

NATIONAL ROADS AUTHORITY
CAYMAN ISLANDS

SECTION 608

**SPECIFICATION FOR THE EXCAVATION, BACKFILL,
AND REINSTATEMENT OF A TRENCH
LESS THAN 30" WIDE CUT IN A ROAD RESERVE BY A STATUTORY
UNDERTAKER**

1.
 - a. As per section 25.2 of the Roads Law 2005 Revision, no cost or expenses arising from any authorised excavation and reinstatement of a trench will be borne by the Authority Unauthorized trench cuts will be subject to penalty fees as set out in the appendix 2 (See Fee Schedule Attached in appendix 2)
 - b. Subject to section 25.1 of the Roads Law 2005 Revision, only unplanned trenches cut for emergency repairs for maintenance will be allowed without the expressed written consent of the Managing Director of the NRA. All other applications must be specifically approved and all fees relating thereto must be paid in full.
 - c. Unsatisfactory excavation, backfill, reinstatement and damage to the adjacent road consequent to the trench works will be made good by the applicant.
 - d. If the N.R.A. is not satisfied with the trenching work the applicant shall, at his expense, either, replace it, or provide test results from an independent laboratory to show that the work is satisfactory.
 - e. The Managing Director reserves the right to withdraw an authorisation to excavate a trench in a road reserve if the applicant fails to demonstrate that he is capable of reinstating the trench in a satisfactory manner.
2. The applicant must obtain written permission for the proposed works from the Police Traffic Department, who will require information regarding closure of any part of a public roadway. The NRA will require specific details of any lane diversions planned, traffic warning signs to be erected, pedestrian protection measures to be implemented, and the duration of the intended works. Work in footpaths and under sidewalks will require an alternative protected route for pedestrians.
3. The National Roads Authority shall be given at least 24 hours' notice so that inspection of the proposed works can be arranged. (See Fee Schedule Attached)
4. The National Roads Authority shall be given at least 8 hours advance notice so that inspection of any on-going works can be arranged for permission to proceed to final reinstatement. (See Fee Schedule Attached)
5. The applicant must verify the location of all existing services including those of C.U.C., Cable & Wireless (LIME), Cayman Water Co., CIG Computer Services, Water Authority, LOGIC/WestTel, and Westar T.V. Ltd. Any damage to these or other Services shall be the applicant's responsibility. The applicant must be able to locate his service if required to do so at a later date, and he must provide National Roads Authority with an as-built plan if it differs from the permit.
6. Warning signs shall be erected in accordance with the UK Department of Transport booklet, "Safety at Street Works and Road works": a copy of which may be consulted at the National Roads Authority.
7. The trench shall not exceed 30 inches in width. Shoring will be used as necessary to prevent the collapse of trench sides. The top of the highest duct shall be at least 16 inches below the surface.

8. Excavations within the road reserve shall be backfilled in layers, maximum thickness 9 inches before compaction, with either semi-dry lean mix concrete or with well graded, granular material maximum size 1½ inches, which shall be compacted mechanically at optimum moisture content, to 95% maximum density as determined by ASTM D 1557-87. Organic, poorly graded, wet, or silty materials shall not be used as backfill.

Backfill material shall only be placed in a dry trench. In exceptional circumstances the Managing Director may permit the trench to be backfilled below water level with either unsegregated lean mix concrete or ¾ inch single size, clean, crushed rock aggregate contained within an envelope of geotextile filter material

9. Except where semi-dry lean-mix concrete is used, the base of a carriageway or shoulder shall be excavated 6ins wider than the trench cut on both sides. The thickness should be 8 inches or equal to the existing base if this is greater than 8 inches. The base material shall be either marl or crushed rock aggregate to match the original material, but any case shall meet the following specification:-

