

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report

## General Notes

The CY 2019 Bridge Cost Report reflects the unit cost (\$ per square foot of bridge area) of all of the bridges let in CY 2019.

Pre-cast concrete box culverts have not been included in this report as they do not generally get reviewed (or approved) by the State Aid Bridge Office. We have produced a separate report for pre-cast concrete box culvert cost information.

The bridge unit costs are derived from the pay items on the 1<sup>st</sup> sheet of each bridge plan and therefore may include Traffic Control, Guardrail, etc.

We exclude one bridge pay item when calculating the cost of each bridge. That pay item is *Remove Existing Bridge* and it occurs prior to bridge construction and is not eligible for state or federal funding.

If a bridge has expensive aesthetic features, it may result in a higher unit cost for the bridge. Bridges with an unusually high (or low) unit cost will be omitted to ensure we are reporting "average" bridge unit costs.

Please note that the purpose of this report is to provide the approximate costs of building the various types of bridges and to track those cost trends over time.

Please report any missing bridges to the State Aid Bridge Office as soon as possible so we can revise the report. Once the report gets loaded to our website it's considered to be final.

As always we appreciate your comments and feel free to call us if you have any questions or comments.

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# **MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report**

## **Saint Louis County Tax Levy**

In April, 2015 Saint Louis County enacted a [0.5 Percent Transit Sales and Use Tax and \\$20 Vehicle Excise Tax](#) to help fund their transportation needs. The county used some of the levy dollars to fully fund some of their bridge replacements.

The county had requested courtesy reviews of these bridges, so we decided to add them to this cost report. The addition of these bridges has given us a broader look at the unit costs for the appropriate bridge types and has also helped us track the bridges that were removed (we keep track of timber-component and fracture critical bridges removed from the system).

We did not add a special summary for the Saint Louis County Tax Levy Bridges in this report. These tax levy funded bridges are included in the normal body of the report and are denoted by the \*LOCAL\* designation.

The CY 2019 let Saint Louis County Tax Levy Bridges accounted for 0% of the total dollar amount of all local bridges let in CY 2019.

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report

## Separated per Structure Type

BEAM TYPE= **CONCRETE SLAB SPAN**

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
09533	SAP	009-601-051	96.77	C-SLAB	11/25/2019	4161	\$733,228	\$176.21
12555	SAP	012-599-096	128.28	C-SLAB	4/2/2019	3978	\$488,681	\$122.85
12556	SAP	012-602-024	100.50	C-SLAB	4/2/2019	4707	\$537,838	\$114.26
23596	SAP	023-601-030	108.67	C-SLAB	7/22/2019	3803	\$523,502	\$137.65
53536	SAP	053-619-025	143.46	C-SLAB	9/26/2019	5021	\$596,915	\$118.88
55595	SAP	055-632-003	121.77	C-SLAB	12/17/2019	4262	\$441,934	\$103.69
56544	SAP	056-615-018	104.67	C-SLAB	12/4/2019	5260	\$844,815	\$160.61
64589	SAP	064-608-025	75.00	C-SLAB	5/29/2019	2588	\$321,853	\$124.36
65568	SAP	065-598-019	85.00	C-SLAB	4/3/2019	3004	\$338,181	\$112.58
78533	SAP	078-598-037	130.00	C-SLAB	5/10/2019	4593	\$566,077	\$123.25
85580*	SAP	085-598-010	41.77	C-SLAB	2/7/2019	1309	\$408,953	\$312.42

<b>Total Cost</b>	<b>\$5,801,977</b>
<b>Total Deck Area</b>	<b>42,686</b>
<b>Average Cost per Sq Ft</b>	<b>\$130.34</b>
<b>Total Number of Bridges</b>	<b>11</b>

\* Due to the unusually high or low unit cost for this bridge, it was not included in the computation for average unit cost.

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report

## Separated per Structure Type

BEAM TYPE= *PRE-CAST BEAMS*

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
09534*	SAP	009-611-004	84.50	PCB	6/24/2019	2958	\$668,786	\$226.09
20562	SAP	020-603-013	95.92	PCB	3/27/2019	3741	\$571,545	\$152.78
27J72*	SP	027-596-011	76.17	PCB	4/16/2019	3733	\$2,630,431	\$704.64
31571	SP	031-598-026	72.17	PCB	2/12/2019	2261	\$279,135	\$123.46
58557	SAP	058-632-018	80.06	PCB	5/13/2019	3123	\$421,822	\$135.07
58558	SAP	058-652-011	192.25	PCB	6/10/2019	7562	\$1,294,310	\$171.16
62652*	SP	164-203-014	220.79	PCB	8/29/2019	16909	\$5,110,630	\$302.24
64586*	SAP	064-701-019	353.21	PCB	7/31/2019	15306	\$3,438,352	\$224.64
64595	SP	064-605-030	94.17	PCB	7/11/2019	3673	\$449,397	\$122.35
67574	SAP	067-598-022	188.79	PCB	8/19/2019	5821	\$926,620	\$159.19
69A56*	SAP	069-644-027	63.92	PCB	2/21/2019	2530	\$663,029	\$262.07
69A59	SP	069-598-065	110.94	PCB	5/30/2019	3883	\$718,037	\$184.92
69A66*	SAP	069-599-046	66.17	PCB	3/28/2019	2073	\$454,430	\$219.21
69A67	SAP	069-599-045	77.92	PCB	3/28/2019	2442	\$480,619	\$196.81
69A71	SAP	069-605-050	88.92	PCB	12/5/2019	3527	\$653,028	\$185.15
77538*	SAP	077-626-008	158.42	PCB	6/11/2019	6099	\$435,478	\$71.40

<b>Total Cost</b>	<b>\$19,195,649</b>
<b>Total Deck Area</b>	<b>85,641</b>
<b>Average Cost per Sq Ft</b>	<b>\$160.81</b>
<b>Total Number of Bridges</b>	<b>16</b>

\* Due to the unusually high or low unit cost for this bridge, it was not included in the computation for average unit cost.

