NOTES ON DYELINE PLAN PRINTING

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Printing materials.

Anyone who has not visited the Head Office Drafting Branch may not be aware of the new materials which have become available for the plan printing machines, nor of the improved processes and techniques they have made possible. The following is a list of the materials used by the Drafting Branch, together with brief notes on their characteristics and main uses.

(1) 81A Special. This is the medium-weight printing paper familiar to everyone. The cost per print is the lowest of all printing media and it is consequently used for the bulk of printing work, including maps and plans which are not expected to receive a lot of handling or field use, or are only of a temporary nature.

(2) Aquarel. This is a special heavy-weight paper particularly resistant to fading and used mainly for wall plans etc. on permanent display. It is not suitable for field plans, being stiff and unwieldy to handle.

(3) Linen 40A. This is the medium-weight opaque printing linen in general use for field plans, or maps and records which receive much handling or are of a permanent nature.

Much use has been made recently of printing materials having a transparent base. Using such material, any number of additional transparencies can be printed from an original; and in turn, any of these secondary transparencies can produce paper prints in the normal way. Consider the use of this process in, say, the field of plantation establishment. From an original topo base plan, three or four additional transparencies can be printed. One can then be used for a soil survey base plan, one for subdivision proposals, another for planning access roads and firebreaks, burning proposals, etc., and from each as many prints as required can be taken.

The transparent printing materials held by Drafting include:

(1) Ammopermatrace. This was the first of these media to be used, and consists of a "Permatrace" base plan developed with the aid of ammonia gas. It is available in both a single and double-sided matt finish; using the latter, additions or corrections can be made upon either side with pen and ink. The material is thin and relatively fragile and is very little used at present.

(2) Acute. This is a plastic-coated transparent paper, cheaper than 35M film and so used for temporary transparencies or those for sale to the public. To cut material costs, Acute is also used for intermediate transparencies. For example, when the tracings of two adjoining mapsheets have to be joined to produce a composite plan, what is done about the printed matter appearing on the overlapping margins? The original cannot of course be mutilated, and so Acute transparencies are made of the portions to be printed and then trimmed and joined with transparent tape.

(3) 35M film. This polyester-based film is .002-3" thicker than Permatrace, and is much more durable. It will neither shrink nor stretch and therefore is used for all permanent records and special plans needed for accurate plotting. However, the sensitized chemical surface has a tendency to "creep" in wave-like patterns and, for this reason it can only be used by experienced Drafting Branch staff on suitable machines.

(4) Stripfilm. This material is fairly unstable, having a tendency to shrink, but it is invaluable for making a transparency from an ordinary paper plan when the original tracing is unavailable. For example, we may wish to reproduce a plan received from sources outside the Department. It can be printed onto Stripfilm as an intermediate transparency and then transferred to 35M film or Acute.

(5) Durafilm. This is a plastic-based material, matt finished on both sides. There is one insuperable obstacle to its general use however; any contact with moisture (water, perspiration etc.) will immediately and completely remove the plan detail. It is no longer used in the Drafting Branch.

Preparation of transparencies for dyeline printing.

With so many specialized materials available, it might be thought that the production of high grade prints is automatic. This is not so. The dyeline print operator can only produce as good a print as the quality of the original transparency allows. The points he looks for in the original is a uniformly transparent base material, clean, flat, and with a dense sharply-defined line.

When preparing a tracing for printing, a first-rate result will be ensured if it is remembered to:

(1) Keep the material free of grease, wax, water, etc. Tracing linen in particular is rendered opaque by contact with moisture.

(2) Use a dense black ink, or pencil if soft enough to give a dense line and hard enough not to smudge e.g. 2B.

(3) Avoid erasures, as they lead to smudged and discoloured prints.

(4) If using tracing linen, it will be found easier to work on the dull side, first rubbing it thoroughly with pounce to size the surface.

(5) The use of coloured inks and pencils for line-work makes the transparency itself clearer to read, but unless they are quite dense the print will be poor. The printer must underexpose in order to bring out the lightest colour, and this results in a dark-toned "background" with a very poor contrast. It must be emphasised that solid "blocks" of colour (washes or pencil shading) should on no account be used for transparencies as a legible print cannot be obtained from them.

(6) Finally, refrain from folding or creasing a tracing. It causes permanent marks that transfer to the print; and more important, because the transparency will not be completely flat in the machine, there will be a more or less serious distortion in the scale of the print. Tracings should be stored flat and transported rolled around a cardboard cylinder.