



ASHE National Project of the Year Award Northeast Region SR 356, Section F10 Under \$20 Million January11, 2024





2024 National Project	of the Year – NF Re	egion – SR 356. S	ection F10 under \$2	20 Million
Table of Contents		.g.o		
Completed Entry Form	n			
Project Narrative	•			
Construction Drawing	JS			
Photos				
Verification of substar	ntial completion da	te		
Statement of Commitr	nent Letter			



AMERICAN SOCIETY OF HIGHWAY ENGINEERS

National Project of the Year Award

OFFICIAL ENTRY FORM

AWARD CATEGORY (Check	One): Under \$20 Million	☐ Over \$20 Million
CDONCODING DECION (CI	1.0.	
SPONSORING REGION (Ch		
☑ Northeast	☐ Great Lakes	□ Northwest
☐ Mid-Atlantic	☐ North Central	☐ Rocky Mountain
☐ Southeast	☐ South Central	□ Southwest
CONTACT INFORMATION	N FOR SUBMITTING REGI	ON:
Contact Name: Scott R. Eshenaur		egion Position: NPY Chairperson
Phone (Office): 717-790-9565	Phone (Mobile): 717-580-8426	E-Mail Address:
, , , <u> </u>		sreshenaur@modjeski.com
PROJECT INFORMATION		
ENTERING AGENCY/COMPANY'S NA	ME: CDR Maguire, Inc.	
PROJECT NAME: SR 356, Section F10		TYPE: Safety Improvements
PROJECT LOCATION: Allegheny Township		
CITY:	COUNTY: Westmoreland County	
FINAL CONSTRUCTION COST: \$16,784		RUCTION COST: \$15,927,896.68
PROJECT COMPLETION DATE: 11/09/20	23	
PROJECT ASHE SECTION: Southwest Pe	nnsylvania ASHE SECTION CONTACT N	NAME: Aime Clawson, PE
PHONE (OFFICE):	PHONE (MOBILE):E-M	AIL: AClawson@saiengr.com
PROJECT TEAM: PROJECT OWNER: Pennsylvania Department of STREET ADDRESS: 825 N. Gallatin Ave Ex	tension	
CITY: Uniontown	STATE: Pennsylvania	ZIP: 15401
CONTACT PERSON: Jason Zakovitch	PHONE:	
	E-MAIL ADDRESS: jzakovitch@	opa.gov
PROJECT DESIGN FIRM: CDR Maguire, Inc. STREET ADDRESS: 178 Thorn Hill Road, Suit		
STREET ADDRESS: 1/8 Inorn Hill Road, Suit	e 200	45000
CITY: Warrendale	STATE: Pennsylvania	ZIP: 15086
CONTACT PERSON: Laurie Kolich	PHONE: 412.680.0957	ish @ sdown a making a com-
	E-MAIL ADDRESS: Laurie Kol	icn@cdrmaguire.com
PRIME CONTRACTOR: Ligonier Construct	tion Company	
STREET ADDRESS: 1350 Rt 30		
CITY: Laughlintown	STATE: PA	ZIP: 15401
CONTACT PERSON:	PHONE: 724.283.4782	
	E-MAIL ADDRESS:	
Entury Form Consulated Development	olich	Datas Innuary 9 2024
Entry Form Completed By: Laurie Ko	UIIUII	Date: January 8, 2024

CDR Maguire, Inc. ASHE 2024 National Project of the Year – NE Region SR 356, SECTION F10 Less than \$20,000,000 Million in Construction

1. Complexity

The SR 356-F10 project was completed in seven (7) phases. Although the project was designed to maintain traffic without detouring along SR 356, due to some slope stability issues during construction, SR 356 was allowed to be detoured for all traffic during the second year of construction. As a result of monitoring the traffic during the detour, the contractor proposed an additional detour during the third construction season through proposed Value Engineering.

Local traffic access along SR 356 was maintained throughout the project construction. Truck traffic was detoured for the duration of the project. Maintenance and Protection of Traffic provided another engineering challenge. Three and a half (3.5) miles of roadway was constructed under traffic during an 8-phase construction sequence during which the road wasn't shut down for 2 years.

