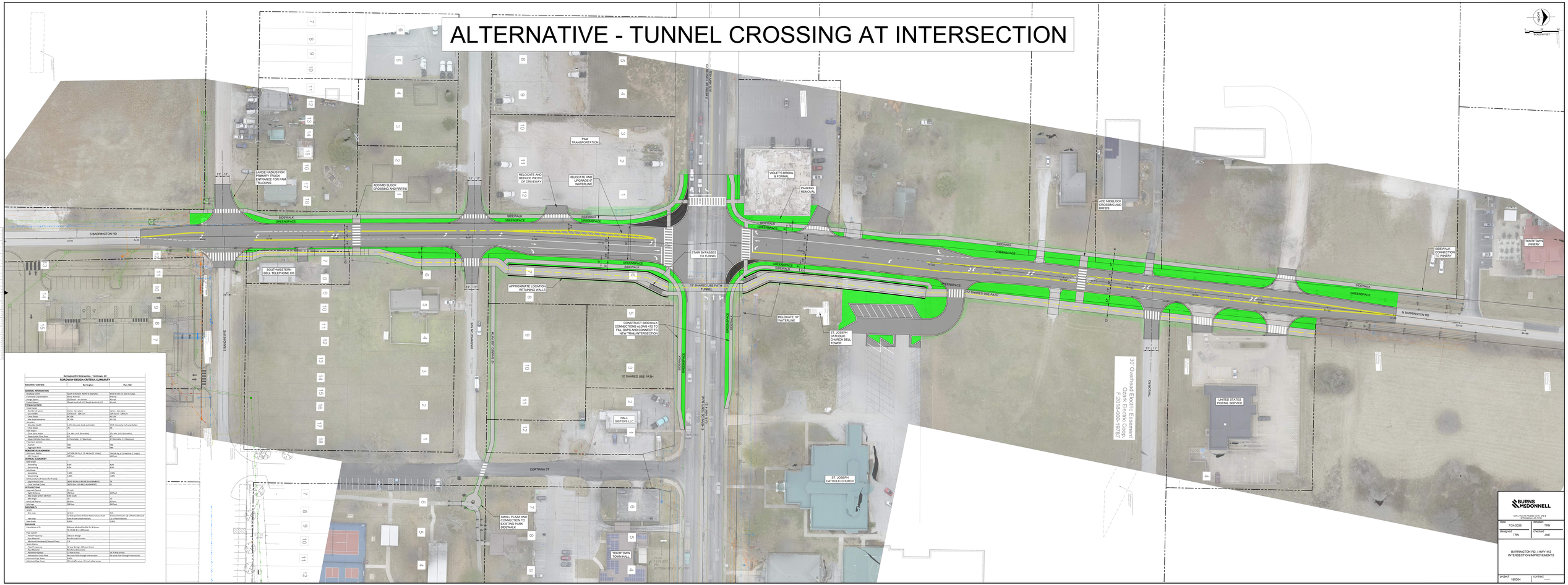
ALTERNATIVE - TUNNEL CROSSING AT INTERSECTION



Barrington/412 Intersection - Tontitown, AR

ROADWAY DESIGN CRITERIA SUMMARY

ROADWAY SECTION	Barrington	Hwy 412
GENERAL INFORMATION		
Roadway Limits	South to North: North to Gibanski	West to SW 1st East to Gaige
Roadway Classification	Minor Arterial	Minor Arterial
Design Speed	25/30mph - Variable	40 mph
Posted Speed	25mph South of 412, 30mph North of 412	40 mph
TYPICAL SECTION		
Travel Lanes	2	4
Lane Widths	Varies - See plans	Varies - See plans
Lane Width	14ft Exact - 12ft Turn	11ft Exact - 12ft Turn
Curb Reveal	NC/CRL	NC/CRL
Curb Type/Material	Rolled Concrete	Rolled Concrete
Shoulders		
Shoulder Width	12 ft. Concrete Curb and Gutter	12 ft. Concrete Curb and Gutter
Cross Slope		
Side Slopes		
Clear Zone Width	10 ft. with 20 ft. Desirable	10 ft. with 20 ft. Desirable
Clear Zone Clear Zone	30 Obstructions, 31 Minimum	30 Obstructions, 31 Minimum
Clear Zone Outside Clear Zone		
Sidewalk Width	5ft	5ft
Asphalt	7ft	7ft
Aggregate Base		
VERTICAL ALIGNMENT		
Minimum Radius	1321ft(R) (Eq 5.1-1, Method 2, 30mm)	1761ft(R) Eq 5.1-1, Method 2, 30mm)
SSD Targeted	148 feet	148 feet
HORIZONTAL ALIGNMENT		
MC Grade		
Ascending	N/A	N/A
Descending	N/A	N/A
MC Grade		
Ascending	1.48%	1.48%
Descending	1.48%	1.48%
MC Curvature (K Values for Crests)		
Sag Vertical Curve	26(K Sc/Ss=1.8) 48(L) NOANNEXES	74
Crest Vertical Curve	26(K Sc/Ss=1.8) 48(L) NOANNEXES	74
INTERSECTIONS		
Approach Speed	25 mph	
Min Sight Distance	250 feet	250 feet
Max Grade within 100 feet	0.5% to 0.5%	0
Min Angle	90	90
Min Sight Distance	250 feet	250 feet
MC Grade	148 feet	148 feet
DRIVEWAYS		
Type		
Min Width	16 feet	N/A
Max Width	1/2 Road per lane (Frame Shape) (Frames, Mount Shape) (Twin Island Median)	12 feet minimum (10-12 feet authorized for Twin Island Median)
Min Grade	0.50%	1.50%
DRAINAGE		
Equivalent of Q	Rational Method for QA 5 - 50 Acres 7B-R100-4B-L100 Acres	
Pipe Material	Reinforced Concrete	
Pipe Connections	Off-set Design	
Pipe Material	Reinforced Concrete	
Minimum Freeboard (Channel Flow)	1 ft	
Minimum Cover		
Flood Frequency	50 years Design, 100 year Check	
Pipe Material	Reinforced Concrete	
Minimum Pipe Cover	2 ft	1.5 ft but no less
Intersection Cross Pipe	No cross flow through intersection	No cross flow through intersection
Minimum Pipe Slope	0.5%	
Minimum Pipe Cover	18 in traffic area - 24 in all other areas	

BURNS McDONNELL

ARTIC / NOVUS ENGINEERING GROUP, LLC
ARTIC / NOVUS ENGINEERING, LLC

date 7/24/2025	drawing TRN
designed TRN	checked JME

BARRINGTON RD. / HWY 412
INTERSECTION IMPROVEMENTS

project 180304 | contract ____