AMERICAN SOCIETY OF
HIGHWAY ENGINEERS

# National Project of the Year Award 

OFFICIAL ENTRY FORM

| AWARD CATEGORY ( (heck One): | $\square$ Under \$20 Million | X Over \$20 Million |
| :---: | :---: | :---: |
| SPONSORING REGION (Check One): |  |  |
| ( Northeast | $\square$ Great Lakes | $\square$ Northwest |
| $\square$ Mid-Atlantic | $\square$ North Central | $\square$ Rocky Mountain |
| $\square$ Southeast | $\square$ South Central | $\square$ Southwest |

## CONTACT INFORMATION FOR SUBMITTING REGION:



## PROJECT INFORMATION:

ENTERING AGENCY/COMPANY'S NAME: Stantec Consulting Services Inc. Highway Reconstruction
PROJECT NAME:_US Route 119 Youngwood Reconstruction_TYPE: \& Traffic Calming PROJECT LOCATION: US Route 119 through Youngwood Borough in Pennsylvania
CITY:_Youngwood Borough COUNTY: Westmoreland STATE: Pennsylvania

FINAL CONSTRUCTION COST: \$23,871,000
COUNTY: Westmoreland STATE: Pennsylvania PROJECT COMPLETION DATE: August 30, 2023

PROJECT ASHE SECTION: Southwest Penn ASHE SECTION CONTACT NAME: Amie S. Clawson, PE PHONE (OFFICE):_(412) 392-8730_PHONE (MOBILE): (412) 606-7928 E-MAIL: AClawson@saiengr.com

## PROJECT TEAM:



Entry Form Completed By: Steve Moore, PE

Date: January 25, 2024

## STATEMENT OF COMMITMENT:

Stantec Consulting Services Inc. commits to having at least one representative from the project team in attendance at the awards luncheon.

DEPARTMENT OF TRANSPORTATION
October 23, 2023

Golden Triangle Construction Company, Inc. 8555 Old Steubenville Pike Imperial, PA 15126

Re: Westmoreland County
SR 0119 Section J20
US 119 Youngwood Recon
ECMS No.: 89191
Federal No.: T125-371-Z001

Colleagues:
The Department has scheduled a Semi-Final / After Action Review on the referenced project on Monday, November 13, 2023 at 9:30 AM.

The inspection party will meet at the project field office.
The Construction Project - Quality Survey for Design Items form must be completed in ECMS by the Contractor and IIC prior to the Semi Final / After Action Review. This form is now located in ECMS under the Closeout section of the Project Information screen.

Should you have any questions concerning this matter, you may contact me at 724-439-7286.

Sincerely,


Dominec A. Caruso, P.E.
Assistant Construction Engineer
Engineering District 12-0

## 120:DAC:jmk

cc: Richard Kercher, Federal Highway Administration
William L. Beaumariage, P.E., Assistant District Executive - Construction
Dominec A. Caruso, P.E., Assistant Construction Engineer
Huytu Nguyen, Inspector in Charge
James Sisul, Project Manager
David Forkey, Westmoreland County Maintenance Manager
Rachel D. Duda, P.E.
Kenneth A. Shimko, P.E.
Jeremy Hughes, P.E.
Roy A. Painter, P.E.


## Project Narrative

## US Route 119 Youngwood Reconstruction <br> SR 0119, Section J20

The State Route 0119, Section J20 (US Route 119 Youngwood Reconstruction) Project spans approximately 1.7 miles in length in Hempfield Township, New Stanton Borough, and Youngwood Borough in Westmoreland County, PA. The roadway serves as a major north/south connection between Interstates 70 and 76 to the south, and SR 30 and the City of Greensburg, the county seat, to the north. SR 119 is a 4-lane divided highway at the northern and southern extents of the project, transforming to a one-way pair with parking lanes as it traverses the heart of Youngwood Borough.

The corridor is an urbanized area that includes a mix of residential and commercial land use. A variety of transportation modes are present, including public transit, bicycle (Five Star Trail), and pedestrian. Originally constructed in the late 1930s and early 1940s, the roadway has suffered significant deterioration, fails to provide acceptable levels of service, and lacks attributes to maintain community and regional connectivity.

The purpose of the US Route 119 Youngwood Reconstruction Project was to address deficiencies, provide a reliable and efficient roadway that caters to the current and projected traffic, including pedestrians, and improve congestion to an acceptable level of service, while ensuring the traveling public has adequate safe access points throughout the corridor.

