Lake Lure STRONG

Budget Narrative

FY 2026 Bridge Investment Program (BIP) Planning and Bridge Projects

GRANT APPLICATION

JUNE 2026

Budget Narrative

BIP funding is needed to ensure the timely construction of Lake Lure STRONG (Safe Transportation for Regional Opportunity and Neighborhood Good Repair). The Project is estimated to cost **$37,742,341** (YOE$), and this proposal requests **$30,193,857** (YOE$) in BIP grant funding to implement the needed improvements. A non-Federal match of **$7,548,464** (YOE$), provided by NCDOT, is committed to the Project to fully fund design and engineering, environmental review and public involvement, right-of-way acquisition, and construction costs. A letter of funding commitment from NCDOT is provided in the Supplemental Materials for this application. Tables 1 and 2 summarize the sources and uses of funds by bridge and project category.

Table 1: Sources and Uses of Funds by Bridge for Lake Lure STRONG (YOE$)

Funding Source	Bridge 52	Bridge 343	Total Funding
BIP Funds	$21,824,128	$8,369,729	$30,193,857
Other Federal Funds	$0	$0	$0
Non Federal Funds	$5,456,032	$2,092,432	$7,548,464
Total Project Cost	**$27,280,160**	**$10,462,162**	**$37,742,321**

Table 2: Sources and Uses of Funds by Category for Lake Lure STRONG (YOE$)

Project Category	Bridge 52	Bridge 343	Total Funding
Project Management + Grant Administration	$1,759,737	$674,320	$2,434,057
NEPA, Permitting, Public Engagement	$80,577	$0*	$80,577
Design	$2,032,290	$779,772	$2,812,062
ROW	$1,762,416	$444,402	$2,206,818
Construction + CEI	$13,793,002	$5,554,780	$19,347,781
Contingency	$7,852,139	$3,008,888	$10,861,026
Total Project Cost	**$27,280,160**	**$10,462,162**	**$37,742,321**

*NEPA and Public Engagement Costs were estimated collectively, and recorded in the Bridge 52 column

NCDOT estimated baseline construction costs based on quantities developed as part of a conceptual engineering analysis of the Project bridges. The baseline construction cost estimate for each bridge is provided in the following tables.

Table 3: Detailed Construction Cost Estimate for Bridge 52 (2024$)

