

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	39	1
ILLINOIS			CONTRACT NO. 62R32	

\* 37 TOTAL SHEETS

FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

FUNCTIONAL CLASSIFICATION: OTHER PRINCIPAL ARTERIAL  
POSTED SPEED: 40 MPH  
ADT: 32,600 (2020)

FAP 341 /TOUHY AVENUE OVER DES PLAINES RIVER  
SECTION FA 525 21 STRUCTURE REHAB  
PROJECT NO. NHPP-OWKL(720)  
BRIDGE REPAIR  
COOK COUNTY



APPLIES TO SHEETS 1 - 4

*[Signature]*  
LICENSED PROFESSIONAL ENGINEER  
STATE OF ILLINOIS  
EXPIRES 11/30/2023

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APPLIES TO SHEETS 5-13

*[Signature]*  
LICENSED PROFESSIONAL ENGINEER  
STATE OF ILLINOIS  
EXPIRES 11/30/2023

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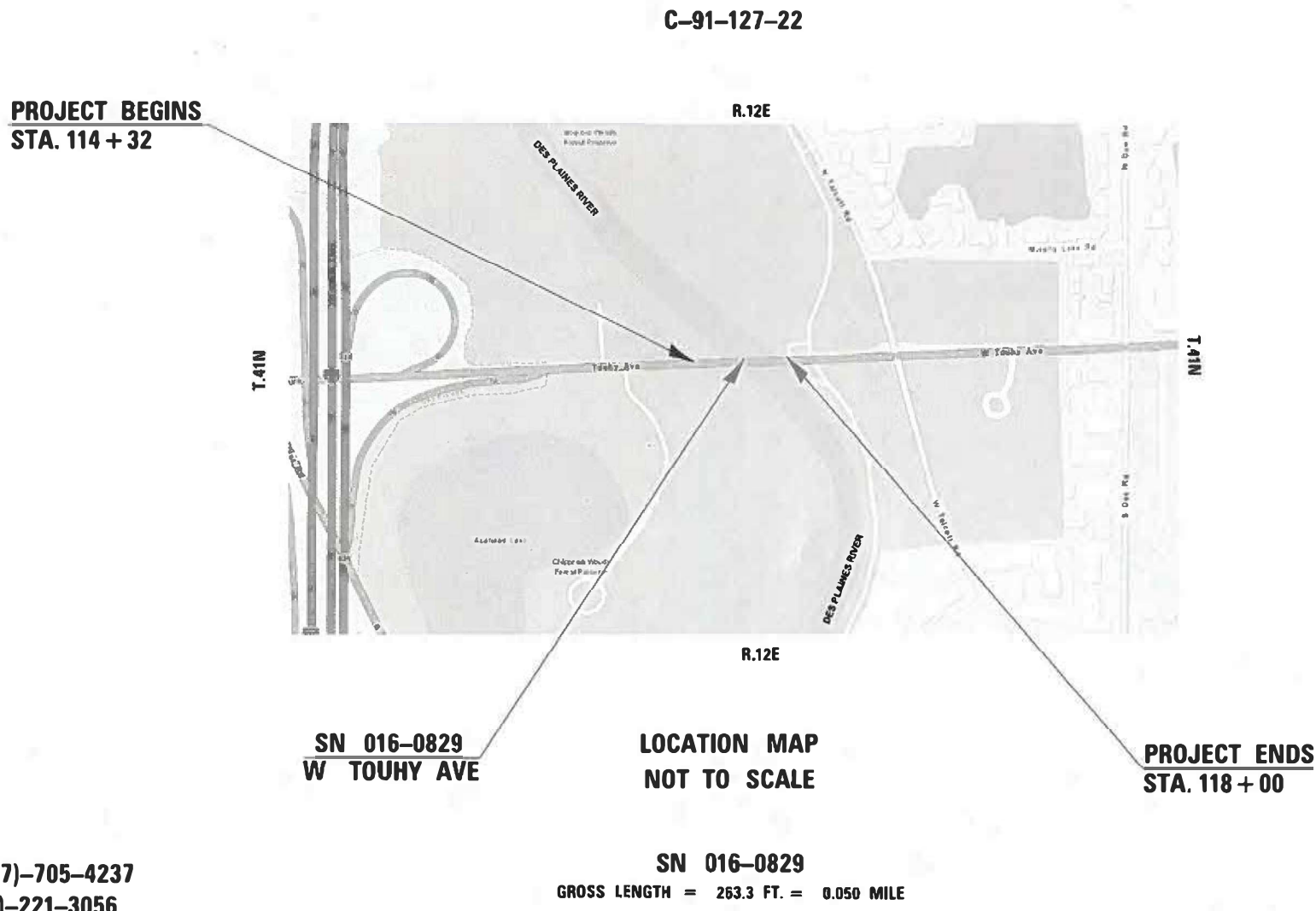
APPLIES TO SHEETS 14-22

*[Signature]*  
LICENSED STRUCTURAL ENGINEER  
STATE OF ILLINOIS  
EXPIRES 11/30/2022

MUNICIPALITIES:  
CITY OF PARK RIDGE

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED March 18 20 22

*[Signature]*  
REGIONAL ENGINEER

May 13, 2022 *[Signature]*  
ENGINEER OF DESIGN AND ENVIRONMENT

May 13, 2022 *[Signature]*  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS  
FINAL - FEBRUARY 7, 2022

PROJECT ENGINEER: PRAVEEN KAINI, PE (847)-705-4237  
PROJECT MANAGER: J. ALAIN MIDY, PE (847)-221-3056

CONTRACT NO. 62R32

**Bowman**  
311 S. Wacker Drive, Suite 1950  
Chicago, Illinois 60606  
312-614-0360  
www.bowman.com

## GENERAL NOTES

- BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL J.U.L.I.E. AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE CITY OF DES PLAINES.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.
- THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.
- DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
- ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS OR THE COPY INCLUDED IN THESE PLANS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS CONTRACT.
- EXISTING UNDERGROUND AND ABOVE-GROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED ON THESE CONTRACT DOCUMENTS BASED UPON THE INFORMATION AND SURVEYS AVAILABLE AT THE TIME OF DRAWING PREPARATION. THE LOCATION OF THESE FEATURES MUST, THEREFORE, BE CONSIDERED APPROXIMATE ONLY. IN ADDITION, THERE MAY BE OTHER FACILITIES, STRUCTURES, AND UTILITIES WHICH DID NOT EXIST OR THE EXISTENCE OF WHICH WAS NOT KNOWN AT THE TIME OF DRAWING PREPARATION. IT IS THE SOLE RESPONSIBILITY OF CONTRACTOR(S) TO HAVE ALL EXISTING FACILITIES, STRUCTURES, AND UTILITIES LOCATED IN THE FIELD PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITY AND TO PROTECT ALL SUCH EXISTING FEATURES DURING CONSTRUCTION.
- BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE ALL EXISTING PAVEMENT MARKING LINES (AND RASIED REFLECTIVE PAVEMENT MARKERS) IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL CONTACT KALPANA KANNAN HOSADURGA, THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR, AT KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
- TWO WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS, THE ENGINEER SHALL CONTACT FADI SULTAN THE AREA TRAFFIC FIELD ENGINEER, AT FADI.SULTAN@ILLINOIS.GOV.

## INDEX OF SHEETS

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## IDOT HIGHWAY STANDARDS

- |           |                                                                                          |
|-----------|------------------------------------------------------------------------------------------|
| 000001-08 | STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS                                            |
| 001006    | DECIMAL OF AN INCH AND OF A FOOT                                                         |
| 701101-05 | OFF-ROAD OPERATIONS, MULTILANE, LESS THAN 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE |
| 701106-02 | OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 M) AWAY                               |
| 701427-05 | LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATIONS, FOR SPEEDS ? 40 MPH          |
| 701901-08 | TRAFFIC CONTROL DEVICES                                                                  |
| 704001-08 | TEMPORARY CONCRETE BARRIER                                                               |
| 701606-10 | URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN                           |
| 701701-10 | URBAN LANE CLOSURE, MULTILANE, INTERSECTION                                              |
| 780001-05 | TYPICAL PAVEMENT MARKINGS                                                                |
| 782006-01 | GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS                                    |

## COMMITMENTS

NONE

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, INDEX OF SHEETS, AND  
STATE STANDARDS**

SCALE: NONE    SHEET 1 OF 1 SHEETS    STA.    TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	37	2
			CONTRACT NO. 62R32	
		ILLINOIS	FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY URBAN	CONSTRUCTION CODE	
				80% FEDERAL & 20% STATE	
				BRIDGE	
				0013	
				SN 016-0829	
50500505	STUD SHEAR CONNECTORS	EACH	741	741	
64300240	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EACH	2	2	
67100100	MOBILIZATION	L SUM	1	1	
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	70	70	
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	FOOT	2,815	2,815	
70307120	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE	FOOT	6,659	6,659	
70307130	TEMPORARY PAVEMENT MARKING - LINE 6" - TYPE IV TAPE	FOOT	1,194	1,194	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1,100	1,100	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1,100	1,100	
70600322	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE NARROW), TEST LEVEL 2	EACH	2	2	
* 78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	77	77	
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	9,071	9,071	
* 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	527	527	
* 78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	615	615	
* 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	95	95	

\* SPECIALTY ITEMS

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	37	3
CONTRACT NO. 62R32			ILLINOIS FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY URBAN	CONSTRUCTION CODE		
				80% FEDERAL & 20% STATE		
				BRIDGE		
				0013		
				SN 016-0829		
* 78009004	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	1,548	1,548		
* 78009012	MODIFIED URETHANE PAVEMENT MARKING - LINE 12"	FOOT	85	85		
* 78100300	REPLACEMENT REFLECTOR	EACH	220	220		
* 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	124	124		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	220	220		
78300202	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	1,259	1,259		
X0325222	WEED CONTROL, BASAL TREATMENT	GAL	1	1		
X6700407	ENGINEER'S FIELD OFFICE, TYPE A (D1)	CAL MO	12	12		
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1		
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	43	43		
Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	2	2		
X0100030	ULTRA-HIGH PERFORMANCE CONCRETE FOR STEEL BEAM END ENCASEMENT	CU FT	117.4	117.4		
Ø Z0076600	TRAINEES	HOURS	500	500		
Ø Z0076604	TRAINEES - TRAINING PROGRAM GRADUATE	HOURS	500	500		

Ø 0042

\* SPECIALTY ITEMS

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	37	4
CONTRACT NO. 62R32			ILLINOIS FED. AID PROJECT	



**MAINTENANCE OF TRAFFIC GENERAL NOTES**

1. THE FURNISHING INSTALLING AND RELOCATION OF ALL TRAFFIC CONTROL SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), ILLINOIS SUPPLEMENT TO THE MUTCD, IDOT SPECIAL PROVISIONS, IDOT HIGHWAY STANDARDS, IDOT STANDARD SPECIFICATIONS, CONTRACT SPECIFICATIONS AND AS DETERMINED BY THE ENGINEER. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR "TRAFFIC CONTROL AND PROTECTION (SPECIAL)".
2. EXISTING TRAFFIC CONTROL DEVICES WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. ANY DAMAGED SIGNS CAUSED BY HIS WORK SHALL BE REPLACED BY THE CONTRACTOR AND AT THE EXPENSE OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL MAINTAIN ALL DRIVEWAYS OPEN DURING CONSTRUCTION.
4. ANY EXISTING SIGNS DENOTED WITHIN THE PLAN SET THAT DO NOT APPLY TO THE REVISED TRAFFIC PATTERNS SHALL BE REMOVED OR COVERED, AS DIRECTED BY THE ENGINEER.
5. CHANGEABLE MESSAGE SIGNS SHALL BE INSTALLED TWO WEEKS PRIOR TO ALL TRAFFIC STAGE CHANGE EVENTS ON EACH APPROACH OF THE AFFECTED ROADWAY INCLUDING THE NB I-294 CD LANES PRIOR TO THE EB TOUHY AVENUE EXIT RAMP TO WARN MOTORISTS OF THE UPCOMING EVENT. THE SIGNS SHALL BE REMOVED TWO WEEKS THEREAFTER UNLESS THE SIGNS ARE NEEDED AGAIN FOR A SUBSEQUENT FUTURE EVENT THAT WILL OCCUR WITHIN TWO WEEKS ON THE SAME APPROACH OF THE AFFECTED ROADWAY. THE PCMS LOCATED ON THE NB I-294 CD LANES SHALL REMAIN INSTALLED UNTIL THE COMPLETION OF MOT STAGE 2 AND SHALL INCLUDE MESSAGES TO WARN TRAFFIC OF POTENTIAL RAMP BACKUPS. THE SIGN LOCATIONS SHALL BE PLACED AS DIRECTED BY THE ENGINEER.
6. ALL TEMPORARY SIGN INSTALLATIONS ON THE NB I-294 CD LANES AND EB TOUHY AVE EXIT RAMP WILL REQUIRE A TOLLWAY PERMIT AND BOND. PLEASE SEE THE TOLLWAY PERMIT AND BOND (D1) SPECIAL PROVISION FOR MORE INFORMATION.
7. MAXIMUM WIDTH SIGNS SHALL REMAIN TILL THE COMPLETION OF MAINTENANCE OF TRAFFIC - STAGE 2.

**SUGGESTED SEQUENCE OF CONSTRUCTION**

**STAGE 1 CONSTRUCTION**

1. REMOVE EXISTING PAVEMENT MARKINGS THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS AND OTHER APPURTENANCES WHERE NOTED OR AS DIRECTED BY THE ENGINEER. COVER PERMANENT SIGNS THAT CONFLICT WITH MAINTENANCE OF TRAFFIC.
2. CLOSE OUTSIDE EASTBOUND AND WESTBOUND LANES ON TOUHY AVE. OVER DES PLAINES RIVER AS SHOWN IN PLANS OR AS DIRECTED BY THE ENGINEER.
3. MAKE REPAIRS TO BRIDGE AS PER THE STRUCTURAL AND ROADWAY PLANS.

**STAGE 2 CONSTRUCTION**

1. CLOSE INSIDE EASTBOUND AND WESTBOUND LANES ON TOUHY AVE. OVER DES PLAINES RIVER AS SHOWN IN PLANS OR AS DIRECTED BY THE ENGINEER.
2. MAKE REPAIRS TO BRIDGE AS PER THE STRUCTURAL AND ROADWAY PLANS.

**END OF CONSTRUCTION**

1. REMOVE MAINTENANCE OF TRAFFIC DEVICES UNCOVER PERMANENT SIGNS.
2. INSTALL PERMANENT PAVEMENT MARKINGS AS SHOWN IN PLAN UTILIZING TEMPORARY LANES CLOSURE.
3. COMPLETE PUNCH LIST ITEMS.

