

FOOTHILLS COUNTY

ROAD CONSTRUCTION STANDARDS

Revised: May 15, 2024

ROAD CONSTRUCTION STANDARDS

SCHEDULE "A"

Construction of internal subdivision roads and construction of road allowance shall be at no expense to the Municipality and shall be to the standards as follows:

- 1. Roads shall be designed by a qualified engineer and three (3) copies of the plans sent to the Municipality for approval by Council.**
- 2. The Developer will enter into a Development Agreement and supply a Letter of Credit for 125% of the approved cost estimate prior to commencement of construction. The letter of Credit will be reduced accordingly after the road is accepted by Council, as constructed, to cover a two (2) year maintenance period.**
- 3. A site meeting shall be held prior to the start of construction with the Developer, the Municipality and/or their engineering firm in attendance.**
- 4. Upon completion of the sub-grade construction, an inspection shall be earned out by the Municipality in attendance. The contractor shall supply and operate a loaded test vehicle of 8200 kg axle load to test the sub- grade for rutting, weaving and soft spots. Where proof of rolling indicates areas that are defective, the contractor shall remove and replace the material with suitable compacted material at his expense.**
- 5. The Developer will be responsible for obtaining all approvals for road closures, utility crossings and railway crossings.**
- 6. The Developer will be responsible for providing utility easements and drainage easements, if required.**
- 7. The Developer is responsible to contact the Public Works Department to schedule subgrade Proof Roll inspection prior to the placement of Gravel Base Course.**
- 8. The Developer is responsible to contact the Public Works Department and the Consulting Engineer to schedule CCC and FAC inspection.**
- 9. All phases of road construction shall conform to good engineering practices and be acceptable to the Municipality.**
- 10. All phases of road construction shall be tested by a geotechnical firm and will meet the following compaction standards:**
 - a) Subgrade- grade to 150mm depth -98% Standard Proctor Density
 below 150mm depth- 95% Standard Proctor Density**
 - b) Gravel Base Course - 100% Standard Proctor Density**
 - c) Density of Asphalt -not less than 97% of Marshall Briquettes produced from actual mix.**

ROAD CONSTRUCTION STANDARDS

11. Country residential and Road allowance right of way width to be 30 meters unless otherwise set by Director of Public Works in accordance with submitted engineered drawings but at no time less than 20 meters. Curb and gutter right of way widths to be set by Director of Public Works on a case by case basis.
12. The road top width and type of surface must conform to the road Surface Policy.
13. Cul-de-sac, if required, minimum 15 meter radius.
14. Shoulder slopes - 3:1 ratio.
15. From the shoulder of the road to the toe of the side slope to be a minimum of 1.0 meters.
16. Bottom of ditch width minimum to be 3 meters.
17. Back slope - 3:1 ratio minimum.
18. Minimum Horizontal Curve Radius: 80 km/hr Design Speed- 250 meters.
19. Minimum K Values: 80 km/hr Design Speed - SAG 45 - Crest 30.
20. Single approaches will be the same width and surface top as the finished surface of the internal road (maximum width of 6 meters). Approaches onto a road allowance shall be 6 meters wide with 3:1 ratio shoulder slopes and maximum +/-2% gradient from the road shoulder to the property line. Access of a Municipal Road shall conform to approach standards of the Municipality.
21. Common approaches shall have a minimum top of 9 meters with 3: 1 ratio should slopes and maximum +/- gradient from the road shoulder to the property line.
22. Any approaches onto a secondary road must be approved by Council.
23. Minimum size of roadway culvert shall be 600mm and be approved by the Municipality before being installed.
24. Minimum size of approach culvert shall be 500mm and be approved by the Municipality before being installed.

ROAD CONSTRUCTION STANDARDS

- 25. All culverts shall be rip-rapped at both ends and the size and type of rip-rap shall conform to good engineering practice and acceptable to the Municipality.**
- 26. Any drainage channels and road ditches exceeding 4.0% grade shall be provided with rock ditch checks or an erosion control acceptable to the Municipality.**
- 27. The sight distances on all approaches onto a municipal road shall be 180 meters for 80 km/hr design speed and 250 meters for 100 km/hr design speed.**
- 28. Loam stripped from the construction site to be stockpiled and re-spread on the shoulder slopes, ditches and back slopes to a depth at least equal to the material loam cover of the immediate surrounding area or to a minimum depth of 75mm.**
- 29. All should slopes; ditch bottoms and back slopes to be left in a smooth condition and all rocks will be picked and removed.**
- 30. Shoulders, ditches and back slopes to be seeded at an adequate rate with grasses acceptable to the Municipality.**
- 31. Traffic signs as required and shall conform to Alberta Infrastructure standards. Road ban signs required on surfaced roads.**

January 10, 2008

ROAD CONSTRUCTION STANDARDS

SCHEDULE "B"

Road Surfacing Policy - Minimum Requirements

1. PAVED ROADS surface is acceptable for multi-parcel subdivision applications.

HDCR & CRR49 application(s) may require additional upgrading beyond the internal road requirements above for:

- a) intersectional treatment
- b) road surfacing to the internal road

Approaches are required to all lots created including balance parcel (see approach policy).

All lot numbers include proposed new lots as well as the balance parcel.