Line Item	Description	Quantity	Unit	Price	Amount
M	Mobilization	1	LS	$ 768,609.89	$ 768,609.89
M	Construction Surveying	1	LS	$ 100,000.00	$ 100,000.00
G	Clearing and Grubbing	1.0	Acre	$ 50,000.00	$ 50,000.00
G	Supplemental Clearing and Grubbing	1	Acre	$ 10,000.00	$ 10,000.00
G	Reinforced Bridge Approach Fills (1 Br = 1 RBAF)	1	Each	$ 50,000.00	$ 50,000.00
	Earthwork				
G	Unclassified Excavation	65,293	CY	$ 25.00	$ 1,632,325.00
G	Borrow Excavation	998	CY	$ 30.00	$ 29,940.00
G	Removal of Existing Pavement (Asphalt or Concrete)	2,813	SY	$ 15.00	$ 42,201.67
	Drainage				
D	Drainage (assumed rural 2 lane using 3rd Quartile of cost per mile)	0.25	Miles	$ 1,100,000.00	$ 275,000.00
	Pavement (Asphalt or Concrete)				
P1	Fine Grading	3,300	SY	$ 8.00	$ 26,400.00
P1	New Pavement	2,560	SY	$ 70.00	$ 179,200.00
P1	Pavement Resurfacing	312	SY	$ 20.00	$ 6,240.00
P1	Subgrade Stabilization	3,300	SY	$ 10.00	$ 33,000.00
GR	Guardrail	710	LF	$ 26.00	$ 18,460.00
GR	Guardrail End Units	4	EA	$ 3,000.00	$ 12,000.00
GR	Guardrail Anchor Units	4	EA	$ 3,000.00	$ 12,000.00
L	**Erosion Control (assumed rural 2 lane using 3rd Quartile of cost per mile)**	0.3	Miles	$ 650,000.00	$ 162,500.00
	Signing				
S	L Line (assumed rural 2 lane using 3rd Quartile of cost per mile)	0.3	Miles	$ 30,000.00	$ 7,500.00
	Traffic Control				
Y	(L Line) (assumed rural 2 lane using 3rd Quartile of cost per mile)	0.3	Miles	$ 700,000.00	$ 175,000.00
PM	Thermo and Pavement Marking (Typical Section - L)	0.3	Miles	$ 80,000.00	$ 20,000.00
	(assumed rural 2 lane using 3rd Quartile of cost per mile)				
	STRUCTURES				
B	Construction, Maintenance & Removal of Temporary Access	1	LS	$ 200,000.00	$ 200,000.00
B	Removal of Existing Structure (25.58' x 128')	1	LS	$ 900,000.00	$ 900,000.00
B	Asbestos Assessment	1	LS	$ 10,000.00	$ 10,000.00
B	4'-6" Dia. Drilled Piers (3 per bent, assumed 50' in length)	300	LF	$ 2,400.00	$ 720,000.00
B	Permanent Steel Casing for 4'-6" Dia. Drilled Pier	180	LF	$ 300.00	$ 54,000.00
B	SID Inspections	2	EA	$ 2,000.00	$ 4,000.00
B	CSL Testing	2	EA	$ 4,000.00	$ 8,000.00
B	Unclassified Structure Excavation	1	LS	$ 75,000.00	$ 75,000.00
B	Reinforced Concrete Deck Slab (190'x45.5')	8,645	SF	$ 75.00	$ 648,375.00
B	Grooving Bridge Floors	6,080	SF	$ 1.00	$ 6,080.00
B	Class A Concrete (assume 38CY per EB, 25'x4' dia. columns, 5'x5'x45' bent caps)	229	CY	$ 2,000.00	$ 458,293.01
B	Bridge Approach Slabs (2 @ 47' x 25')	2,350	SF	$ 50.00	$ 117,500.00
B	Reinforcing Steel (assume 400 lbs per CY concrete)	91,659	LB	$ 2.00	$ 183,317.20
B	Spiral Column Reinforcing Steel	2,000	LB	$ 3.50	$ 7,000.00
B	54" AASHTO Girders	950	LF	$ 475.00	$ 451,250.00
B	Pile Driving Equipment Setup	18	EA	$ 1,200.00	$ 21,600.00
B	HP 12 x 53 Steel Piles (assume 9 per end bent @ 40')	720	LF	$ 75.00	$ 54,000.00
B	Bridge Rail	190	LF	$ 175.00	$ 33,250.00
B	2-Bar Metal Rail	190	LF	$ 200.00	$ 38,000.00
B	Rip Rap Class II (2'-0" Thick)	360	TONS	$ 90.00	$ 32,400.00
B	Geotextile For Drainage	400	SY	$ 4.50	$ 1,800.00
B	Elastomeric Bearings	1	LS	$ 30,000.00	$ 30,000.00
	Walls				
W	Soil Nail Walls (assumed 350'x18')	6,300	SF	$ 175.00	$ 1,102,500.00
	Utility Construction				
U	Relocate 1500 LF of Duke OH power lines, > 10 poles	1	EA	$ 1,000,000.00	$ 1,000,000.00
U	Vyve Slick Site (Broaband)	1	EA	$ 1,250,000.00	$ 1,250,000.00
				Total Construction Cost (2024$)	**$ 11,016,741.77**

Table 4: Detailed Construction Cost Estimate for Bridge 343 (2024$)