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report

Separated per Structure Type

BEAM TYPE= *STEEL TRUSS*

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
R0733	SP	164-090-014	741.58	TRUSS	6/12/2019	10382	\$2,849,533	\$274.47

<i>Total Cost</i>	<b>\$2,849,533</b>
<i>Total Deck Area</i>	<b>10,382</b>
<i>Average Cost per Sq Ft</i>	<b>\$274.47</b>
<i>Total Number of Bridges</i>	<b>1</b>

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report

Separated per Structure Type

BEAM TYPE= *TREATED TIMBER SLAB*

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
83553	SAP	083-599-077	98.00	TTS	9/3/2019	3332	\$507,736	\$152.38

<i>Total Cost</i>	<b>\$507,736</b>
<i>Total Deck Area</i>	<b>3,332</b>
<i>Average Cost per Sq Ft</i>	<b>\$152.38</b>
<i>Total Number of Bridges</i>	<b>1</b>

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report

## Separated per Structure Type

BEAM TYPE= *PEDESTRIAN BOARDWALK*

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
R0738	SP	164-090-014	353.50	BRDWK	6/12/2019	4242	\$603,582	\$142.29
R0739	SP	164-090-014	161.50	BRDWK	6/12/2019	1938	\$295,994	\$152.73
R0804	SP	107-020-069	2061.00	BRDWK	4/30/2019	27260	\$2,524,971	\$92.63

<b>Total Cost</b>	<b>\$3,424,548</b>
<b>Total Deck Area</b>	<b>33,440</b>
<b>Average Cost per Sq Ft</b>	<b>\$102.41</b>
<b>Total Number of Bridges</b>	<b>3</b>

# MnDOT State Aid Bridge Office

## 2019 Calendar Year - - Bridge Cost Report

### Summary of Structure Type Unit Costs As Compared to Previous Fiscal Years

**STATE AID BRIDGES**  
**SUMMARY OF BRIDGE UNIT COST PER BEAM TYPE**

CALENDAR YEAR	2019	2018	2017	2016	2015	2014	2013	2012
TYPE								
C-ARCH		\$741.84				\$448.81	\$485.92	\$366.96
C-SLAB	\$130.34	\$133.16	\$118.63	\$136.38	\$121.49	\$123.08	\$110.91	\$112.60
DBL T								
GLULAM								
PCB	\$160.81	\$155.39	\$136.03	\$135.07	\$151.93	\$136.58	\$130.44	\$125.39
PCBped				\$222.45			\$218.74	
PT SLAB								
R-FRAME		\$178.70						
STEEL		\$560.68		\$230.18				\$610.71
TRUSS	\$274.47	\$276.13	\$216.26	\$263.65	\$293.89	\$243.64	\$322.73	\$149.83
TTS	\$152.38	\$216.25		\$192.11				\$222.25
INV-T				\$283.79	\$289.96			\$212.70
BRDWLK	\$102.41		\$89.96	\$72.68	\$53.11			

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report

Separated per Bridge Length < 150' (Cont'd)

SORTED BY BRIDGE LENGTH

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
85580	SAP	085-598-010	41.77	C-SLAB	2/7/2019	1309	\$408,953	\$312.42
69A56	SAP	069-644-027	63.92	PCB	2/21/2019	2530	\$663,029	\$262.07
69A66	SAP	069-599-046	66.17	PCB	3/28/2019	2073	\$454,430	\$219.21
02539	SP	002-678-022	66.77	REHAB	3/1/2019	4777	\$670,053	\$140.27
31571	SP	031-598-026	72.17	PCB	2/12/2019	2261	\$279,135	\$123.46
64589	SAP	064-608-025	75.00	C-SLAB	5/29/2019	2588	\$321,853	\$124.36
27J72	SP	027-596-011	76.17	PCB	4/16/2019	3733	\$2,630,431	\$704.64
69A67	SAP	069-599-045	77.92	PCB	3/28/2019	2442	\$480,619	\$196.81
58557	SAP	058-632-018	80.06	PCB	5/13/2019	3123	\$421,822	\$135.07
09534	SAP	009-611-004	84.50	PCB	6/24/2019	2958	\$668,786	\$226.09
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69A71	SAP	069-605-050	88.92	PCB	12/5/2019	3527	\$653,028	\$185.15
64595	SP	064-605-030	94.17	PCB	7/11/2019	3673	\$449,397	\$122.35
20562	SAP	020-603-013	95.92	PCB	3/27/2019	3741	\$571,545	\$152.78
09533	SAP	009-601-051	96.77	C-SLAB	11/25/2019	4161	\$733,228	\$176.21
83553	SAP	083-599-077	98.00	TTS	9/3/2019	3332	\$507,736	\$152.38
12556	SAP	012-602-024	100.50	C-SLAB	4/2/2019	4707	\$537,838	\$114.26
56544	SAP	056-615-018	104.67	C-SLAB	12/4/2019	5260	\$844,815	\$160.61
23596	SAP	023-601-030	108.67	C-SLAB	7/22/2019	3803	\$523,502	\$137.65
69A59	SP	069-598-065	110.94	PCB	5/30/2019	3883	\$718,037	\$184.92
55595	SAP	055-632-003	121.77	C-SLAB	12/17/2019	4262	\$441,934	\$103.69
12555	SAP	012-599-096	128.28	C-SLAB	4/2/2019	3978	\$488,681	\$122.85
78533	SAP	078-598-037	130.00	C-SLAB	5/10/2019	4593	\$566,077	\$123.25
53536	SAP	053-619-025	143.46	C-SLAB	9/26/2019	5021	\$596,915	\$118.88

