2014 NDDOT Construction Conference

CARS Vertical Clearance Module

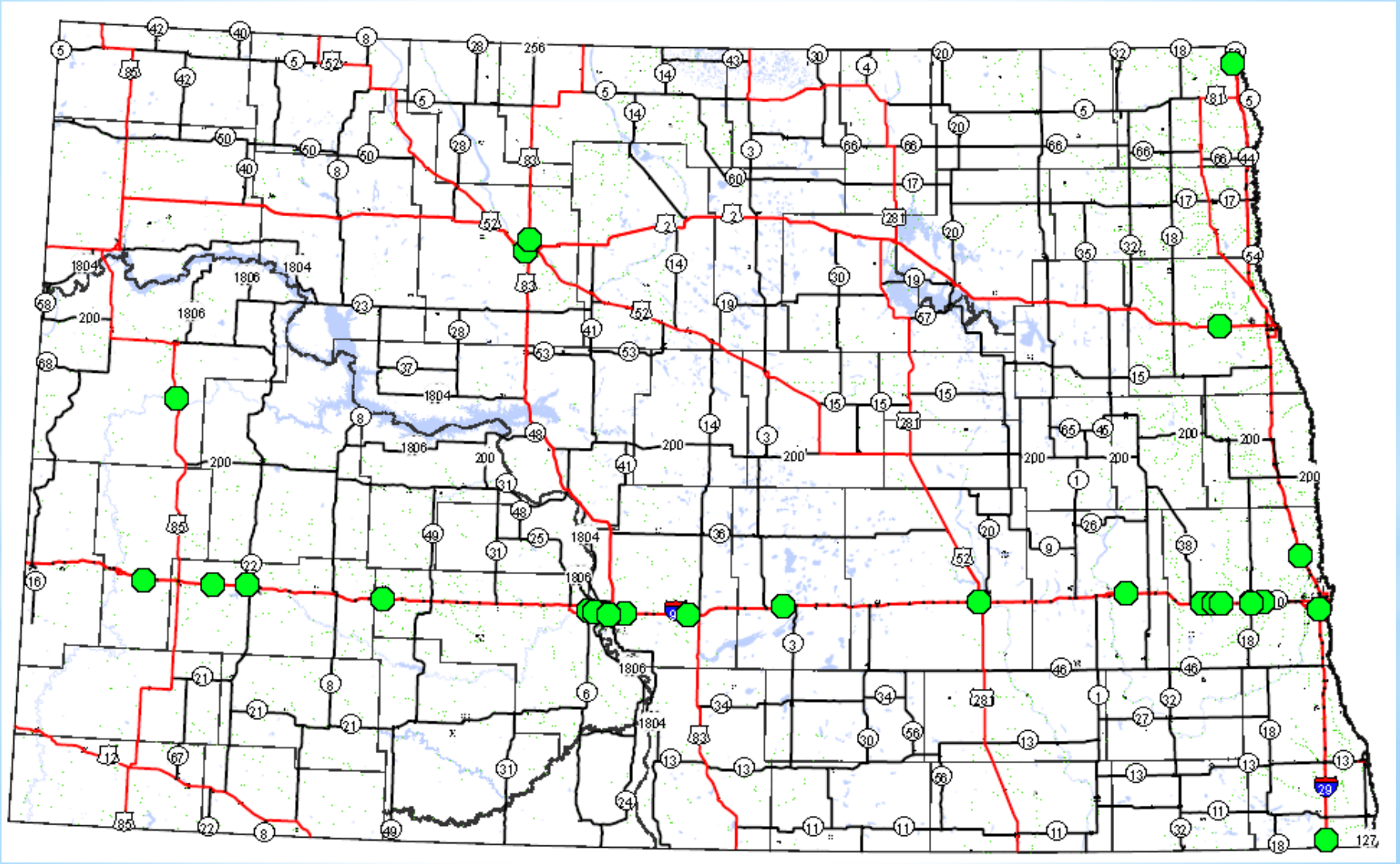
Gary L. Doerr PE

Bridge Division

March 3, 4, 2014

What is the Issue?

