Notes to the Designer

Updated February 2025
4R Typical Section Sheets

General Information
- All graphics and text will be in the design model. Only use the sheet model for printing and adding applicable guardrail as a reference; Reference guardrail using the appropriate saved view from the design model to the appropriate sheet model.
-
  Length of Project and Curve Widening tables are intergrated into the sheet. Double click on the cell to edit.

- **Note 4 on the plan sheet**. Note 4 shown on the plan sheet applies to simple curves only. If you use spiral curve transitions, adjust Note 4 to include the following:

  Construct curve widening as shown in the table below. For simple curves, apply the widening on the inside of curves throughout the superelevated sections. For spiral curves, apply one half of widening to each side of centerline. Transition the curve widening to coincide with the superelevation transitions.

- **Road Inventory Program Milepost data.** The NPS uses the Road Inventory Program (RIP) as part of their asset management program. Include the RIP milepost data in the 'Length of Project' table for NPS projects only. To find this information, use Pathweb (https://pathweb.pathwayservices.com/rip/) or ask Planning and Programming. Delete the last column in the 'Length of Project' table for all non-NPS projects (e.g. USFS, USFWS, IRR, etc.).

- **Cut Slope Rounding.** Refer to the PDDM Subsections 9.5.1.1 and 9.5.2.3.3 for more information on clearing widths and cut slope rounding widths. For a default value, use B=5' and F=5'.

Applicable SCRs
- Varies

Typical Pay Item Used
- Varies

Updates
- **April 2021**
  - Added guardrail typical sections
  - Updated for OpenRoads Designer
- **November 2022**
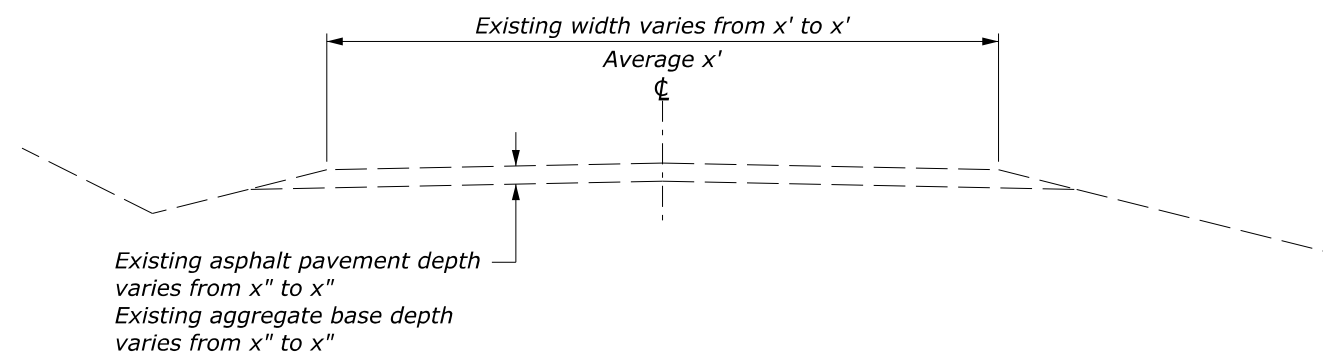 - Updated border
- **April 2023**
  - Updated safety edge detail; updated border; updated to international seed file
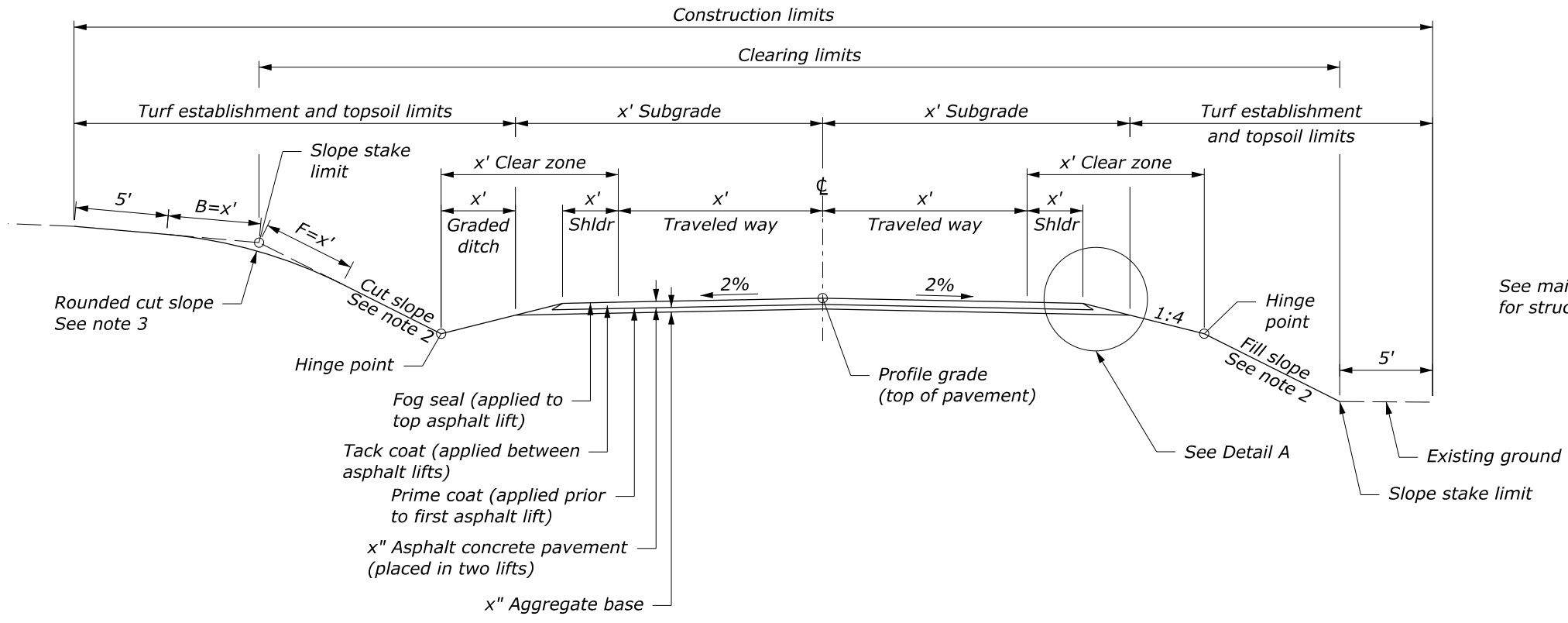- **June 2024**
  - Updated for FP24
- **February 2025**
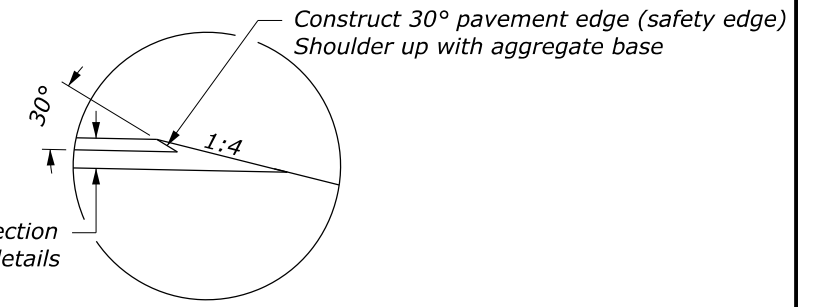 - Updated Construction, clearing, turf establishment and topsoil limits

