# MONTGOMERY COUNTY
# DEPARTMENT OF TRANSPORTATION

# DALE DRIVE
# PEDESTRIAN FACILITY

## GEORGIA AVENUE TO
## COLESVILLE ROAD

## C. I. P. PROJECT NO. 509337

**35% DESIGN SUBMISSION**

**PROGRESS PRINT**
NOT FOR CONSTRUCTION

## INDEX OF SHEETS


| SHT.NO. | DWG.NO. | SC/SWM NO. | DWG. DESCRIPTION |
|---|---|---|---|
| 01 | GN-01 | 01 | TITLE SHEET |
| 02 | GN-02 | | ABBREVIATIONS AND SYMBOLS |
| 03 | GN-03 | | GENERAL NOTES |
| 04 | TS-01 | | TYPICAL SECTIONS |
| 05-08 | GG-01-04 | | GRADES AND GEOMETRICS |
| 9-16 | PS-01-08 | | ROADWAY PLANS |
| 17-27 | SC-01-11 | 02-12 | EROSION AND SEDIMENT CONTROL PLANS |
| 28-32 | SWM-01-05 | 13-17 | STORMWATER MANAGEMENT PLANS |
| 33-41 | MT-00-08 | | MAINTENANCE OF TRAFFIC PLANS |
| 42-50 | SN-00-08 | | SIGNING AND MARKING PLANS |
| 51-60 | LS-01-10 | | LANDSCAPE PLANS |
| 61-91 | XS-01-31 | | CROSS SECTIONS |


## MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION MAINTENANCE CERTIFICATION

I HEREBY CERTIFY THAT THE DEPARTMENT OF TRANSPORTATION WILL ASSUME MAINTENANCE RESPONSIBILITIES FOR ALL STORMWATER MANAGEMENT FACILITIES AS LISTED AND SHOWN, HEREON, IN ACCORDANCE WITH THE MEMORANDUM OF UNDERSTANDING BETWEEN THIS DEPARTMENT AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DATED SEPTEMBER 1, 1986. IF, FOR ANY REASON, FUTURE IMPROVEMENTS TO THE ROADWAY ARE PLANNED THAT WOULD IMPACT ANY OF THE STORMWATER MANAGEMENT FACILITIES INCLUDED HEREIN, THIS DEPARTMENT WILL NOTIFY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DURING THE PLANNING OR EARLY DESIGN STAGE FOR SUCH IMPROVEMENTS.

DATE

TIMOTHY CUPPLES, P.E.
CHIEF, DIVISION OF
TRANSPORTATION ENGINEERING

## OWNER'S CERTIFICATION

I HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

DATE

TIMOTHY CUPPLES, P.E.
CHIEF, DIVISION OF
TRANSPORTATION ENGINEERING

## DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL," MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION "STORM DRAIN CRITERIA" DATED AUGUST, 1988.

DATE

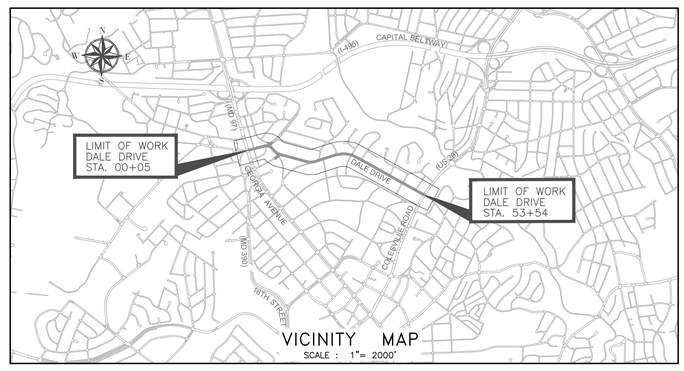
MICHAEL ROTHENHEBER, P.E.
MD. REGISTRATION NO. 18589

## CERTIFICATION OF THE QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO 6,042 CUBIC YARDS OF EXCAVATION, 578 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 192,100 SQUARE FEET OR 4.41 ACRES.

DATE

MICHAEL ROTHENHEBER, P.E.
MD. REGISTRATION NO. 18589




VICINITY MAP
SCALE : 1"= 2000'

## PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 18589 EXPIRATION DATE 02/10/2022

DATE

MICHAEL ROTHENHEBER, P.E.
MD. REGISTRATION NO. 18589


OWNER/ADDRESS:
MONTGOMERY COUNTY DEPARTMENT
OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

CONTACT:
ANGEL CHENG, P.E.
PROJECT ENGINEER
DESIGN SECTION
DIVISION OF TRANSPORTATION ENGINEERING
240-777-7274


## RELATED REQUIRED PERMITS

To be completed by the consultant and placed on the first sheet of the Sediment Control / Stormwater Management plan set for **all** projects.

**IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT**

| TYPE OF PERMIT | REQD | NOT REQD | PERMIT # | EXPIRATION DATE | WORK RESTRICTION DATES |
|---|---|---|---|---|---|
| MCDPS Floodplain District | | X | | | |
| WATERWAYS/WETLAND(S): | | | | | |
| a. Corps of Engineers | | X | | | |
| b. MDE | | X | | | |
| c. MDE Water Quality Certification | | X | | | |
| MDE Dam Safety | | X | | | |
| DNR Roadside Tree Care Permit | X | | | Approval Date | |
| DPS Roadside Tree Protection Plan | | X | | Approval Date | |
| N.P.D.E.S. NOTICE OF INTENT | X | | | | DATE FILED |
| OTHERS (Please List): | | | | | |

## TREE CANOPY REQUIREMENTS TABLE

To be completed by the consultant and placed on the first sheet of the Sediment Control / Stormwater Management plan set for all projects.

**Exempt: Yes ☐ No ☐ If exempt under Section 55-5 of the Code, please check the applicable exemption category below.**

| Total Property Area | Total Disturbed Area |
|---|---|
| _____ square feet | _____ square feet |

| Shade Trees Required | Shade Trees Proposed to be Planted |
|---|---|
| _____ | _____ |

| | |
|---|---|
| **Fee in Lieu** (Trees Required – Trees Planted) x $250 | $ _____ |

**Required Number of Shade Trees**

| Area (sq. ft.) of the Limits of Disturbance FROM | TO | Number of Shade Trees Required |
|---|---|---|
| 1 | 6,000 | 3 |
| 6,001 | 8,000 | 6 |
| 8,001 | 12,000 | 9 |
| 12,001 | 14,000 | 12 |
| 14,001 | 40,000 | 15 |

If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula:

(Number of Square Feet in Limits of Disturbance ÷ 40,000) × 15

EXEMPTION CATEGORIES:

☐ 55-5(a) any activity that is subject to Article II of Chapter 22A;
☐ 55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;
☐ 55-5(f) any activity conducted by the County Parks Department;
☐ 55-5(g) routine or emergency maintenance of an existing stormwater management facility, including an existing access road, if the person performing the maintenance has obtained all required permits;
☐ 55-5(h) any stream restoration project if the person performing the work has obtained all necessary permits;
☐ 55-5(i) cutting or clearing any tree to comply with applicable provisions of any federal, state, or local law governing safety of dams;
☐ OTHER: Specify per Section 55-5 of the Code.

**MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:**

Stormwater Management:
Reviewed Date
Approved Date
SM FILE #

Sediment Control Technical Requirements:
Reviewed Date
Approved Date

Administrative Requirements:
Reviewed Date
SEDIMENT CONTROL PERMIT NO.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MDCPS ACCESS PERMIT.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

35% DESIGN
NOT FOR CONSTRUCTION

JMT

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

GN-01 TITLE SHEET
DALE DRIVE
PEDESTRIAN FACILITY

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 01 of 91

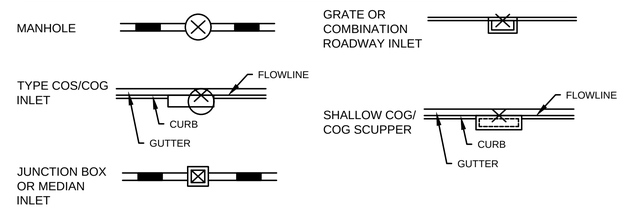
## ABBREVIATIONS

| | |
|---|---|
| A.A.S.H.T.O. | American Association of State Highway Transportation Officials |
| APPROX. | Approximate |
| B or B/L | Baseline |
| C.C. | Center of Curve |
| C or C/L | Centerline |
| C.I.P. | Cast Iron Pipe |
| C.M.P. | Corrugated Metal Pipe |
| C.O. | Cleanout |
| COMB. | Combination |
| CONC. | Concrete |
| CONSTR. | Construction |
| C.P.P. | Corrugated Polyethylene Pipe |
| D.B.H. | Diameter Breast Height |
| DC | Degree of Curve |
| D.H.V. | Design Hour Volume |
| D.I. | Drop Inlet |
| DIA. | Diameter |
| D.O. | Double Opening |
| E | East |
| E | Electric |
| E | External Distance |
| EA. | Each |
| E.B. | Eastbound |
| ELEV. | Elevation |
| E.R.C.C.P. | Elliptical Reinforced Cement Concrete Pipe |
| ES | End Section |
| EX. or EXIST. | Existing |
| FT | Feet |
| F or FL | Flowline |
| FWD | Forward |
| G | Gas |
| H.D.P.E. | High-Density Polyethylene |
| H.E.R.C.P. | Horizontal Elliptical Reinforced Concrete Pipe |
| HP | Hight Point |
| HMA | Hot Mix Asphalt |
| HT | Height |
| IN | Inch |
| INV | Invert |
| L | Length |
| LANDSC. | Landscaped |
| L.F. | Linear Feet |
| LP | Low Point |
| LT | Left |
| MAX. | Maximum |
| MOD. | Modified |
| MIN. | Minimum |
| N | North |
| NB | Northbound |
| NE | Northeast |
| N.T.S. | Not To Scale |
| O.C. | On Center |
| P.C. | Point of Curvature |
| P.C.C. | Point of Compound Curve |
| P/C | Point of Grown |
| PGA | Point of Grade Application |
| P/GE | Profile Grade Elevation |
| P.G.E. | Profile Ground Elevation |
| P.G.L. | Profile Grade Line |
| P/GL | Profile Ground Line |
| P/R | Point of Rotation |
| P.I. | Point of Intersection |
| P.O.C. | Point on Curve |
| P.O.T. | Point on Tangent |
| PROP. | Proposed |
| PT. | Point |
| P.T. | Point of Tangency |
| P.V.C. | Point of Vertical Curve |
| PVC | Polyvinyl Chloride |
| PVI | Point of Intersection |
| R | Radius |
| RET. WALL | Retaining Wall |
| RT | Right |
| RW or R/W | Right of Way |
| R.C.P. | Reinforced Cement Pipe |
| R.C.C.P. | Reinforced Cement Concrete Pipe |
| S | South |
| SAN. | Sanitary Sewer |
| SB | Southbound |
| S.D. | Storm Drain |
| S.E. | Superelevation |
| SF | Silt Fence |
| S.F. | Square Feet |
| SSD | Stopping Sight Distance |
| SSF | Super Silt Fence |
| STD. | Standard |
| SO. | Single Opening |
| S.Y. | Square Yards |
| SWM | Stormwater Management |
| SW | Sidewalk |
| T | Tangent |
| T | Telephone |
| T.C.P. | Terra Cotta Pipe |
| TYP. | Typical |
| U.P. | Utility Pole |
| VAR. | Varies |
| V.C.L. | Vertical Curve Length |
| W | Water |
| W | West |
| WB | Westbound |

## LEGEND

| | | | |
|---|---|---|---|
| | SIGN | | HEDGE/BUSHES |
| MB | MAIL BOX | x 434.0 | SPOT ELEVATION |
| FP | FLAG POLE | II | WOOD FENCE |
| LL | LANDSCAPE LIGHTING | | WIRE FENCE / CHAIN LINK FENCE |
| | LIGHT POST | | STREAM |
| | UTILITY POLE | | INDEX CONTOUR |
| | GUY WIRE ANCHOR | 430 | INTERVAL CONTOUR |
| | GUY POLE | OHW | OVERHEAD WIRES |
| GV | GAS VALVE | | ABANDONED GAS LINE |
| | WATER VALVE | G | EXISTING GAS LINE |
| W | WATER METER | | PROPERTY LINE |
| | FIRE HYDRANT | | EXISTING RIGHT OF WAY |
| SS | SANITARY MANHOLE | F | TOE OF FILL |
| D | STORM DRAIN MANHOLE | C | TOP OF CUT |
| | DECIDUOUS TREE | | GUARDRAIL W-BEAM |
| | | LOD | LIMIT OF DISTURBANCE |
| | CONIFER TREE | TCE | TEMPORARY CONSTRUCTION EASEMENT |
| | BUSH | RSE | REVERTIBLE SLOPE EASEMENT |
| | | PE | PERPETUAL EASEMENT |

## DRAINAGE STRUCTURE STAKEOUT LOCATIONS




## DRAINAGE BUBBLES

INLET ---------- I / 1

MANHOLE ---------- MH / 1

JUNCTION BOX ---------- JB / 1

FIELD CONNECTION ---------- C / 1

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

GN-02 ABBREVIATIONS AND SYMBOLS

DALE DRIVE
PEDESTRIAN FACILITY

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 02 of 91

## GENERAL NOTES

1. THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE MARYLAND STATE HIGHWAY ADMINISTRATION DATED JULY 2008, ALL ERRATA AND ADDENDA THERETO, THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES, WASHINGTON SUBURBAN SANITARY COMMISSION (W.S.S.C.) STANDARDS, MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION STANDARDS, AND SOIL CONSERVATION SERVICE POND CONSTRUCTION SPECIFICATIONS FOR MARYLAND.
2. FOR CONSTRUCTION, ALL HORIZONTAL SHALL BE BASED ON NAD 83/91, NAVD 88 DATUM.
3. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
4. WHEN THE DROP ON THE MAIN LINE THROUGH A STORM DRAIN STRUCTURE CAN BE ACCOMMODATED BY AN INVERT SLOPE OF 1.5:1 OR FLATTER, A ROUNDED CHANNEL LINED WITH SEWER BRICK ON EDGE SHALL BE BUILT TO THE CROWN OF THE PIPES. WHEN THE INVERT SLOPES WOULD BE GREATER THAN 1.5:1 A SPECIAL INVERT SHALL BE CONSTRUCTED AS NOTED.
5. ALL STORM DRAIN PIPE SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE SPECIFIED.
6. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR.
7. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, CONTACT MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
8. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
9. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
10. CLEARING IS TO BE LIMITED TO THE "LIMIT OF GRADING" AS SHOWN ON THE PLANS.
11. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
12. DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS SHALL BE SODDED. OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
13. THE CONTRACTOR SHALL MAINTAIN THE APPROVED ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PLANTING, REMOVAL, OR ROOT CUTTING ON TREES WITHIN THE PUBLIC RIGHT OF WAY. PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES, MARYLAND FOREST, PARK AND WILDLIFE SERVICE, TELEPHONE 301-854-6060
14. THE LOCATION OF RIGHT-OF-WAY AND EASEMENT LINES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS. PLEASE REFER TO THE APPROPRIATE RIGHT-OF-WAY PLATS.
15. ALL UTILITY POLES AND GUY WIRES NOTED FOR RELOCATION SHALL BE PERFORMED BY OTHERS.
16. CONTACT THE WASHINGTON SUBURBAN SANITARY COMMISSION SYSTEM MAINTENANCE ENGINEER BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING WATER OR SEWER LINES. BACKFILL TO BE DONE UNDER SUPERVISION OF W.S.S.C. CALL 301-699-4420
17. THE CONTRACTOR SHALL INSTALL PEDESTRIAN DETECTABLE WARNING SURFACES AT ALL SIDEWALK & PEDESTRIAN CROSSINGS. LOCATIONS AS DIRECTED BY THE ENGINEER. THE WARNING SURFACES SHALL BE IN CONFORMANCE WITH ADA REQUIREMENTS AND THE PROJECT SPECIAL PROVISION.
18. THE CONTRACTOR SHALL BE AWARE THAT OVERHEAD UTILITY WIRES EXIST WITHIN THE PROJECT SITE. LOCATIONS OF WIRES SHOULD BE NOTED IN FIELD WITH SIGNAGE TO AVOID CONFLICTS DURING CONSTRUCTION.

## M-NCPPC NOTES

1. A PRE-CONSTRUCTION MEETING MUST BE HELD PRIOR TO START OF WORK WITH A MINIMUM OF 72 HOURS PRIOR NOTICE. THE M-NCPPC PARK MANAGER, PARK INSPECTOR, AND PARK URBAN FORESTER SHALL BE REPRESENTED AT THE MEETING.
2. M-NCPPC RESERVES THE RIGHT TO ADJUST AND MODIFY THE LIMITS OF DISTURBANCE (LOD) IN THE FIELD TO MINIMIZE IMPACTS OF WORK.
3. NO CLEARING, GRUBBING, OR GRADING SHALL COMMENCE UNTIL THE LOD ARE STAKED IN THE FIELD AND ARE APPROVED BY THE PARK INSPECTOR AS WELL AS ANY OTHER APPLICABLE PERMITTING AGENCIES. AFTER THE LOD IS APPROVED, NO DISTURBANCE WILL BE ALLOWED OUTSIDE OF THE APPROVED LIMITS. ANY ITEMS DISTURBED OUTSIDE OF THE APPROVED LIMITS WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR IDENTIFYING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF THE CONSTRUCTION RELATED WORK AND SHALL COORDINATE THE WORK WITH PARK INSPECTOR. THE CONTRACTOR SHALL MAINTAIN PROPER CLEARANCES BETWEEN ALL EXISTING AND PROPOSED UTILITIES AT ALL TIMES AS REQUIRED BY THE UTILITY COMPANIES. ANY COST ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY DAMAGE MADE TO THE UTILITY SHALL BE REPAIRED ON AN EMERGENCY BASIS PER THE LATEST SPECIFICATIONS OF THE CONCERNED UTILITY AND COMPLETED WORK SHALL BE APPROVED BY THE CONCERNED UTILITY. ANY DAMAGE SHALL BE DOCUMENTED IMMEDIATELY AND REPORTED TO THE PARK INSPECTOR.
5. THE ENTIRE LOD SHALL BE FENCED AS DIRECTED BY THE PARK INSPECTOR. WHERE SILT FENCE, SUPER SILT FENCE, OR TREE PROTECTION FENCE IS NOT REQUIRED, ORANGE BLAZE SAFETY FENCE MAY BE USED.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFE FACILITY ACCESS THROUGHOUT CONSTRUCTION AND PROVIDE ANY APPROPRIATE DETOURS, TEMPORARY FACILITIES, AND SIGNAGE AS REQUESTED BY THE PARK MANAGER.
7. SITE RESTORATION AND REPAIR/REPLACEMENT OF DAMAGED INFRASTRUCTURE SHALL BE IN ACCORDANCE WITH M-NCPPC DETAILS, STANDARDS, AND SPECIFICATIONS AT THE DIRECTION OF THE PARK INSPECTOR AT NO COST TO M-NCPPC. SITE RESTORATION IS TO BE ACHIEVED TO THE SATISFACTION OF THE PARK INSPECTOR PRIOR TO DEMOBILIZATION.
8. STAGING AREAS AND ACCESS ROUTES SHALL BE DETERMINED IN FIELD AND APPROVED BY THE PARK INSPECTOR TO MINIMIZE IMPACTS.
9. EQUIPMENT RESTRICTIONS (E.G. 8 P.S.I. OR LESS) MAY BE REQUIRED BY M-NCPPC IN SENSITIVE AREAS.
10. THE CONTRACTOR SHALL COORDINATE WITH MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES INSPECTOR AND/OR PARK INSPECTOR ON THE USE OF TRENCHLESS SILT FENCES AND/OR DAILY STABILIZATION TO AVOID CUTTING THROUGH MATURE TREES. WHERE TRENCHING IS REQUIRED, ROOT PRUNE PRIOR TO EXCAVATION FOR TRENCH AT THE DIRECTION OF THE PARK URBAN FORESTER.
11. SPECIAL PROTECTION MEASURES SHALL BE PROVIDED AS DIRECTED IN THE FIELD DURING CONSTRUCTION BY PARK INSPECTOR OR PARK URBAN FORESTER. THESE MAY INCLUDE, BUT NOT BE LIMITED TO, ROOT PRUNING, 12-INCH THICK MULCH LAYER ACCESS BEDDING, HARDWOOD MATS, ADDITIONAL TREE PROTECTION FENCING, TREE PLANKING, AND ADDITIONAL SEDIMENT CONTROLS.
12. TREE PROTECTION FENCING SHOULD BE 14-GAUGE WELDED WIRE TYPE (WITH METAL STAKES AT 10 FEET O.C.) AND MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. TREE SAVE AREA SIGNAGE SHOULD BE POSTED EVERY 30 FEET ALONG FENCING. TREE PROTECTION FENCE SHOULD BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE M-NCPPC PARK URBAN FORESTER PRIOR TO THE START OF CONSTRUCTION.
13. M-NCPPC MAY INSPECT CONDITION OF TREES THROUGHOUT CONSTRUCTION AND REQUIRE REPAIR, REMOVAL, AND/OR REPLACEMENT OF ANY DAMAGED TREES AT NO COST TO M-NCPPC. TREES TO BE REMOVED ARE INDICATED WITH AN "X". NO OTHER TREES LARGER THAN 6" DBH SHALL BE DAMAGED OR REMOVED DURING CONSTRUCTION UNLESS APPROVED BY PARK URBAN FORESTER.
14. ALL PLANTING SUBSTITUTIONS MUST BE APPROVED BY PARK URBAN FORESTER. PLANT MATERIALS AND LOCATIONS SHOULD BE INSPECTED BY PARK URBAN FORESTER PRIOR TO INSTALLATION.
15. CONTRACTOR SHALL PROVIDE 4-FOOT HIGH (1-FOOT MINIMUM DIAMETER) 14-GAUGE WELDED WIRE DEER PROTECTION CAGES WITH MINIMUM OF ONE SUPPORT STAKE (OR TO CURRENT M-NCPPC SPECIFICATIONS) FOR ALL LANDSCAPE AND REFORESTATION TREES AND SHRUBS TO PREVENT DAMAGE BY DEER. TUBEX SHALL NOT BE USED AS A SUBSTITUTE.
16. NOTES AND DETAILS SHOWN ON THE DRAWINGS ARE TYPICAL UNLESS OTHERWISE SHOWN OR NOTED.

## EARTHWORK SUMMARY

### CLASS I EXCAVATION

| | | | PROPOSAL QUANTITY |
|---|---|---|---|
| CUT (FROM CROSS SECTIONS) | 4,012 | CY | |
| PAVEMENT REMOVAL | 2,030 | CY | |
| TOPSOIL UNDER FILL | – | CY | |
| ROOT MAT UNDER FILL | – | CY | |
| PLUS CUT (FROM SWM AREA) | – | CY | |
| TOTAL CLASS I EXCAVATION | 6,042 | CY | 6,042 CY |

### CLASS IA EXCAVATION (ESTIMATED)

| | | | |
|---|---|---|---|
| MUCK REMOVAL (IF ANY) | – | CY | |
| UNDERCUTTING | – | CY | |
| TOTAL CLASS IA EXCAVATION | – | CY | – CY |

### CLASS 2 EXCAVATION

| | | | |
|---|---|---|---|
| CUT (FROM CROSS SECTIONS) | – | CY | |
| TOTAL CLASS 2 EXCAVATION | – | CY | – CY |

### EXCAVATION AVAILABLE FOR EMBANKMENT

| | | |
|---|---|---|
| TOTAL CLASS I EXCAVATION + CLASS 2 EXCAVATION | 6,042 | CY |
| MINUS: | | |
| TOPSOIL (REMOVED IN CUT) | – | CY |
| TOPSOIL (REMOVED UNDER FILL) | – | CY |
| ROOT MAT (REMOVED IN CUT) | – | CY |
| ROOT MAT (REMOVED IN FILL) | – | CY |
| CUT ADJUSTED | 6,042 | CY |
| CUT DENSIFIED (x 0.83) | 5,015 | CY |
| TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT | 5,015 | CY |

### EMBANKMENT REQUIRED

| | | | |
|---|---|---|---|
| FILL (FROM CROSS SECTIONS) | 578 | CY | |
| REFILL FOR TOPSOIL UNDER FILL | – | CY | |
| REFILL FOR ROOT MAT UNDER FILL | – | CY | |
| FILL (FROM SWM AREA) | – | CY | |
| TOTAL | 578 | CY | |
| MINUS EXCAVATION AVAILABLE FOR EMBANKMENT | (5,015) | CY | |
| ADJUSTED TOTAL | 0 | CY | |
| PLUS DENSIFICATION FACTOR (x 1.20) | 0 | CY | |
| MINUS SELECT BORROW | – | CY | |
| COMMON BORROW | 0 | CY | 0 CY |
| SELECT BORROW | – | CY | – CY |

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

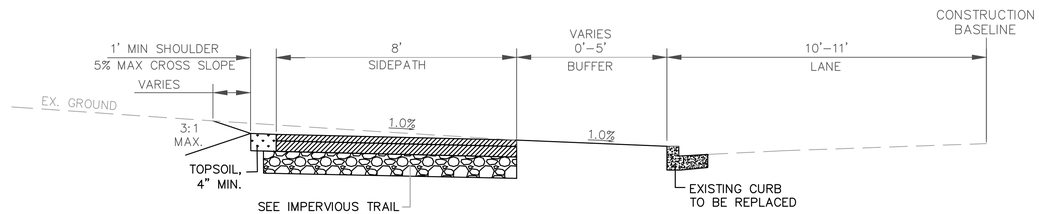
RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

GN-03 GENERAL NOTES
DALE DRIVE
PEDESTRIAN FACILITY

DATE: FEBRUARY 2020

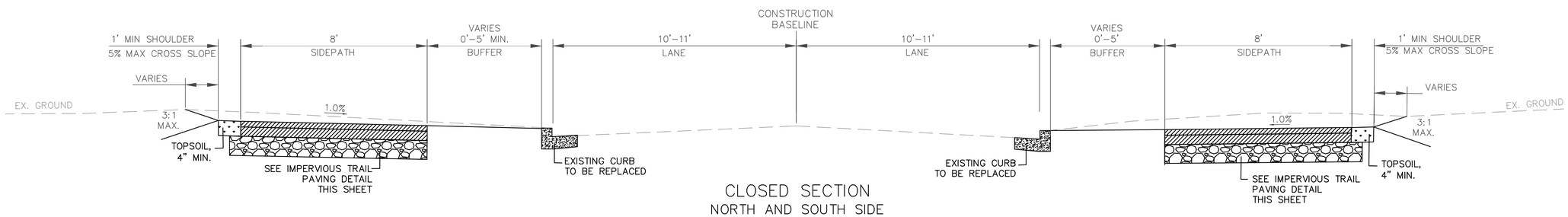
CIP No. : 509337 SHEET 03 of 91




## CLOSED SECTION

NORTH SIDE

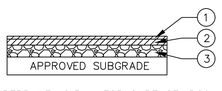
STA. 00+78 TO STA. 05+52
STA. 09+09 TO STA. 21+19
STA. 21+62 TO STA. 26+38
STA. 26+71 TO STA. 30+53
STA. 30+86 TO STA. 33+55
STA. 33+83 TO STA. 42+53
STA. 43+00 TO STA. 50+98
STA. 51+22 TO STA. 53+26




## CLOSED SECTION

NORTH AND SOUTH SIDE

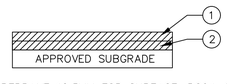
STA. 05+83 TO STA. 09+09




1. 1.5" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64–22, LEVEL–2
2. 2.5" HMA SUPERPAVE 12.5MM FOR BASE, PG64–22, LEVEL–2
3. 5" CR–6 GRADED AGGREGATE BASE COURSE

## IMPERVIOUS TRAIL PAVEMENT DETAIL

NTS




1. 3" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64–22, LEVEL 2
2. 3" HMA SUPERPAVE 19.0MM FOR BASE, PG64–22, LEVEL 2

## IMPERVIOUS PAVEMENT DETAIL – DRIVEWAYS

NTS

NOTES:
1. MAXIMUM ALLOWABLE TRAIL CROSS SLOPE IS 2.0% MAX. FOR ADA COMPLIANCE, WITH ZERO CONSTRUCTION TOLERANCE TO EXCEED 2.0%.
2. IMPERVIOUS TRAIL PAVEMENT DETAIL REFLECTS A DEVIATION FROM THE PAVEMENT SECTION SHOWN ON M–NCPPC STANDARD TRAIL DETAILS. THIS CHANGE HAS BEEN APPROVED BY MONTGOMERY COUNTY AND M–NCPPC.