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**AMES Engineering, Inc.**  
 CONSULTING ENGINEERS  
 6330 Belmont Road, Suite 4B  
 Downers Grove, IL 60515

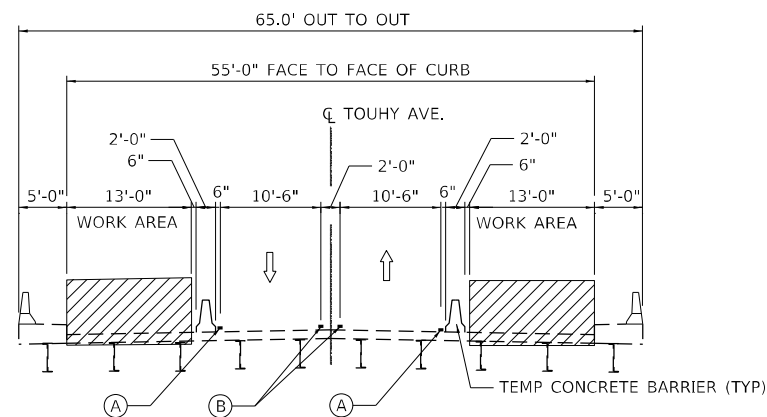
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC**  
**GENERAL NOTES**

SCALE: NONE    SHEET 1 OF 1 SHEETS    STA.                      TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUC REHAB	COOK	37	5
CONTRACT NO.			62R32	
ILLINOIS FED. AID PROJECT				



**SN 016-0829 STAGE 1 TYPICAL SECTION – TOUHY AVENUE**  
 BRIDGE OVER DESPLAINES RIVER  
 STA 114+57 TO 117+99

**MOT PLAN LEGEND**



WORK ZONE

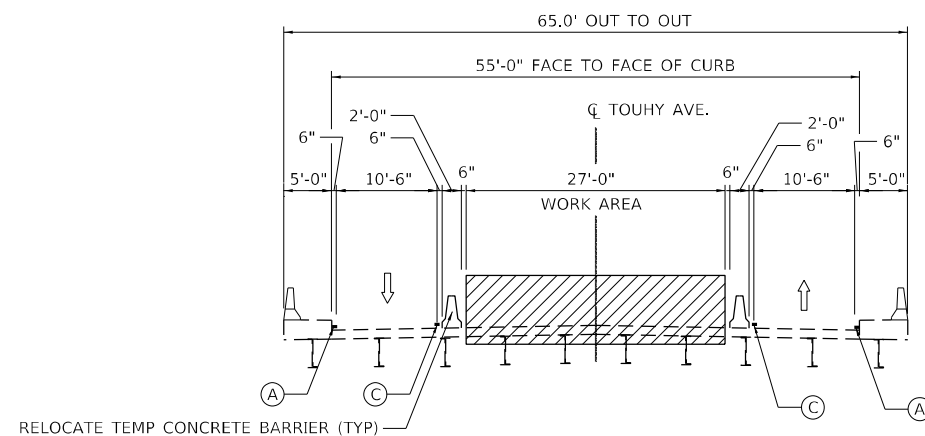


TEMPORARY CONCRETE BARRIER  
 BARRIER WALL REFLECTORS MARKERS, TYPE C  
 (SEE STDS. 704001 AND 782006)



DIRECTION OF TRAFFIC

- (A) TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID WHITE)
- (B) TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (DOUBLE YELLOW) @ 11" C-C
- (C) TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID YELLOW)

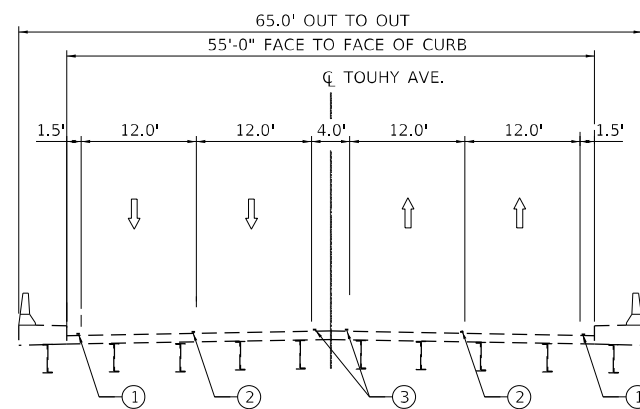


**SN 016-0829 STAGE 2 TYPICAL SECTION – TOUHY AVENUE**  
 BRIDGE OVER DESPLAINES RIVER  
 STA 114+57 TO 117+99

RELOCATE TEMP CONCRETE BARRIER (TYP)

**PERMANENT PAVEMENT MARKING LEGEND**

- (1) MODIFIED URETHANE PAVEMENT MARKING - LINE 4" (WHITE SOLID)
- (2) MODIFIED URETHANE PAVEMENT MARKING - LINE 4" (WHITE SKIP-DASH)
- (3) MODIFIED URETHANE PAVEMENT MARKING - LINE 4" (DOUBLE YELLOW)



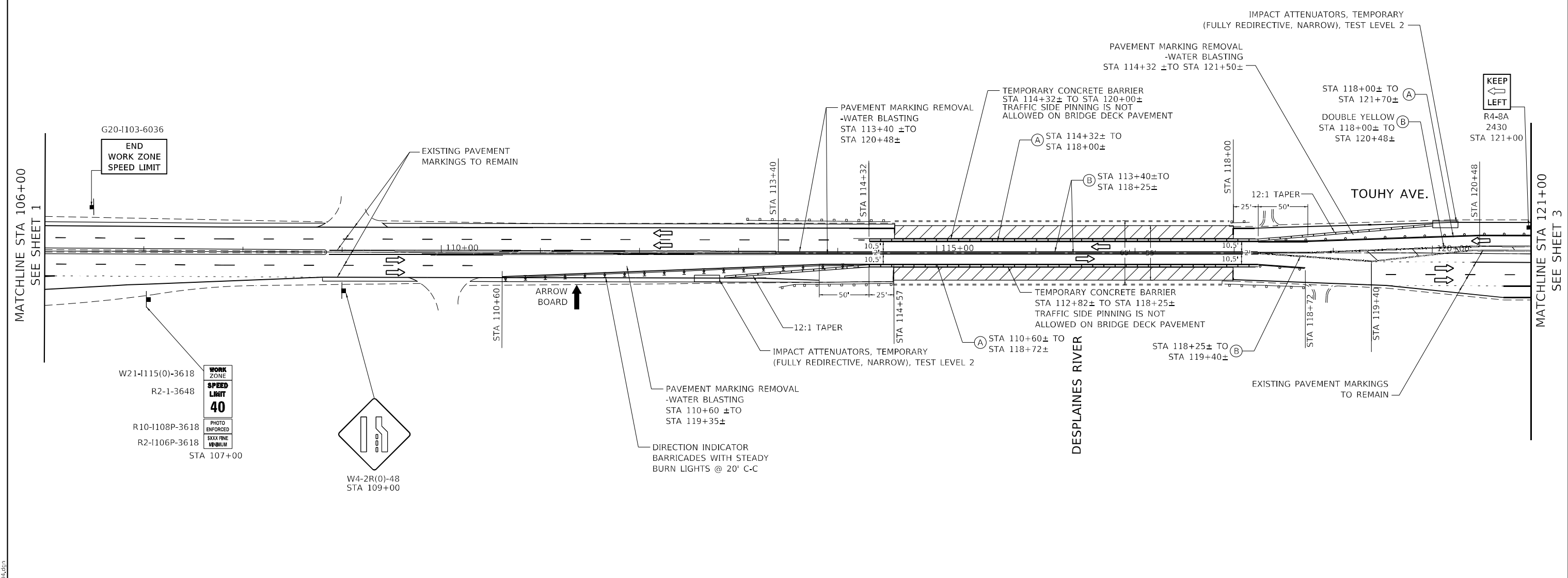
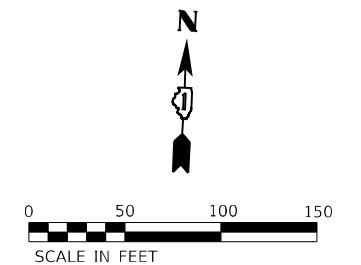
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**TYPICAL SECTION – TOUHY AVENUE**  
 BRIDGE OVER DESPLAINES RIVER  
 STA 114+57 TO 117+99

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUC REHAB	COOK	37	6
			CONTRACT NO. 62R32	
		ILLINOIS FED. AID PROJECT		





MAINTENANCE OF TRAFFIC LEGEND		TEMPORARY PAVEMENT MARKING LEGEND	
	WORK ZONE	(A)	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID WHITE)
	TEMPORARY CONCRETE BARRIER WITH BARRIER WALL, REFLECTORS TYPE C (SEE STDS. 704001 AND 782006)	(B)	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (DOUBLE YELLOW) @ 11' C-C
	TYPE II BARRICADE OR DRUM	(C)	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID YELLOW)
	DIRECTION INDICATOR BARRICADES WITH STEADY BURN LIGHTS	(D)	TEMPORARY PAVEMENT MARKING - LINE 6" - TYPE IV TAPE WHITE DOTTED (2' DASH, 6' SKIP)
	TYPE III BARRICADE	(E)	TEMPORARY PAVEMENT MARKING - LINE 6" - TYPE IV TAPE (SOLID WHITE)
	TEMPORARY TRAFFIC SIGN		
	DIRECTION OF TRAFFIC		
	ARROW BOARD		

**AMES Engineering, Inc.**  
 CONSULTING ENGINEERS  
 6330 Belmont Road, Suite 4B  
 Downers Grove, IL 60515

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PLOT DATE = 3/24/2022	CHECKED - JAR	REVISED -
	DATE - 03-25-2022	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

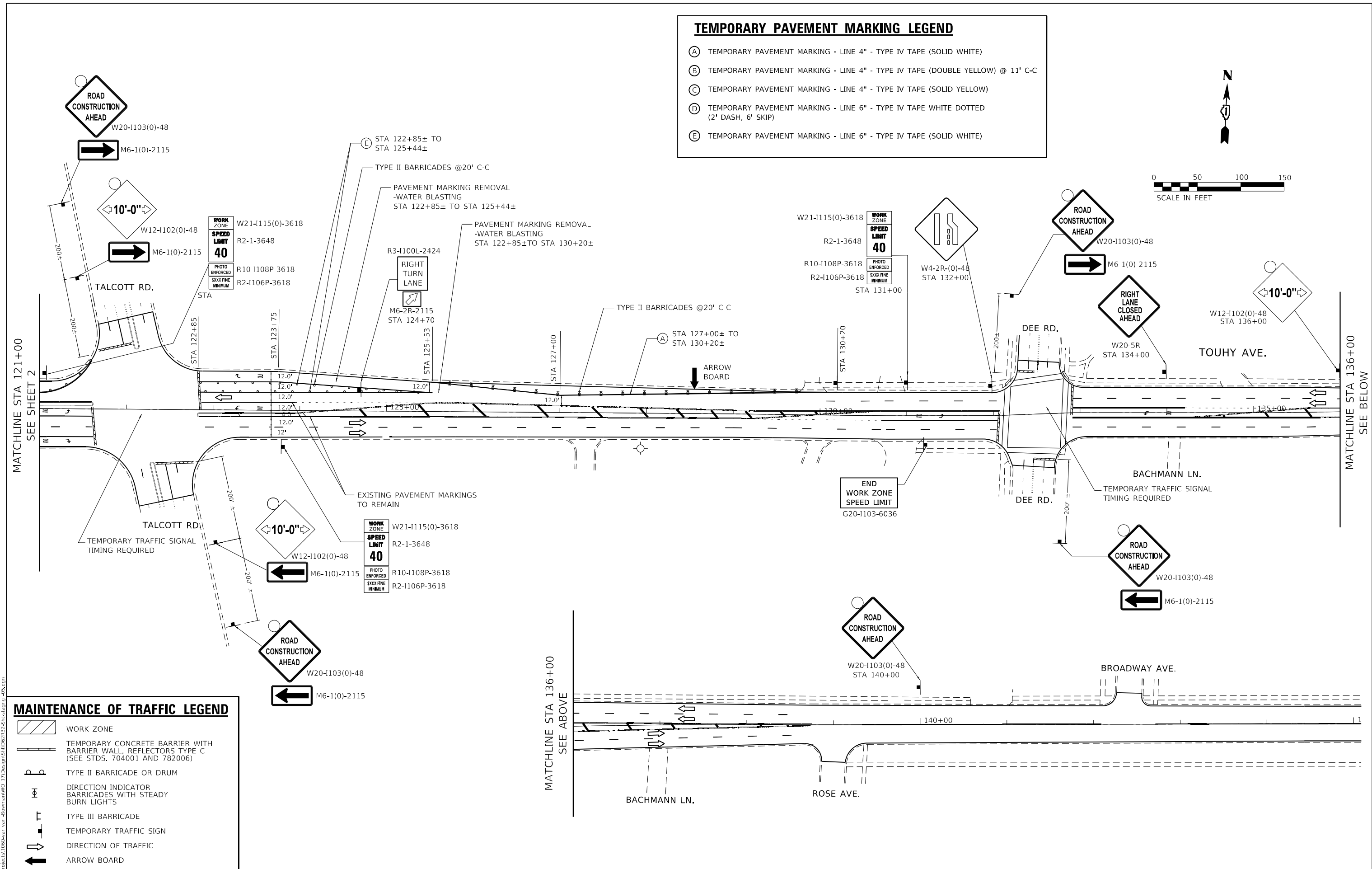
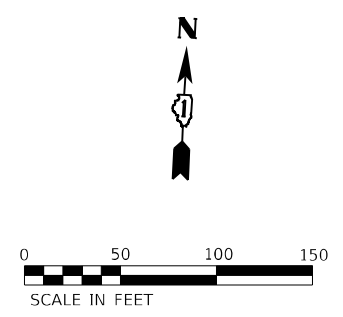
**MAINTENANCE OF TRAFFIC**  
**TOUHY AVE. OVER DESPLAINES RIVER - STAGE 1**  
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 SHEET 2 OF 3 SHEETS STA. 106+00 TO STA. 124+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUC REHAB	COOK	37	8
CONTRACT NO. 62R32			ILLINOIS FED. AID PROJECT	

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### TEMPORARY PAVEMENT MARKING LEGEND

(A)	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID WHITE)
(B)	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (DOUBLE YELLOW) @ 11' C-C
(C)	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID YELLOW)
(D)	TEMPORARY PAVEMENT MARKING - LINE 6" - TYPE IV TAPE WHITE DOTTED (2' DASH, 6' SKIP)
(E)	TEMPORARY PAVEMENT MARKING - LINE 6" - TYPE IV TAPE (SOLID WHITE)



### MAINTENANCE OF TRAFFIC LEGEND

	WORK ZONE
	TEMPORARY CONCRETE BARRIER WITH BARRIER WALL, REFLECTORS TYPE C (SEE STDS. 704001 AND 782006)
	TYPE II BARRICADE OR DRUM
	DIRECTION INDICATOR BARRICADES WITH STEADY BURN LIGHTS
	TYPE III BARRICADE
	TEMPORARY TRAFFIC SIGN
	DIRECTION OF TRAFFIC
	ARROW BOARD