<b>Total Cost</b>	<b>\$14,970,025</b>
<b>Total Deck Area</b>	<b>84,739</b>
<b>Average Cost per Sq Ft</b>	<b>\$176.66</b>
<b>Total No. of Bridges &lt; 150'</b>	<b>24</b>

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report

Separated per Bridge Length > 150'

SORTED BY BRIDGE LENGTH

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
77538	SAP	077-626-008	158.42	PCB	6/11/2019	6099	\$435,478	\$71.40
69504	SAP	069-612-016	161.00	REHAB	4/25/2019	10626	\$932,927	\$87.80
R0739	SP	164-090-014	161.50	BRDWK	6/12/2019	1938	\$295,994	\$152.73
L5669	SP	007-599-062	186.42	REHAB	8/28/2019	2952	\$545,660	\$184.84
67574	SAP	067-598-022	188.79	PCB	8/19/2019	5821	\$926,620	\$159.19
58558	SAP	058-652-011	192.25	PCB	6/10/2019	7562	\$1,294,310	\$171.16
62652	SP	164-203-014	220.79	PCB	8/29/2019	16909	\$5,110,630	\$302.24
89188	SAP	159-104-016	254.77	REHAB	3/21/2019	15106	\$1,493,140	\$98.84
64586	SAP	064-701-019	353.21	PCB	7/31/2019	15306	\$3,438,352	\$224.64
R0738	SP	164-090-014	353.50	BRDWK	6/12/2019	4242	\$603,582	\$142.29
R0733	SP	164-090-014	741.58	TRUSS	6/12/2019	10382	\$2,849,533	\$274.47
R0804	SP	107-020-069	2061.00	BRDWK	4/30/2019	27260	\$2,524,971	\$92.63
2796	SP	141-328-024	2162.86	REHAB	5/23/2019	148075	\$43,353,811	\$292.78

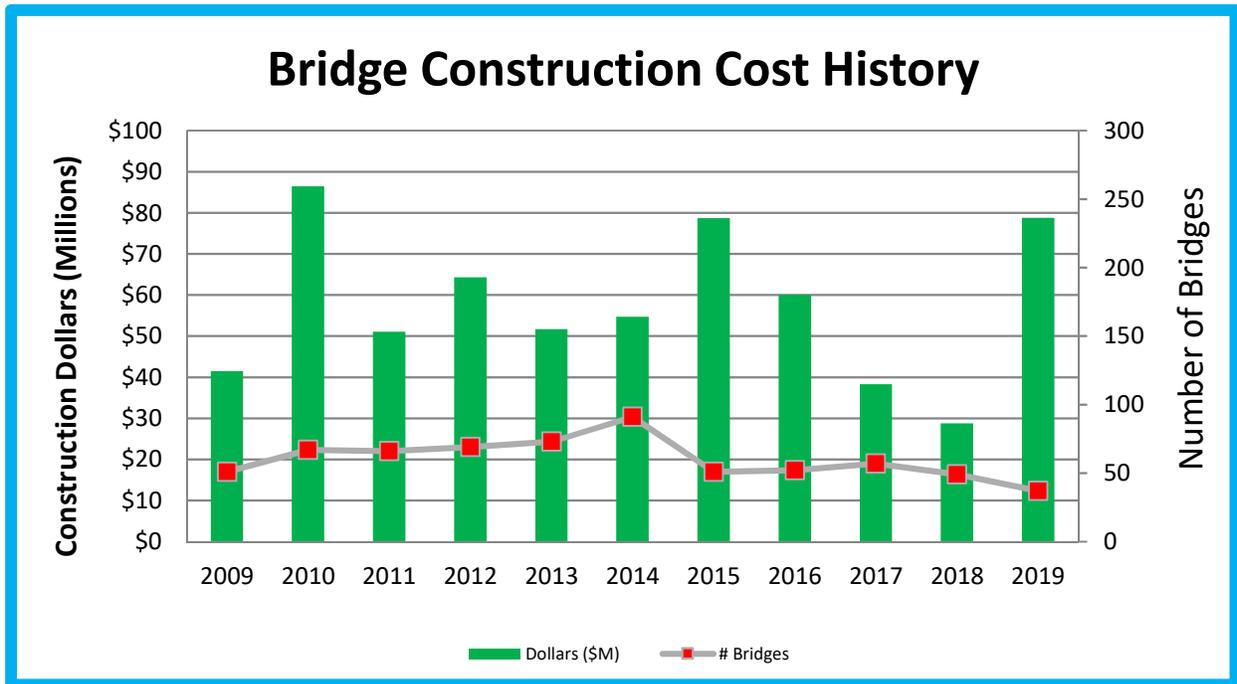
BRIDGE NO. 2796 IS A HISTORICAL REHABILITATION OF THE 10TH AVE BRIDGE  
(CONCRETE SPANDREL ARCH) IN THE CITY OF MINNEAPOLIS.

