Rockingham (Bellows Falls) Depot Street over Power Dam Canal

Presented by
Vermont Agency of Transportation & VHB

June 2, 2021

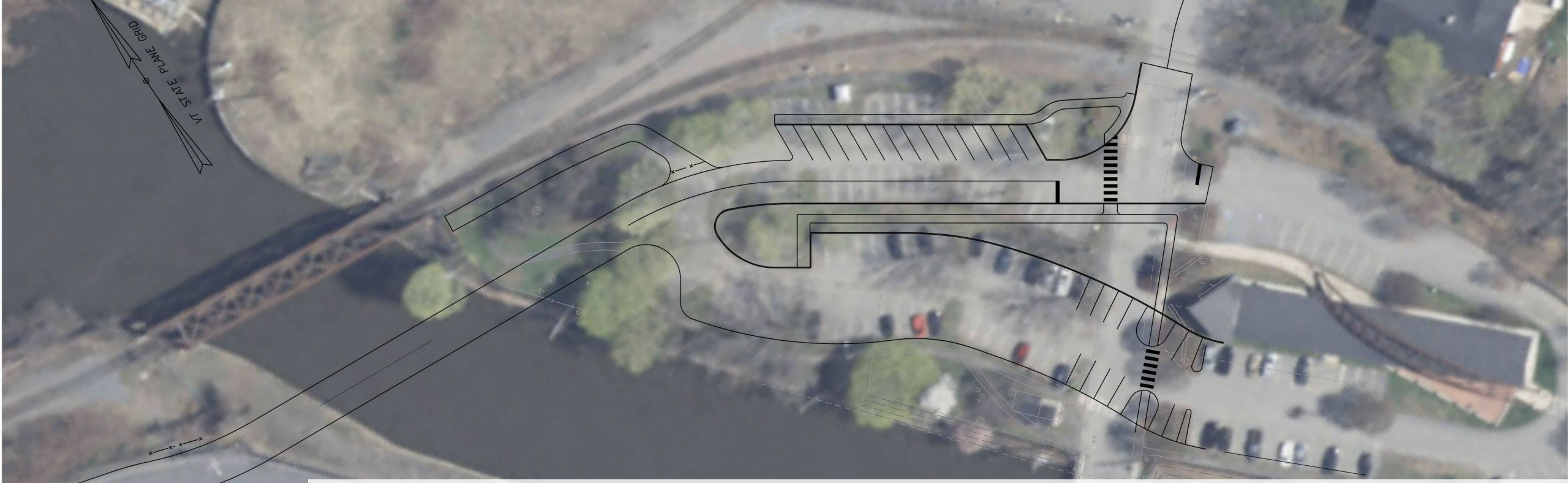
Meeting with you today

Jon Griffin, PE
VTrans, Project Manager

Scott Burbank, PE
VHB, Project Manager

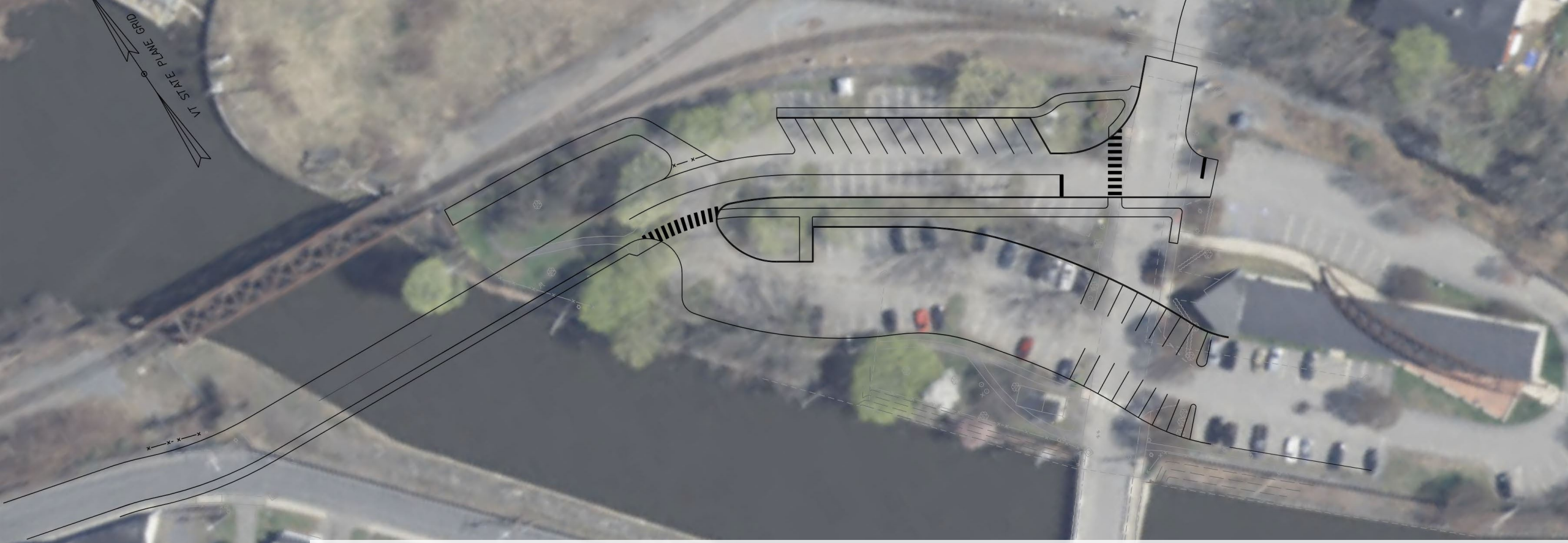
Alternatives

- Steel Girder Bridge Off-Alignment with Repair of Existing Concrete Arch
- Steel Girder Bridge Off-Alignment with Removal of Existing Concrete Arch
- Steel Girder Bridge Off-Alignment with New Pedestrian Bridge
- Precast Concrete Arch Bridge On-Alignment with Removal of Existing Bridge 53
- Prefabricated Steel Truss On-Alignment with Removal of Existing Bridge 53



Steel Girder Bridge Off-Alignment With Repair of Existing Bridge 53

- WB-67 Turning Movements Accommodated
- Existing Concrete Arch Becomes a Pedestrian Bridge
  - No longer inspected bi-annually by VTrans
  - Maintenance is the responsibility of the Town, no longer eligible for the Town Highway Bridge Program
- Water and Sewer line work will be sole responsibility of the Town
- Anticipate 3-Month Shutdown of the Canal for Repairs to the Existing Concrete Arch
- Town Share is 10%