January 10, 2008

ROAD CONSTRUCTION STANDARDS

SCHEDULE "C"

Pavement Surface Standards

A. Internal Subdivision Road

****90mm ACP**

Prime Coat

200mm DES 2 CL 20

**** Subdivision roads that pavement would be stage construction - that is 50mm put down initially then after the minimum 2-year maintenance period the 40mm top lift would be added and the FAC issued.**

B. Road Allowance

90mm ACP

Prime Coat

200mm DES 2 CL 20

**** Road Allowance, the complete 90mm ACP would be placed in two lifts at the initial construction.**

C. Industrial / Commercial Roads

130mm ACP

Prime Coat

250mm DES 2 CL 20

January 10, 2008

ROAD CONSTRUCTION STANDARDS

RURAL APPROACH STANDARDS

Policy Statement

This policy provides a consistent standard that ensures the safety of the public and that effective maintenance and management practices are adhered to at all times. Rural approach(s) must be situated and constructed to this minimum standard for public safety.

Enforcement

All rural approaches must conform to the regulations specified by Foothills County. Failure to comply with the regulation may result in penalties or fines.

Management of this policy is the responsibility of Foothills County.

Purpose

Foothills County is the only agency responsible in the overall proper management of the municipality's road infrastructure network. This responsibility must be carried out to ensure the safety of the public is achieved and that effective maintenance and management practices are strictly adhered at all times.

1.0 Authority:

The County retains the authority to approve or deny any or all rural approach applications.

- (1.1) Any rural approach, located on a municipal right of way, shall not be altered, relocated, or constructed without the approval of the County. Applications to make any changes require Foothills County approval.
- (1.2) The installation or upgrade of a rural approach shall be constructed in such a manner which does not interfere with the safety of the motoring public or regular maintenance of the road right of way.
- (1.3) All expenses associated with developing a rural approach are the responsibility of the applicant.
- (1.4) A rural approach which has not been applied for, approved of, or does not meet the Rural Approach Policy may be removed by Foothills County and all costs associated with the removal will be charged to the landowner abutting that rural approach.

ROAD CONSTRUCTION STANDARDS

(1.5) Foothills County retains the authority to allow for discretionary variances and the relaxation of standards for both existing and newly constructed rural approach.

(1.6) All approaches onto a Provincial Highway must be approved by Alberta Transportation.

2.0 Indemnification:

The applicant shall indemnify and hold harmless Foothills County and its servants, agents, employees and representatives from and against all claims, demands, payments, suits, actions, recoveries and judgements of every nature and description brought against the County, or the Contractors or their agents, employees or Sub-contractors in the repairing, maintenance or usage of the Municipal Road and rights-of-ways and this indemnification shall survive the expiry of the application agreement.

3.0 Additional Approach Requests:

An applicant may request for an additional rural approach but must have a valid operational need for a rural approach to be approved. Any applications for new approaches under 21 acres unless for geographical reasons or grandfathered will only be allowed one (1) approach.

(3.1) Parcels of land, equal to or less than ten (10) acres, are limited to one (1) rural approach. Where a parcel may be severed by a topographical nature (which is considered impracticable to traverse), a second approach may be considered.

(3.2) All properties fronting an Internal Subdivision Road are required access from the Internal Subdivision Road, not the Municipal Road.

(3.3) Removal of a common approach to create 2 individual approaches is not permitted.

4.0 Approval Upgrading Requirements:

Applicant(s) for a land redesignation (subdivision/boundary adjustment) are required to upgrade all rural approach(s) onto the redesignated parcel to legal approach dimensions.

Note: The applicant may be required to remove existing rural approach(s) if they are deemed not necessary for operational purposes.

(4.1) Rural approach(s) shall be from a developed road allowance only. An undeveloped road allowance must be constructed to County Road Construction Standards prior to rural approach approval.

5.0 Utility Locate Requirements:

The applicant(s) must contact all utility companies to confirm the location of their utility facilities and ensure the applicant or the applicant's agents of the various utility locations. The applicant is responsible for all the expenses of investigations, modifications, or repairs to the utility installations.

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6.0 Pipeline Crossings:

Rural approach situated over or adjacent to a pipeline must obtain approval from both the pipeline owner and Foothills County. The applicant may be required to enter into a construction contract for the rural approach with the pipeline owner.

7.0 Temporary Approach:

A temporary rural approach application must attach the application form and a letter outlining the reason for the temporary approach and the length of time required to construct.

Confirmation of approval for any and all municipal, provincial or federal permits or requirements pursuant to the development proposed for the parcel must be submitted as part of the application.

8.0 Utility Locate Requirements:

A rural approach shall be built with the same material as of new or existing road (clay or granular type materials) with the surface structure consistent with the municipal road under the discretion of Foothills County. The surface of the approach shall be to the minimum County standards (DES 4 CL 20) or 20 mm (3/4 inch) crushed gravel at a minimum depth of 100 mm (4 inches).

9.0 Paved Approaches:

A rural approach which abuts a paved road must be paved from the road to the property line.

(9.1) A paved rural approach shall be Asphalt Concrete Pavement at a minimum depth of 90 millimeters and shall meet the specifications for Commercial “B” mix asphalt as per City of Calgary specifications. The pavement shall cover the entire approach from the shoulder of the road to the property line, or for a minimum distance of eight meters (26 ft).

*Field Access are exempt from this policy. Gravel surfacing is acceptable.

10.0 Traffic Control:

Traffic control when installing or upgrading a rural approach is the sole responsibility of the applicant and shall be as per Alberta Transportation Standards.

(10.1) All subdivision/boundary adjustment approvals are subject to having a proper legal access onto the proposed lot as well as legal access(s) for all other approach(s) onto the balance of the parcel.

