPMENT RUNOFF.

15. THESE PLANS ARE BASED ON INFORMATION AVAILABLE AT THE TIME THEY WERE PREPARED. ACTUAL CONDITIONS DETERMINED LATER MAY VARY. SOUND JUDGMENT SHOULD BE EXERCISED DURING CONSTRUCTION TO ASSURE THAT THE DESIGN IS COMPATIBLE WITH THE ACTUAL CONDITIONS.
16. THE PERMITEE SHALL ACCEPT THE RESPONSIBILITY TO NOTIFY ALL PROPERTY OWNERS WITHIN THE LIMITS OF WORK DUE TO PROPOSED ROADWAY IMPROVEMENTS ALONG THEIR PROPERTY FRONTAGE AND WITHIN THE LEGAL RIGHT OF WAY PRIOR TO THE START OF CONSTRUCTION. A COPY OF THE WRITTEN NOTIFICATION(S) WILL BE ON FILE WITH THE APPLICANT'S HIGHWAY OCCUPANCY PERMIT.
17. IT IS THE RESPONSIBILITY OF THE PERMITEE TO MAKE ADJUSTMENTS TO THE AFFECTED DRIVEWAYS. A WRITTEN PERMISSION / DRIVEWAY RELEASE FORM MUST BE OBTAINED AND SUBMITTED FROM THE ADJACENT DRIVEWAY OWNERS WITH THEIR NOTARIZED SIGNATURE FOR THE PROPOSED CHANGES THAT EXTEND BEYOND THE LEGAL RIGHT-OF-WAY LINE.
18. MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE FIGURES PATA 101A, PATA 102, PATA 103, PATA 104, PATA 110-1, PATA 110-G & PATA 201-A IN PENNDOT PUBLICATION 213, "TEMPORARY TRAFFIC CONTROL GUIDELINES", JUNE 2014 OR MOST CURRENT REVISION. MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION MUST ALSO BE IN ACCORDANCE WITH THE PENNSYLVANIA CODE, TITLE 67, TRANSPORTATION, CHAPTER 212, APRIL 2006 OR MOST CURRENT REVISION.
19. FURNISH AND INSTALL ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS AS INDICATED.
20. ALL EXISTING PAVEMENT MARKINGS WHICH ARE NO LONGER APPROPRIATE SHALL BE ERADICATED BY THE PERMITEE USING AN ERADICATION METHOD APPROVED BY A TOWNSHIP FIELD REPRESENTATIVE. THE PERMITEE SHALL PLACE ALL REQUIRED NEW PAVEMENT MARKINGS.
21. OFFSETS FROM CENTERLINE ARE TO THE CENTER OF THE GRATE FOR TYPE "M" & "S" INLETS AND TO THE BACK OF THE GRATE FOR TYPE "C" INLETS. IT IS THE RESPONSIBILITY OF THE PERMITEE TO REMOVE ANY DEBRIS AND FLUSH OUT ALL EXISTING AND PROPOSED STORM DRAINAGE FACILITIES WITHIN THE PROJECT LIMITS AT THE COMPLETION OF CONSTRUCTION.
22. ALL PROPOSED PAVEMENT MARKINGS MUST BE HOT THERMOPLASTIC ON BITUMINOUS PAVEMENT, INCLUDING LONG AND SHORT LINES AND PAVEMENT MARKING LEGENDS. ALL PROPOSED PAVEMENT MARKINGS MUST BE EPOXY ON CONCRETE PAVEMENT, INCLUDING LONG AND SHORT LINES AND PAVEMENT MARKING LEGENDS.
23. MATCH BOTTOM OF CURB ELEVATION WHEN TYING INTO EXISTING CURB. IF THE EXISTING REVEAL DIFFERS FROM PROPOSED, TAPER THE TOP OF PROPOSED CURB TO MATCH THE EXISTING REVEAL AT THE LIMITS OF PROPOSED CURBING. ALL INLETS THAT EXCEED 5 FEET IN DEPTH MUST BE CONSTRUCTED WITH STEPS, SIMILAR TO A MANHOLE.

24. THE PERMITEE SHALL ENSURE THAT THE SIGHT DISTANCE AT THE DRIVEWAYS SERVICING OTHER PROPERTIES OR AT OTHER INTERSECTIONS IS NOT REDUCED (UNLESS EXISTING AND PROPOSED VALUES EXCEED THE DESIRABLE VALUES SPECIFIED IN THE PENNSYLVANIA CODE, TITLE 67, TRANSPORTATION, CHAPTER 441.8.H.1)
 25. NO UNSUITABLE MATERIAL IS TO BE USED IN ANY PORTION OF THE ROADWAY CONSTRUCTION. REMOVE ANY SUBGRADE THAT CANNOT BE PROPERLY COMPACTED AND TREAT AS UNSUITABLE MATERIAL. ANY MATERIAL WITH A CBR VALUE OF FIVE (5) OR LESS IS CLASSIFIED AS UNSUITABLE. UNDERCUTTING AND/OR SUBGRADE STABILIZATION MAY BE REQUIRED TO OBTAIN A CBR VALUE GREATER THAN FIVE (5).
 26. ALL UTILITY RELOCATION PERMITS TAKE PRECEDENCE OVER THE UTILITY RELOCATION POSITIONS SHOWN ON THE HOP PLANS.
 27. DETAILS OTHER THAN THOSE STATED ARE ON THE FOLLOWING STANDARD DETAILS FROM PENNDOT PUBLICATION 72M:
 - RC-31M JUNE 1, 2010
 - RC-45M SEPTEMBER 15, 2016
 - RC-46M SEPTEMBER 15, 2016
 - RC-52M SEPTEMBER 15, 2016
 - RC-64M JUNE 1, 2010
 - RC-67M JUNE 10, 2013
- THE PERMITEE IS REQUIRED TO PROVIDE THE CONTRACTOR WITH COPIES OF THE MOST CURRENT APPLICABLE RC DRAWINGS FROM PENNDOT PUBLICATION 72M.



PENNSYLVANIA ACT 287 (1974) AS AMENDED BY ACT 121 (2008) REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH. PA ONE-CALL SERIAL #20211184050 HAS BEEN ASSIGNED TO THIS PROJECT ON 4/28/21 * ENTRIES FROM ACT 121 LIST UPDATED BY ENGINEER.



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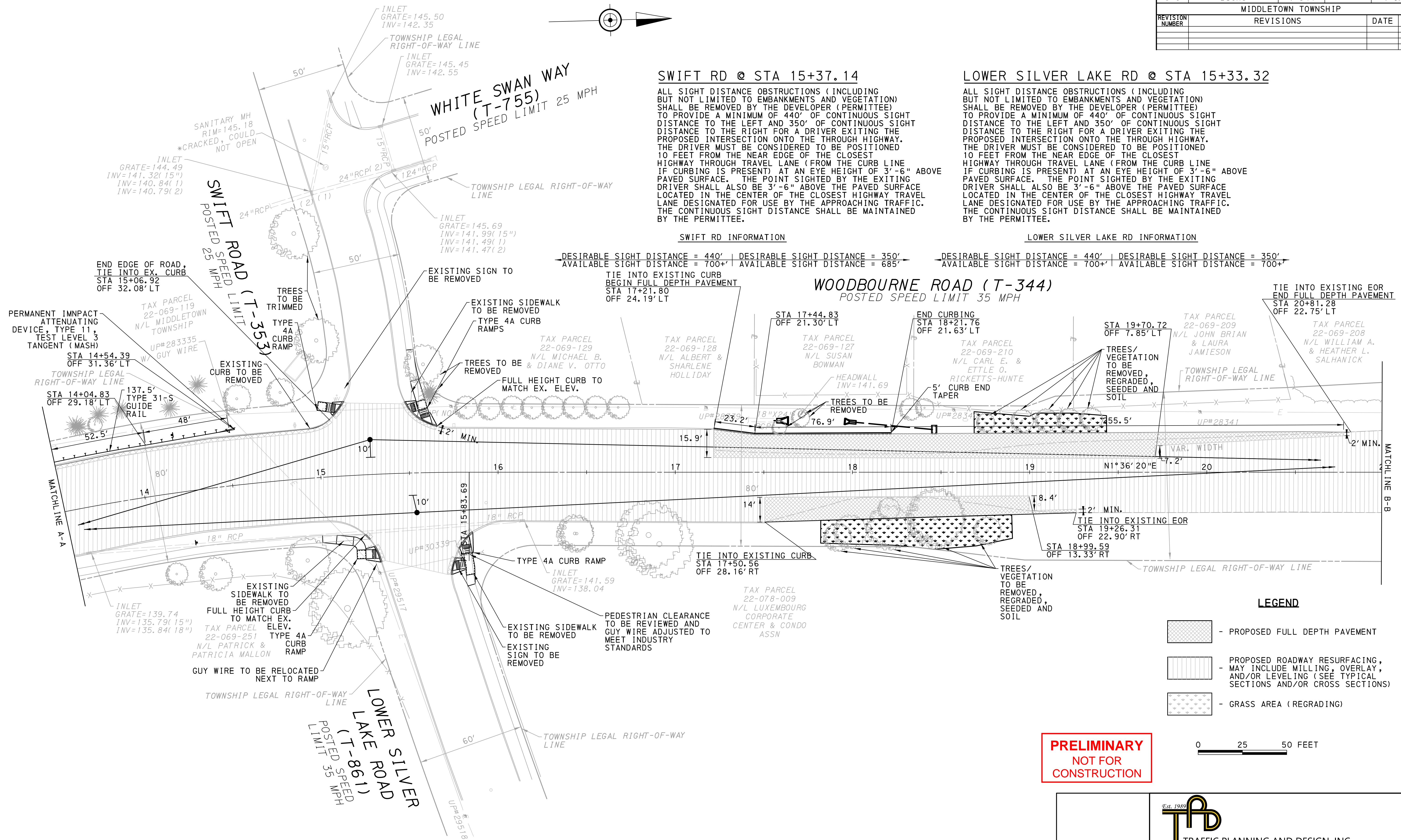
DATE: 5/16/22 | PROJECT DESIGNER: SPG | JOB NO: MTTO.00027

PROPOSED CONDITIONS PLAN AND GENERAL NOTES

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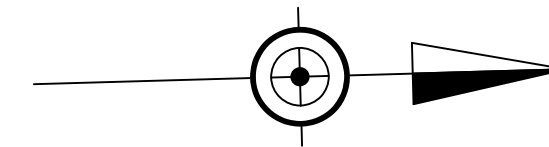
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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET | |
| 6-0 | BUCKS | T-344 | | 4 OF 13 | |
| MIDDLETOWN TOWNSHIP | | | | | |
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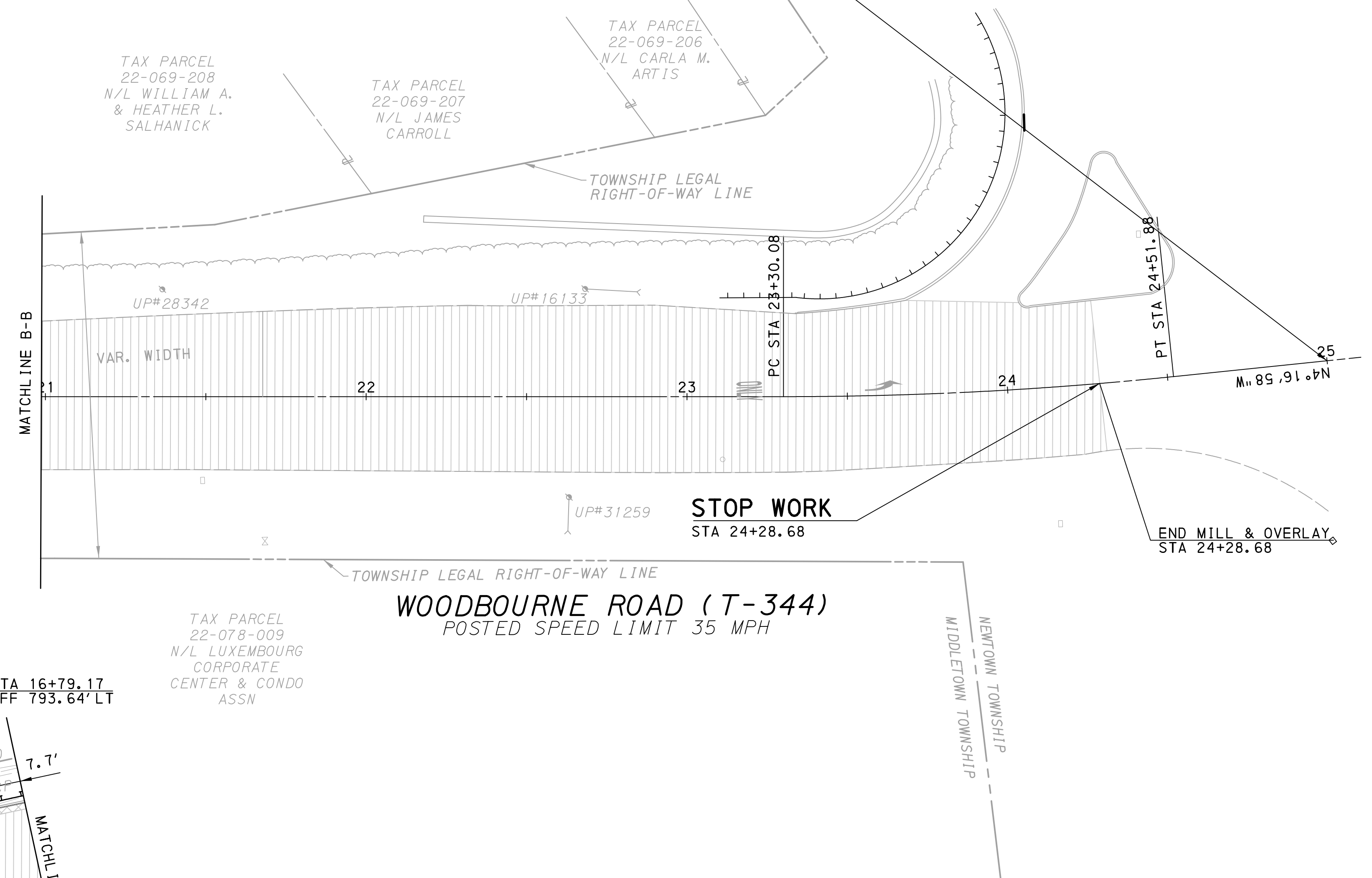
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| MIDDLETOWN TOWNSHIP | | | | | |
| REVISION NUMBER | REVISIONS | | | DATE | BY |
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LIMIT OF WORK

STA 25+00.00
WOODBOURNE RD(T-344)
MIDDLETOWN TOWNSHIP
BUCKS COUNTY



STOP WORK

STA 24+28.68

END MILL & OVERLAY
STA 24+28.68

WOODBOURNE ROAD (T-344)
POSTED SPEED LIMIT 35 MPH

POSTED SPEED LIMIT 35 MPH

LIMIT OF WORK

STA 10+50.00
WOODBOURNE RD(T-344)
MIDDLETOWN TOWNSHIP
BUCKS COUNTY

WOODBOURNE ROAD (T-344)
POSTED SPEED LIMIT 35 MPH
STA 16
OFF 81
ST
RIM

STA 16+05.46
OFF 816.87' LT

P LEGAL

STA 16+20.46
OFF 812.91' LT

STORM MH.