To achieve these goals, the project scope included total reconstruction of the roadway, including roadway drainage, sidewalks, ADA curb ramps, traffic signals, and removal of the existing box beam median barrier south of the Burton Avenue intersection and replacing it with a concrete median barrier. Numerous traffic calming and safety measures were implemented, including chicanes, curb extensions, narrowing lanes (road diet), placing optical speed bars, and installing radar speed display signing. Additionally, installation or reconstruction of sidewalks on two locally owned roadways provide cohesive pedestrian access routes from the residential land uses of Youngwood Borough to the parallel Five Star regional rail-trail located several blocks east of the project corridor.

## SCORING CRITERIA RESPONSES:

## 1. Complexity

$>$ Reconstructing the roadway and sidewalks while maintaining all modes of transportation was a particularly challenging aspect of the project. ADA accessible driveway transitions and ramps needed to be constructed while maintaining access, requiring dozens of pedestrian detours and complex staging of the work. Over five miles of sidewalk were constructed, as well as 32 intersections, eight traffic signals, 68 driveways and 200 ADA ramps. Also, close coordination with R. W. Sidley, Inc. concrete products was necessary as oversized loads (precast concrete culverts) are generated from their facility several times per week and traversed the project area.
$>$ Utility involvement was a design element requiring intense focus. All gas, water and sanitary sewer lines were relocated or replaced throughout the project area. Over 350 new drainage inlets were installed and over 90 maintenance holes were relocated out of the wheel paths. PennDOT's share of the utility relocation costs exceeded $\$ 12$ million.
> The complexity of the project is evident by the construction duration spanning nearly four complete construction seasons.

## 2. New Application of Existing Techniques / Originality / Innovation

> Traffic calming measures were implemented to reduce speeding and improve safety, including:

- narrowing lanes from 12 feet to 11 feet (road diet),
- installing multiple chicanes (lateral lane shifts) that passively reduce speed,
- providing curb extensions at intersections to reduce pedestrian crossing times and improve safety by limiting the time a pedestrian is in a travel lane,
- utilizing bulb-outs to define parking areas, passively reduce speeding, and eliminate the need for utility pole relocations,
- installing optical speed bars and edge lines along curbs where not typically used, and
- installing overhead radar speed display signing to notify motorists of their speed.
$>$ High friction surface treatments were used to help reduce rear end collisions on approaches to an isolated signalized intersection.
> Thermoplastic pavement markings were used exclusively on the project (even for long lines) to improve visibility and reduce future maintenance.
$>$ Despite adding lanes to improve capacity and adding sidewalks in areas where they were missing, the traffic calming features provided the opportunity to offset the additional impervious area with pervious areas, resulting in the elimination of the need for stormwater management facilities.
> Bulb-outs were used to limit temporary construction easements needed for driveway modifications at sensitive locations such as the Youngwood Post Office where driveway closure and property owner negotiations would be challenging.


## 3. Social / Economic Considerations

> The project addressed capacity issues by adding auxiliary turn lanes in select areas. This reduced congestion and made Youngwood Borough more attractive to both existing business patrons and future development as well. Even before construction ended, a national restaurant franchise began construction of a new facility on a parcel formerly used for truck parking.
> New sidewalks and traffic calming measures make Youngwood Borough a more walkable community and the Central Business District more attractive for businesses and patrons.
$>$ Two locally owned roadways were resurfaced. Additionally, new sidewalks were installed and reconstructed in order to enhance and create pedestrian and bicycle routes from the residential areas of Youngwood Borough to the Five Star recreational trail that runs parallel to, and just east of, the US 119 project corridor.
> The project improvements help to create a sense of place for Youngwood Borough, which is bracketed by high-speed limited access divided highways.

## 4. Safety

> Safety for all modes of transportation was a primary project goal. Traffic calming measures were implemented to reduce speeding and improve safety, including:

- narrowing lanes from 12 feet to 11 feet (road diet),
- reducing the speed limit of the northbound lanes from 35 MPH to 25 MPH,
- installing multiple chicanes (lateral lane shifts) that passively reduce speed,
- providing curb extensions at intersections to reduce pedestrian crossing times and improve safety by limiting the time a pedestrian is in a travel lane,
- utilizing bulb-outs to define parking areas, passively reduce speeding, and provide shelter for parked vehicles.
- installing optical speed bars and edge lines along curbs where not typically used, and
- installing overhead radar speed display signing to notify motorists of their speed.
$>$ High friction surface treatments were used to help reduce rear end collisions on approaches to an isolated signalized intersection.
> Antiquated steel box beam median barrier was replaced with concrete glare screen at the southern end of the project for increased safety.
> Thermoplastic pavement markings were used exclusively on the project (even for long lines) to improve visibility.
> A private retail driveway was relocated to prevent wrong-way traffic maneuvers.