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

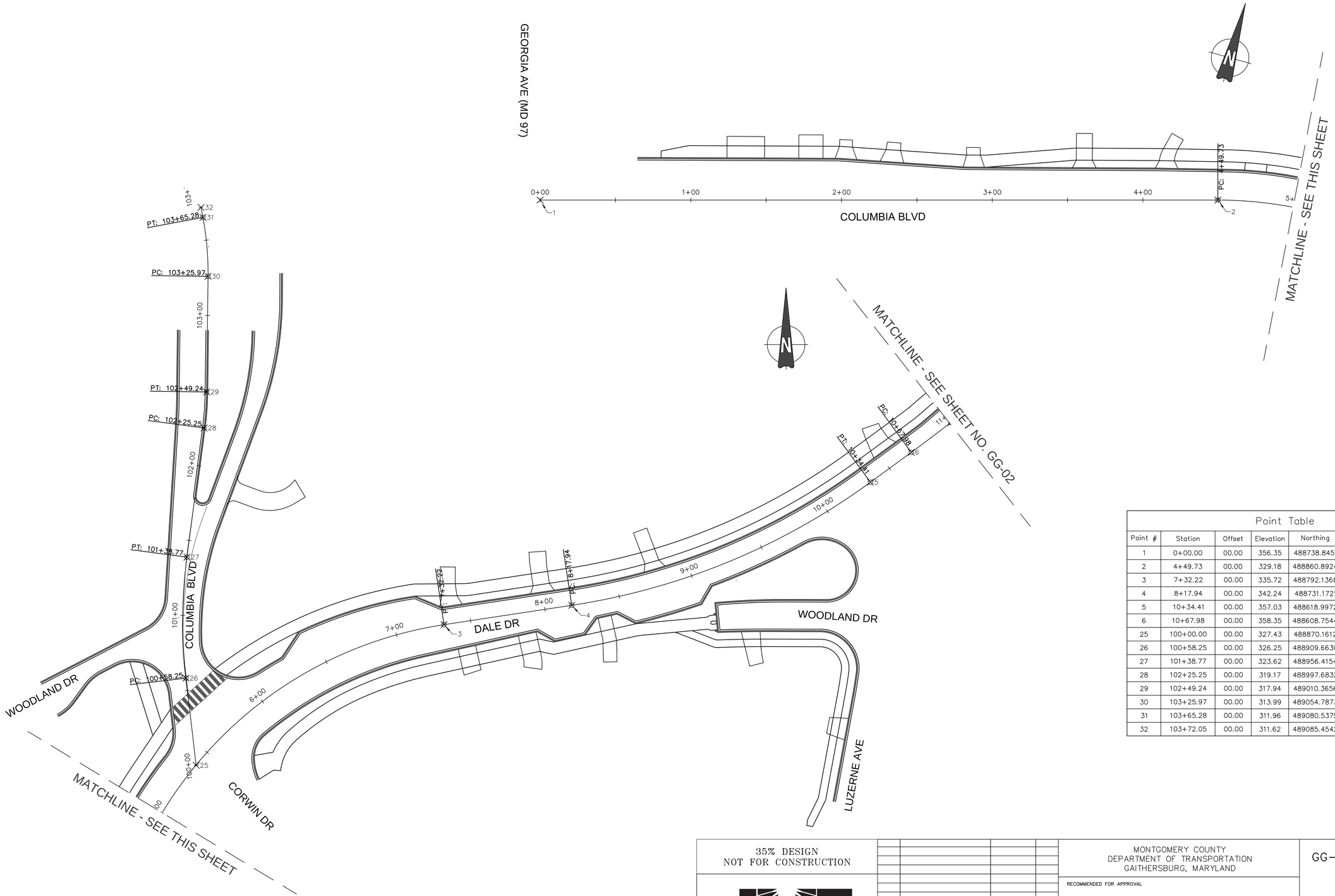
Designed by: ADS Drawn by: ADS Checked by: JJR

TS–01 TYPICAL SECTIONS

DALE DRIVE
PEDESTRIAN FACILITY

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 04 of 91




| Point Table | | | | | | |
|---|---|---|---|---|---|---|
| Point # | Station | Offset | Elevation | Northing | Easting | Description |
| 1 | 0+00.00 | 00.00 | 356.35 | 488738.8451 | 1300900.4368 | POB |
| 2 | 4+49.73 | 00.00 | 329.18 | 488860.8924 | 1301333.2940 | PC |
| 3 | 7+32.22 | 00.00 | 335.72 | 488792.1368 | 1301593.6692 | PT |
| 4 | 8+17.94 | 00.00 | 342.24 | 488731.1721 | 1301653.9350 | PC |
| 5 | 10+34.41 | 00.00 | 357.03 | 488618.9972 | 1301836.6332 | PT |
| 6 | 10+67.98 | 00.00 | 358.35 | 488608.7544 | 1301868.5958 | PC |
| 25 | 100+00.00 | 00.00 | 327.43 | 488870.1612 | 1301421.3931 | POB |
| 26 | 100+58.25 | 00.00 | 326.25 | 488909.6630 | 1301464.2049 | PC |
| 27 | 101+38.77 | 00.00 | 323.62 | 488956.4154 | 1301529.5090 | PT |
| 28 | 102+25.25 | 00.00 | 319.17 | 488997.6832 | 1301605.5086 | PC |
| 29 | 102+49.24 | 00.00 | 317.94 | 489010.3656 | 1301625.8536 | PT |
| 30 | 103+25.97 | 00.00 | 313.99 | 489054.7873 | 1301688.4208 | PC |
| 31 | 103+65.28 | 00.00 | 311.96 | 489080.5375 | 1301718.0380 | PT |
| 32 | 103+72.05 | 00.00 | 311.62 | 489085.4542 | 1301722.6817 | POE |

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

GG-01 GRADES AND GEOMETRICS

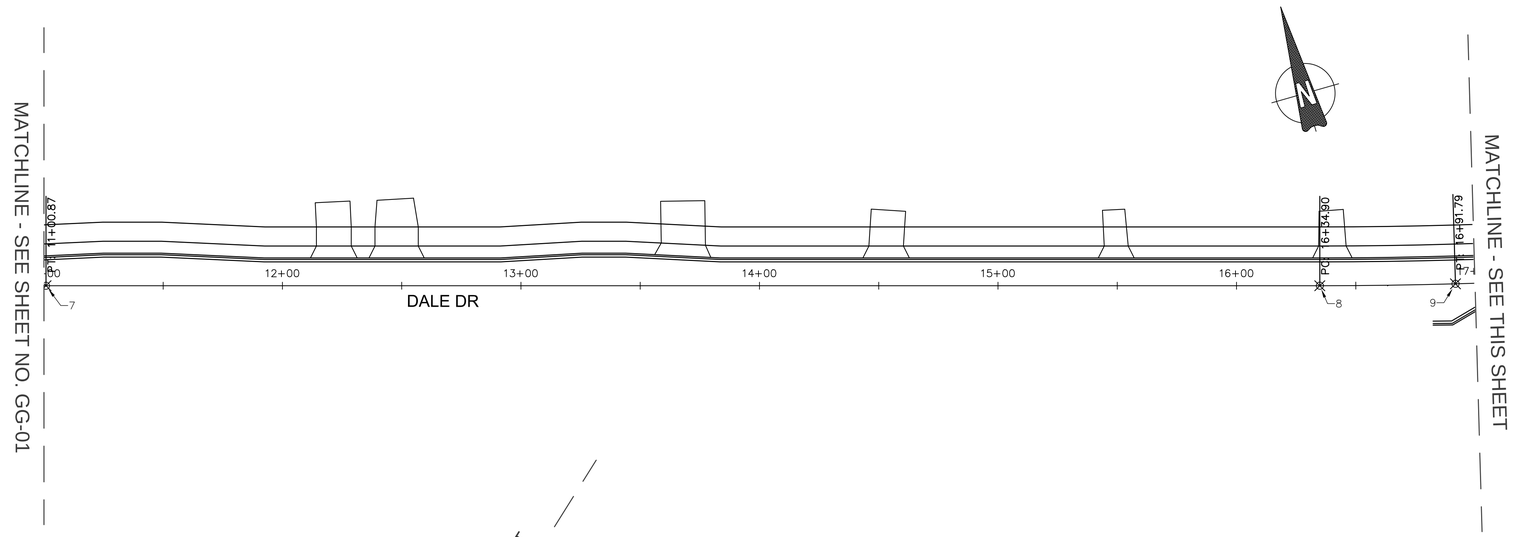
DALE DRIVE
PEDESTRIAN FACILITY

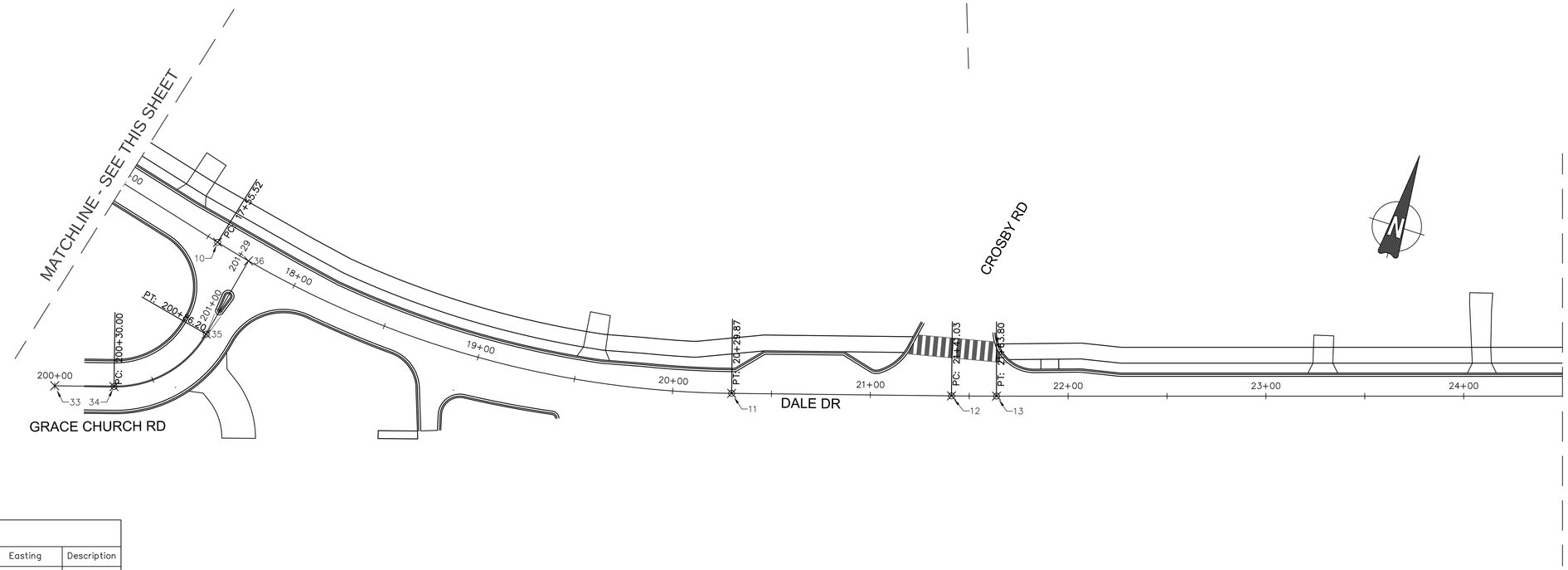
0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No.: 509337 SHEET 05 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pGG_Dale.dwg LAYOUT NAME: GG-01 PLOTTED: Thursday, February 06, 2020 - 3:17pm USER: Havener




| Point Table | | | | | | |
|---|---|---|---|---|---|---|
| Point # | Station | Offset | Elevation | Northing | Easting | Description |
| 7 | 11+00.87 | 00.00 | 358.99 | 488599.2334 | 1301900.0783 | PT |
| 8 | 16+34.90 | 00.00 | 335.28 | 488453.0720 | 1302413.7213 | PC |
| 9 | 16+91.79 | 00.00 | 331.10 | 488438.2820 | 1302468.6527 | PT |
| 10 | 17+55.52 | 00.00 | 326.41 | 488422.5894 | 1302530.4223 | PC |
| 11 | 20+29.87 | 00.00 | 309.83 | 488429.5137 | 1302801.2523 | PT |
| 12 | 21+41.03 | 00.00 | 309.93 | 488462.3528 | 1302907.4466 | PC |
| 13 | 21+63.80 | 00.00 | 310.37 | 488469.2031 | 1302929.1604 | PT |
| 33 | 200+00.00 | 00.00 | 0.00 | 488328.3247 | 1302474.2522 | POB |
| 34 | 200+30.00 | 00.00 | 321.89 | 488337.1357 | 1302502.9292 | PC |
| 35 | 200+86.20 | 00.00 | 322.89 | 488376.6307 | 1302539.1731 | PT |
| 36 | 201+28.95 | 00.00 | 324.67 | 488418.4212 | 1302548.1810 | POE |

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

GG-02 GRADES AND GEOMETRICS

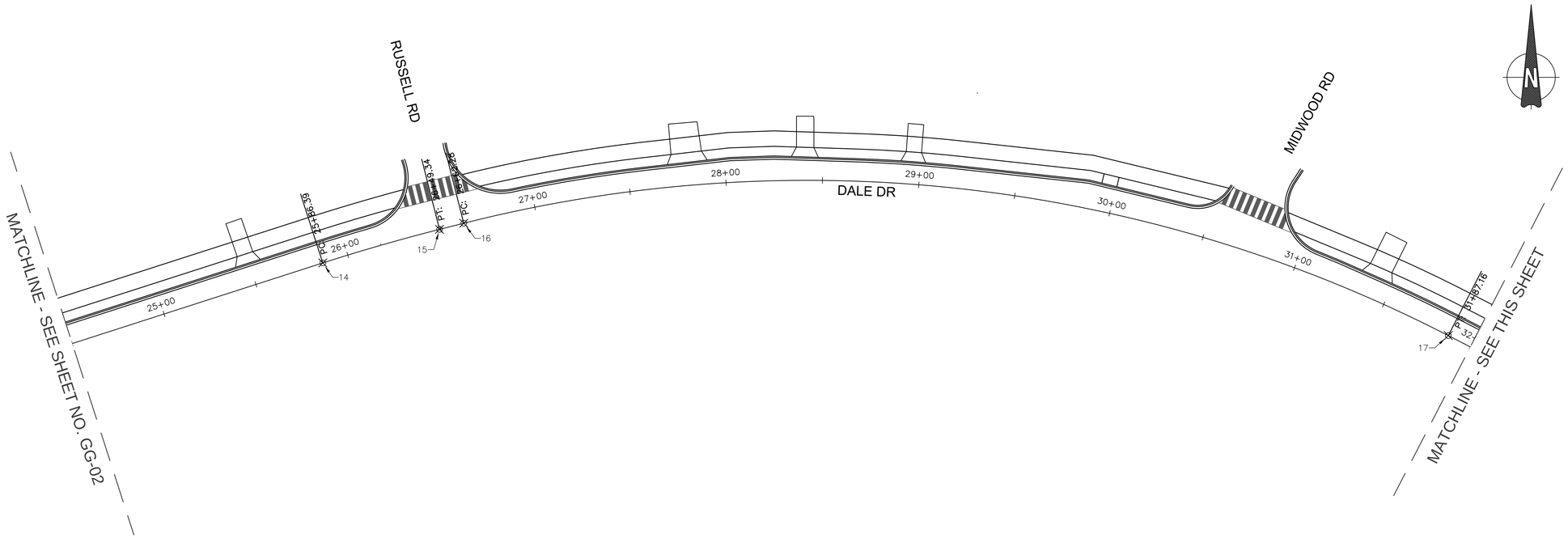
DALE DRIVE
PEDESTRIAN FACILITY

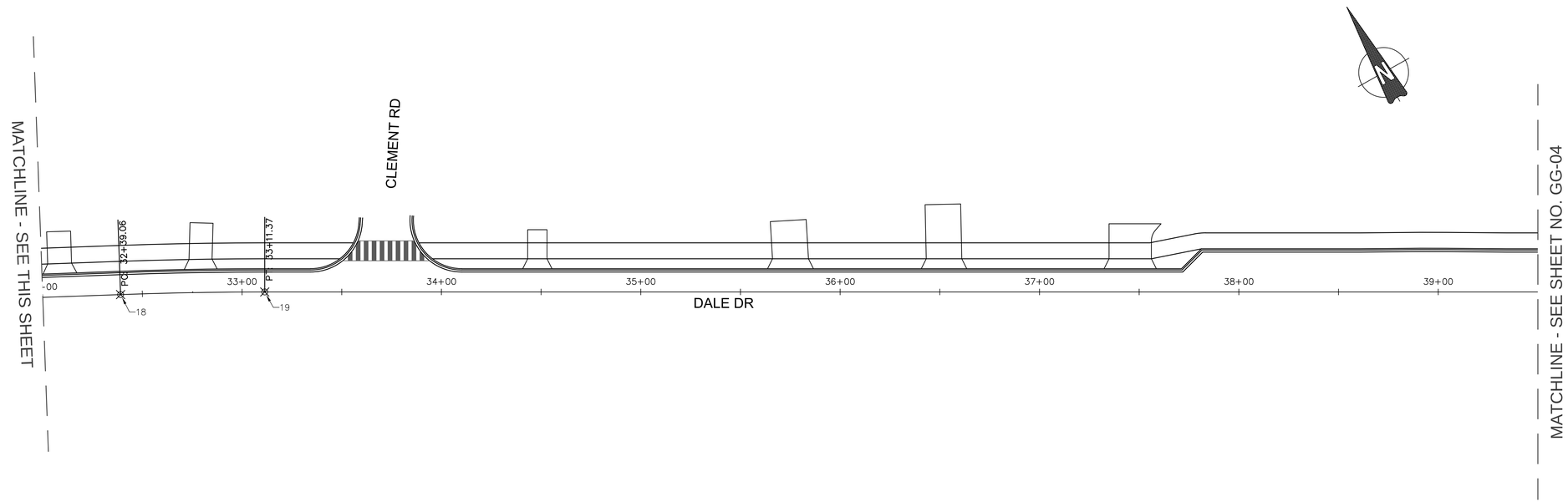
0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 06 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pGG_Dale.dwg LAYOUT NAME: GG-02 PLOTTED: Thursday, February 06, 2020 - 3:17pm USER: Havener




| Point Table | | | | | | |
|---|---|---|---|---|---|---|
| Point # | Station | Offset | Elevation | Northing | Easting | Description |
| 14 | 25+86.39 | 00.00 | 328.09 | 488598.6385 | 1303331.4416 | PC |
| 15 | 26+49.34 | 00.00 | 328.61 | 488616.0213 | 1303391.9334 | PT |
| 16 | 26+62.28 | 00.00 | 328.48 | 488619.2021 | 1303404.4772 | PC |
| 17 | 31+87.16 | 00.00 | 316.15 | 488560.9742 | 1303914.6538 | PT |
| 18 | 32+39.06 | 00.00 | 320.15 | 488537.2079 | 1303960.7964 | PC |
| 19 | 33+11.37 | 00.00 | 325.23 | 488502.9437 | 1304024.4664 | PT |

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

# GG-03 GRADES AND GEOMETRICS

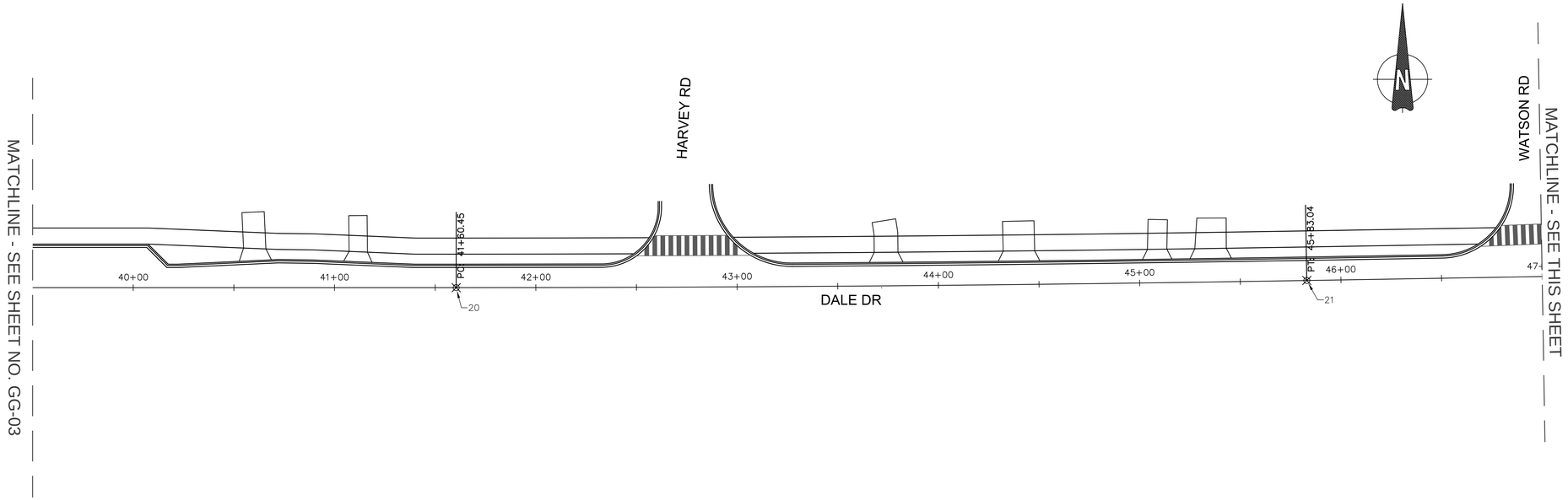
## DALE DRIVE PEDESTRIAN FACILITY

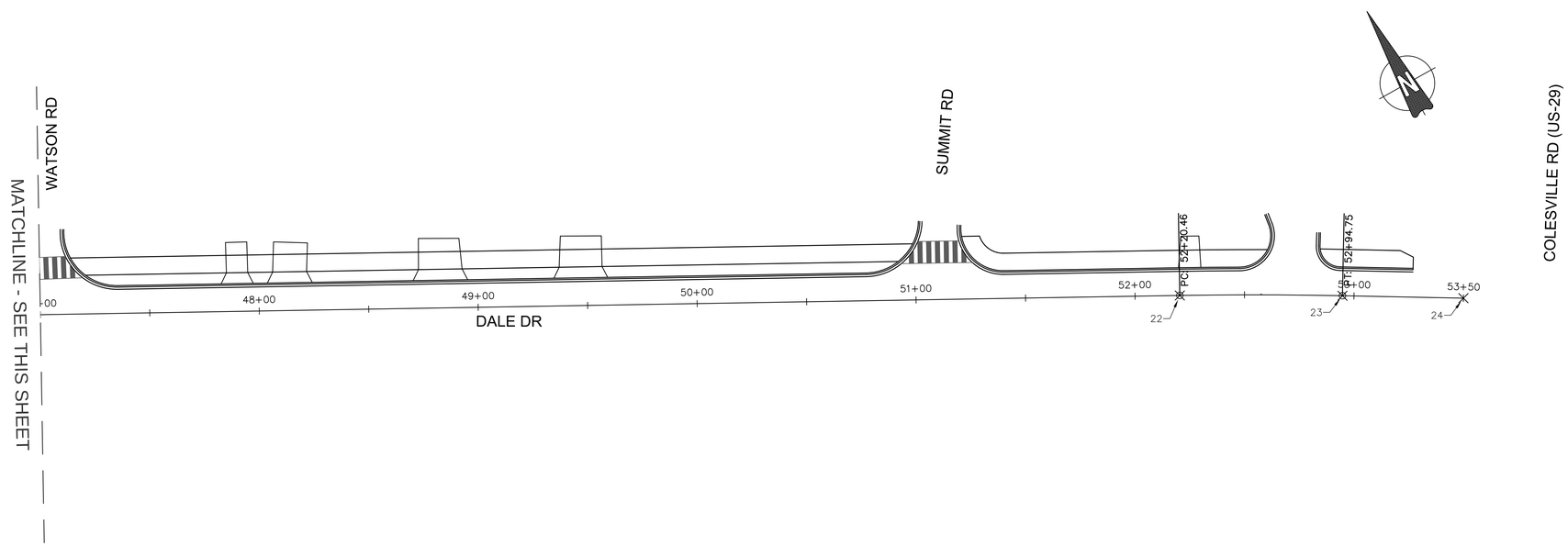
0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 07 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pGG_Dale.dwg LAYOUT NAME: GG-03 PLOTTED: Thursday, February 06, 2020 - 3:17pm USER: Havener




| Point Table | | | | | | |
|---|---|---|---|---|---|---|
| Point # | Station | Offset | Elevation | Northing | Easting | Description |
| 20 | 41+60.45 | 00.00 | 280.55 | 488087.1236 | 1304764.7597 | PC |
| 21 | 45+83.04 | 00.00 | 311.58 | 487883.2905 | 1305134.9411 | PT |
| 22 | 52+20.46 | 00.00 | 298.96 | 487580.5682 | 1305695.8843 | PC |
| 23 | 52+94.75 | 00.00 | 292.96 | 487544.0816 | 1305760.5891 | PT |
| 24 | 53+50.00 | 00.00 | 288.85 | 487516.0511 | 1305808.2089 | POE |

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

GG-04 GRADES AND GEOMETRICS

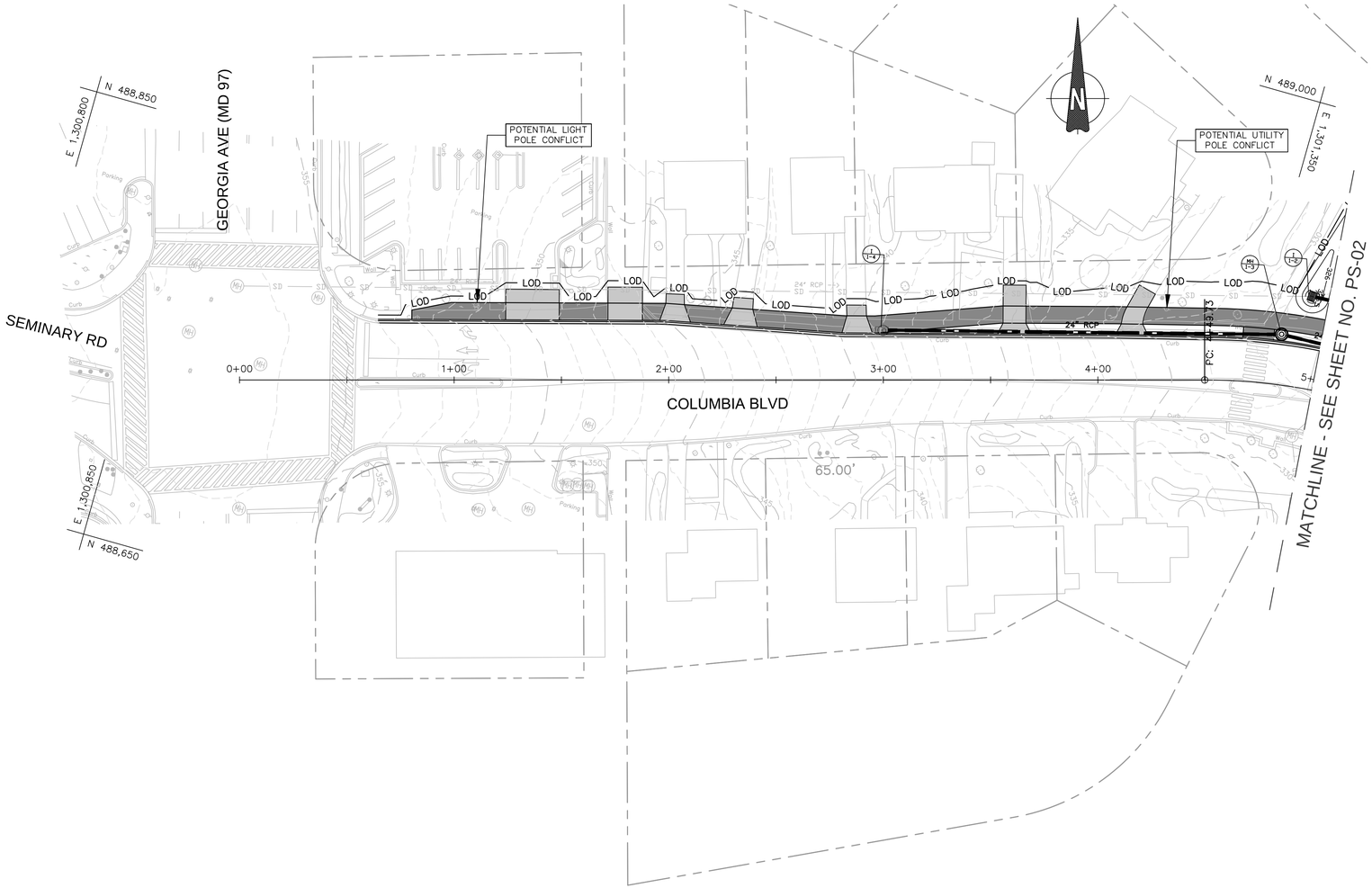
DALE DRIVE
PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 08 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pGG_Dale.dwg LAYOUT NAME: GG-04 PLOTTED: Thursday, February 06, 2020 - 3:17pm USER: Havener




| SIDEPATH | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 2,665 SF | 0+80 LT | 5+00 LT |

| COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01 | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 440 LF | 0+60 LT | 5+00 LT |

| RESIDENTIAL DRIVEWAY MC – 301.01 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 15 SY | 2+03 LT | 9.0' |
| 17 SY | 2+35 LT | 9.0' |
| 16 SY | 2+87 LT | 9.0' |
| 28 SY | 3+61 LT | 10.0' |
| 25 SY | 4+15 LT | 9.0' |

| COMMERCIAL DRIVEWAY MC – 302.01 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 40 SY | 1+36 LT | 25.0' |
| 28 SY | 1+80 LT | 16.0' |

**LEGEND**

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED FULL DEPTH RECONSTRUCTION
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED DRIVEWAY PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