Overheight strikes since 2000



Examples

Sunset Drive

VAC-CON
VAC-CON

19th Street Separation

Absaraka Interchange

Girder 3 at pier 2

Durbin Interchange

2007/06/18

RAM 3500

What do we do to prevent this?

- Measure Vertical Clearances
- Enter into Bridge Management Database
- Automatically uploaded to Auto Routing Program
- Used by HP Permitting Office to route overheight vehicles

How have we done it in the past?

- At the end of the Construction Season
- Email DE's requesting any updates to VC's
- Email DE's again requesting changes to VC's
- Update information into the databases

Did we always get all changes?

NO!

What are we doing about it?

Added a module to CARS

Must be filled out before the project can be finalled

- Hopefully long before final
  - When we open to traffic (or before)

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Construction Automated Records System

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SubProject: 1 - CONSTRUCTION CONFRENCE 2014

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Vertical Clearances

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- Work Zone

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- Mix Bitumen
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Project: CONSTRUCTION CONFRENCE 2014

SubProject: 1 - CONSTRUCTION CONFRENCE 2014

Project Vertical Clearances «

Action	Structure Id	Location	Clearance Affected	Clearance Type	Inspection Date	Inspector Name	
Maint | Not Affected	0094-042.366	JCT. OF I-94 & US 85					
Maint | Not Affected	0015-000.899 B	FESSENDEN					
Maint | Not Affected	0029-060.352	3 SOUTH OF I-94					

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Project Vertical Clearances «

Action	Structure Id	Location	Clearance Affected	Clearance Type	Inspection Date	Inspector Name
Maint	0094-042.366	JCT. OF I-94 & US 85	No			
Maint | Not Affected	0015-000.899 B	FESSENDEN				
Maint | Not Affected	0029-060.352	3 SOUTH OF I-94				

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Construction Automated Records System

Project: CONSTRUCTION CONFRENCE 2014

SubProject: 1 - CONSTRUCTION CONFRENCE 2014

Project Vertical Clearance Maintenance «

Structure Id: 0029-060.352

Location: 3 SOUTH OF I-94

Clearance Affected: ○ Yes ○ No

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Project: CONSTRUCTION CONFRENCE 2014

SubProject: 1 - CONSTRUCTION CONFRENCE 2014

Project Vertical Clearance Maintenance «

Structure Id: 0029-060.352

Location: 3 SOUTH OF I-94

Clearance Affected: (•) Yes ( ) No

Project Details:

Clearance Type:

Beam/Truss Face Direction:

Inspection Date: (mm/dd/yyyy)

Inspector Name:

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Project: CONSTRUCTION CONFRENCE 2014

SubProject: 1 - CONSTRUCTION CONFRENCE 2014

Project Vertical Clearance Maintenance «

Structure Id: 0029-060.352

Location: 3 SOUTH OF I-94

Clearance Affected: (•) Yes ( ) No

Project Details:

Clearance Type: Bridges @ 6-Lane Highways

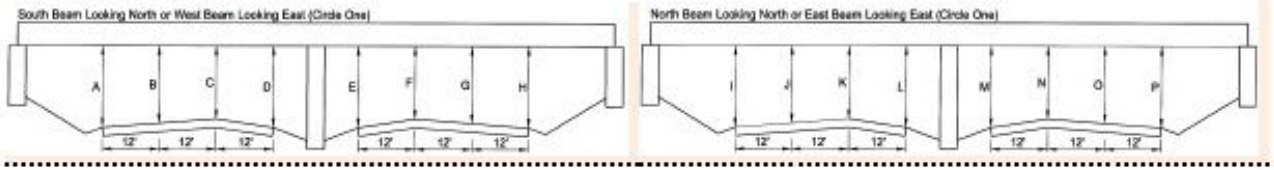
Beam/Truss Face Direction:

Inspection Date:

Inspector Name:

Single Span - SFN 17387
4 Lane Highway - SFN 17388
Overhead Sign Structures
Bridges @ 6-Lane Highways
Thru Truss Bridges

Reference Images:



Clearances

Enter vertical clearances whether the route is "on" the structure or "under" the structure.