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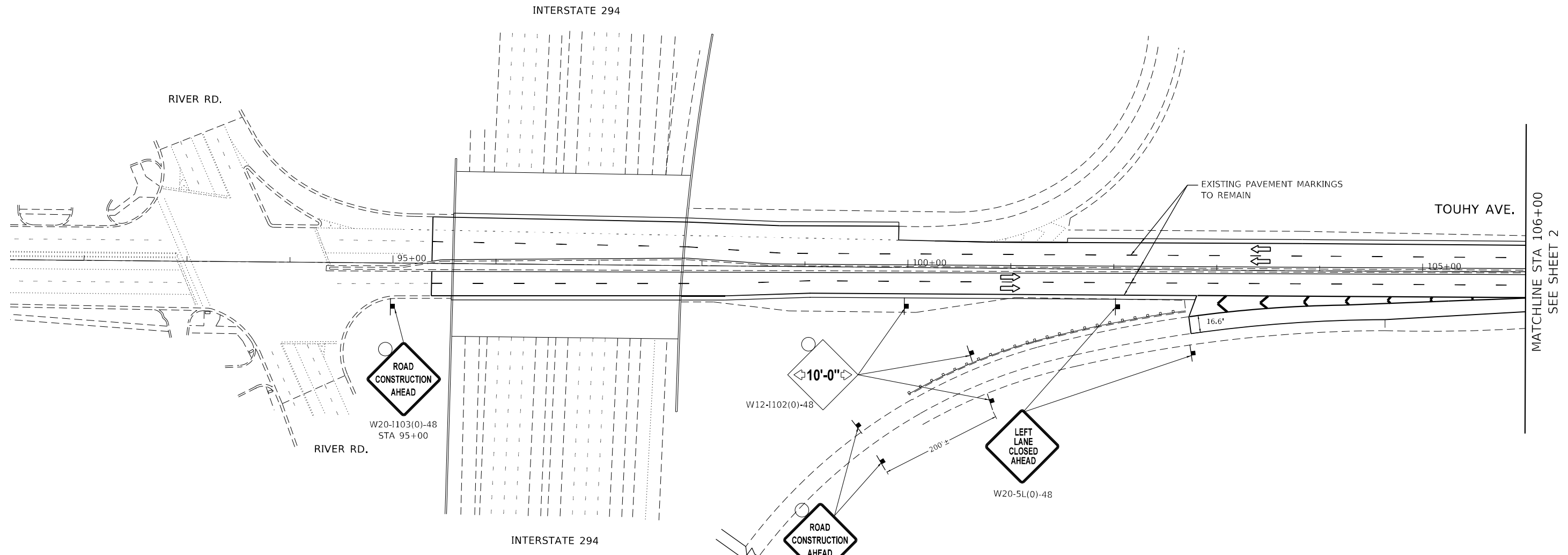
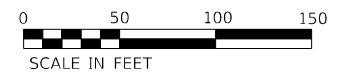
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC  
TOUHY AVE. OVER DESPLAINES RIVER - STAGE 1**

SCALE: 1"=50'    SHEET 3 OF 3 SHEETS    STA. 124+00 TO STA. 136+00

F.A.P. RTE. 341	SECTION FA 525 21 STRUC REHAB	COUNTY COOK	TOTAL SHEETS 37	SHEET NO. 9
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62R32	



MATCHLINE STA 106+00  
SEE SHEET 2

**MAINTENANCE OF TRAFFIC LEGEND**

- WORK ZONE
- TEMPORARY CONCRETE BARRIER WITH BARRIER WALL, REFLECTORS TYPE C (SEE STDS. 704001 AND 782006)
- TYPE II BARRICADE OR DRUM
- DIRECTION INDICATOR BARRICADES WITH STEADY BURN LIGHTS
- TYPE III BARRICADE
- TEMPORARY TRAFFIC SIGN
- DIRECTION OF TRAFFIC
- ARROW BOARD

**TEMPORARY PAVEMENT MARKING LEGEND**

- (A) TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID WHITE)
- (B) TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (DOUBLE YELLOW) @ 11' C-C
- (C) TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID YELLOW)
- (D) TEMPORARY PAVEMENT MARKING - LINE 6" - TYPE IV TAPE WHITE DOTTED (2' DASH, 6' SKIP)
- (E) TEMPORARY PAVEMENT MARKING - LINE 6" - TYPE IV TAPE (SOLID WHITE)

MAX WIDTH  
10'-0"  
AHEAD ON  
EAST  
TOUHY AVE  
W12-1103-4848

NOTE:  
INSTALL THIS MAXIMUM WIDTH SIGN  
ON THE NB I-294 CD LANES 500'  
PRIOR TO THE EB TOUHY AVE EXIT RAMP.

MODEL: D:\p\h\...  
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PROJECT: 106\aut\_vor...  
DATE: 3/24/2022

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
6330 Belmont Road, Suite 4B  
Downers Grove, IL 60515

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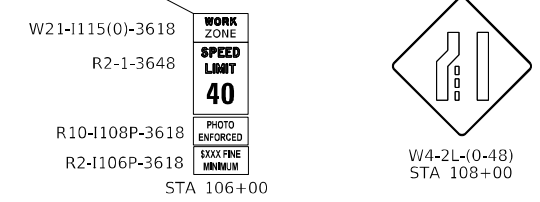
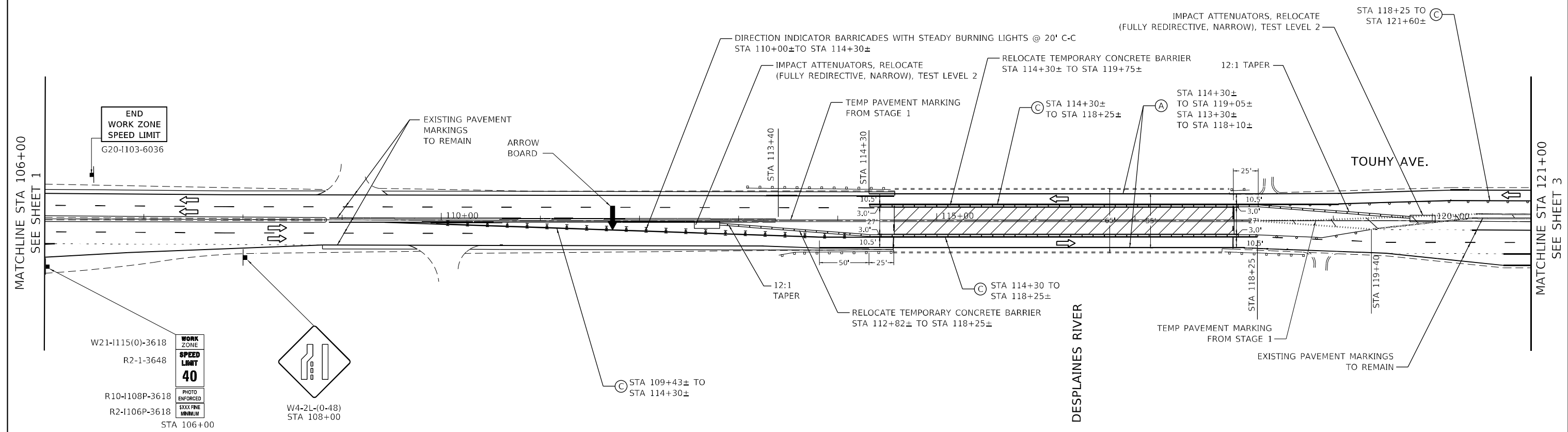
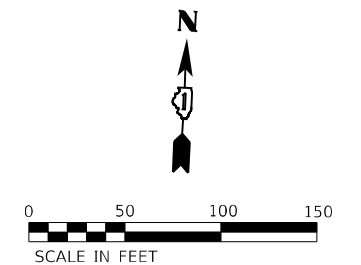
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC  
TOUHY AVE. OVER DESPLAINES RIVER - STAGE 2**

SCALE: 1"=50' SHEET 1 OF 3 SHEETS STA. 95+00 TO STA. 106+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUC REHAB	COOK	37	10
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62R32	





MAINTENANCE OF TRAFFIC LEGEND		TEMPORARY PAVEMENT MARKING LEGEND	
	WORK ZONE	(A)	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID WHITE)
	TEMPORARY CONCRETE BARRIER WITH BARRIER WALL, REFLECTORS TYPE C (SEE STDS. 704001 AND 782006)	(B)	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (DOUBLE YELLOW) @ 11' C-C
	TYPE II BARRICADE OR DRUM	(C)	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE (SOLID YELLOW)
	DIRECTION INDICATOR BARRICADES WITH STEADY BURN LIGHTS	(D)	TEMPORARY PAVEMENT MARKING - LINE 6" - TYPE IV TAPE WHITE DOTTED (2' DASH, 6' SKIP)
	TYPE III BARRICADE	(E)	TEMPORARY PAVEMENT MARKING - LINE 6" - TYPE IV TAPE (SOLID WHITE)
	TEMPORARY TRAFFIC SIGN		
	DIRECTION OF TRAFFIC		
	ARROW BOARD		

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**AMES Engineering, Inc.**  
 CONSULTING ENGINEERS  
 6330 Belmont Road, Suite 4B  
 Downers Grove, IL 60515

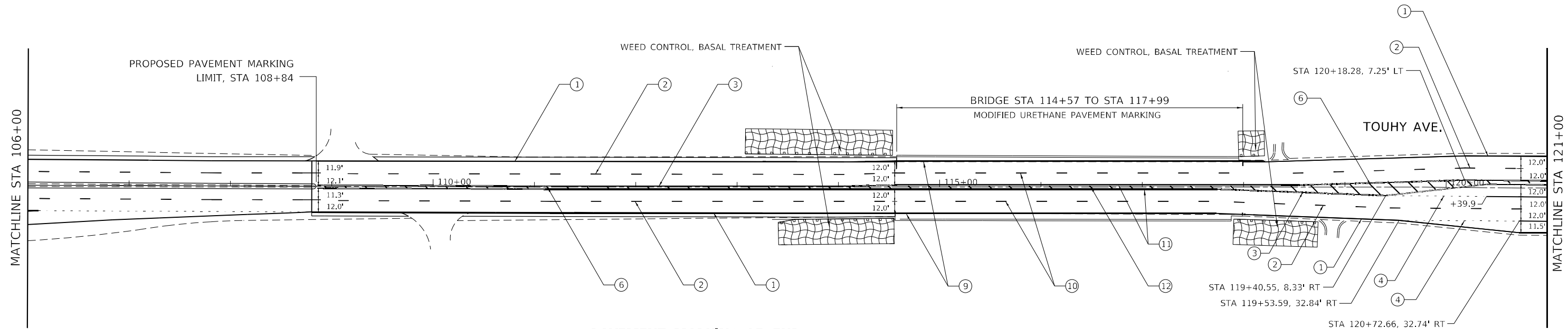
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	DATE - 03-25-2022	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

<b>MAINTENANCE OF TRAFFIC</b> <b>TOUHY AVE. OVER DESPLAINES RIVER - STAGE 2</b>			
SCALE: 1"=50'	SHEET 2	OF 3 SHEETS	STA. 106+00 TO STA. 124+00

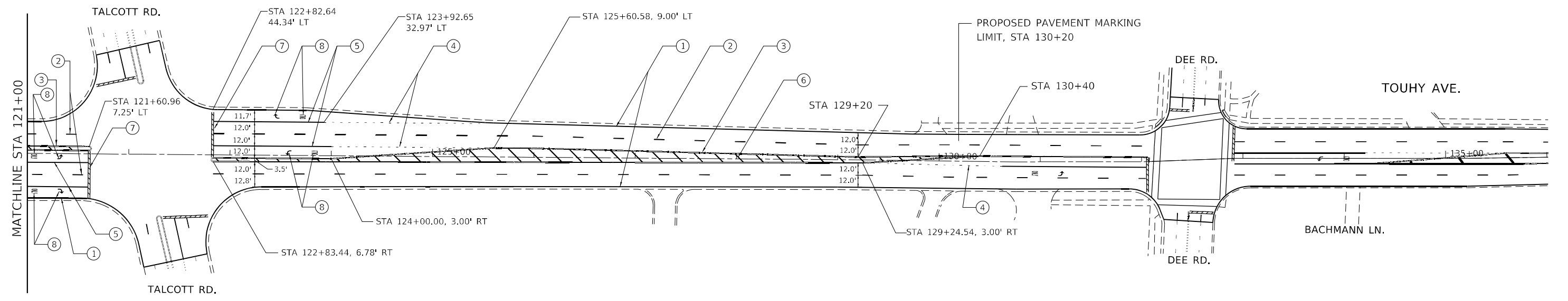
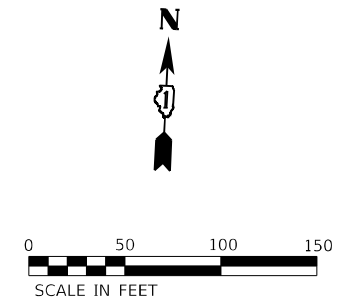
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341	FA 525 21 STRUC REHAB	COOK	37	11
			CONTRACT NO. 62R32	
ILLINOIS FED. AID PROJECT				





**PAVEMENT MARKING LEGEND**

- ① THERMOPLASTIC PAVEMENT MARKING - LINE 4" (WHITE SOLID)
- ② THERMOPLASTIC PAVEMENT MARKING - LINE 4" (WHITE 10' DASH, 30' SKIP)
- ③ THERMOPLASTIC PAVEMENT MARKING - LINE 4" (DOUBLE YELLOW)
- ④ THERMOPLASTIC PAVEMENT MARKING - LINE 6" (WHITE 2' DASH, 6' SKIP)
- ⑤ THERMOPLASTIC PAVEMENT MARKING - LINE 6" (WHITE SOLID)
- ⑥ THERMOPLASTIC PAVEMENT MARKING - LINE 12" (45° DIAGONALS @ 20' C-C)
- ⑦ THERMOPLASTIC PAVEMENT MARKING - LINE 24" (WHITE SOLID)
- ⑧ THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS
- ⑨ MODIFIED URETHANE PAVEMENT MARKING - LINE 4" (WHITE SOLID)
- ⑩ MODIFIED URETHANE PAVEMENT MARKING - LINE 4" (WHITE 10' DASH, 30' SKIP)
- ⑪ MODIFIED URETHANE PAVEMENT MARKING - LINE 4" (DOUBLE YELLOW)
- ⑫ MODIFIED URETHANE PAVEMENT MARKING - LINE 12" (45° DIAGONALS @ 20' C-C)



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 PROJECT: 106401...