<b>Total Cost</b>	<b>\$63,805,009</b>
<b>Total Deck Area</b>	<b>272,278</b>
<b>Average Cost per Sq Ft</b>	<b>\$234.34</b>
<b>Total No. of Bridges &gt; 150'</b>	<b>13</b>

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Bridge Cost Report

Totals for All Bridges Let in CY 2019

<b>Total Cost for all Bridges</b>	<b>\$78,775,034</b>
<b>Total Deck Area for all Bridges</b>	<b>357,017</b>
<b>Average Cost per Sq Ft</b>	<b>\$220.65</b>
<b>Total Number of Bridges</b>	<b>37</b>



# MnDOT State Aid Bridge Office 2019 Calendar Year - - Box Culvert Report

## General Notes

The CY 2019 Box Culvert Report reflects the basic cost data for the majority of the pre-cast box culverts let in CY 2019. This report is not meant to cover every box culvert let, but to show the 'average' culvert projects (which is most of them). We omitted pedestrian underpass culverts and culverts with pre-cast or cast in place headwalls. We reported the standard sizes as well as 'special' projects which include multiple sized barrels and 20' wide special designs.

The purpose of this report is to summarize basic cost data for box culverts (barrel cost per linear foot and end section cost per each) as well as the project cost. The Project Cost for each project reflects the entire bridge replacement cost (from bedding under the culvert all the way to the road surfacing). It does not separate out the participating or non-participating portions, it contains both portions.

The report also tracks the box culvert volume totals and volume cost. This method is useful because it relates to the waterway area of the structure. The volume cost is the total cost of the barrels and end sections divided by the total volume.

Once a culvert size is determined, then the appropriate project cost example could be used by a local agency to compare to a bridge structure cost at a proposed project site. This could be done by estimating a bridge length (and width) and then applying the appropriate unit cost for the desired structure type (PCB, C-SLAB, STEEL, etc.).

While bridge sites can vary widely, many box culverts are done on the township road system and most of these bridge sites have low traffic volumes. This means that many of these sites have similar roadway widths and clear zones, so the main differences are usually skew angle and fill height over the culvert.

As always we appreciate your comments and feel free to call us if you have any questions or comments.

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**MnDOT State Aid Bridge Office**  
**2019 Calendar Year - - Precast Concrete Box Culvert Cost Report**

Totals for 8' Wide Box Culverts Let in CY 2019

8w x 7h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
64J53	SAP 064-601-012	5/1/2019	166'	1	51°	10'	\$890	\$16,000	\$247,656	9296	\$19.34

<b>Average Barrel Cost (\$/LF)</b>	<b>\$890</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$16,000</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>9,296</b>	<b>8w x 5h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$19.34</b>	

8w x 8h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
32J64	SAP 032-618-008	6/14/2019	162'	1	45°	10'	\$1,300	\$16,000	\$349,036	10368	\$23.40

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,300</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$16,000</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>10,368</b>	<b>8w x 7h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$23.40</b>	

**MnDOT State Aid Bridge Office**  
**2019 Calendar Year - - Precast Concrete Box Culvert Cost Report**

Totals for 10' Wide Box Culverts Let in CY 2019

10w x 4h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
19J75	SAP 019-623-033	5/14/2019	84'	1	0°	2'	\$785	\$6,875	\$6,653,977	3360	\$23.72
19J76	SAP 019-623-033	5/14/2019	84'	2	0°	2'	\$785	\$6,875	\$6,653,977	6720	\$23.72
58J43	SAP 058-599-044	7/15/2019	36'	1	0°	2'	\$900	\$19,000	\$164,463	1440	\$48.89
59K19	SAP 059-599-108	10/8/2019	38'	1	0°	2'	\$899	\$7,976	\$71,369	1520	\$32.97
60L47	SAP 060-599-278	6/14/2019	36'	1	0°	2'	\$830	\$5,610	\$74,157	1440	\$28.54
84K03	SAP 084-624-009	5/9/2019	82'	1	15°	6'	\$825	\$8,000	\$121,510	3280	\$25.50

<b>Average Barrel Cost (\$/LF)</b>	<b>\$837</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$9,056</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>2,960</b>	<b>10w x 4h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$30.56</b>	

10w x 5h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
45J59	SAP 045-599-157	4/16/2019	36'	1	0°	2'	\$819	\$8,123	\$64,012	1800	\$25.41
49K01	SAP 049-634-018	4/25/2019	79'	1	30°	3'	\$850	\$13,000	\$220,831	3950	\$23.58
65J82	SAP 065-599-079	5/10/2019	75'	1	0°	8'	\$1,000	\$10,000	\$144,527	3750	\$25.33

<b>Average Barrel Cost (\$/LF)</b>	<b>\$890</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$10,374</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>3,167</b>	<b>10w x 5h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$24.77</b>	