PS–01 ROADWAY PLAN

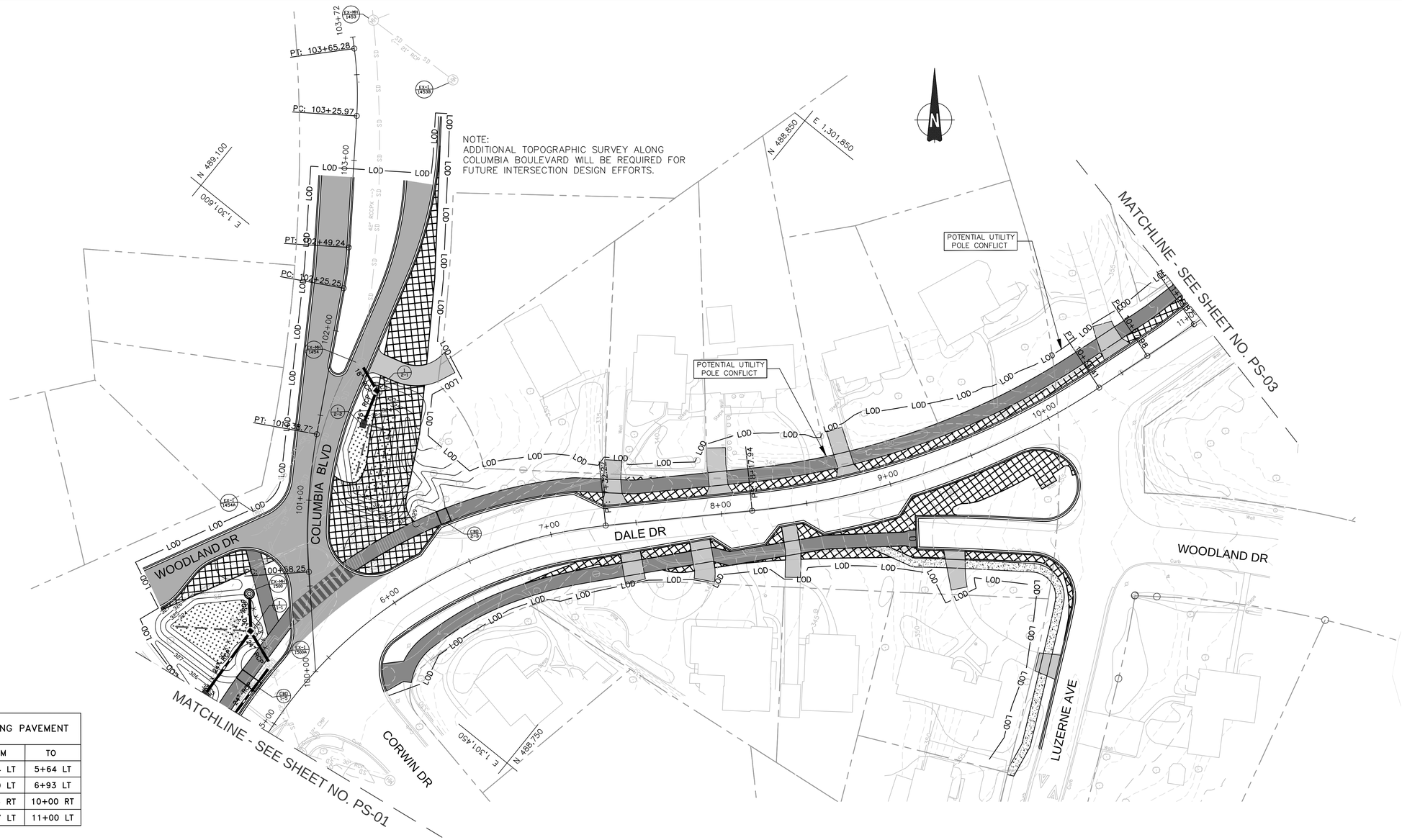
# DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 09 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS–01 PLOTTED: Thursday, February 06, 2020 – 3:18pm USER: Havener




| SIDEPATH | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 825 SF | 5+00 LT | 5+62 LT |
| 3,766 SF | 5+90 LT | 11+00 LT |

| COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01 | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 174 LF | 5+00 LT | 5+65 LT |
| 283 LF | 5+22 LT | 6+55 LT |
| 244 LF | 6+30 LT | 6+80 LT |
| 804 LF | 5+88 LT | 11+00 LT |
| 520 LF | 6+75 RT | 10+00 RT |

| RESIDENTIAL SIDEWALK MC–110.01 | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 2,325 SF | 6+73 RT | 9+94 RT |

| DETECTABLE WARNING SURFACE MD–655.40 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 16 SF | 5+60 LT | 8.0' |
| 16 SF | 5+61 LT | 8.0' |
| 16 SF | 5+90 LT | 8.0' |

| RESIDENTIAL DRIVEWAY MC – 301.01 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 64 SY | 6+46 LT | 12.0' |
| 31 SY | 7+40 LT | 10.0' |
| 34 SY | 8+00 LT | 11.0' |
| 30 SY | 8+75 LT | 10.0' |
| 28 SY | 10+56 LT | 11.0' |
| 20 SY | 7+46 RT | 12.0' |
| 23 SY | 7+87 RT | 12.0' |
| 22 SY | 8+37 RT | 9.0' |
| 75 SY | 9+18 RT | 9.0' |
| 18 SY | 9+41 RT | 10.0' |

| REMOVE EXISTING PAVEMENT | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 568 SF | 5+14 LT | 5+64 LT |
| 5,129 SF | 5+90 LT | 6+93 LT |
| 4,550 SF | 6+73 RT | 10+00 RT |
| 1,560 SF | 7+17 LT | 11+00 LT |

**LEGEND**

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED FULL DEPTH RECONSTRUCTION
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED DRIVEWAY PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

PS–02 ROADWAY PLAN

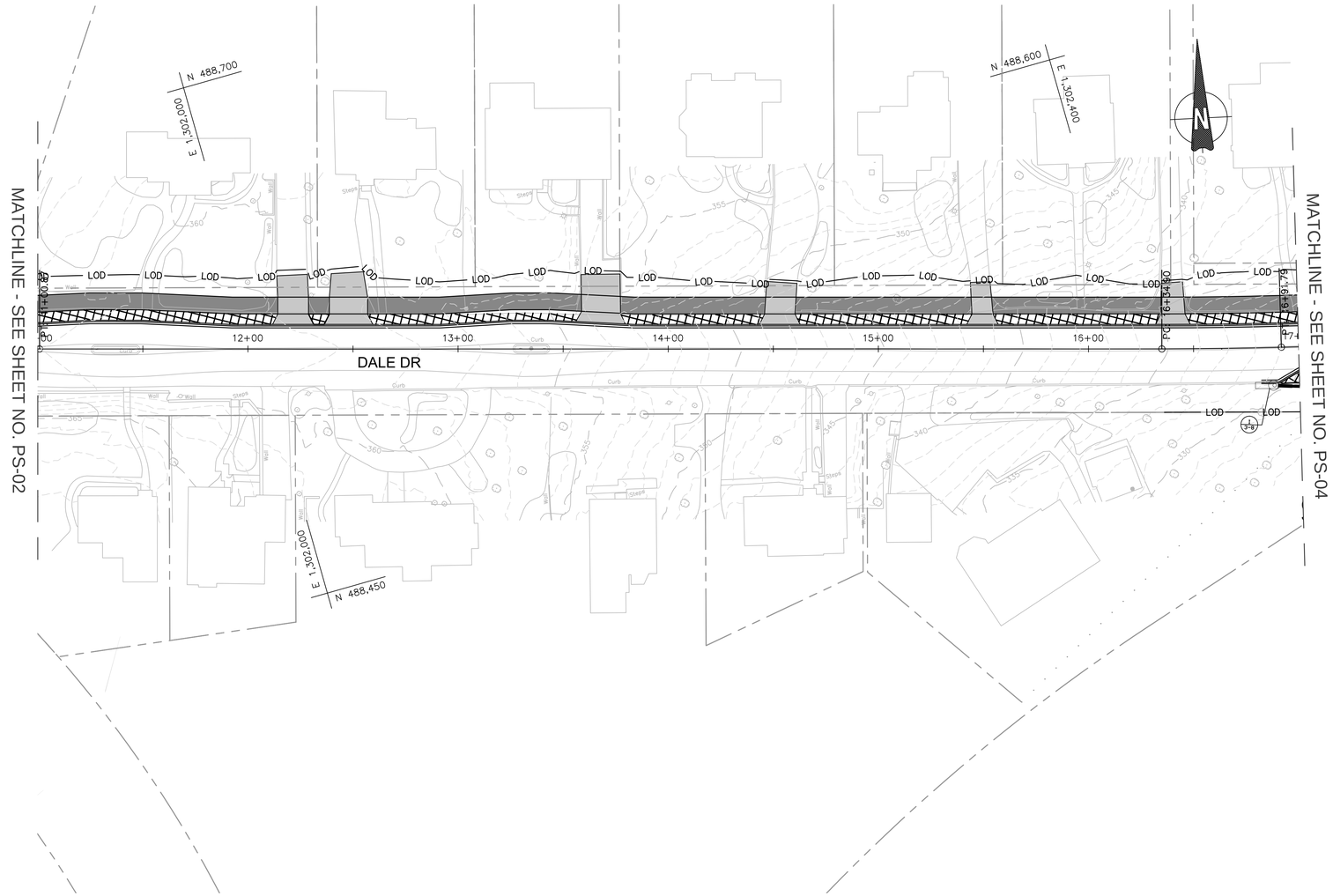
# DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 10 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS–02 PLOTTED: Thursday, February 06, 2020 – 3:18pm USER: Havener




| SIDEPATH | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 4,102 SF | 11+00 LT | 17+00 LT |

| COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01 | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 600 LF | 11+00 LT | 17+00 LT |

| RESIDENTIAL DRIVEWAY MC – 301.01 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 40 SY | 12+21 LT | 14.0' |
| 49 SY | 12+47 LT | 15.0' |
| 49 SY | 13+68 LT | 18.0' |
| 34 SY | 14+54 LT | 14.0' |
| 24 SY | 15+48 LT | 10.0' |
| 26 SY | 16+40 LT | 10.0' |

| REMOVE EXISTING PAVEMENT | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 2,377 SF | 11+00 LT | 17+00 LT |

**LEGEND**

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED FULL DEPTH RECONSTRUCTION
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED DRIVEWAY PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

35% DESIGN
NOT FOR CONSTRUCTION

JMT

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

PS–03 ROADWAY PLAN

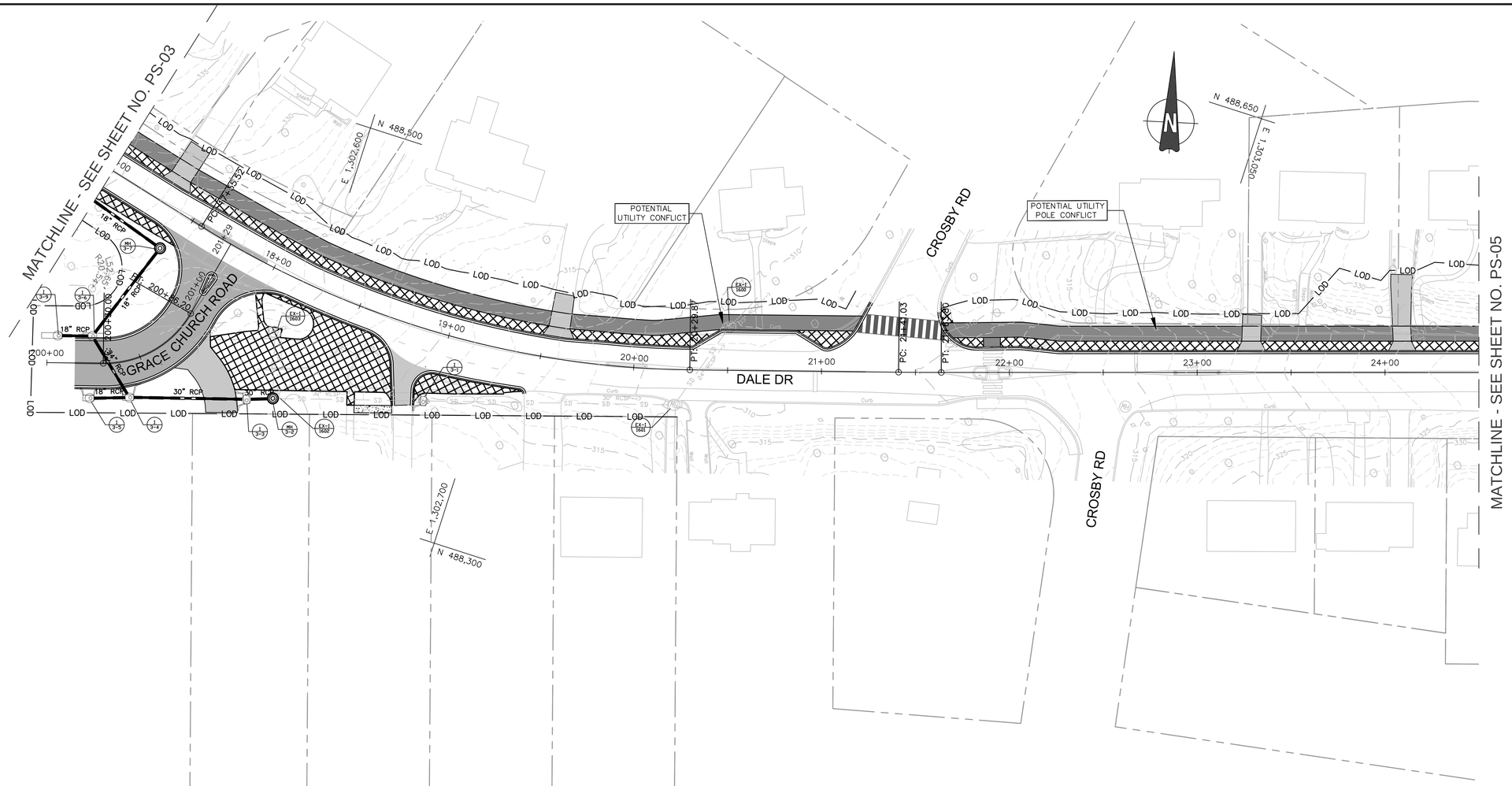
# DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 11 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS-03 PLOTTED: Thursday, February 06, 2020 – 3:18pm USER: Havener




| SIDEPATH | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 3,081 SF | 17+00 LT | 21+19 LT |
| 2,152 SF | 210+66 LT | 24+50 LT |

| COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01 | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 436 LF | 17+00 LT | 21+27 LT |
| 297 LF | 21+62 LT | 24+50 LT |

| DETECTABLE WARNING SURFACE MD–655.40 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 16 SF | 21+19 LT | 8.0' |
| 16 SF | 21+66 LT | 8.0' |

| RESIDENTIAL DRIVEWAY MC – 301.01 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 32 SY | 17+32 LT | 12.0' |
| 29 SY | 19+58 LT | 10.0' |
| 23 SY | 23+29 LT | 10.0' |
| 48 SY | 24+09 LT | 11.0' |

| REMOVE EXISTING PAVEMENT | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 250 SF | 16+95 RT | 17+49 RT |
| 1,506 SF | 17+00 LT | 20+42 LT |
| 3,031 SF | 17+86 RT | 18+79 RT |
| 369 SF | 18+88 RT | 19+48 RT |
| 159 SF | 20+85 LT | 21+18 LT |
| 1,246 SF | 21+60 LT | 24+50 RT |

**LEGEND**

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED FULL DEPTH RECONSTRUCTION
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED DRIVEWAY PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

PS–04 ROADWAY PLAN

# DALE DRIVE PEDESTRIAN FACILITY

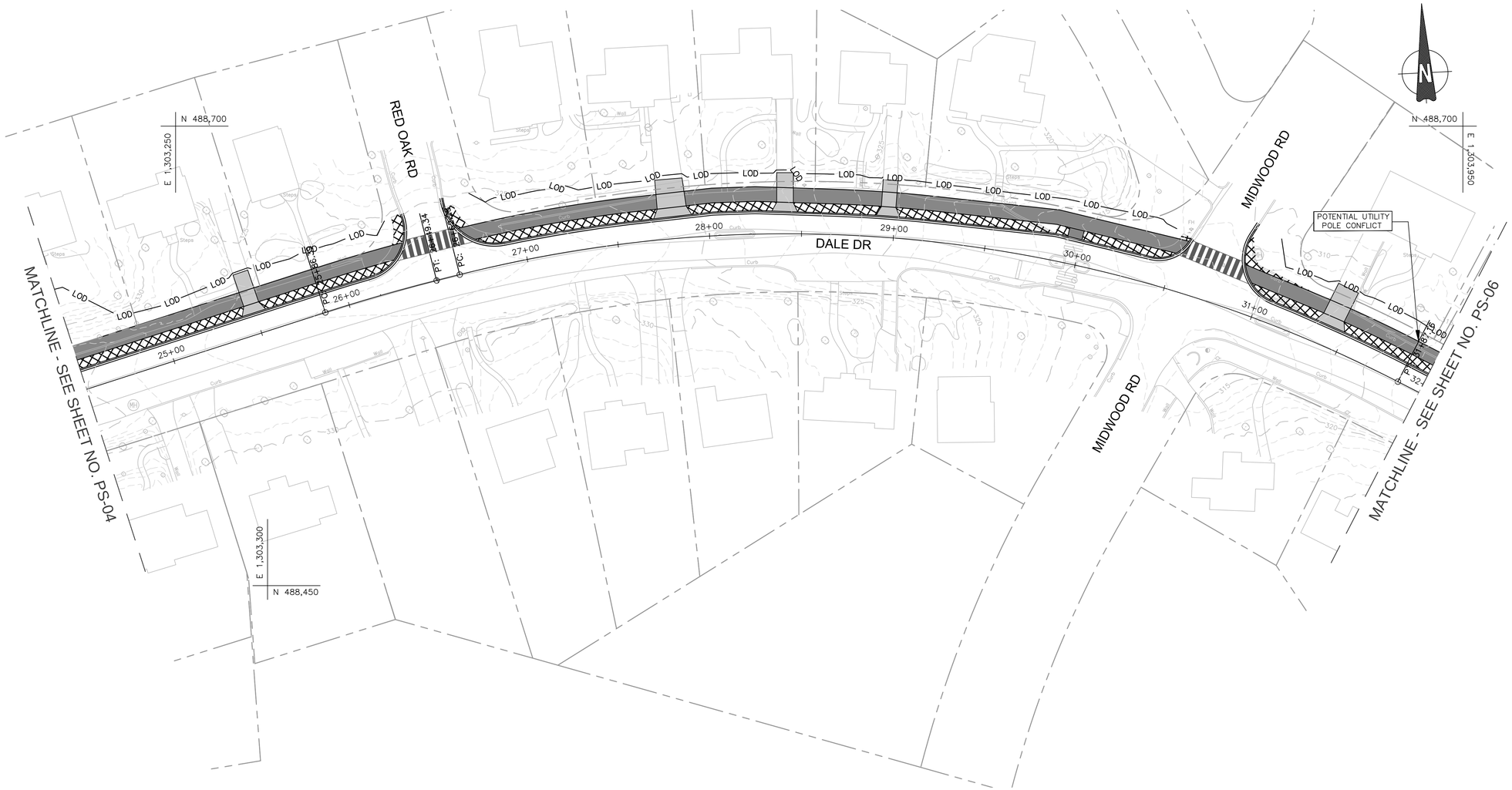
0 30' 60'

SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 12 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS–04 PLOTTED: Thursday, February 06, 2020 – 3:18pm USER: Havener




| SIDEPATH | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 1,410 SF | 24+50 LT | 26+34 LT |
| 2,936 SF | 26+70 LT | 30+54 LT |
| 829 SF | 30+90 LT | 32+00 LT |

| COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01 | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 208 LF | 24+50 LT | 26+41 LT |
| 427 LF | 26+62 LT | 30+57 LT |
| 143 LF | 30+83 LT | 32+00 LT |

| DETECTABLE WARNING SURFACE MD–655.40 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 16 SF | 26+34 LT | 8.0' |
| 16 SF | 26+70 LT | 8.0' |
| 16 SF | 30+54 LT | 8.0' |
| 16 SF | 30+94 LT | 8.0' |

| RESIDENTIAL DRIVEWAY MC – 301.01 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 23 SY | 25+50 LT | 9.0' |
| 37 SY | 27+80 LT | 15.0' |
| 23 SY | 28+41 LT | 9.0' |
| 19 SY | 28+96 LT | 8.0' |
| 32 SY | 31+42 LT | 12.0' |

| REMOVE EXISTING PAVEMENT | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 911 SF | 24+50 LT | 26+42 LT |
| 1,680 SF | 26+63 LT | 30+57 LT |
| 558 SF | 30+83 LT | 32+00 LT |

**LEGEND**

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED FULL DEPTH RECONSTRUCTION
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED DRIVEWAY PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

PS–05 ROADWAY PLAN

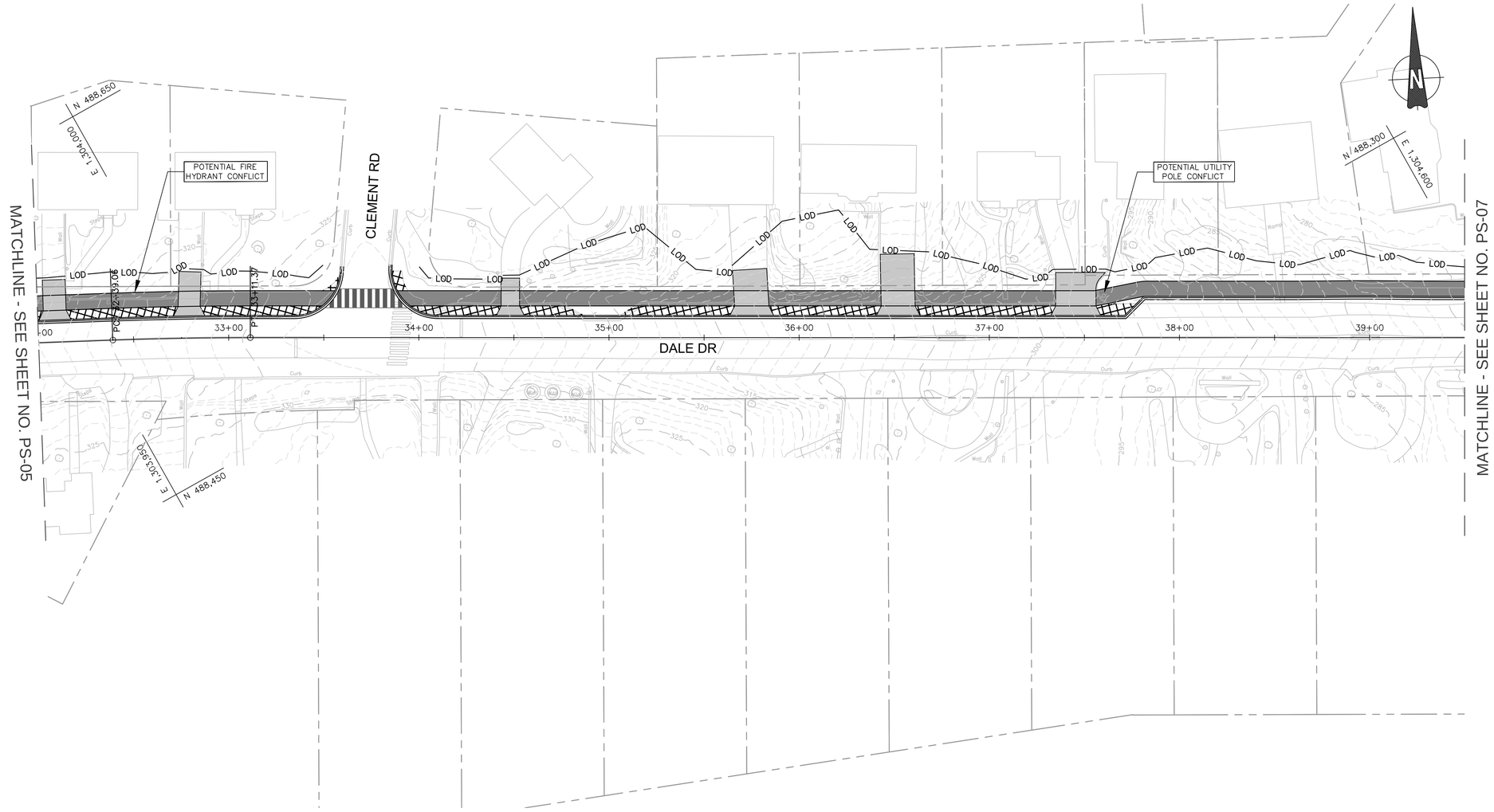
# DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 13 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS-05 PLOTTED: Thursday, February 06, 2020 – 3:18pm USER: Havener




| SIDEPATH | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 1,016 SF | 32+00 LT | 33+53 LT |
| 3,937 SF | 33+92 LT | 39+50 LT |

| COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01 | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 174 LF | 32+00 LT | 33+60 LT |
| 585 LF | 33+84 LT | 39+50 LT |

| DETECTABLE WARNING SURFACE MD–655.40 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 16 SF | 33+53 LT | 8.0' |
| 16 SF | 33+92 LT | 8.0' |

| RESIDENTIAL DRIVEWAY MC – 301.01 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 30 SY | 32+09 LT | 12.0' |
| 31 SY | 32+80 LT | 12.0' |
| 23 SY | 34+48 LT | 10.0' |
| 50 SY | 35+74 LT | 18.0' |
| 65 SY | 36+50 LT | 18.0' |
| 56 SY | 37+45 LT | 21.0' |

| REMOVE EXISTING PAVEMENT | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 595 SF | 32+00 LT | 33+60 LT |
| 1,418 SF | 33+87 LT | 37+75 LT |

**LEGEND**

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED FULL DEPTH RECONSTRUCTION
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED DRIVEWAY PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

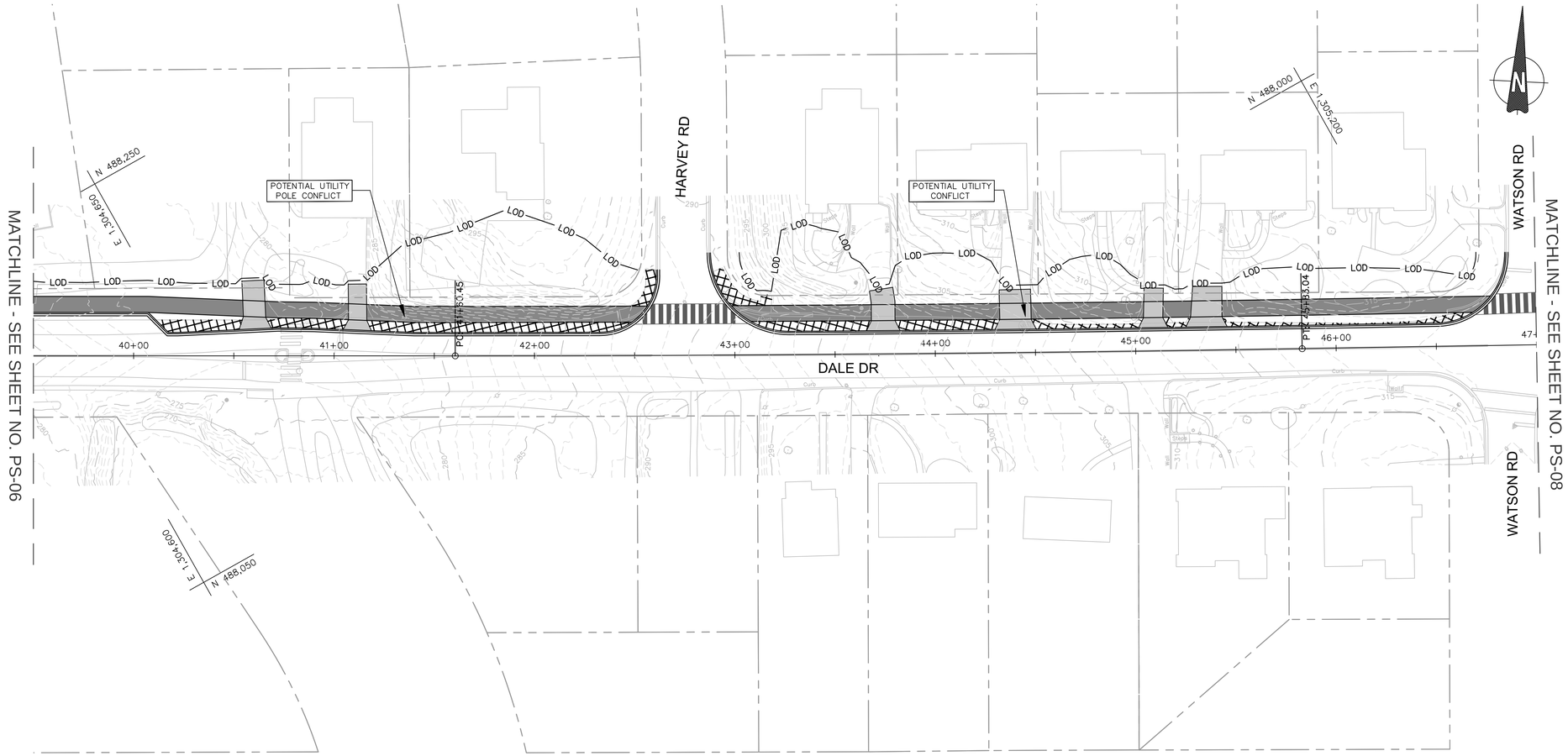
PS–06 ROADWAY PLAN

# DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 14 of 91




| SIDEPATH | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 2,263 SF | 39+50 LT | 42+52 LT |
| 2,544 SF | 43+03 LT | 46+73 LT |

| COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01 | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 334 LF | 39+50 LT | 42+63 LT |
| 439 LF | 42+86 LT | 46+86 LT |

| DETECTABLE WARNING SURFACE MD–655.40 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 16 SF | 42+52 LT | 8.0' |
| 16 SF | 43+03 LT | 8.0' |
| 16 SF | 46+73 LT | 8.0' |

| RESIDENTIAL DRIVEWAY MC – 301.01 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 31 SY | 40+59 LT | 11.0' |
| 25 SY | 41+11 LT | 9.0' |
| 29 SY | 43+73 LT | 12.0' |
| 36 SY | 44+40 LT | 16.0' |
| 23 SY | 45+09 LT | 10.0' |
| 36 SY | 45+36 LT | 15.0' |

| REMOVE EXISTING PAVEMENT | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 1,135 SF | 40+12 LT | 42+60 LT |
| 1,016 SF | 42+89 LT | 46+68 LT |

**LEGEND**

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED FULL DEPTH RECONSTRUCTION
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED DRIVEWAY PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