**AMES Engineering, Inc.**  
 CONSULTING ENGINEERS  
 6330 Belmont Road, Suite 4B  
 Downers Grove, IL 60515

USER NAME = mdlrtche	DESIGNED - AS	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN - MD	REVISED -
PLOT DATE = 3/24/2022	CHECKED - JAR	REVISED -
	DATE - 03-25-2022	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

<b>PROPOSED PAVEMENT MARKING</b>		SCALE: 1"=50'	
<b>TOUHY AVE. OVER DESPLAINES RIVER</b>		SHEET 1 OF 1 SHEETS	
STA. 106+00	TO STA. 124+00		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUC REHAB	COOK	37	13
CONTRACT NO. 62R32			ILLINOIS FED. AID PROJECT	

Existing Structure: SN 016-0829 was built in 1922 as Rte. 3A under Section 109B-15D as a five span concrete T-Beam Bridge. In 1955, the existing structure was widened on both sides utilizing 36WF steel beams under Section 130-2121 M.F.T. In 1980, under Section 1975-046-BR, the substructure was repaired in addition to removing and replacing the existing superstructure except the 36WF steel beams added during the 1955 structural widening. Currently, the existing structure is a five span steel beam bridge with a 7½" reinforced concrete deck supported by solid wall piers and closed abutments on spread footings. The structure is 265'-0" from bk. to bk. of abutments and 65'-0" o. to o. with a 45° right ahead skew along the widened sections only. Stage construction shall be utilized to maintain two way traffic during construction.

### DESIGN STRESSES

#### FIELD UNITS (NEW CONST.)

$f'_c = 24,000$  psi  
(UHPC for Steel Beam End Encasement)

#### FIELD UNITS (EXIST. CONST. 1980)

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_s = 20,000$  psi (Structural Steel) (M-183)

#### FIELD UNITS (EXIST. CONST. 1955)

$f'_c = 1,200$  psi (Without Earth Pressure)  
 $f'_c = 800$  psi (With Earth Pressure)  
 $f_s = 20,000$  psi (Reinforcement)  
 $f_s = 18,000$  psi (Structural Steel)

### DESIGN SPECIFICATIONS (EXIST.)

2002 AASHTO Standard Specification  
for Highway Bridges

### LOADING HS-20-44

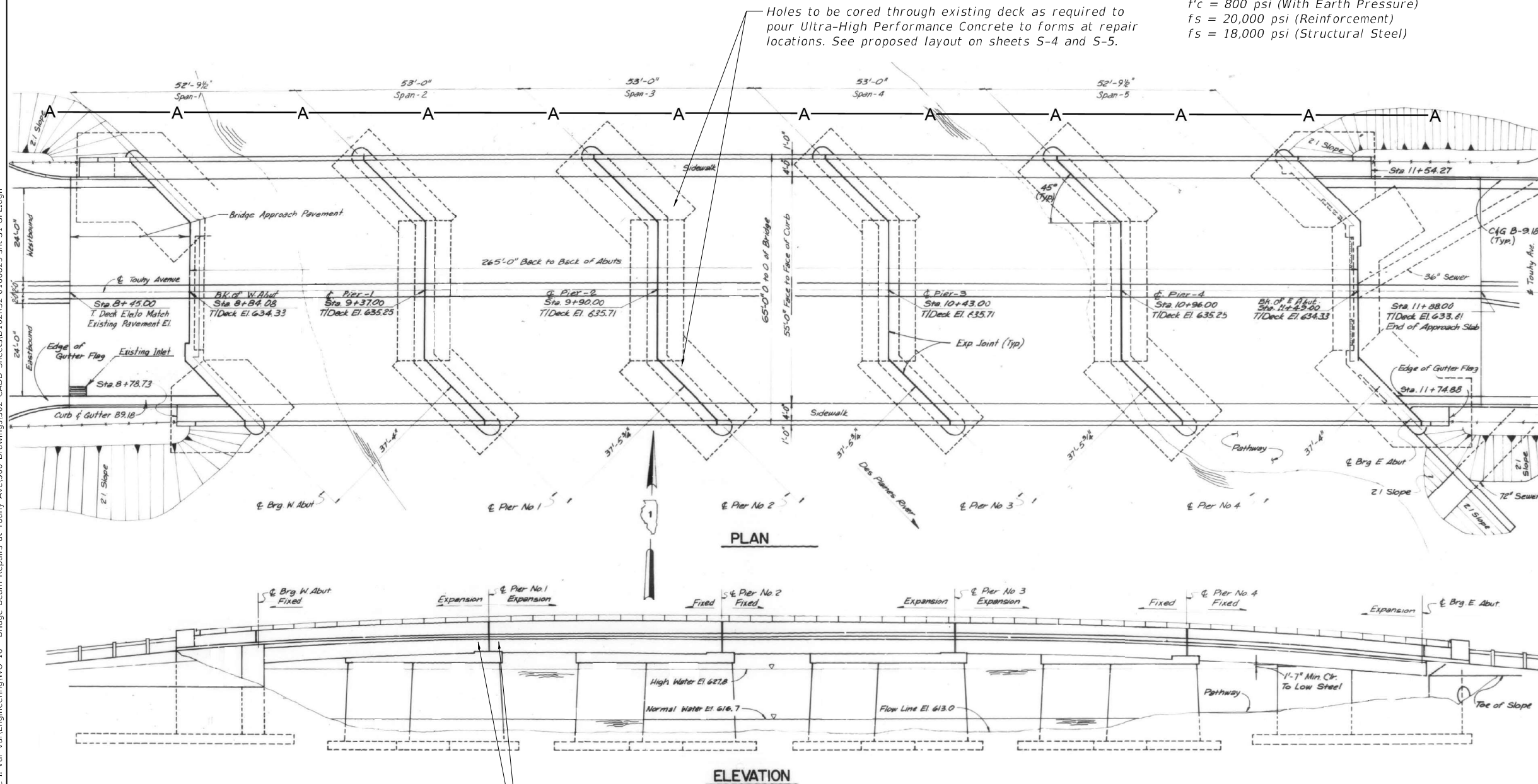
(Original Construction)

### SCOPE OF WORK

- Steel Beam End and Diaphragm Repair Using Ultra-High Performance Concrete

### INDEX OF SHEETS

- S-1 General Plan & Elevation
- S-2 Notes and Bill of Material
- S-3 Cross Section & M0T
- S-4 to S-5 Access Holes Layout & Repair Locations
- S-6 Repair Locations
- S-7 End Beam Repairs
- S-8 Diaphragm Repairs
- S-9 Repair Summary

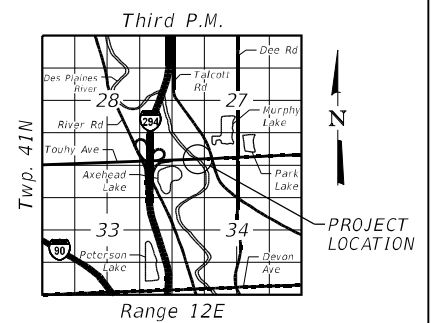


Holes to be cored through existing deck as required to pour Ultra-High Performance Concrete to forms at repair locations. See proposed layout on sheets S-4 and S-5.

Selective beams and diaphragms to be repaired by pouring Ultra-High Performance Concrete (through cored holes in deck and PVC tubing) into forms around beams/diaphragms. See sheets S-6 and S-9 for proposed locations.

### LEGEND

— A — - Exist. Aerial Line



### LOCATION SKETCH



GENERAL PLAN & ELEVATION  
TOUHY AVE OVER DES PLAINES RIVER  
F.A.P. RTE 341  
SECTION FA 525 21 STRUCTURE REHAB  
COOK COUNTY  
STATION 10+16.50  
STRUCTURE NO. 016-0829

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	USER NAME = atiemann	DESIGNED - AT, JK	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	SHEET S-1 OF S-19 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	DRAWN - AT, JK	REVISED -			341	FA 525 21 STRUCTURE REHAB	COOK	37	14
	PLOT DATE = 03/24/2022	CHECKED - AJN	REVISED -			CONTRACT NO. 62R32		ILLINOIS FED. AID PROJECT		

**CONSTRUCTION**

1. Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustment prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
2. During repair operations, the Contractor shall locate and protect all utilities or facilities in the vicinity of the work including, but not limited to, fiber optic and/or electrical conduits attached to the structure. This work shall be performed to the satisfaction of the Engineer and will not be paid for separately, but shall be included with Ultra-High Performance Concrete for Steel Beam End Encasement. It shall be the Contractor's responsibility to restore and replace any damaged utilities or facilities to the satisfaction of the Engineer at no cost to the Department.
3. During construction, OSHA requires that a minimum of thirteen (13) feet working clearance must be maintained between the booms arms or other parts that can be raised on the equipment by the contractor and Comed's existing electric transmission lines.
4. Most applicable as-built plans are included in the back of the bridge repair set. Additional as-built plans can be requested from the District by the Contractor on an as-needed basis.

**BEAM END REHABILITATION NOTES**

1. The "UHPC Repair Table" indicates approximate limits of the deteriorated areas of the beam ends. Additional limits or locations may be added during construction as approved by the Engineer.
2. Beam ends shall be repaired by encasing the beam end in ultra-high performance concrete (UHPC) as shown on drawings and in accordance with the special provision "Ultra-High Performance Concrete for Steel Beam End Encasement".
3. The Contractor shall provide access to beam end repair locations shown on the plans. Use of falsework will be required. See Special Provisions.
4. This bridge was painted in 2020 under Contract NO. 62J52. As a result of this Contract, surface rust has been eliminated from beams and diaphragms.
5. Headed studs shall be welded to clean sections of the web. The minimum web thickness required for stud installation is 1/8". The surface preparation for the headed stud installation shall be in accordance with the manufacturer's recommendations. Studs shall be paid for under the pay item "Stud Shear Connectors"
6. The stud spacing shall be a minimum of 3" and a maximum of 6". The spacing may be varied within this range to accommodate the number of studs shown in the plans. The stud pattern shall follow the plans. Any variations in the proposed pattern due to unforeseen field conditions must be approved in the field by the Engineer prior to welding the studs.
7. All headed studs shall be welded using a stud gun. At locations where the use of a stud gun is not possible due to limited clearance, up to a maximum of 3 studs may be welded using an all-around 5/16" fillet weld. If more than 3 studs in any given beam end need to be welded using a fillet weld, the Engineer shall be notified. Fillet welded studs shall be placed at a spacing of 6".
8. The distance from the top of the bottom flange to the first stud shall be a minimum of 6", but not less than 2" beyond the deteriorated steel.
9. Stud welding details, procedures, and testing methods shall conform to the AASHTO/AWS D1.5/1.5: 2015 - Bridge Welding Code, unless otherwise noted on the plans.
10. No touch up paint shall be applied under the UHPC block.
11. Install formwork, including the portions of polyvinyl chloride (PVC) pipe below the deck. Proper support of the formwork shall be provided throughout the pouring and curing of UHPC.
12. Formwork shall be sealed to contain the fluidity of the UHPC and shall be approved by the Engineer prior to pouring the UHPC, see Special Provisions.
13. Do not remove the formwork until a minimum of 4 days have passed after casting the UHPC encasement blocks or until the UHPC has attained a compressive strength of 14,000 psi.

**TOTAL BILL OF MATERIAL**

PAY ITEM	ITEM	UNIT	SUPER	SUB	TOTAL
50500505	Stud Shear Connectors	Each	741	-	741
XXXXXXX	Ultra-High Performance Concrete for Steel Beam End Encasement	Cu. Ft.	117.4	-	117.4*

\*Includes UHPC quantity for filling access holes

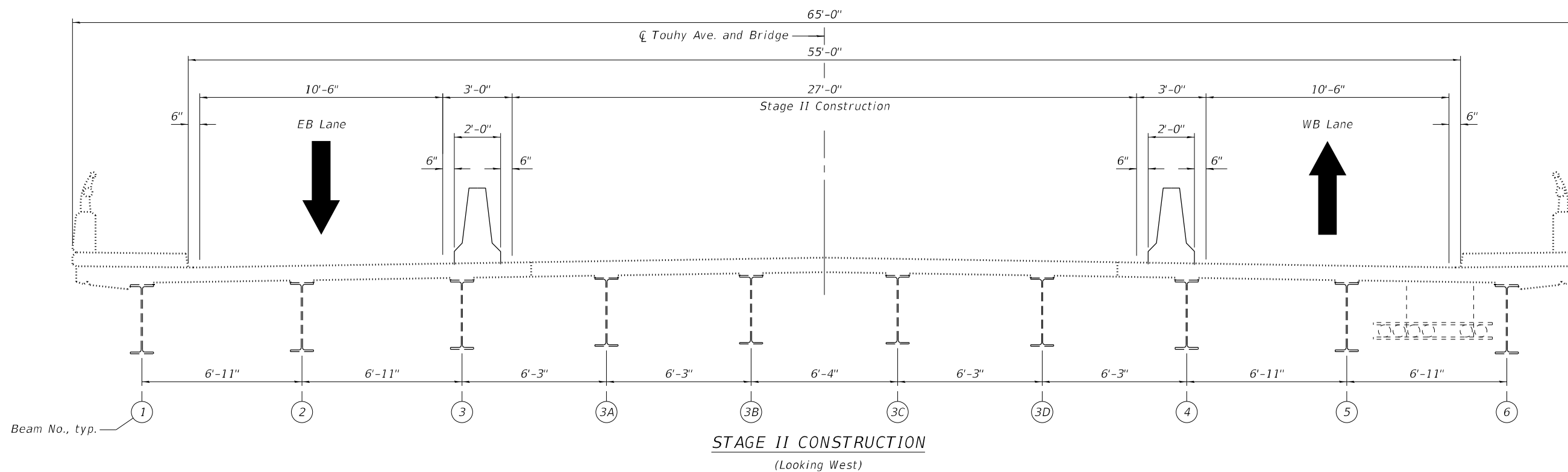
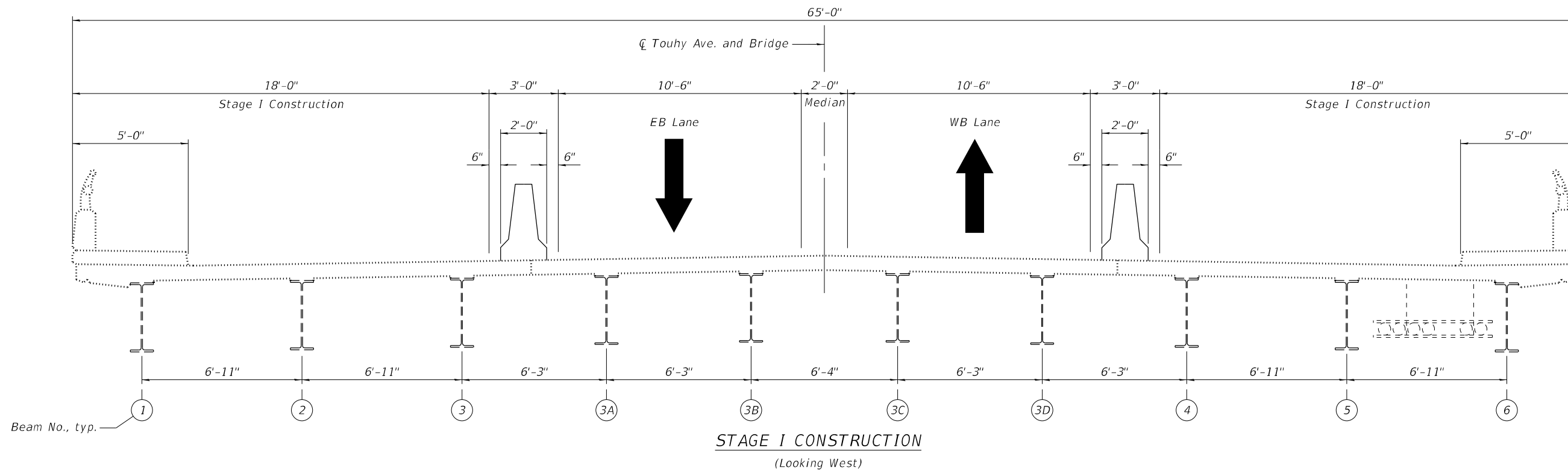
**LIST OF ABBREVIATIONS**