TAX PARCEL
22-069-119
N/L MIDDLETOWN
TOWNSHIP

INV=137.95(1)
EXISTING CURB TO BE
REMOVED, MATCH EX.
EDGE OF ROAD


EDGE OF ROAD
STA 13+44.72


STA 16+79.17
OFF 793.64' L

OFFICIAL USE ONLY

TAX PARCEL
22-078-009
N/L LUXEMBOURG
CORPORATE
CENTER & CONDO
ASSN

LEGEND

 - PROPOSED FULL DEPTH PAVEMENT

 - PROPOSED ROADWAY RESURFACING, MAY INCLUDE MILLING, OVERLAY, AND/OR LEVELING (SEE TYPICAL SECTIONS AND/OR CROSS SECTIONS)

PRELIMINARY
NOT FOR
CONSTRUCTION

0 25 50 FEET

START WORK

STA 10+74.86

| | |
|-----|-----------|
| STA | 12+38.63 |
| OFF | 19.78' RT |

TAX PARCEL
22-069-250
N/L STEVEN
MICHAEL & JANIS
MARIE ELZEY

EXISTING
GUIDE RAIL TO
BE REMOVED

STA 13+38.46
OFF 25.73' RT

OFF 25.75 RT

TAX PARCEL
22-069-251
N/L PATRICK &
PATRICIA MALLON

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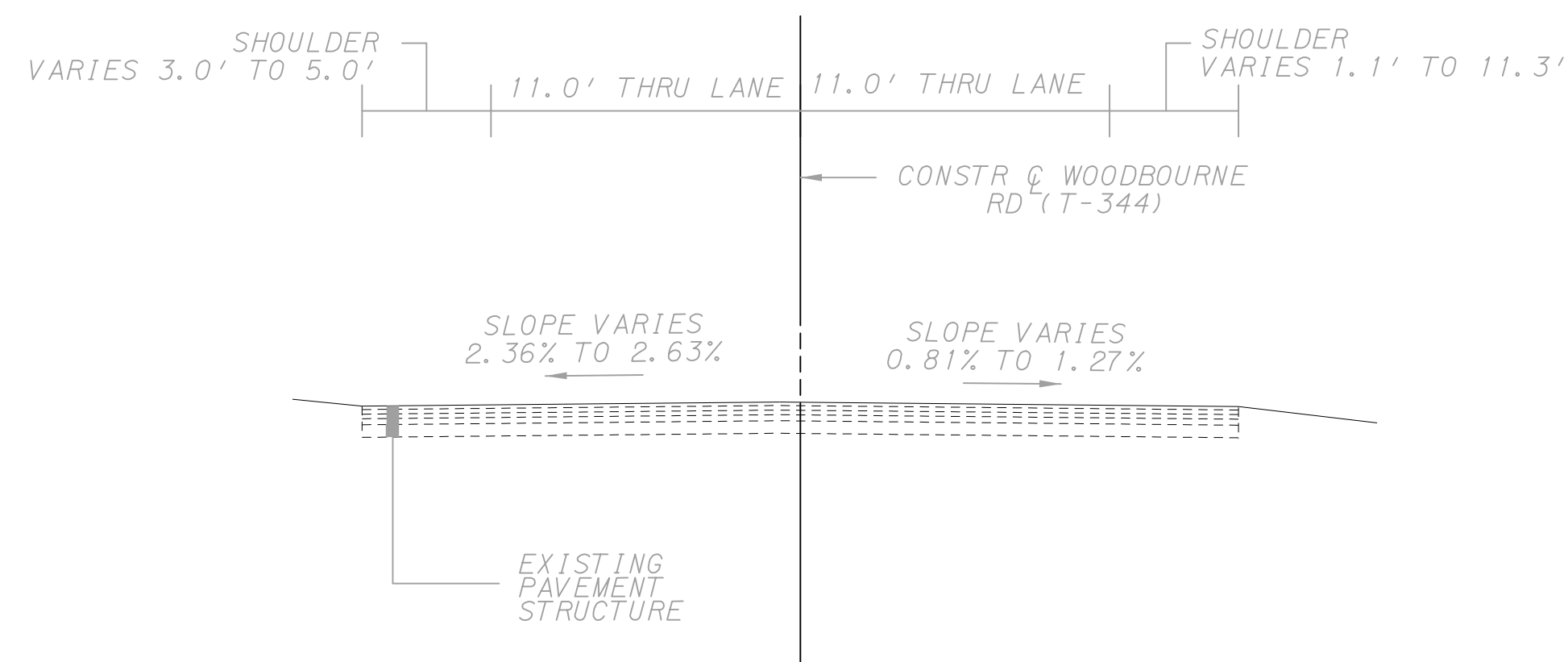
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| DATE: 2/2/22 | PROJECT DESIGNER: SPG | JOB NO: MTT0.00027 |
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CONSTRUCTION PLAN

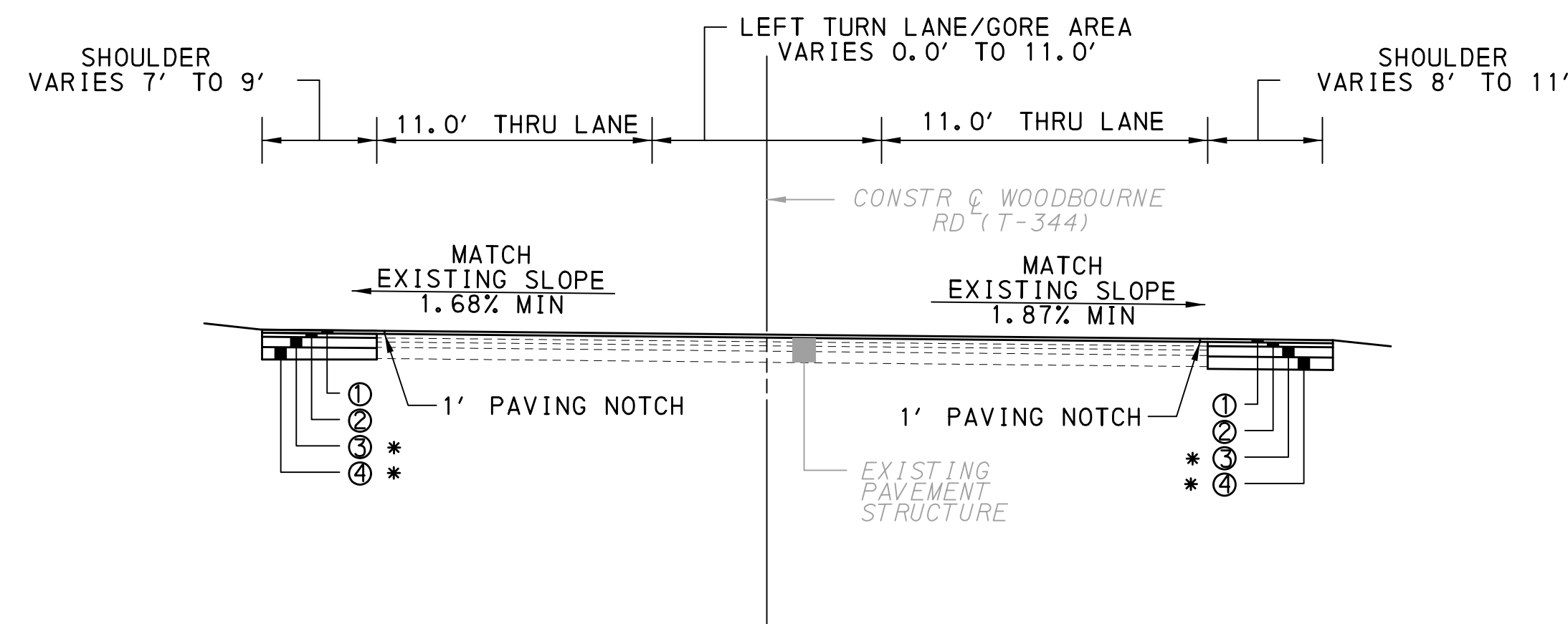
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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
| 6-0 | BUCKS | T-344 | | 7 OF 13 |
| MIDDLETOWN TOWNSHIP | | | | |
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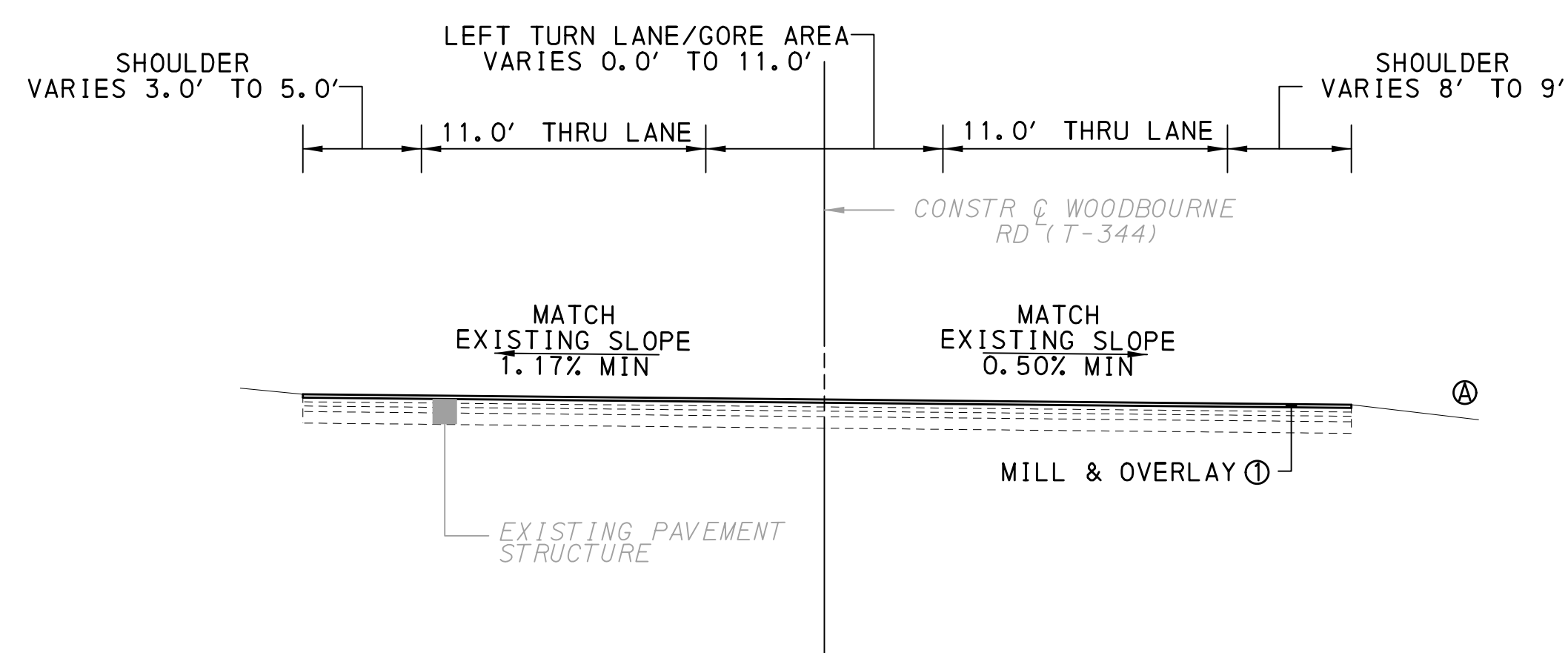


