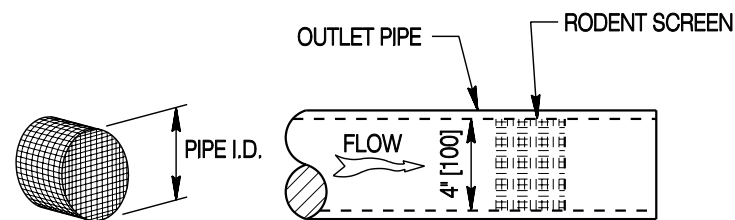


TYPICAL UNDERDRAIN DITCH

NOTE: SEE PLANS FOR EDGE DRAIN DITCH DETAILS.

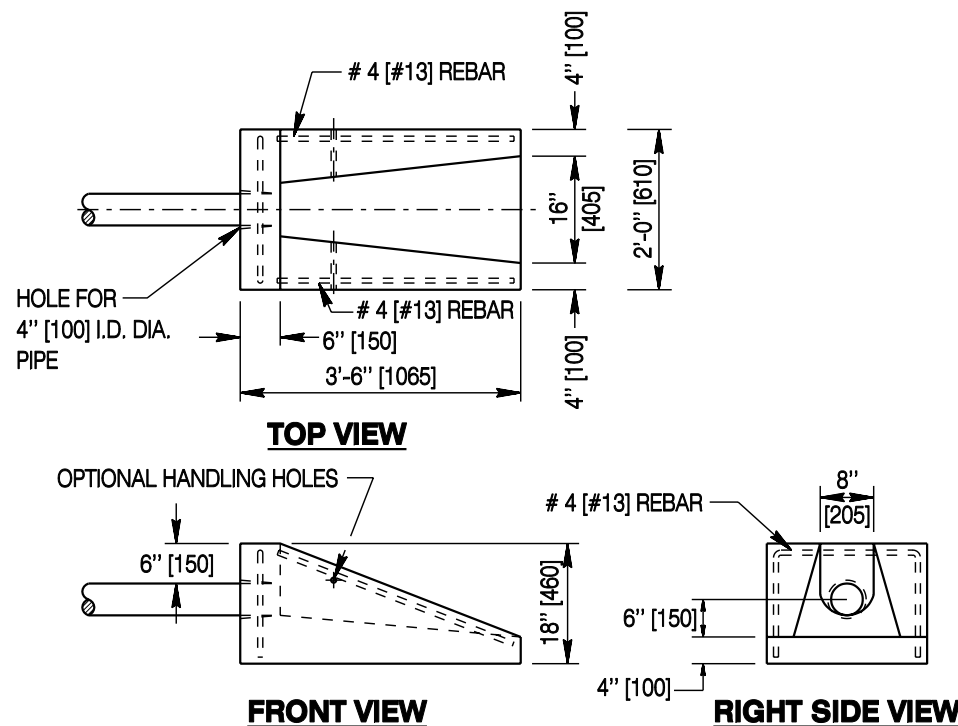
GENERAL REQUIREMENTS FOR UNDERDRAINS AND EDGE DRAINS

- Underdrains are typically used for embankment drainage while edge drains are typically required for roadway subgrade drainage.
- Underdrain and edge drain outlet appurtenances are not paid for separately; but are considered incidental to the underdrain or edge drain.
- Ensure the trench for non-perforated pipe for underdrain or edge drain outlets is a minimum of 2 in [50] wider than the outlet pipe. Place the outlet pipe in the center of trench while the backfill is compacted. Provide the maximum possible cover on outlet pipes until daylighted.