℄	baseline	min.	minimum
BP	bent plate	N.S.	near side
brg.	bearing	no.	number
cts	centers	O.F.	outside face
℄	centerline	℄	plate
cl.	clearance	prop.	proposed
const.	construction	req'd.	required
∅	diameter	rte.	route
elev.	elevation	sect.	section
exist.	existing	SP	side plate
F.S.	far side	spa.	spaces
fif	fit in field	spec.	specification
Jt.	joint	sta.	station
long.	longitudinal	std.	standard
max.	maximum	struct.	structure
		typ.	typical

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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CROSS SECTION & MOT**  
**STRUCTURE NO. 016-0829**

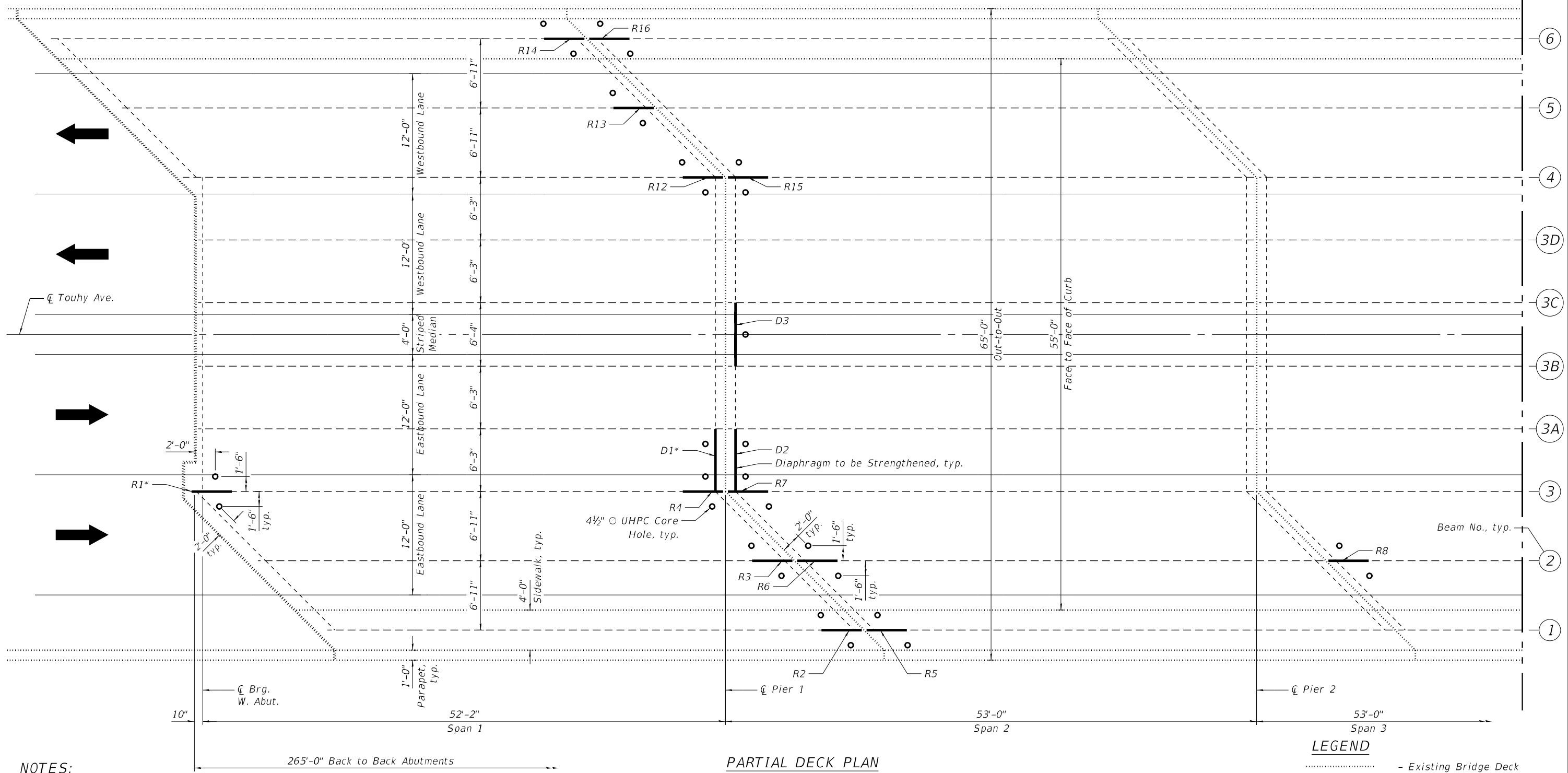
SHEET S-3 OF S-19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	37	16
CONTRACT NO.			62R32	
ILLINOIS		FED. AID PROJECT		





Matchline A



**NOTES:**

1. Prior to drilling 4½" diameter access hole for placement of UHPC, the Contractor shall locate the deck reinforcement bars in the vicinity of the proposed hole locations. "Cover Meters", "Rebar Locations" or "Ground-Penetrating Radar Concrete Scanners" can be used to locate the rebar. Any damaged rebar during coring operation must be repaired at no cost to the Department.

2. Use UHPC to fill up all access holes.

3. Drilling and filling up the access holes is included in "Ultra-High Performance Concrete for Steel Beam End Encasement".

\* R1 = Beam End Repair 1  
D1 = Diaphragm Repair 1

**LEGEND**

- ..... - Existing Bridge Deck
- - Existing Beam
- - Existing Diaphragm
- - Proposed 4½" Ø Access Hole
- - Repair Locations

**PARTIAL DECK PLAN  
SHOWING LOCATIONS OF CORED ACCESS HOLES AND REPAIRS**

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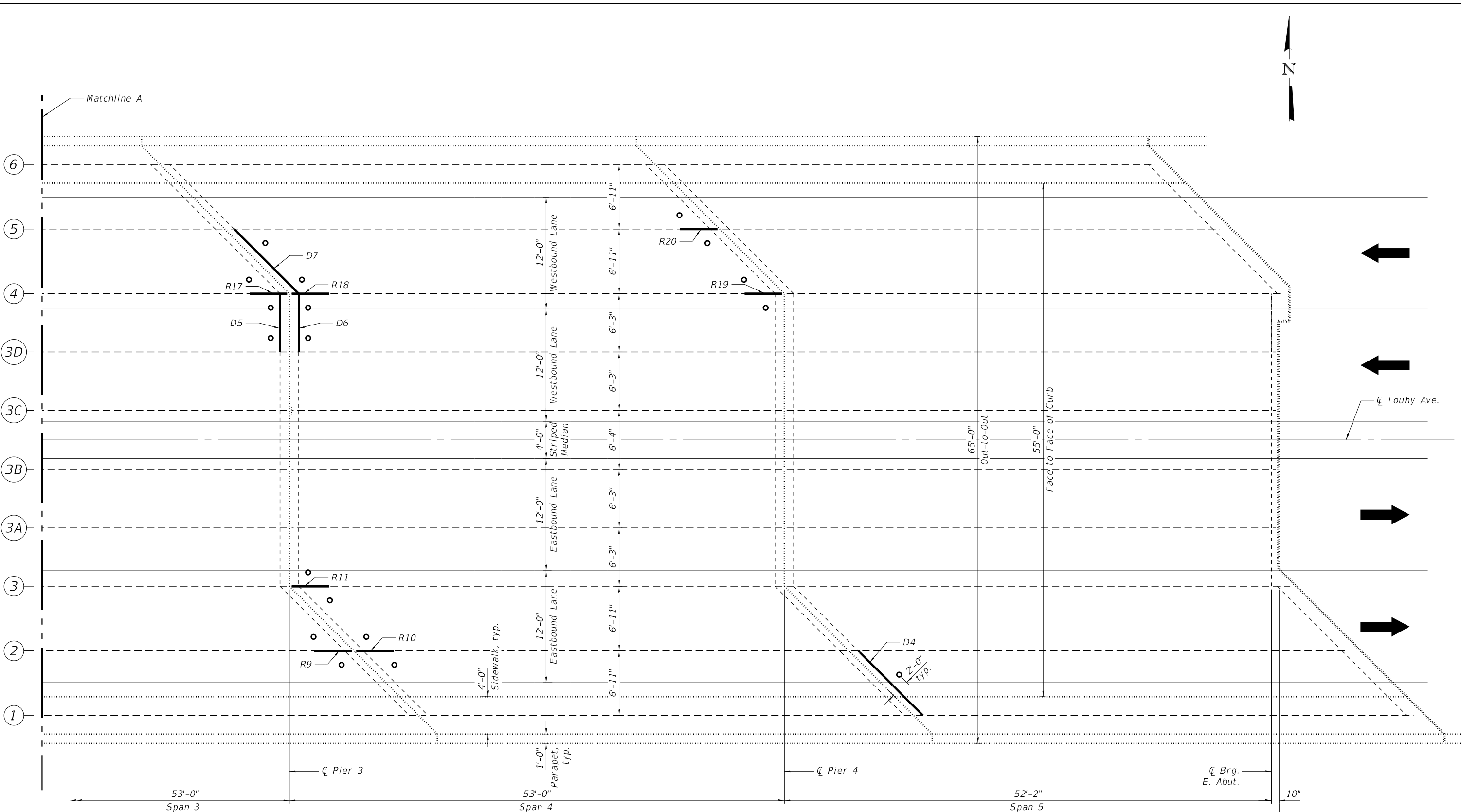
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ACCESS HOLES LAYOUT & REPAIR LOCATIONS I  
STRUCTURE NO. 016-0829**

SHEET S-4 OF S-19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 62R32	

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- LEGEND**
- ..... - Existing Bridge Deck
  - - Existing Beam
  - - Existing Diaphragm
  - - Proposed 4 1/2" Access Hole
  - - Repair Locations

**PARTIAL DECK PLAN  
 SHOWING LOCATIONS OF CORED ACCESS HOLES AND REPAIRS**

<b>Bowman</b> 311 S. Wacker Drive, Suite 1950 Chicago, Illinois 60606 312-464-0860 www.bowman.com	USER NAME = atiemann	DESIGNED - AT, JK	REVISED -
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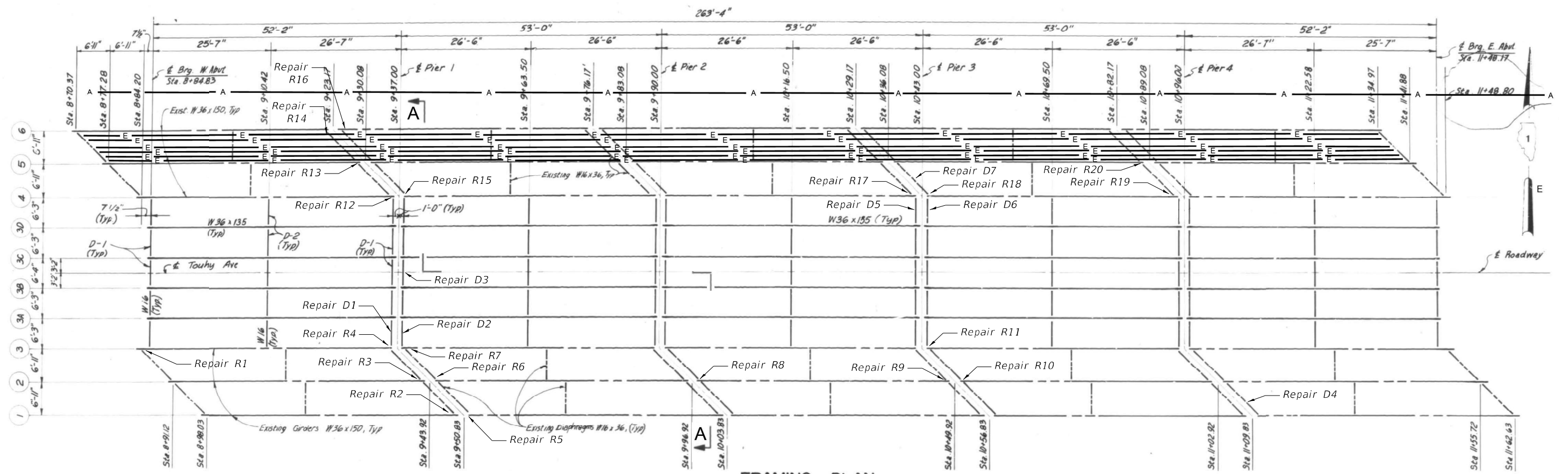
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 DEPARTMENT OF TRANSPORTATION**

**ACCESS HOLES LAYOUT & REPAIR LOCATIONS II  
 STRUCTURE NO. 016-0829**

SHEET S-5 OF S-19 SHEETS

F.A.P. RTE. 341	SECTION FA 525 21 STRUCTURE REHAB	COUNTY COOK	TOTAL SHEETS 37	SHEET NO. 18
CONTRACT NO. 62R32			ILLINOIS FED. AID PROJECT	

