HINTS ON CAMPING ARRANGEMENTS FOR SANITARY OFFICERS.

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(Continued from p. 553.)

PART II.

POINTS FOR CONSIDERATION AND ARRANGEMENTS TO BE MADE BEFORE ARRIVAL OF TROOPS.

(1) Infectious Diseases.—Make enquiries from the local medical officer of health as to the prevalence of any infectious disease in the vicinity of the camp.

Arrange with the authorities of an infectious hospital for the reception of infectious cases from the camp. Ascertain the hospital charges, and obtain the sanction of the Principal Medical Officer for infectious cases to be transferred there.

(2) Through the administrative medical officer issue definite instructions as to the making of latrines, urinals, &c.; an explanatory sheet of drawings should accompany the orders to each unit. These instructions should be applicable to all the camps. They should be communicated to the sanitary N.C.O.'s of units before they accompany the advance parties. For specimen of orders see Part IV.

(3) Through the administrative medical officer order the sanitary N.C.O. and men of each unit to accompany the advance party, and to be employed on sanitary duties alone. The sanitary N.C.O. should always accompany the advance party, but the number of sanitary men may vary. For instance, if a previous camp is being evacuated, some of the sanitary squad must be left behind to clear up and assist the fatigue parties. I suggest that four should go with the advance party and four be left behind. On the other hand, when leaving barracks, &c., it might be possible to send all the sanitary squad in advance.

(4) Milk Supply.—During the first two or three days in camp tinned milk should be used, and during that time the sanitary officer should obtain from officers commanding units the addresses of the proposed contractors, and satisfy himself that the condition of the cows, method of milking, washing of cans, &c., is satisfactory. Until this has been done, and a notification has been sent to the officer commanding troops, the contractor should not be permitted...
to make contracts for the supply of the troops. Notice to this effect should be given and a request for information as to addresses should be made.

(5) Communicate with the Officer Commanding Royal Engineers of the camp or camps, and ascertain whether:

(a) Proper latrine seats have been provided for officers and N.C.O.'s (see Part IV.).

(b) Wells have been protected from surface pollution.

Wells must be covered and protected from the entrance of surface water. This applies to all wells, whether they are pumped and attended to only by the Royal Engineers or used directly by fatigue parties.

Figs. 10 and 11 show two methods of protecting wells.
If an existing well is being used it will frequently be found to be unsteined, and an efficient coping is rarely present. In all cases make a shallow drain close to the well leading to a soakage pit on the downward side and well away from the well; then cover the surrounding ground with stones, gravel, or brushwood.

(c) The spring head has been prepared (see Part I).

(d) Proper ablation benches have been erected.

Do not use the ordinary grating bench, which has many disadvantages and greatly increases the difficulties of sanitation in camp, but try to get the V-shaped ablation bench. If benches are not available use lengths of canvas supported on upright posts,

but remember that if canvas has contained soapy water it cannot subsequently be used for watering horses. If no appliances are available, water taken directly from a stream or river will probably have to be used. Mark the appointed place by flags before the troops arrive. Ablution must be performed down stream from

![Diagram of V-shaped Ablution Bench]

![Diagram of camp setup with ablation, horses, and drinking water]

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Camping Arrangements for Sanitary Officers

the camp and the place marked by a red flag; animals must be watered up-stream, and the place marked by a blue flag; if drinking water is obtained from the same source it is taken still further up-stream and the site marked by a white flag. The approaches at these places are levelled, covered with rough stones, or a temporary road is made.

(c) The arrangements suggested for disposal of waste water have been made. If they cannot be made before troops arrive, have a few pits dug for temporary use on arrival, and apply to the General Officer commanding the camp for a sufficient number of men on the morning after arrival to make the necessary arrangements.

(6) Water Squads.—Ascertain from the administrative medical officer what arrangements have been made for water squads (Royal Army Medical Corps), and what water carts or filter carts are to be provided. If wooden or metal carts are to be used, instructions for cleaning them should always be given. Information on these points will generally appear in brigade orders some time before the camp is occupied.

(7) Ascertain that the tenant of an institute has asked the officer commanding Royal Engineers to point out where he may dig latrines for temporary use. This must be done immediately he arrives in camp. He must also at once make arrangements with the local contractor for the supply of a refuse barrel and for the disposal of its contents. He must not allow refuse to accumulate, but must burn all that is not removed by a contractor.

(8) The sanitary officer should visit the camp the day before occupation and see that it is ready.

(9) If boiling, clarification, or filtration of water is necessary, see that the materials required are ready before the troops arrive.

DUTIES OF THE SANITARY SQUAD.

The squad, or a portion of it, will accompany the advance party and will make: (1) Latrines: A row for one day must be dug for officers, for N.C.O.’s and for men. (2) Urinals: One for officers, one for N.C.O.’s, and one for men. (3) Urine Pit: One is required to receive the contents of the night urine tubs if they are used. (4) The necessary pits or drains for the disposal of waste water. (5) Greasy water straining pit: One for each cookhouse, one for officers’ mess, and one for N.C.O.’s mess. (6) Incinerator: One for the camp. The squad will also prepare the ground under drinking water stand pipes and around ablution benches.
In the absence of a sanitary squad this work must be performed by the pioneers, under supervision of the officer in charge of the advance party.

PART III.

IN CAMP.

Refuse.—The refuse of a camp consists of: (a) General rubbish about tents; (b) kitchen garbage; and (c) refuse from coffee shops and institutes.

The general refuse may conveniently be collected in sacks, which are hung on posts at the end of the lines of tents, and men should be ordered to place any rubbish in these sacks. Kitchen garbage is usually collected in barrels or tubs, which should be placed on raised stands close to the cookhouses; these stands may be made by four short posts supporting a rough wood framework. Tenants of coffee shops and institutes must also arrange with local contractors for refuse barrels.