(10.2) Regulatory signs – Regulatory signs indicate regulation that applies to a specific time or place on road. (i.e. speed signs, stop signs, school bus stop signs). Application for regulatory type signs must be approved by Municipal Bylaw.

(10.3) Warning signs – Warning signs (i.e. hidden intersection/approach sign or road narrows or bumpy sign) provide an advanced indication of conditions on or adjacent to a road that is potentially hazardous to drivers.

ROAD CONSTRUCTION STANDARDS

(10.4) An applicant may request for a warning sign to Foothills County Public Works Department adjacent to a rural approach (i.e. school bus ahead sign) pursuant to the Manual of Unified Traffic Devices for Canada, Section A1.3.2. The guidelines of the section such as site lines and location will be reviewed and approved by Administration based on the validity of the request.

11.0 Design Specification:

Sight distances for a rural approach shall conform to the conditions as per Table 7.

(11.1) There shall be no obstruction on the rural approach (gate, gate control box, curbing, fence, mailbox, etc.).

(11.2) The angle of the rural approach shall be 90 degrees to the roadway.

(11.3) A rural approach shall be no closer than 60 meters (200 ft) from the center line of an intersection, mailbox location, bridge, or any at grade railway crossing.

(11.4) A rural approach shall not be closer than 15 meters (50 ft) from an existing approach on the same side of the road.

(11.5) Maximum gradient of the rural access approach shall not exceed 2% from the shoulder of the road to the property line, or for a minimum distance of 8 meters (26 ft).

(11.6) In the case of 1% gradient the surface of the access must be crowned 2% from center to edge to ensure drainage into the ditch. See Typical Rural Approach drawing is as per Figure 12.

12.0 Culvert Type and Installation: A dry rural approach is without a culvert. The approach cannot impede the flow of drainage in the ditch. The maximum side slopes for a dry approach shall be a 3:1 ratio.

(12.1) If a culvert is required, the culvert shall be of new corrugated steel, minimum 500mm (20 inch) diameter. All culvert couplers (if required) shall be buried below the depth of the ground cover of the approach.

(12.2) Minimum ground cover over the culvert is 0.3 meters (1 ft).

(12.3) Culvert ends shall be sloped and require Rip Rap (stone/rocks minimum size 200mm / 8 inches) be installed. Rip Rap shall be placed around the ends of the culvert, as per Figure 12, to ensure drainage through the culvert.

(12.4) The side slopes of the rural approach shall be a 3:1 ratio. NOTE: 3 meters (10 ft) slope/length for 1 meter (3 ft) of rise/height. The side slope shall extend from the edge of the approach to the culvert end.

ROAD CONSTRUCTION STANDARDS

(12.5) A 6 meter (20 ft) buffer distance between the end of the culvert, for the rural approach, and a power pole, power pole anchor, or utility pedestal must be maintained.

13.0 Approach Types and Widths: A standard rural approach shall have a minimum surface width of 6 meters (20 ft) at the property line with a 3 meter intersecting radius at municipal road allowance. Minimum 12 meter (40 ft) culvert is required.

(13.1) A common rural approach shall have a minimum surface width of 9 meters (30 ft) at the property line with a 3 meter intersecting radius at municipal road allowance. Minimum 15 meter (50 ft) culvert is required.

(13.2) A commercial rural approach shall have a minimum surface width of 8 meters (26 ft) at the property line with a 6 meter intersecting radius at municipal road allowance. Minimum 14 meter (46 ft) culvert is required.

14.0 Approvals:

Changes to the existing ditch bottom must be approved by the County. NOTE: In a shallow ditch the culvert may need to be counter sunk into the ditch bottom to achieve adequate ground cover over the culvert.

(14.1) All disturbed areas adjacent to the rural approach must be restored to original grade, loamed, seeded and reclaimed in a manner to allow for natural grasses to re-grow.

(14.2) All debris or top soils must be removed from the road allowance and hauled to a safe distance so that no wash out is deposited onto the road allowance.

(14.3) Upon the completion of the construction or alteration of the rural approach(s), and acknowledging that all the above stated conditions have been met, the County must be notified for a final inspection.

(14.4) Failure to meet any of the Rural Approach Standards upon the final inspection will result in the need for a subsequent inspection. The fee for a subsequent inspection is three hundred dollars (\$300.00) per inspection. The fee must be paid to initiate the subsequent inspection.