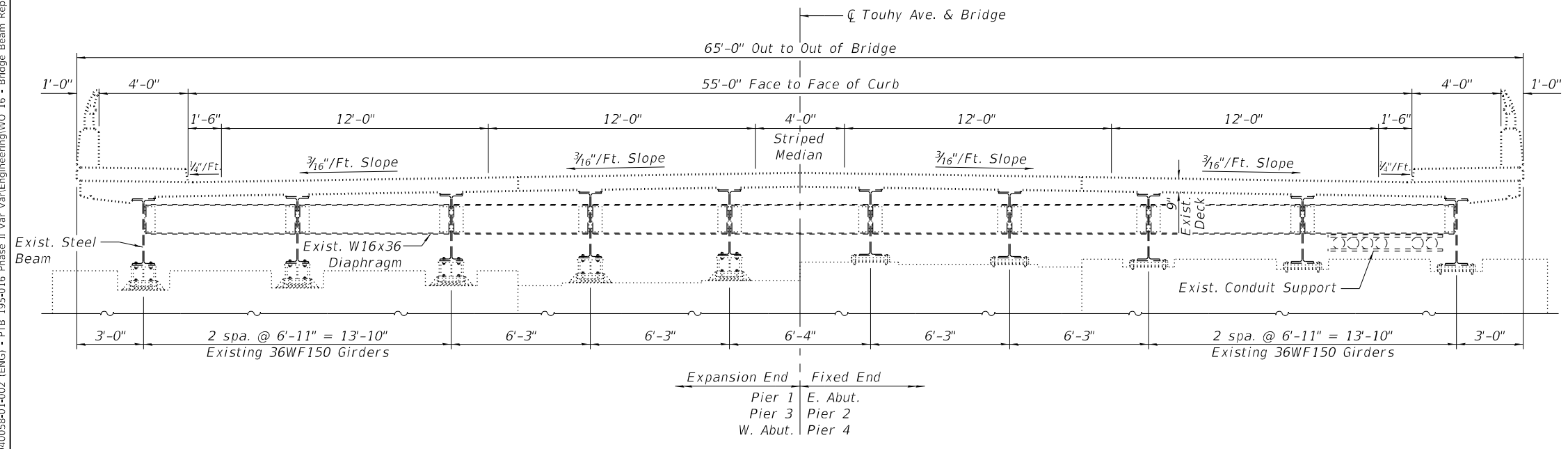
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**FRAMING PLAN**  
 Showing Repair Locations  
 (Refer to "UHPC Repair Table" Sheet S-9)

**LEGEND**

- ▲— — Exist. Aerial Line
- E— — Exist. Electric Line



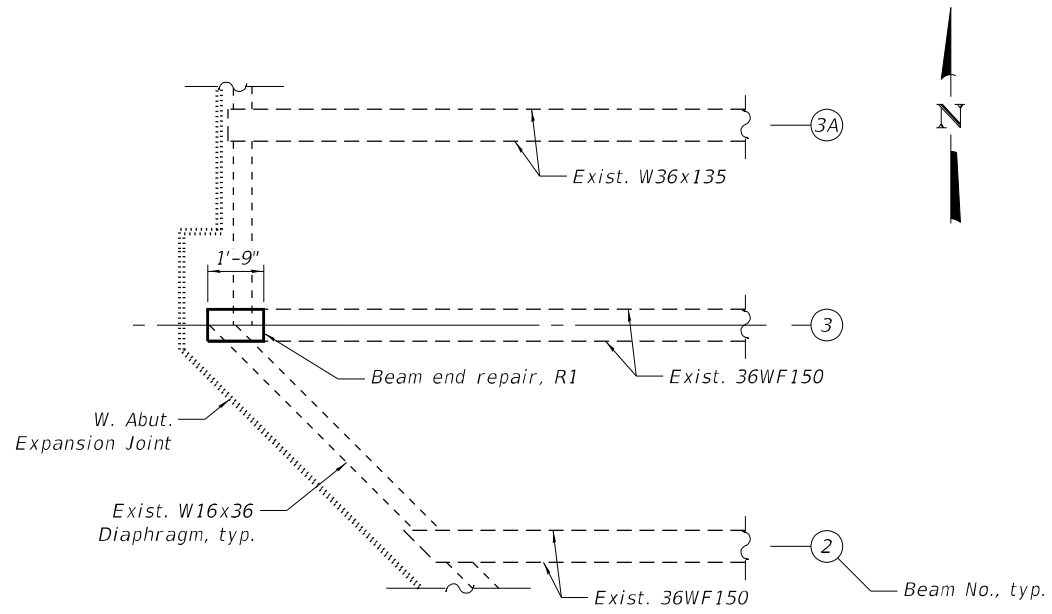
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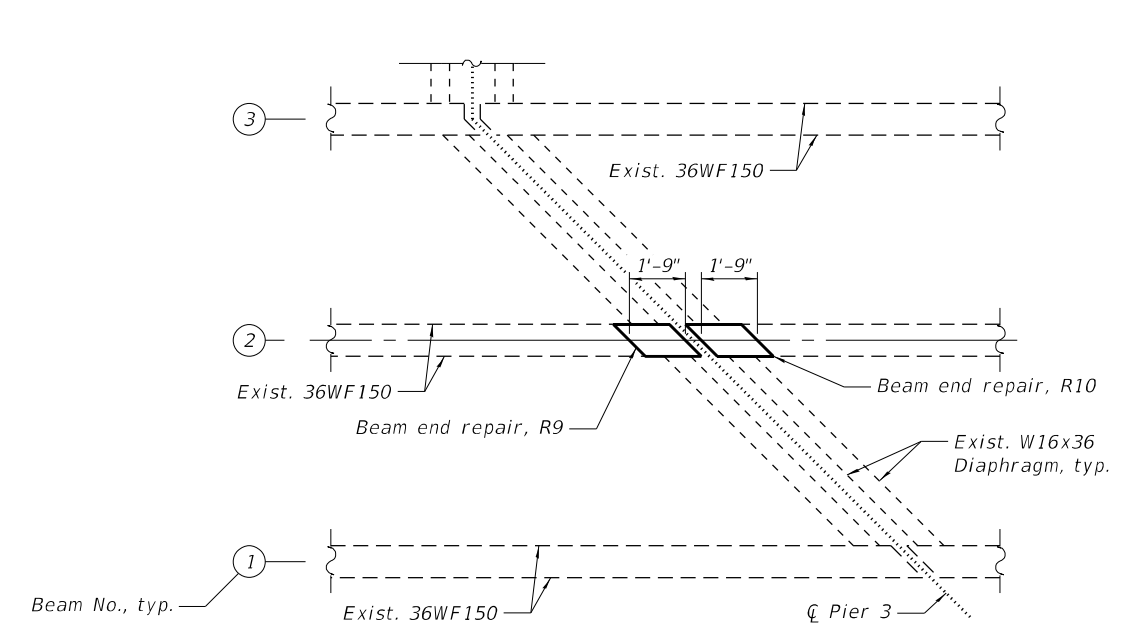
**EXISTING UTILITIES BETWEEN BEAMS 5 AND 6**

<b>Bowman</b> <small>311 S. Wacker Drive, Suite 1950          Chicago, Illinois 60606          312-464-0860          www.bowman.com</small>	USER NAME = atiemann PLOT SCALE = PLOT DATE = 03/24/2022	DESIGNED - AT, JK CHECKED - KH DRAWN - AT, JK CHECKED - AJN	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS          DEPARTMENT OF TRANSPORTATION</b>	<b>REPAIR LOCATIONS          STRUCTURE NO. 016-0829</b>	F.A.P. RTE. 341 SECTION FA 525 21 STRUCTURE REHAB COUNTY COOK TOTAL SHEETS 37 SHEET NO. 19	CONTRACT NO. 62R32
	SHEET S-6 OF S-19 SHEETS		ILLINOIS FED. AID PROJECT				

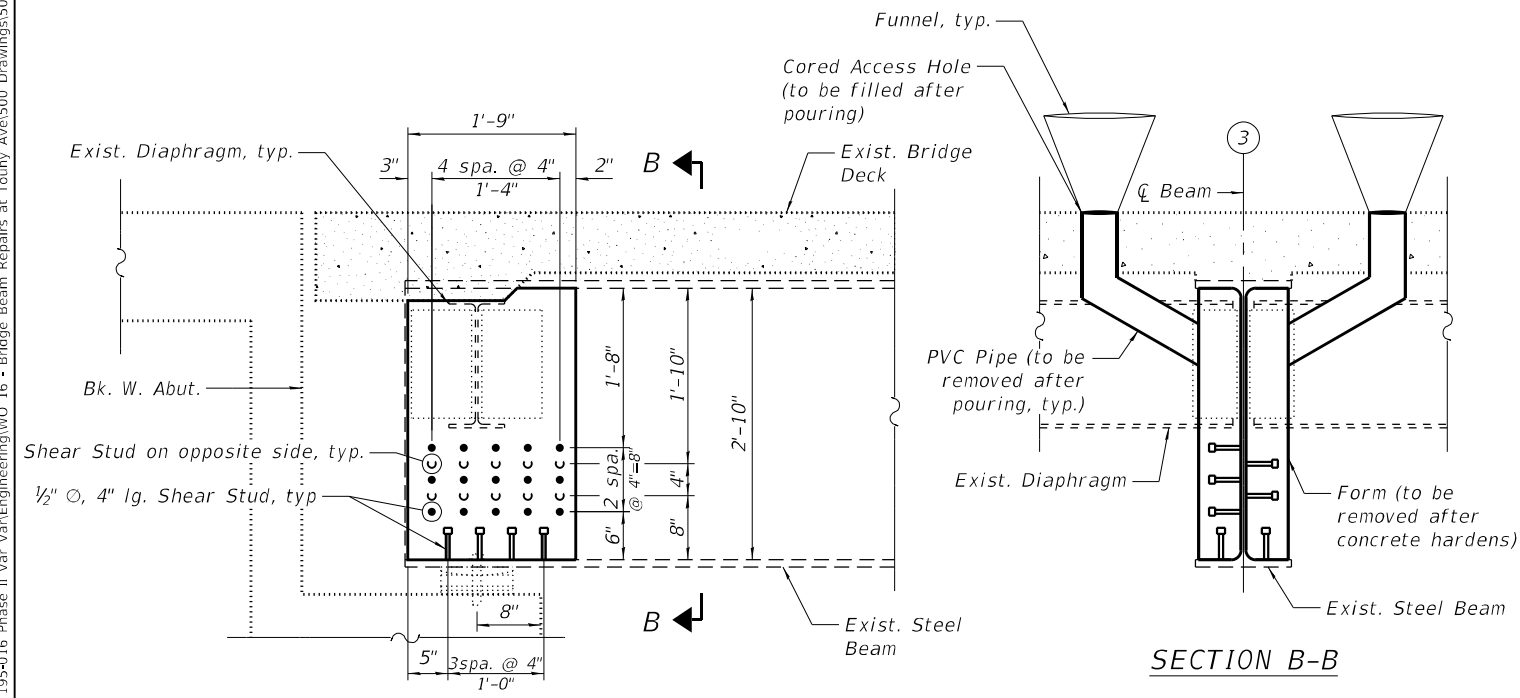
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 311 S. Wacker Drive, Suite 1950  
 Chicago, Illinois 60606  
 312-414-0500  
 www.bowman.com



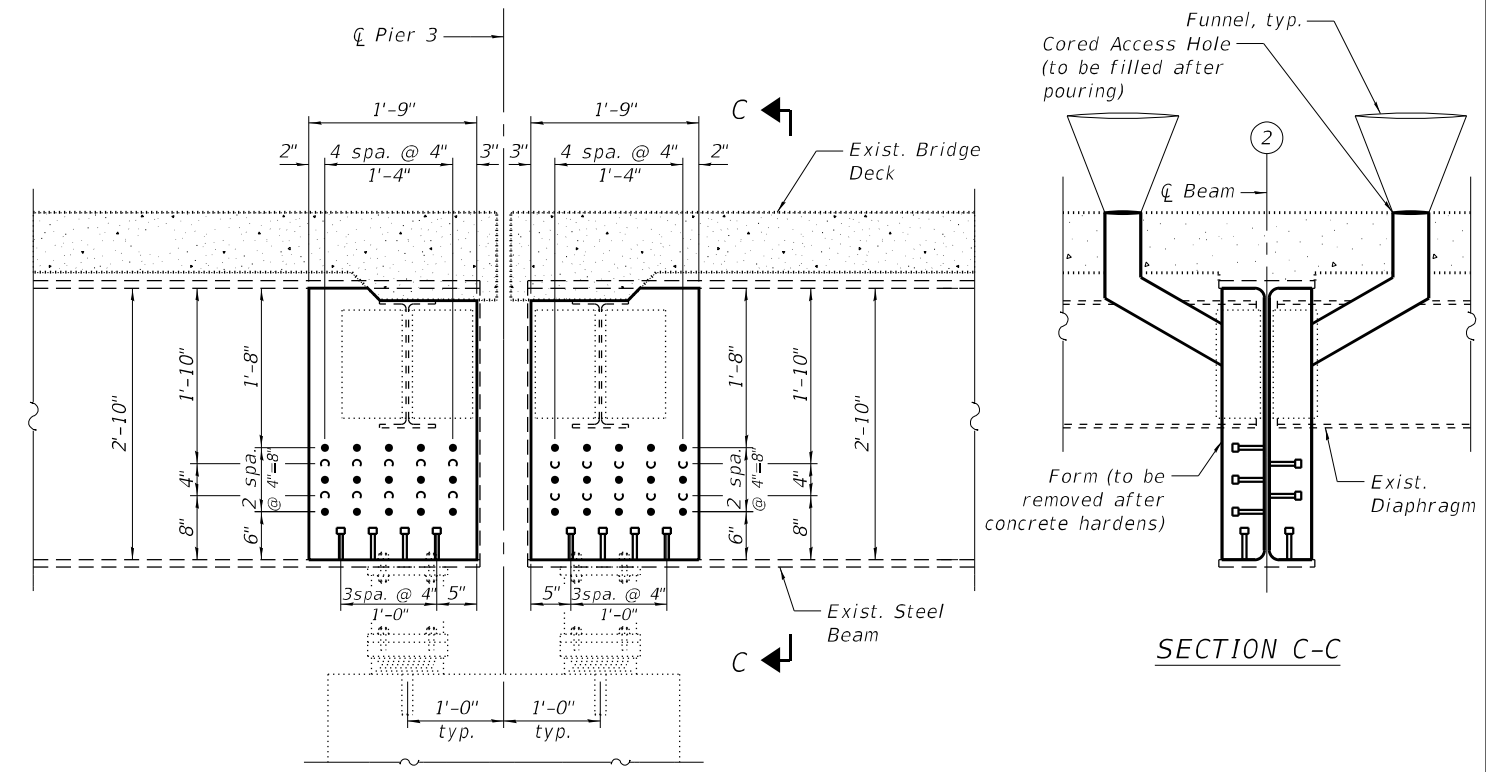
**PLAN**  
(Showing R1)



**PLAN**  
(Showing R9 and R10)



**REPAIR R1**  
**REPAIR AT W. ABUT. - BM. 3**  
(Looking North)



**REPAIRS R9 AND R10**  
**TYPICAL REPAIR AT PIERS 1 AND 3**  
(Looking North)  
(Piers 2 and 4 similar, except with fixed bearings)

**NOTES:**

- PVC pipes shall be installed through the 4 1/2" O deck holes to allow pouring UHPC from top of deck. Contractor to use funnel or equivalent method to assist in pouring UHPC.
- After removal of formwork and PVC pipes, all core holes shall be filled with UHPC.