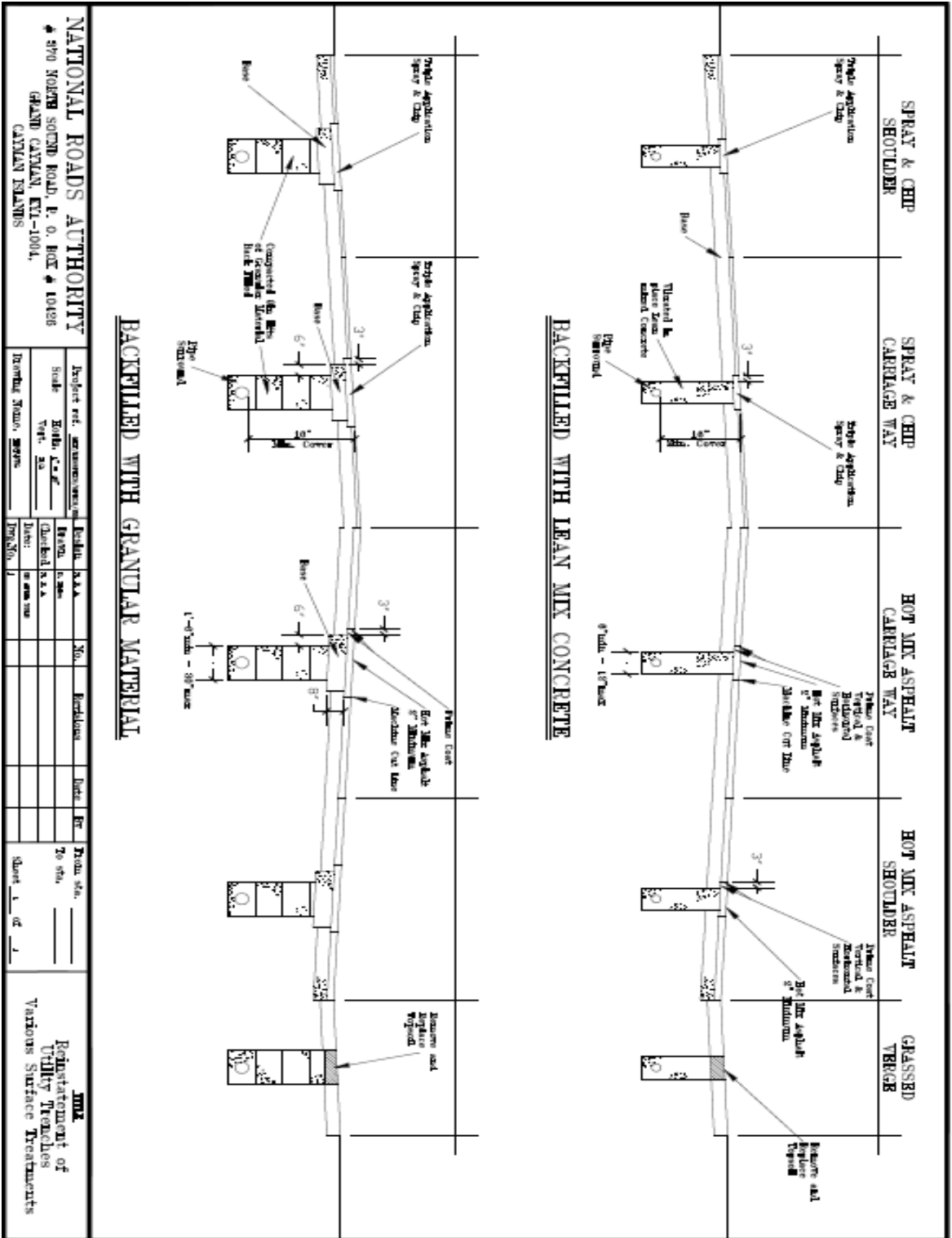
i. <u>SIEVE SIZE</u>	1½ ins MAX. % PASSING	1 ins MAX. % PASSING
ii. 1½	100	-
iii. 1	70 – 95	100
iv. ¾	55 – 85	70 – 100
v. No.4	30 – 60	35 – 65
vi. No.40	10 – 30	15 – 30
vii. No.200	5 – 15	5 – 15

