

PLAN REVIEW EJ GEMNKU

Does the plan include:

- A general area map
- North arrow
- Contours turned off
- Needs met for Track, Signal, Structures, Mechanical and Operations
- Structures review for any culverts, bridges, retaining walls and/or unloading pits etc
- Recommendations from geotech report signed by the Geotechnical Engineer
- Milepost and survey stations of turnouts originating from main or branch lines
- Size and location of proposed turnouts
- Proposed track lengths including end of track stations
- Storage capacity of proposed tracks
- Track centers of proposed & existing tracks
- New tracks with minimum 25-ft track center distance from a main, controlled siding or passing track?
- Grading to raise other tracks affected by the new construction (raising with ballast should be max $\pm 12''$)
- Weight of rail of proposed and existing tracks
- 14-ft clearance point locations
- Derail locations 50-ft from cl. pt. (double switch point mandatory unless changed by General Manager)
- A runaround track if required by operations
- Industrial track horizontal curve Radius = 603.81-ft max. ($9^\circ 30'$) & min. 50-ft between reversing curves
- Loop track horizontal curve Radius = 764.49-ft max. ($7^\circ 30'$) & min 250-ft between reversing curves
- Clearance of 1 1/2" per degree of curve for stationary objects
- Clearance of 1" per degree of curve per track for parallel tracks
- Vertical curve rate of change for Industrial = 2.0 & loops = 0.5 in sags & 1.0 in summits
- Vertical curve rate of change for secondary mains < 50 mph = 0.10 in sags & 0.20 in summits)
- Vertical curve rate of change for main tracks > 50 mph = 0.05 in sags & 0.10 in summits
- Grades not exceeding 1.5% industrial and 0.5% loops
- Grades meeting terrain conditions and/or locomotive requirements
- Overhead and side clearances within specifications
- Top of rail of existing adjacent track if it exists
- Profile of new construction following existing track or why if it can't
- Turnout berms with drainage
- Will turnout berm accommodate signal requirements?
- Cross sections at turnout berms
- Cross sections with a drainage plan

- [] **Cross sections showing grading beginning 9' – 10' from centerline of existing adjacent track**
- [] **Location and design of drainage structures (headwalls and/or wing walls required?)**
- [] **Cross sections at drainage structures**
- [] **Typical sections that include ballast & subballast thickness and any stabilization required**
- [] **Turnout walkway and/or other walkway typical plans**
- [] **Access roads permanent and/or temporary including grade crossings**
- [] **Access roads to turnouts and signal equipment**
- [] **Locations of existing road crossings (include surface type & angle to track)**
- [] **Crossings setback of 250' ea. side of xing @ track centers < 25' and never less than 150' on single track**
- [] **Cross sections at grade crossings**
- [] **Grades for road crossings new & existing (min. 50' of 0.0 grade required on fills)**
- [] **Location of railroad controlled utilities – who owns and controls?**
- [] **All utilities shown**
- [] **Cross sections at overhead and underground utilities**
- [] **Detail of utility protection in the final plan**
- [] **A source of embankment material**
- [] **Any wetland issues (wetland mitigation not allowed on BNSF right of way)**
- [] **Any other permitting issues**
- [] **BNSF RY & industry property lines**

Other items to consider when reviewing plans other than industrial track such as sidings, siding extensions, additional storage tracks or second main tracks are:

- [] **Location of turnouts and crossovers in relation to road crossings, bridge ends etc.**
- [] **Distance between points of switches and signals**
- [] **Length of crossovers in parallel track based on track centers**
- [] **Length of crossovers in diverging/converging track based on track centers**
- [] **Length of track between crossover turnouts on same track (System Engineering or available resources?)**
- [] **Length of track between back to back turnouts (System Engineering or available resources?)**
- [] **Tangent length between reversing curves (System Engineering or available resources?)**
- [] **Tangent length between points of switches and ends of curves (System Engineering or available resources?)**
- [] **Track length between points of switches and ends of bridges (System Engineering or available resources?)**
- [] **Track length between points of switches and road crossings (System Engineering or available resources?)**
- [] **Maximum horizontal curvature allowed (System Engineering or available resources?)**
- [] **Maximum grade allowed (System Engineering or available resources?)**
- [] **Do existing highway overhead and underpass bridges have capacity for additional track?**
- [] **Unforeseen lighting, electrical or mechanical requirements**
- [] **Special drainage considerations required**