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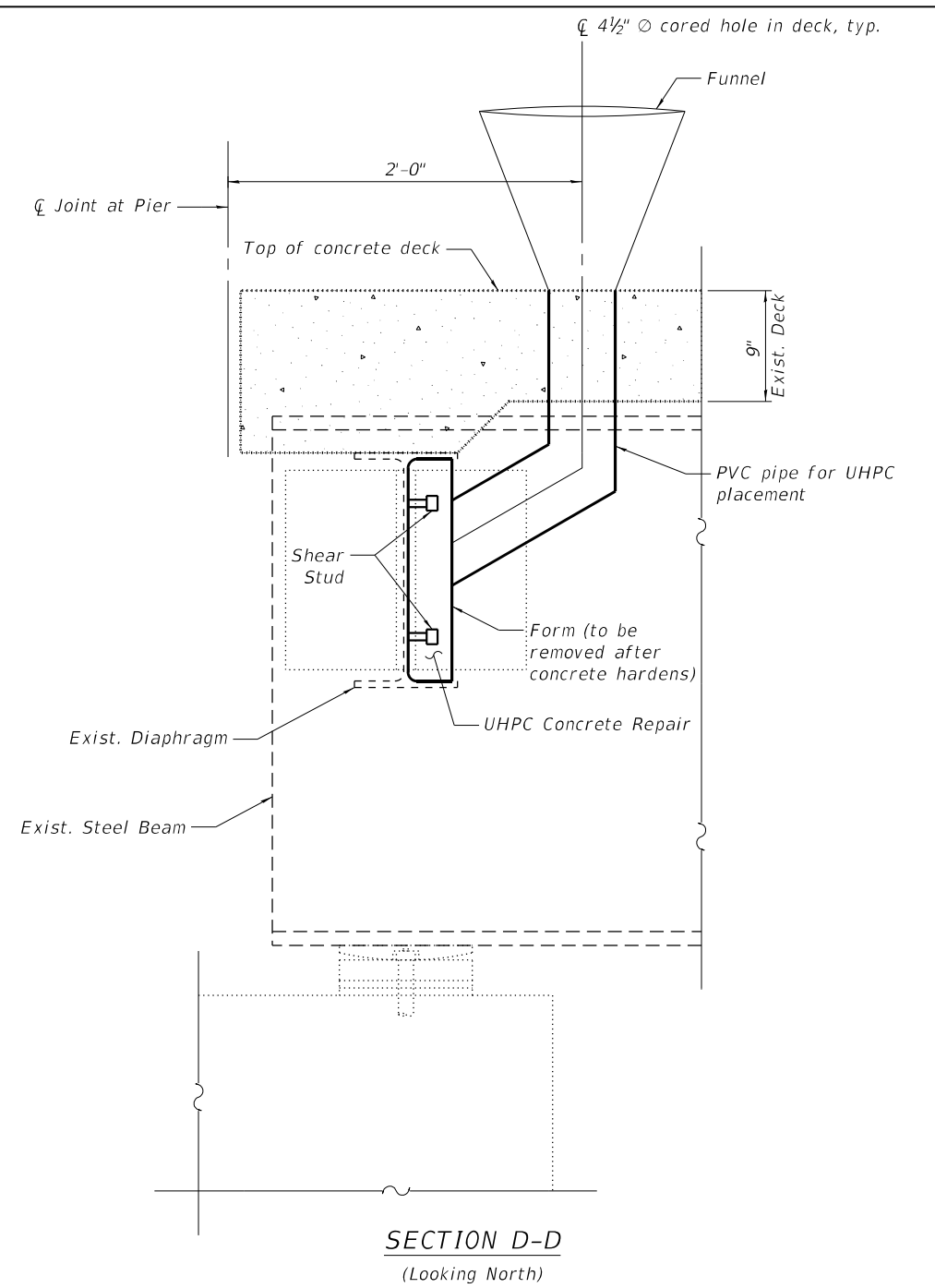
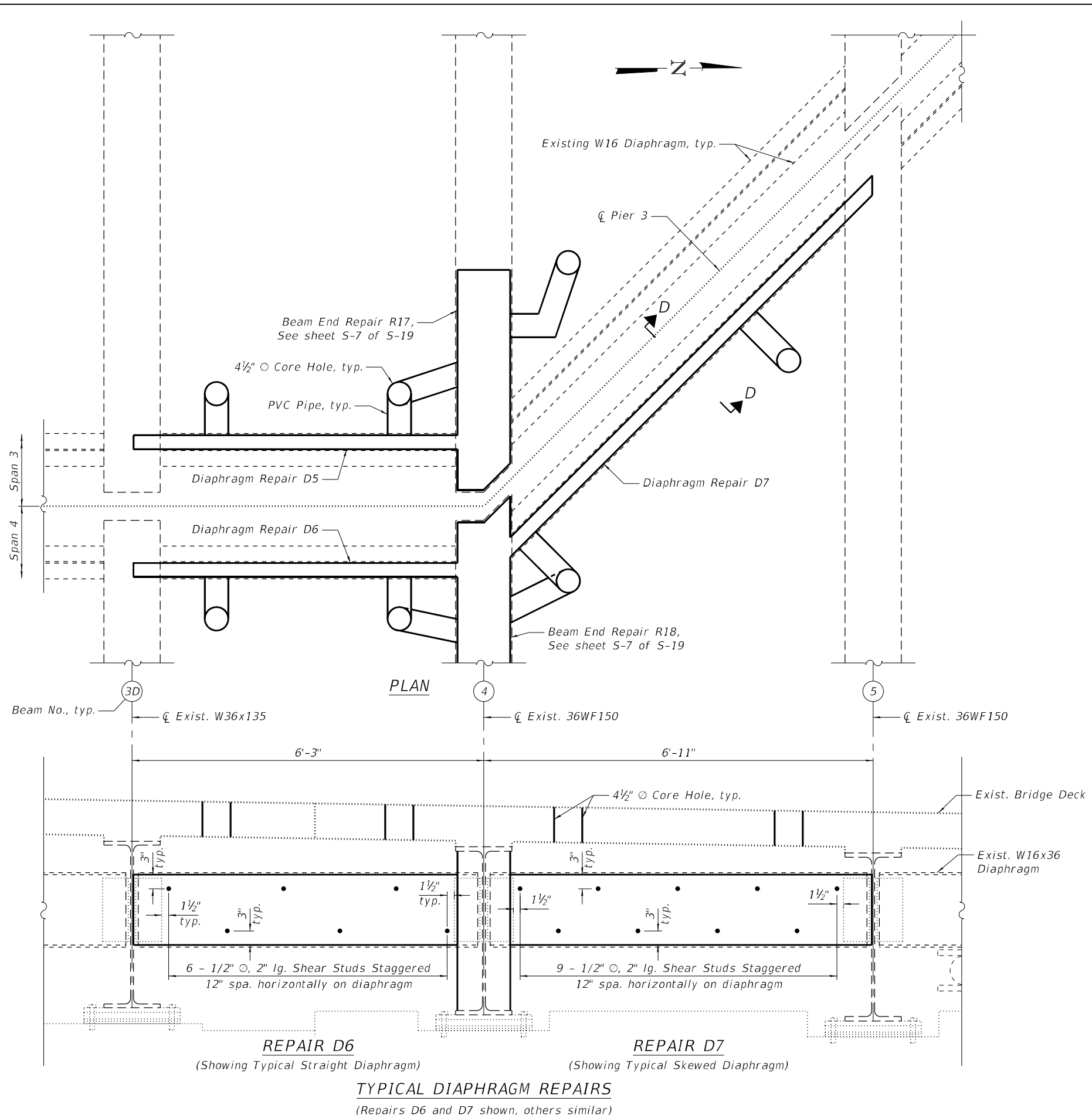
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**END BEAM REPAIRS**  
**STRUCTURE NO. 016-0829**

SHEET S-7 OF S-19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	37	20
CONTRACT NO.			62R32	
ILLINOIS FED. AID PROJECT				

MODEL: Default  
 FILE NAME: P:\040058-01-002 (ENG) - PTB\_195-016 Phase II Var VanEngineering\WO 16 - Bridge Beam Repairs at Touhy Ave\500 Drawings\502 CADD Sheets\162R32-0160829-sh-58-Diaphragm Repairs.dgn  
 03/24/2022 1:58:59 PM



**BILL OF MATERIAL  
 FOR BEAM END & DIAPHRAGM REPAIRS**

ITEM	UNIT	TOTAL*
Stud Shear Connectors	Each	741
Ultra-High Performance Concrete for Steel Beam End Encasement	Cu. Ft.	113.3

\*Quantity values include materials used in the mock-up repair

**NOTES:**

- PVC pipes shall be installed through the 4 1/2" O deck holes to allow pouring UHPC from top of deck. Contractor to use funnel or equivalent method to assist in pouring UHPC.
- After removal of formwork and PVC pipes, all core holes shall be filled with UHPC.



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**DIAPHRAGM REPAIRS  
 STRUCTURE NO. 016-0829**

SHEET S-8 OF S-19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	37	21
CONTRACT NO.			62R32	
ILLINOIS FED. AID PROJECT				

## UHPC REPAIR TABLE

REPAIR LABEL *	SPAN NUMBER	BEAM NUMBER	REPAIR LOCATION	DETERIORATION (%)	SIZE OF UHPC REPAIR (Cu. Ft.) **	NUMBER OF STUDS (EACH)
MOCK-UP	N/A	N/A	N/A	N/A	4.6	33
R1	1	3	W. Abut.	68	4.6	33
R2	1	1	Pier 1	32	4.6	33
R3	1	2	Pier 1	32	4.6	33
R4	1	3	Pier 1	38	4.6	33
R5	2	1	Pier 1	46	4.6	33
R6	2	2	Pier 1	46	4.6	33
R7	2	3	Pier 1	43	4.6	33
R8	3	2	Pier 2	45	4.6	33
R9	3	2	Pier 3	44	4.6	33
R10	4	2	Pier 3	39	4.6	33
R11	4	3	Pier 3	38	4.6	33
R12	1	4	Pier 1	44	4.6	33
R13	1	5	Pier 1	51	4.6	33
R14	1	6	Pier 1	58	4.6	33
R15	2	4	Pier 1	48	4.6	33
R16	2	6	Pier 1	58	4.6	33
R17	3	4	Pier 3	48	4.6	33
R18	4	4	Pier 3	30	4.6	33
R19	4	4	Pier 4	30	4.6	33
R20	4	5	Pier 4	42	4.6	33
D1	1	3-3A	Pier 1	N/A	2.1	6
D2	2	3-3A	Pier 1	N/A	2.1	6
D3	2	3B-3C	Pier 1	N/A	2.1	6
D4	5	1-2	Pier 4	N/A	3.1	9
D5	3	3D-4	Pier 3	N/A	2.1	6
D6	4	3D-4	Pier 3	N/A	2.1	6
D7	4	4-5	Pier 3	N/A	3.1	9

\*R1 = Beam End Repair 1  
D1 = Diaphragm Repair 1

\*\*Values do not include UHPC quantity for filling 4 $\frac{1}{2}$ "  $\varnothing$  Access Holes

MODEL: Default; FILE NAME: P:\040058 - IDOT\040058-01-002 (ENG) - PTB\_195-016 Phase II Var VanEngineering\WO 16 - Bridge Beam Repairs at Touhy Ave\500 Drawings\502 CADD Sheets\162R32-0160829-sh-59-Repair\_Summary.dgn

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**REPAIR SUMMARY  
STRUCTURE NO. 016-0829**

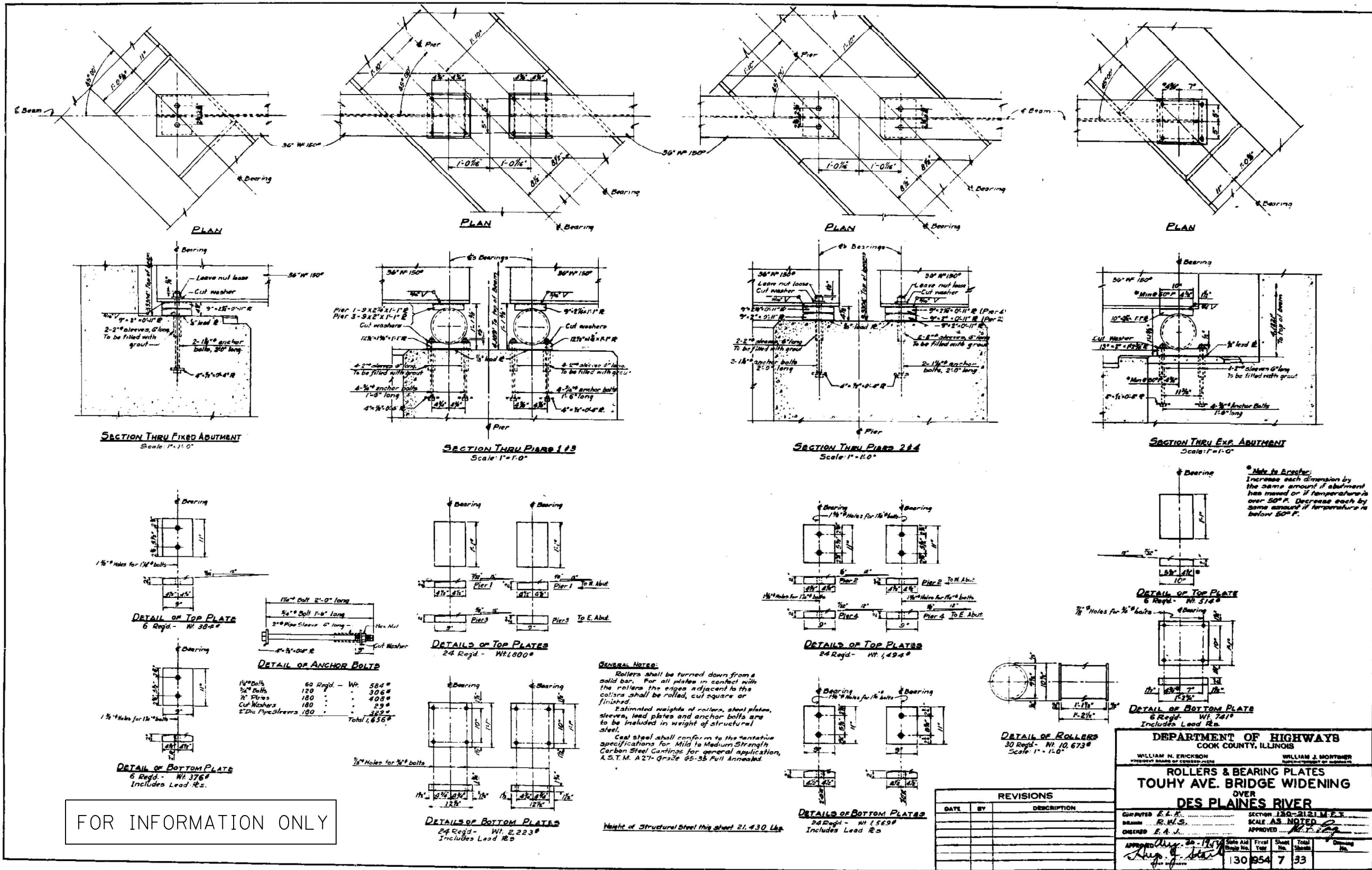
SHEET S-9 OF S-19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	37	22
CONTRACT NO.			62R32	
ILLINOIS		FED. AID PROJECT		





