



Highway Deficiency and Design Criteria Report

US 30 Corridor Improvements ECMS Project #E03289

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Prepared for:

Pennsylvania Department of Transportation, Engineering District 12-0

Prepared by:

Whitman, Requardt & Associates, LLP

In Association With:

Markosky Engineering Group, Inc.



Contents

Introduction.....	2
Background & Purpose	2
Location and Study Area.....	2
Roadway Design Summary	3
Existing Conditions	3
Current/Required Design Criteria.....	8
Utility Information	10
Right-of-Way Information	11
Drainage Issues	11
Drainage Related Safety Issues.....	11
Drainage Design Issues.....	11
Pavement Issues.....	12
Existing Pavement Issues	12
Other General Roadway Issues.....	12
General Roadway Safety Issues	12
General Roadway Design Issues	13
Summary.....	13

List of Exhibits

Exhibit 1: Project Location Map	2
Exhibit 2: Existing Typical Sections	4
Exhibit 3: Highway/Traffic Classification and Design Volume Summary	8
Exhibit 4: Highway Design Criteria	9
Exhibit 5: Utility Contacts	10



Introduction

Background & Purpose

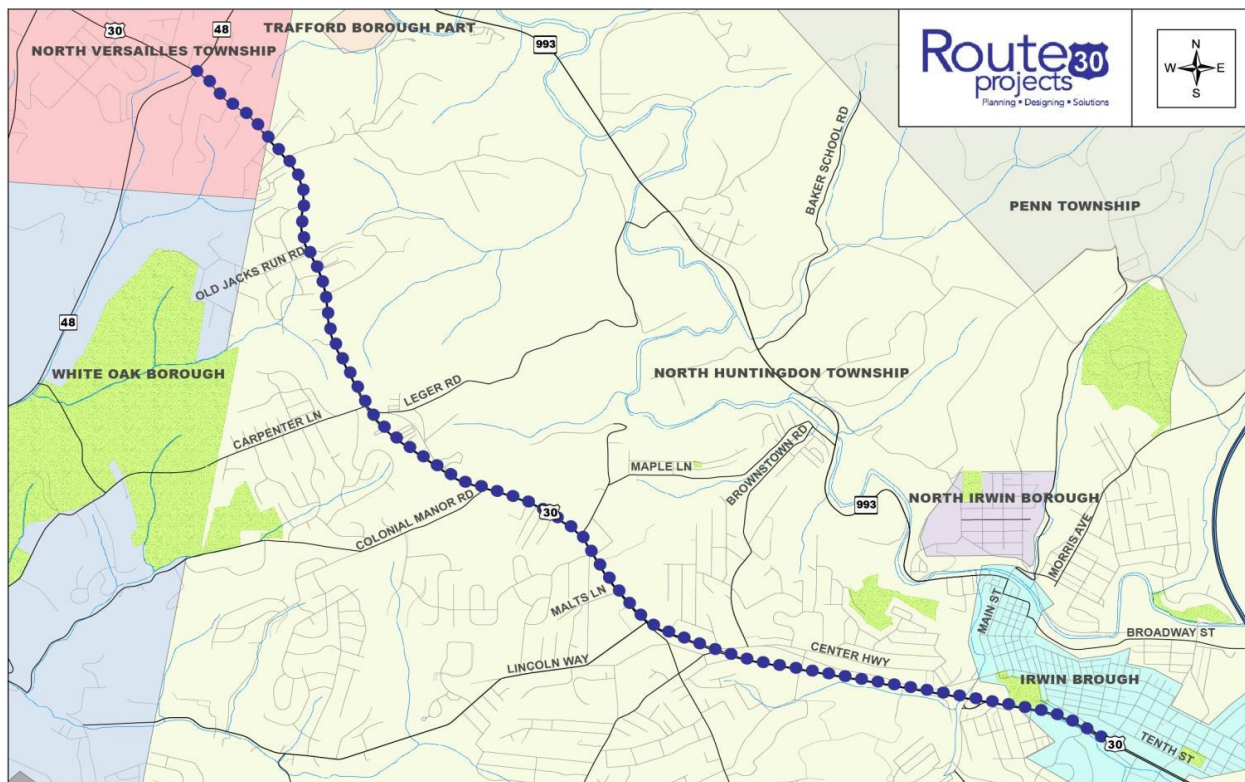
The US 30 Corridor Improvements project is a multi-phase project to improve the safety, multimodal mobility, and travel time of the SR 0030 (US 30) corridor while modernizing its infrastructure from 10th Street in Irwin Borough, Westmoreland County, to SR 0048 in North Versailles Township, Allegheny County. The first phase of the project was to establish purpose and need. This Highway Deficiency and Design Criteria Report supports purpose & need efforts by documenting relevant existing conditions related to utilities, right-of-way (ROW), drainage, pavement, and roadway geometrics, as well as key insights based on current applicable PennDOT design criteria.