Some unique obstacles were overcome such as embankment slides, mostly caused by red-bed clay. These areas were over-excavated and stabilized with 206 Rock and strategic benching of the slopes. Undercuts of the roadway were also performed where necessary.

Because of some drainage deficiencies and removal of old concrete road, soft spots of subgrade were encountered. Those were also over-excavated, stabilized with No. 1 Rock or 206 Rock, and proof-rolled for a stable foundation for the new roadway. Quick communication from the contractor (for the slides) allowed for the District Geotechnical Unit to provide faster solutions, which allowed the contractor to absorb very minimal delays.

There was an above average amount of utility coordination with this project including overhead lines, gas line relocations, water line relocations, and sewer line relocations. For the 3.1 miles of roadway, numerous poles needed relocation and lines switched over. Relocations were not as simple as moving 3 miles of poles and transferring lines. With some sections of roadway being widened, new drainage channels being added, some realignments of the roadway, and new guiderail, the pole movements were very strategic, and the transfers usually involved 4 different utilities.

And if this were not complicated enough, the project included 4 structure replacements because of widening and realignment within the project limits.

2. New Application of Existing Techniques/Originality/Innovation

"..Route 356 ...was built when Model Ts were on the road," Ren Steele, Allegheny County Board of Supervisors, notes in a March 28, 2019, Trib-Live article. And for Steele,

CDR Maguire, Inc. ASHE 2024 National Project of the Year – NE Region SR 356, SECTION F10

Less than \$20,000,000 Million in Construction

along with the numerous motorists who travel Route 356, making the corridor safe was paramount. "The hilly terrain mixed with residential roads off Route 356 makes for some 'dangerous intersections,'" Steele remarked.

CDR Maguire, Inc. (CDR|M) was tasked with creating a rehabilitation design that increased safety along this 3.15-mile section of SR 356 in Allegheny Township, Westmoreland County, PA.

Proposed work within the project corridor included:

- Mainline realignment, full depth widening (installation of auxiliary lanes and widened shoulders), and profile adjustments. SR 356 alignment shifts to the west at the Indian Hill Road (T-656) intersection and the Garvers Ferry Road (T-797)/Bagdad Road (T-779) intersection.
- Roadway betterment included pavement resurfacing (high friction pavement), improved/upgraded shoulders, superelevation, and sight distance improvements.
- > Reconstruction of various state and township side roads at tie-in locations.
- ➤ Replacement of the existing structures that carry SR 356 over Tributary No.2 and Tributary No.3, replacement of the structure that carries Garvers Ferry Road (T-797) over Tributary No.3, and a structure replacement for SR 356 over Tributary No.1 to the Kiskiminetas River. This work was required to accommodate the realignment and widening of SR 356 at these locations.
- Upgrade of guiderail and roadway drainage facilities throughout corridor.
- Installation of permanent stormwater facilities throughout the corridor.
- New signing, pavement marking, and delineation throughout the corridor.

CDR|M used the Highway Safety Manual, one of the first projects in District 12-0 to apply it, in an innovative way. Rather than using the Manual to develop alternatives, CDR|M developed the alternatives first, then used the safety manual to see which alternative offered the best positive impacts for safety within this corridor.

In addition, CDR|M used mixed criteria during design – full design and 3R throughout the corridor. This mixed criteria was applied to optimize safety while providing cost effective solutions throughout the corridor.

3. Social, economic, and sustainable development considerations

Built in 1928 and a key artery for more than 12,900 motorists daily (https://triblive.com.local/valley-news-dispatch/another-long-term-route-356-closrue-to-start-march-20), State Route 356 is vital to residents and commerce alike. And since this corridor had a history of accidents, safety measures assure the continued economic well-being of the region. The newly implemented safety measures cleaned-up the corridor, improved sight distance, and assisted in maintaining the design speed of 45 MPH. Without vehicles flying through the region and with improved drainage, accidents can be mitigated.

CDR Maguire, Inc. ASHE 2024 National Project of the Year – NE Region SR 356, SECTION F10

Less than \$20,000,000 Million in Construction

Although the corridor looks the same even though there are substantial safety measures, sustainable features such as post storm water plantings, ponds with correct vegetative plantings, and the improved roadway (wider with upgraded facilities 12-foot lanes and 8-foot shoulders), the corridor has been upgraded to the 21st century.