ROAD CONSTRUCTION STANDARDS

Table 7

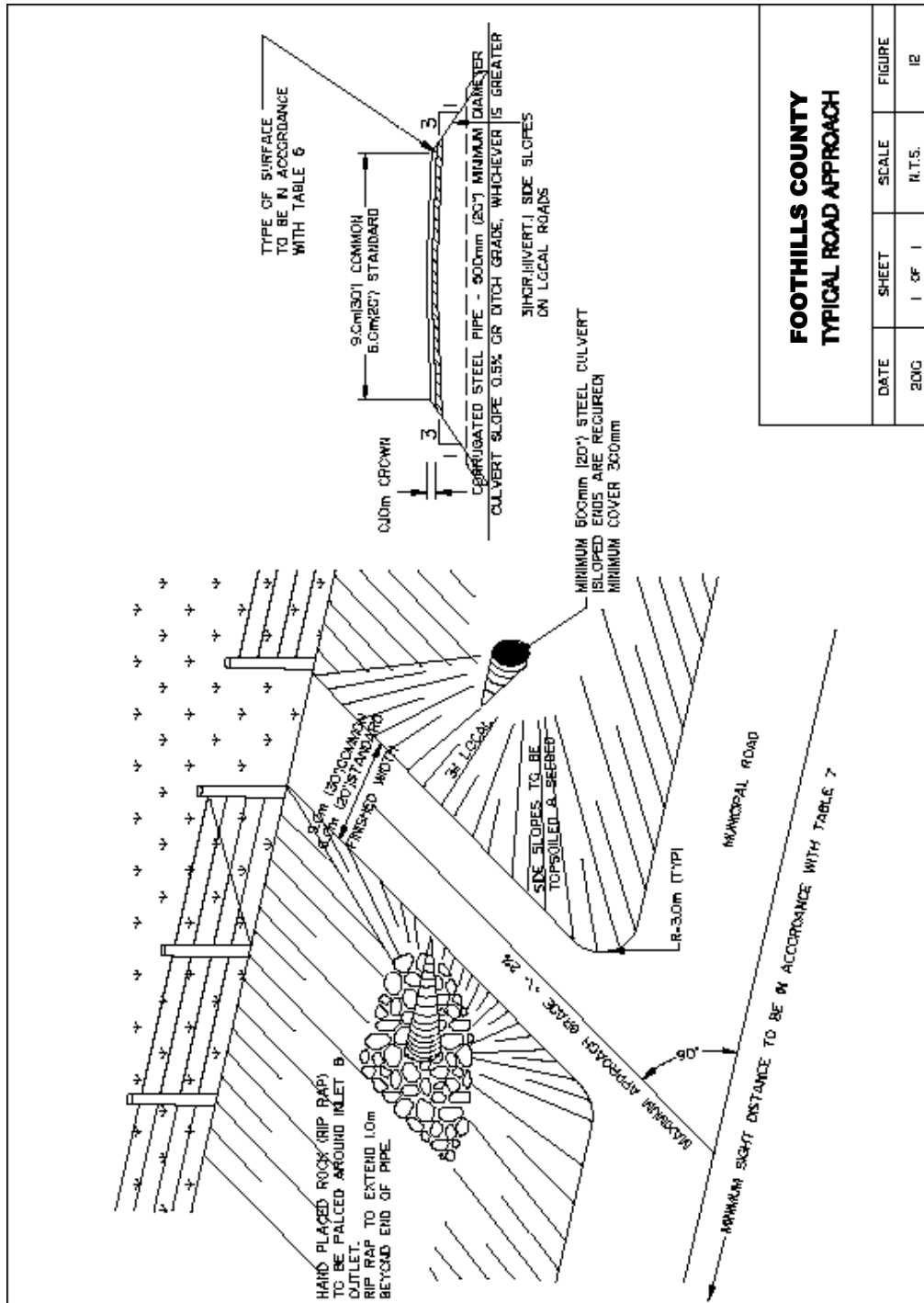
Sight Distance

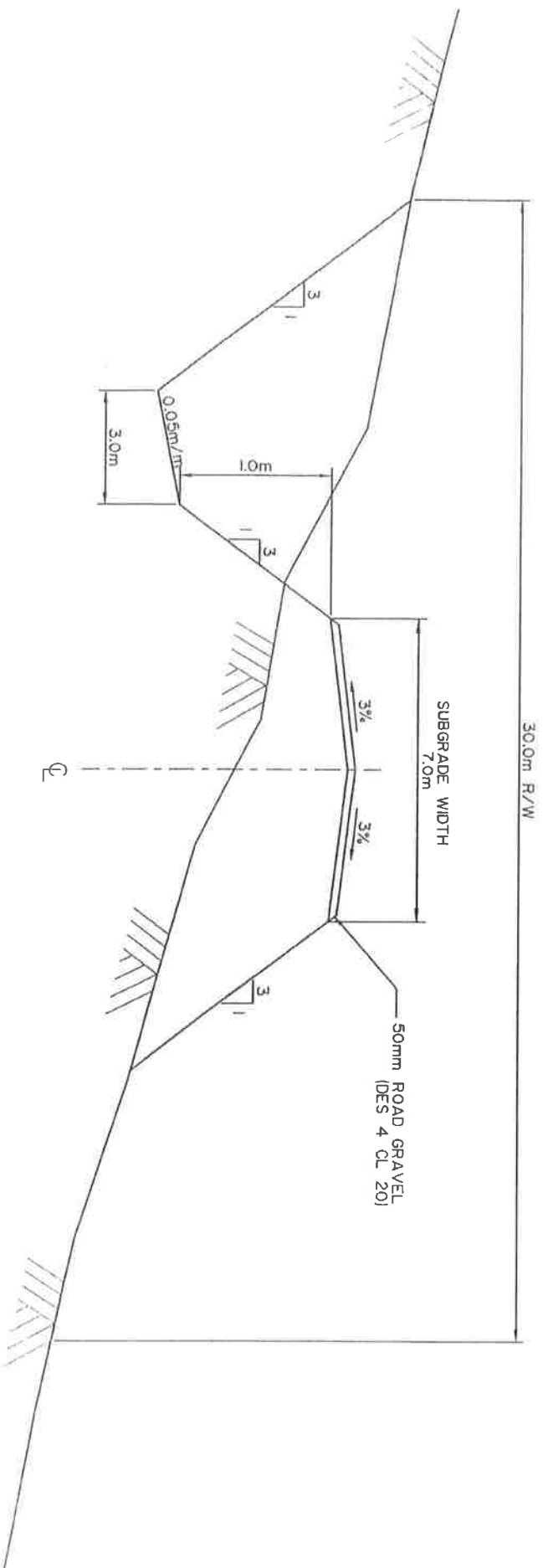
The height of the object shall be 1.15 meter on the main road. The eye height shall be used at the intersection 1.15 meter for passenger vehicle and 1.80 for single unit trucks/buses.