The US 30 Improvements Project spans nearly six miles through heavily populated areas of commercial property as well as minimal residential areas. Built in 1937, the US 30 corridor contains many features in need of upgrades to meet current design criteria such as: obsolete [REDACTED] drainage structures, concrete and bituminous base pavement beyond its normal service life, and roadway and shoulder widths. The following sections will provide greater detail into existing features that do not meet current design standards as they pertain to drainage issues, pavement issues, and roadway issues.

Location and Study Area

The approximate study area limits of the US 30 Corridor Improvements project include 10th Street in Irwin Borough, Westmoreland County to the east, and SR 48 in North Versailles Township, Allegheny County to the west (*Exhibit 1*). The majority of the US 30 Corridor is located in North Huntingdon Township, Westmoreland County.

Exhibit 1: Project Location Map



Roadway Design Summary

Existing Conditions

The project corridor generally includes four travel lanes with two through-lanes in each direction, plus a wide variation in median and/or turn lane configurations (*Exhibit 2*). Throughout the corridor, lane widths vary from 10.5' to 12', and shoulders vary from non-existent to 9.5'. All travel lanes are asphalt while the shoulder material varies between concrete or bituminous pavement.

There is one 14.5' bituminous median from Oakmont Street to just west of 10th Street. Separately, raised concrete medians of various widths are present at:

- US 30/SR 0048 (Jacks Run Rd/Mosside Blvd) intersection to just beyond the K-Mart Entrance
- US 30/Carpenter Lane Intersection – 450' west and 625' east
- US 30/Robbins Station/Center Highway Intersection – 630' west to 480' east
- US 30/10th Street Intersection – 125' west and 115' east

There is one central turning lane within the corridor from Malts Lane to approximately 750' west of the US 30/Robbins Station/Center Highway intersection. Specific intersections with left turn lanes also include:

- US 30 and Jacks Run Rd. and Mosside Blvd.
- US 30 and Carpenter Lane and Leger Rd.
- US 30 and Malts Lane
- US 30 and Lincoln Way
- US 30 and Robbins Station Rd. and Lincoln Hwy.
- US 30 and Fairwood Dr. and 10th St.