WOODBOURNE ROAD (T-344)
STA 10+29.84 TO STA 10+72.34
TYPICAL SECTION
NTS



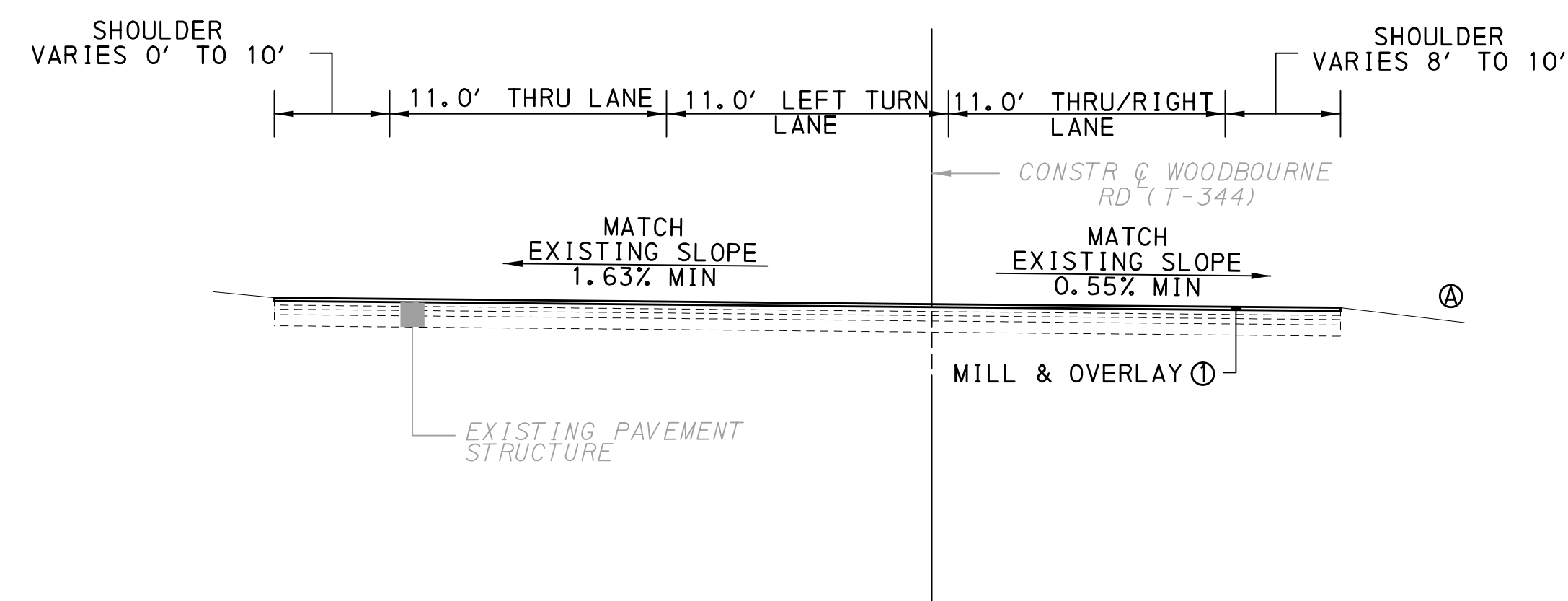
WOODBOURNE ROAD (T-344)
STA 15+79.14 TO STA 22+25.70
TYPICAL SECTION
NTS

- ① 1.5" SUPERPAVE VOLUMETRIC ASPHALT MIXTURE DESIGN, 9.5mm, PG 64-22, WMA WEARING COURSE, 0.3 TO <3.0 M ESALS
 - ② 2.5" SUPERPAVE VOLUMETRIC ASPHALT MIXTURE DESIGN, 19mm, PG 64-22, WMA BINDER COURSE, 0.3 TO <3.0 M ESALS
 - ③ 6.0" SUPERPAVE VOLUMETRIC ASPHALT MIXTURE DESIGN, 25mm, PG 64-22, WMA BASE COURSE, 0.3 TO <3.0 M ESALS
 - ④ 6" 2A SUBBASE
 - ⑤ ALL SEEDING AND SOIL SUPPLEMENT PER PUBLICATION 408.
- * IF EXISTING MATERIAL DEPTHS ARE GREATER IN FIELD, MATCH EXISTING DEPTHS



WOODBOURNE ROAD (T-344)
STA 10+72.34 TO STA 14+99.85
TYPICAL SECTION
NTS

- ① 1.5" SUPERPAVE VOLUMETRIC ASPHALT MIXTURE DESIGN,
9.3mm, PG 64-22, WMA WEARING COURSE,
0.3 TO <3.0 M ESALS, SRL-H
- ② ALL SEEDING AND SOIL SUPPLEMENT PER PUBLICATION 408.
- * IF EXISTING MATERIAL DEPTHS ARE GREATER IN FIELD,
MATCH EXISTING DEPTHS



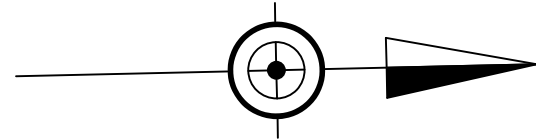
WOODBOURNE ROAD (T-344)
STA 22+25.70 TO STA 24+29.04
TYPICAL SECTION
NTS

- ① 1.5" SUPERPAVE VOLUMETRIC ASPHALT MIXTURE DESIGN,
9.5mm, PG 64-22, WMA WEARING COURSE,
0.3 TO <3.0 M ESALS, SRL-H
- ② ALL SEEDING AND SOIL SUPPLEMENT PER PUBLICATION 408.
- * IF EXISTING MATERIAL DEPTHS ARE GREATER IN FIELD,
MATCH EXISTING DEPTHS

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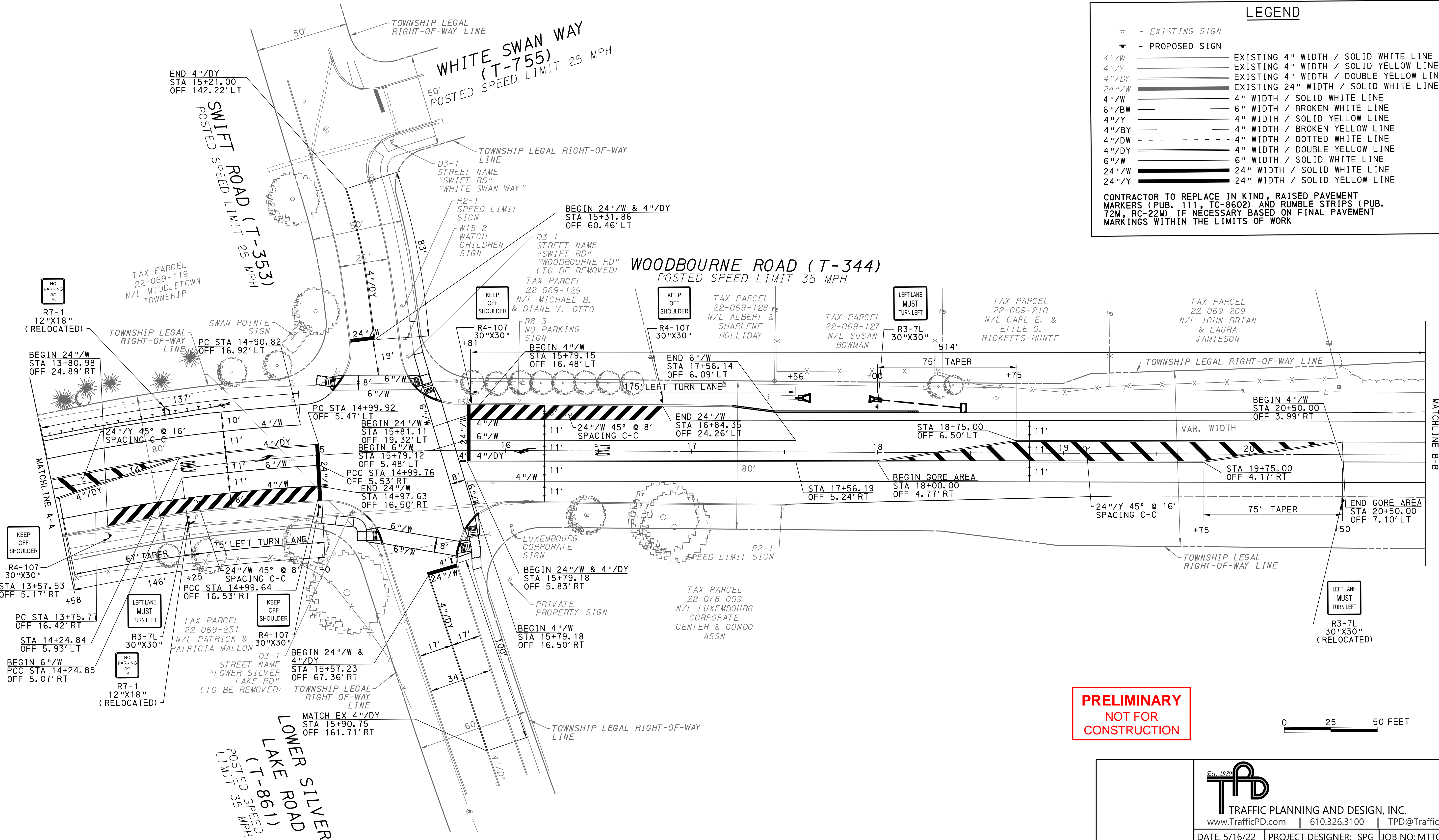
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| 6-0 | BUCKS | T-344 | | 8 OF 13 |
| MIDDLETOWN TOWNSHIP | | | | |
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LEGEND

| | |
|-------|--|
| | - EXISTING SIGN |
| | - PROPOSED SIGN |
| 4"/W | EXISTING 4" WIDTH / SOLID WHITE LINE |
| 4"/Y | EXISTING 4" WIDTH / SOLID YELLOW LINE |
| 4"/DY | EXISTING 4" WIDTH / DOUBLE YELLOW LINE |
| 24"/W | EXISTING 24" WIDTH / SOLID WHITE LINE |
| 4"/W | 4" WIDTH / SOLID WHITE LINE |
| 6"/BW | 6" WIDTH / BROKEN WHITE LINE |
| 4"/Y | 4" WIDTH / SOLID YELLOW LINE |
| 4"/BY | 4" WIDTH / BROKEN YELLOW LINE |
| 4"/DW | 4" WIDTH / DOTTED WHITE LINE |
| 4"/DY | 4" WIDTH / DOUBLE YELLOW LINE |
| 6"/W | 6" WIDTH / SOLID WHITE LINE |
| 24"/W | 24" WIDTH / SOLID WHITE LINE |
| 24"/Y | 24" WIDTH / SOLID YELLOW LINE |

CONTRACTOR TO REPLACE IN KIND, RAISED PAVEMENT MARKERS (PUB. 111, TC-8602) AND RUMBLE STRIPS (PUB. 72M, RC-22M) IF NECESSARY BASED ON FINAL PAVEMENT MARKINGS WITHIN THE LIMITS OF WORK



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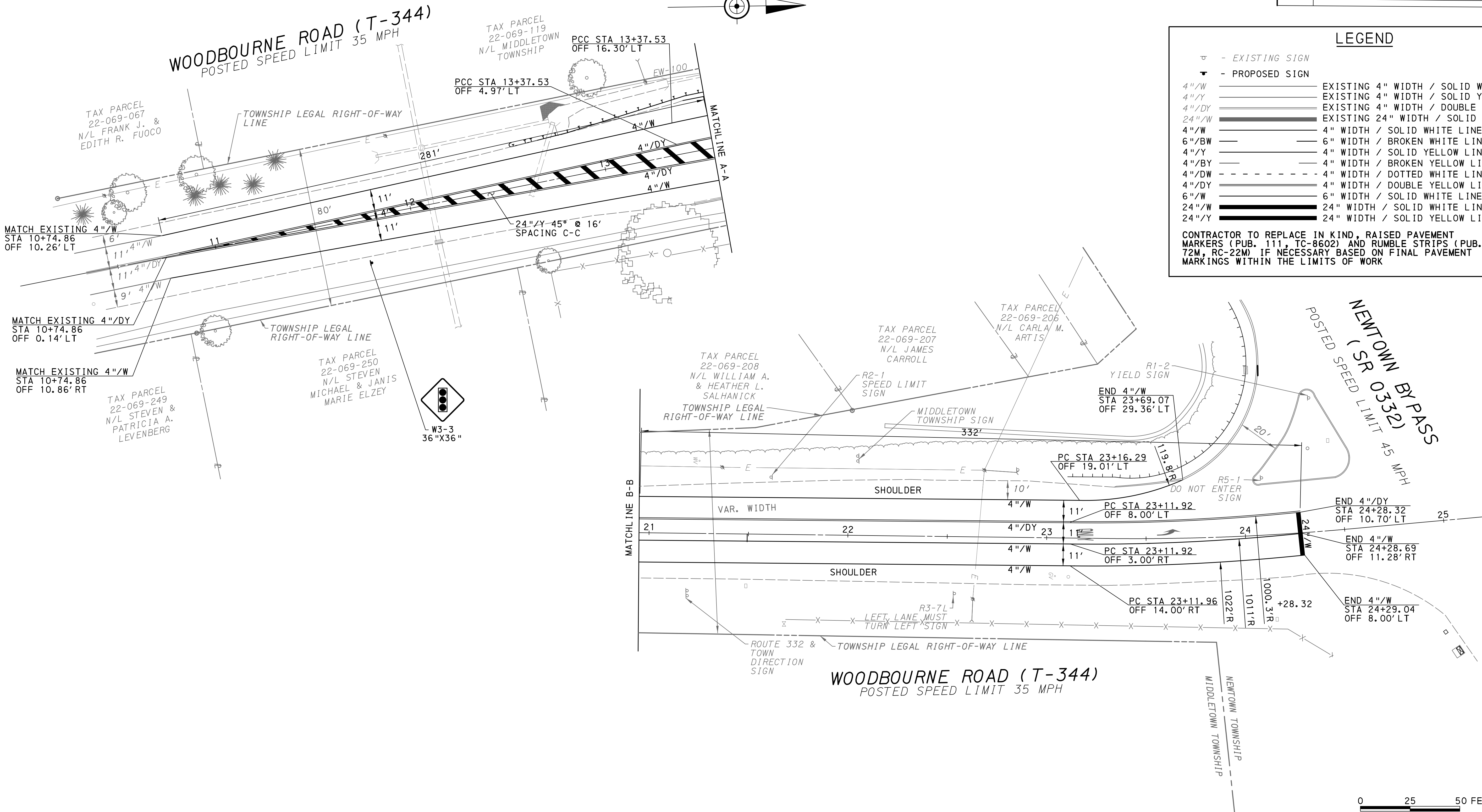
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PAVEMENT MARKING AND SIGNING PLAN