POSTED SPEED (Km/Hr)	MINIMUM SIGHT DISTANCE REQUIREMENT FROM INTERSECTING ROAD/APPROACH (Meters)
40	65
50	90
60	115
80	180

Table 7 has been derived from information gathered by the Transportation Association of Canada (TAC) 1999 Edition Part 2.

FIGURE 12





NOTES:

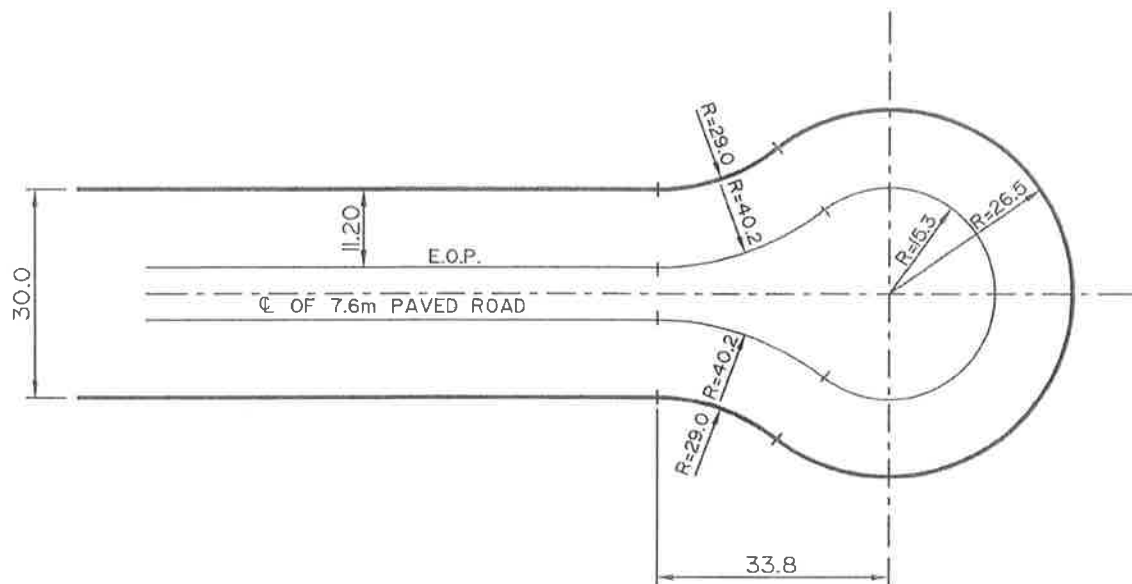
1. ALL DITCH SLOPES AND DITCH BOTTOMS REQUIRE TOPSOIL DRESSING.
2. ALL TOPSOIL TO BE REMOVED PRIOR TO BACKFILLING.
3. TOP 0.15m OF SUBGRADE COMPACTED TO 98% STANDARD PROCTOR DENSITY.

M. D. OF FOOTHILLS No.31

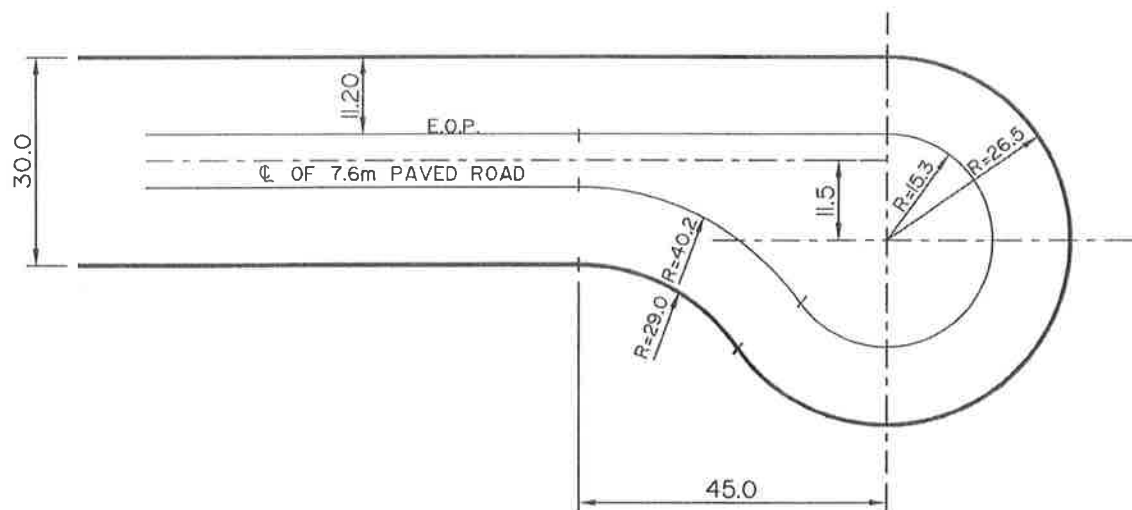
R/A SINGLE DWELLING

GRAVEL SURFACE

DATE	SHEET	SCALE
2003	I OF I	N.T.S.