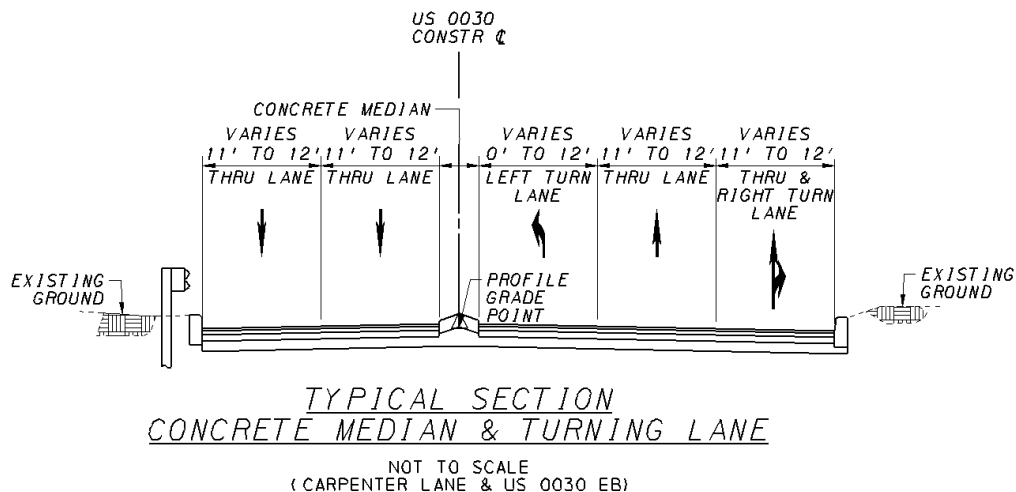
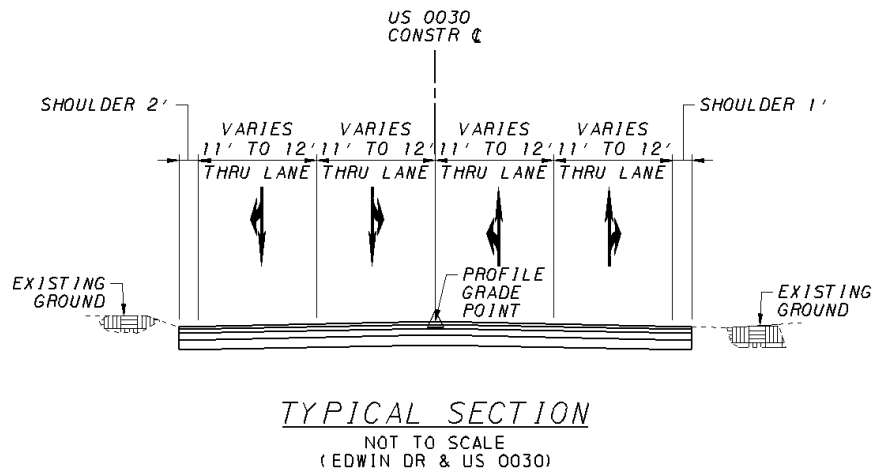
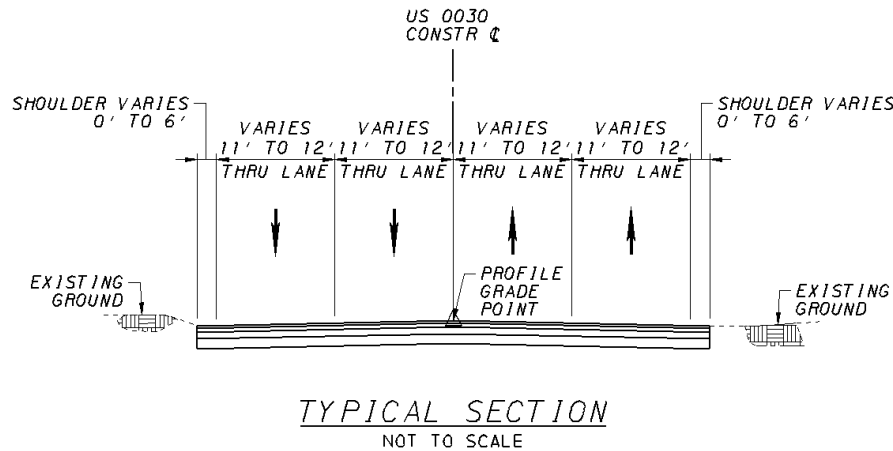
There are two bridge structures within the project limits:

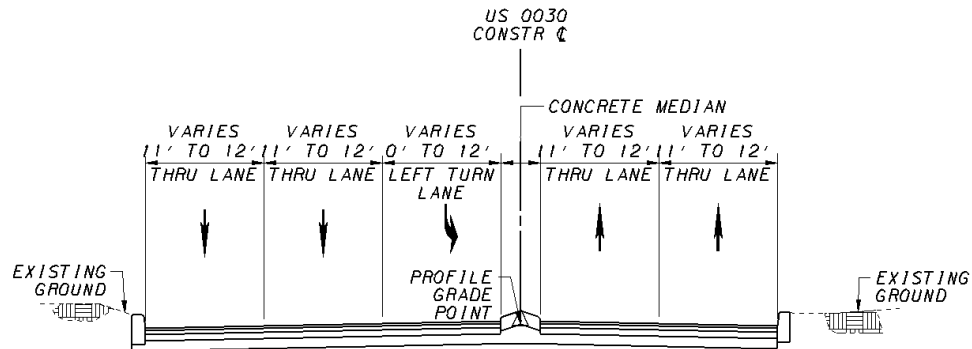
- The Veterans Bridge (BMS 64/0030/0100/0652) which carries US 30 over Tinkers Run, Main St., and an abandoned Railroad. According to PennDOT's MPMS IQ Website the 8-span 524' long bridge was built in 1939 and consists of steel continuous girders supporting a concrete deck with a curb to curb width of 49.79' that carries 4 travel lanes and 2 shoulders. The bridge was also reconstructed in 1984 and currently has no load restrictions. The condition of the deck, superstructure, and substructures are respectively listed as satisfactory, satisfactory, and fair. An anti-icing system is currently in-place and operational on the bridge.
- Bridge (BMS 64/0030/110/0234) carries US 30 over Branch of Brush Creek. According to PennDOT's MPMS IQ Website the structure is a 29' long buried concrete culvert that was built in 1939. The culvert has not been rehabilitated or reconstructed, and it currently has no load restrictions. The culvert condition is listed as fair.