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---------------------|-----------|-------|---------|---------|
| 6-0 | BUCKS | T-344 | | 9 OF 13 |
| MIDDLETOWN TOWNSHIP | | | | |
| REVISION NUMBER | REVISIONS | DATE | BY | |
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LEGEND

- EXISTING SIGN

- PROPOSED SIGN

4"/W

4"/Y

4"/DY

24"/W

4"/W

6"/BW

4"/Y

4"/BY

4"/DW

4"/DY

6"/W

24"/W

24"/Y

EXISTING 4" WIDTH / SOLID WHITE LINE

EXISTING 4" WIDTH / SOLID YELLOW LINE

EXISTING 4" WIDTH / DOUBLE YELLOW LINE

EXISTING 24" WIDTH / SOLID WHITE LINE

4" WIDTH / SOLID WHITE LINE

6" WIDTH / BROKEN WHITE LINE

4" WIDTH / SOLID YELLOW LINE

4" WIDTH / BROKEN YELLOW LINE

4" WIDTH / DOTTED WHITE LINE

4" WIDTH / DOUBLE YELLOW LINE

6" WIDTH / SOLID WHITE LINE

24" WIDTH / SOLID WHITE LINE

24" WIDTH / SOLID YELLOW LINE

CONTRACTOR TO REPLACE IN KIND, RAISED PAVEMENT MARKERS (PUB. 111, TC-8602) AND RUMBLE STRIPS (PUB. 72M, RC-22M) IF NECESSARY BASED ON FINAL PAVEMENT MARKINGS WITHIN THE LIMITS OF WORK

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TRAFFIC PLANNING AND DESIGN, INC.

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DATE: 5/16/22

PROJECT DESIGNER: SPG

JOB NO: MTTO.00027

PAVEMENT MARKING AND SIGNING PLAN

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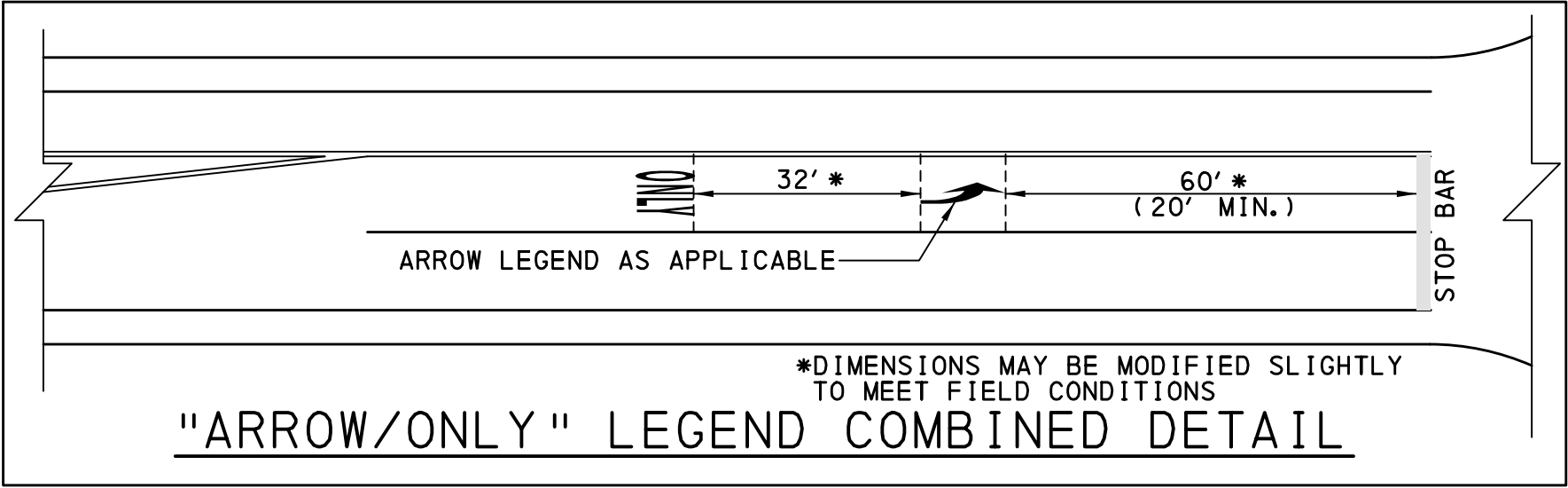
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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET | |
| 6-0 | BUCKS | T-344 | | 10 OF 13 | |
| MIDDLETOWN TOWNSHIP | | | | | |
| REVISION NUMBER | REVISIONS | | | DATE | BY |
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GENERAL NOTES

1. MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE DEPARTMENT'S SPECIFICATIONS, FORM 408.
2. THESE PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE REGULATIONS COVERING THE DESIGN, LOCATION, AND OPERATION OF ALL OFFICIAL TRAFFIC SIGNS, SIGNALS, AND MARKINGS ON AND ALONG HIGHWAYS WITHIN THE COMMONWEALTH OF PENNSYLVANIA.
3. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED.
4. THE CONTRACTOR SHALL PREPARE THE PAVEMENT SURFACE FOR THE PROPER ADHESION. ANY SWEEPING OR REMOVAL OF DEBRIS, GRAVEL, DIRT, OR OTHER FOREIGN MATERIALS SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE NEW PAVEMENT MARKINGS, AND NO SEPARATE PAYMENT SHALL BE MADE THEREFORE.
5. THE CONTRACTOR SHALL REMOVE ALL PREVIOUS PAVEMENT MARKINGS, WHICH IN THE OPINION OF THE ENGINEER CONFLICT WITH THE NEW PAVEMENT MARKINGS. UNLESS SPECIFICALLY STATED OTHERWISE THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE NEW PAVEMENT MARKINGS, AND NO SEPARATE PAYMENT WILL BE MADE THEREFORE.
6. THE CONTRACTOR SHALL NOTE ALL SPECIAL PROVISIONS OF THE CONTRACT AND SPECIFICALLY WITH REGARDS TO THE RATE OF APPLICATION, MAINTENANCE OF TRAFFIC, RESTRICTED WORKING HOURS, AND/OR RESTRICTED WEATHER CONDITIONS. NO DEVIATIONS WILL BE PERMITTED.
7. UNLESS SPECIFIED OTHERWISE, THE BASIS OF MEASUREMENT SHALL BE ALONG THE LONGITUDINAL CENTERLINE OF PAVEMENT MARKINGS. MEASUREMENT FOR LEGENDS SHALL BE PER MESSAGE, COMPLETE AND IN PLACE.
8. PRIOR TO APPLICATION, THE CONTRACTOR SHALL FIELD CHECK AND LOCATE ALL PAVEMENT MARKINGS TO THE SATISFACTION OF THE PENNDOT INSPECTOR.
9. ALL MARKINGS IMPROPERLY APPLIED OR LOCATED SHALL BE COMPLETELY REMOVED AND CORRECTLY RE-APPLIED, AT THE SOLE EXPENSE OF THE CONTRACTOR.
10. WHERE BITUMINOUS SEALANTS PREVENTS OR MAKES IMPRACTICAL THE EXTENDING OF LINES TO THE FACE OF THE CURB, THE CONTRACTOR SHALL EXTEND LINES TO EDGE OF SEALANT OR WITHIN ONE FOOT OF THE FACE OF CURB, WHICHEVER IS LESS.
11. ALL PROPOSED PAVEMENT MARKINGS MUST BE HOT THERMOPLASTIC ON BITUMINOUS PAVEMENT, INCLUDING LONG AND SHORT LINES AND PAVEMENT MARKING LEGENDS. ALL PROPOSED PAVEMENT MARKINGS MUST BE EPOXY ON CONCRETE PAVEMENT, INCLUDING LONG AND SHORT LINES AND PAVEMENT MARKING LEGENDS.

THE
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0
STANDARD PAVEMENT
MARKINGS



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CONSTRUCTION



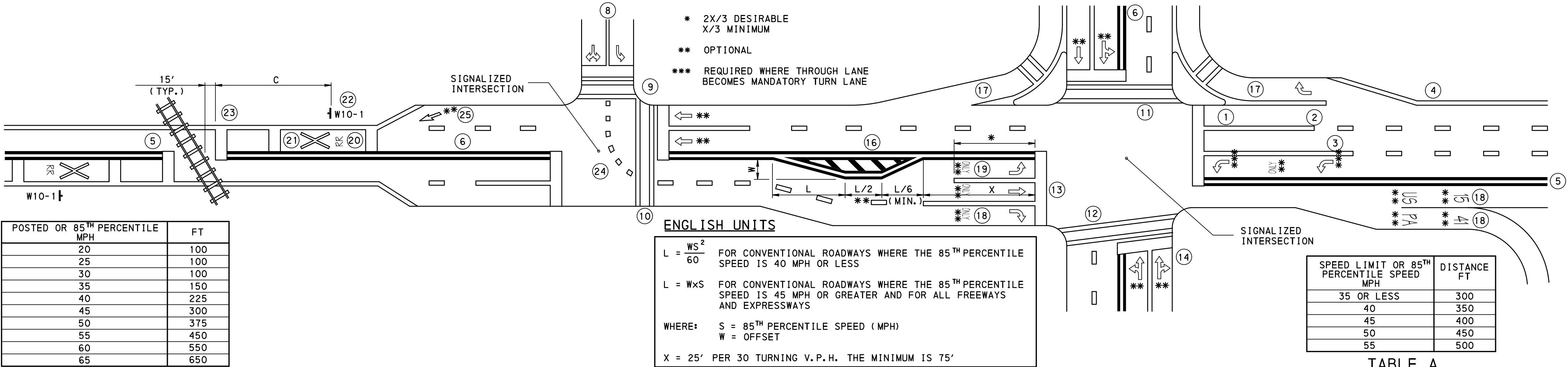
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DATE: 2/2/22 PROJECT DESIGNER: SPG JOB NO: MTTO.00027

PAVEMENT MARKING STANDARDS

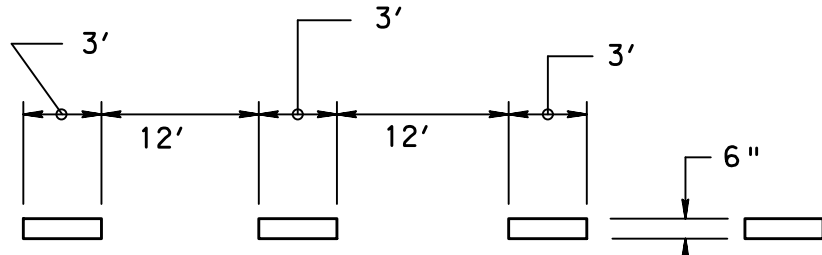
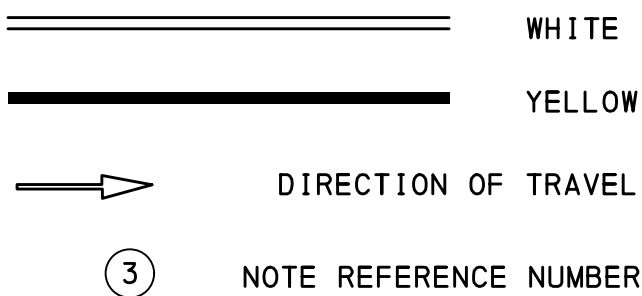
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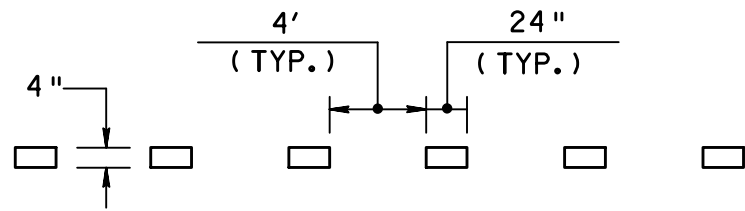