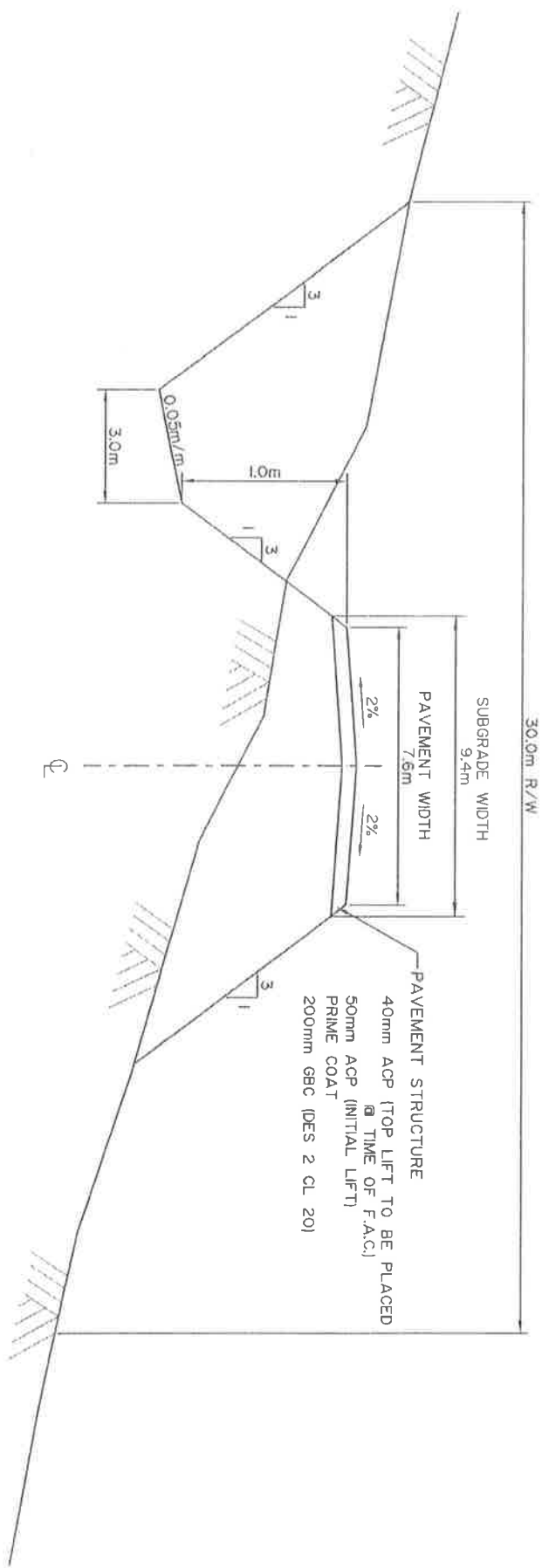
CIRCULAR CUL-DE-SAC



CIRCULAR OFF-SET CUL-DE-SAC

M. D. OF FOOTHILLS No.31
MINIMUM CUL-DE-SAC DIMENSIONS
FOR A 30m RIGHT OF WAY

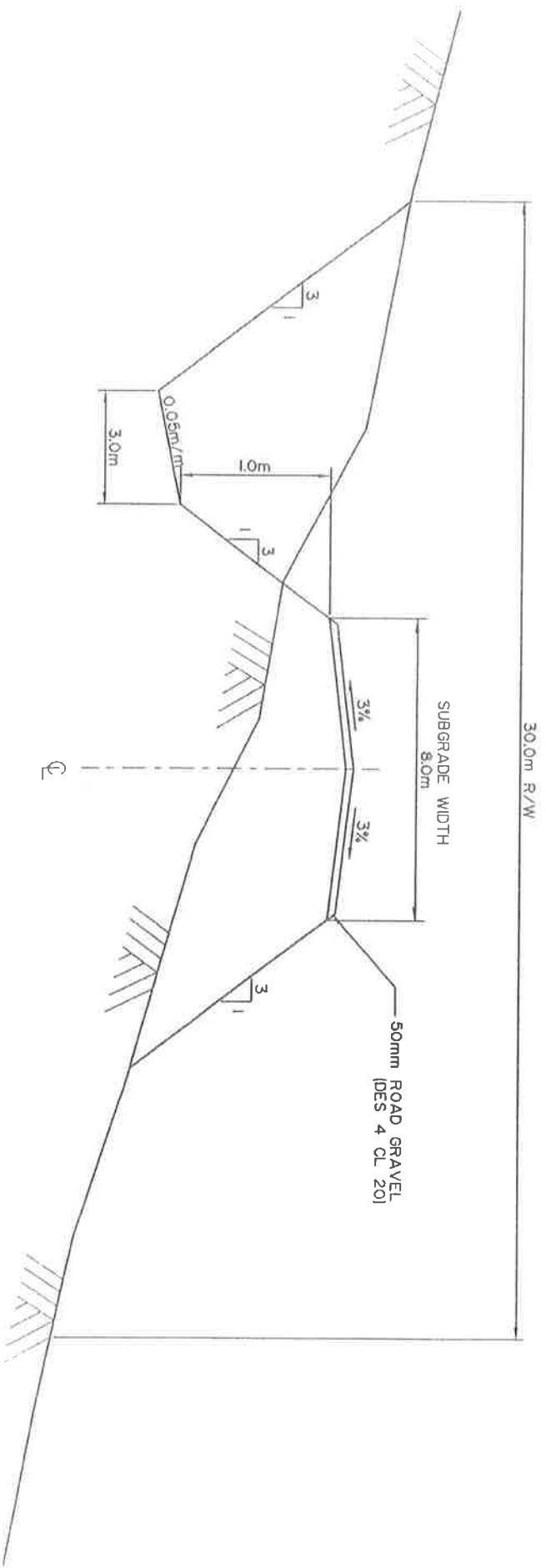
DATE	SHEET	SCALE
2008	I OF I	N.T.S.