10w x 6h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
34J49	SAP 034-599-039	3/19/2019	58'	1	0°	4'	\$940	\$11,500	\$147,989	3480	\$22.28
41J69	SAP 041-599-060	8/1/2019	60'	1	55°	3'	\$880	\$18,875	\$117,492	3600	\$25.15
53J91	SAP 053-598-013	1/8/2019	64'	1	0°	7'	\$950	\$10,000	\$118,047	3840	\$21.04
53J92	SAP 053-620-007	1/8/2019	60'	1	0°	3'	\$1,100	\$12,000	\$162,915	3600	\$25.00
55K11	SAP 055-630-006	5/7/2019	64'	2	14°	4'	\$770	\$12,200	\$212,025	7680	\$19.19

<b>Average Barrel Cost (\$/LF)</b>	<b>\$928</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$12,915</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>4,440</b>	<b>10w x 6h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$22.53</b>	

**MnDOT State Aid Bridge Office**  
**2019 Calendar Year - - Precast Concrete Box Culvert Cost Report**

Totals for 10' Wide (Cont'd) Box Culverts Let in CY 2019

10w x 7h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
07J37	SAP 007-604-008	6/5/2019	164'	1	30°	16'	\$1,017	\$20,000	\$406,231	11480	\$18.01
22J51	SAP 022-599-115	5/3/2019	50'	2	0°	2'	\$1,100	\$18,000	\$219,684	7000	\$26.00
72J61	SAP 072-606-052	3/21/2019	76'	1	15°	3'	\$1,000	\$18,000	\$266,950	5320	\$21.05
80J25	SAP 080-626-023	4/16/2019	72'	1	0°	7'	\$860	\$8,700	\$1,030,189	5040	\$15.74

<b>Average Barrel Cost (\$/LF)</b>	<b>\$994</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$16,175</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>7,210</b>	<b>10w x 7h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$20.20</b>	

10w x 8h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
07J34	SAP 007-599-061	2/20/2019	52'	1	20°	4'	\$953	\$14,712	\$142,070	4160	\$18.98
32J63	SAP 032-618-009	6/14/2019	64'	2	0°	3'	\$950	\$15,000	\$254,130	10240	\$17.73
34J48	SP 034-608-026	6/4/2019	94'	2	46°	2'	\$1,278	\$26,500	\$3,215,725	15040	\$23.02
48J41	SAP 048-605-015	4/9/2019	72'	2	5°	5'	\$890	\$13,680	\$274,527	11520	\$15.88
51J61	SAP 051-599-107	6/18/2019	48'	1	13°	4'	\$1,175	\$17,550	\$123,144	3840	\$23.83
53J86	SAP 053-616-027	1/8/2019	80'	2	45°	2'	\$900	\$21,000	\$302,710	12800	\$17.81
53J88	SAP 053-598-012	1/8/2019	58'	2	0°	3'	\$1,000	\$12,500	\$221,284	9280	\$17.89
59K11	SAP 059-598-027	5/7/2019	54'	1	0°	3'	\$950	\$13,232	\$110,453	4320	\$18.00
64J58	SAP 064-599-114	4/3/2019	70'	1	9°	5'	\$990	\$15,000	\$149,365	5600	\$17.73

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,010</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$16,575</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>8,533</b>	<b>10w x 8h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$18.99</b>	

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Totals for 10' Wide (Cont'd) Box Culverts Let in CY 2019

10w x 9h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
25J96	SAP 025-599-126	6/11/2019	66'	2	0°	7'	\$1,088	\$14,000	\$241,020	11880	\$16.80
40J32	SAP 040-622-001	4/26/2019	96'	1	17°	8'	\$1,000	\$17,000	\$11,765,932	8640	\$15.05
46J36	SAP 046-599-077	5/3/2019	64'	2	30°	5'	\$1,245	\$18,750	\$313,729	11520	\$20.34

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,111</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$16,583</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>10,680</b>	<b>10w x 9h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$17.40</b>	

10w x 10h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
15J25	SAP 015-602-024	4/9/2019	194'	1	0°	19'	\$1,000	\$22,500	\$1,929,136	19400	\$12.32
72J76	SAP 072-599-064	3/21/2019	80'	1	5°	7'	\$1,125	\$17,000	\$205,778	8000	\$15.50
74J27	SAP 074-599-034	4/3/2019	52'	2	0°	4'	\$384	\$10,000	\$165,201	10400	\$7.68

<b>Average Barrel Cost (\$/LF)</b>	<b>\$836</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$16,500</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>12,600</b>	<b>10w x 10h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$11.83</b>	

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Totals for 12' Wide Box Culverts Let in CY 2019

12w x 4h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
12J57	SAP 012-599-095	3/5/2019	70'	1	0°	9'	\$1,300	\$11,500	\$139,071	3360	\$33.93
19J76	SAP 019-623-033	5/14/2019	88'	2	7°	2'	\$838	\$7,268	\$6,653,977	8448	\$20.90
28J58	SAP 028-599-085	1/14/2019	46'	2	45°	2'	\$700	\$17,000	\$214,399	4416	\$29.98
59K16	SAP 059-599-099	5/7/2019	39'	1	45°	2'	\$785	\$17,500	\$84,114	1872	\$35.05
59K17	SAP 059-599-100	5/7/2019	34'	1	0°	2'	\$800	\$7,390	\$58,191	1632	\$25.72
85J47	SAP 085-599-077	4/4/2019	36'	1	4°	2'	\$910	\$7,400	\$123,960	1728	\$27.52

