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To Determine Percent of Slope and Angle of Slope

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Percent of slope is determined by dividing the amount of elevation change by the amount of horizontal distance covered (sometimes referred to as "the rise divided by the run"), and then multiplying the result by 100. The "run" assumes you're traveling on an idealized flat surface -- it does **not** account for the actual distance traveled once elevation change is factored in.

Example: let's assume your climb gains 1,000 feet in altitude (the rise) and the horizontal distance as measured on the map is 2,000 feet (the run).

1,000 divided by 2,000 equals 0.5

Multiply 0.5 by 100 to derive percent of slope: 50%

Example: let's assume your climb gains 500 feet in altitude (the rise) and the horizontal distance as measured on the map is 3,000 feet (the run).

500 divided by 3,000 equals 0.166

Multiply 0.166 by 100 to derive percent of slope: 16.6%

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1,000 divided by 2,000 equals 0.5
 Multiply 0.5 by 100 to derive percent of slope: 50%

Example: let's assume your climb gains 500 feet in altitude (the rise) and the horizontal distance as measured on the map is 3,000 feet (the run).

500 divided by 3,000 equals 0.166
 Multiply 0.166 by 100 to derive percent of slope: 16.6%

Example: let's assume your climb gains 700 feet in altitude (the rise) and the horizontal distance as measured on the map is 500 feet (the run).

700 divided by 500 equals 1.4
 Multiply 1.4 by 100 to derive percent of slope: 140%

Angle of slope represents the angle that's formed between the run (remember it's an idealized flat surface that ignores elevation change) and your climb's angular deviation from that idealized flat surface. To calculate this, you divide the rise divided by the run, and then obtain the inverse tangent of the result.

Example: let's assume your climb gains 1,000 feet in altitude (the rise) and the horizontal distance as measured on the map is 2,000 feet (the run).

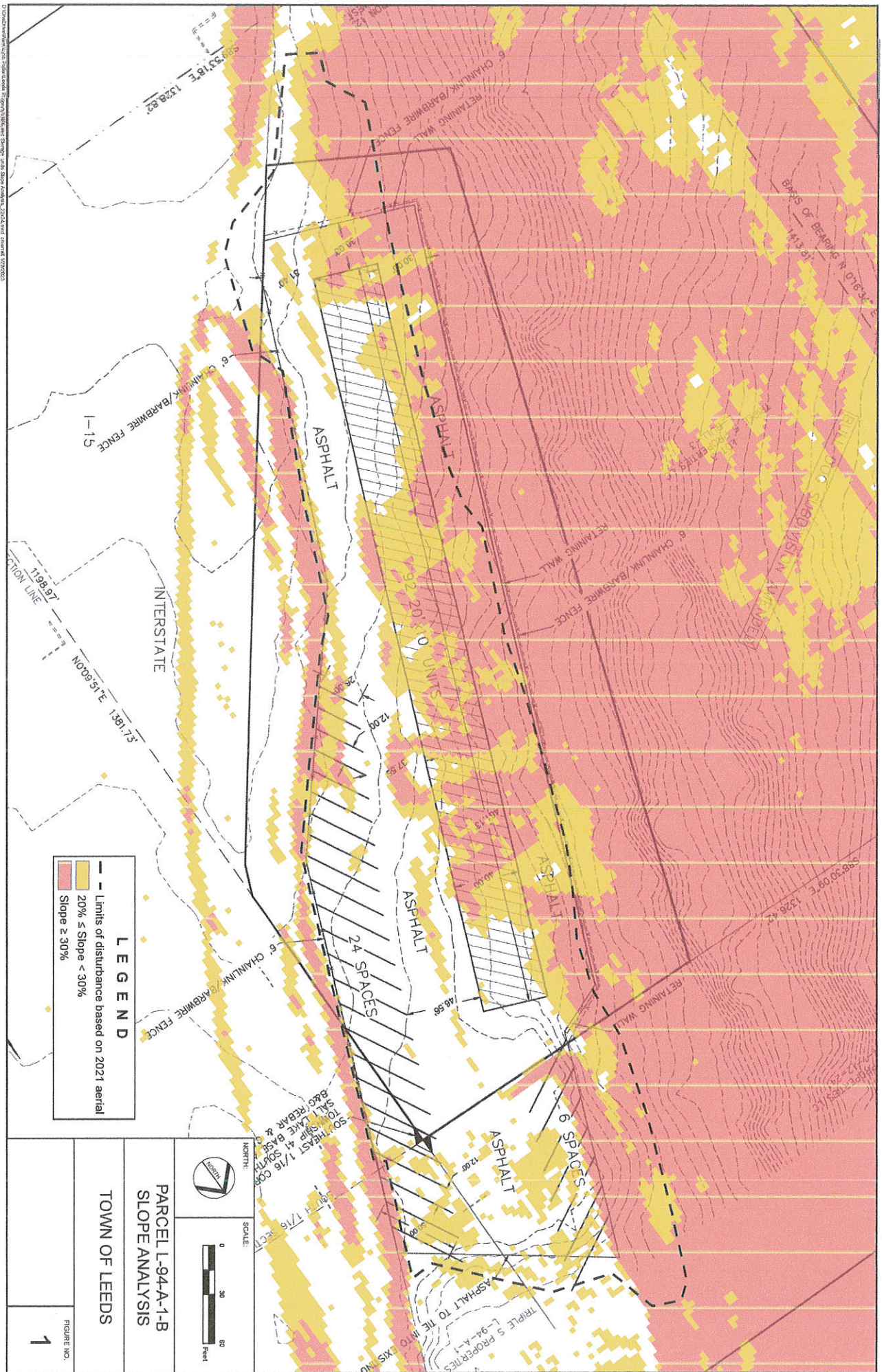
1,000 divided by 2,000 equals .5
 Press the INV button on your calculator (sometimes called 2nd function)

Press the TAN button on your calculator
 Your angle of slope is 26.5 degrees

Example: Let's assume your climb gains 1,000 feet in altitude (the rise) and the horizontal distance as measured on the map is 1,000 feet (the run).

1,000 divided by 1,000 equals 1
 Press the INV button on your calculator (sometimes called 2nd function)

Press the TAN button on your calculator
 Your angle of slope is 45 degrees



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LEGEND

- Limits of disturbance based on 2021 aerial
- 20% ≤ Slope < 30%
- Slope ≥ 30%

NORTH
 SCALE: 0 30 60 Feet
 PARCEL L-94-A-1-B
 SLOPE ANALYSIS
 TOWN OF LEEDS
 FIGURE NO. 1

AFM of a glass surface

