CHAPTER NO. 20

OUTLETS

SPECIFICATION NO. 20·1—Earth Work for Outlets

Method.

1. Earth work for outlets shall generally conform to sepcification no. 6·5 for "Earth work in foundations", except that special care sahall be taken to refill and repair the bank to safeguard against any mishap. Earth filling shall be done in 6 inches (15 cm.) layers with good earth free from clots. Each layer shall be sprinkled with water and thoroughly rammed before the next one is laid. The refill placed in the layers shall be free from roots, grass, stumps of other rubbish. No filling shall be commenced without the permission of the Sub-Divisional Officer. The bank shall be brought to the designed section at the site of outlet, and if there is any deficiency in the bank it shall be made up by earth borrowed from outside. If there is any surplus soil it shall be disposed off in the borrow pits or on the slopes of the banks and shall be properly dressed. Proper watching shall also be arranged at the outlet site to guard against any breach due to leakage.

Rate.

2. The rate includes all aperations for excavations, refilling and watering in layers, consolidation and dressing and disposal of surplus soil, if any. The cost of all earth work borrowed from outside for making up the deficiency in bank shall be paid for separately at earth work rates as specified. Discharge for purposes of fixing the job rate shall mean the designed full supply discharge of the parent channel opposite the outlet.

SPECIFICATION NO. 20·2—Dismantling of Outlets

General. 1. Unless otherwise specified, wherever any outlet is to be abandoned it shall be dismantled or removed as a hole. Partial dismantling of outlets may tempt the irrigators to reopen the same for unauthrorised irrigation and sometimes result in serious breaches in the channel at the site of the outlet.

Damage. 2. The contractor is responsible that the dismantling is done, with appropriate tools and in such a manner as to render unserviceable as little of the material as possilbe, special care being taken to avoid damage or injury to such parts as are to be perserved for re-use elsewhere. Any such damage which is due to carelessness of the contractor will be made good by him at his own expence.

Material. 3. All material dismantled shall be the property of the Government and shall be sorted and stacked where ordered by the Engineer-in-charge.

Rate. 4. The rate includes dismantling and removing of dismantled material up to 300 feet (90 metres) and sorting and stacking the same. The rate does not include earth work in excavation necessary for dismantling which will be paid for separately.

SPECIFICATION NO. 20-3—Adjustment of Outlets

Time for adjustment.

1. When any alteration form is received duly sanctioned from the competent authority requiring adjustment of the outlets, it should be carried out in the beginning of the sowing season (i.e. kharif or rabi, unless specially ordered by the competent authority for executing the work at any other time of the year. This is necessary to avoid damage if any to the crops already sown on the outlets.

Adjustment according to design.

2. All adjustments shall be strictly according to the sanctioned data and no deviation from the design will be permissible. Adjustment shall be done in such a manner that the new work is not liable to tempering easily. The new work shall be properly bonded with the existing work. When concrete or mortar is used, the same shall be allowed sufficeint time to harden before the outlet is opened and during this period proper curing shall be arranged. In case of short closures rapid hardening cement or calcium chloride up to 1½ per cent of the weight of cement may be used to reduce period of hardening.

Rate.

3. Except for tail clusters, rates in the Schedule of Rates are for adjustments where change in 'B' or width of the throat of flume, etc. is up to .0·10 feet (3 cm.) in case change in 'B' is more than 0·10 feet (3 cm.) curved approach shall have to be dismantled considerably and, therefore, payments may be made on the basis of actual measurements of dismantling and rebuilding.

SPECIFICATION NO. 20·4—Constructing, Watching and Removing Bund in Running Water for Outlets.

General.

1. To remove, construct adjust or repair the outlets in running water,an earthen ring bund in the channel is necessary for the safety of the channel as well as the work to be under taken. The bund should be suitably protected by using gunny bags so as to make the earthen bund strong and leak proof.

Contractor shall arrange for proper day and night watching of the bund till the work on the outlet is completed.

Damage.

2. All damage occurring to the channel including works on it due to breach in the channel at the site of work caused by the negligence of the contractor shall be recoverable from him.

Rate.

3. Rate includes the cost of bags, and constructing, watching and removing bund in running water.

SPECIFICATION NO. 20·5—Laying and Jointing of Reinforced Cement Concrete Pipes for Culverts and Outlets

Concrete Pipes.

1. Reinforced cement concrete pipes shall conform to Indian Standard : 458.

Handling of Pipes.

2. Proper care shall be exercised in loading transporting and unloading of concrete pipes. Handling shall be such as to avoid impact. Gradual unloading by inclined plane or by chain block is recommended.

Laying of Pipes.

3. All pipes and collars shall be inspected carefully before being laid. Broken or defective pipes or collar shall not be used. Pipes shall be lowered to the site carefully and shall be laid true to line and grade as specified. Laying of pipes shall always proceed up the grade of a slope, and the collars shall be slipped on before the next pipe is laid. The body of the pipe shall rest on an even bed for its entire length and places shall be excavated to receive the collar for the purpose of jointing. The sections of the pipe shall be jointed together in such a manner that there shall be as little unevenness as possible along the inside of the pipe.

Jointing of Pipes.

4. Collar joints are used in the Punjab. Details for the same are given below in Figure no. 20.5 (a).

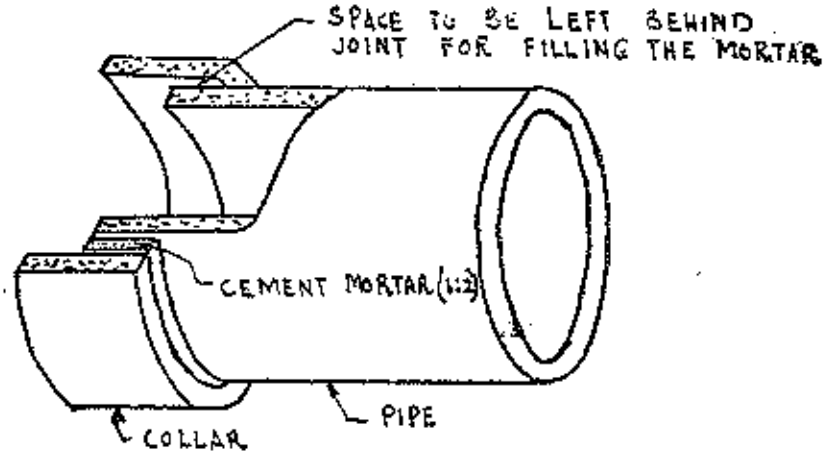

FIG. 20·5 (a) FIG. REINFORCED CONCRETE COLLAR JOINT.

Collars are 6 inches to 8 inches (15 cm. to 20 cm.) wide. Caulking space varies from 0·5 inch to 0·75 inch (13 mm. to 20 mm.) according to diameter of pipes. Caulking material is a slightly dampened mix. of cement and sand (1:2) rammed with caulking irons.

Curing of Joints.

5. Every joint shall be kept wet for about 10 days for maturing. The section of the pipe line laid and jointed shall be covered with earth

or sand immediately to protect from weather effects. A minimum coat of 4 inch (10 cm.) is considered adequate. The joints shall not be covered without the permission of the Engineer-in-charge.

Rate.

6. Labour rate includes rehandling of material within 300 feet (90 metres), laying reinforced cement concrete pipes, joining ends, fixing collar with cement mortar 1:2 and curing of joints. Through rate in addition includes the cost of mateials for cement mortar.