

SURVEYED BY \_\_\_\_\_  
SUPERVISED BY AAA \_\_\_\_\_  
DESIGNED BY BBB \_\_\_\_\_

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

| REVISED | STATE | FEDERAL AID |       | STATE   |         | SHEET NO. |
|---------|-------|-------------|-------|---------|---------|-----------|
|         |       | PROJECT     | ROUTE | PROJECT | PROJECT |           |
|         | VA.   |             |       |         |         |           |

W + 2'

W

SLOPE 2%

SLOPE 2%

SLOPE 2%

NO.8 OR NO.57 AGGREGATE

6" PIPE

1'-6"

OUTLET PIPE

D + 6"

GEOTEXTILE DRAINAGE FABRIC (LAP 6" UNDER SIDEWALK EDGE)

⊗ THIS PORTION TO BE DELETED WHEN SIDEWALK IS ADJACENT TO CURB OR CURB AND GUTTER WITH NO BUFFER STRIP.

NOTES:

- WHERE THE LONGITUDINAL PERFORATED PIPE ALIGNS WITH A DRAINAGE STRUCTURE (DROP INLET, MANHOLE, ETC.), A NON-PERFORATED OUTLET PIPE IS NOT REQUIRED. INSTEAD, THE PERFORATED PIPE IS TO BE CONNECTED DIRECTLY TO THE DRAINAGE STRUCTURE. WHERE THE LONGITUDINAL PERFORATED PIPE IS CONTINUOUS, IT SHALL BE CONNECTED TO EACH SIDE OF THE DRAINAGE STRUCTURE.
- INVERT ELEVATION AT OUTLET END OF OUTLET PIPE TO BE A MINIMUM OF 1'-0" ABOVE INVERT ELEVATION OF RECEIVING DRAINAGE DITCH OR STRUCTURE.
- ALL CONNECTIONS (ELBOWS, WYES, ETC.) WITHIN PAY LIMITS FOR OUTLET PIPE ARE TO BE OF THE SAME CRUSHING STRENGTH AS THE OUTLET PIPE.
- OUTLET PIPE ARE TO BE INSTALLED ON 2% MIN. (3% DESIRABLE) GRADE.
- OUTLET PIPE TO BE SECURELY CONNECTED TO EW-12 OR OTHER DRAINAGE STRUCTURE.
- SIDEWALK UNDERDRAIN IS TO BE USED WHEN THE SIDEWALK LONGITUDINAL GRADIENT IS 3% OR MORE AND WHEN THE UNDERLYING SOIL HAS 34% OR MORE PASSING THE NO. 200 SIEVE, AND HAS A PI OF 13 OR LESS, AND THE AREA HAS A HISTORY OF SIDEWALK UNDERMINING.
- SIDEWALK UNDERDRAINS SHOULD BE TIED INTO THE STORM SEWER SYSTEM AT POINTS APPROXIMATELY A CITY BLOCK APART. UNDERDRAIN RUNS MUST NOT EXCEED 1,000 FEET IN LENGTH WITHOUT DISCHARGING INTO THE STORM DRAIN SYSTEM OR INTO AN OPEN DRAIN.
- WITHIN THE LIMITS OF A COMMERCIAL ENTRANCE, NON-PERFORATED PIPE SHALL BE UTILIZED IN LIEU OF PERFORATED PIPE.

LONGITUDINAL PERFORATED PIPE

| TYPE OF PIPE    | CRUSHING STRENGTH |                     |
|-----------------|-------------------|---------------------|
|                 | W.T.              | 6" NOMINAL DIAMETER |
| SMOOTH WALL PVC | 0.153             |                     |
| CORRUGATED PE   |                   | AASHTO M-252        |

NON-PERFORATED PIPE FOR USE UNDER COMMERCIAL ENTRANCES AND FOR OUTLETS

| TYPE OF PIPE    | CRUSHING STRENGTH |                     |
|-----------------|-------------------|---------------------|
|                 | W.T.              | 6" NOMINAL DIAMETER |
| SMOOTH WALL PVC | 0.153             |                     |
| SMOOTH WALL PE  |                   | 70 PSI ⊗ ⊗ ⊗        |

⊗ WALL THICKNESS (MIN) - INCHES  
⊗ ⊗ ⊗ TESTED ACCORDING TO ASTM D-2412 AT 5% DEFLECTION.

UD - 3

TRENCH WITH AGGREGATE

UP TO ELBOW PIPE IS PERFORATED

45° ELBOW CONNECTION

CAP

45° ELBOW CONNECTION

PAY LIMITS FOR OUTLET PIPE TO BEGIN WITH 45° ELBOW

DRAINAGE STRUCTURE

OUTLET PIPE

SPECIFICATION REFERENCE

|     |
|-----|
| 232 |
| 501 |
| 701 |

## STANDARD SIDEWALK UNDERDRAIN

VIRGINIA DEPARTMENT OF TRANSPORTATION

REV. 2/06

108.03

REV. 2/06  
SPECIAL DESIGN SECTION  
DRAWING NO. A-55

| PLAN NO. | PROJECT | FILE NO. | SHEET NO. |
|----------|---------|----------|-----------|
|          |         |          |           |