Steel Girder Bridge Off-Alignment With Removal of Existing Bridge 53

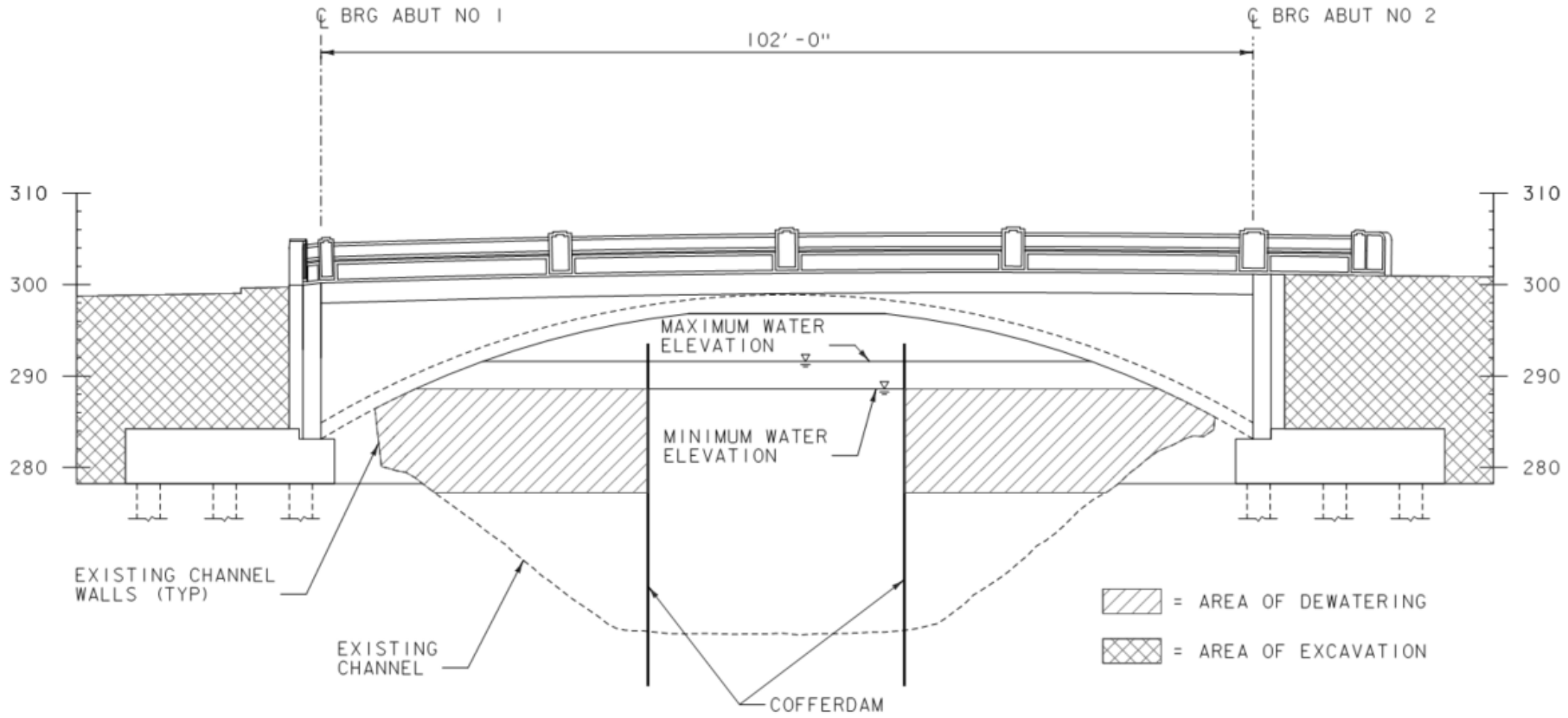
- WB-67 Turning Movements Accommodated
- Existing Concrete Arch Removed – No Future Town Maintenance
- Portions of Water and Sewer line work will be considered Project Eligible (relocation to new structure)
- Anticipate 1-Month Shutdown for Removal of the Existing Concrete Arch
- Town Share is 10%

Steel Girder Bridge Off-Alignment With New Pedestrian Bridge

- WB-67 Turning Movements Accommodated
- Existing Concrete Arch Removed – No Future Town Maintenance
- Portions of Water and Sewer line work will be considered Project Eligible (relocation to new ped. structure)
- Anticipate 1.5-Month Shutdown for Removal of the Existing Concrete Arch and installation of Ped. Bridge
- Town Share is 10%

Precast Concrete Arch Bridge On-Alignment with Removal of Existing Bridge 53

- WB-67 Turning Movements Accommodated, but Impact Sidewalk and Opposing Lane
- Existing Concrete Arch Removed – No Future Town Maintenance
- Water and Sewer line work will be considered Project Eligible
- Anticipate 8-Month Shutdown for Removal of Existing Arch and Construction of Precast Concrete Arch
- Town Share is 5%



Steel Girder Bridge Off-Alignment With Removal of Existing Bridge 53

- WB-67 Turning Movements Accommodated, but Impact Sidewalk and Opposing Lane
- Existing Concrete Arch Removed – No Future Town Maintenance
- Relocation of Water and Sewer line work will be considered Project Eligible
- Anticipate 1-Month Shutdown for Removal of Existing Arch and Construction of Steel Truss
- Town Share is 5%

