

**Subject.—FIXING THE SILL LEVEL OF DRAINAGE SYPHON AND NALLA GRADING.**

G. C. No.  
UKI-4972  
(8)-K, dated  
11th October  
1973.

It was noticed during the inspection that some drainage syphons got silted up due to brush-wood growth and very loose silt. It is common experience that drainage syphons get choked up obstructing the nalla flow which may damage the crops in fields on u/s side and or may breach the canal. For proper functioning of syphons, effective maintenance of syphon is necessary. There should be no bush, trees, or grass in nalla bed or banks within 500 ft. u/s or d/s.

In order to avoid choking up of the drainage syphons, guidelines suggested below, should be judiciously followed at all stages *i.e.* at the time of selecting the location of drainage syphons, preparing their designs during execution and maintenance.

(1) Generally the sill level of the syphon barrel should not be lower than the general nalla bed level on the d/s side. However in case, the Nalla bed is required to be depressed, it should be as shown in the sketch attached.

(2) The nalla should be trained on u/s side so as to provide proper approach conditions to the syphon barrel.

(3) The nalla grading should be done to a grade of 1:5 on u/s side in the immediate vicinity of structure. On the d/s side, however the nalla should be regraded so that there is no obstruction to the water way causing any pool of water in the nalla.

(4) The nalla syphon should be designed as far as possible for a water way which generates a velocity of 10 ft. per sec. in high floods.

(5) During execution, it should be seen that the grading on u/s sides is started early and completed before the onset of monsoon. This will check the tendency of silting up in and near the syphon during construction period. Incidentally it will also show the adequacy or otherwise of the nalla training works provided.

(6) Generally, no trash racks are required to be provided to the nalla syphons. However, each case should be studied and if there is justification for a trash rack closely to be provided on the u/s side, proposals may be framed accordingly.

(7) During maintenance and operation of the canals, drainage syphons should be inspected by the Deputy Engineer concerned immediately before the onset of monsoon to see that their waterway is unobstructed and there is no choking.