PS–07 ROADWAY PLAN

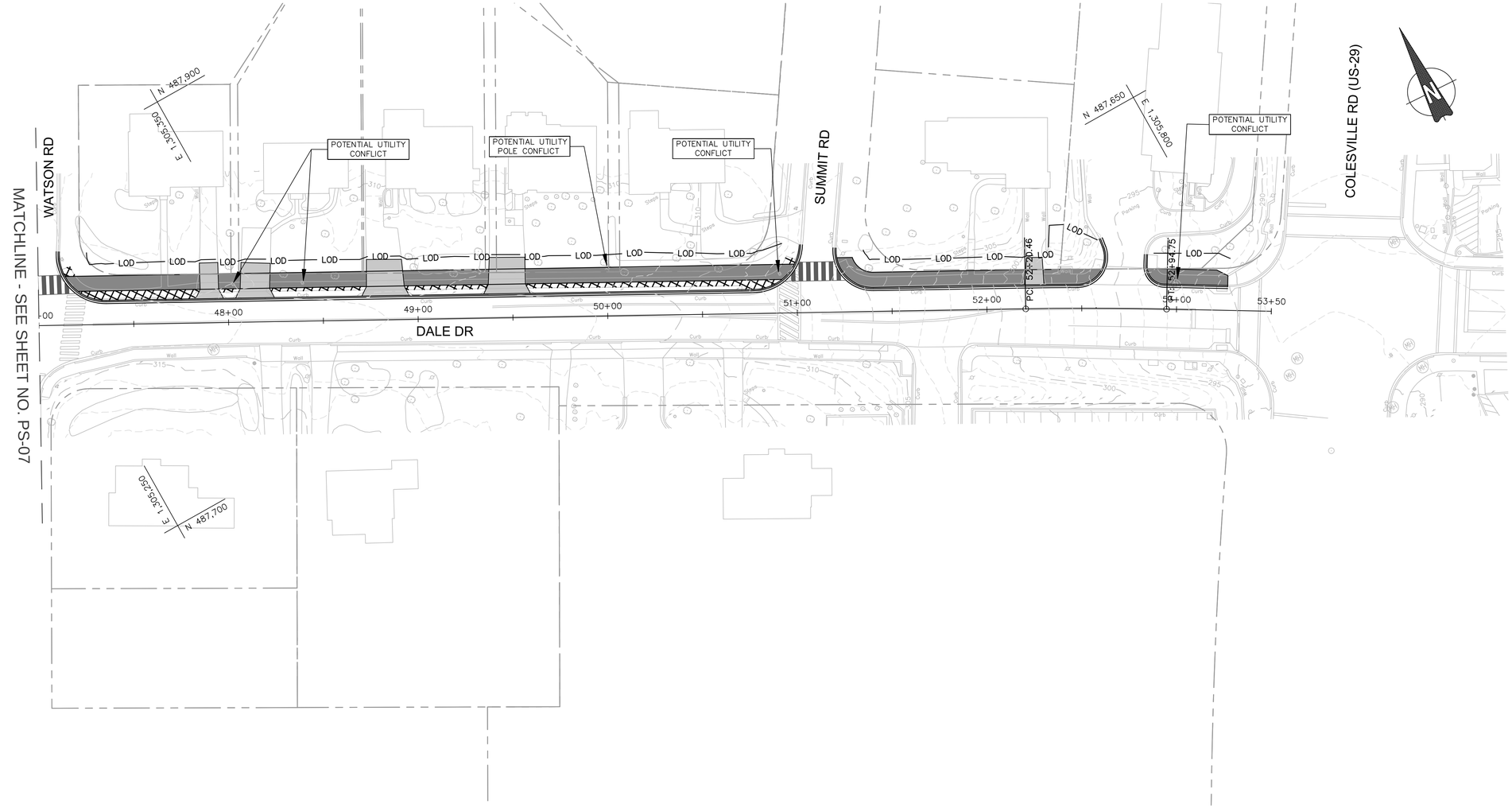
# DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 15 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS–07 PLOTTED: Thursday, February 06, 2020 – 3:19pm USER: Havener




| SIDEPATH | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 2,519 SF | 47+17 LT | 50+96 LT |
| 1,023 SF | 51+21 LT | 52+57 LT |
| 314 SF | 52+85 LT | 53+26 LT |

| COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01 | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 419 LF | 47+10 LT | 51+03 LT |
| 172 LF | 51+19 LT | 52+63 LT |
| 54 LF | 52+82 LT | 53+26 LT |

| DETECTABLE WARNING SURFACE MD–655.40 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 16 SF | 47+17 LT | 8.0' |
| 16 SF | 50+96 LT | 8.0' |
| 16 SF | 51+21 LT | 8.0' |

| RESIDENTIAL DRIVEWAY MC – 301.01 | | |
|---|---|---|
| QUANTITY | STATION | WIDTH |
| 22 SY | 47+90 LT | 10.0' |
| 33 SY | 48+15 LT | 15.0' |
| 43 SY | 48+82 LT | 19.0' |
| 42 SY | 49+47 LT | 19.0' |
| 15 SY | 52+25 LT | 8.0' |

| REMOVE EXISTING PAVEMENT | | |
|---|---|---|
| QUANTITY | FROM | TO |
| 902 SF | 47+10 LT | 51+01 LT |

**LEGEND**

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED FULL DEPTH RECONSTRUCTION
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED DRIVEWAY PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS  Drawn by: ADS  Checked by: JJR

PS–08 ROADWAY PLAN

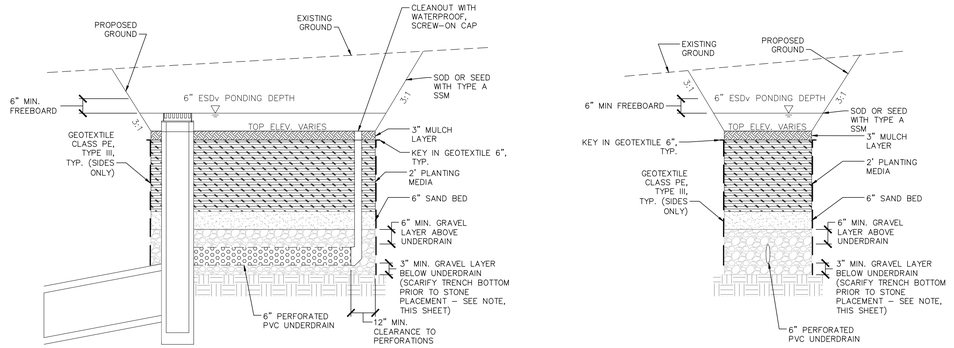
# DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'

SCALE: 1"=30'  DATE: FEBRUARY 2020

CIP No.: 509337  SHEET 16 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS–08 PLOTTED: Thursday, February 06, 2020 – 3:19pm USER: Havener







MICRO-BIORETENTION FACILITY TYPICAL SECTIONS

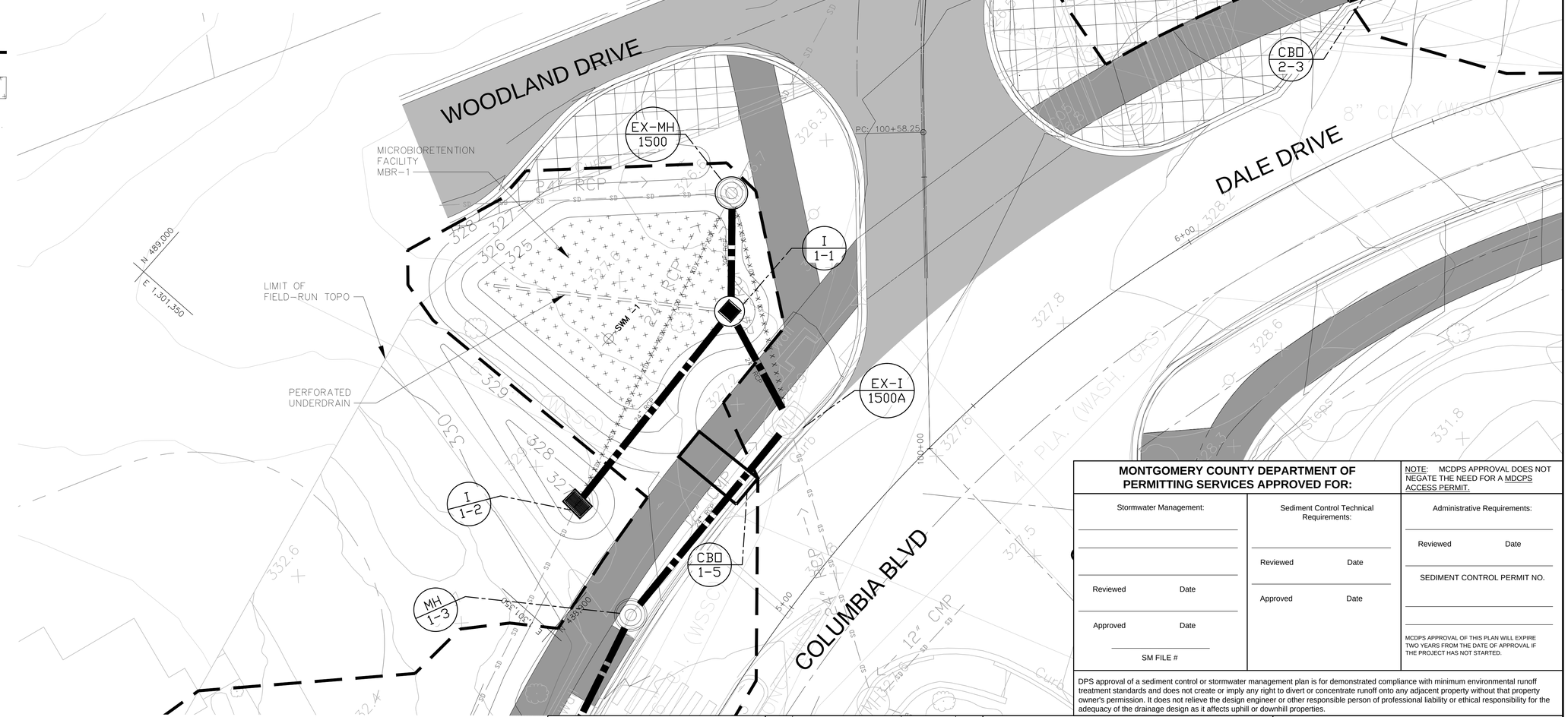
SCALE: HORIZ. 1"=10' VERT. 1"=2'

LEGEND

FACILITY DRAINAGE AREA

BIOSWALE BOTTOM AREA/ AGGREGATE STORAGE AREA

ABANDON EXISTING PIPE




| MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR: | | NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MDCPS ACCESS PERMIT. |
|---|---|---|
| Stormwater Management: | Sediment Control Technical Requirements: | Administrative Requirements: |
| Reviewed Date | Reviewed Date | Reviewed Date |
| Approved Date | Approved Date | SEDIMENT CONTROL PERMIT NO. |
| SM FILE # | | MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED. |

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

GENERAL NOTES:

1. REFER TO SHEET SWM-3 FOR COMPLETE DRAINAGE AREA TO MBR-1.

**35% DESIGN**
**NOT FOR CONSTRUCTION**

RJM ENGINEERING

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: JBR Drawn by: JBR Checked by: KJS

STORMWATER MANAGEMENT
SWM-1 PLAN SHEET (MBR-1)

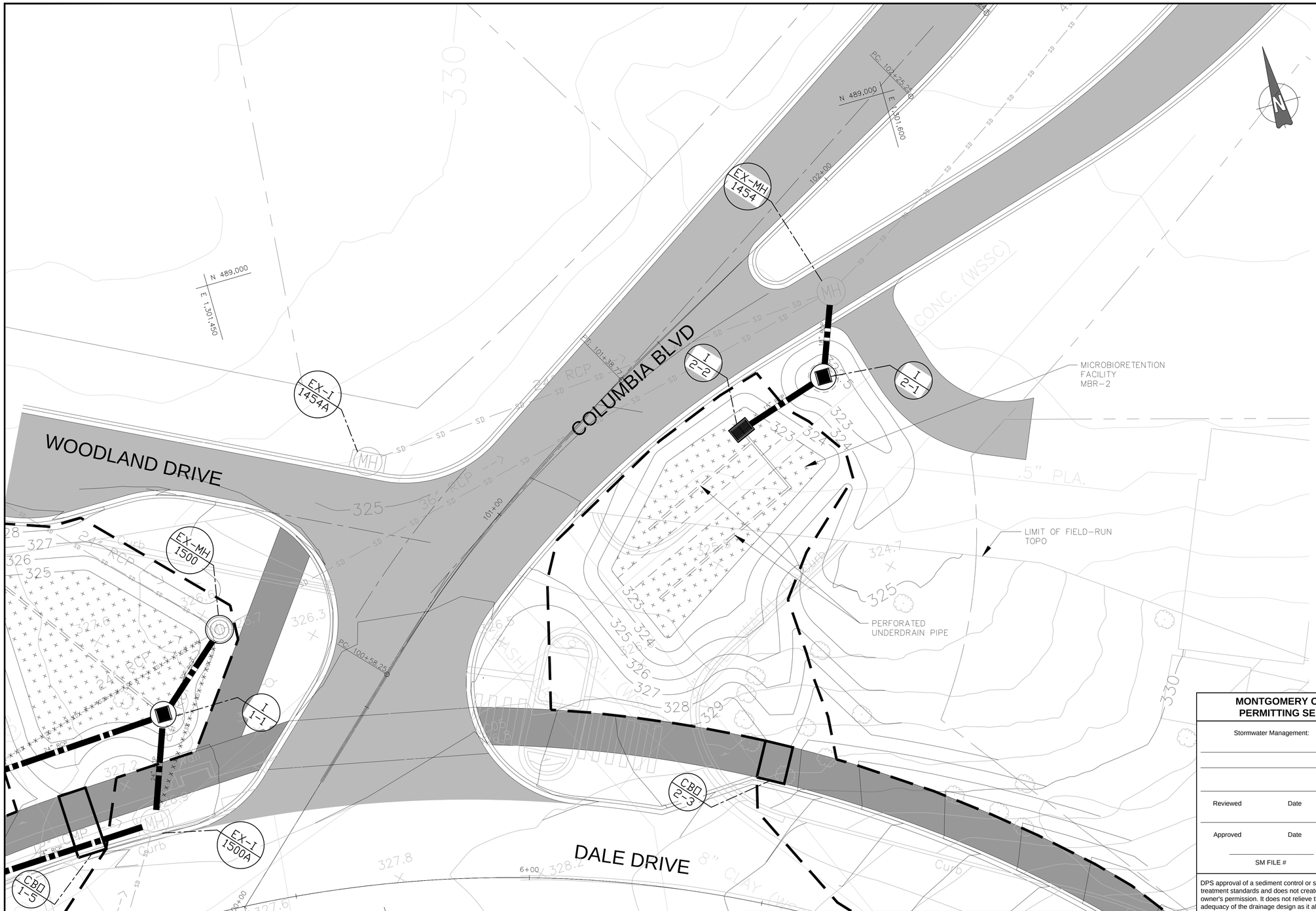
DALE DRIVE
PEDESTRIAN FACILITY

0 10' 20'
SCALE: 1"=10'

DATE: FEBRUARY 2020

Project No. : 509337 SHEET 28 of 91

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pSW-P001_3D_DaleDr.dwg LAYOUT NAME: SWM1 PLOTTED: Tuesday, January 21, 2020 – 10:40am USER: kevin




## LEGEND

FACILITY DRAINAGE AREA

BIOSWALE BOTTOM AREA/ AGGREGATE STORAGE AREA

GENERAL NOTES:

1. REFER TO SHEET SWM-3 FOR COMPLETE DRAINAGE AREA TO MBR-2.

**MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:**

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MDCPS ACCESS PERMIT.

Stormwater Management:

Reviewed Date

Approved Date

SM FILE #

Sediment Control Technical Requirements:

Reviewed Date

Approved Date

Administrative Requirements:

Reviewed Date

SEDIMENT CONTROL PERMIT NO.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

**35% DESIGN NOT FOR CONSTRUCTION**

RJM ENGINEERING

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: JBR Drawn by: JBR Checked by: KJS

STORMWATER MANAGEMENT
SWM-2 PLAN SHEET (MBR-2)

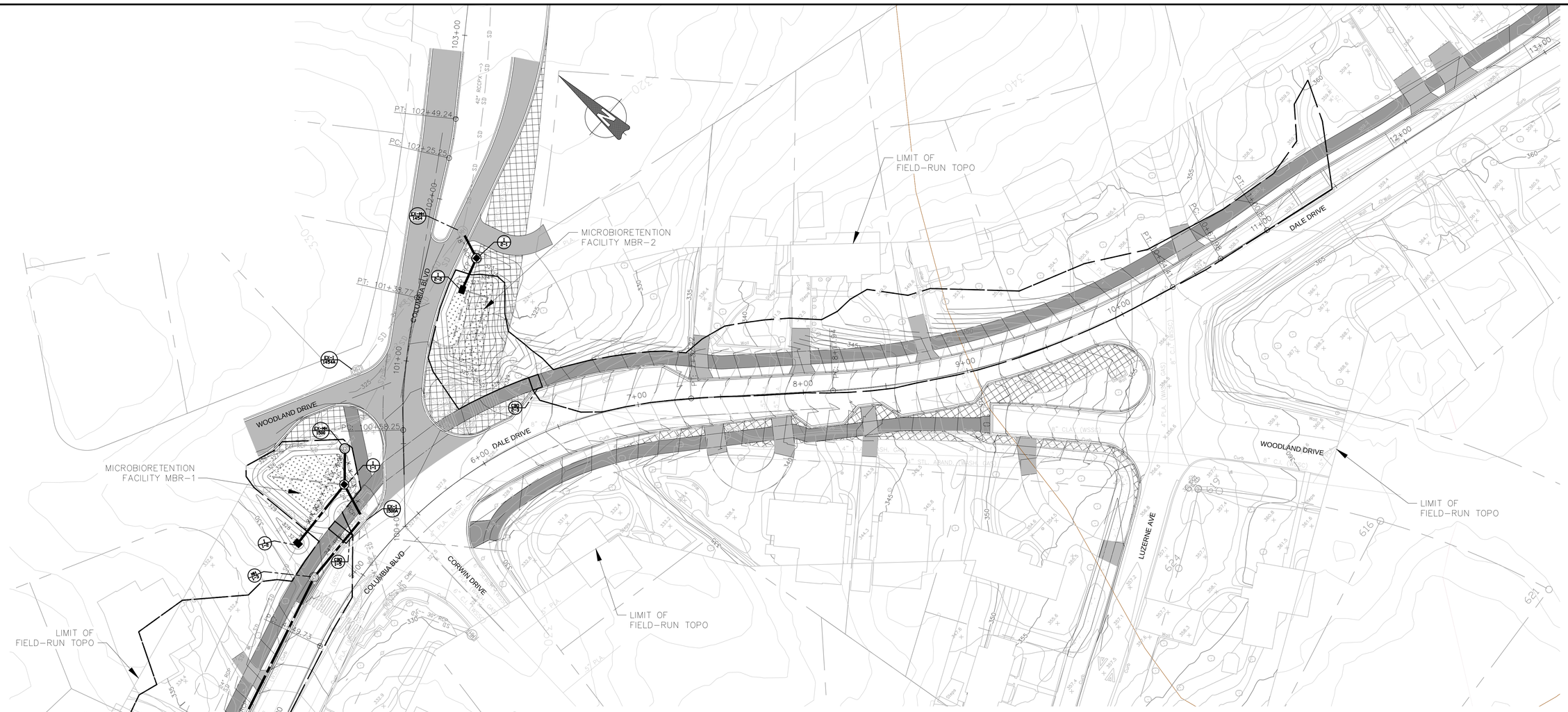
DALE DRIVE
PEDESTRIAN FACILITY

0 10' 20'
SCALE: 1"=10'

DATE: FEBRUARY 2020

Project No. : 509337 SHEET 29 of 91

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pSW-P001_3D_DaleDr.dwg LAYOUT NAME: SWM2 PLOTTED: Tuesday, January 21, 2020 - 10:40am USER: kevin




## MBR-1 AND MBR-2
## SWM FACILITY DRAINAGE AREAS

### LEGEND

FACILITY DRAINAGE AREA

BIOSWALE BOTTOM AREA/
AGGREGATE STORAGE AREA

**MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:**

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MDCPS ACCESS PERMIT.

| Stormwater Management: | Sediment Control Technical Requirements: | Administrative Requirements: |
|---|---|---|
| Reviewed Date | Reviewed Date | Reviewed Date |
| Approved Date | Approved Date | SEDIMENT CONTROL PERMIT NO. |
| SM FILE # | | MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED. |

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

**35% DESIGN**
**NOT FOR CONSTRUCTION**

RJM ENGINEERING

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: JBR Drawn by: JBR Checked by: KJS

STORMWATER MANAGEMENT
SWM-3 SWM FACILITY DRAINAGE AREAS

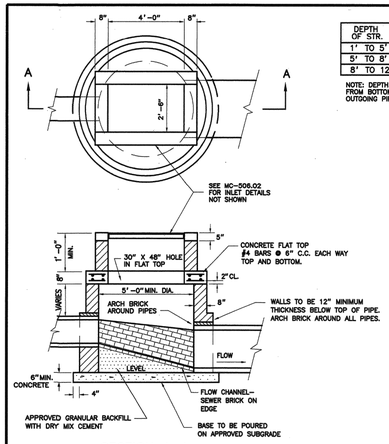
DALE DRIVE
PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

Project No.: 509337 SHEET 30 of 91

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pSW-P001_3D_DaleDr.dwg LAYOUT NAME: SWM DA Map PLOTTED: Tuesday, January 21, 2020 - 10:40am USER: kevin




| DEPTH OF STR. | WALL THICKNESS | BASE THICKNESS |
|---|---|---|
| 1' TO 5' | 8" | 6" |
| 5' TO 8' | 12" | 6" |
| 8' TO 12' | 16" | 8" |

NOTE: DEPTH OF STRUCTURE TO BE MEASURED FROM BOTTOM OF FLAT TOP TO INVERT OF OUTGOING PIPE.

| OUTGOING PIPE SIZE | STRUCTURE DIAMETER |
|---|---|
| 15" -36" | 60" |
| 42" -48" | 72" |
| 54" -60" | 84" |
| 72" | 96" |

SECTION A-A

## GENERAL NOTES

1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION FOR MATERIALS AND METHODS OF CONSTRUCTION.
2. USE SOLID MASONRY (BRICK OR CONCRETE BLOCK) OR POURED CONCRETE FOR WALLS. USE OF M.C.D.O.T. APPROVED PRECAST CONCRETE STRUCTURES MAY BE USED IN PLACE OF BRICK MASONRY.
3. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270 TYPE M.
4. PROVIDE STEPS IN CHANNELS OF STRUCTURES. REFER TO MC-520.01 FOR DETAILS.
5. f'c = 3,500 P.S.I. AT 28 DAYS.
6. TWO 4"# WEEP HOLES TO BE PLACED OPPOSITE EACH OTHER AT CROWN OF CHANNEL. COVER OPENING WITH 1/2" HARDWARE CLOTH.
7. INSTALL FOUNDATION DRAINAGE MATERIAL 1' MINIMUM THICKNESS AROUND STRUCTURE FROM BOTTOM OF WEEP HOLES TO WITHIN 8" OF FINISHED GRADE.
8. PARGE OUTSIDE WALLS.

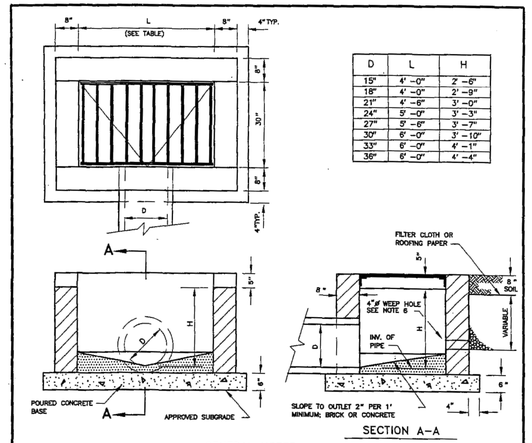
APPROVED JAN 5 1996 DATE
DIRECTOR, DEPT. OF TRANS.
CHIEF, DIV. OF ENG. SERVICES

REVISED

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

"J" INLET

STANDARD NO. MC-506.01




| D | L | H |
|---|---|---|
| 15" | 4'-0" | 2'-6" |
| 18" | 4'-0" | 2'-9" |
| 21" | 4'-6" | 3'-0" |
| 24" | 5'-0" | 3'-3" |
| 27" | 5'-0" | 3'-7" |
| 30" | 6'-0" | 3'-10" |
| 33" | 6'-0" | 4'-1" |
| 36" | 6'-0" | 4'-4" |

SECTION A-A

## GENERAL NOTES

1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION.
2. PROVIDE GRATE PER M.S.H.A. STD. NO. MD-377.02 MODIFIED WITH BARS 3" O.C.; TACK WELD IN PLACE.
3. CONSTRUCTION TO BE OF CONCRETE OR BRICK MASONRY.
4. STEEL VERTICAL 1/2" ø BARS, 6" C.C., HORIZONTAL 1/2" ø BARS, 8" C.C.; BOTTOM 1/2" ø BARS 6" C.C. EACH WALL. 2" MIN. COVER. (WITH CONCRETE CONSTRUCTION)
5. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270 TYPE M.
6. WEEP HOLES TO BE PLACED IN WALL OPPOSITE OUTLET PIPE 5" ABOVE PIPE INVERT. COVER OPENING WITH 1/2" HARDWARE CLOTH. INSTALL FOUNDATION DRAINAGE MATERIAL AROUND STRUCTURE FROM BOTTOM OF WEEP HOLES TO WITHIN 8" OF SURFACE FOR A THICKNESS OF 12" MINIMUM.
7. BRICK SHALL CONFORM TO AASHTO DESIGNATION M-114 GRADE SW.
8. f'c = 3500 PSI AT 28 DAYS.
9. PARGE OUTSIDE WALLS.

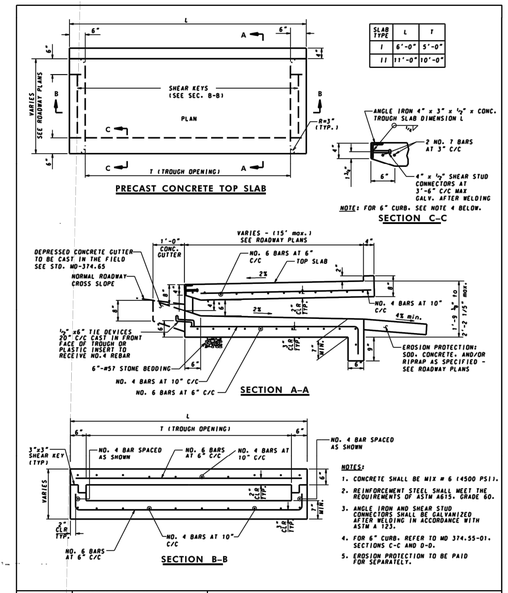
APPROVED JAN 5 1996 DATE
DIRECTOR, DEPT. OF TRANS.
CHIEF, DIV. OF ENG. SERVICES

REVISED

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

"J" INLET AS A TERMINUS

STANDARD NO. MC-506.02




| SLAB TYPE | L | T |
|---|---|---|
| I | 6'-0" | 5'-0" |
| II | 11'-0" | 10'-0" |

PRECAST CONCRETE TOP SLAB

SECTION C-C

SECTION A-A

SECTION B-B

NOTES:
1. CONCRETE SHALL BE MIX # 6 (4500 PSI).
2. REINFORCEMENT STEEL SHALL MEET THE REQUIREMENTS OF ASTM A615, GRADE 60.
3. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123.
4. FOR 6" CURB, REFER TO MD 374.55-01, SECTIONS C-C AND D-D.
5. EROSION PROTECTION TO BE PAID FOR SEPARATELY.

SPECIFICATION 305 | CATEGORY CODE ITEMS

APPROVED — DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT

| APPROVAL • SHA REVISIONS | | APPROVAL • FEDERAL HIGHWAY ADMINISTRATION | |
|---|---|---|---|
| APPROVAL | 12-19-01 | APPROVAL | 7-15-03 |
| REVISED | 1-9-08 | REVISED | 11-26-07 |
| REVISED | | REVISED | |
| REVISED | | REVISED | |

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

PRECAST OR CAST-IN-PLACE COG /COS OPENING FOR 8" CURB 5' OR 10' ONLY

STANDARD NO. MD 374.68

**MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:**

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MDCPS ACCESS PERMIT.