## 5. Aesthetics and Sustainable Features

> Youngwood Borough agreed to maintain the tree lawn (grass areas between curb sidewalk). Despite adding lanes to improve capacity and adding sidewalks in areas where they were missing, the traffic calming features provided the opportunity to offset the additional impervious area with pervious areas.
> These enhancements prevented the need for stormwater control measures as there was not a net increase in impervious area.
> The project improvements help to create a sense of place for the Borough, which is bracketed by high-speed limited access divided highways.
> New sidewalks were installed or reconstructed along Depot and Hillis Streets in order to enhance and create pedestrian and bicycle routes from the residential areas of Youngwood Borough to the Five Star recreational trail that runs parallel to and just east of the US 119 project corridor.
> Thermoplastic pavement markings were used exclusively on the project (even for long lines) to reduce future maintenance.

## 6. Meeting or Exceeding Owner's / Client's Needs

> Throughout design a list of "hot items" was provided to PennDOT to highlight issues that required their decision or input in order to maintain the aggressive schedule.
$>$ Despite adding lanes to improve capacity and adding sidewalks in areas where they were missing, the traffic calming features provided the opportunity to offset the additional impervious area with pervious areas, resulting in the elimination of the need for stormwater management facilities.
$>$ The final construction cost $(\mathbf{\$ 2 3}, \mathbf{8 7 1}, \mathbf{0 0 0})$ was within $9 \%$ of the pre-bid estimate $(\$ 21,906,000)$ despite being bid during the first month of the pandemic and unprecedented construction inflation.
> Perhaps the best measure of how well the solution met the owner's goals are the three "Consistently Exceeds Expectations" evaluations received for the Preliminary Engineering, Final Design and Right of Way acquisition stages of the project. The evaluation for services during construction is not yet available.
> The design and construction schedules were both met. Preliminary Engineering was completed one week in advance of the 10 months required. Right of Way Acquisition (73 claims) was completed in 11 months and Final Design was accelerated by one week within the last month of Final Design to accommodate a revised client letting schedule.



ISLAND DELINEATION DETAIL

SPACE EVENLY IN EACH LANE TO AVOID WHEEL PATHS 3: 5 FORR 1 LANES

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\begin{aligned}
& \text { LANESES } \\
& \hline \text { LANE }
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11

1<br><br>

-w/6"

## 1

OPTICAL SPEED BAR DETAIL ( 45 MPH TO 25 MPH )


CONCRETE GLARE SCREEN MEDIAN BARRIER DELINEATION DETAIL not to scale


## GENERAL NOTES

|  | REVISIONS | DATE |  |
| :---: | :---: | :---: | :---: |
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|  |  |  |  |

INSTALL PAVEMENT MARK NGG AND DEL INEATION IN ACCORDANCE WITH
THE DETAILS IN THESE ORAWINGS AND THE FOLLOWING, ORAS AS


c. PENNOL DEVICESTMUNCD), 2009 AND CURENT REVISIONS.
D. DENNDOT PUBLICATION 111 , "TRAFFIC CONTROL-PAVEMENT

2. DETAALS OTHER tTAN those indicated are on the following

3. apply all pavement markings at the width indicated.


6. INSTALL RAISED PAVEEENT MARERERS INACCORDANCE WITH PENNDOT
 IRECTE BY PENNDOT DISTRICT 12-0 TRAFFIC 'ENGINEERING
8. INSTALL NON PLOMABLE RAISED PAVEMENT MARKERS TO ALL NEWLY

9. REFER TO THE TRAFFIC SIGNAL PLANS FOR ADDITIONAL SIGNS AND 10. APPLY ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE




SHEET INDEX BLOCK

| DESCRIPTION | SHEET |
| :---: | :---: |
| TITLE SHEET, GENERAL NOTES AND DETAILS |  |
| NDEX SHEETS | 2 T0 4 |
| TABULATION SHEET | 5 T0 11 |
| PLAN SHEETS | 12 T0 36 |