Not Applicable	Point	Feet	Inches	Travel Direction	Notes
☑	A				
☑	B				

Construction Automated Records System

Project: CONSTRUCTION CONFRENCE 2014

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Project Vertical Clearance Maintenance «

Structure Id: 0029-060.352

Location: 3 SOUTH OF I-94

Clearance Affected: (•) Yes ( ) No

Project Details:

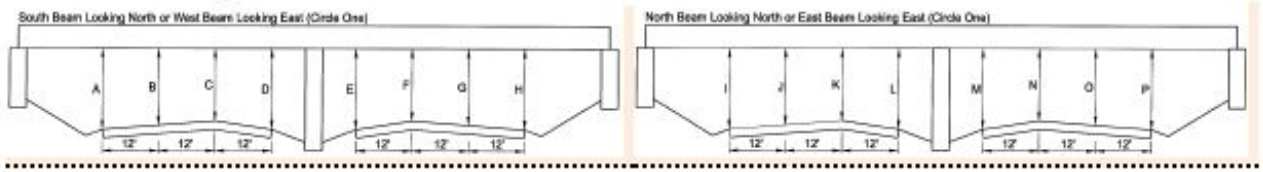
Clearance Type: Bridges @ 6-Lane Highways

Beam/Truss Face Direction:

Inspection Date: (mm/dd/yyyy)

Inspector Name:

Reference Images:



Clearances

Enter vertical clearances whether the route is "on" the structure or "under" the structure.

Not Applicable	Point	Feet	Inches	Travel Direction	Notes
☐	A				
☐	B				
☐	C				

Project: CONSTRUCTION CONFRENCE 2014

SubProject: 1 - CONSTRUCTION CONFRENCE 2014

Project Vertical Clearance Maintenance «

Structure Id: 0029-060.352

Location: 3 SOUTH OF I-94

Clearance Affected: (•) Yes ( ) No

Project Details:

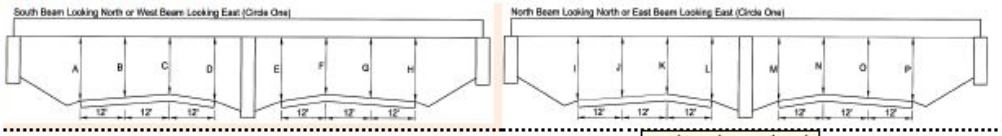
Clearance Type: Bridges @ 6-Lane Highways

Beam/Truss Face Direction: North/South

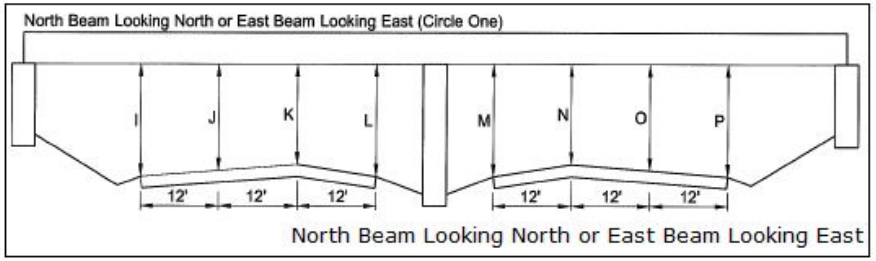
Inspection Date: 03/03/2014 (mm/dd/yyyy)

Inspector Name: Jones

Reference Images:



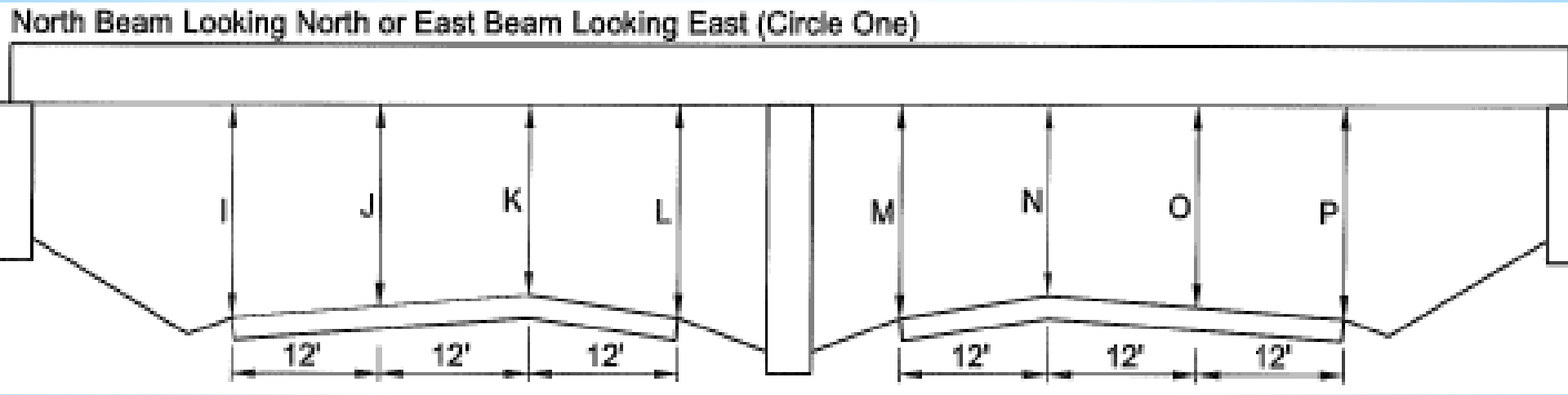
North and East thumb



Clearances

Enter vertical clearances whether the route is "on" the structure or "under" the structure.

Not Applicable	Point	Feet	Inches	Travel Direction	Notes
☑	A				
☑	B				
☑	C				
☑	D				
☐	E	17	1.75	North	
☐	F	16	10.25	North	Lowest north bound.
☐	G	16	11.5	North	
☐	H	17	.25	North	
☑	I				
☑	J				
☑	K				



Work in direction of stationing

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Project: CONSTRUCTION CONFRENCE 2014

SubProject: 1 - CONSTRUCTION CONFRENCE 2014

Project Vertical Clearance Maintenance «

Structure Id: 0029-060.352

Location: 3 SOUTH OF I-94

Clearance Affected: (•) Yes ( ) No

Project Details:

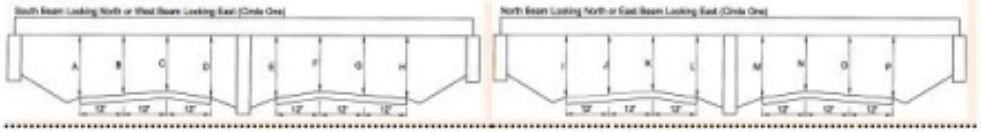
Clearance Type: Bridges @ 6-Lane Highways

Beam/Truss Face Direction: North/South

Inspection Date: 03/03/2014 (mm/dd/yyyy)

Inspector Name: Jones

Reference Images:



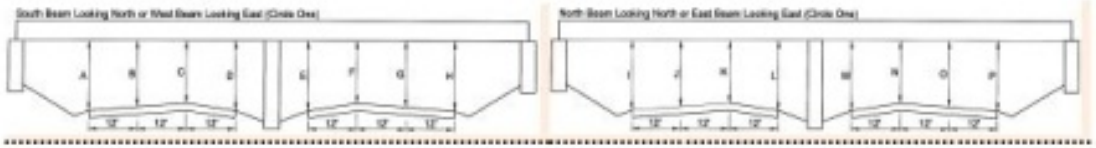
Clearances

Enter vertical clearances whether the route is "on" the structure or "under" the structure.