- NOTES:
1. INCREASE TOTAL PAVEMENT STRUCTURE WIDTH FOR HORIZONTAL CURVES LESS THAN 300m RADIUS.
 2. ALL DITCH SLOPES AND DITCH BOTTOMS REQUIRE TOPSOIL DRESSING.
 3. ALL TOPSOIL TO BE REMOVED PRIOR TO BACKFILLING.
 4. TOP 0.15m OF SUBGRADE COMPACTED TO 98% STANDARD PROCTOR DENSITY.

M. D. OF FOOTHILLS No.31
INTERNAL SUBDIVISION ROAD

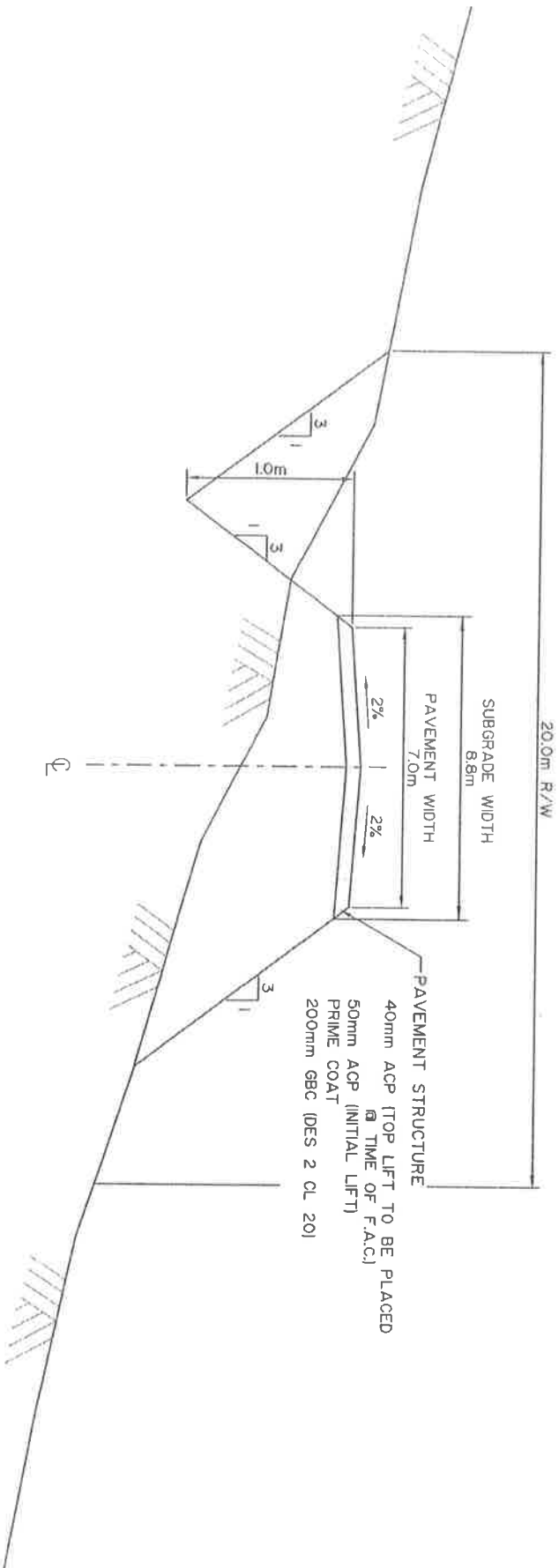
DATE	SHEET	SCALE
2008	1 OF 1	N.T.S.



- NOTES:
1. ALL DITCH SLOPES AND DITCH BOTTOMS REQUIRE TOPSOIL DRESSING.
 2. ALL TOPSOIL TO BE REMOVED PRIOR TO BACKFILLING.
 3. TOP 0.15m OF SUBGRADE COMPACTED TO 98% STANDARD PROCTOR DENSITY.

M. D. OF FOOTHILLS No.31
ROAD ALLOWANCE
GRAVEL SURFACE

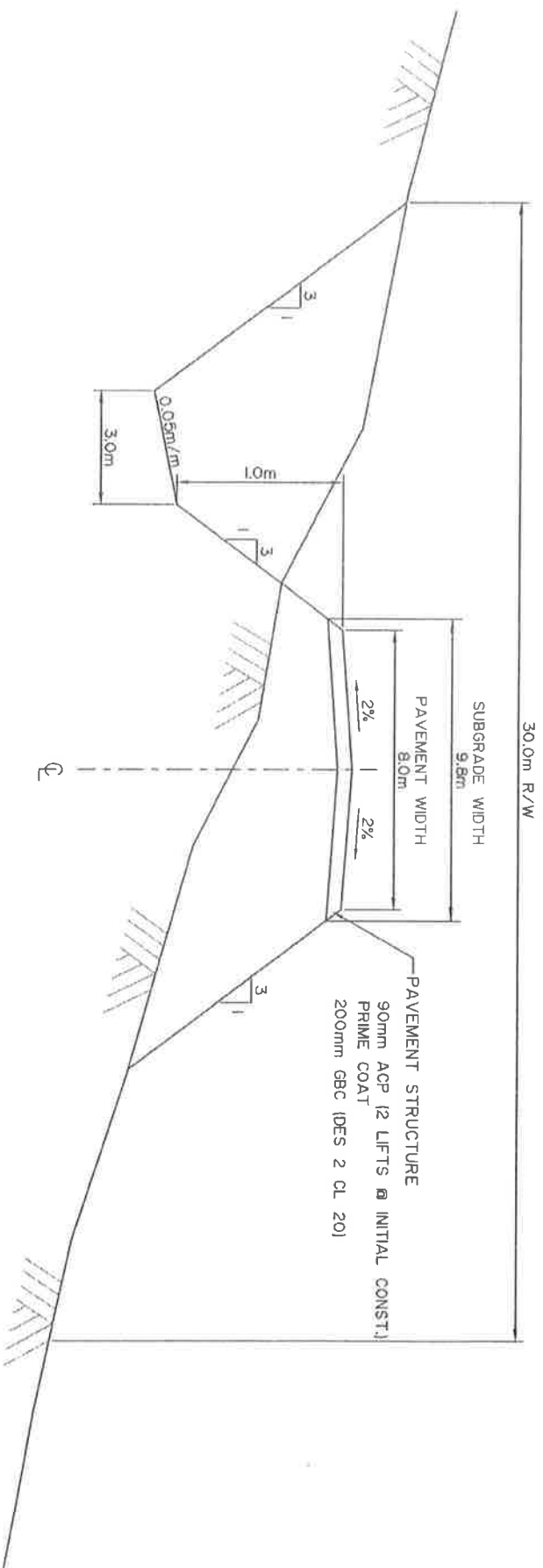
DATE	SHEET	SCALE
2003	1 OF 1	N.T.S.