LOCATION OF RAILROAD
CROSSING SIGN

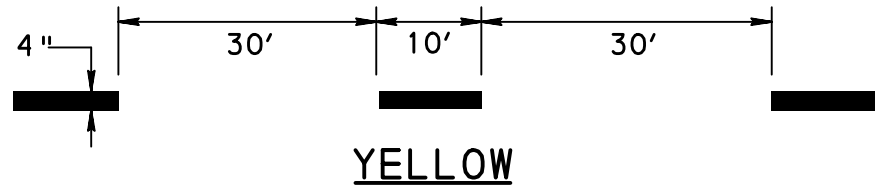
LEGEND



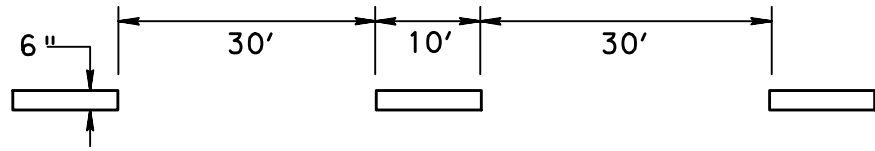
AUXILIARY LANE LINE



DOTTED EXTENSION LINE

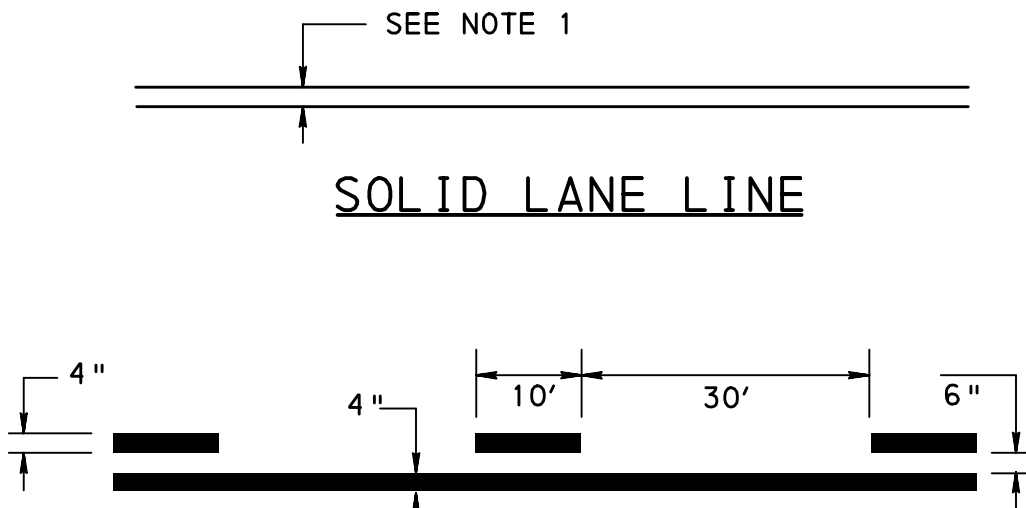


YELLOW



WHITE

BROKEN LANE LINE



SOLID LANE LINE



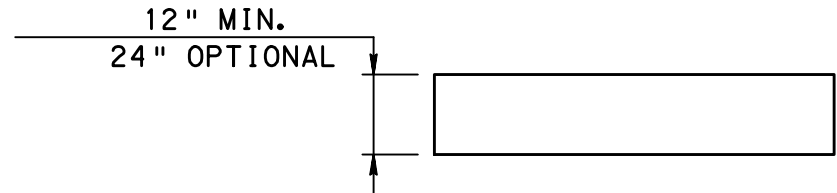
ONE-WAY BARRIER LINES

(SEE NOTE 5)

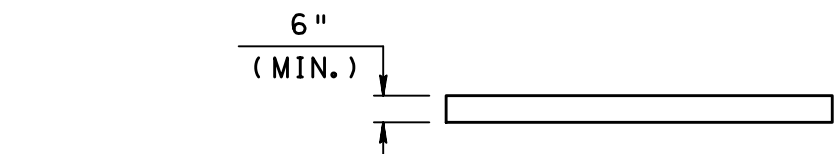


TWO-WAY BARRIER LINES

(SEE NOTE 5)



STOP LINE



CROSSWALK

- * 2X/3 DESIRABLE
X/3 MINIMUM
- ** OPTIONAL
- *** REQUIRED WHERE THROUGH LANE
BECOMES MANDATORY TURN LANE

ENGLISH UNITS

$L = \frac{WS^2}{60}$ FOR CONVENTIONAL ROADWAYS WHERE THE 85TH PERCENTILE SPEED IS 40 MPH OR LESS

$L = WS$ FOR CONVENTIONAL ROADWAYS WHERE THE 85TH PERCENTILE SPEED IS 45 MPH OR GREATER AND FOR ALL FREEWAYS AND EXPRESSWAYS

WHERE: S = 85TH PERCENTILE SPEED (MPH)
W = OFFSET

X = 25' PER 30 TURNING V.P.H. THE MINIMUM IS 75'

NOTES:

LANE, EDGE AND CENTER LINES

1. MAKE ALL LANE LINES, EITHER SOLID OR BROKEN WHITE, 4" MINIMUM WIDE ON TWO-LANE, TWO-WAY HIGHWAYS AND 6" WIDE ON MULTI-LANE HIGHWAYS.
2. LANE LINES ON AN APPROACH TO A SIGNALIZED INTERSECTION SHALL BE SOLID WHITE FOR A DISTANCE OF 150' MEASURED FROM THE STOP BAR.
3. LANE LINES THAT DELINEATE THE EDGE OF A TURNING LANE ARE TO BE SOLID WHITE LINES WITH A LENGTH EQUAL 2X/3, BUT NOT LESS THAN 1/3 THE LENGTH OF THE TURN LANE, MEASURED FROM THE STOP BAR.
4. MAKE EDGE LINES SOLID WHITE LINES 4" WIDE, EXCEPT USE SOLID YELLOW LINES WHEN ADJACENT TO A MEDIAN WHICH SEPARATES OPPOSING DIRECTIONS OF VEHICULAR TRAFFIC FLOW.
5. ON TWO-LANE, TWO-WAY HIGHWAYS, THE CENTER LINES ARE YELLOW, 4" WIDE EITHER SOLID, BROKEN OR A COMBINATION THEREOF. A SOLID BARRIER LINE SHALL PRECEDE ALL APPROACHES TO RAILROAD CROSSINGS AND CONTROLLED INTERSECTIONS BY THE MINIMUM DISTANCE NOTED IN TABLE A.
6. ON FOUR OR MORE LANE UNDIVIDED HIGHWAYS, FOR CENTER LINES USE THE TWO-WAY BARRIER LINES.
7. "CENTER LANE LEFT TURN ONLY" MARKINGS ARE TWO (2) SETS OF ONE-WAY BARRIER LINES WITH BROKEN YELLOW LINES INSIDE OF THE SOLID YELLOW LINES.
8. EXTEND THE LANE LINES, EDGE LINES AND/OR CENTER LINES A DISTANCE OF 150' FROM THE STOP BAR ON MINOR APPROACHES, WHERE CONDITIONS PERMIT.

CROSSWALKS (FOR TYPES SEE PENNDOT PUB. 111M, TC-8600, SHEET 5 AND 6 OF 13)

9. MAKE THE CROSSWALK LINES SOLID WHITE AND NOT LESS THAN 6" WIDE, MARKING BOTH EDGES OF THE CROSSWALK AREA.
10. EXTEND THE CROSSWALK LINES FROM FACE OF CURB TO FACE OF CURB OR EDGE OF SHOULDER AS APPLICABLE.
11. MAKE THE LINES FORMING A CROSSWALK PARALLEL.
12. THE MINIMUM WIDTH OF CROSSWALKS IS 6'.

STOP LINE

13. STOP LINES ARE SOLID WHITE LINES THAT COMPLETELY TRAVERSE EACH TRAFFIC LANE. AT AN INTERSECTION WITH A STOP SIGN, THE STOP LINE SHOULD BE PLACED AT A LOCATION NO LESS THAN 4', OR MORE THAN 30' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY TO ENSURE MAXIMUM SIGHT DISTANCE TO VEHICLES ON THE CROSSING ROUTE. WHEN USED ON MULTI-LANE APPROACH TO A SIGNALIZED INTERSECTION, THE STOP LINE MAY BE STAGGERED TO ASSIST TURNING VEHICLES AND TO IMPROVE SIGHT DISTANCE FOR MOTORIST DESIRING TO MAKE A TURN ON RED.

14. LOCATE STOP LINES AT A MINIMUM OF 4' IN ADVANCE OF AND PARALLEL TO THE CROSSWALK LINES UNLESS OTHERWISE NOTED.

YIELD LINE (FOR DETAILS SEE PENNDOT PUB. 111M, TC-8600, SHEET 8 OF 13)

15. YIELD LINES ARE TO CONSIST OF A ROW OF SOLID WHITE ISOSCELES TRIANGLES POINTING TOWARD APPROACHING VEHICLES EXTENDING ACROSS APPROACH LANES TO INDICATE THE POINT AT WHICH THE YIELD IS INTENDED OR REQUIRED TO BE MADE.

MEDIAN MARKINGS

16. TRANSVERSE MEDIAN MARKINGS ARE 24" WIDE YELLOW LINES SPACED AS INDICATED ON SHEET 4 OF 13, WITHIN TWO (2) SETS OF TWO-WAY BARRIER LINES. USE TRANSVERSE LINES ONLY WHEN REQUIRED TO PROVIDE EMPHASIS IF THE SIGHT DISTANCE OR VISIBILITY IS RESTRICTED.

GORE MARKINGS

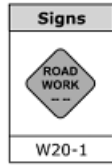
17. EDGE LINES ARE 4" SOLID WHITE LINES. USE TRANSVERSE OR DIAGONAL LINES ONLY WHEN REQUIRED TO PROVIDE ADDITIONAL EMPHASIS IF THE SIGHT DISTANCE OR VISIBILITY OF GORE IS RESTRICTED.

PAVEMENT LEGENDS

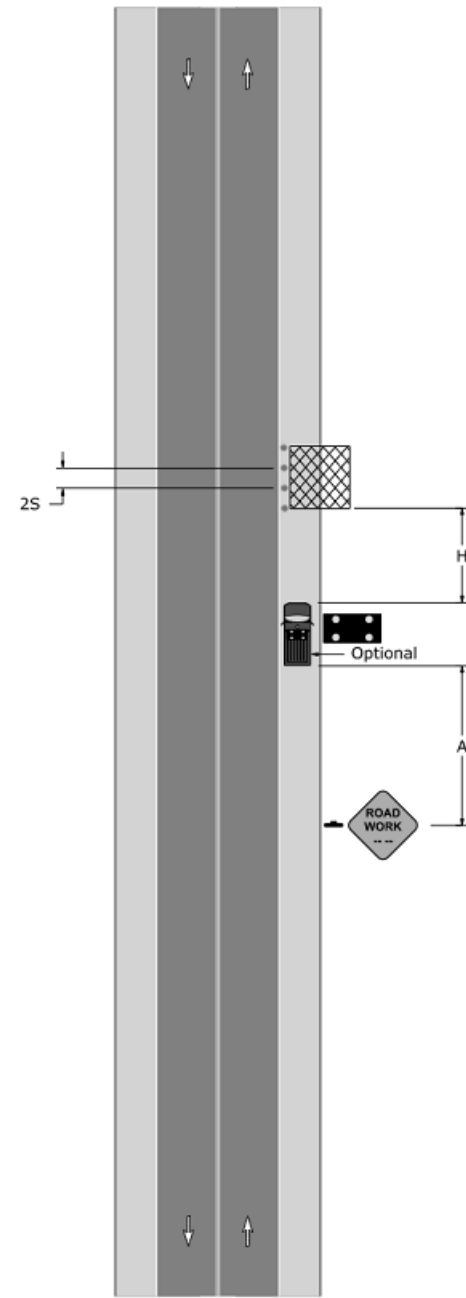
18. WORD AND SYMBOL MARKINGS SHOULD NOT EXCEED THREE LINES OF INFORMATION. IF A PAVEMENT MARKING WORD MESSAGE CONSISTS OF MORE THAN ONE LINE OF INFORMATION, IT SHOULD READ IN THE DIRECTION OF TRAVEL. THE FIRST WORD OF THE MESSAGE SHOULD BE NEAREST TO THE ROAD USER. LOCATE ANY SPECIFIED WORD MESSAGES IN ADVANCE OF ITS ACCOMPANYING SYMBOL BY A DISTANCE NOT LESS THAN 4 TIMES THE LETTER HEIGHT FOR LOW SPEED 35MPH, NOR MORE THAN 10 TIMES THE LETTER HEIGHT FOR HIGH SPEED 35 MPH. ON ALL APPROACHES, CENTER THE LEGENDS WITHIN THE LANE.

PATA 101-A

1. The shadow vehicle and C devices are not required if the work space is outside the highway right-of-way, behind a barrier, more than 2' behind curb, or 15' or more from the edge of the roadway.
2. For operations of 60 minutes or less, all TTC devices may be eliminated if a shadow vehicle is present and the operation does not proceed against normal traffic flow.
3. When a shadow vehicle is not used, distance A is measured from the ROAD WORK sign.