Not Applicable	Point	Feet	Inches	Travel Direction	Notes
☐	A	17	11.5	South	
☐	B	17	8.5	South	
☐	C	17	4.5	South	
☐	D	17	6.25	South	
☐	E	17	1.75	North	
☐	F	16	10.25	North	Lowest north bound.
☐	G	16	11.5	North	
☐	H	17	.25	North	
☐	I	18	.5	South	
☐		17	0	South	

Inspector Name: Jones

Reference Images:



Clearances

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Not Applicable	Point	Feet	Inches	Travel Direction	Notes
☑	A				
☑	B				
☑	C				
☑	D				
☐	E	17	1.75	North	
☐	F	16	10.25	North	Lowest north bound.
☐	G	16	11.5	North	
☐	H	17	.25	North	
☑	I				
☑	J				
☑	K				
☑	L				
☐	M	17	2	North	
☐	N	16	10	North	
☐	O	16	11	North	
☐	P	17	1	North	

Return Save

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Construction Automated Records System

Project: CONSTRUCTION CONFRENCE 2014

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- Feet must be entered - Point A - value must contain 1 to 2 digits.
- Inches must be entered - Point A - value must contain 1 to 2 digits and 0 to 2 decimals.
- Feet must be entered - Point K - value must contain 1 to 2 digits.
- Inches must be entered - Point K - value must contain 1 to 2 digits and 0 to 2 decimals.

Project Vertical Clearance Maintenance «

Structure Id: 0029-060.352

Location: 3 SOUTH OF I-94

Clearance Affected: (•) Yes ( ) No

Project Details:

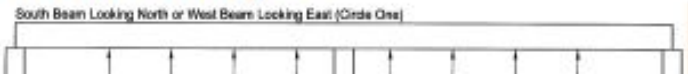
Clearance Type: Bridges @ 6-Lane Highways

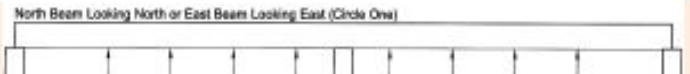
Beam/Truss Face Direction: North/South

Inspection Date: 03/03/2014 (mm/dd/yyyy)

Inspector Name: Jones

Reference Images:





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Project: CONSTRUCTION CONFRENCE 2014 Search Documents Add Documents

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Project Vertical Clearance Report «

Structure No: [ ] or PCN: [20716] Search Clear

All: (•) Affected: ( ) Not Affected: ( ) Indeterminate: ( )

Results

3 items found, displaying all items.

	PCN	Structure Id	Location	Clearance Affected	Clearance Typ
View	20716	0094-042.366	JCT. OF I-94 & US 85	No	
View		0015-000.899 B	FESSENDEN	No	
View		0029-060.352	3 SOUTH OF I-94	Yes	Bridges @ 6-Lane Hig