Other structures to note along the corridor include the following:

- Modular Block retaining wall adjacent to the westbound shoulder in front of Kenny Ross Subaru. The wall supports the parking lot and appears to be in good condition.
- F-Shape Barrier wall holding up the cut slope just west of Robbins Station Road adjacent to the US 30 eastbound shoulder. The wall is approximately 475' long and appears to be in satisfactory condition.
- F-Shape Barrier along the east bound shoulder from Oakmont Street to the west approximately 850'. This area is in a cut slope which has the potential for falling rock. The barrier appears to be in place to retain the rock that has fallen from the cut slope. The westbound shoulder in this area also has a relatively steep cut slope that has the potential for falling rock.

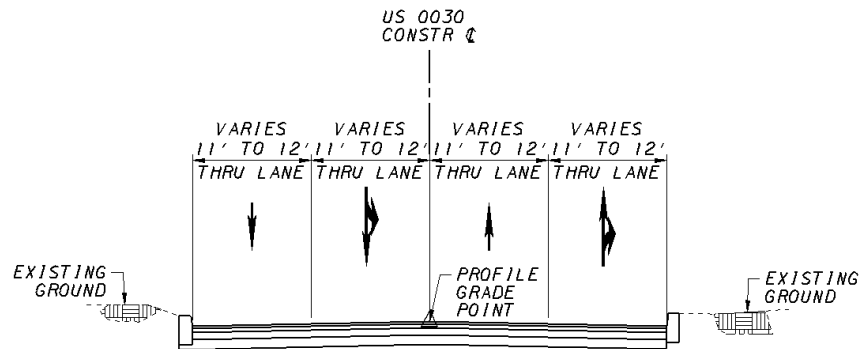
Exhibit 2: Existing Typical Sections





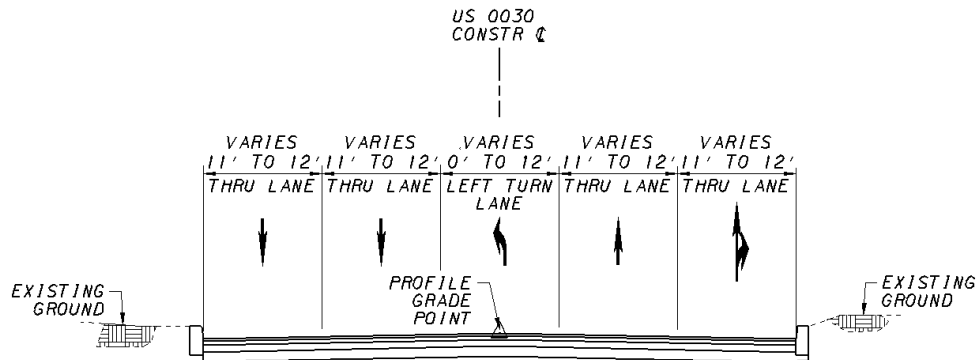
TYPICAL SECTION
CONCRETE MEDIAN & TURNING LANE

NOT TO SCALE
(SR 0048 & US 0030 WB)
(LEGER RD & US 0030 WB
ROBBINS STATION RD & US 0030 WB)



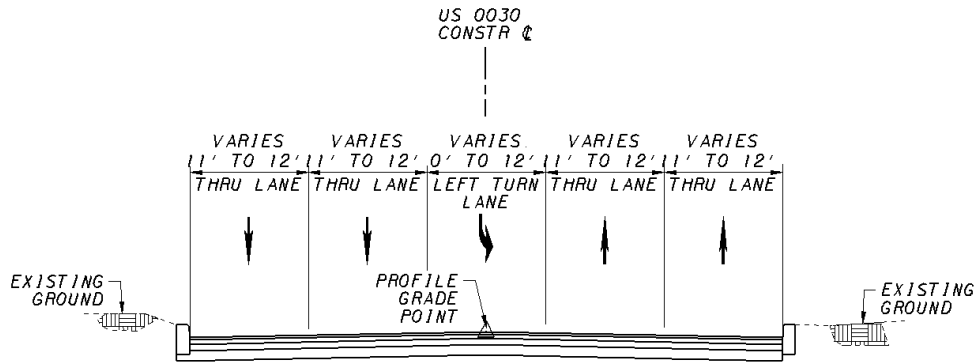
TYPICAL SECTION

NOT TO SCALE
(COLONIAL MANOR DR & US 0030
CHERRY LN & US 0030)