**Average Barrel Cost (\$/LF)** **\$889**  
**Average End Section Cost (\$/EA)** **\$11,343**  
**Average Total Barrel Volume (CF)** **3,576**  
**Average Barrel Volume Cost (\$/CF)** **\$28.85**

**12w x 4h Averages**

12w x 5h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
58J45	SAP 058-667-001	9/16/2019	60'	1	15°	3'	\$1,200	\$15,000	\$1,900,436	3600	\$28.33
67K38	SAP 067-598-020	4/1/2019	48'	2	0°	2'	\$899	\$7,500	\$148,518	5760	\$20.19
71J09	SAP 071-599-007	6/12/2019	64'	1	0°	<2'	\$1,250	\$14,000	\$339,814	3840	\$28.13

**Average Barrel Cost (\$/LF)** **\$1,116**  
**Average End Section Cost (\$/EA)** **\$12,167**  
**Average Total Barrel Volume (CF)** **4,400**  
**Average Barrel Volume Cost (\$/CF)** **\$25.55**

**12w x 5h Averages**

12w x 6h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
67K45	SAP 067-615-010	4/1/2019	54'	2	45°	2'	\$930	\$18,500	\$234,787	7776	\$22.43

**Average Barrel Cost (\$/LF)** **\$930**  
**Average End Section Cost (\$/EA)** **\$18,500**  
**Average Total Barrel Volume (CF)** **7,776**  
**Average Barrel Volume Cost (\$/CF)** **\$22.43**

**12w x 6h Averages**

12w x 7h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
53J96	SAP 053-616-030	1/8/2019	54'	1	0°	2'	\$1,100	\$13,000	\$160,115	4536	\$18.83

**Average Barrel Cost (\$/LF)** **\$1,100**  
**Average End Section Cost (\$/EA)** **\$13,000**  
**Average Total Barrel Volume (CF)** **4,536**  
**Average Barrel Volume Cost (\$/CF)** **\$18.83**

**12w x 7h Averages**

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Totals for 12' Wide (Cont'd) Box Culverts Let in CY 2019

12w x 8h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
08J25	SAP 008-599-058	4/9/2019	42'	1	18°	3'	\$1,319	\$15,000	\$128,466	4032	\$21.18
09J40	SAP 009-608-037	6/24/2019	78'	1	30°	5'	\$1,050	\$20,940	\$405,540	7488	\$16.53
17J54	SAP 017-599-109	11/18/2019	112'	1	15°	15'	\$1,329	\$18,000	\$283,325	10752	\$17.20
23K55	SAP 023-604-005	5/13/2019	50'	2	30°	3'	\$1,045	\$18,650	\$261,466	9600	\$18.66
32J60	SAP 032-614-045	6/14/2019	55'	1	3.5°	4'	\$1,300	\$18,000	\$172,518	5280	\$20.36
64J60	SAP 064-604-054	7/10/2019	84'	1	0°	7'	\$800	\$10,750	\$335,394	8064	\$11.00
65J83	SAP 065-599-080	5/10/2019	81'	1	0°	10'	\$1,200	\$17,000	\$194,135	7776	\$16.87
69K65	*** LOCAL ***	1/24/2019	76'	1	25°	8'	\$1,205	\$19,580	\$316,380	7296	\$17.92

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,156</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$17,240</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>7,536</b>	<b>12w x 8h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$17.46</b>	

12w x 9h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
10J35	SAP 010-598-015	6/21/2019	88'	2	10°	6'	\$1,380	\$17,900	\$193,987	19008	\$16.54
17J53	SAP 017-599-101	11/18/2019	40'	2	0°	3'	\$1,100	\$13,000	\$181,907	8640	\$16.20
25J95	SAP 025-599-125	6/11/2019	42'	2	30°	2'	\$1,040	\$20,000	\$223,717	9072	\$18.45
28J63	SAP 028-599-096	6/3/2019	44'	2	0°	2'	\$900	\$16,000	\$199,978	9504	\$15.07
69K66	SAP 069-708-004	1/24/2019	56'	1	5°	2'	\$1,140	\$14,500	\$275,333	6048	\$15.35
69K67	SAP 069-708-003	1/24/2019	54'	1	30°	2'	\$1,140	\$22,180	\$243,912	5832	\$18.16

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,117</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$17,263</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>9,684</b>	<b>12w x 9h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$16.63</b>	

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Totals for 12' Wide (Cont'd) Box Culverts Let in CY 2019

12w x 10h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
24J71	SP 024-613-018	4/10/2019	82'	1	30°	3'	\$1,350	\$35,250	\$260,371	9840	\$18.41
40J31	SAP 040-622-001	4/26/2019	80'	1	11°	6'	\$1,375	\$20,000	\$11,765,932	9600	\$15.63
65J02	SAP 065-598-009	5/10/2019	102'	2	35°	7'	\$1,125	\$23,500	\$448,876	24480	\$13.21
65J69	SAP 065-598-021	5/10/2019	48'	2	7.5°	3'	\$1,338	\$18,000	\$269,648	11520	\$17.40

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,297</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$24,188</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>13,860</b>	<b>12w x 10h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$16.16</b>	

12w x 11h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
65J84	SAP 065-599-078	6/11/2019	45'	2	0°	2'	\$1,415	\$19,000	\$257,910	11880	\$17.12

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,415</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$19,000</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>11,880</b>	<b>12w x 11h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$17.12</b>	