Stormwater Management:
Reviewed Date
Approved Date
SM FILE #

Sediment Control Technical Requirements:
Reviewed Date
Approved Date

Administrative Requirements:
Reviewed Date
SEDIMENT CONTROL PERMIT NO.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

**35% DESIGN NOT FOR CONSTRUCTION**

RJM ENGINEERING

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: JBR Drawn by: JBR Checked by: KJS

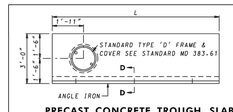
DT-01 STANDARD DETAILS

# DALE DRIVE PEDESTRIAN FACILITY

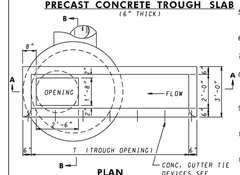
SCALE: NOT TO SCALE DATE: FEBRUARY 2020

Project No. : 509337 SHEET 31 of 91

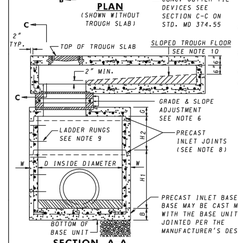
FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pDT-P001_DaleDr.dwg LAYOUT NAME: DT-01 PLOTTED: Tuesday, January 21, 2020 - 10:42am USER: kevin




**PRECAST CONCRETE TROUGH SLAB**
(6" THICK)




**PLAN**
(SHOWN WITHOUT TROUGH SLAB)

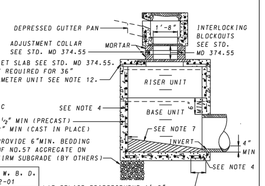



**SECTION A-A**
(SHOWN PRECAST)

| INLET TYPE | T | L |
|---|---|---|
| CGC-5 | 5'-0" | 6'-0" |
| CGC-10 | 10'-0" | 11'-0" |
| CGC-15 | 15'-0" | 16'-0" |
| CGC-20 | 20'-0" | 21'-0" |

FOR SECTIONS C-C AND D-D SEE STD MD 374.55

FOR DIMENSIONS $H_1$, $H_2$, W, B, D, AND G SEE STD MD 374.62-01




**SECTION B-B**
(SHOWN PRECAST)

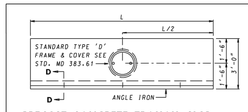
## NOTES

1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENINGS SHALL NOT ENCROACH ON CROSSWALK AREAS.
3. CONCRETE SHALL BE MIX. NO.6(4500 PSI) FOR PRECAST UNITS AND CONCRETE MIX NO.3(3500 PSI) FOR CAST IN PLACE UNITS.
4. INLET MAY BE PRECAST OR CAST IN PLACE. REINFORCEMENT SHALL BE EITHER WELDED WIRE FABRIC (PRECAST) OR REINFORCING BARS (CAST IN PLACE)AND SHALL CONFORM TO THE AREAS GIVEN UNDER IN THE CHART ON STD MD 374.62-01. WALL REINFORCEMENT SHALL BE CENTERED AT THE MIDDLE OF THE WALL. BASE REINFORCEMENT SHALL HAVE 1½" COVER (PRECAST) AND 2" COVER (CAST IN PLACE) FROM THE TOP OF THE BASE.
5. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. MD 374.55 & 374.64.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN./FT. TOWARD OUTLET SHALL BE PROVIDED IN THE FIELD.
8. PRECAST INLET JOINTS-THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURERS RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C. RUNGS SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR MD 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. SLOPED TROUGH FLOOR TO BE CONSTRUCTED IN THE FIELD USING BRICK OR CONCRETE AND USED ONLY WHEN ROAD GRADE IS 1.5% OR LESS.WHEN SLOPED TROUGH FLOOR IS USED. ROUGHEN PRECAST TROUGH FLOOR.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 6'-2" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6'-2" INCLUDING ALL APPURTENANCES.
12. INLET SLAB NOT REQUIRED FOR 36" DIAMETER INLET. TROUGH SITS DIRECTLY ON TOP OF THE CIRCULAR UNIT. MORTAR AREA BETWEEN THE OUTSIDE WALLS OF THE TROUGH AND THE UNIT WALL.
13. SEE STD. MD 374.64 FOR ALTERNATE PRECAST COG TROUGHS AND STD. MD 374.65 FOR DEPRESSED GUTTER PAN DETAILS.
14. BASE UNIT WALLS MAY TAPER PER MANUFACTURER'S DESIGN.
15. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR HS-25 LOADING. ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

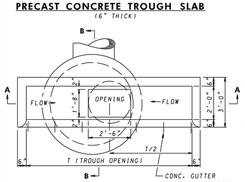
| SPECIFICATION 305 | CATEGORY CODE ITEMS | |
|---|---|---|
| APPROVED | DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT | |
| SHA State Highway Administration | APPROVAL • SHA | APPROVAL • FEDERAL HIGHWAY ADMINISTRATION |
| REVISIONS | | |
| | APPROVAL 3-22-91 | APPROVAL 1-2-91 |
| | REVISED 8-3-10 | REVISED 7-26-10 |
| | REVISED 10-7-14 | REVISED 9-29-14 |
| | REVISED – | REVISED |

**Maryland Department of Transportation**
**STATE HIGHWAY ADMINISTRATION**
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
**PRECAST OR CAST**
**IN PLACE CIRCULAR COG INLETS**
**5', 10', 15', & 20'**

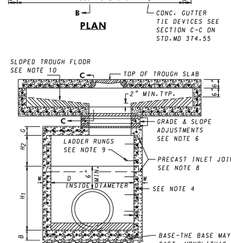
**STANDARD NO. MD 374.62**




**PRECAST CONCRETE TROUGH SLAB**
(6" THICK)




**PLAN**

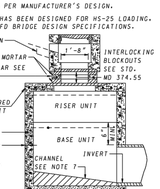



**SECTION A-A**
(SHOWN PRECAST)

| INLET TYPE | T | L |
|---|---|---|
| COS-5 | 5'-0" | 6'-0" |
| COS-10 | 10'-0" | 11'-0" |
| COS-15 | 15'-0" | 16'-0" |
| COS-20 | 20'-0" | 21'-0" |

FOR SECTION C-C AND D-D SEE STD MD 374.55

FOR DIMENSION $H_1$, $H_2$, W, B, AND G SEE STD MD 374.62-01




**SECTION B-B**
(SHOWN PRECAST)

## NOTES

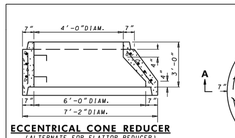
1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENING SHALL NOT ENCROACH ON CROSSWALK AREAS.
3. CONCRETE TO BE MIX NO.6 (4500 PSI) FOR PRECAST UNITS AND CONCRETE MIX NO.3 (3500 PSI) FOR STRUCTURES CAST IN PLACE.
4. INLET MAY BE PRECAST OR CAST IN PLACE. REINFORCEMENT SHALL BE EITHER WELDED WIRE FABRIC (PRECAST) OR REINFORCING BARS (CAST IN PLACE) AND SHALL CONFORM TO THE AREAS AND SPACING GIVEN IN THE TABLE ON STD MD 374.62-01. WALL REINFORCEMENT SHALL BE CENTERED AT THE MIDDLE OF THE WALL. BASE REINFORCEMENT SHALL HAVE 1½" COVER (PRECAST) AND 2" COVER (CAST IN PLACE) FROM THE TOP OF THE BASE.
5. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. MD 374.55 & 374.64.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN./FT. TOWARD OUTLET SHALL BE PROVIDED IN THE FIELD.
8. PRECAST INLET JOINTS- THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURERS RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C RUNG TYPE SHALL BE IN ACCORDANCE WITH STDS. MD 383.91 OR MD 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. SLOPED TROUGH FLOOR TO BE CONSTRUCTED IN THE FIELD USING BRICK OR CONCRETE AND USED ONLY WHEN ROAD GRADE IS 1.5% OR LESS. WHEN SLOPED TROUGH FLOOR IS USED. ROUGHEN PRECAST TROUGH FLOOR.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 6'-2" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6'-2" INCLUDING ALL APPURTENANCES.
12. INLET SLAB NOT REQUIRED FOR 36" DIAMETER INLET. TROUGH SITS DIRECTLY ON THE TOP OF THE CIRCULAR UNIT. MORTAR AREA BETWEEN THE OUTSIDE WALLS OF THE TROUGH AND THE UNIT WALL.
13. SEE STD. MD 374.64 FOR ALTERNATE PRECAST COG TROUGHS AND STD. MD 374.65 FOR DEPRESSED GUTTER PAN DETAILS.
14. BASE UNIT WALLS TAPER PER MANUFACTURER'S DESIGN.
15. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR HS-25 LOADING. ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

| SPECIFICATION 305 | CATEGORY CODE ITEMS | |
|---|---|---|
| APPROVED | DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT | |
| SHA State Highway Administration | APPROVAL • SHA | APPROVAL • FEDERAL HIGHWAY ADMINISTRATION |
| REVISIONS | | |
| | APPROVAL 10-7-14 | APPROVAL 9-29-14 |
| | REVISED | REVISED |
| | REVISED | REVISED |
| | REVISED | REVISED |

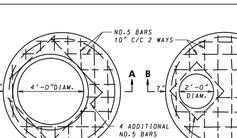
**Maryland Department of Transportation**
**STATE HIGHWAY ADMINISTRATION**
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
**PRECAST OR CAST**
**IN PLACE CIRCULAR COG/COS INLETS**
**5', 10', 15', & 20'**

**STANDARD NO. MD 374.62-01**

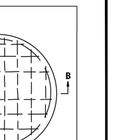
| CIRCULAR BASE AND RISER UNIT DIMENSIONS | | | | | | | | | | INLET SLAB | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PIPE SIZE MIN.TO MAX. | $H_1$ BASE | $H_2$ RISER | W | WALL AREA STEEL IN²/FT | MAX. SPACING IN. | B | BASE AREA STEEL IN²/FT | MAX. SPACING IN. | D | C | Min. Distance, ft. Top of Curb-Pipe Invert |
| 12" | 2' 10 4' | 1' TO 4' | 4" | .09 | 12" | 6.5" | .15 | 6" | 36" | NOT REQ. | 3.84 |
| 15" TO 24" | 3' 10 5' | 1' TO 5' | 5" | .12 | 12" | 6.5" | .18 | 6" | 48" | 8" | 4.11-4.92 |
| 27" TO 33" | 3' 10 6' | 1' TO 6' | 6" | .15 | 12" | 6.5" | .27 | 6" | 60" | 8" | 5.19-5.73 |
| 36" | 5' 10 6' | 1' TO 6' | 6" | .15 | 12" | 6.5" | .27 | 6" | 60" | 8" | 6.00 |
| 42" | 5' 10 7' | 1' TO 7' | 7" | .18 | 11" | 7.5" | .30 | 6" | 72" | 8" | 6.55 |
| 48" | 6' 10 7' | 1' TO 7' | 7" | .18 | 11" | 7.5" | .30 | 6" | 72" | 8" | 7.09 |
| 54" | 6' 10 8' | 1' TO 8' | 8" | .21 | 8" | 9.5" | .36 | 6" | 84" | 8" | 7.63 |
| 60" | 7' 10 8' | 1' TO 8' | 8" | .21 | 8" | 9.5" | .36 | 6" | 84" | 8" | 8.17 |
| 66" TO 72" | 8' 10 9' | 1' TO 8' | 9" | .24 | 7" | 9.5" | .40 | 6" | 96" | 8" | 8.71-9.25 |
| 78" TO 84" | 9' TO 10' | 1' TO 8' | 10" | .27 | 4" | 12.5" | .40 | 6" | 120" | 8" | 9.80-10.34 |



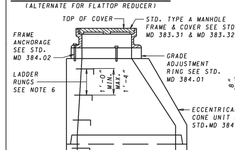

**ECCENTRICAL CONE REDUCER**
(ALTERNATE FOR FLATTOP REDUCER)



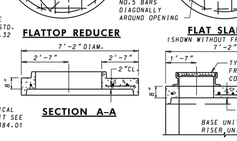

**FLATTOP REDUCER**




**FLAT SLAB TOP**
(SHOWN WITHOUT FRAME & COVER)




**SECTION VIEW**




**SECTION A-A**

**SECTION B-B**

## NOTES

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500PSI.
3. WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.18 IN.²/FT. AND MAXIMUM SPACING OF 6" FOR THE 12" DIAMETER MANHOLES. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 52. REINFORCEMENT SHALL MEET ASTM A 615 OR ASTM A 706, GRADE 60.
4. BASE REINFORCEMENT SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.27 IN. /FT. AND A MAXIMUM SPACING OF 4" WITH 2" COVERED FRO THE TOP OF BASE. THE BASE SHALL BE CAST MONOLITHIC WITH THE BASE UNIT OR JOINTED PER MANUFACTURER'S DESIGN.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTAR, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198, TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR 383.92. LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN THE MULTIPLE OPENINGS IN THE BASE UNIT OR IN ANY RISER UNIT IS LESS THAN 6" ADDITIONAL NO.3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO.2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. MD 384.13 FOR DETAILS.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 9'-0" MEASURED FROM THE BOTTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING, NO.57 AGGREGATE, GROUT, SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.
12. MANHOLE WAS BEEN DESIGNED FOR HS-25 LOADING. ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

| SPECIFICATION 305 | CATEGORY CODE ITEMS | |
|---|---|---|
| APPROVED | DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT | |
| SHA State Highway Administration | APPROVAL • SHA | APPROVAL • FEDERAL HIGHWAY ADMINISTRATION |
| REVISIONS | | |
| | APPROVAL 2-22-91 | APPROVAL 1-2-91 |
| | REVISED 4-12-16 | REVISED 3-4-16 |
| | REVISED | REVISED |
| | REVISED | REVISED |

**Maryland Department of Transportation**
**STATE HIGHWAY ADMINISTRATION**
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
**72" DIAMETER PRECAST MANHOLE**
**FOR 42" & 48" PIPES**

**STANDARD NO. MD 384.05**

**MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:**

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MDCPS ACCESS PERMIT.

Stormwater Management:
Reviewed Date
Approved Date
SM FILE #

Sediment Control Technical Requirements:
Reviewed Date
Approved Date

Administrative Requirements:
Reviewed Date
SEDIMENT CONTROL PERMIT NO.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

**35% DESIGN**
**NOT FOR CONSTRUCTION**

RJM ENGINEERING

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: JBR Drawn by: JBR Checked by: KJS

DT-02 STANDARD DETAILS

# DALE DRIVE PEDESTRIAN FACILITY

SCALE: NOT TO SCALE DATE: FEBRUARY 2020

Project No. : 509337 SHEET 32 of 91

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pDT-P001_DaleDr.dwg LAYOUT NAME: DT-02 PLOTTED: Tuesday, January 21, 2020 – 10:42am USER: kevin

## CRITERIA

THE CONTRACTOR SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS OF THIS CONTRACT:

DESIGN

MDOT SHA – "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2011 EDITION AND SUBSEQUENT REVISIONS. (MdMUTCD)

A A S H T O – "HIGHWAY SAFETY DESIGN AND OPERATIONS GUIDE" –1997

A A S H T O – "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS", 2001 EDITION (CATEGORY II FOR ALL OVERHEAD AND CANTILEVER SIGN STRUCTURES).

MATERIALS AND CONSTRUCTION

MDOT SHA – "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", 2017 EDITION AND SUBSEQUENT SUPPLEMENTS.

## DESIGN WIND

100 MPH – WOOD SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH – GROUND MOUNT SIGN STEEL SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH – OVERHEAD AND CANTILEVER STRUCTURES
50 YEAR RECURRENCE INTERVAL

} ALL DISTRICTS

## DESIGN STRESS

SOIL BEARING PRESSURE – S = 3,000 P.S.F. (ASSUMED)
SEE MATERIAL & CONSTRUCTION ABOVE AND SPECIAL PROVISIONS FOR DESIGN STRESSES FOR STRUCTURAL STEEL, ALUMINUM, REINFORCING STEEL AND CONCRETE.

## CHAMFER

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" X 3/4" CHAMFER.

## CLASSIFICATION OF SIGNS

SIGNS ARE DIVIDED INTO TWO (2) GENERAL CATEGORIES.

1. GUIDE SIGNS
   - A) STRUCTURAL TYPES
     - OH – OVERHEAD
     - C – CANTILEVER
     - GM – GROUND MOUNT, BREAKAWAY OR NON–BREAKWAY
     - BM – BRIDGE MOUNTED
   - B) PANELS
     - MATERIAL – EXTRUDED ALUMINUM
     - COPY – DIRECT APPLIED
     - 1) HIGH INTENSITY (NEW SIGNS AND REVISIONS TO EXISTING SIGNS)
2. STANDARD SIGNS (REGULATORY, WARNING, ETC.)
   - A) STRUCTURAL TYPES
     - WOOD SUPPORTS
     - SQUARE TUBE
   - B) PANELS
     - MATERIAL – SHEET ALUMINUM
     - COPY – DIRECT APPLIED

## IDENTIFICATION OF SIGNS AND PANELS

GUIDE SIGNS

EACH GUIDE SIGN IS IDENTIFIED BY A SIGN NUMBER ON THE PLANS AND IN THE TABULATIONS. (GM–1, GM–2, GM–3, etc)
SIGNS ON STRUCTURES ARE IDENTIFIED WITH A NUMBER AND WHERE VARIATIONS OCCUR, A LOWER CASE LETTER. (OH–1a, OH–1b, OH–1c)

STANDARD SIGNS

STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS
- R – REGULATORY
- W – WARNING
- M – ROUTE MARKERS AND ACCESSORIES
- D – DESTINATION AND MILEAGE PANELS
- S – SCHOOL

PANELS SHALL BE DESIGNATED TO AGREE WITH MARYLAND STANDARD SIGN BOOK.
EACH STANDARD SIGN IS IDENTIFIED FIRST BY THE SHEET NUMBER, THEN BY THE NUMERICAL ORDER OF THE SIGN AS IT APPEARS ON THE PLAN.
FOR EXAMPLE SHEET SN 2.1–101,102,103, ETC. SHEET SN 2.2–201,202,203,ETC.

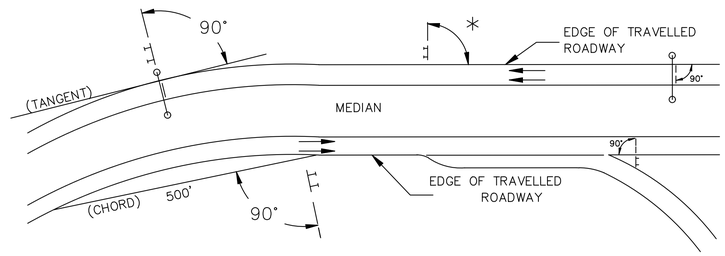
## PANEL LAYOUT AND ALPHABETS

1. GUIDE SIGN PANEL LAYOUTS ARE BASED ON THE A.A.S.H.T.O. MANUALS NOTED ABOVE.
2. STANDARD SIGN PANEL LAYOUTS ARE BASED ON THE MdMUTCD WITH SPECIFICATIONS DETAILED IN THE MARYLAND STATE HIGHWAY ADMINISTRATION PUBLICATION, "STANDARD SIGN BOOK", AVAILABLE ONLINE @ https: /www.marylandroads.com/businesswithsha/bizStdsSpecs/desManualStdPub/publicationsonline/oots/internet_signbook.asp

## REFLECTORIZATION

BACKGROUNDS, BORDERS, TEXTS AND ALL OTHER ELEMENTS OF SIGN PANELS SHALL BE REFLECTORIZED EXCEPT WHERE NOTED. REFER TO PROJECT REQUIREMENTS FOR MORE DETAIL.

## ORIENTATION OF SIGN FACES




* UNDER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN – 93^ AWAY FROM THE ROAD TO AVOID SPECULAR REFLECTION AS INDICATED IN 813.03 OF THE MARYLAND STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

OVER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN – 90^

## SIGN LOCATIONS

1. GUIDE SIGNS ARE LOCATED ON THE PLANS BY DIMENSION TO SURVEY STATIONS, OR WHEN NECESSARY, TO IDENTIFIABLE PHYSICAL FEATURES.
2. ALL CHANGES IN THE LOCATIONS OF SIGNS AS SHOWN ON THE PLAN SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

## EXISTING UTILITIES

THE ENGINEER DOES NOT WARRANT OR GUARANTEE THE ACCURACY OR COMPLETENESS OF UTILITY INFORMATION SHOWN ON THE PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING FACILITIES WHICH MIGHT BE AFFECTED BY THIS WORK OR HIS OPERATION.

## ROADSIDE SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANEL SO FACE IS PLUMB.
2. HORIZONTAL ALIGNMENT (SEE DIAGRAM ABOVE)
   - A) ON STRAIGHT ROADWAY SECTIONS, ANGLE OF SIGN FACE TO ROADWAY VARIES WITH DISTANCE FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN – SEE DIAGRAM.
   - B) ON THE INSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 90^ WITH A CHORD BETWEEN A POINT ON NEAR EDGE OF PAVEMENT AT SIGN LOCATION AND A POINT ON EDGE OF PAVEMENT 500' IN ADVANCE OF SIGN.
   - C) ON THE OUTSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT THE SIGN LOCATION.
   - D) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.

## OVERHEAD SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANELS FOR ALL OVERHEAD STRUCTURES SO THAT PANEL FACE IS PLUMB.
2. OVERHEAD SIGN STRUCTURES SHALL NOT BE ERECTED WITHOUT ATTACHING LUMINAIRES, SUPPORTS, AND/OR SIGNS.
3. HORIZONTAL ALIGNMENT
   - A) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE NORMAL EDGE OF ROADWAY, IF ON A STRAIGHT ROADWAY SECTION.
   - B) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT SIGN LOCATION, IF ON A HORIZONTAL CURVE.
   - C) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.
4. VERTICAL CLEARANCE
   - A) OVERHEAD SIGNS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 17'–9" FROM ROADWAY TO THE BOTTOM OF LIGHT FIXTURES. ALL LIGHT FIXTURES ARE TO BE AT THE SAME ELEVATION.
   - B) IF THE CONTRACTOR CANNOT OBTAIN 17'–9" (SEE 3A) CLEARANCE, HE IS TO CEASE WORK AND CONTACT THE PROJECT ENGINEER FOR FURTHER INSTRUCTIONS. THE PROJECT ENGINEER MAY CONTACT THE TRAFFIC ENGINEERING DESIGN DIVISION FOR ASSISTANCE.
   - C) ON ALL OVERHEAD SIGNS, THE MINIMUM CLEARANCE TO BOTTOM OF SIGN: 20'–9".

## PROJECT REQUIREMENTS

ALL NEW SIGNS ON THIS PROJECT SHALL BE FABRICATED FROM SHEETING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER:

1. SHEETING SHALL MEET THE REQUIREMENTS OF SECTIONS 813 AND 950.03 OF MDSHA'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JULY 2008) AND SUBSEQUENT REVISIONS
2. LISTED ON MDSHA OFFICE OF TRAFFIC AND SAFETY'S QUALIFIED PRODUCTS LIST (QPL)

## PROJECT REQUIREMENTS CONT'D

3. THE FOLLOWING TYPES OF SHEETING SHALL BE USED FOR THE SPECIFIED SIGN CLASSIFICATIONS
   - A) GUIDE, EXIT GORE, AND GENERAL INFORMATION SIGNS– RETROREFLECTIVE SHEETING FOR GUIDE SIGNS, EXIT GORE, AND GENERAL INFORMATION (INCLUDES WHITE ON GREEN, WHITE ON BLUE, WHITE ON BROWN AND THE REVERSE OF THESE COLORS) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX LEGEND ON ASTM TYPE IX BACKGROUND. REGULATORY AND WARNING MESSAGES WITHIN GUIDE SIGNS SHALL BE NON–REFLECTIVE BLACK LEGEND ON BACKGROUND SHEETING WHICH MEETS OR EXCEEDS THE REQUIREMENTS FOR ASTM TYPE IX SHEETING.
   - B) WARNING SIGNS –RETROREFLECTIVE SHEETING FOR BLACK ON FLUORESCENT YELLOW WARNING SIGNS SHALL BE NON–REFLECTIVE BLACK LEGEND ON BACKGROUND SHEETING WHICH MEETS OR EXCEEDS THE REQUIREMENTS FOR ASTM TYPE IX SHEETING. REGULATORY MESSAGES WITHIN WARNING SIGNS SHALL FOLLOW THE GUIDELINES FOR REGULATORY SIGNS.
   - C) SCHOOL SIGNS –RETROREFLECTIVE SHEETING FOR SCHOOL SIGNS (BLACK ON FLUORESCENT YELLOW AND BLACK ON FLUORESCENT YELLOW GREEN) SHALL BE NON–REFLECTIVE BLACK LEGEND ON BACKGROUND SHEETING WHICH MEETS OR EXCEEDS THE REQUIREMENTS FOR ASTM TYPE IX SHEETING. REGULATORY MESSAGES WITHIN SCHOOL SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.
   - D) REGULATORY SIGNS –FALL INTO THREE SUBCATEGORIES:
     - i. "RED" REGULATORY SIGNS (STOP, YIELD, DO NOT ENTER AND WRONG WAY) RETROREFLECTIVE SHEETING FOR THESE SIGNS AND THEIR SUPPLEMENTAL PANELS (INCLUDES WHITE ON RED AND RED ON WHITE) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX SHEETING.
     - ii. ALL R7 AND R8 SERIES PARKING RELATED SIGNS AND THEIR SUPPLEMENTAL PANELS, NO TRESPASSING SIGNS, AND SIGNS DIRECTED AT PEDESTRIANS AND BICYCLISTS ONLY (INCLUDES RED ON WHITE, GREEN ON WHITE, BLUE ON WHITE, BLACK ON WHITE AND THE REVERSE OF THESE COLORS) SHALL BE ASTM TYPE I LEGEND ON ASTM TYPE I BACKGROUND.
     - iii. ALL OTHER REGULATORY SIGNS – RETROREFLECTIVE SHEETING FOR THESE SIGNS AND THEIR SUPPLEMENTAL PANELS (INCLUDES BLACK ON WHITE) SHALL BE NON–REFLECTIVE BLACK LEGEND ON ASTM TYPE IV BACKGROUND. WHERE RED IS SPECIFIED, OR WHERE THE COLOR OF THE SIGN IS WHITE ON BLACK, THE LEGEND SHALL BE ASTM TYPE IV RETROREFLECTIVE SHEETING ON NON–REFLECTIVE BLACK BACKGROUND. WARNING MESSAGES WITHIN REGULATORY SIGNS SHALL FOLLOW THE GUIDELINES FOR WARNING SIGNS.
   - E) ROUTE MARKERS –RETROREFLECTIVE SHEETING FOR ROUTE MARKERS (INCLUDES BLACK ON WHITE , GREEN ON WHITE, WHITE ON GREEN, WHITE ON RED/BLUE) SHALL MEET THE REQUIREMENTS OF GUIDE SIGNS ABOVE WHEN SPECIFIED AS THE LEGEND OF A GUIDE SIGN. RETROREFLECTIVE SHEETING FOR ALL INDEPENDENT ROUTE MARKERS AND THEIR AUXILIARY PANELS SHALL BE ASTM TYPE IV AND/OR NON–REFLECTIVE BLACK LEGEND ON ASTM TYPE IV BACKGROUND.
   - F) LOGOS AND/OR GRAPHICS –WITHIN SIGNS SHALL FOLLOW THE GUIDELINES FOR THE RESPECTIVE SIGN CLASSIFICATION UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.
   - G) CIVIL DEFENSE SIGNS AND OTHER SIGNS –NOT SPECIFICALLY FALLING INTO ONE OF THE CATEGORIES ABOVE, SHALL FOLLOW THE GUIDELINES FOR THE SIGN CLASSIFICATION THAT MOST CLOSELY MATCHES THE COLOR(S) OF THE PROPOSED SIGN.
4. THE FOLLOWING MINIMUM THICKNESS SHALL BE USED FOR THE APPROPRIATE WIDTH OF SHEET ALUMINUM BLANKS.

| LONGEST DIMENSION | MINIMUM THICKNESS |
|---|---|
| UP TO 12" | 0.040" |
| GREATER THAN 12" TO 24" | 0.063" |
| GREATER THAN 24" TO 36" | 0.080" |
| GREATER THAN 36" TO 48" | 0.100" |
| OVER 48" | 0.125" |

35% DESIGN
NOT FOR CONSTRUCTION

JMT

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

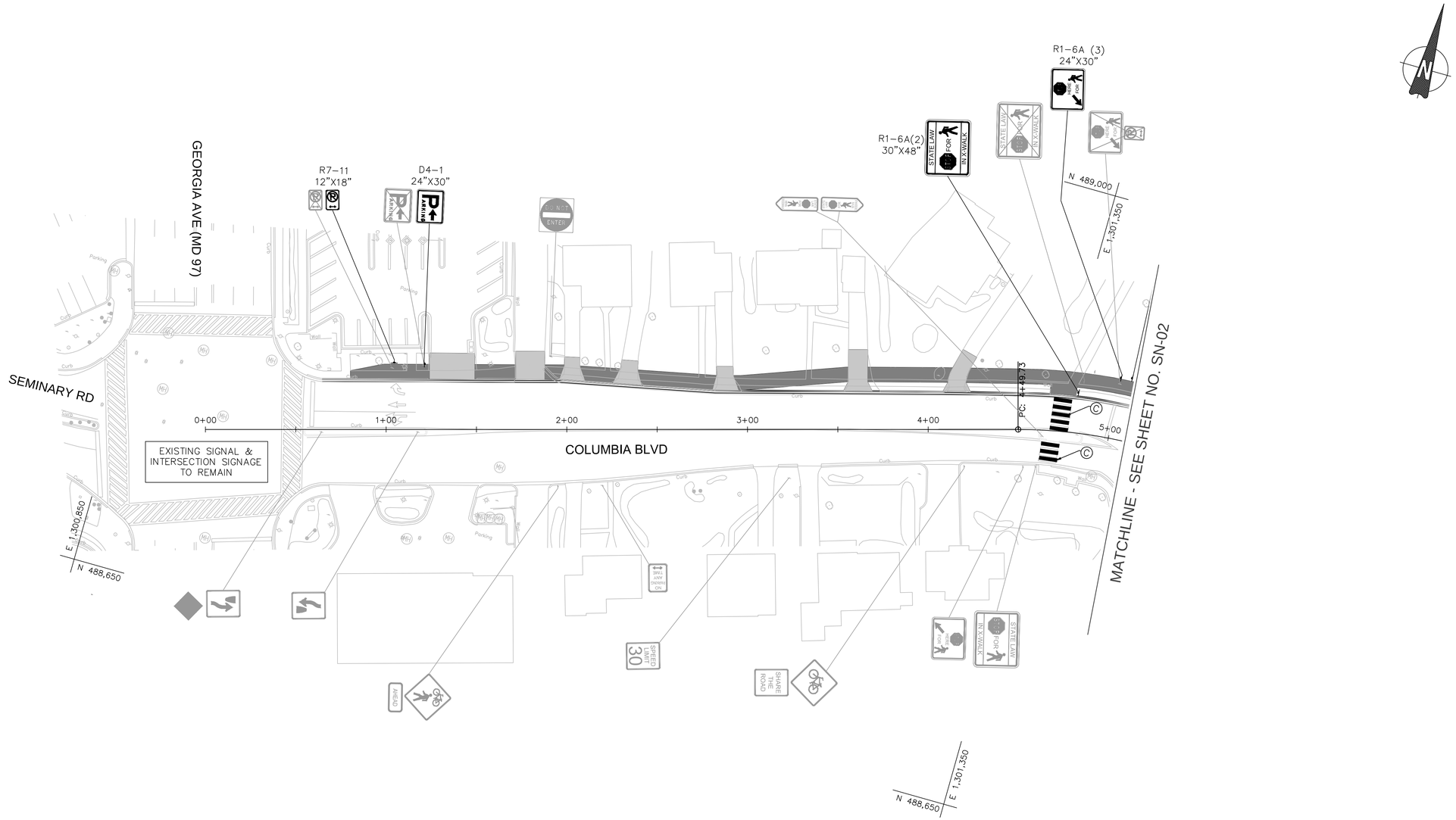
RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: GIF Checked by: MDS