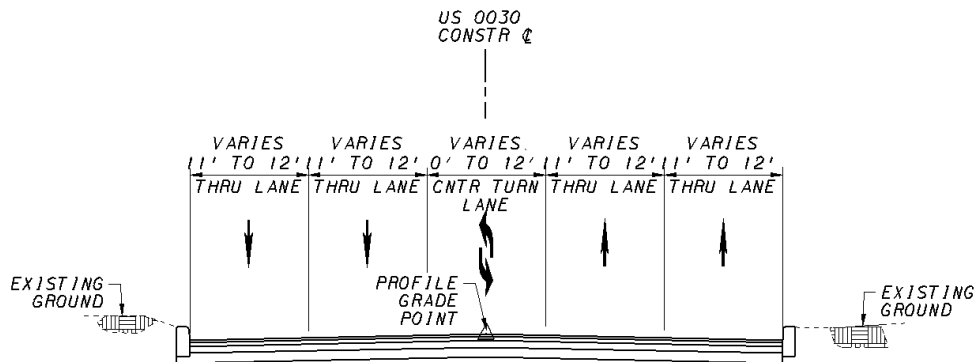
TYPICAL SECTION
LEFT TURN LANE

NOT TO SCALE
(MALTS LN & US 0030 EB
LINCOLN WAY & US 0030 EB
10" ST & US 0030 EB)



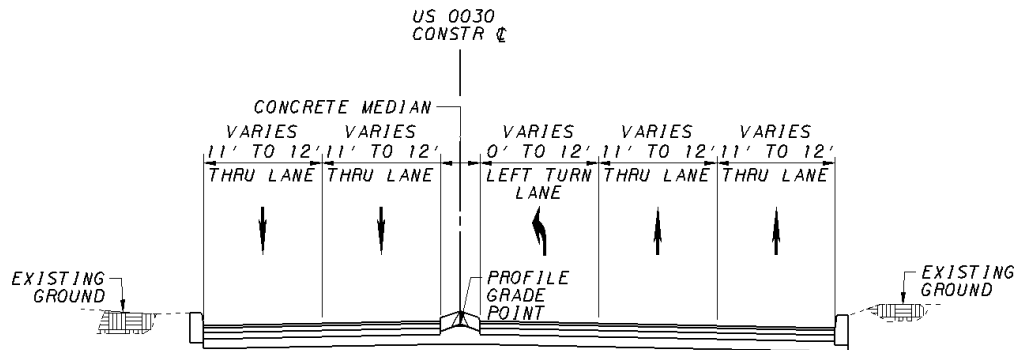
TYPICAL SECTION
LEFT TURN LANE

NOT TO SCALE
(MALTS LN & US 0030 WB
LINCOLN WAY & US 0030 WB)



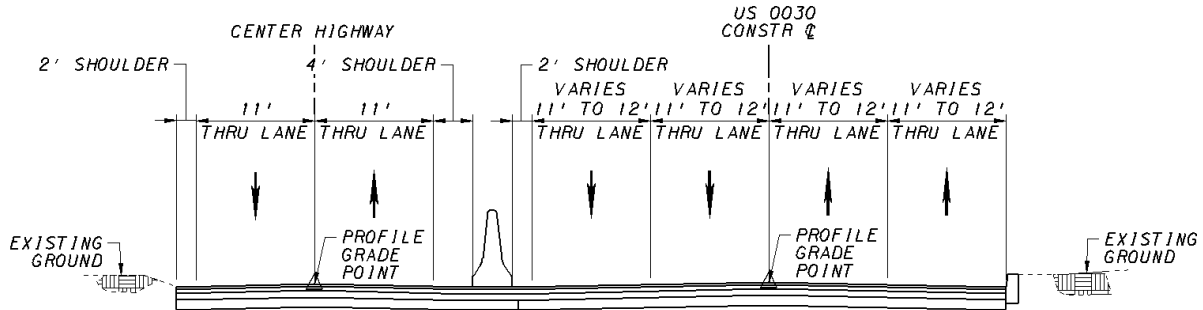
TYPICAL SECTION
CENTER TURN LANE

NOT TO SCALE
(US 0030 EB & EB - MALTS LN TO STATION RD)