Alternatives Cost Analysis

	New Bridge Off Alignment (Repair Existing)	New Bridge Off Alignment (Remove Existing)	New Bridge Off Alignment (New Ped Bridge)	Concrete Arch	Steel Truss
Bridge Length	180 ft	180 ft	180 ft	102 ft	115 ft
Bridge Width	38 ft	38 ft	33 ft	42 ft	44 ft
Cost					
New Bridge	$2,872,720.00	$3,307,980.00	$2,872,720.00	$1,521,500.00	$1,575,000.00
Repair of Existing Bridge	$615,000.00	$0.00	$0.00	$0.00	$0.00
Removal of Existing Bridge	$0.00	$401,700.00	$401,700.00	$401,700.00	$401,700.00
Ped Bridge	$0.00	$0.00	$597,450.00	$0.00	$0.00
Roadway	$350,000.00	$350,000.00	$350,000.00	$250,000.00	$250,000.00
Maintenance of Traffic	$54,300.00	$54,300.00	$54,300.00	$75,000.00	$75,000.00
Cofferdam	$0.00	$0.00	$0.00	$2,128,000.00	$0.00
Aerial Utilities	$400,000.00	$1,000,000.00	$1,000,000.00	$600,000.00	$600,000.00
Water Line	$164,000.00	$164,000.00	$64,200.00	$64,200.00	$64,200.00
Sewer Line	$166,500.00	$166,500.00	$37,500.00	$166,500.00	$166,500.00
Subtotal:	$4,622,520.00	$5,444,480.00	$5,377,870.00	$5,206,900.00	$3,132,400.00
Construction Contingency (20% of Subtota	$924,504.00	$1,088,896.00	$1,075,574.00	$1,041,380.00	$626,480.00
Construction Cost	$5,547,024.00	$6,533,376.00	$6,453,444.00	$6,248,280.00	$3,758,880.00
Environmental Site Assessment (ESA)	$63,717.00	$63,717.00	$63,717.00	$0.00	$0.00
Engineering Cost (10% of Const. Cost)	$554,702.40	$653,337.60	$645,344.40	$624,828.00	$375,888.00
ROW	$75,000.00	$100,000.00	$100,000.00	$200,000.00	$200,000.00
Total (Const. & Eng., Excl. Soils & Canal Impa	$6,240,500.00	$7,350,500.00	$7,262,600.00	$7,073,200.00	$4,334,800.00
Canal Construction Time	3	1	1.5	8	1
Estimated Min. Power Dam Impacts	$600,000.00	$200,000.00	$300,000.00	$1,600,000.00	$200,000.00
Estimated Max. Power Dam Impacts	$1,800,000.00	$600,000.00	$900,000.00	$4,800,000.00	$600,000.00
Scarcity Event	9	3	4.5	24	3
Assume 1 per Month for 3 Hours Each	$1,080,000.00	$360,000.00	$540,000.00	$2,880,000.00	$360,000.00
Project Cost w/ Power Dam Costs					
Estimated Min. Project Cost	$7,920,500.00	$7,910,500.00	$8,102,600.00	$11,553,200.00	$4,894,800.00
Estimated Max. Project Cost	$9,120,500.00	$8,310,500.00	$8,702,600.00	$14,753,200.00	$5,294,800.00
Contaminated Soils (Town Only)	$210,000.00	$370,000.00	$370,000.00	$240,000.00	$210,000.00
Town Contribution	10%	10%	10%	5%	5%
Estimated Town Share (Lower Range)	$1,358,990.00	$1,161,050.00	$1,180,260.00	$817,660.00	$454,740.00
Estimated Town Share (Upper Range)	$1,478,990.00	$1,201,050.00	$1,240,260.00	$977,660.00	$474,740.00

Questions?

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