**HISTORIC PROPERTY INVENTORY FORM**

**IDENTIFICATION SECTION**

Field Site No. | OAHP No. | DATE RECORDED | 4/22/03 |
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Site Name: Historic Tacoma Narrows Bridge Rubble | | | |
Common | Same | | |
Field Recorder | Trent DeBoer | | |
Owner's Name | Washington Department of Transportation | | |
Address | City/State/Zip Code | Olympia, WA | | |

**LOCATION SECTION**

Address: Rte 16 | City/Town/County/Zip Code | Pierce County | | |
Twp. 21N | Range 2E | | |
\( \frac{1}{4} \) Section SE 28 | Acreage | Less than one acre | | |
Owner's Name: | Washington Department of Transportation | | |
Address | City/State/Zip Code | Olympia, WA | | |

**Status**

- Survey/Inventory: X
- National Register: 
- State Register: 
- Determined Eligible: 
- Determined Not Eligible: 
- Other (HABS, HAER, NHL): 
- Local Designation: 

**Classification**

- District: 
- Site: 
- Building: 
- Structure: 
- Object: 

**District Status**

- NR: 
- SR: 
- LR: 
- INV: 
- Contributing: 
- Non-Contributing: 

**Photography**

- Photography Neg. No. (Roll No. & Frame No.): 
- View of: 
- Date: 4/22/2003

**DESCRIPTION SECTION**

**Materials & Features/Structural Types**

- Building Type: Bridge Rubble
- Planirregular: 
- Structural System: Reinforced concrete
- No. of Stories: 

**Roof Type**

- Gable: 
- Flat: 
- Monitor: 
- Gambrel: 
- Hip: 
- Pyramidal: 
- Shed: 
- Other (specify): 

**Roof Material**

- Shingle: 
- Composition: 
- Wood: 
- Build-Up: 
- Tile: 
- Metal (specify): 
- Other (specify): 
- Not visible: 

**Foundation**

- Log: 
- Post & Pier: 
- Stone: 
- Brick: 
- Concrete: 
- Block: 
- Poured: 
- Other (specify): 

**Cladding (Exterior Wall Surfaces)**

- Log: 
- Horizontal Wood Siding: 
- Rustic/Drop: 
- Wood Shingle: 
- Board and Batten: 
- Vertical Board: 
- Asbestos/Asphalt: 
- Concrete/Concrete reinforced: 
- Vinyl/Aluminum Siding: 
- Siding: 
- Stucco: 
- Clapboard: 
- Brick: 
- Stone: 
- Terra Cotta: 
- Metal (specify): 
- Other (specify): 

**High Styles/Forms**

- Greek Revival: 
- Revival/Mediterranean: 
- Gothic Revival: 
- Italianate: 
- Second Empire: 
- Romanesque Revival: 
- Stick Style: 
- Queen Anne: 
- Shingle Style: 
- Colonial Revival: 
- Beaux Arts/Neo classical: 
- Chicago/Commercial Style: 
- American Foursquare: 
- Mission Revival: 
- Northwest Style: 
- Commercial Vernacular: 
- International Style: 
- Spanish Colonial: 
- Tudor Revival: 
- Craftsman/Arts & Crafts: 
- Bungalow: 
- Prairie Style: 
- Art Deco/Art Modern: 
- Rustic Style: 
- Residential Vernacular: 
- Other (specify): 

**Integrity**

- Include detailed descriptions in Description of Physical Appearance: 
- Changes to plan: 
- Changes to windows: 
- Changes to original cladding: 
- Changes to interior: 
- Other (specify): 
- Intact: 
- Slight: 
- Moderate: 
- Extensive: 

**Vernacular House Types**

- Gable front: 
- Gable front and wing: 
- Side gable: 
- Cross gable: 
- Pyramidal/Hipped: 
- Other (specify):
Statement of Significance:
Date of Construction 1940
Architect/Engineer/Builder Leon Moissieff, Principal Engineer
In the opinion of the surveyor, this property appears to meet the criteria of the National Register of Historic Places
In the opinion of the surveyor, this property is located in a potential historic district (National and/or local)

On 7 November 1940 the Tacoma Narrows Bridge collapsed spectacularly into Puget Sound, barely four months after the opening of the 5,000-foot long suspension bridge. Dubbed "Galloping Gertie" because of the longitudinal oscillations that afflicted the structure in the lightest of breezes, the bridge's failure stemmed from its structural lightness and the build up of wind pressure against its plate girder and deck. The bridge, designed in accordance with current engineering practice, which failed to account for the dynamic effect of wind load, lacked the stiffening necessary to prevent longitudinal "galloping." This design oversight, combined with the large length-to-width ratio of the structure, contributed to the twisting motion that destroyed the bridge.

The second Tacoma Narrows Bridge, built between 1948 and 1951, incorporated design elements intended to prevent the twisting and galloping motions that destroyed the first bridge. These included open trusses, instead of shallow plate girders, for greater stiffness; deck grating between the traffic lanes to lessen wind resistance; and a larger roadway width-to-span length to increase resistance to twisting.

The second Tacoma Narrows Bridge reused the anchor blocks and tower piers of the first bridge. The first bridge carried only two lanes of traffic, but the new bridge was designed to carry four lanes. The new design required wider pedestals at each pier. The pedestals were also lengthened 18 feet to raise the new tower legs above salt spray. Similarly, the first bridge's anchorages, spaced 39 feet apart, were retrofitted to accommodate the new bridge's 60-foot separation between cables. The original anchorages served as the cores of the new, heavier and wider 54,000-ton anchor blocks.

The ruins of the first Tacoma Narrows Bridge, popularly known as "Galloping Gertie," were listed in the National Register of Historic Places on 31 August 1992. The nominated property consists of the underwater remains of the bridge, and is roughly located between the piers of the current bridge. The existing bridge has been determined eligible for listing in the National Register of Historic Places.

The concrete and steel rubble consists of those portions of the original west anchorage that were removed and discarded when the anchorage was retrofitted for the present bridge. This debris is not associated with the bridge superstructure and was not a factor in the failure of the original structure.

Description of Physical Appearance:
The concrete and steel rubble associated with the west anchorage of the first Tacoma Narrows Bridge is evident along the beach and steep slope beneath the current bridge on the west side of Tacoma Narrows. The rubble consists of those portions of the original west anchorage that were removed and discarded when the anchorage was retrofitted for the present bridge. The portions of the rubble that are along the beach are covered with kelp, barnacles, and other marine life. Some rubble pieces above the high tide line display smooth, finished surfaces that were originally part of the exterior surfaces of the anchorage. Other pieces are entirely unfinished, with exposed aggregate, indicating that they were not originally visible surfaces. Some rubble pieces include bits of steel reinforcing. The largest piece of steel within the rubble is a shattered, x-braced beam still embedded in concrete.

Major Bibliographic References:
Tacoma Narrows Bridge: HAER No. WA-99