Export options: Excel

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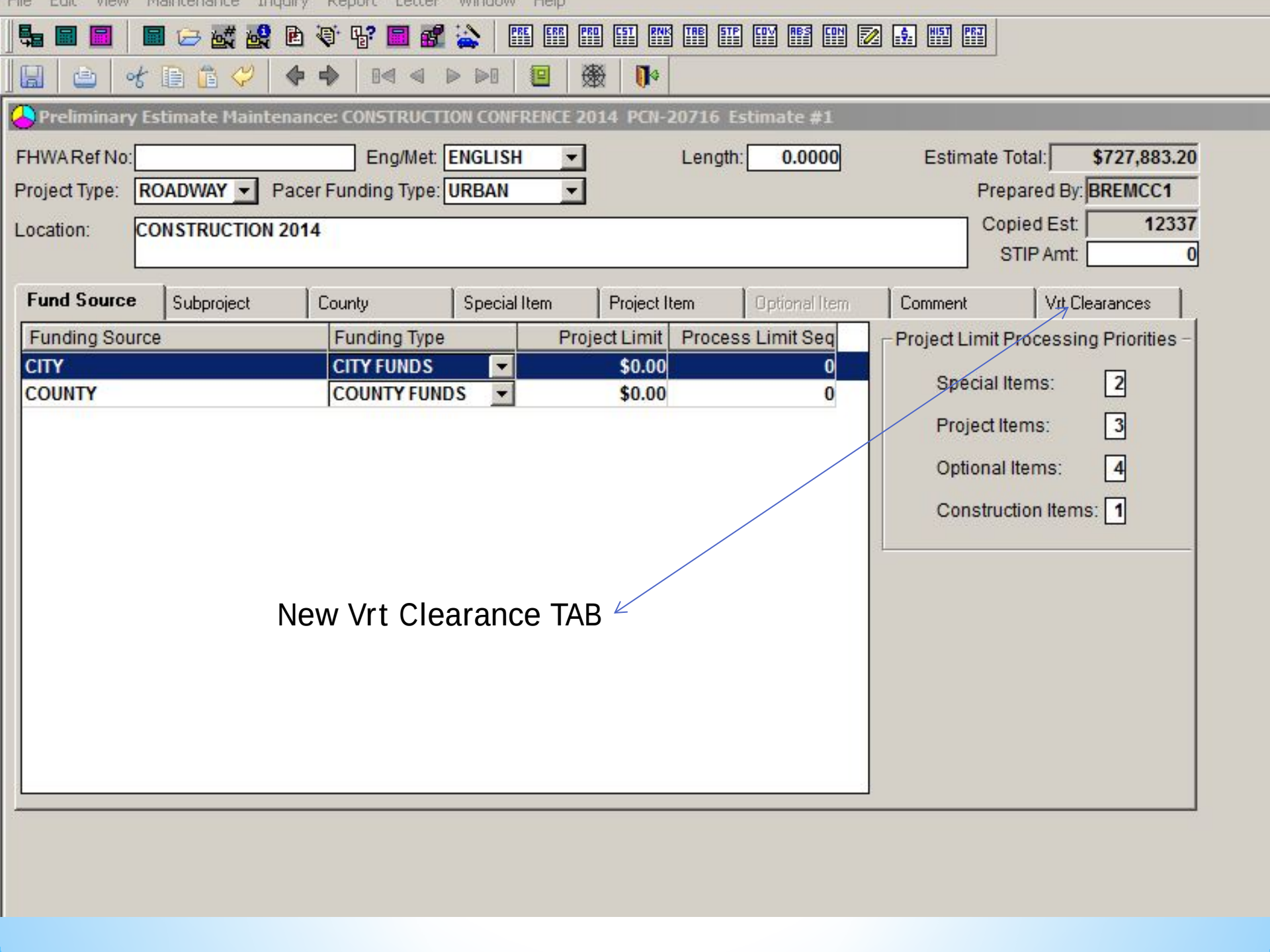
How does the list of bridges become included in CARS?