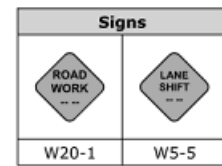


| Sign Spacing, Channelizing Device Spacing, and Roll Ahead Space | | | | |
|---|--|--------------------------|--------------------------|-------------------------------------|
| Speed S (MPH) | Channelizing Devices Spacing 2S (Feet) | Sign Spacing | | Roll Ahead Space H (Feet) |
| | | Urban A (Feet) | Rural A (Feet) | |
| 25 | 50 | 100 - 200 | 500 - 800 | 150 |
| 30 | 60 | 100 - 200 | 500 - 800 | 150 |
| 35 | 70 | 100 - 200 | 500 - 800 | 150 |
| 40 | 80 | 350 - 500 | 500 - 800 | 150 |
| 45 | 90 | 350 - 500 | 500 - 800 | 150 |
| 50 | 100 | 350 - 500 | 500 - 800 | 250 |
| 55 | 110 | 350 - 500 | 500 - 800 | 250 |



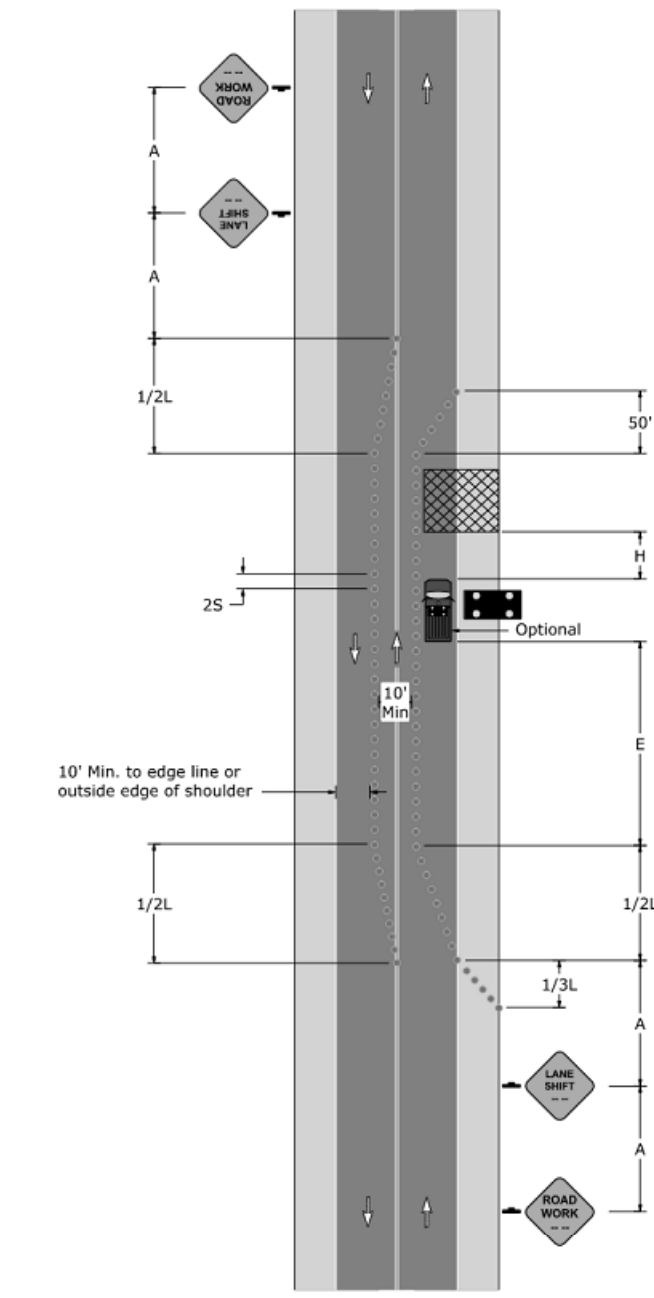
PATA 103

1. The RIGHT REVERSE CURVE sign shall only be used when lane shifts onto shoulder.
2. When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work space.



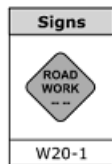
| Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space | | | | | |
|---|-----------------------------|-----------------|-----------------|-----------------|------------------|
| Speed | Channelizing Device Spacing | Sign Spacing | | Buffer Space | Roll Ahead Space |
| | Urban | Rural | | | |
| S (MPH) | 2S (Feet) | A (Feet) | B (Feet) | E (Feet) | H (Feet) |
| 25 | 50 | 100-200 | 500-800 | 155 | 150 |
| 30 | 50 | 100-200 | 500-800 | 200 | 150 |
| 35 | 70 | 100-200 | 500-800 | 250 | 150 |
| 40 | 80 | 350-500 | 500-800 | 305 | 150 |
| 45 | 90 | 350-500 | 500-800 | 360 | 150 |
| 50 | 100 | 350-500 | 500-800 | 415 | 250 |
| 55 | 110 | 350-500 | 500-800 | 495 | 250 |

| Taper Lengths and Minimum Number of Channelling Devices | | | | | | |
|--|----------------------|---------------------------------|----------------------|---------------------------------|--------------------|---------------------------------|
| Speed | Shifting Taper: 1/2L | | Shoulder Taper: 1/3L | | 50' Per Lane Taper | |
| S (MPH) | Length (Feet) | Minimum Number of Devices | Length (Feet) | Minimum Number of Devices | Length (Feet) | Minimum Number of Devices |
| 25 | 95 | 6 | 45 | 6 | 50 | 6 |
| 30 | 90 | 6 | 60 | 6 | 50 | 6 |
| 35 | 125 | 6 | 85 | 6 | 50 | 6 |
| 40 | 160 | 6 | 110 | 6 | 50 | 6 |
| 45 | 270 | 7 | 180 | 6 | 50 | 6 |
| 50 | 300 | 7 | 200 | 6 | 50 | 6 |
| 55 | 330 | 7 | 220 | 6 | 50 | 6 |



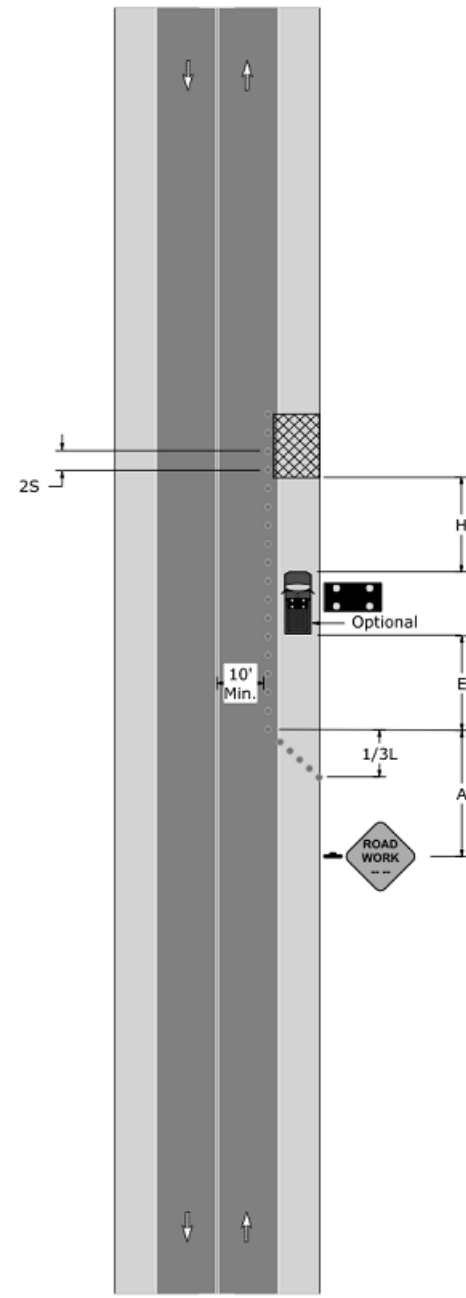
PATA 102

1. For operations of 15 minutes or less:
 - a) The ROAD WORK sign is not required.
 - b) All channelizing devices may be eliminated if a shadow vehicle is present and the operation does not proceed against normal traffic flow.
2. When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work space.



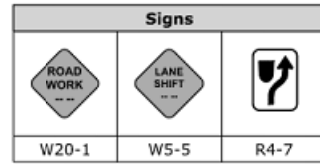
| Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space | | | | | | |
|---|-----------------------------|----------------|----------------|--------------|------------------|--|
| Speed | Channelizing Device Spacing | Sign Spacing | | Buffer Space | Roll Ahead Space | |
| S (MPH) | 2S (Feet) | Urban A (Feet) | Rural A (Feet) | E (Feet) | H (Feet) | |
| 25 | 50 | 100-200 | 500-800 | 155 | 150 | |
| 30 | 60 | 100-200 | 500-800 | 200 | 150 | |
| 35 | 70 | 100-200 | 500-800 | 250 | 150 | |
| 40 | 80 | 350-500 | 500-800 | 305 | 150 | |
| 45 | 90 | 350-500 | 500-800 | 360 | 150 | |
| 50 | 100 | 350-500 | 500-800 | 415 | 250 | |
| 55 | 110 | 350-500 | 500-800 | 495 | 250 | |

| Taper Lengths and Minimum Number of Channelizing Devices | | |
|--|----------------------|---------------------------|
| Speed | Shoulder Taper: 1/3L | |
| S (NPH) | Length (Feet) | Minimum Number Of Devices |
| 25 | 45 | 6 |
| 30 | 60 | 6 |
| 35 | 85 | 6 |
| 40 | 110 | 6 |
| 45 | 180 | 6 |
| 50 | 200 | 6 |
| 55 | 220 | 6 |



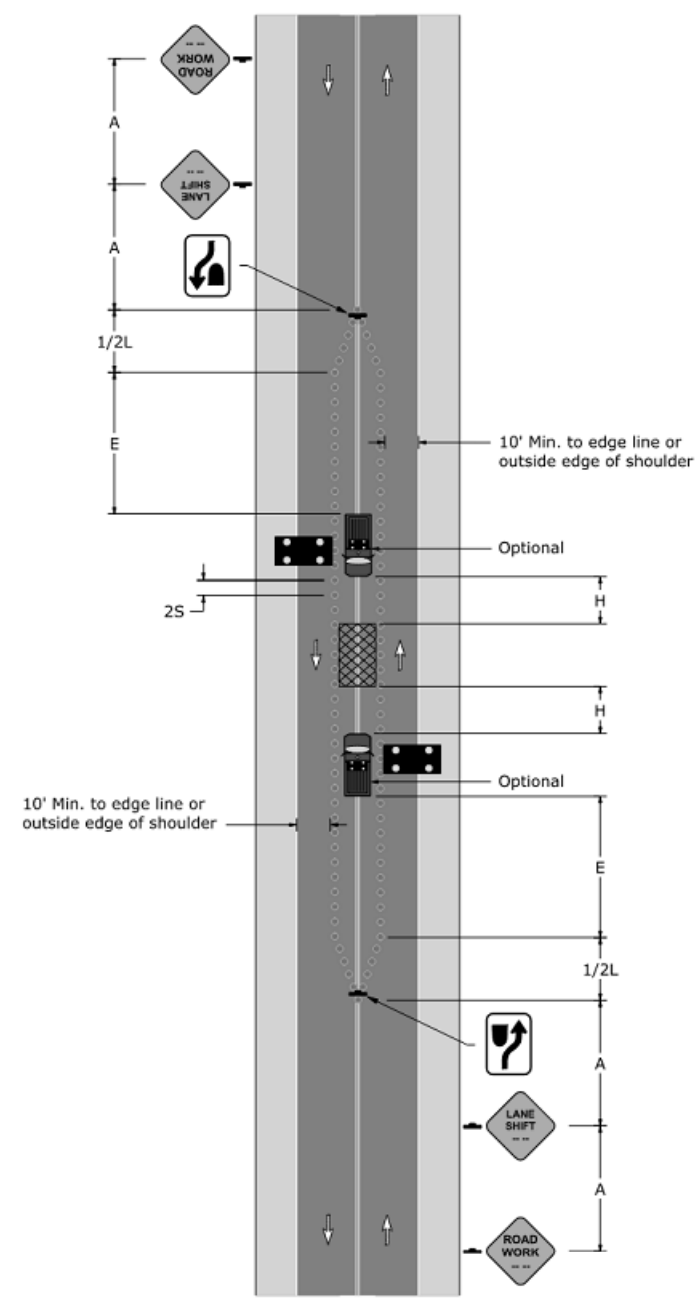
PATA 104

1. The RIGHT REVERSE CURVE sign shall only be used when lane shifts onto shoulder.
2. When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work space.



| Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space | | | | | |
|---|-----------------------------|--------------|-----------|--------------|------------------|
| Speed | Channelizing Device Spacing | Sign Spacing | | Buffer Space | Roll Ahead Space |
| | | Urban | Rural | | |
| S (MPH) | 2S (Feet) | A (Feet) | A (Feet) | E (Feet) | H (Feet) |
| 25 | 50 | 100 - 200 | 500 - 800 | 155 | 150 |
| 30 | 60 | 100 - 200 | 500 - 800 | 200 | 150 |
| 35 | 70 | 100 - 200 | 500 - 800 | 250 | 150 |
| 40 | 80 | 350 - 500 | 500 - 800 | 305 | 150 |
| 45 | 90 | 350 - 500 | 500 - 800 | 360 | 150 |
| 50 | 100 | 350 - 500 | 500 - 800 | 425 | 250 |
| 55 | 110 | 350 - 500 | 500 - 800 | 495 | 250 |

| Taper Lengths and Minimum Number Of Channelizing Devices | | |
|--|----------------------|---------------------------|
| Speed | Shifting Taper: 1/2L | |
| S (MPH) | Length (Feet) | Minimum Number Of Devices |
| 25 | 65 | 6 |
| 30 | 90 | 6 |
| 35 | 125 | 6 |
| 40 | 160 | 6 |
| 45 | 270 | 7 |
| 50 | 300 | 7 |
| 55 | 330 | 7 |