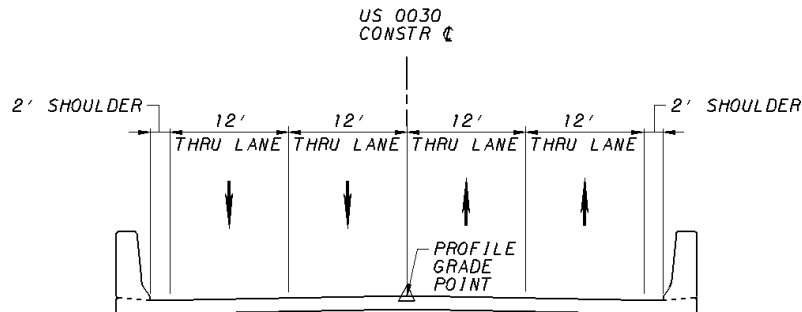
TYPICAL SECTION
CONCRETE MEDIAN & TURNING LANE

NOT TO SCALE
(ROBBINS STATION RD & US 0030 EB)



TYPICAL SECTION

NOT TO SCALE
(CENTER HIGHWAY & US 0030)



TYPICAL BRIDGE SECTION

NOT TO SCALE
(VETERAN'S BRIDGE)

Current/Required Design Criteria

Current/required design criteria for the US 30 / Lincoln Highway project segments are summarized in the following tables (Exhibit 3 and Exhibit 4) based on federal functional classification, roadway typology, existing and projected traffic data, and applicable PennDOT design standards.

Traffic design volumes (Exhibit 3) for areas west of Lincoln Way are based on Automatic Traffic Recorder (ATR) data collected between Keystone Lane and Lamont Drive; while volumes for areas east of Lincoln Way are based on ATR data collected east of Billot Avenue. Supporting traffic details may be found under separate cover in the project's *Traffic Report for Base and No-Build Conditions* (September 2016).

Exhibit 3: Highway/Traffic Classification and Design Volume Summary

Highway Classification		
Federal Functional Classification	Principal Arterial/Other Highways	
Roadway Typology	Regional Arterial, Suburban Corridor	
Traffic Design Volumes	West of Lincoln Way	East of Lincoln Way
AADT (2015 Base Year)	20,800	26,800
AADT (2025 Opening Year)	22,200	28,200
AADT (2045 Design Year)	25,100	31,100
K	10.5%	11.0%
DHV	2,650	3,400
Truck %	4%	4%
Directional Distribution	51%	53%

Summary highway design criteria includes the roadway, geometric, and bridge details below (Exhibit 4).

Exhibit 4: Highway Design Criteria

Criteria	Existing Conditions	Recommended Criteria (PennDOT DM2)	Proposed Criteria
Design Speed Desirable: Minimum:	40 MPH	35-55 MPH	Design Speed 45 MPH
Lane Width Curb to Curb: Thru Lanes: Center Turn Lanes: Offset to curb	<i>Varies 44' to 60'</i> <i>4 Lanes – Varies 10.5' to 12'</i> <i>1 Lane – Varies 0' to 11'</i> <i>Varies 4' – 6'</i>	4 to 6 lanes; 11' to 12' Median for Left Turn 16' to 18'	4 Lanes – 12'; 5 Lanes – 11' 16' Center Turn lane (Where required)
Shoulder Width	<i>Varies 0' to 9.5'</i>	8' to 12'	Curb Gutter and/or 8' Shoulder
Sidewalk Width:	<i>None</i>	5' to 6'	5'
Cross Slope Maximum: Minimum:	<i>N/A</i> <i>2.0%</i>	6.0% (Tangent) 2.0% (Tangent)	6.0% 2.0%
Vertical Grade Terrain: Maximum: Minimum:	<i>Rolling</i> <i>N/A</i> <i>N/A</i>	Rolling 7.0% 0.5%	Rolling N/A N/A
Horizontal Radius Minimum:	<i>N/A</i>	643'	Minimum Curve 643'
Sight Distance (Min) Stopping:	<i>N/A</i>	360'	360 min.
Clear Zone Width:	<i>N/A</i>	Varies 14' to 24'	Varies 14' to 24'
Bridge Width:	<i>50' (Curb-to-curb)</i> <i>52.5' (Out-to-out)</i>	Required Lane Widths Plus Shoulders Each Side	Required Lane Widths Plus Shoulders Each Side
Vertical Clearance:	<i>N/A</i>	16'-6"	N/A