SN–00 SIGNING NOTES & DETAILS
DALE DRIVE
PEDESTRIAN FACILITY

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 42 of 91




## SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

## PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: GIF Checked by: MDS

SN-01 SIGNING & MARKING PLAN

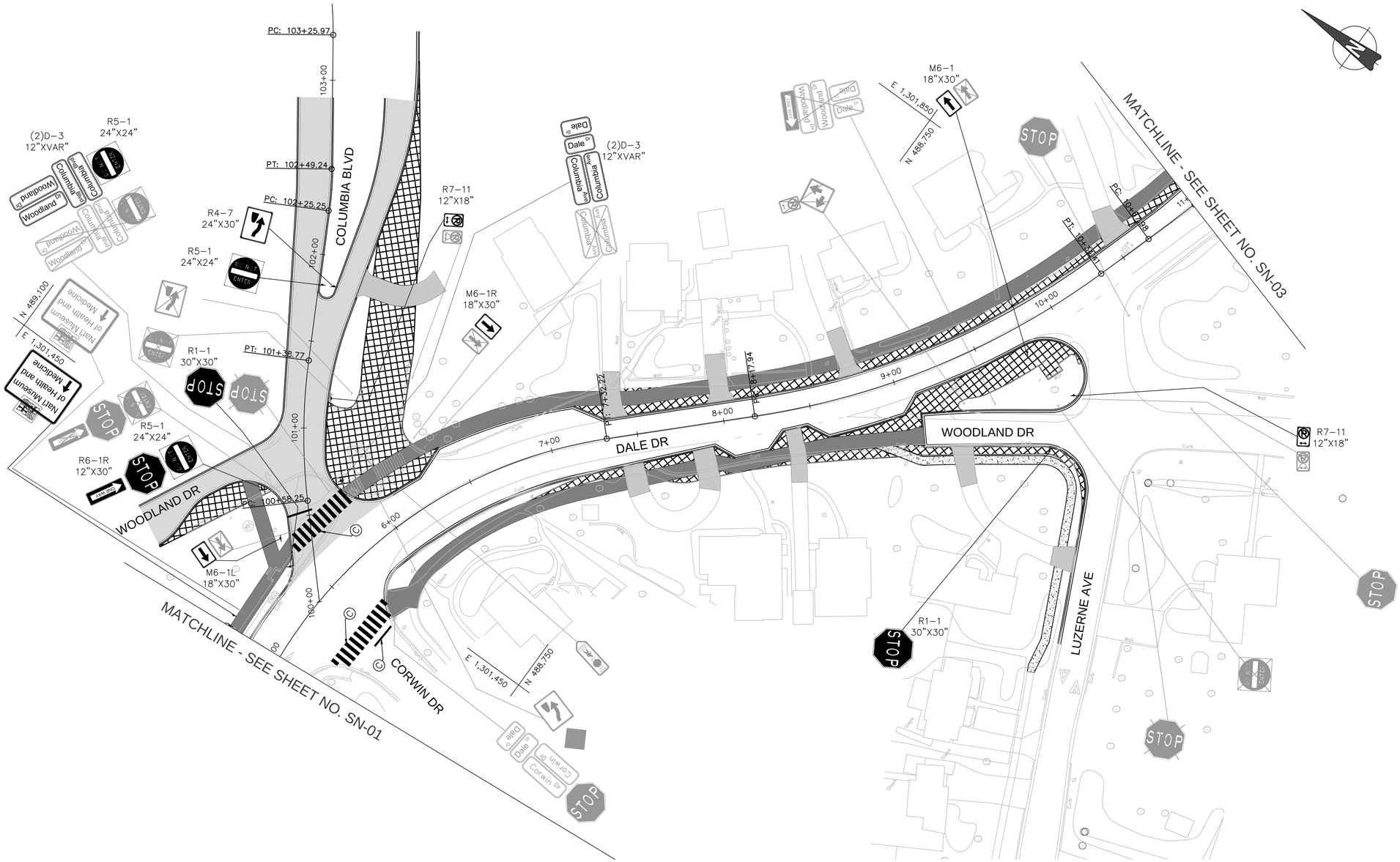
DALE DRIVE
PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No.: 509337 SHEET 43 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pSN_Dale.dwg LAYOUT NAME: SN-01 PLOTTED: Monday, February 10, 2020 - 2:09pm USER: MStraughan




## SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

## PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: GIF Checked by: MDS

# SN-02 SIGNING & MARKING PLAN

## DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'

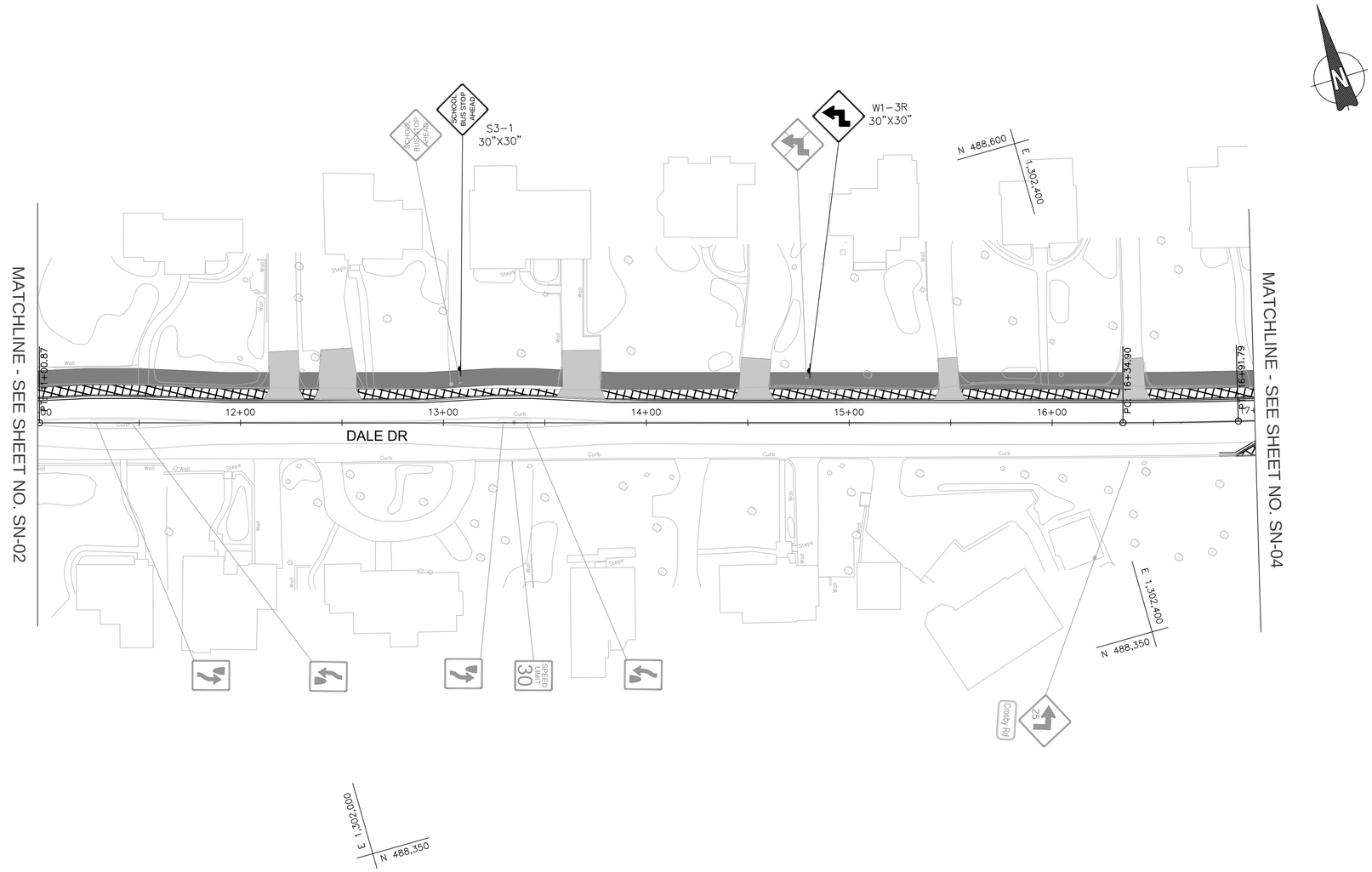
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No.: 509337

SHEET 44 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pSN_Dale.dwg LAYOUT NAME: SN-02 PLOTTED: Monday, February 10, 2020 - 2:06pm USER: MStraughan




## SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

## PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: GIF Checked by: MDS

# SN-03 SIGNING & MARKING PLAN

## DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'

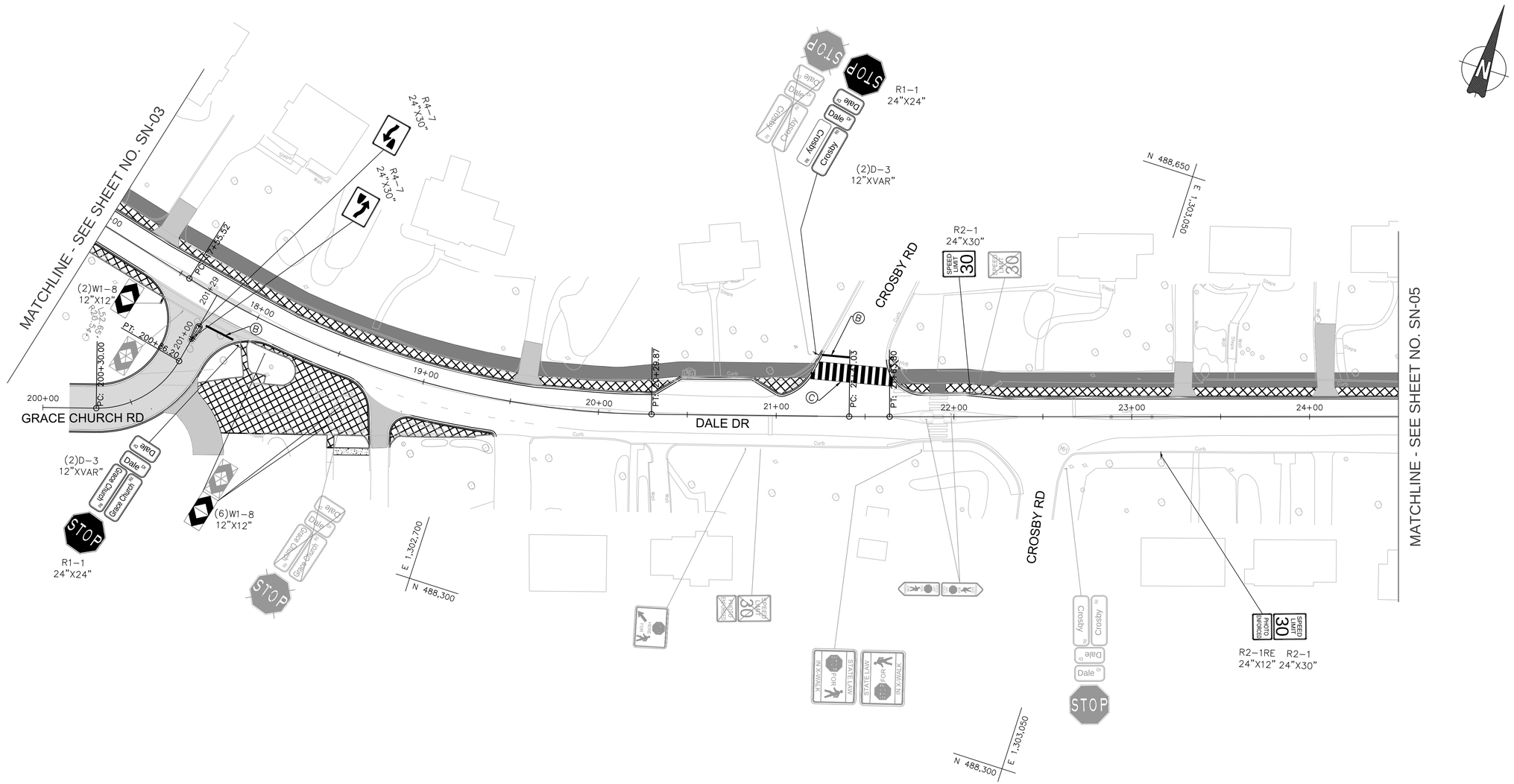
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 45 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestrie\CADD\pSN_Dale.dwg LAYOUT NAME: SN-03 PLOTTED: Monday, February 10, 2020 - 2:06pm USER: MStraughan




## SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

## PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: GIF Checked by: MDS

# SN-04 SIGNING & MARKING PLAN

## DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'

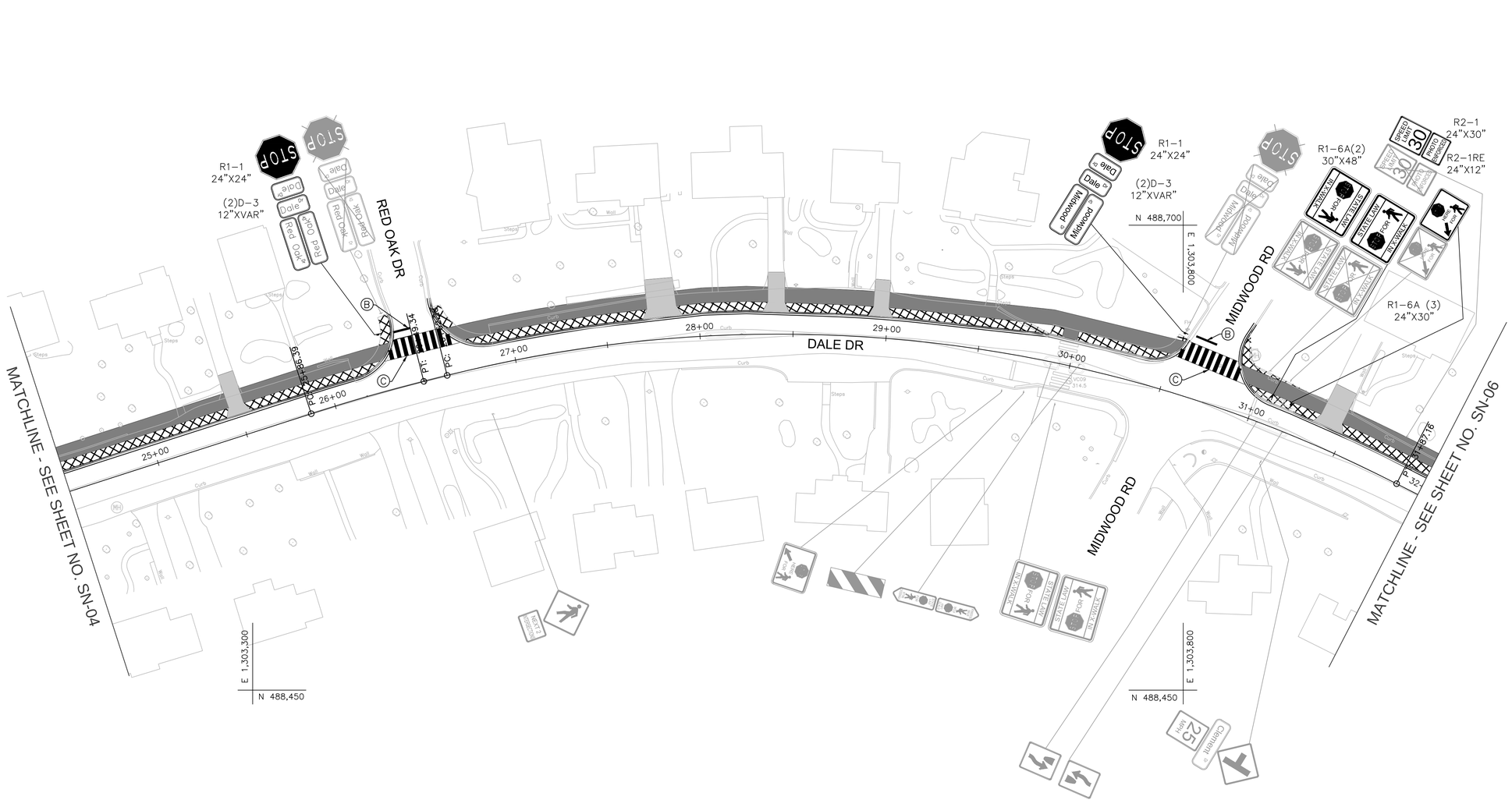
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 46 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\gSN_Dale.dwg LAYOUT NAME: SN-04 PLOTTED: Monday, February 10, 2020 - 2:06pm USER: MStraughan




## SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

## PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: GIF Checked by: MDS

# SN-05 SIGNING & MARKING PLAN

## DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'

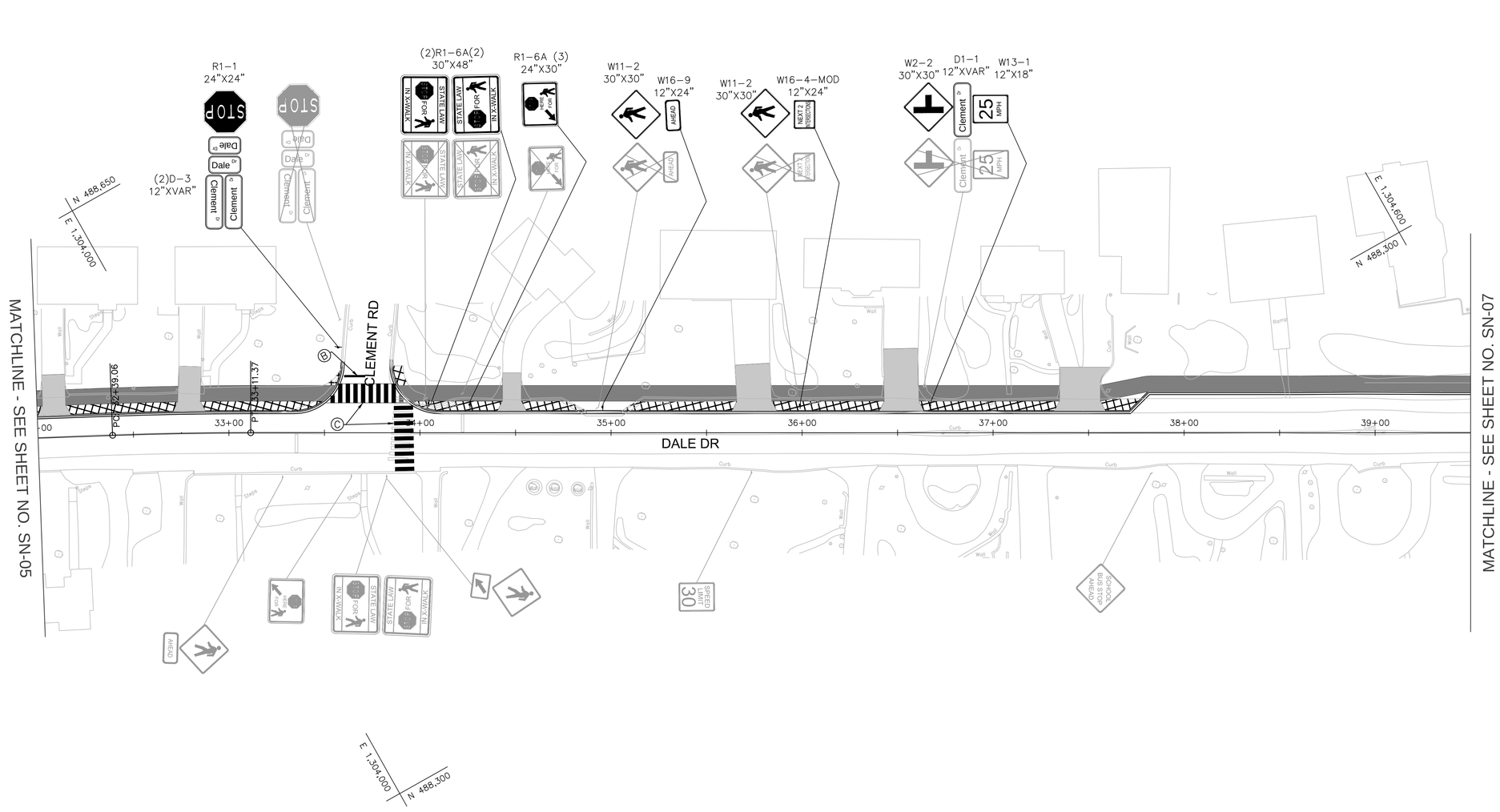
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 47 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pSN_Dale.dwg LAYOUT NAME: SN-05 PLOTTED: Monday, February 10, 2020 - 2:06pm USER: MStraughan




## SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

## PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: GIF Checked by: MDS

# SN-06 SIGNING & MARKING PLAN

## DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'

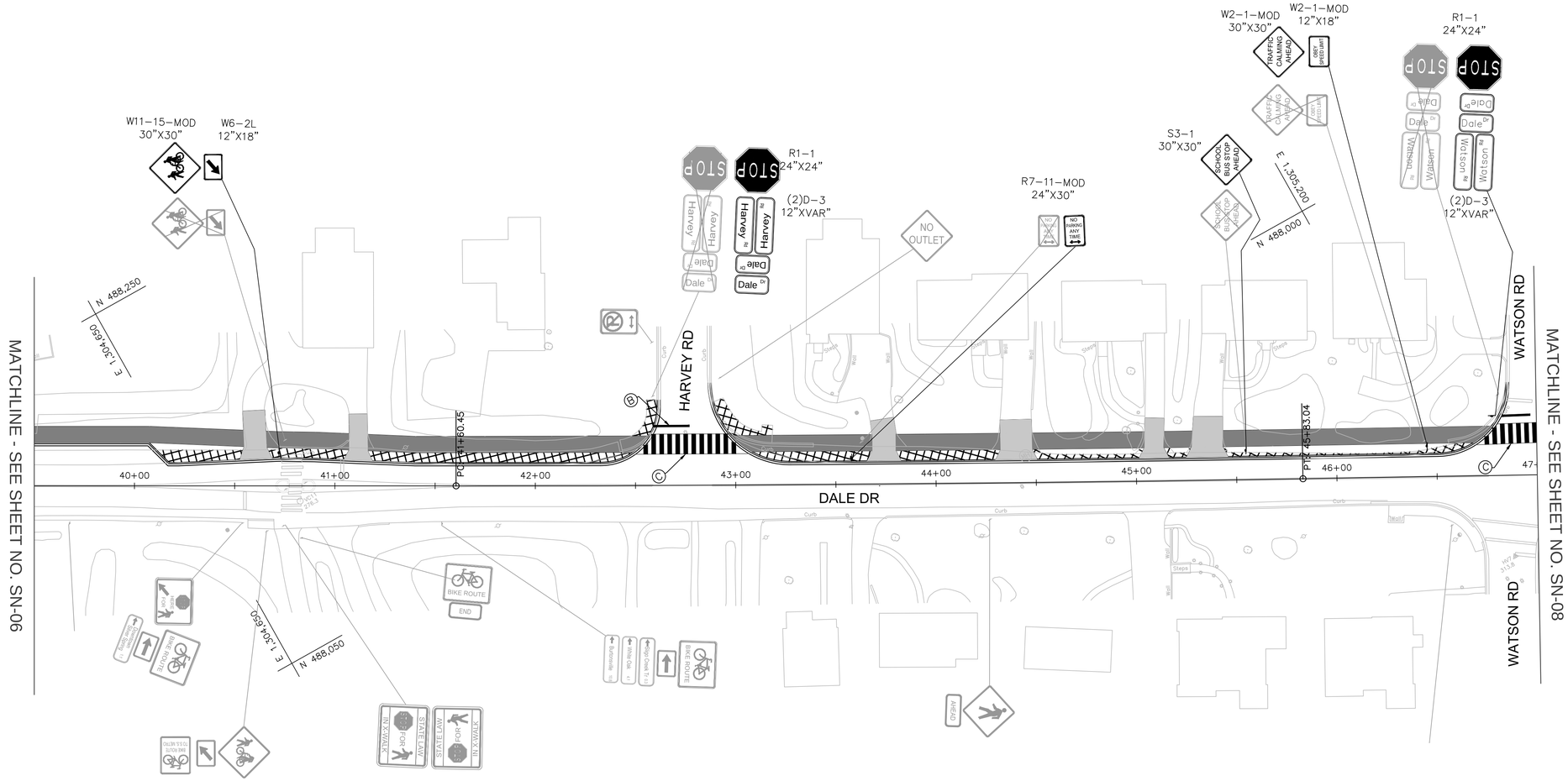
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 48 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestrie\CADD\pSN_Dale.dwg LAYOUT NAME: SN-06 PLOTTED: Monday, February 10, 2020 - 2:06pm USER: MStraughan




## SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

## PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: GIF Checked by: MDS

# SN-07 SIGNING & MARKING PLAN

## DALE DRIVE PEDESTRIAN FACILITY

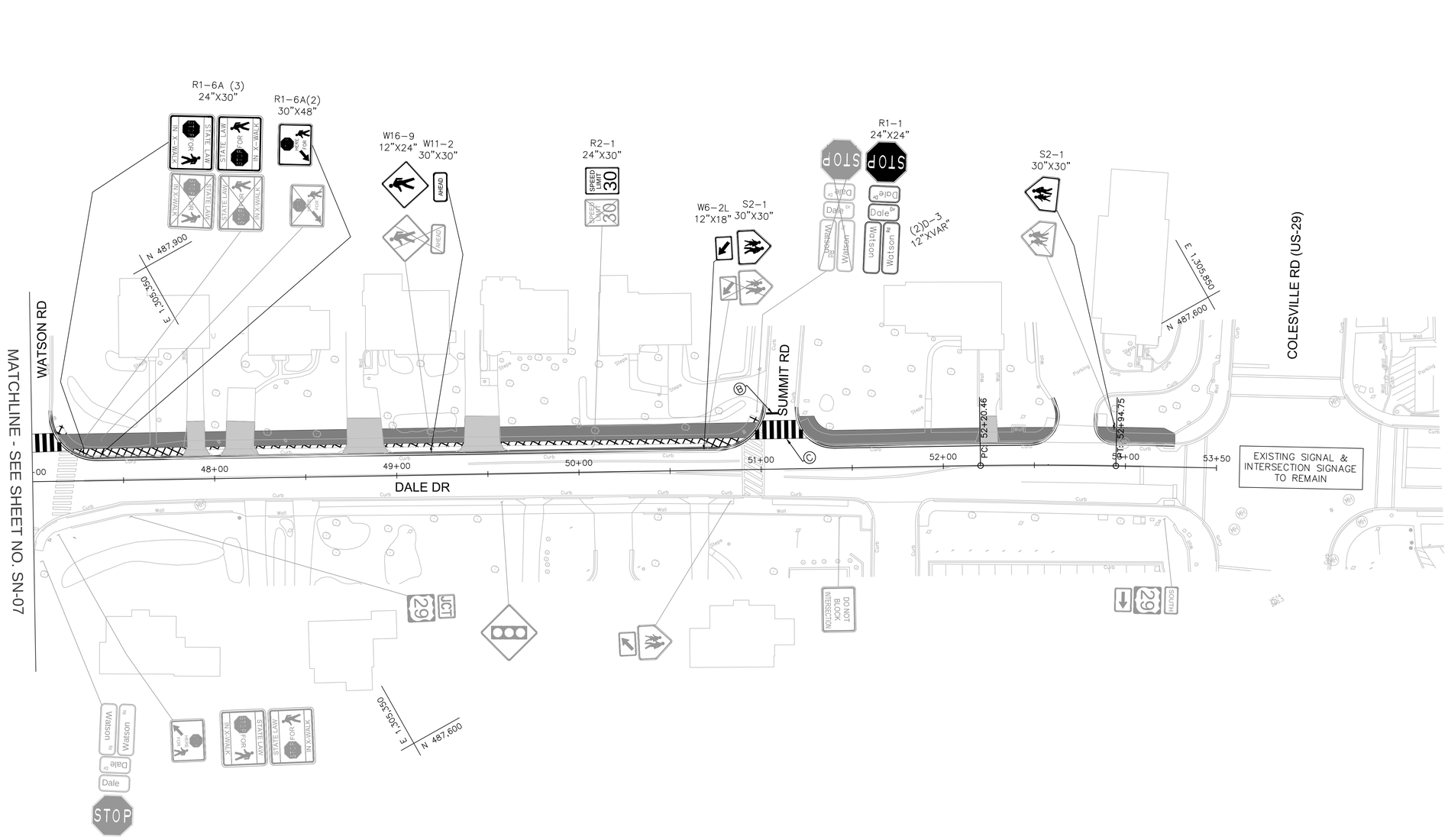
0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 49 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pSN_Dale.dwg LAYOUT NAME: SN-07 PLOTTED: Monday, February 10, 2020 - 2:06pm USER: MStraughan




## SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

## PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: GIF Checked by: MDS

# SN-08 SIGNING & MARKING PLAN

## DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'

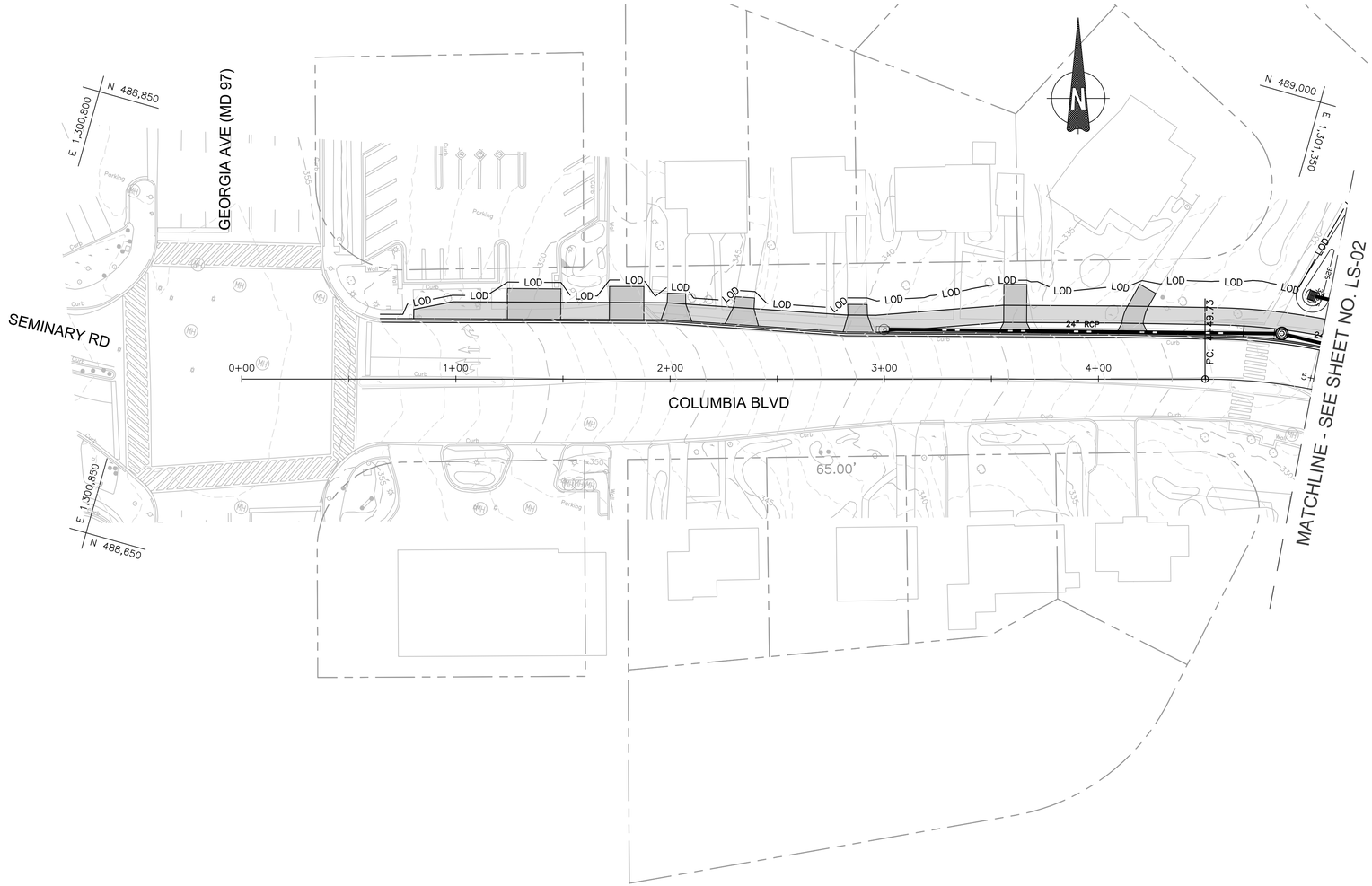
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 50 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestrio\CADD\pSN_Dale.dwg LAYOUT NAME: SN-08 PLOTTED: Monday, February 10, 2020 - 2:06pm USER: MStraughan




NO LANDSCAPE PLANTINGS THIS SHEET.