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M. D. OF FOOTHILLS No.31
HAMLET STANDARD ROAD
PAVED

DATE	SHEET	SCALE
2008	1 OF 1	N.T.S.



NOTES:

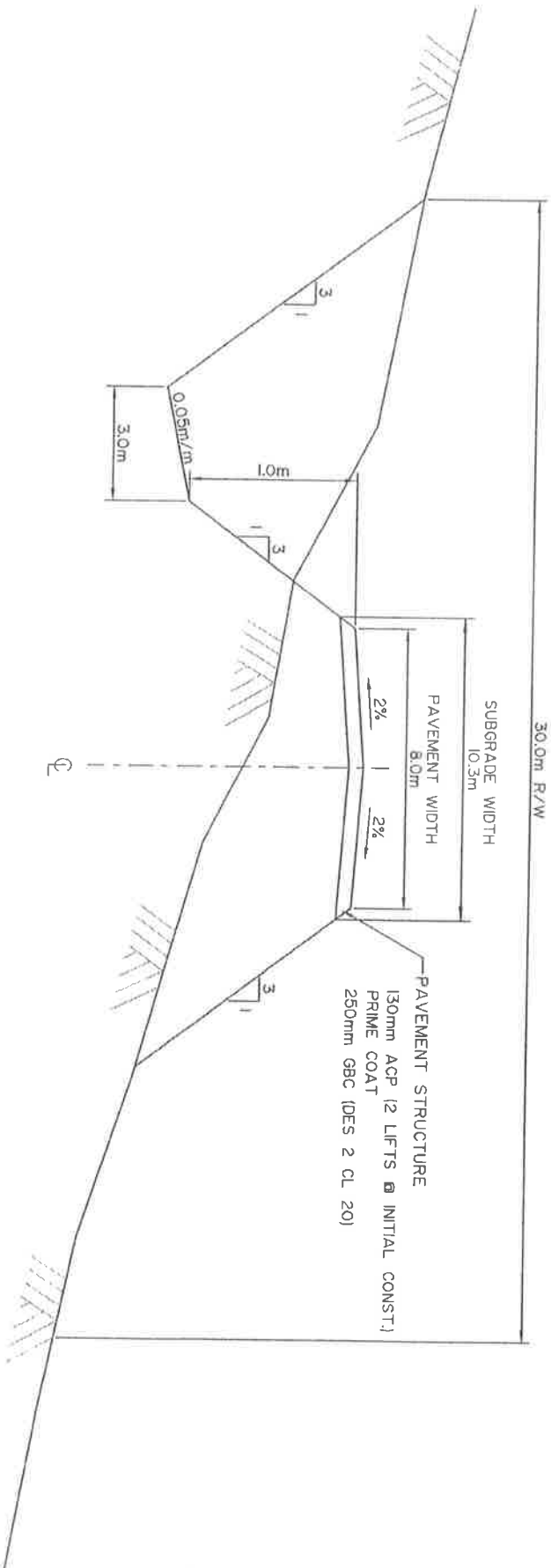
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2. ALL DITCH SLOPES AND DITCH BOTTOMS REQUIRE TOPSOIL DRESSING.
3. ALL TOPSOIL TO BE REMOVED PRIOR TO BACKFILLING.
4. TOP 0.15m OF SUBGRADE COMPACTED TO 98% STANDARD PROCTOR DENSITY.

M. D. OF FOOTHILLS No.31

ROAD ALLOWANCE

PAVED

DATE	SHEET	SCALE
2008	I OF I	N.T.S.



NOTES:

1. INCREASE TOTAL PAVEMENT STRUCTURE WIDTH FOR HORIZONTAL CURVES LESS THAN 300m RADIUS.
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3. ALL TOPSOIL TO BE REMOVED PRIOR TO BACKFILLING.
4. TOP 0.15m OF SUBGRADE COMPACTED TO 98% STANDARD PROCTOR DENSITY.

M. D. OF FOOTHILLS No.31
 INDUSTRIAL / COMMERCIAL ROAD
 PAVED

DATE	SHEET	SCALE
2008	1 OF 1	N.T.S.