4. Safety

The objective of the project was the rehabilitation of the existing roadway and implementation of various safety improvements along a 3.15-mile section of SR 356 in Allegheny Township, Westmoreland County, PA. With the goal of increased safety, the design focused on the following.

The proposed roadway horizontal alignment for SR 356 was modified from its existing condition at the following locations:

- ➤ Horizontal curve revisions 2200-feet north of the SR 356 and Pleasant Hill Road/McCutcheon Short Cut Road intersection. The existing horizontal radius was revised to R = 955-feet.
- ➤ Offline alignment shift to the west along SR 356 at the Indian Hill Road intersection. This alignment modification included the introduction of two new compound curves with radii of R1 = 830-feet, R2 = 1,050-feet, R3 = 650-feet, and R4 = 965-feet, respectively.
- Offline alignment shift to the west along SR 356 at the Bagdad Road/Garvers Ferry Road intersection which included the introduction of a new horizontal curve with radius of R = 716.20-feet.
- ➤ The proposed side road alignments were modified slightly to tie into the revised SR 356 alignment. Side road modifications were limited to revisions to improve intersection skew angles. All existing intersection locations were maintained as part of this project.
- ➤ Additionally, McCutcheon Short Cut Road (T-660) access to SR 356 was eliminated. A cul-de-sac was constructed approximately 100-feet from the existing intersection.

The proposed vertical geometry for SR 356 was modified from its existing condition at the following locations:

- ➤ The vertical curve 500-feet south of SR 356 and Williams Road intersection curve was revised to a curve length of VC = 700-feet to achieve adequate stopping sight distance.
- ➤ The vertical curve 210-feet north of the SR 356 and Indian Hill Road intersection was introduced as part of the off-alignment revision to SR 356. The existing vertical grades of SR 356 were maintained in this area.
- ➤ The vertical curves 640-feet south, 400-feet south and 100-feet north of the SR 356 and Garvers Ferry Road/Bagdad Road were revised to curve lengths of VC = 350-feet, VC = 110-feet and VC = 475-feet respectively to achieve adequate stopping sight distance as part of the off-alignment revision to SR 356. The existing vertical grade in this this area was revised to 6.0%.

CDR Maguire, Inc. ASHE 2024 National Project of the Year – NE Region SR 356, SECTION F10

Less than \$20,000,000 Million in Construction

➤ The vertical curve 200-feet south of the SR 356 and White Cloud Road/Brown Road intersection was revised to a curve length of VC = 520-feet to achieve adequate stopping sight distance.

With improved sight distance, new left-turns at intersections, new signage/pavement marking, and the use of high friction pavement to maintain the design speed of 45MPH, safety is improved.

5. Aesthetics and Sustainable Features

SR 356 is a tale of nuanced aesthetics that bring the corridor into the 21st century by providing sustainable features such as post-storm water plantings, ponds with correct vegetation, stream mitigation, improved roadway, and upgraded facilities (12-foot lanes and 8-foot shoulders). While most motorists may not be aware of the work and design that went into the post-storm water and E&S controls, the environment around the corridor will continue to thrive. In addition, these mitigation features will alleviate the poor drainage on the roadway, which, at times, became a travel hazard by either ponding or causing black ice.

6. Successful fulfillment of client/owner needs

As the winner of the APC TQI Partnering award, PennDOT District 12-0 expressed their enthusiasm for a project well partnered: "This project won the Partnering Award!!!. Congrats on being part of the team that won."