Line Item	Description	Quantity	Unit	Price	Amount
M	Mobilization	1	LS	$ 211,271.99	$ 211,271.99
M	Construction Surveying	1	LS	$ 50,000.00	$ 50,000.00
G	Clearing and Grubbing	0.3	Acre	$ 50,000.00	$ 12,500.00
G	Supplemental Clearing and Grubbing	1	Acre	$ 10,000.00	$ 10,000.00
G	Reinforced Bridge Approach Fills (1 Br = 1 RBAF)	1	Each	$ 50,000.00	$ 50,000.00
	Earthwork				
G	Unclassified Excavation	4,565	CY	$ 25.00	$ 114,125.00
G	Borrow Excavation	1,423	CY	$ 30.00	$ 42,690.00
G	Removal of Existing Pavement (Asphalt or Concrete)	1,570	SY	$ 15.00	$ 23,550.00
	Drainage				
D	Drainage (assumed rural 2 lane using Max of cost per mile due to small length)	0.08	Miles	$ 2,200,000.00	$ 166,666.67
	Pavement (Asphalt or Concrete)				
P1	Fine Grading	1,780	SY	$ 8.00	$ 14,240.00
P1	New Pavement	1,385	SY	$ 70.00	$ 96,950.00
P1	Pavement Resurfacing	311	SY	$ 20.00	$ 6,222.22
P1	Subgrade Stabilization	1,780	SY	$ 10.00	$ 17,800.00
GR	Guardrail	400	LF	$ 26.00	$ 10,400.00
GR	Guardrail End Units	4	EA	$ 3,000.00	$ 12,000.00
GR	Guardrail Anchor Units	4	EA	$ 3,000.00	$ 12,000.00
L	**Erosion Control (assumed rural 2 lane using Maxof cost per mile)**	0.1	Miles	$ 900,000.00	$ 68,181.82
	Signing				
S	L Line (assumed higher than max of cost per mile)	0.1	Miles	$ 200,000.00	$ 15,151.52
	Traffic Control				
Y	(L Line) (assumed rural 2 lane using max of cost per mile)	0.3	Miles	$ 600,000.00	$ 150,000.00
PM	Thermo and Pavement Marking (Typical Section - L)	0.3	Miles	$ 125,000.00	$ 31,250.00
	(assumed rural 2 lane using 3rd Quartile of cost per mile)				
	STRUCTURES				
B	Removal of Existing Structure (25.42' x 90.67')	1	LS	$ 175,000.00	$ 175,000.00
B	Asbestos Assessment	1	LS	$ 10,000.00	$ 10,000.00
B	PDA Testing	1	EA	$ 5,000.00	$ 5,000.00
B	Unclassified Structure Excavation	1	LS	$ 75,000.00	$ 75,000.00
B	Asphalt Wearing Surface (124'x36.83')	4,567	SF	$ 12.50	$ 57,086.50
B	Class A Concrete (assume 39' super with 105 deg skew)	66	CY	$ 2,000.00	$ 131,200.00
B	Bridge Approach Slabs (2 @ 38.17' x 12')	916	SF	$ 50.00	$ 45,804.00
B	Reinforcing Steel	10,186	LB	$ 2.00	$ 20,372.00
B	3'-0" x 3'-3" Prestressed Concrete Box Beam Units	1,300	LF	$ 400.00	$ 520,000.00
B	Pile Driving Equipment Setup	14	EA	$ 1,200.00	$ 16,800.00
B	HP 12 x 53 Steel Piles (assume 50' lengths)	700	LF	$ 75.00	$ 52,500.00
B	Vertical Concrete Barrier Rail	100	LF	$ 175.00	$ 17,500.00
B	2-Bar Metal Rail	100	LF	$ 200.00	$ 20,000.00
B	Rip Rap Class II (2'-0" Thick)	360	TONS	$ 90.00	$ 32,400.00
B	Geotextile For Drainage	400	SY	$ 4.50	$ 1,800.00
B	Elastomeric Bearings	1	LS	$ 10,000.00	$ 10,000.00
	Walls				
W	Segmental Gravity Walls (assumed 75'x5')	375	SF	$ 150.00	$ 56,250.00
	Utility Construction				
U	Duke OH Power lines within +/- 70 ft on 2 sides of the existing structure >3-4 pols	1	EA	$ 400,000.00	$ 400,000.00
U	AT&T slick site (broadband)	1	EA	$ 1,250,000.00	$ 1,250,000.00
U	Relocate UG waterline (attached to substructure of bridge) and meters	1	EA	$ 425,000.00	$ 425,000.00
				Total Construction Cost (2024$)	**$ 4,436,711.71**

NCDOT estimated design and construction engineering & Inspection (CEI) costs as a percentage of the design costs (15% and 10%, respectively) while NEPA, permitting, and public engagement costs were estimated based on the level of effort for comparable projects. Right of Way costs were estimated using property valuation data from Zillow as market value data from the local tax assessor's office. Project Management costs were calculated at 10% of total design, environmental/public engagement, right of way, construction, and CEI costs. NCDOT included a 40% contingency in the cost estimate to account for risks given the planning-level basis for the cost estimate.

Table 5: Baseline Right-of-Way Cost Estimate for Lake Lure STRONG (2024$)

Parcel Number		Use	Parcel Value	% Acquired	Acquisition Cost
Bridge 52	**1649547**	Single Family Residential	$712,000.00	5%	$44,500.00
	1653096	Vacant	$135,000.00	100%	$135,000.00
	1653095	Vacant	$180,000.00	100%	$180,000.00
	1635323	Single Family Residential	$1,250,000.00	100%	$1,250,000.00
	1646607	Vacant	$74,375.00	25%	$23,242.19
	1646608	Vacant	$46,875.00	10%	$5,859.38
	Subtotal				**$1,594,101.56**
Bridge 343	220483	Vacant with Misc Imp	$1,675,500.00	15%	$351,855.00
	1618029	Commercial	$357,900.00	10%	$50,106.00
	Subtotal				**$401,961.00**
Total					**$1,885,033.7**

BIP FY 2026
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LAKE LURE STRONG

(**S**afe **T**ransportation for **R**egional **O**pportunity and **N**eighborhood **G**ood repair)

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