**NOTES:**

1. **THE 35% CONCEPTUAL LANDSCAPE PLANS WILL BE REFINED AS THE DESIGN PROGRESSES.**
2. **POTENTIAL UTILITY CONFLICTS (GAS, ELECTRIC, WATER, LIGHT POLES, DRAINAGE, ETC.) WITH PROPOSED TREES WILL BE COORDINATED TO PROVIDE THE MOST TREE CANOPY COVERAGE, AS FEASIBLE.**
3. **LANDSCAPE DESIGN OF STORMWATER MANAGEMENT FACILITIES WILL BE PROVIDED ONCE STORMWATER CONCEPT APPROVAL HAS BEEN RECEIVED.**
4. **EXISTING HOMEOWNER LANDSCAPE PLANTINGS WITHIN THE COUNTY RIGHT-OF-WAY WILL BE DOCUMENTED AND REDESIGNED, AS NECESSARY, ONLY AT THE DIRECTION OF COUNTY REPRESENTATIVES.**
5. **TREE PROTECTION MEASURES WILL BE COORDINATED AS THE DESIGN PROGRESSES IN AN EFFORT TO PRESERVE AS MUCH OF THE EXISTING TREE CANOPY AS POSSIBLE THROUGHOUT THE CORRIDOR.**

LEGEND

SHADE TREE

FLOWERING TREE

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

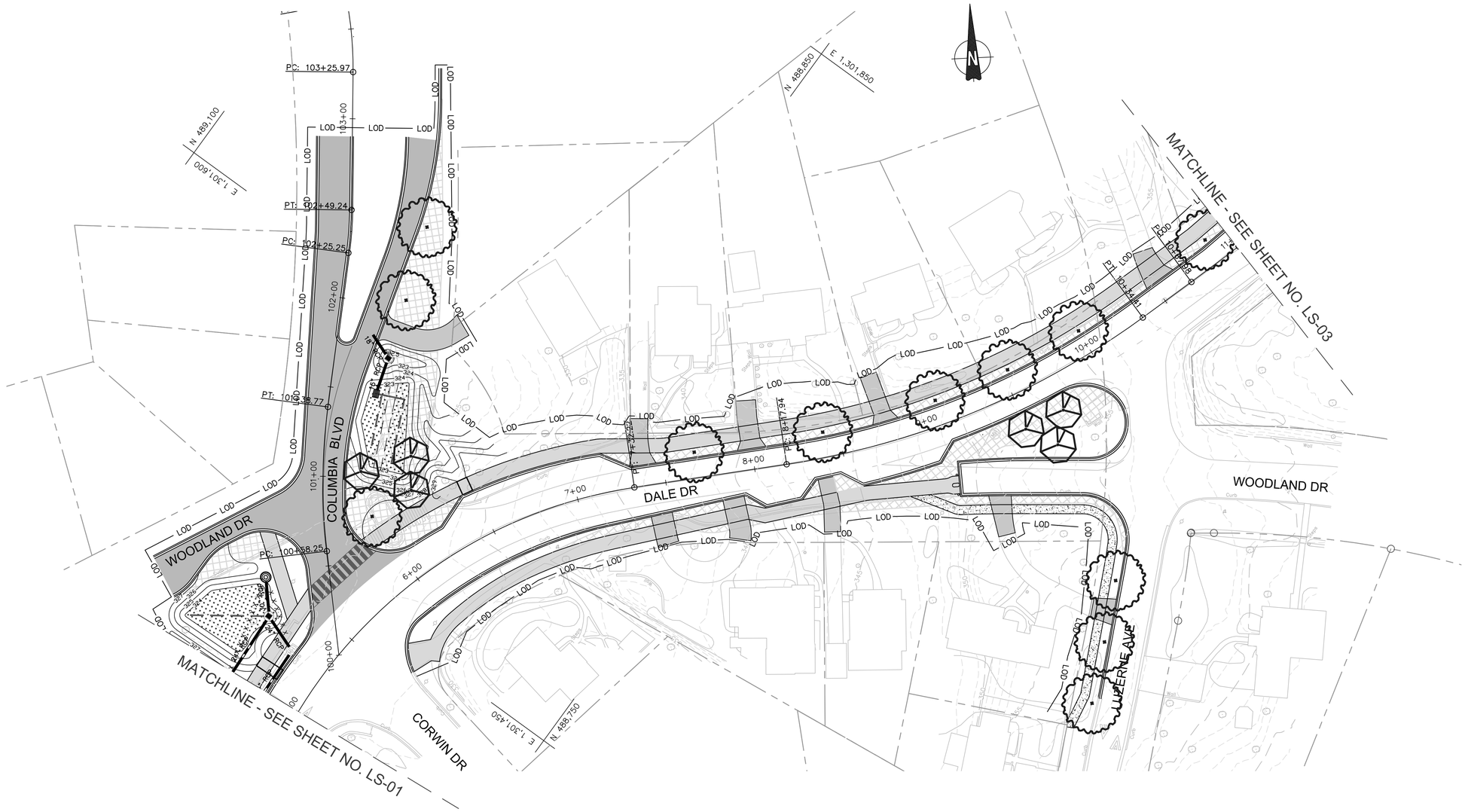
LS-01 LANDSCAPE PLAN

DALE DRIVE
PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 51 of 91




**NOTES:**

1. THE 35% CONCEPTUAL LANDSCAPE PLANS WILL BE REFINED AS THE DESIGN PROGRESSES.
2. POTENTIAL UTILITY CONFLICTS (GAS, ELECTRIC, WATER, LIGHT POLES, DRAINAGE, ETC.) WITH PROPOSED TREES WILL BE COORDINATED TO PROVIDE THE MOST TREE CANOPY COVERAGE, AS FEASIBLE.
3. LANDSCAPE DESIGN OF STORMWATER MANAGEMENT FACILITIES WILL BE PROVIDED ONCE STORMWATER CONCEPT APPROVAL HAS BEEN RECEIVED.
4. EXISTING HOMEOWNER LANDSCAPE PLANTINGS WITHIN THE COUNTY RIGHT-OF-WAY WILL BE DOCUMENTED AND REDESIGNED, AS NECESSARY, ONLY AT THE DIRECTION OF COUNTY REPRESENTATIVES.
5. TREE PROTECTION MEASURES WILL BE COORDINATED AS THE DESIGN PROGRESSES IN AN EFFORT TO PRESERVE AS MUCH OF THE EXISTING TREE CANOPY AS POSSIBLE THROUGHOUT THE CORRIDOR.

**LEGEND**

SHADE TREE

FLOWERING TREE

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

LS-02 LANDSCAPE PLAN

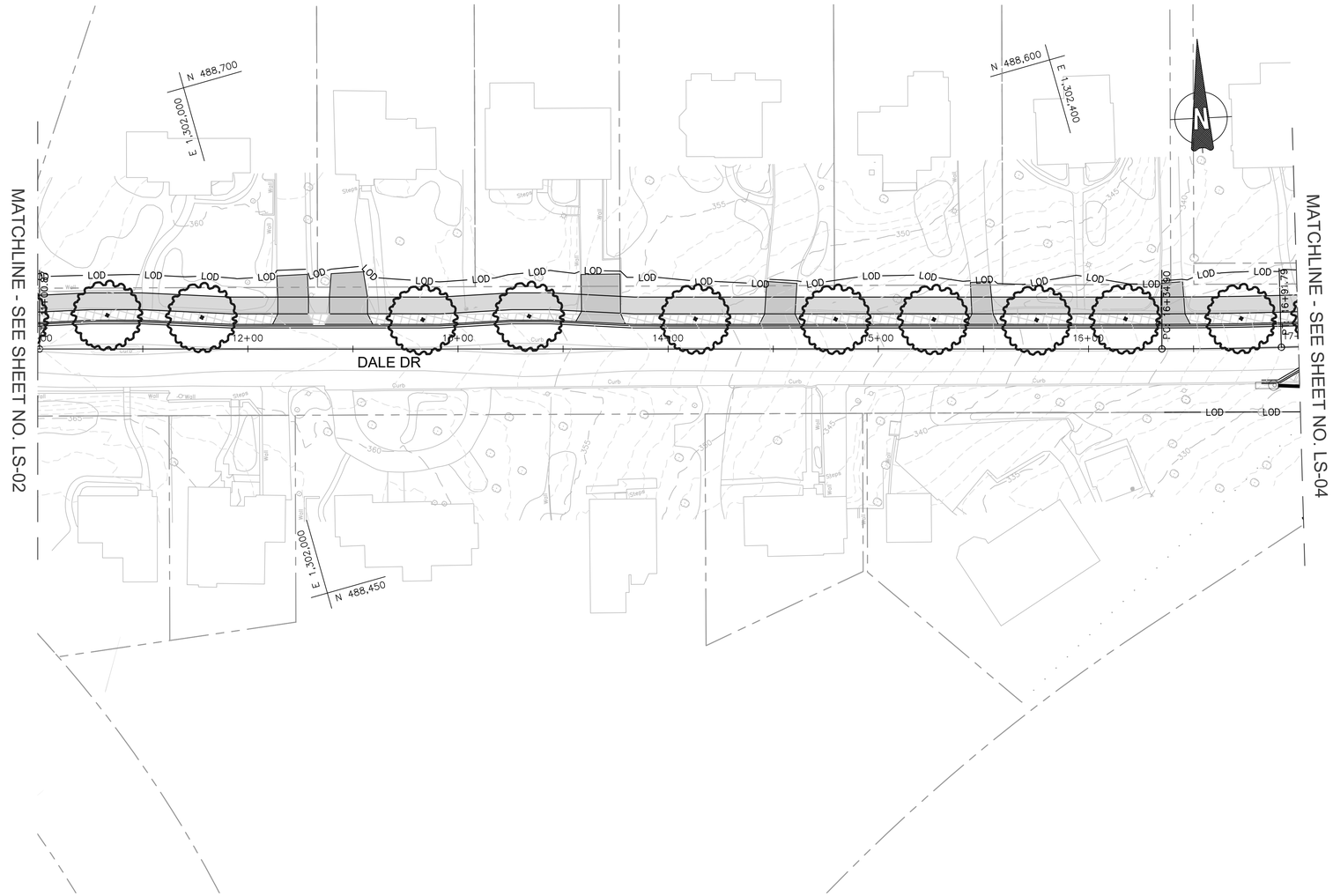
DALE DRIVE
PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No.: 509337 SHEET 52 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestrio\CADD\pLS_Dale.dwg LAYOUT NAME: LS-02 PLOTTED: Thursday, February 06, 2020 - 7:52am USER: FYoung




LEGEND

SHADE TREE

FLOWERING TREE

**NOTES:**

1. **THE 35% CONCEPTUAL LANDSCAPE PLANS WILL BE REFINED AS THE DESIGN PROGRESSES.**
2. **POTENTIAL UTILITY CONFLICTS (GAS, ELECTRIC, WATER, LIGHT POLES, DRAINAGE, ETC.) WITH PROPOSED TREES WILL BE COORDINATED TO PROVIDE THE MOST TREE CANOPY COVERAGE, AS FEASIBLE.**
3. **LANDSCAPE DESIGN OF STORMWATER MANAGEMENT FACILITIES WILL BE PROVIDED ONCE STORMWATER CONCEPT APPROVAL HAS BEEN RECEIVED.**
4. **EXISTING HOMEOWNER LANDSCAPE PLANTINGS WITHIN THE COUNTY RIGHT-OF-WAY WILL BE DOCUMENTED AND REDESIGNED, AS NECESSARY, ONLY AT THE DIRECTION OF COUNTY REPRESENTATIVES.**
5. **TREE PROTECTION MEASURES WILL BE COORDINATED AS THE DESIGN PROGRESSES IN AN EFFORT TO PRESERVE AS MUCH OF THE EXISTING TREE CANOPY AS POSSIBLE THROUGHOUT THE CORRIDOR.**

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

LS-03 LANDSCAPE PLAN

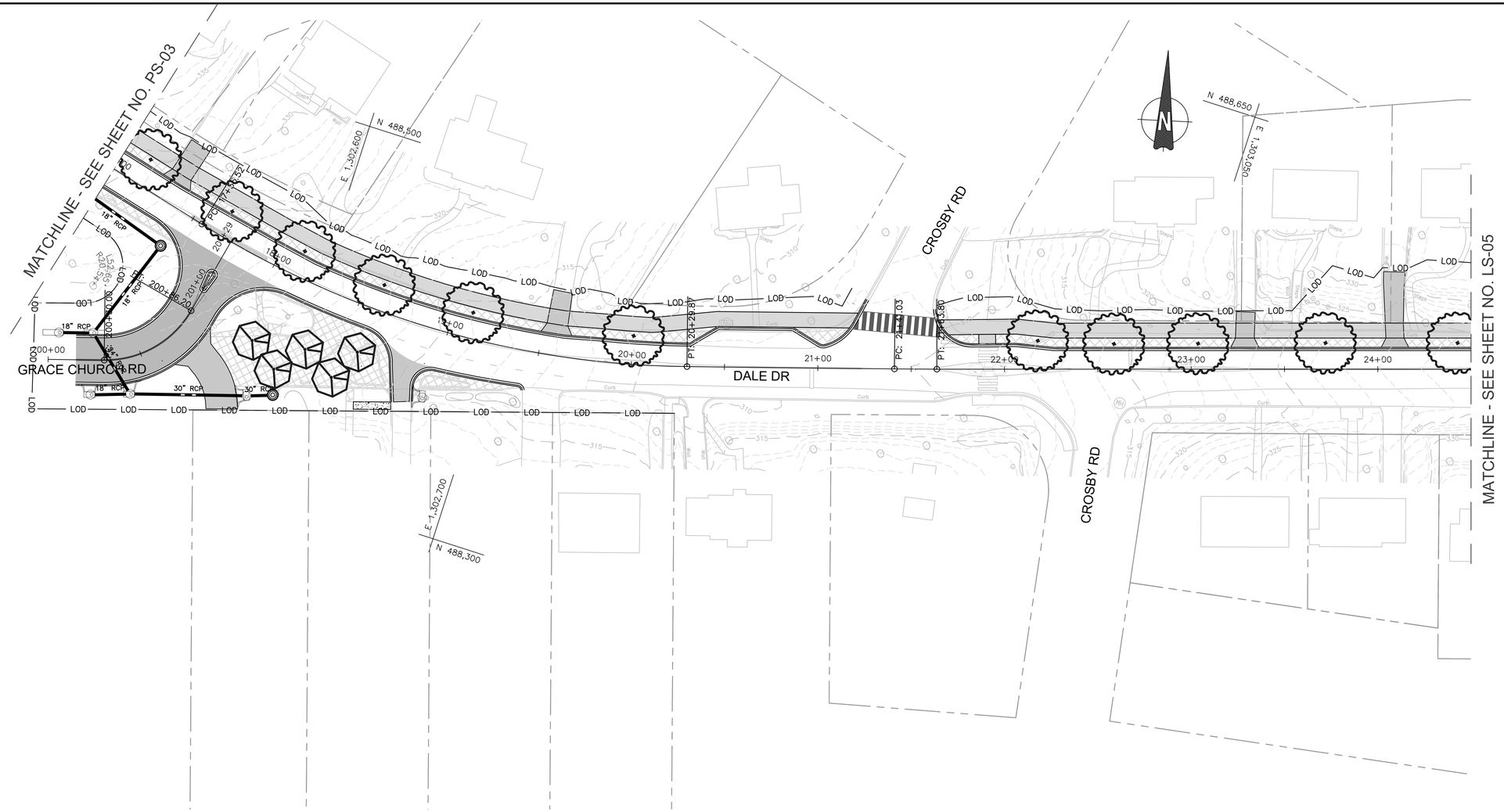
# DALE DRIVE PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 53 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pLS_Dale.dwg LAYOUT NAME: LS-03 PLOTTED: Thursday, February 06, 2020 - 7:53am USER: FYoung




**NOTES:**

1. THE 35% CONCEPTUAL LANDSCAPE PLANS WILL BE REFINED AS THE DESIGN PROGRESSES.
2. POTENTIAL UTILITY CONFLICTS (GAS, ELECTRIC, WATER, LIGHT POLES, DRAINAGE, ETC.) WITH PROPOSED TREES WILL BE COORDINATED TO PROVIDE THE MOST TREE CANOPY COVERAGE, AS FEASIBLE.
3. LANDSCAPE DESIGN OF STORMWATER MANAGEMENT FACILITIES WILL BE PROVIDED ONCE STORMWATER CONCEPT APPROVAL HAS BEEN RECEIVED.
4. EXISTING HOMEOWNER LANDSCAPE PLANTINGS WITHIN THE COUNTY RIGHT-OF-WAY WILL BE DOCUMENTED AND REDESIGNED, AS NECESSARY, ONLY AT THE DIRECTION OF COUNTY REPRESENTATIVES.
5. TREE PROTECTION MEASURES WILL BE COORDINATED AS THE DESIGN PROGRESSES IN AN EFFORT TO PRESERVE AS MUCH OF THE EXISTING TREE CANOPY AS POSSIBLE THROUGHOUT THE CORRIDOR.

LEGEND

SHADE TREE

FLOWERING TREE

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

LS-04 LANDSCAPE PLAN

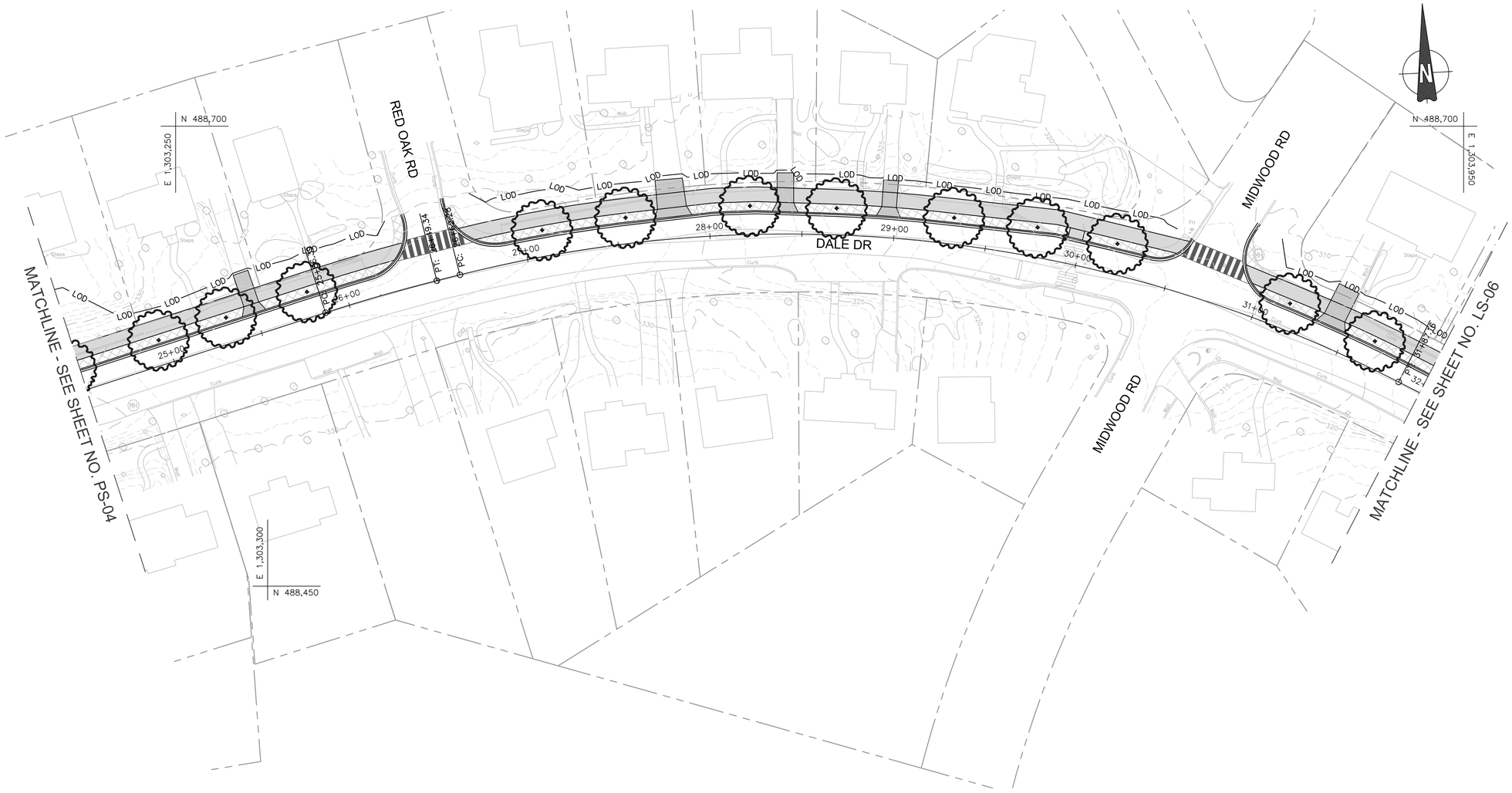
DALE DRIVE
PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No.: 509337 SHEET 54 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pLS_Dale.dwg LAYOUT NAME: LS-04 PLOTTED: Thursday, February 06, 2020 - 7:54am USER: FYoung




**LEGEND**

SHADE TREE

FLOWERING TREE

**NOTES:**

1. THE 35% CONCEPTUAL LANDSCAPE PLANS WILL BE REFINED AS THE DESIGN PROGRESSES.
2. POTENTIAL UTILITY CONFLICTS (GAS, ELECTRIC, WATER, LIGHT POLES, DRAINAGE, ETC.) WITH PROPOSED TREES WILL BE COORDINATED TO PROVIDE THE MOST TREE CANOPY COVERAGE, AS FEASIBLE.
3. LANDSCAPE DESIGN OF STORMWATER MANAGEMENT FACILITIES WILL BE PROVIDED ONCE STORMWATER CONCEPT APPROVAL HAS BEEN RECEIVED.
4. EXISTING HOMEOWNER LANDSCAPE PLANTINGS WITHIN THE COUNTY RIGHT-OF-WAY WILL BE DOCUMENTED AND REDESIGNED, AS NECESSARY, ONLY AT THE DIRECTION OF COUNTY REPRESENTATIVES.
5. TREE PROTECTION MEASURES WILL BE COORDINATED AS THE DESIGN PROGRESSES IN AN EFFORT TO PRESERVE AS MUCH OF THE EXISTING TREE CANOPY AS POSSIBLE THROUGHOUT THE CORRIDOR.

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

LS-05 LANDSCAPE PLAN

DALE DRIVE
PEDESTRIAN FACILITY

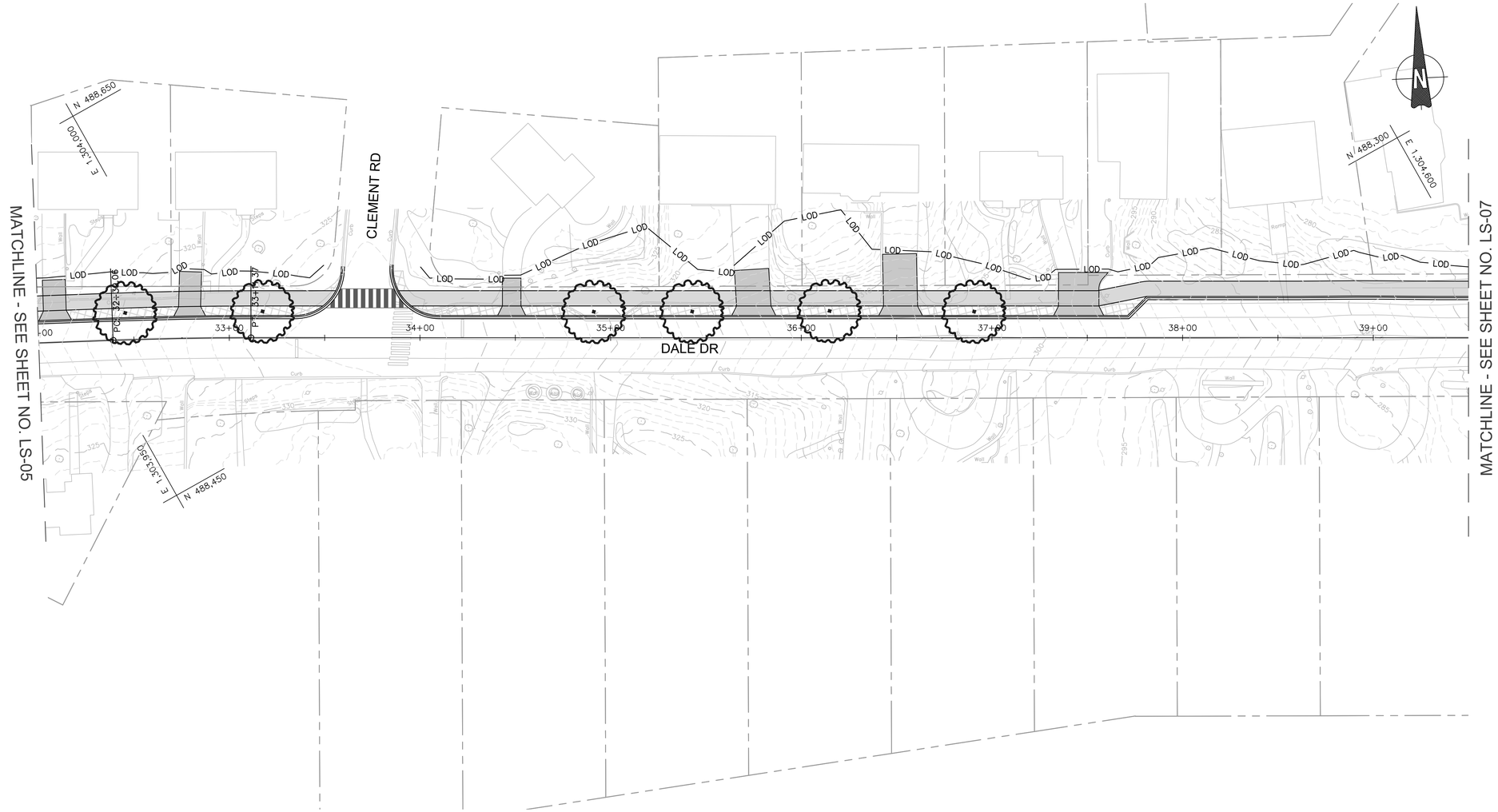
0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 55 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pLS_Dale.dwg LAYOUT NAME: LS-05 PLOTTED: Thursday, February 06, 2020 - 7:55am USER: FYoung




**LEGEND**

SHADE TREE

FLOWERING TREE

**NOTES:**

1. **THE 35% CONCEPTUAL LANDSCAPE PLANS WILL BE REFINED AS THE DESIGN PROGRESSES.**
2. **POTENTIAL UTILITY CONFLICTS (GAS, ELECTRIC, WATER, LIGHT POLES, DRAINAGE, ETC.) WITH PROPOSED TREES WILL BE COORDINATED TO PROVIDE THE MOST TREE CANOPY COVERAGE, AS FEASIBLE.**
3. **LANDSCAPE DESIGN OF STORMWATER MANAGEMENT FACILITIES WILL BE PROVIDED ONCE STORMWATER CONCEPT APPROVAL HAS BEEN RECEIVED.**
4. **EXISTING HOMEOWNER LANDSCAPE PLANTINGS WITHIN THE COUNTY RIGHT-OF-WAY WILL BE DOCUMENTED AND REDESIGNED, AS NECESSARY, ONLY AT THE DIRECTION OF COUNTY REPRESENTATIVES.**
5. **TREE PROTECTION MEASURES WILL BE COORDINATED AS THE DESIGN PROGRESSES IN AN EFFORT TO PRESERVE AS MUCH OF THE EXISTING TREE CANOPY AS POSSIBLE THROUGHOUT THE CORRIDOR.**