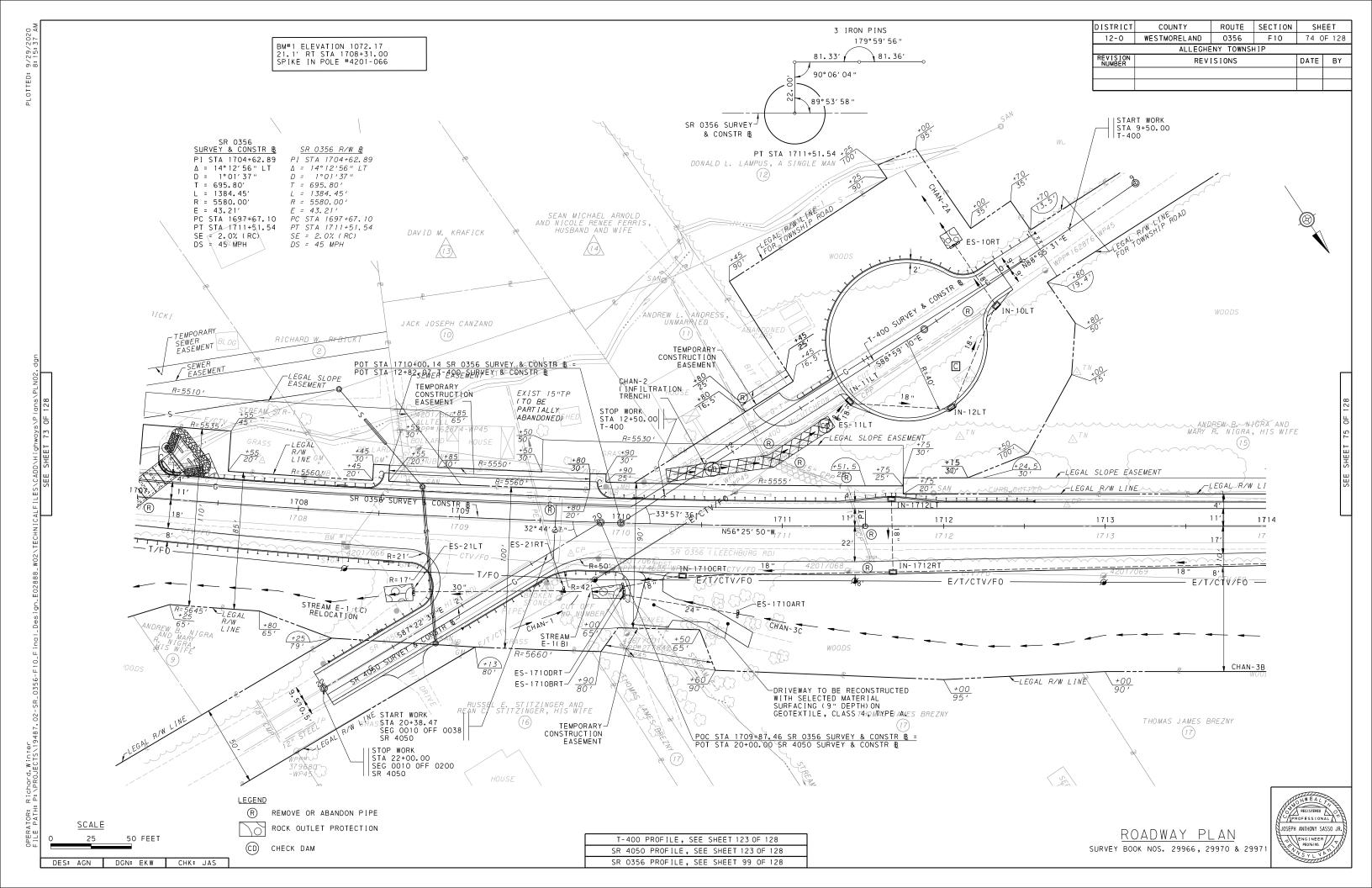
PennDOT District 12-0 offered the following comments on the project design/delivery:

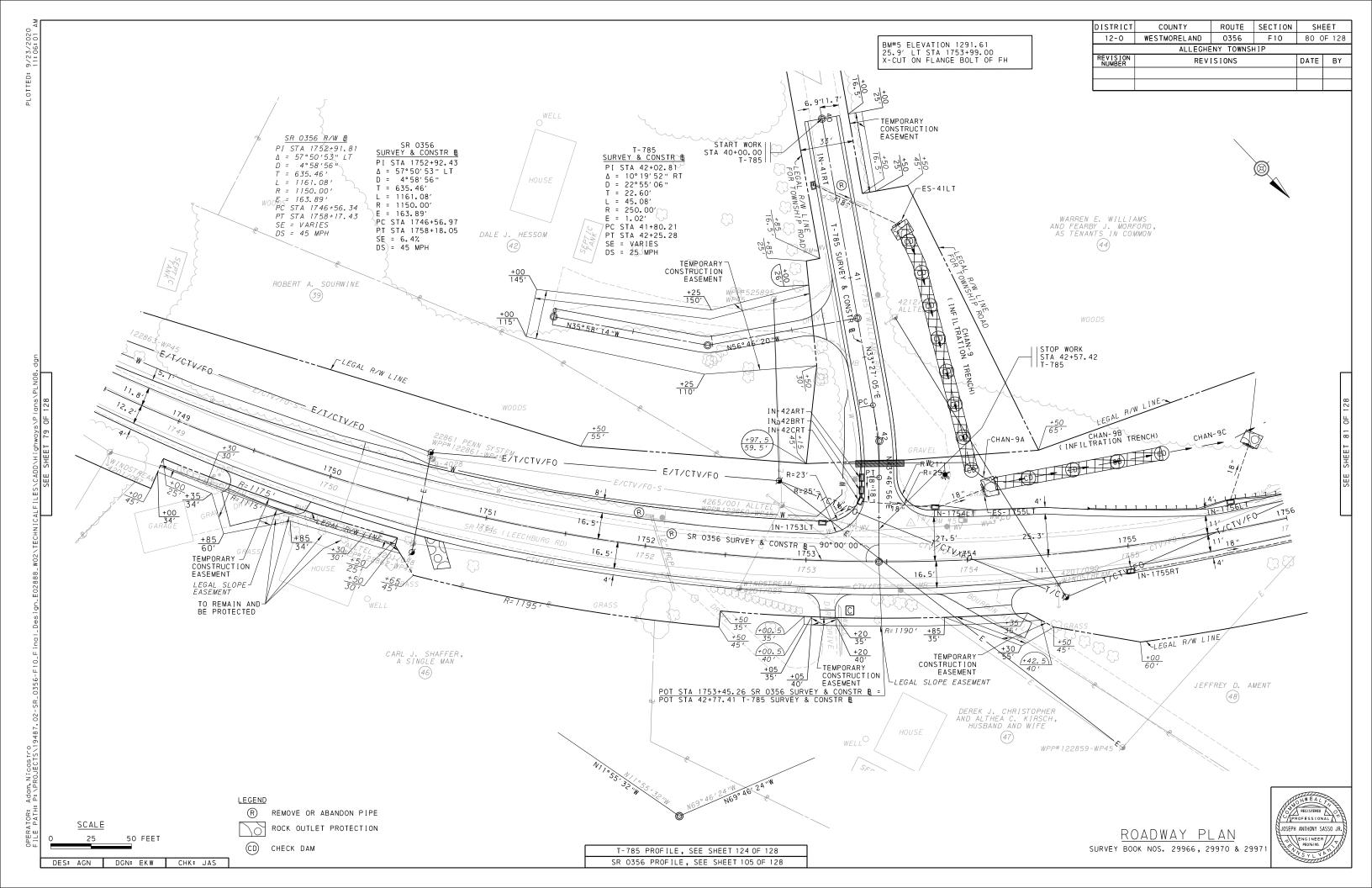
"The prime and their subs progressed the majority of this project's tasks at an acceptable rate....

"The utility coordination has improved with the consultant's continued request for utility documentation from the utility companies along the projects corridor and were received before advertisement. All other milestones were met with this project. The designer did a very good job answering questions and revising plans in a timely fashion during advertisement."