12w x 12h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
22J52	SAP 022-599-116	5/3/2019	44'	1	7.5°	2'	\$1,800	\$33,000	\$180,945	6336	\$22.92
65J62	SAP 065-615-010	5/10/2019	72'	2	3°	6'	\$1,280	\$20,000	\$375,217	20736	\$12.75

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,540</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$26,500</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>13,536</b>	<b>12w x 12h Averages</b>
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$17.83</b>	

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Totals for 14' Wide Box Culverts Let in CY 2019

14w x 5h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Length	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
09J48	SAP 009-599-029	5/28/2019	40'	1	2°	2'	\$1,150	\$16,000	\$143,370	2800	\$27.86
34J51	SP 034-608-026	6/4/2019	73'	1	7°	2'	\$1,750	\$15,000	\$3,215,725	5110	\$30.87
67K36	SAP 067-612-009	4/1/2019	54'	2	0°	2'	\$1,040	\$8,000	\$289,508	7560	\$19.09

**Average Barrel Cost (\$/LF)** **\$1,313**  
**Average End Section Cost (\$/EA)** **\$13,000**  
**Average Total Barrel Volume (CF)** **5,157**  
**Average Barrel Volume Cost (\$/CF)** **\$25.94**

14w x 5h Averages

14w x 6h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Length	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
03J49	SAP 003-598-011	12/6/2019	64'	2	0°	3'	\$1,100	\$18,500	\$247,165	10752	\$19.98
63J17	SAP 063-599-029	7/23/2019	42'	1	0°	3'	\$1,283	\$10,000	\$102,199	3528	\$20.94

**Average Barrel Cost (\$/LF)** **\$1,192**  
**Average End Section Cost (\$/EA)** **\$14,250**  
**Average Total Barrel Volume (CF)** **7,140**  
**Average Barrel Volume Cost (\$/CF)** **\$20.46**

14w x 6h Averages

14w x 7h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Length	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
11J19	SAP 011-598-010	5/13/2019	52'	2	15°	2'	\$1,100	\$17,000	\$257,858	10192	\$17.90
63J16	SAP 063-599-028	7/23/2019	38'	1	15°	2'	\$1,357	\$15,000	\$110,294	3724	\$21.90
65J63	SAP 065-615-011	5/10/2019	58'	1	30°	2'	\$1,100	\$16,500	\$696,776	5684	\$17.03

**Average Barrel Cost (\$/LF)** **\$1,186**  
**Average End Section Cost (\$/EA)** **\$16,167**  
**Average Total Barrel Volume (CF)** **6,533**  
**Average Barrel Volume Cost (\$/CF)** **\$18.94**

14w x 7h Averages

14w x 8h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
17J51	SAP 017-599-106	5/6/2019	56'	2	0°	3'	\$1,075	\$12,000	\$209,942	12544	\$13.42
25J93	SAP 025-599-123	6/11/2019	93'	1	30°	6'	\$1,175	\$20,500	\$217,430	10416	\$14.43
34J50	SAP 034-599-038	3/19/2019	68'	1	11°	7'	\$1,189	\$16,000	\$153,214	7616	\$14.82
59J98	SAP 059-608-024	5/7/2019	53'	1	0°	2'	\$1,145	\$15,325	\$138,898	5936	\$15.39

**Average Barrel Cost (\$/LF)** **\$1,146**  
**Average End Section Cost (\$/EA)** **\$15,956**  
**Average Total Barrel Volume (CF)** **9,128**  
**Average Barrel Volume Cost (\$/CF)** **\$14.51**

14w x 8h Averages

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Totals for 14' Wide (Cont'd) Box Culverts Let in CY 2019

14w x 9h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
69K72	*** LOCAL ***	4/11/2019	52'	1	10°	2'	\$1,305	\$21,240	\$932,000	6552	\$16.84

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,305</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$21,240</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>6,552</b>	14w x 9h Averages
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$16.84</b>	

14w x 10h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
23K54	SAP 023-599-207	12/2/2019	46'	2	0°	3'	\$910	\$26,000	\$247,781	12880	\$14.57
37J85	SAP 037-599-111	5/9/2019	39'	2	0°	3'	\$1,750	\$18,000	\$232,975	10920	\$19.09
69K71	*** LOCAL ***	4/11/2019	52'	1	15°	2'	\$1,365	\$23,800	\$932,000	7280	\$16.29

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,342</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$22,600</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>10,360</b>	14w x 10h Averages
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$16.65</b>	

14w x 12h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
12J58	SAP 012-613-027	3/5/2019	74'	3	37°	4'	\$1,450	\$30,000	\$619,764	37296	\$13.46
23K33	SAP 023-599-197	5/28/2019	66'	1	15°	6'	\$1,280	\$26,000	\$199,717	11088	\$12.31

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,365</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$28,000</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>24,192</b>	14w x 12h Averages
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$12.88</b>	

14w x 14h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
60L48	SAP 060-599-279	6/14/2019	52'	3	0°	5'	\$1,508	\$25,500	\$472,090	30576	\$12.70

<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,508</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$25,500</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>30,576</b>	14w x 14h Averages
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$12.70</b>	





**MnDOT State Aid Bridge Office**  
**2019 Calendar Year - - Precast Concrete Box Culvert Cost Report**

Totals for 20' Wide (Special Design) Box Culverts Let in CY 2019

20w x 9h Precast Concrete Box Culvert (Special Design)											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
83J30	SAP 083-619-011	8/19/2019	60'	1	7°	<2'	\$2,000	\$30,000	\$294,412	10800	\$16.67