Note:

1. The gradient and width of the roadway ditches and the excavation and embankment slope ratios may be adjusted to ensure adequate drainage and stability.

2. See cross sections for cut and fill slope ratios.

3. Round all earth slopes and all rippable rock slopes. For cut heights less than B, reduce the B and F dimensions to the actual cut height.

4. Construct curve widening as shown in the table below. Apply the widening on the inside of the curves throughout the superelevated sections. Transition the curve widening to coincide with the superelevation transitions.
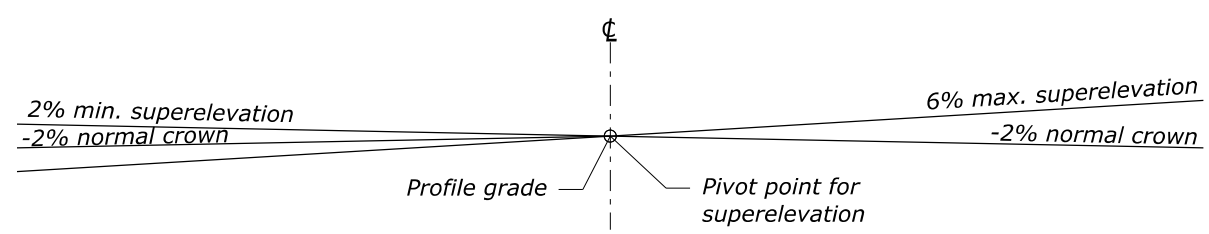
Existing width varies from x' to x'

Average x'

¢

Existing asphalt pavement depth varies from x" to x"
Existing aggregate base depth varies from x" to x"

EXISTING TYPICAL SECTION
<<>> to <<>>

Construction limits

Clearing limits

Turf establishment and topsoil limits

x' Subgrade

x' Subgrade

Turf establishment and topsoil limits

Slope stake limit

x' Clear zone

x' Clear zone

5'

B=x'

F=x'

x' Graded ditch

x' Shldr

x' Traveled way

¢

x' Traveled way

x' Shldr

Hinge point

5'

Rounded cut slope See note 3

Cut slope See note 2

2%

2%

1:4

Fill slope See note 2

Hinge point

2%

Profile grade (top of pavement)

See Detail A

Existing ground

Slope stake limit

Fog seal (applied to top asphalt lift)

Tack coat (applied between asphalt lifts)

Prime coat (applied prior to first asphalt lift)

x" Asphalt concrete pavement (placed in two lifts)

x" Aggregate base

TYPICAL SECTION
<<>> to <<>>

Construct 30° pavement edge (safety edge) Shoulder up with aggregate base

30°

1:4

See mainline typical section for structural section details

DETAIL A
(applies to both sides of roadway)

¢

6% max. superelevation

-2% normal crown

2% min. superelevation

-2% normal crown

Profile grade

Pivot point for superelevation

METHOD OF SUPERELEVATION ON CURVES
See plans for locations of curves and superelevation

WIDENING ON CURVES
(see note 4)

Radius (ft)	Widening (ft)
Over ??	
?? to ??	
?? to ??	
?? and under	

LENGTH OF PROJECT

Station to Station	Roadway (ft)	Bridge (ft)	Road Inventory Program Milepost Data (Cycle #)*
??+?? to ??+??			
??+?? to ??+??			
??+?? to ??+??			
TOTALS (ft)			
TOTALS (mi)			

*Road Inventory Program data shown for information only

TYPICAL SECTION MAINLINE