Utility Information

Along the US 30 project corridor, utilities interfere with roadway improvements and Right-of-Way (ROW). The proximity of existing utility poles will create numerous conflicts along the corridor should the roadway be widened. Similarly, drainage upgrades throughout the corridor would result in numerous conflicts with underground natural gas, communication, sewer, and water facilities. One-call information, Utility Company, and contact details are compiled in Exhibit 5.

Exhibit 5: Utility Contacts

US 30 Corridor Improvement Project – Utility Contact				
20151882552; 20151882561; 20151882562				
Utility	Contact	Mailing Address	Phone Number	E-Mail Address
CNX Gas Company	Perry Lupinetti	280 Indian Springs Road STE 333 Indiana, PA 15701	P: 724-464-1551 C: 724-840-3278	perryilupinetti@consolenergy.com
Columbia Gas of PA Inc. - Bethel Park	Alissa Bickar	1452 Gun Club Road Uniontown, PA 15401	P: 724-434-3210	abickar@nisource.com
Comcast (Allegheny Co)	Dave Schade	1075 Rostraver Road Belle Vernon, PA 15012	C: 724-388-1652	david_schade@cable.comcast.com
Comcast Cablevision (Westmoreland Co)	Brian Woller	201 N Tremont Avenue Greensburg, PA 15601	P: 724-221-6479 F: 724-221-6458	brianwoller@cable.comcast.com
Duquesne Light Company	Robby Frantz	2645 New Beaver Avenue Pittsburgh, PA 15233	P: 412-393-7813	rfrantz@duqlight.com
EQT Corporation	Josh Miller	303 Sand Cut Road Clarksburg, WV 26301	P: 304-627-6448 C: 304-266-6353	joshmiller@eqt.com
Kriebel Minerals Inc.	Barb Flinspach	P.O. Box 765 633 Mayfield Drive Clarion, PA 16214	P: 814-226-4160 x130 F: 814-226-9582	bflinspach@kriebelgas.com
North Huntingdon Township Municipal Authority	Christopher Sanner	11265 Center Highway North Huntingdon, PA 15642		csanner@nhtma.org
North Huntingdon Township	Michael Turley	11279 Center Highway North Huntingdon, PA 15642	P: 724-863-3806 x144	mturley@nhtpa.us
North Versailles Township	James Bivins	1401 Greensburg Avenue STE 5 North Versailles, PA 15137		bivinsj1970@gmail.com
Peoples Natural Gas Company LLC	Don Walker	1201 Pitt Street Pittsburgh, PA 15221	P: 412-258-4631	donald.walker@peoples-gas.com
Verizon Pennsylvania LLC	Dan Barren (North Versailles Twp)	15 E Montgomery Ave Pittsburgh, PA 15212	P: 412-633-4341	daniel.barren@verizon.com
	Jeff Guido (North Huntingdon Twp)	508 Old Frankstown Rd Monroeville, PA 15146	P: 412-793-7501	jeffrey.d.guido@verizon.com
Municipal Authority of Westmoreland County	Curtis Fontaine	124 Park and Pool Road New Stanton, PA 15672	P: 724-755-5950 C: 724-640-5928	fontaine@mawc.org
West Penn Power	Dave Evans	Jeannette Service Center 143 West Penn Drive Jeannette, PA 15644	P: 724-523-7237	devans1@firstenergycorp.com
Wilksburg Penn Joint Water Authority	Bill Grassi	800 Ramsey Street Wilksburg, PA 15221		

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Summary

This Highway Deficiency and Design Criteria Report outlined details to support purpose & need efforts by documenting relevant existing conditions related to utilities, right-of-way (ROW), drainage, pavement, and roadway geometrics, as well as key insights based on current applicable PennDOT design criteria. Future Preliminary Engineering efforts will further rely on these insights as the project enters the Alternatives Analysis and Development phase, which will include considerations to address or mitigate the conditions identified herein.