DT3300 ***** NDDOT RIMS HIGHWAY PROJECTS *****
Feb 26,14 - COST ESTIMATING MAIN MENU -
PCN 20716 CONSTRUCTION CONFRENCE 2014 CONSTRUCTION 2014
ESTIMATE NUMBER
A NEW COST ESTIMATE
B MAINTAIN AN EXISTING COST ESTIMATE
C COPY AN ESTIMATE TO A NEW ESTIMATE
D
E
F
G
H
I
J
K
L REPORTS MENU
TE
ECT
DT3300M2
ARE THERE VERTICAL CLERANCES? - (Y/N)
CURRENT PROJECT: _
ENGLISH OR METRIC: E
CODE: a *JUMP
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10-
help retrn quit flip

```
DT3013R1                          *****  PROJECTS  *****
Feb 26,14                      -  PONTIS STRUCTURES HELP  -

Structure ID      Location

0029-060.352                        3 SOUTH OF I-94
0029-060.368                        3 SOUTH OH I-94
0029-060.395   NR                   I-29-52nd AVE INTERCHANGE
0029-060.396   NL                   I-29-52nd AVE INTERCHANGE
0029-061.245   L                    2 SOUTH OF I-94 INT
0029-061.245   R                    2 SOUTH OF I-94 INT
0029-061.394   L                    2 SOUTH OF I-94
0029-061.394   R                    2 SOUTH OF I-94
0029-061.417   T                    2 SOUTH I94
0029-062.249                        1 SOUTH OF I 94
0029-062.282   NR                   32ND AVE SOUTH INT-FARGO
0029-063.267                        I-29 & I-94 INTCHG-FARGO
0029-063.788   L                    .5 NORTH OF I-94 - FARGO
0029-063.788   R                    .5 NORTH OF I-94 - FARGO

BRIDGE KEY: 0029-060.352____________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---
       help   retrn                 flip          bkwrd  frwrd
Position cursor or enter screen value to select
```

```
DT3013        ***** NDDOT RIMS HIGHWAY PROJECTS - PROJECT M
Feb 26,14                    - MAINTAIN VERTICAL CLEARANCES -
ACTION M (C,D,M)
PCN 20716  CONSTRUCTION CONFRENCE 2014     CONSTRUCTION 2

    Structure ID                          Location
1   0094-042.366_____________________
2   0015-000.899     B_______________
3   0029-060.352_____________________
4   ________________________________
5   ________________________________
6   ________________________________
7   ________________________________
8   ________________________________
9   ________________________________
10  ________________________________
11  ________________________________
12  ________________________________

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF
confm help  retrn quit        flip  pref  bkwrd frwrd
```

What if it is Consultant’s Job?


Preliminary Estimate Maintenance: CONSTRUCTION CONFRENCE 2014 PCN-20716 Estimate #1
FHWA Ref No:
Eng/Met: ENGLISH
Length: 0.0000
Estimate Total: $727,883.20
Project Type: ROADWAY
Pacer Funding Type: URBAN
Prepared By: BREMCC1
Location: CONSTRUCTION 2014
Copied Est: 12337
STIP Amt: 0
Fund Source
Subproject
County
Special Item
Project Item
Optional Item
Comment
Vrt Clearances
Funding Source
Funding Type
Project Limit
Process Limit Seq
CITY
CITY FUNDS
$0.00
0
COUNTY
COUNTY FUNDS
$0.00
0
Project Limit Processing Priorities
Special Items: 2
Project Items: 3
Optional Items: 4
Construction Items: 1
New Vrt Clearance TAB

Preliminary Estimate Maintenance: CONSTRUCTION CONFRENCE 2014 PCN-20716 Estimate #1

FHWA Ref No: | Eng/Met: ENGLISH | Length: 0.0000 | Estimate Total: $727

Project Type: ROADWAY | Pacer Funding Type: URBAN | Prepared By: BREI

Location: CONSTRUCTION 2014 | Copied Est: | STIP Amt:

Fund Source | Subproject | County | Special Item | Project Item | Optional Item | Comment | Vrt Clearа

Structure ID

0094-042.366 - JCT. OF I-94 & US 85

0015-000.899 B - FESSENDEN

0029-060.352 - 3 SOUTH OF I-94

If all else fails and you're on a job with this issue, Call me and we'll get the bridges entered into CARS

Odd Signs

BUT OFFICER...
THE SIGN INSTRUCTED ME TO DO A BURNOUT

Please...
NEUTER YOUR PETS
AND
WEIRD FRIENDS & RELATIVES

Just remember:

Keep your mind on the task at hand

Everything will be OK

Questions?

Gary Doerr
Bridge Division
328-4844