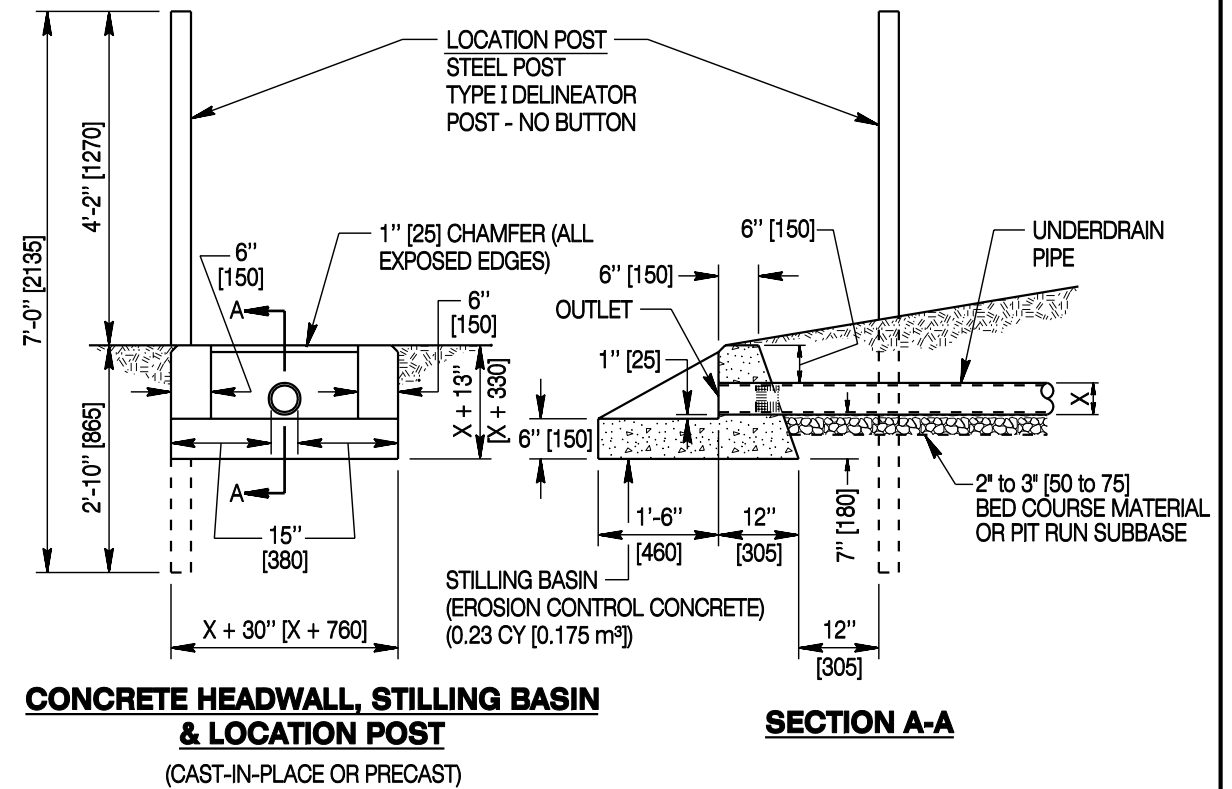


RODENT SCREEN DETAIL

4 x 4 GALV. HARDWARE CLOTH
(4 OPENINGS PER 1 in [25])
.025 in [0.635] Ø WIRE OR EQUIVALENT



ALTERNATE PRECAST STILLING BASIN FOR 4 IN [100] DIA. PIPE



UNDERDRAIN & EDGE DRAIN OUTLET DETAILS

Designed by:	GLD
Drawn by:	KAP
Checked by:	RRC
Previous Dep. No.	605-01B

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.