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

LS-06 LANDSCAPE PLAN

# DALE DRIVE PEDESTRIAN FACILITY

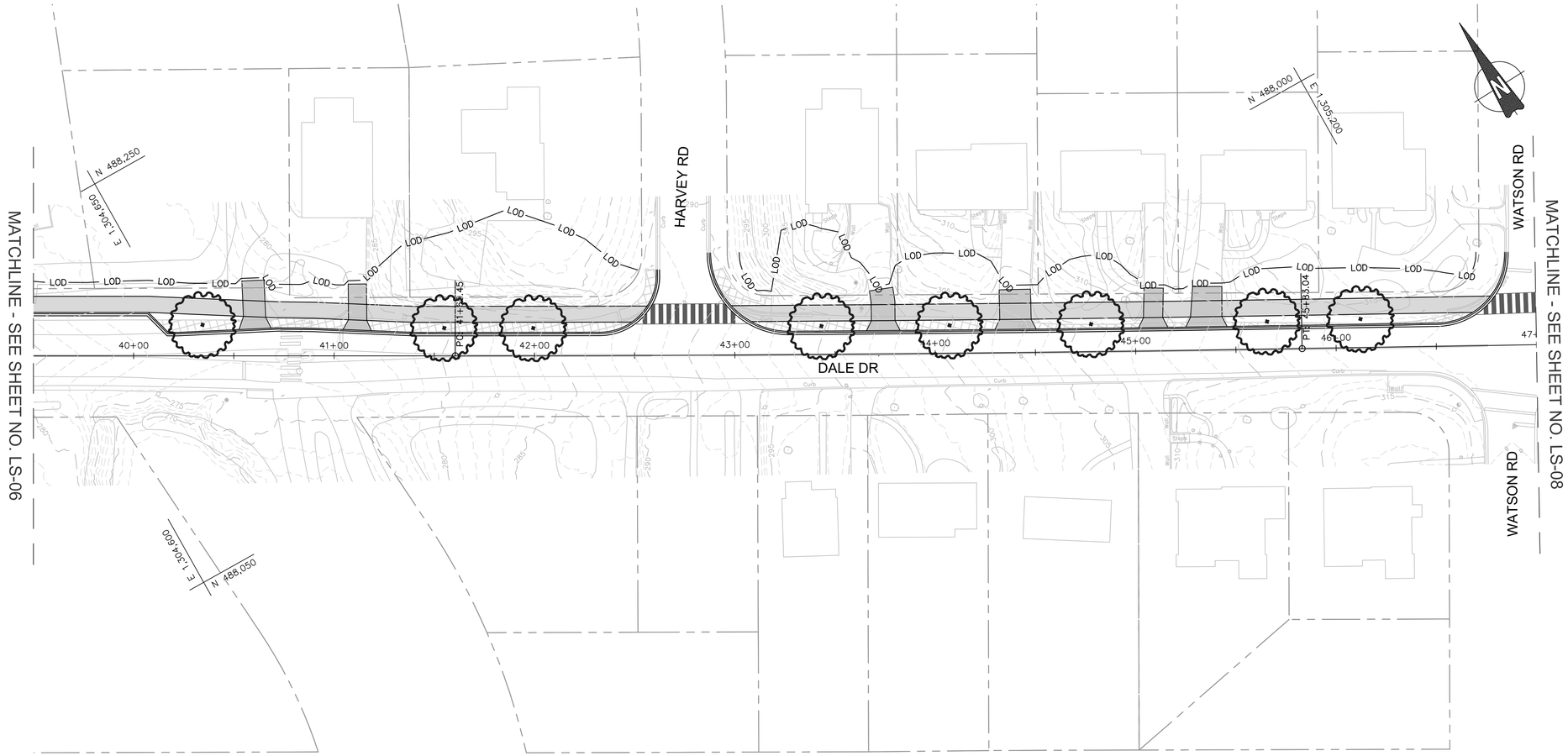
0 30' 60'

SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 56 of 91




LEGEND

SHADE TREE

FLOWERING TREE

**NOTES:**

1. **THE 35% CONCEPTUAL LANDSCAPE PLANS WILL BE REFINED AS THE DESIGN PROGRESSES.**
2. **POTENTIAL UTILITY CONFLICTS (GAS, ELECTRIC, WATER, LIGHT POLES, DRAINAGE, ETC.) WITH PROPOSED TREES WILL BE COORDINATED TO PROVIDE THE MOST TREE CANOPY COVERAGE, AS FEASIBLE.**
3. **LANDSCAPE DESIGN OF STORMWATER MANAGEMENT FACILITIES WILL BE PROVIDED ONCE STORMWATER CONCEPT APPROVAL HAS BEEN RECEIVED.**
4. **EXISTING HOMEOWNER LANDSCAPE PLANTINGS WITHIN THE COUNTY RIGHT-OF-WAY WILL BE DOCUMENTED AND REDESIGNED, AS NECESSARY, ONLY AT THE DIRECTION OF COUNTY REPRESENTATIVES.**
5. **TREE PROTECTION MEASURES WILL BE COORDINATED AS THE DESIGN PROGRESSES IN AN EFFORT TO PRESERVE AS MUCH OF THE EXISTING TREE CANOPY AS POSSIBLE THROUGHOUT THE CORRIDOR.**

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

LS-07 LANDSCAPE PLAN

DALE DRIVE
PEDESTRIAN FACILITY

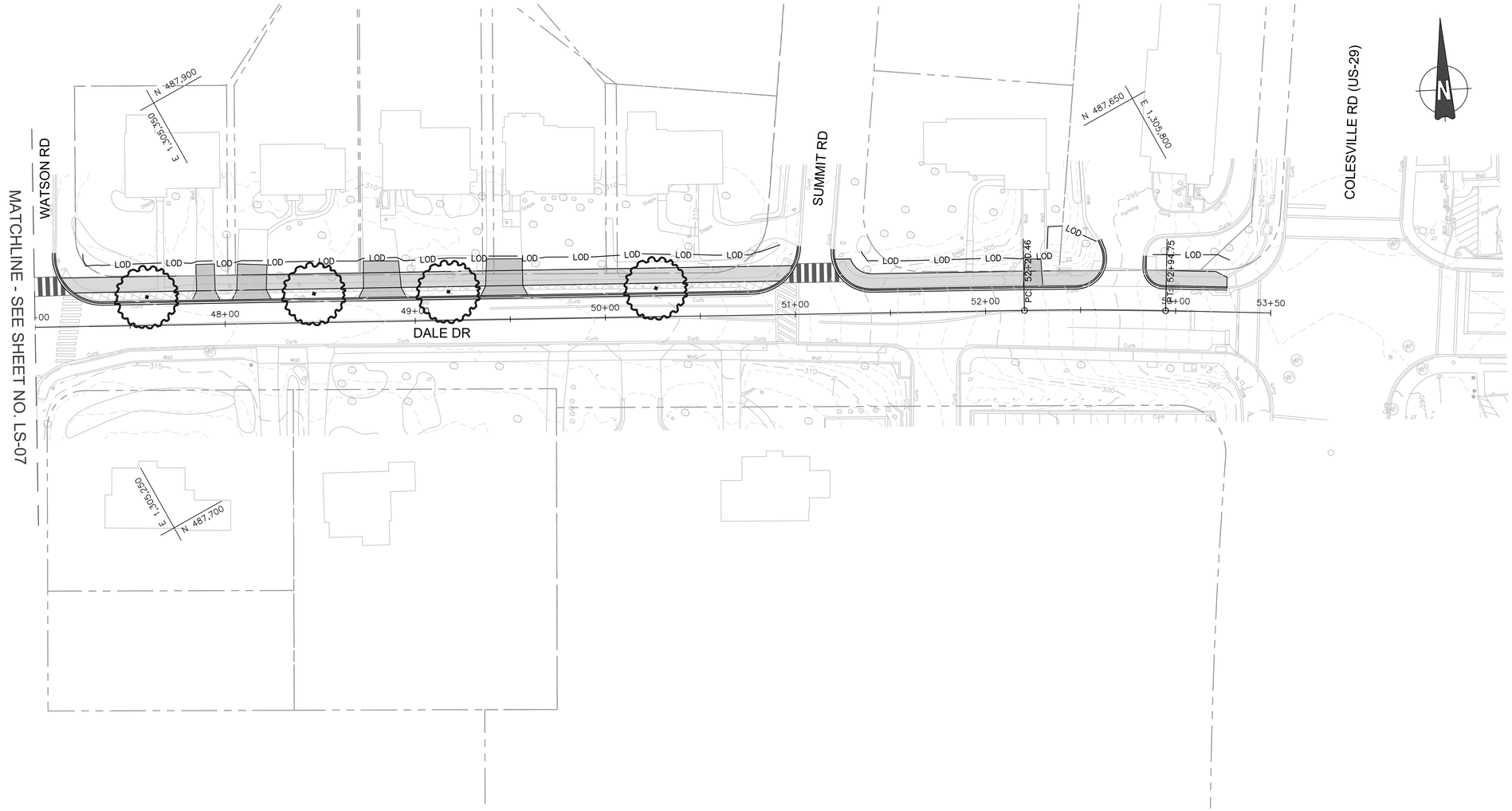
0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 57 of 91

FILE NAME: Q:\2013\130605_008_Dale_Drive_Pedestria\CADD\pLS_Dale.dwg LAYOUT NAME: LS-07 PLOTTED: Thursday, February 06, 2020 - 7:56am USER: FYoung




LEGEND

SHADE TREE

FLOWERING TREE

**NOTES:**

1. **THE 35% CONCEPTUAL LANDSCAPE PLANS WILL BE REFINED AS THE DESIGN PROGRESSES.**
2. **POTENTIAL UTILITY CONFLICTS (GAS, ELECTRIC, WATER, LIGHT POLES, DRAINAGE, ETC.) WITH PROPOSED TREES WILL BE COORDINATED TO PROVIDE THE MOST TREE CANOPY COVERAGE, AS FEASIBLE.**
3. **LANDSCAPE DESIGN OF STORMWATER MANAGEMENT FACILITIES WILL BE PROVIDED ONCE STORMWATER CONCEPT APPROVAL HAS BEEN RECEIVED.**
4. **EXISTING HOMEOWNER LANDSCAPE PLANTINGS WITHIN THE COUNTY RIGHT-OF-WAY WILL BE DOCUMENTED AND REDESIGNED, AS NECESSARY, ONLY AT THE DIRECTION OF COUNTY REPRESENTATIVES.**
5. **TREE PROTECTION MEASURES WILL BE COORDINATED AS THE DESIGN PROGRESSES IN AN EFFORT TO PRESERVE AS MUCH OF THE EXISTING TREE CANOPY AS POSSIBLE THROUGHOUT THE CORRIDOR.**

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

LS-08 LANDSCAPE PLAN

DALE DRIVE
PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 58 of 91

# TREE PRESERVATION NOTES

1. ALL WORK PERFORMED SHALL MEET OR EXCEED INDUSTRY STANDARDS AS MOST RECENTLY PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), OR THE TREE CARE INDUSTRY ASSOCIATION (TCIA). IN THE EVENT TREATMENTS PRESCRIBED ARE NOT COVERED BY AN EXISTING STANDARD, WORK SHALL MEET OR EXCEED STANDARDS APPROVED BY THE COUNTY ARBORIST.
2. TREES DESIGNATED FOR REMOVAL ALONG THE LIMITS OF DISTURBANCE SHALL BE REMOVED USING A CHAINSAW TO AVOID DAMAGE TO SURROUNDING TREES TO BE PRESERVED AND UNDERSTORY VEGETATION. IF A STUMP MUST BE REMOVED, THIS SHALL BE DONE ONLY WITH THE APPROVAL OF THE COUNTY ARBORIST USING A STUMP-GRINDING MACHINE IN A MANNER THAT CAUSES AS LITTLE DISTURBANCE AS POSSIBLE TO ADJACENT TREES, VEGETATION AND SOIL CONDITIONS.
3. ROOT PRUNING SHALL BE PERFORMED, AS NEEDED, TO COMPLY WITH THE FOREST CONSERVATION REQUIREMENTS OF THESE DEVELOPMENT CONDITIONS. ALL TREATMENTS SHALL BE CLEARLY IDENTIFIED, LABELED, AND DETAILED ON THE TREE PRESERVATION AND LANDSCAPE SHEETS OF THE PLAN SUBMISSION. THE DETAILS FOR THESE TREATMENTS SHALL BE REVIEWED AND APPROVED BY THE COUNTY ARBORIST, ACCOMPLISHED IN A MANNER THAT PROTECTS AFFECTED AND ADJACENT VEGETATION TO BE PRESERVED. ROOT PRUNING DETAILS MAY INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: (1) ROOT PRUNING SHALL BE DONE WITH A TRENCHER OR VIBRATORY PLOW TO A DEPTH OF 18 INCHES; (2) ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING AND/OR INSTALLATION OF SUPER SILT FENCE, DIVERSION FENCE OR TREE PROTECTION FENCE; (3) ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF THE COUNTY ARBORIST; AND (4) THE COUNTY ARBORIST SHALL BE INFORMED WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.
4. IMMEDIATELY AFTER THE E&S ACTIVITIES ARE COMPLETE, TREES INDICATED FOR MULCHING IN THE TREE INVENTORY SHALL BE MULCHED TO PROTECT THE ROOTS AND RETAIN MOISTURE. HARDWOOD CHIPS OR SHREDDED MULCH SHALL BE APPLIED AT A MAXIMUM DEPTH OF 4 INCHES AROUND THESE SPECIFIC TREES AND ONLY WITHIN 10 FEET OF THE LIMITS OF DISTURBANCE. ADDITIONAL AREAS MAY BE MULCHED AS PART OF THE INVASIVE SPECIES MANAGEMENT, SEE INVASIVE SPECIES MANAGEMENT NOTES, THIS SHEET.
5. ALL CONSTRUCTION ACTIVITY BEYOND THE LIMITS OF DISTURBANCE SHOWN ON THE PLAN SHALL BE PROHIBITED UNLESS PREVIOUSLY APPROVED. THE STORAGE OF EQUIPMENT, MATERIALS, CHEMICALS, AND DEBRIS AS WELL AS VEHICULAR TRAFFIC OR THE PARKING OF VEHICLES SHALL NOT BE PERMITTED WITHIN TREE PRESERVATION AREAS.
6. THE SERVICES OF THE PROJECT SURVEYOR SHALL BE RETAINED TO HAVE THE LIMITS OF CLEARING AND GRADING IN THE AREAS OF TREE PRESERVATION MARKED WITH A CONTINUOUS LINE OF FLAGGING PRIOR TO THE WALK-THROUGH MEETING TO BE HELD PRIOR TO ANY CLEARING AND GRADING. DURING THE TREE PRESERVATION WALK-THROUGH MEETING, THE COUNTY ARBORIST SHALL WALK SUCH LIMITS OF CLEARING AND GRADING WITH INSPECTORS TO DETERMINE WHERE ADJUSTMENTS TO THE CLEARING LIMITS CAN BE MADE TO INCREASE THE AREA OF TREE PRESERVATION AND/OR TO INCREASE THE SURVIVABILITY OF TREES AT THE EDGE OF THE LIMITS OF CLEARING AND GRADING. SUCH ADJUSTMENT SHALL BE IMPLEMENTED; PROVIDED, HOWEVER, THAT NO ADJUSTMENT SHALL BE REQUIRED THAT WOULD AFFECT THE LOCATION AND/OR DESIGN OF THE DEVELOPMENT, INCLUDING A REQUIREMENT FOR ADDITIONAL RETAINING WALLS. TREES WITHIN THE PRESERVATION AREAS THAT ARE IDENTIFIED SPECIFICALLY BY THE COUNTY ARBORIST IN WRITING AS DEAD OR DYING MAY BE REMOVED AS PART OF THE CLEARING OPERATION. ANY TREE THAT IS SO DESIGNATED SHALL BE REMOVED USING A CHAIN SAW AND SUCH REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT AVOIDS DAMAGE TO SURROUNDING TREES AND ASSOCIATED UNDERSTORY VEGETATION. IF A STUMP MUST BE REMOVED, THIS SHALL BE DONE USING A STUMP-GRINDING MACHINE IN A MANNER CAUSING AS LITTLE DISTURBANCE AS POSSIBLE TO ADJACENT TREES AND ASSOCIATED UNDERSTORY VEGETATION AND SOIL CONDITIONS.
7. THE LIMITS OF CLEARING AND GRADING SHALL BE STRICTLY CONFORMED TO, AS SHOWN ON THE PLAN, SUBJECT TO ALLOWANCES SPECIFIED IN THESE DEVELOPMENT CONDITIONS AND FOR THE INSTALLATION OF FENCES AND/OR UTILITIES AS DETERMINED NECESSARY BY THE COUNTY ARBORIST. IF IT IS DETERMINED NECESSARY TO INSTALL FENCES AND/OR UTILITIES IN AREAS PROTECTED BY THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THE PLAN, THEY SHALL BE LOCATED IN THE LEAST DISRUPTIVE MANNER NECESSARY AS DETERMINED BY THE COUNTY ARBORIST.
8. DURING ANY CLEARING OR TREE/VEGETATION REMOVAL IN THE AREAS ADJACENT TO THE TREE PRESERVATION AREAS, THE COUNTY ARBORIST SHALL BE PRESENT TO MONITOR THE PROCESS AND ENSURE THAT THE ACTIVITIES ARE CONDUCTED AS CONDITIONED. MONITORING VISITS SHALL BE CONDUCTED WEEKLY DURING E&S INSTALLATION (CLEARING AND GRADING) CONSTRUCTION AND MONTHLY THEREAFTER UNTIL PROJECT COMPLETION.
9. ALL TREES SHOWN TO BE PRESERVED ON THE FOREST CONSERVATION PLAN SHALL BE PROTECTED BY TREE PROTECTION FENCE. TREE PROTECTION FENCING OR SUPER SILT FENCING SHALL BE ERECTED AT THE LIMITS OF CLEARING AND GRADING ADJACENT TO THE TREE PRESERVATION AREAS AS SHOWN ON THE PLANS, AS MAY BE MODIFIED BY THE DEVELOPMENT CONDITIONS BELOW. SUPER SILT FENCE ADJACENT TO MAJOR ROOTS OF TREES MAY BE NOTCHED, AS APPROVED, BY THE DPS INSPECTOR IN THE FIELD. ALL TREE PROTECTION FENCING SHALL BE INSTALLED AFTER THE TREE PRESERVATION WALK-THROUGH MEETING BUT PRIOR TO ANY CLEARING AND GRADING ACTIVITIES. THE INSTALLATION OF ALL TREE PROTECTION FENCING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE COUNTY ARBORIST, AND ACCOMPLISHED IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION THAT IS TO BE PRESERVED.
10. SIGNS STATING "TREE PRESERVATION AREA" SHALL BE AFFIXED TO THE TREE PRESERVATION FENCE AT LEAST EVERY 30 FEET. SIGNS SHALL INCLUDE BOTH ENGLISH AND SPANISH AS SHOWN ON DETAIL.

# INSPECTIONS NOTES

1. ALL FIELD INSPECTIONS MUST BE REQUESTED BY THE APPLICANT. INSPECTIONS MUST BE CONDUCTED AS FOLLOWS:
   a. AFTER THE LIMITS OF DISTURBANCE HAVE BEEN STAKED AND FLAGGED, BUT BEFORE ANY CLEARING OR GRADING BEGINS
   b. AFTER NECESSARY STRESS REDUCTION MEASURES HAVE BEEN COMPLETED AND PROTECTION MEASURES HAVE BEEN INSTALLED, BUT BEFORE ANY CLEARING AND GRADING BEGIN
   c. AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES, BUT BEFORE REMOVAL OF TREE PROTECTION FENCING, TO DETERMINE THE LEVEL OF COMPLIANCE WITH THE PROVISION OF THE FOREST CONSERVATION.

# STANDARD TREE CANOPY NOTES

ANY SHADE TREE PLANTED TO COMPLY WITH CHAPTER 55 OF THE COUNTY CODE MUST CONFORM TO THE FOLLOWING:

1. EACH SHADE TREE MUST MEET THE REQUIREMENTS FOR PLANT MATERIAL IN ANSI Z60.1;
2. EACH SHADE TREE MUST BE A MINIMUM OF 2" CALIPER;
3. INSTALLATION OF EACH SHADE TREE MUST MEET ALL REQUIREMENTS OF ANSI A300;
4. AT THE TIME OF PLANTING:
   a. TREE GUARDS TO PROTECT TREES FROM DEER RUBBING, MOWERS, WEED EATERS, OTHER EQUIPMENT AND LARGE RODENTS MUST BE INSTALLED ON ALL SHADE TREES;
   b. MULCH MUST BE APPLIED;
   c. SUFFICIENT WATER MUST BE APPLIED TO AID IN PROPER PLANTING.
5. SHADE TREES MUST BE INSTALLED BETWEEN OCTOBER 15TH AND MAY 15TH AS LONG AS THE GROUND IS NOT FROZEN, SATURATED, OR COVERED WITH SNOW SUCH THAT A SUITABLE HOLE CANNOT BE DUG;
6. SHADE TREES MUST NOT BE INSTALLED BETWEEN MAY 16TH AND OCTOBER 14TH OF EACH YEAR. IF INSTALLATION CANNOT OCCUR BETWEEN OCTOBER 15TH AND MAY 15TH FOR ANY REASON, OR IF PROPOSED TREES ARE NOT PLANTED FOR ANY OTHER REASON, THE PERMITTEE MUST PAY THE REQUIRED FEE IN LIEU.
7. IF SHADE TREES ARE INSTALLED PRIOR TO FINAL STABILIZATION OF THE LAND DISTURBING ACTIVITY THEN NO ADDITIONAL DISTURBANCE MUST OCCUR WITHIN FIVE FEET OF THE STEM OF THE TREE. PROTECTIVE FENCING MUST BE INSTALLED AT THE EDGE OF THIS AREA AT THE SAME TIME THE TREE IS INSTALLED AND MUST REMAIN IN PLACE UNTIL FINAL STABILIZATION OCCURS.
8. THE LOCATION OF GROWING ZONES AND PLANTING AREAS MUST BE CLEARLY MARKED IN THE FIELD PRIOR TO INSTALLATION OF ANY SHADE TREE.
9. A COPY OF THE APPROVED SEDIMENT CONTROL PLAN SHOWING ALL APPROVED GROWING ZONES AND PLANTING AREAS MUST BE AVAILABLE ON THE SITE AT ALL TIMES.
10. AT LEAST ONE INSPECTION MUST OCCUR AFTER ALL CONSTRUCTION ACTIVITIES ARE COMPLETED TO DETERMINE THE LEVEL OF COMPLIANCE WITH SHADE TREE PLANTING REQUIREMENTS.

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

LS-09 LANDSCAPE NOTES

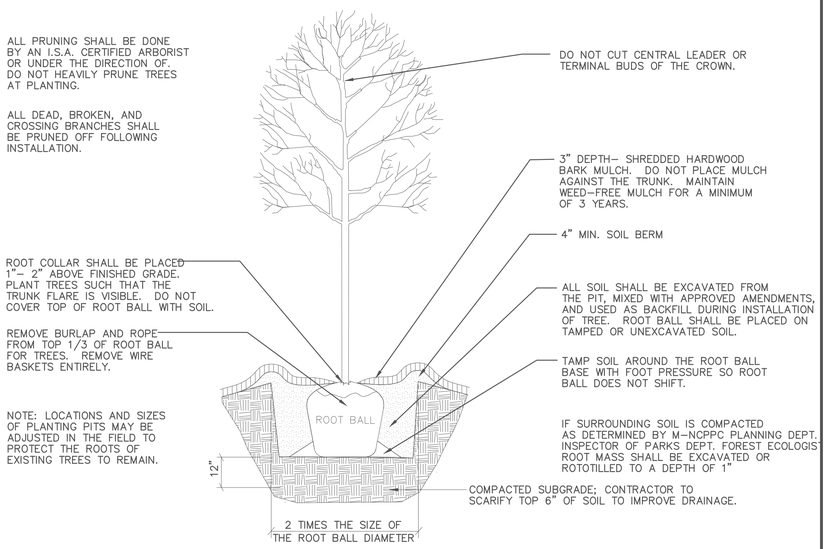
DALE DRIVE
PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337

SHEET 59 of 91

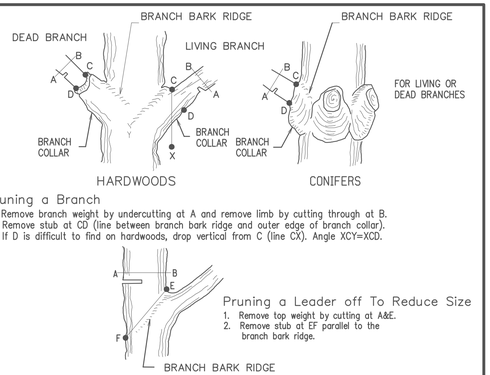



## TREE PLANTING DETAIL

NOT TO SCALE

## LANDSCAPE PLANT SCHEDULE (TOTAL)

| KEY | QTY | TYPE | SIZE | ROOT | COMMENTS |
|---|---|---|---|---|---|
| TREES | | | | | |
| | 63 | SHADE TREE | 2" CAL. | B&B | 30' O.C., AS SHOWN |
| | 11 | FLOWERING TREE | 2" CAL. | B&B | 20' O.C., AS SHOWN |




### Pruning a Branch

1. Remove branch weight by undercutting at A and remove limb by cutting through at B.
2. Remove stub at CD (line between branch bark ridge and outer edge of branch collar).
3. If D is difficult to find on hardwoods, drop vertical from C (line CX). Angle XCY=XCD.

### Pruning a Leader off To Reduce Size

1. Remove top weight by cutting at A&E.
2. Remove stub at EF parallel to the branch bark ridge.

Medium pruning shall consist of the removal of dead, dying, diseased, interfering, objectionable and weak branches on the main trunk as well as those within the leaf area. An occasional branch up to one inch in diameter may remain within the main leaf area where it is not practical to remove it.

The following specifications shall apply:

a. All cuts shall be made sufficiently close to the trunk or parent limb, without cutting into the branch collar or leaving a protruding stub, so that closure can readily start under normal conditions. Clean cuts shall be made at all times.

b. It is necessary to precut branches too heavy to handle to prevent splitting or peeling the bark. Where necessary, to prevent tree or property damage, branches shall be lowered to the ground by proper ropes or equipment.

c. Treatment of cuts and wounds, with tree wound dressing, is optional except where open wounds in certain trees may attract insects that carry disease or allow fungus invasion. If such treatment is made, materials non–toxic to the cambium layer must be used, and care taken to treat only the exposed wood with a thin coat of dressing.

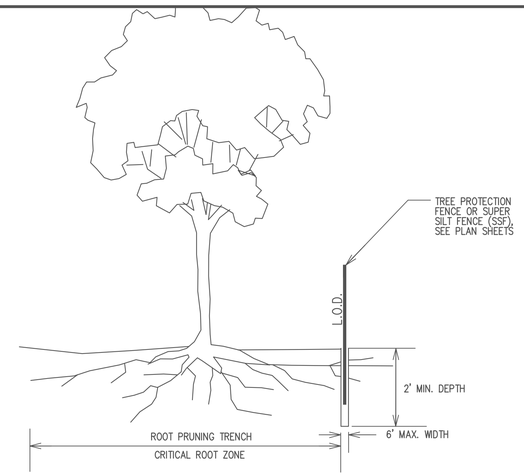
d. On trees known to be diseased, tools are to be disinfected with methyl alcohol at 70% (denatured wood alcohol diluted appropriately with water) or Chlorox solution after each cut and between trees where there is known to be a danger of transmitting the disease on tools.

e. Old injuries are to be inspected. Those not closing properly and where the callus growth is not already completely established should be traced where appropriate. If desired, for cosmetic purposes, the wound may be treated with a thin coat of wound dressing.

f. All girdling roots visible to the eye are to be reported to the supervisor and the Engineer.

g. The presence of any structural weakness, disease conditions, decayed trunk or branches, split crotches or branches, should be reported in writing to the supervisor and the Engineer, and corrective measures recommended.

## CROWN PRUNING



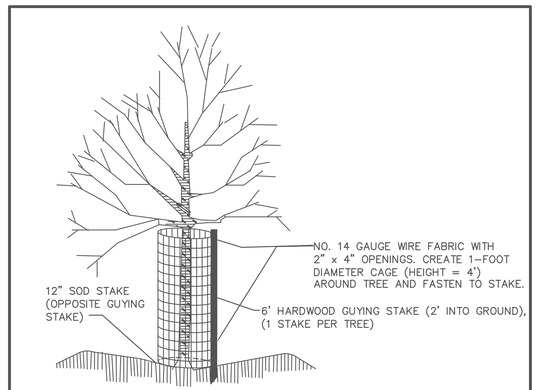

NOTES

1. RETENTION AREAS WILL BE SET AS PART OF THE REVIEW PROCESS.
2. BOUNDARIES OF RETENTION AREAS SHALL BE STAKED AND FLAGGED PRIOR TO TRENCHING.
3. EXACT LOCTION OF TRENCH SHALL BE INDENTIFIED.
4. TRENCH SHALL BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR OTHER HIGH ORGANIC SOIL.
5. ROOTS SHALL BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT
6. ALL SIGNIFICANT TREES SHALL BE INSPECTED BY A ISA CERTIFIED ARBORIST PRIOR TO CONSTRUCTION AND ROOT PRUNING.

SOURCE: CITY OF GAITHERSBURG, MARYLAND: CITY TREE MANUAL

## ROOT PRUNING PRIOR TO CONSTRUCTION

(IF NEEDED)




NOTES:

1. CAGE SHALL BE NO. 14 GAUGE WIRE FABRIC WITH 2"x 4"OPENINGS.
2. CAGE HEIGHT SHALL BE 4' (MIN.)
3. CREATE A 1–FOOT DIAMETER CAGE AROUND TREE.
4. FOR MULTI–STEM TREES AND SHRUBS OR TREES WITH LEADERS BELOW 4', USE WIDER CAGE TO LEAVE A 1–FOOT DIAMETER AROUND TREE.
5. CAGE SHALL BE FASTENED TO STAKE WITH TWO (MIN.) 11–INCH TWIST TIES, ONE AT TOP AND ONE AT 6"(MIN.) ABOVE THE GROUND.
6. INSTALL 6' HARDWOOD GUYING STAKE, 2' INTO GROUND, 1 STAKE (MIN.) PER CAGE.
7. ENSURE CAGE IS FASTENED TO THE GROUND TO PREVENT UPLIFT BY DEER BY INSTALLING A 12"SOD STAKE OPPOSITE THE GUYING STAKE.
8. FOR TREES LARGER THAN 3"CALIPER WITH NO BRANCHING BELOW 4', CAGE CAN BE SUBSTITUTED WITH DEER BARK PROTECTORS (ITEMS #bg48, BY A.M. LEONARD) OR EQUAL.
9. DO NOT DAMAGE TREE DURING INSTALLATION.
10. CAGES TO BE REMOVED ONLY AT DIRECTION OF FOREST ECOLOGIST.

## TREE DEER PROTECTION

35% DESIGN
NOT FOR CONSTRUCTION

| NO. | REVISION | DATE | BY |
|---|---|---|---|

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: ADS Checked by: JJR

LS–10 LANDSCAPE DETAILS

DALE DRIVE
PEDESTRIAN FACILITY

0 30' 60'
SCALE: 1"=30'

DATE: FEBRUARY 2020

CIP No. : 509337 SHEET 60 of 91