SR 0356 PROFILE, SEE SHEET 98 OF 128

DES: AGN DGN: EKW CHK: JAS





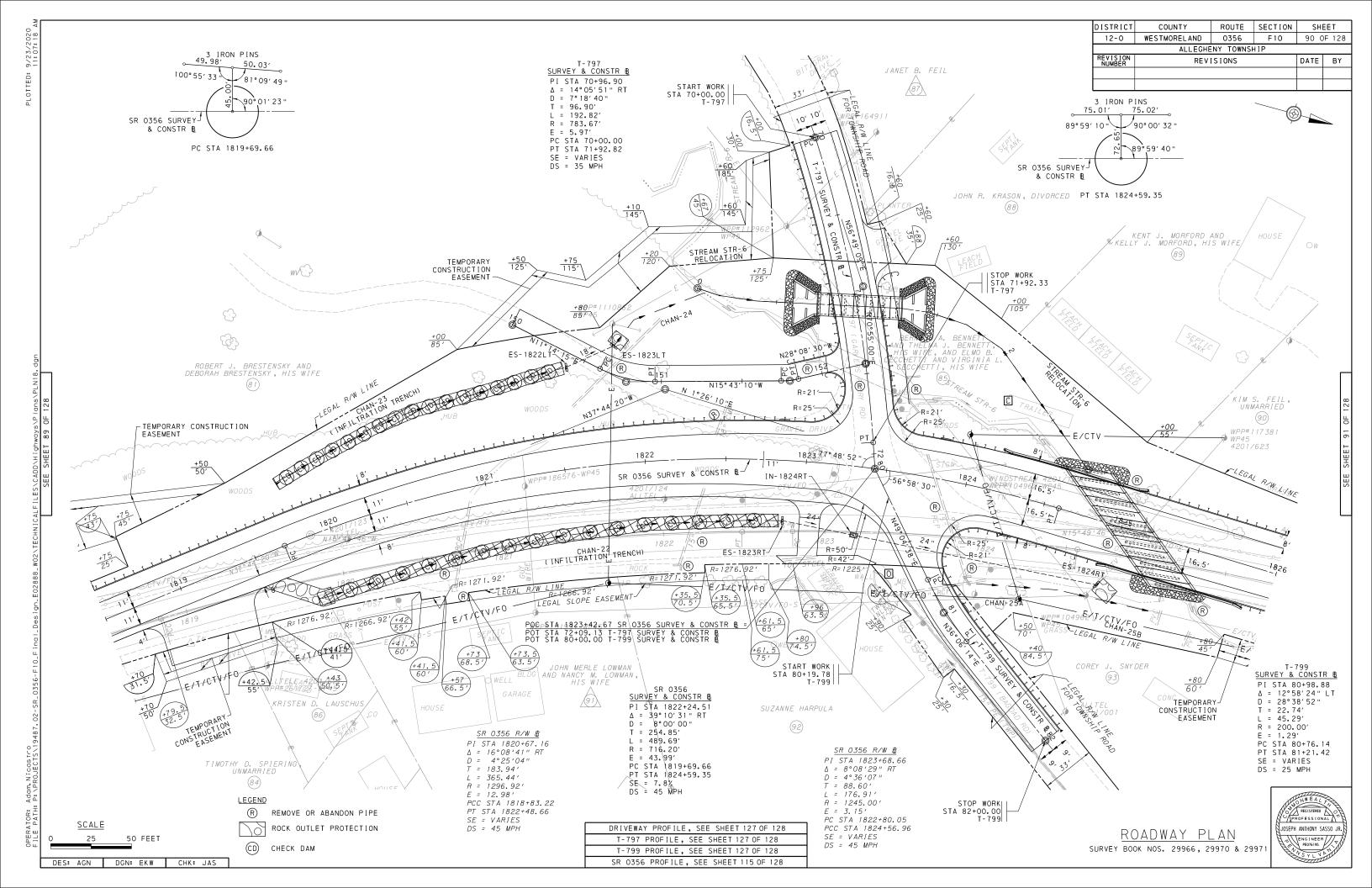




Photo 1: Looking north along SR 356 at newly constructed intersection with T-785 (Williams Road)



Photo 2: Newly constructed precast concrete box culvert carrying SR 356 over Tributary 2 to Kiskiminetas River



Photo 3: Newly constructed stormwater basin and SR 356/Indian Hill intersection looking north

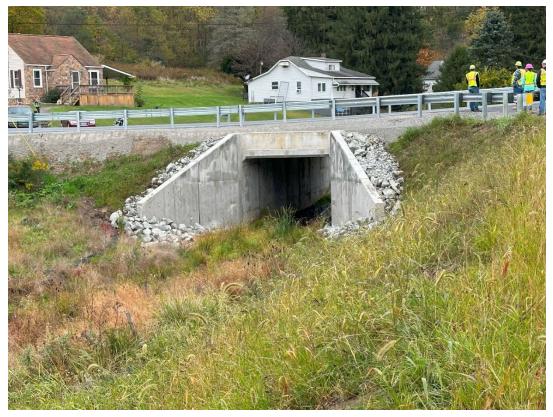


Photo 4: Culvert on Garvers Ferry Road



Photo 5: Relocated Driveway adjacent to SR 356 along Garvers Ferry Road

From: Zakovitch, Joshua J
To: Adam Nicastro

Cc: Joseph Sasso; Laurie Kolich

Subject: RE: [External] FW: Please provide verification of the date of substantial completion - SR 356-F10