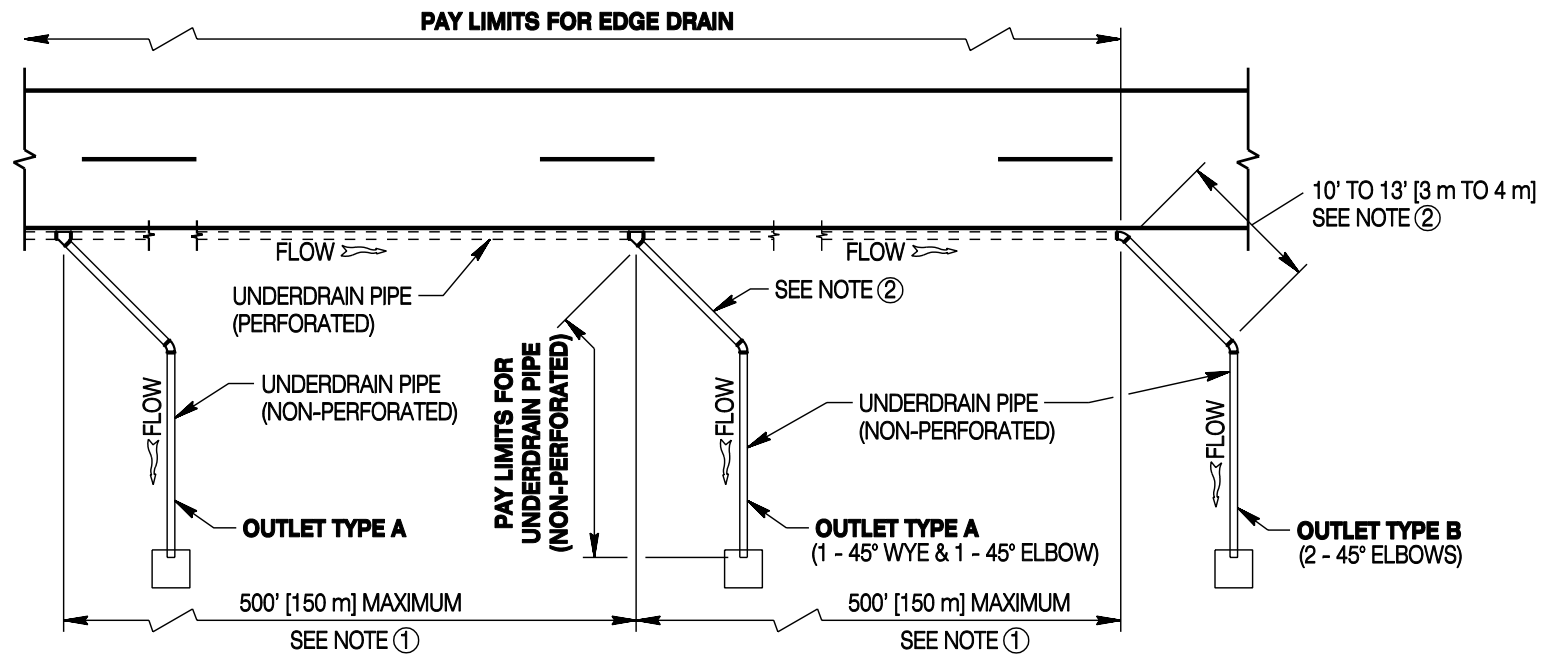


PIPE UNDERDRAINS & EDGE DRAINS

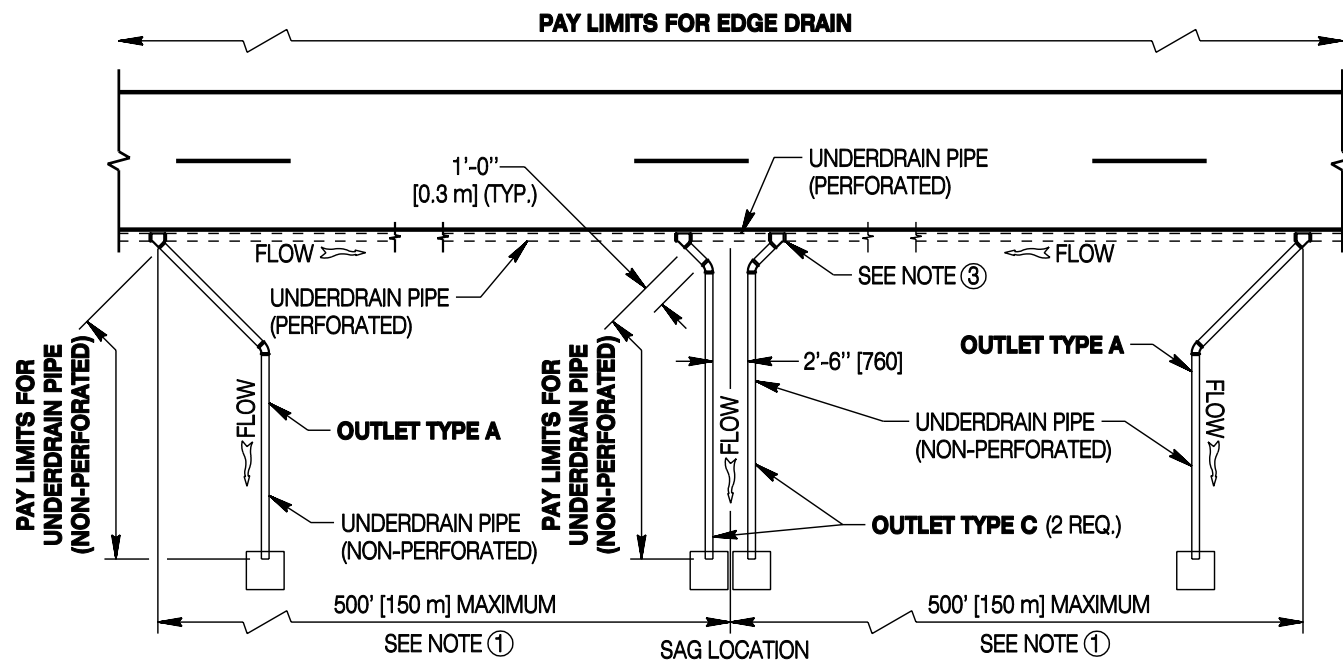
STANDARD PLAN

STANDARD PLAN NUMBER	605-1
SHEET	1 of 2
Issued by:	ENGINEERING SERVICES
Date Issued:	NOVEMBER, 2004

FILE: j:\StanDual_Std_Wrk6051_01.dgn



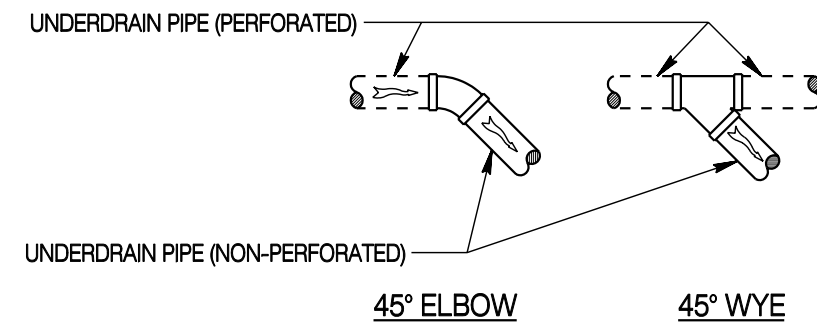
EDGE DRAIN (CONTINUOUS RUN)



EDGE DRAIN (SAG LOCATION)

OUTLETS FOR EDGE DRAINS

- ① Ensure outlets for edge drain are spaced no greater than every 500 ft [150 m] along a run of edge drain.
- ② Provide outlets off of the edge drain at a 45 degree angle from the direction of water flow. Ensure the length of first leg of the 45 degree bend is 10 ft to 13 ft [3 m to 4 m]. Install a second 45 degree bend to daylight perpendicular to the edge drain (see detail). If the standard laying length of non-perforated pipe is greater than 13 ft [4 m], cut the pipe to 10 ft [3 m] to form the first leg of the 45 degree bend.
- ③ If a sag (low) point is along a run of edge drain, use two Type C outlets (see detail).
- ④ Provide 4 in [100] diameter edge drains and outlets unless otherwise shown in plans.



OUTLET PIPE CONNECTIONS

Designed by: GLD
 Drawn by: KAP
 Checked by: RRC
 Previous Dwg. No. 605-01B

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



PIPE UNDERDRAINS & EDGE DRAINS

STANDARD PLAN

STANDARD PLAN NUMBER
605-1
 SHEET 2 of 2
 Issued by: ENGINEERING SERVICES
 Date Issued: NOVEMBER, 2004
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