PRELIMINARY
NOT FOR
CONSTRUCTION

PATA 110-I

1. **PATA 110 drawings show work spaces on roads that approach and depart 4-way intersections.**
Single-flagger and multi-flagger intersection control is illustrated for intersections with three types of permanent control:
 - a) One-Way Stop
 - b) All-Way Stop
 - c) Traffic Signal
2. **Flaggers shall be clearly visible to traffic for a minimum distance of E.**
3. **For operations of 15 minutes or less:**
 - a) **THE ROAD WORK, ONE LANE ROAD, and FLAGGER SIGNAL signs are not required.**
 - b) No advance warning distance may be eliminated if a shadow vehicle is present and the operation does not proceed against normal traffic flow.
4. **When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work space**

| Signs | | |
|---|---|---|
|  |  |  |
| W20-1 | W20-4 | W20-7 |

| Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space | | | | | |
|---|---|--------------|-----------|-----------------------------|---------------------------------|
| Speed S (MPH) | Channelizing Device Spacing 2S (Feet) | Sign Spacing | | Buffer Space E (Feet) | Roll Ahead Space H (Feet) |
| | | Urban | Rural | | |
| 25 | 50 | 100 - 200 | 500 - 800 | 155 | 150 |
| 30 | 60 | 100 - 200 | 500 - 800 | 150 | 150 |
| 35 | 70 | 100 - 200 | 500 - 800 | 250 | 150 |
| 40 | 80 | 350 - 500 | 500 - 800 | 305 | 150 |
| 45 | 90 | 350 - 500 | 500 - 800 | 360 | 150 |
| 50 | 100 | 350 - 500 | 500 - 800 | 425 | 250 |
| 55 | 110 | | | 495 | |

| Speed | 50' Per Lane Taper | |
|----------------|---------------------------|----------------------------------|
| S (MPH) | Length (Feet) | Minimum Number Of Devices |
| 25 | 50 | 6 |
| 30 | 50 | 6 |
| 35 | 50 | 6 |
| 40 | 50 | 6 |
| 45 | 50 | 6 |
| 50 | 50 | 6 |
| 55 | 50 | 6 |

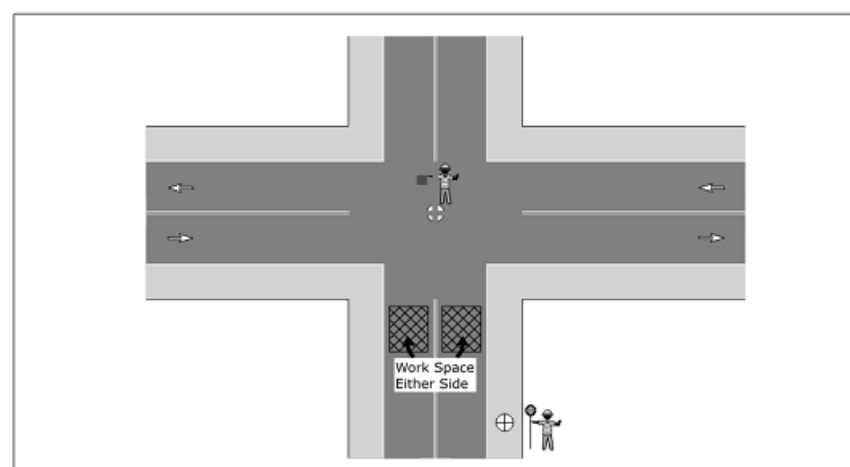


Figure 110-1
One Flagger Within Intersection

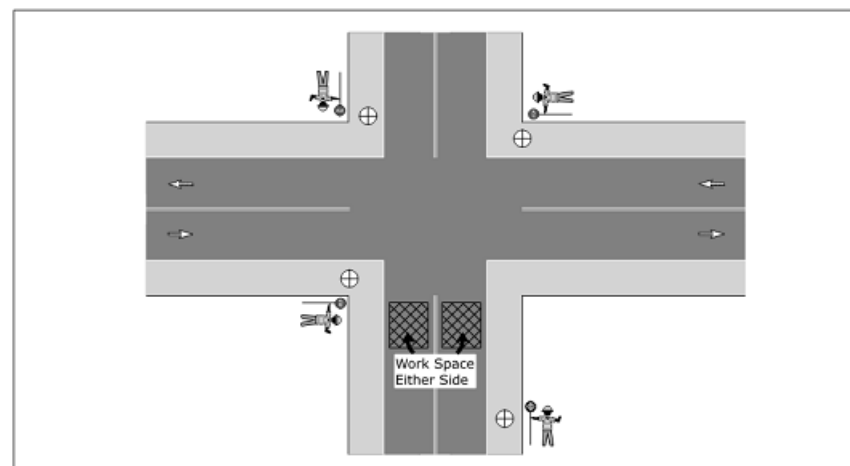
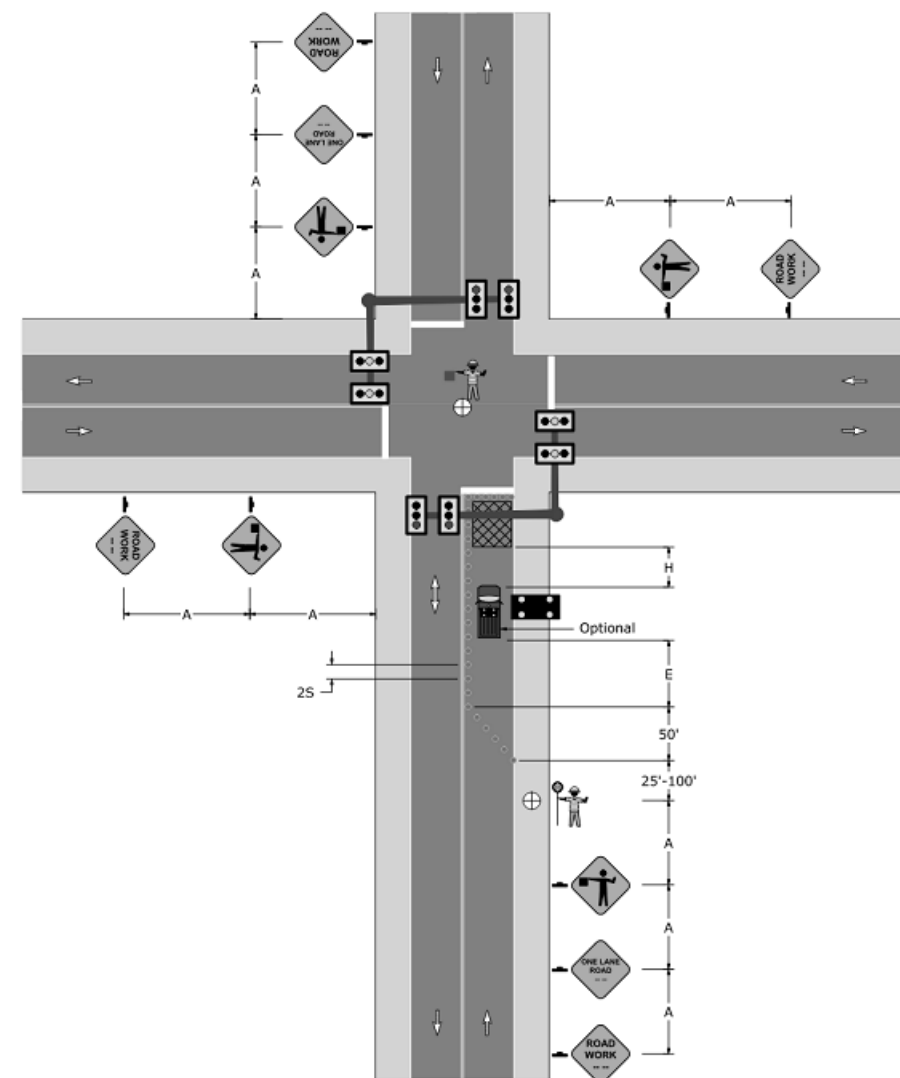


Figure 110-2
Three Flaggers at Intersection



PATA 110-G

1. **PATA 110 drawings show work spaces on roads that approach and depart 4-way intersections. Single-lane/ or multi-lane intersection control is illustrated for intersections with three types of permanent control:**
 - a) One-Way Stop
 - b) All-Way Stop
 - c) Traffic Signal
2. **Flaggers shall be clearly visible to traffic for a minimum distance of E.**
3. **For operations of 15 minutes or less:**
 - a) **THE ROAD WORK, ONE LANE ROAD, and FLAGGER SYMBOL signs are not required.**
 - b) **All channelizing devices may be eliminated if a shadow vehicle is present and the operation does not proceed against normal traffic flow.**
4. **When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work zone.**

| Signs | | |
|--|--|--|
|  |  |  |
| W20-1 | W20-4 | W20-7 |

| Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space | | | | | |
|---|---------------------------------------|-----------------|-----------------|------------------------|----------------------------|
| Speed (MPH) | Channelizing Device Spacing (Feet) | Sign Spacing | | Buffer Space (Feet) | Roll Ahead Space (Feet) |
| | | Urban (Feet) | Rural (Feet) | | |
| 25 | 50 | 100 - 200 | 500 - 800 | 155 | 150 |
| 30 | 60 | 100 - 200 | 500 - 800 | 200 | 150 |
| 40 | 70 | 100 - 200 | 500 - 800 | 250 | 150 |
| 40 | 80 | 350 - 500 | 500 - 800 | 305 | 150 |
| 45 | 90 | 350 - 500 | 500 - 800 | 360 | 150 |
| 50 | 100 | 350 - 500 | 500 - 800 | 425 | 250 |

| Taper Lengths and Minimum Number Of Channelizing Devices | | |
|--|--------------------|---------------------------|
| Speed | 50' Per Lane Taper | |
| S (MPH) | Length (Feet) | Minimum Number Of Devices |
| 25 | 50 | 6 |
| 30 | 50 | 6 |
| 35 | 50 | 6 |
| 40 | 50 | 6 |
| 45 | 50 | 6 |
| 50 | 50 | 6 |
| 55 | 50 | 6 |

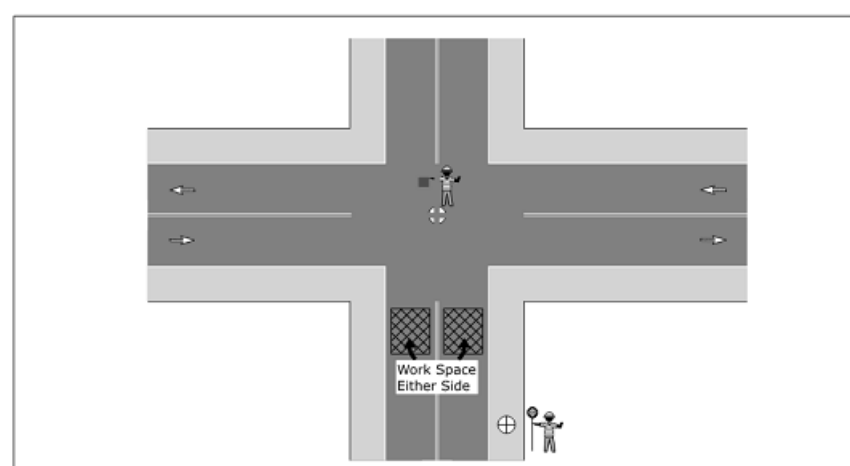


Figure 110-1
One Flagger Within Intersection

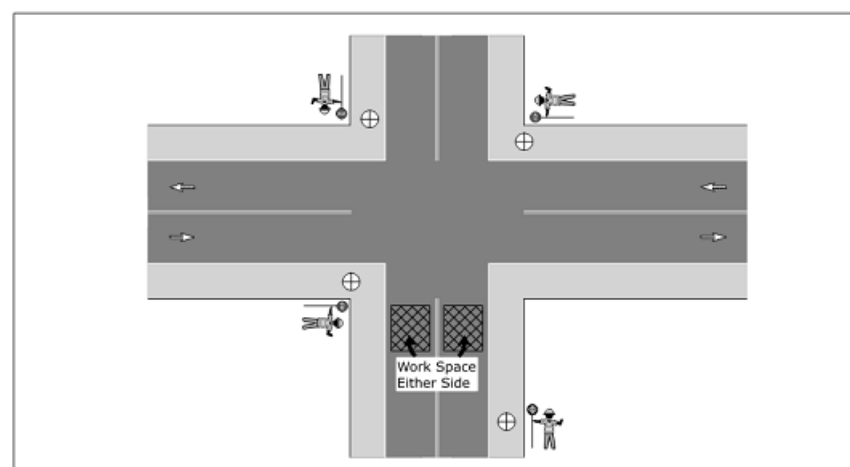
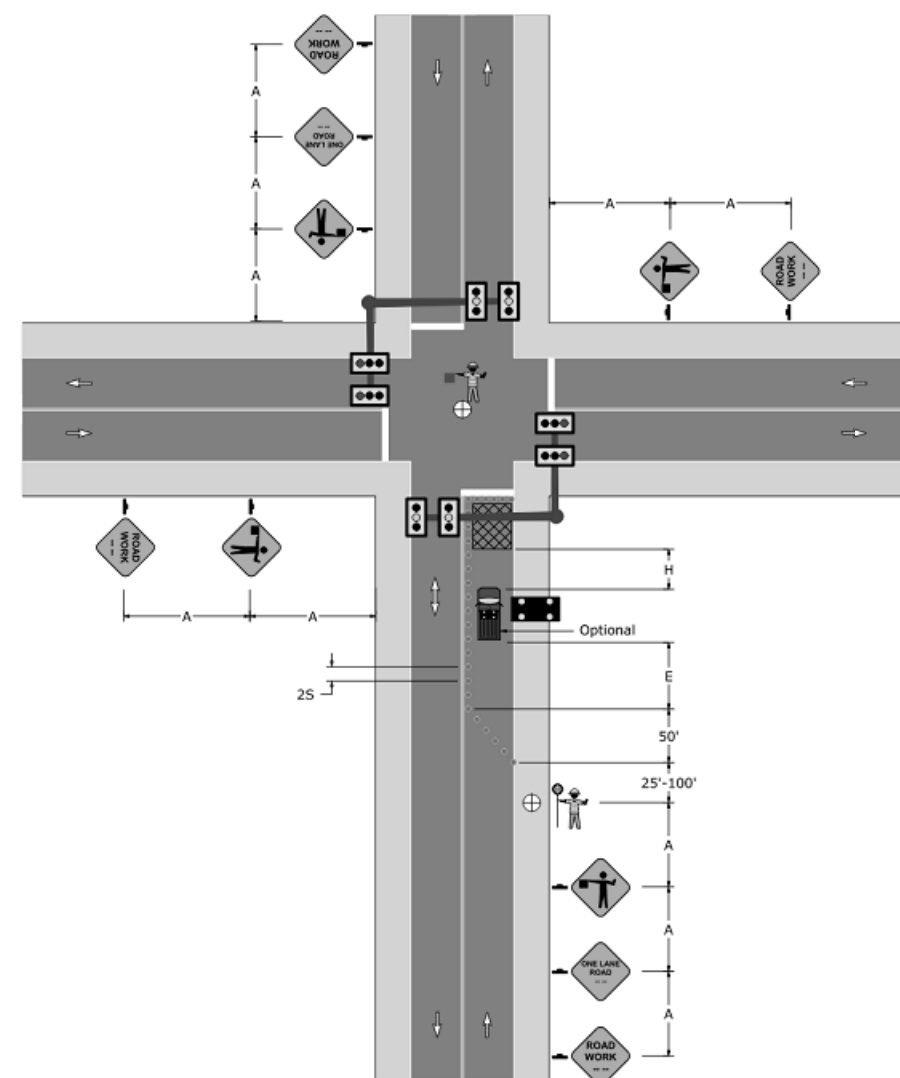