<i>Average Barrel Cost (\$/LF)</i>	<b>\$2,000</b>	
<i>Average End Section Cost (\$/EA)</i>	<b>\$30,000</b>	
<i>Average Total Barrel Volume (CF)</i>	<b>10,800</b>	20w x 9h Averages
<i>Average Barrel Volume Cost (\$/CF)</i>	<b>\$16.67</b>	

20w x 10h Precast Concrete Box Culvert (Special Design)											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
69K59	SAP 069-665-007	1/24/2019	48'	1	30°	2'	\$2,000	\$36,580	\$658,907	9600	\$17.62

<i>Average Barrel Cost (\$/LF)</i>	<b>\$2,000</b>	
<i>Average End Section Cost (\$/EA)</i>	<b>\$36,580</b>	
<i>Average Total Barrel Volume (CF)</i>	<b>9,600</b>	20w x 10h Averages
<i>Average Barrel Volume Cost (\$/CF)</i>	<b>\$17.62</b>	

**MnDOT State Aid Bridge Office**  
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Totals for Multi-Sized Box Culverts Let in CY 2019

Multi-Sized Precast Concrete Box Culvert - 10w x 6h & 10w x 7h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
55J10	SAP 055-598-057	5/7/2019	10w x 6h	36'	1	10°	2'	\$800	\$12,400		2160	
			10w x 7h	36'	1	10°	2'	\$830	\$13,260		2520	
			Total No. of Lines:		2	Totals:		\$147,438	4680	\$23.50		

Multi-Sized Precast Concrete Box Culvert - 10w x 6h & 10w x 8h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
55J10	SAP 055-598-057	5/7/2019	10w x 6h	36'	1	10°	2'	\$800	\$12,400		3240	
			10w x 8h	54'	1	15°	2'	\$1,250	\$17,710		4320	
			Total No. of Lines:		2	Totals:		\$349,700	7560	\$24.92		

Multi-Sized Precast Concrete Box Culvert - 12w x 6h & 12w x 7h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
41J72	SAP 041-599-061	8/1/2019	12w x 6h	41'	1	7.5°	2'	\$1,026	\$9,678		2952	
			12w x 7h	41'	1	7.5°	2'	\$1,040	\$12,036		3444	
			Total No. of Lines:		2	Totals:		\$167,381	6396	\$20.03		

Multi-Sized Precast Concrete Box Culvert - 12w x 8h & 14w x 8h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
20J43	SAP 020-609-029	4/24/2019	12w x 8h	73'	2	15°	2'	\$900	\$11,300		14016	
			14w x 8h	73'	1	15°	2'	\$1,150	\$17,400		8176	
			Total No. of Lines:		3	Totals:		\$439,605	22192	\$13.31		

Multi-Sized Precast Concrete Box Culvert - 14w x 5h & 14w x 6h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
59J89	SAP 059-616-034	10/8/2019	14w x 5h	54'	1	30°	2'	\$1,282	\$20,266		3780	
			14w x 6h	54'	1	30°	2'	\$1,367	\$22,993		4536	
			Total No. of Lines:		2	Totals:		\$277,431	8316	\$27.61		

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Totals for Multi-Sized (Cont'd) Box Culverts Let in CY 2019

Multi-Sized Precast Concrete Box Culvert - 14w x 7h & 14w x 8h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
41J75	SAP 041-599-062	8/1/2019	14w x 7h	38'	2	0°	2'	\$1,259	\$17,218		7448	
			14w x 8h	38'	1	0°	2'	\$1,280	\$18,245		4256	
			Total No. of Lines:		3				Totals:	\$306,047	11704	\$21.33

Multi-Sized Precast Concrete Box Culvert - 14w x 8h & 14w x 9h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
53K06	SAP 053-598-014	1/8/2019	14w x 8h	50'	2	0°	3'	\$1,250	\$16,000		11200	
			14w x 9h	50'	2	0°	3'	\$1,300	\$18,000		12600	
			Total No. of Lines:		4				Totals:	\$477,291	23800	\$16.43
66J81	SAP 149-124-001	5/2/2019	14w x 8h	108'	1	30°	2'	\$1,350	\$24,000		12096	
			14w x 9h	117'	1	30°	2'	\$1,300	\$26,300		14742	
			Total No. of Lines:		2				Totals:	\$702,162	26838	\$14.85

Multi-Sized Precast Concrete Box Culvert - 14w x 5h & 16w x 10h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
59J82	SP 059-602-026	7/23/2019	14w x 5h	55'	2	0°	3'	\$1,250	\$12,000		7700	
			16w x 10h	55'	1	0°	3'	\$1,885	\$25,500		8800	
			Total No. of Lines:		3				Totals:	\$429,835	16500	\$20.62

# MnDOT State Aid Bridge Office 2019 Calendar Year - - Precast Concrete Box Culvert Cost Report

Totals/Averages for ALL SIZES Box Culverts Let in CY 2019

<b>Total Number of Culvert Projects</b>	<b>114</b>	
<b>Average Barrel Length (LF)</b>	<b>65'</b>	
<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,160</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$17,137</b>	All Sizes Combined
<b>Average Total Barrel Volume (CF)</b>	<b>8,725</b>	
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$19.72</b>	