- a. The portion or material passing the No.40 mesh sieve shall have a liquid limit not more than 25 and a plasticity index of not more than 6 when tested in accordance with ASTM D 4318 – 84.
 - b. Only imported material, not material excavated from the trench, will be used as base.
 - c. The base material shall be compacted mechanically, in layers not exceeding 6 inches finished thickness, at optimum moisture content, to 98% maximum density as determined by ASTM D 1557 - 87.
10. Before reinstatement, existing pavements will be machine cut to neat lines, wider than the maximum disturbed base by 3 inches on both sides. The exposed base shall be compacted as in Section 8 above and the level shall be within the tolerances of Section 13 below.
 11. Existing hot-mix asphalt (H.M.A.) surfaces shall be reinstated with H.M.A. of the same thickness as the existing surface except that the thickness shall not be less than 2 inches. The surface of the base and any vertical contact surfaces shall be prime coated prior to placing H.M.A. (Refer to appendix 1)
 12. All existing spray and chip surfaces will be reinstated with triple application spray and chip, two layers with ½ inch chips and a top layer of 3/8 inch chips. Each layer of bitumen will consist of approved bituminous material spread at a rate of .35 gals per sq.

yd. at a temperature of 150-180°F. All chips will be single sized, washed, crushed rock aggregate and will be dry and clean at the time of application. Chips will be spread at a rate to produce a uniformly closed surface one layer of aggregate thick. (Refer to appendix 1)

13. All surfaces other than H.M.A. or spray and chip will be reinstated as the existing surface. The surface of backfilled trenches which have not yet been permanently reinstated must be maintained to provide a safe, clean, smooth running surface for vehicles and pedestrians, but this temporary surface must not remain for more than 1 week. Permanent transverse and longitudinal reinstatements for trenches 6" -30" width maximum will be maintained in a condition satisfactory to the National Roads Authority for a period of 10 years.
14. Permanent transverse and longitudinal cuts reinstatements for trenches 1" -2" maximum will be maintained in a condition satisfactory to the National Roads Authority for a period of 5 years.
15. Horizontal boring must be sleeved and all conduits must be laid at a minimum depth of 18" from the surface material.
16. The base of a carriageway, the surface of a shoulder, and any paved surface shall not vary more than 1/8 inch in 10 ft parallel to the centre line, nor more than 1/4 inch in 10 ft. at right angles to the centre line when checked with a 10 ft. straight edge.
17. Trench cuts in the 12' travel shall be installed at no further than 3' parallel from the edge of pavement abutting the shoulder of the road. Reinstatements for all cuts exceeding this maximum distance shall be for the full lane width nominally 12' wide to the centreline of the carriageway.
18. Manhole/Hand Hole lids shall be set between 1/4 inch low, and flush with the surface. In a H.M.A. carriageway, concrete surrounds to manhole lids should be finished 2 inches below the surface to allow the H.M.A. to abut the metal cover. In other areas, any visible concrete surrounds shall be formed to a regular shape and be of neat appearance.
19. In grassed verges, topsoil shall be removed and stockpiled separately for reuse, prior to general excavation of the trench. If this is not done, the applicant will discard all the excavated material and provide new backfill material, new top soil, and seeding.

Appendix 1



NATIONAL ROADS AUTHORITY
 # 570 NORTH SOFTED ROAD, P. O. BOX # 10498
 GRAND CAYMAN, KY-1004,
 CAYMAN ISLANDS

Author ref.	Scale	Revised	No.	Revisions	Date	By	From Sta.	To Sta.	Sheet 1 of 1
	Both: 1" = 10'	Drawn: k.a.a.							
	Top: 3/4" = 10'	Checked: k.a.a.							
	Horizontal: 1" = 100'	Date: 08/20/04							

INDEX
 Restatement of
 Utility Trenches
 Various Surface Treatments

Appendix 2

Fee & Maintenance Schedule

1. Trench Application Fee: \$175/application
2. Unauthorized Trench Installation Fee: \$1000
3. Trench Repairs Conducted by NRA Staff: \$50-\$125/Sq.Yd
4. Inspection Charge per Trench: \$100/hr
5. Maintenance period for standard 6" wide trench: 10 years for transverse & longitudinal cuts on HMA roads;
6. Maintenance period for standard 24" or wider trench: 10 years for transverse & longitudinal cuts on HMA roads (repave entire lane if more than 3' from edge line)
7. Maintenance period for horizontal boring (trench-less): 2 years if sleeved conduit is less than 18" deep;
8. Maintenance period for standard 1" or wider Micro-trench: 5 years with approved grouting application