Date: Tuesday, January 9, 2024 9:10:24 AM

Attachments: <u>image001.png</u>

image006.png image007.png image008.png image009.png image011.png image012.png image013.png image014.png

Adam,

Use the substantial completion date of 11/9/23 for the application. That is what we show in ECMS as our Physical Work Completion date for the project.

Joshua Zakovitch, P.E. | Project Manager

Department of Transportation Engineering District 12-0

825 N. Gallatin Avenue Ext. | Uniontown PA 15401

Phone: 724.439.7377| Fax: 724.430.4401

www.penndot.pa.gov

CONNECT WITH PENNDOT

Facebook | Twitter | Instagram | LinkedIn | YouTube

From: Adam Nicastro <Adam.Nicastro@cdrmaguire.com>

Sent: Monday, January 8, 2024 7:24 AM **To:** Zakovitch, Joshua J <jzakovitch@pa.gov>

Cc: Joseph Sasso <joseph.sasso@cdrmaguire.com>; Laurie Kolich <laurie.kolich@cdrmaguire.com> **Subject:** [External] FW: Please provide verification of the date of substantial completion - SR 356-F10

ATTENTION: This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the <u>Report Phishing button in Outlook</u>.

Good Morning Josh,

Hope you have been doing well.

Can you see below from Laurie for the SR 356 F10 project? We were recommended by ASHE PA southwest to submit to ASHE NE POY (see below and attached). She is looking for an email noting the substantially completed date that we can include in our submission package.

Please let us know if you have any questions.

Thank you,



Adam G. Nicastro, P.E. Technical Practice Lead - Highways

178 Thorn Hill Road, Suite 200, Warrendale, PA 15086

O: 412-235-9471 / C: 412-400-1598

cdr-eng.com

adam.nicastro@cdrmaguire.com



From: Laurie Kolich < <u>laurie.kolich@cdrmaguire.com</u>>

Sent: Monday, January 8, 2024 7:20 AM

To: Adam Nicastro < <u>Adam.Nicastro@cdrmaguire.com</u>>

Subject: Please provide verification of the date of substantial completion - SR 356-F10

Good morning, Adam -

Attached please find the submission requirements for the ASHE NE POY. Under the submission requirements – 7^{th} bullet – highlighted section "Verification.." – we will need to provide verification that the project was substantially completed by December 31, 2023 and no more than two calendar years immediately prior to the ASHE National Annual Conference (first sentence).

If you can reach out to the PennDOT PM for a quick email noting the substantially completed date that we can include in our submission package – this would be great.

Thank you



Laurie Kolich

Proposal Coordinator

178 Thorn Hill Road, Suite 200, Warrendale, PA 15086

Office: 412-235-9452 Cell: 412-680-0957

cdrmaguire.com

Laurie.Kolich@cdrmaguire.com



Confidentiality Notice

Disclaimer

The information contained in this communication from the sender is confidential. It is intended solely for use

by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by Mimecast, a leader in email security and cyber resilience. Mimecast integrates email defenses with brand protection, security awareness training, web security, compliance and other essential capabilities. Mimecast helps protect large and small organizations from malicious activity, human error and technology failure; and to lead the movement toward building a more resilient world. To find out more, visit our website.

CDR Maguire, Inc. 2024 National Project of the Year NE Region SR 356, Section F10 Under \$20,000,000 in Construction Cost

Statement of Commitment that one Representative will attend Awards Presentation.

January 8, 2024

Dear Selection Committee:

One representative from our project team will attend the Awards Presentation.

Sincerely,

H. Daniel Cessna, PE President - Engineering



CDR Maguire, Inc. 178 Thorn Hill Road Suite 200 Warrendale, PA 15086 cdr-eng.com