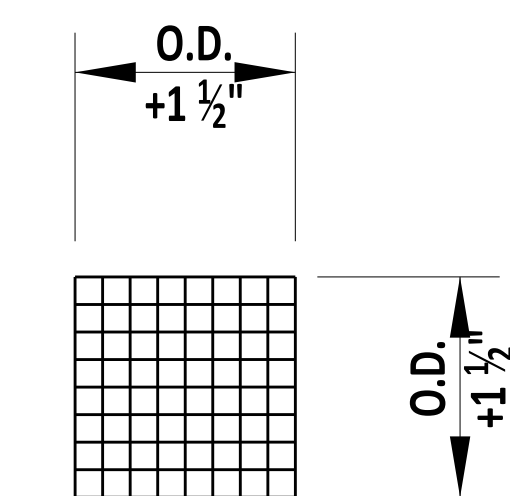
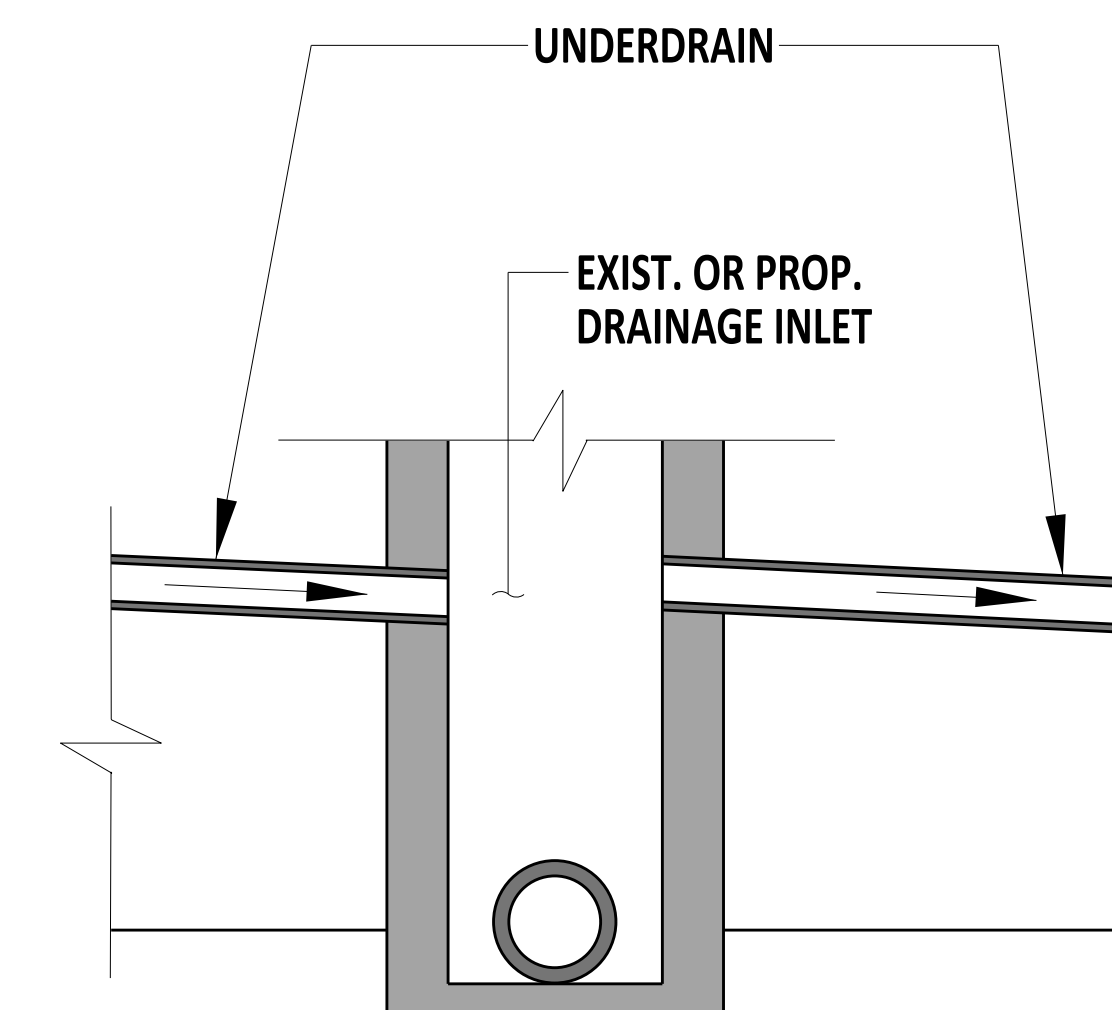


**FRONT VIEW**  
**TOP VIEW**  
**SLOTTED HEADWALL DETAIL**



**FRONT VIEW**  
**RODENT SCREEN**



**ELEVATION**  
**PERFORATED PIPE UNDERDRAIN**

**NOTES:**

- 1). PLACE GEOTEXTILE FILTER FABRIC ENTIRELY OVER THE TOP OF UNDERDRAIN TRENCH AND LAP AS SHOWN.
- 2). MATCH THE SLOPE OF UNDERDRAINS TO THE ROADWAY GRADE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 3). TO DIRECT UNDERDRAIN PIPE INTO THE SIDE OF A DRAINAGE INLET OR TO POSITIVE OUTFALL GRADE, USE 45 DEGREE ELBOWS OR A STRAIGHT PIPE WITH A MINIMUM RADIUS OF 3'. AT THESE LOCATIONS, USE NON-PERFORATED PIPE WITH A SMOOTH INTERIOR.
- 4). INSTALL RODENT SCREEN TO SNUGLY FIT THE PROVIDED SLOT WITH THE SCREEN LIP FITTING TIGHT TO THE BOTTOM FLOW LINE.
- 5). INSTALL A DELINEATOR ADJACENT TO THE TOP OF THE UNDERDRAIN OUTLET ON THE APPROACH SIDE OF TRAFFIC. INSTALL THE DELINEATOR ON A BREAKAWAY POST ASSEMBLY, EXTENDING 4' ABOVE GROUND ELEVATION, IN ACCORDANCE WITH DETAIL T-15, SHEET 1. PERPENDICULAR TO THE TRAVEL LANE, INSTALL AN OM-2-2V BLUE REFLECTOR ON BOTH SIDES OF THE POST WITH HARDWARE COMPATIBLE WITH THE SIGN POST.
- 6). WHEN TWO LINES OF PIPE UNDERDRAIN DRAIN TO A LOW POINT, PROVIDE AN OUTLET FOR EACH PIPE.
- 7). DO NOT PLACE UNDERDRAIN PIPE UNDER GUARDRAIL.



*Andrew Short*  
ENGINEERING SUPPORT  
**RECOMMENDED**  
DATE 12/22/2023

**PERFORATED PIPE UNDERDRAIN**  
STANDARD NO. D-9 (2024) SHT. 1 OF 1

**REVIEWED**  
DEPUTY DIRECTOR - DESIGN  
*[Signature]*  
DATE 22 December 2023  
**APPROVED**  
CHIEF ENGINEER  
*[Signature]*  
DATE 01/11/2024