Figure 110-2
Three Flaggers at Intersection





SEQUENCE OF CONSTRUCTION

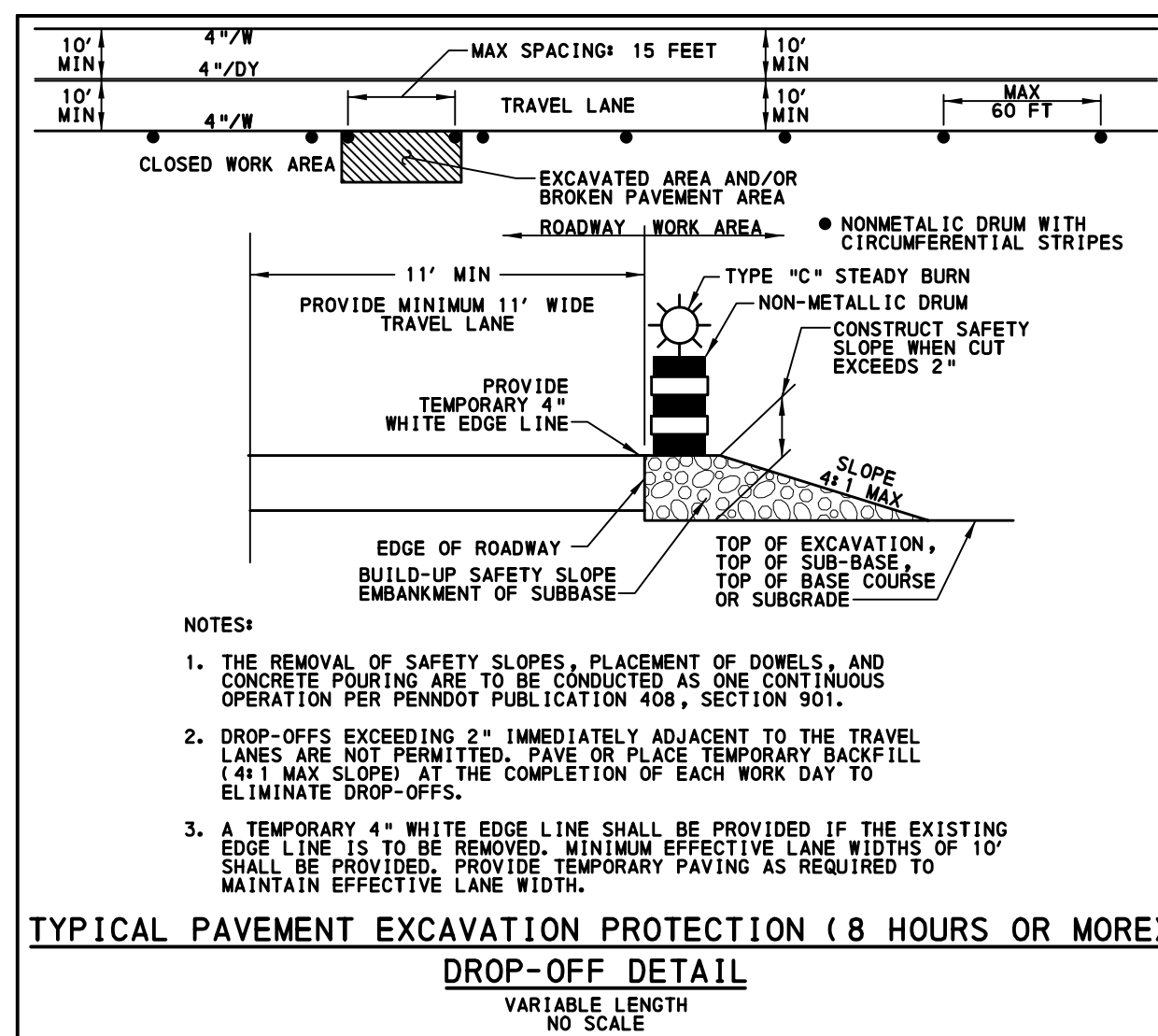
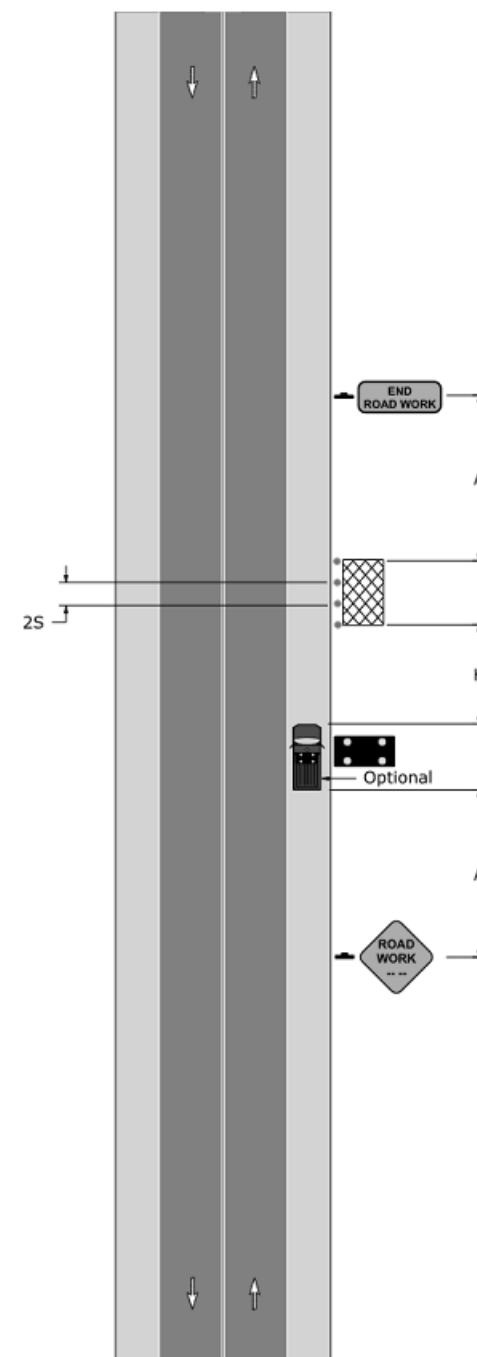
1. SET UP LONG TERM TRAFFIC CONTROLS ON WOODBOURNE RD USING PATA FIGURE 201-A.
2. INSTALL ALL ADA RAMPS, CURBING, SIDEWALK, AND PAVING ALONG SR WOODBOURNE RD USING PATA FIGURES 101-A, 102, 103, 104, 110-1, AND 110-C.

PATA 201-A

1. TTC devices are not required if the work space is outside the highway right-of-way, behind barrier, more than 2' behind curb, or 15' or more from the edge of the roadway.
2. When a shadow vehicle is not used, distance A is measured from the ROAD WORK sign location to beginning of the work space.

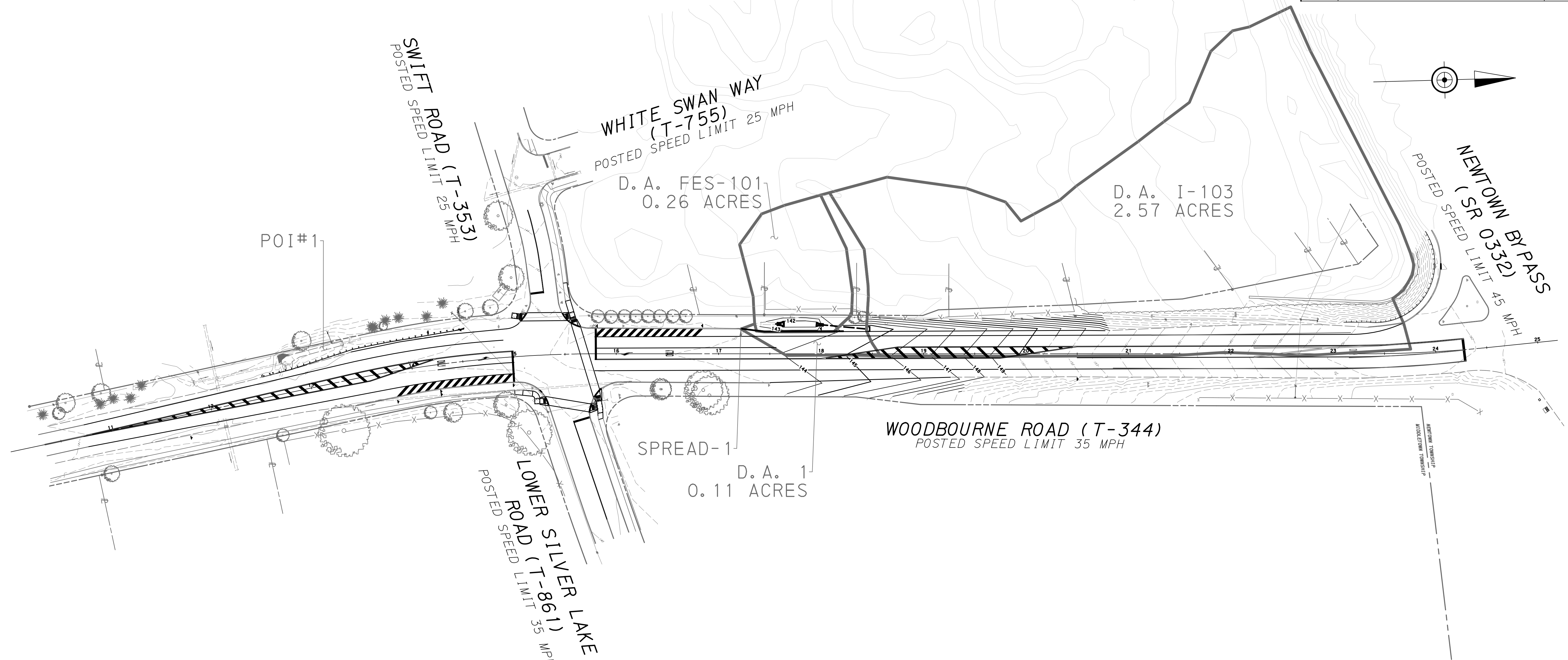
| Signs | |
|---|---|
|  |  |
| W20-1 | G20-2 |

| Sign Spacing, Channelizing Device Spacing, and Roll Ahead Space | | | | |
|---|------------------------------|--------------|-----------|------------------|
| Speed | Channelizing Devices Spacing | Sign Spacing | | Roll Ahead Space |
| | | Urban | Rural | |
| S (MPH) | 2S (Feet) | A (Feet) | A (Feet) | H (Feet) |
| 25 | 50 | 100 - 200 | 500 - 800 | 150 |
| 30 | 60 | 100 - 200 | 500 - 800 | 150 |
| 35 | 70 | 100 - 200 | 500 - 800 | 150 |
| 40 | 80 | 350 - 500 | 500 - 800 | 150 |
| 45 | 90 | 350 - 500 | 500 - 800 | 150 |
| 50 | 100 | 350 - 500 | 500 - 800 | 250 |
| 55 | 110 | 350 - 500 | 500 - 800 | 250 |

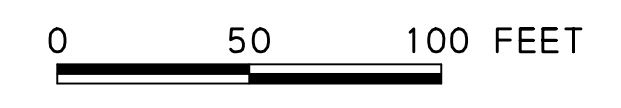


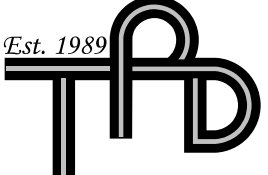
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NOT FOR
CONSTRUCTION

| | | | | |
|---------------------|-----------|-------|---------|---------|
| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
| 6-0 | BUCKS | T-344 | | 2 OF 2 |
| MIDDLETOWN TOWNSHIP | | | | |
| REVISION NUMBER | REVISIONS | | | DATE BY |
| | | | | |
| | | | | |
| | | | | |



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CONSTRUCTION



| | | |
|---|-----------------------|--------------------|
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| <p align="center">POST - DEVELOPMENT DRAINAGE AREA PLAN</p> | | |
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