As regards disposal: If the camp is for only a short occupation burn all refuse in camp incinerators. If, however, the camp is to be occupied for a long time it is usual to contract for removal of kitchen garbage, as it has a commercial value, but it can quite easily be disposed of in incinerators if these are properly constructed and attended to by trained men.

If removal is by contract, stipulate that barrels or tubs are present the day before troops arrive, that the removal is by carts which will not allow spillage of their contents, that removal is daily and, if the camp is large, that removal is to be carried out at definite times. Refuse must be taken at least half a mile from the camp. All refuse other than garbage should be burnt. Indestructible refuse, e.g., empty tins, should be passed through the incinerator and then buried.

Water Supply.—Sentries should be placed at wells and springs, and at the appointed places on the banks of a river. Patrols should guard a stream or river for some distance beyond a camp. Water parties should go at stated times and should always be accompanied by an officer. The captain and subaltern for the day from each battalion should visit the various watering places; the field officer on duty and orderly medical officer should also pay surprise visits. The approaches should be roughly paved and cleared of bushes.

When obtaining water from a river with high banks, or even from pools, use a pump and not buckets; the hose should have
a perforated ball and be placed in a sunken barrel or box. The water should be pumped into tarpaulin sheets, where mud can settle before the water is further treated. Rough filtration may be improvised by digging a shallow well close to the pool or stream. If water from wells is to be used for ablution, convey it by a pipe to the ablution place.

_Washing of Cooking Utensils._—This is a matter of some difficulty, and unless suitable arrangements are made there is considerable fouling of the ground and insanitary methods of cleansing are employed.

“Washing-up” is required at (a) messes, and (b) after the men’s dinner.

At the officers’ and serjeants’ messes there must be an appointed place, and a table or boxes, with a straining pit handy, clean cloths, and a plentiful supply of clean water must be provided.

At the men’s messes the following arrangements are used and found satisfactory: A washing-up tent is provided, the water being boiled in special stoves, and the washing up is done by permanent special orderlies, whose work is supervised by a N.C.O.

For the washing-up by individual men a bench is required, and it should not be far from a supply of boiling water. A V-shaped ablation bench would answer the purpose, but the ends should be blocked up, the lower one having a hole fitted with a plug attached to the bench by a cord. The V acts as a trough diminishing the waste of water. The waste water must pass through a grease trap before entering a drain or pit. If ashes are used they should be collected and kept in boxes near the benches, and it should be the duty of one of the sanitation squad to see that the supply is present, that boiling water and soda are obtainable, and he should be in attendance at washing-up hour.

_Clothes Washing._—The ablation bench can be used and the V-shaped bench is particularly good, as the ends can be blocked to form a trough which will diminish waste.

_Clothes Drying._—In very wet weather some means of drying may have to be improvised, _e.g._, a marquee fitted with posts and ropes, buckets with holes in them to act as braziers, the tent being tightly closed.

_Food Supplies._—These should be inspected as regards quantity and quality, and facilities should be given the men to obtain beer with their meals and not just before it; otherwise men returning from a march are apt to take beer in large quantities and are not inclined to eat their meals later.
Coffee Shops and Institutes.—These places require special attention. Each must have its refuse tub and washing place with grease trap. The employees, and also grooms, should be regularly inspected by the medical officer for itch and infectious diseases, &c.

Hawkers.—The General Officer commanding the camp should be asked to issue strict orders that no hawkers are to be allowed in camp or its vicinity, and the men should be warned of the danger of buying drinks or food from them.

Tents.—Tents should be opened up all day, and men should be advised to sleep with the door open. The tents should be struck once a week in fine weather, and the ground swept and exposed to air and sun. In wet weather it will be necessary to dig trenches round the tents, and drains should be made to carry away surface water; this should be done early. The maximum number of men allowed to sleep in a tent should be twelve.

Bedding should be opened out and aired daily at hours fixed by company officers.

DUTIES OF THE SANITARY SQUAD.

As already stated, the chief duties are making latrines and urinals, working the incinerator, placing and emptying urine tubs, cleaning the grease strainers, supervising ablution and washing-up benches and cleaning the camp.

The sanitary N.C.O. should tell off the men to their various duties, supervise their work, and report to the quartermaster when difficulties arise.

At Reveille.—Two men should see that urine tubs are emptied into the pit, that fresh earth is put into it, that the tubs are filled with water, and that the stands are whitewashed and fresh earth is placed on them.

Half an Hour after Reveille.—Two men should overhaul and clean out the incinerator and bury tins and ashes in a special pit. The remaining men should clean up camp generally, including washhouses and latrines. The N.C.O. should then inspect the ground in the vicinity of the institutes and report to the quartermaster any dirt or rubbish not properly disposed of.

After Breakfast.—One man is placed in charge of the incinerator, and one man at the officers' latrines. One man cleans and refills the straining pit at the officers' and serjeants' messes and at the cookhouse; in the evening, and oftener if necessary, he performs the same work, and puts fresh earth into the soakage pit. One man is placed in charge of the ablution and washing benches. The
remaining men of the squad dig serjeants' and men's latrines, also urinal trenches as required, and put fresh earth in the pit of the urinal every third day.

Two men are told off every night to place urine tubs outside the wet canteen, &c., to light lamps for the same, and to place lamps in serjeants' and men's latrines. The same men empty urine tubs at 9.30 p.m.

If contractors are employed to remove excreta or refuse, the sanitary N.C.O. must be present while the removal is being carried out.

The roster is changed weekly with the exception of the man at the officers' latrine, who is permanently posted there, but does his other sanitary work as well.

(To be continued.)