MODEL: S-11  
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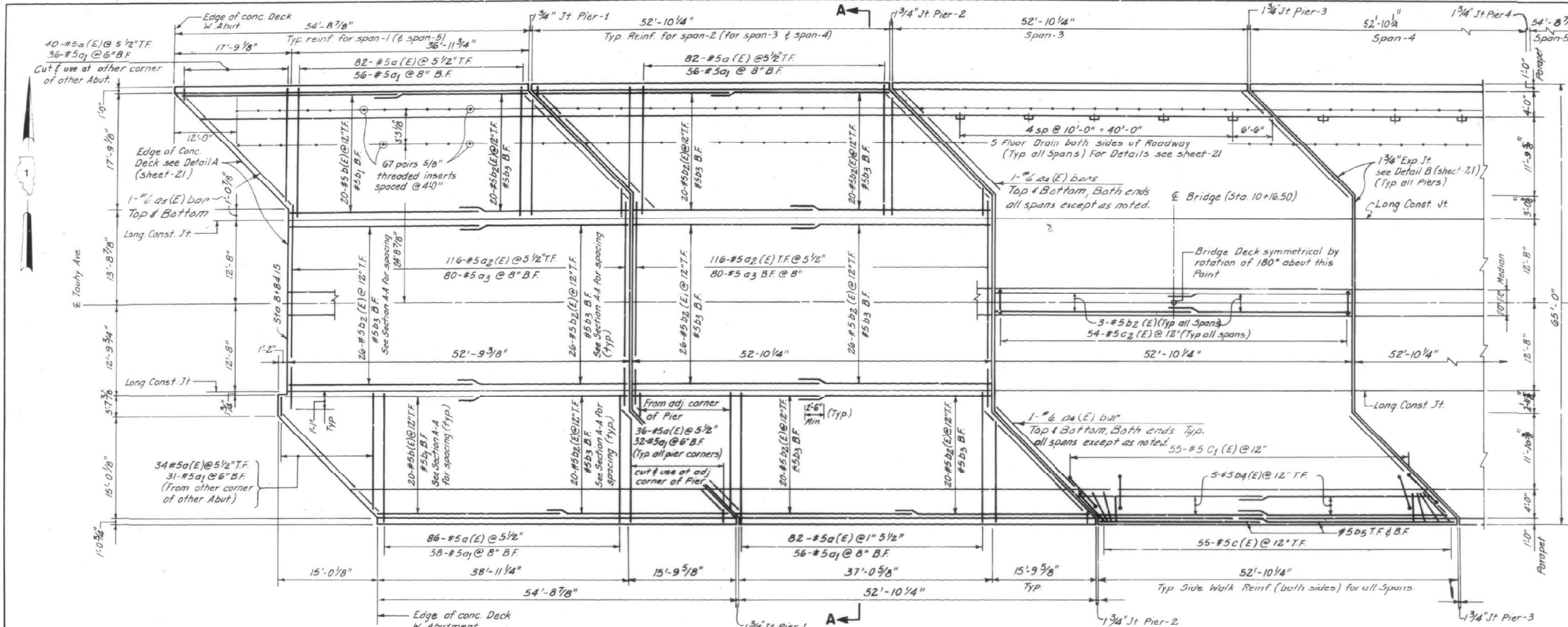
APPLICABLE AS-BUILT PLANS  
 STRUCTURE NO. 016-0829

SHEET S-11 OF S-19 SHEETS

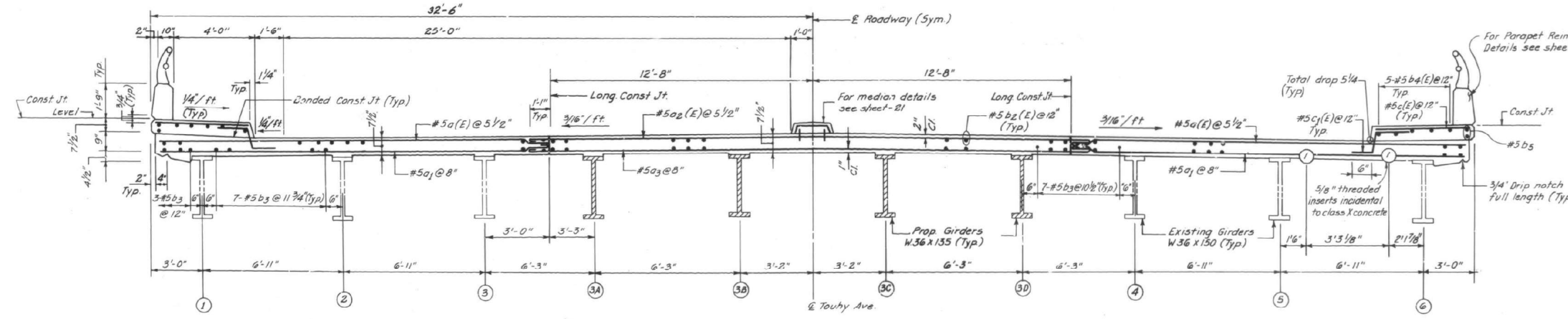
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	37	24
CONTRACT NO. 62R32				

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MODEL: S-12  
 FILE NAME: P:\040058-01-002 [ENG] - PTB 195-016 Phase II Var VanEngineering\WO 16 - Bridge Beam Repairs at Touhy Ave\500 Drawings\502 CADD Sheets\162R32-0160829-sh-510 to 519-As Built.dgn  
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**BRIDGE DECK PLAN**



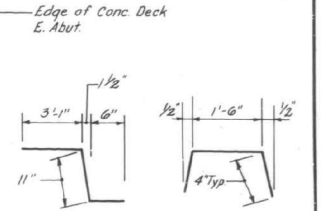
**SECTION A-A**

FOR INFORMATION ONLY

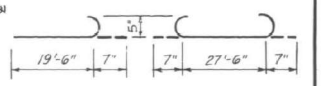
- Notes**
1. Work this sheet with sheet-20 & sheet-21
  2. For general notes see sheet-14
  3. Class X concrete shall be used throughout
  4. Reinf. bars designated (E) shall be epoxy coated. See special provisions for epoxy coating cut reinforcement bars.

REVISIONS	
NAME	DATE

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
525	046-BR	COOK	33	19
STA. 8+45.00		TO STA. 11+88.00		



**C1(E) BARS C2(E) BARS**



**a(E) & a1 BARS o2(E) & o3 BARS**

**BILL OF MATERIALS**

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	1276	5	20'-11"	—
a1	892	5	20'-11"	—
o2(E)	580	5	28'-8"	—
o3	400	5	28'-8"	—
o4(E)	38	6	22'-6"	—
o5(E)	2	6	25'-3"	—
b(E)	80	5	29'-0"	—
b1	80	5	29'-0"	—
b2(E)	610	5	28'-0"	—
b3	610	5	28'-0"	—
b4(E)	100	5	28'-6"	—
b5	40	5	28'-6"	—
c(E)	550	5	4'-9"	—
c1(E)	550	5	4'-6"	—
c2(E)	270	5	2'-2"	—

**SUMMARY OF QUANTITIES**

ITEM	UNIT	QTY.
Class X Concrete	Cu Yd.	500
Reinforcement Bars	Pound	56130
Reinf. Bars (Epoxy coated)	Pound	74630
Protective Coat	Sq. Yd.	2060
Floor Drains	Each	50

DEPARTMENT OF TRANSPORTATION

**DECK PLAN AND SECTION**

**BRIDGE NO. 016-0829**

**TOUHY AVENUE OVER**

**THE DES PLAINES RIVER**

DATE JAN 1980  
CHECKED BY M.B.B.

SCALE NONE

SHEET-19 OF 33



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APPLICABLE AS-BUILT PLANS  
STRUCTURE NO. 016-0829

SHEET S-12 OF S-19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21	STRUCTURE REHAB	COOK	37 25
CONTRACT NO. 62R32			ILLINOIS FED. AID PROJECT	



**TOP OF DECK ELEVATIONS**

GIRDERS 3A, 3D

Location	Station	Elevation	Station	Location
€ Brg. W. Abut. 4	8+84.83	634.198	11+48.17	34 € Brg. E. Abut.
5	8+91.12	634.331	11+41.88	33
6	8+98.03	634.470	11+34.97	32
7	9+10.42	634.698	11+22.58	31
8	9+23.17	634.907	11+09.83	30
9	9+30.08	635.009	11+02.92	29
€ Pier-1	10+37.00	635.103	10+36.00	28 € Pier-4
11	9+43.92	635.190	10+29.08	27
12	9+50.83	635.268	10+22.17	26
13	9+63.50	635.392	10+09.50	25
14	9+76.17	635.489	10+02.83	24
15	9+83.08	635.531	10+49.92	23
€ Pier-2	16+90.00	635.565	10+43.00	22 € Pier-3
17	9+96.92	635.591	10+36.08	21
18	10+03.83	635.609	10+29.17	20
€ Bridge	19+16.50	635.623	10+16.50	19 € Bridge

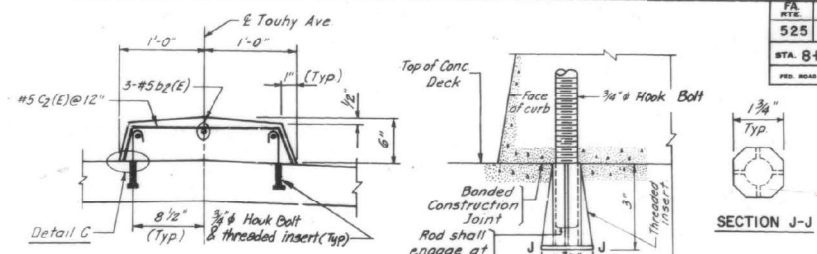
GIRDERS 3B, 3C

Location	Station	Elevation	Station	Location
€ Brg. W. Abut. 4	8+84.83	634.296	11+48.17	34 € Brg. E. Abut.
5	8+91.12	634.429	11+41.88	33
6	8+98.03	634.568	11+34.97	32
7	9+10.42	634.796	11+22.58	31
8	9+23.17	635.005	11+09.83	30
9	9+30.08	635.107	11+02.92	29
€ Pier-1	10+37.00	635.201	10+36.00	28 € Pier-4
11	9+43.92	635.288	10+29.08	27
12	9+50.83	635.366	10+22.17	26
13	9+63.50	635.490	10+09.50	25
14	9+76.17	635.587	10+02.83	24
15	9+83.08	635.629	10+49.92	23
€ Pier-2	16+90.00	635.663	10+43.00	22 € Pier-3
17	9+96.92	635.689	10+36.08	21
18	10+03.83	635.707	10+29.17	20
€ Bridge	19+16.50	635.721	10+16.50	19 € Bridge

€ ROADWAY

Location	Station	Elevation	Station	Location
€ Brg. W. Abut. 4	8+84.83	634.345	11+48.17	34 € Brg. E. Abut.
5	8+91.12	634.478	11+41.88	33
6	8+98.03	634.617	11+34.97	32
7	9+10.42	634.845	11+22.58	31
8	9+23.17	635.054	11+09.83	30
9	9+30.08	635.156	11+02.92	29
€ Pier-1	10+37.00	635.250	10+36.00	28 € Pier-4
11	9+43.92	635.337	10+29.08	27
12	9+50.83	635.415	10+22.17	26
13	9+63.50	635.539	10+09.50	25
14	9+76.17	635.636	10+02.83	24
15	9+83.08	635.678	10+49.92	23
€ Pier-2	16+90.00	635.712	10+43.00	22 € Pier-3
17	9+96.92	635.738	10+36.08	21
18	10+03.83	635.756	10+29.17	20
€ Bridge	19+16.50	635.770	10+16.50	19 € Bridge

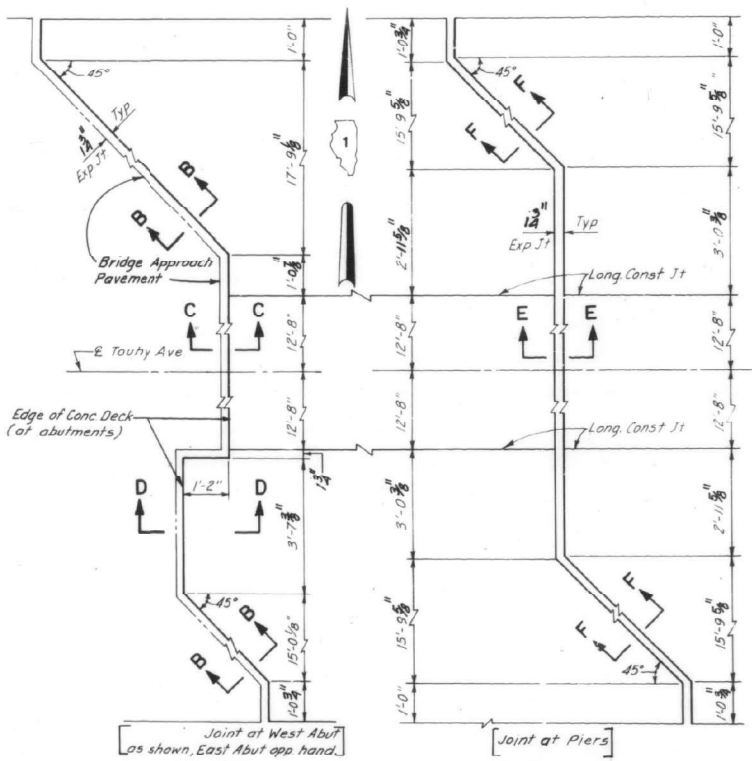
FA. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
525	1975-04E-88	COOK	33	21
STA. 8+45.00		TO STA. 11+88.00		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



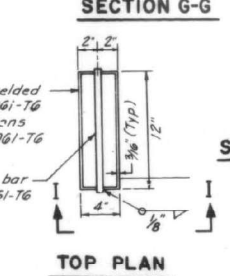
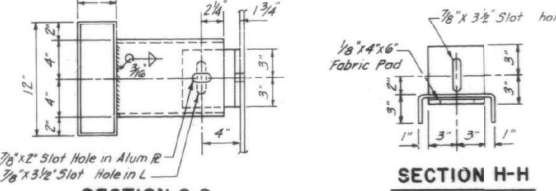
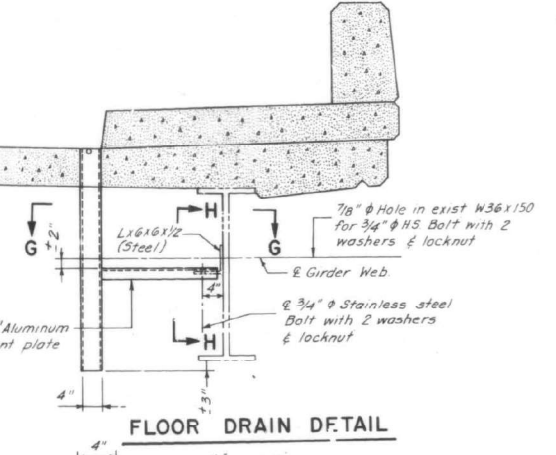
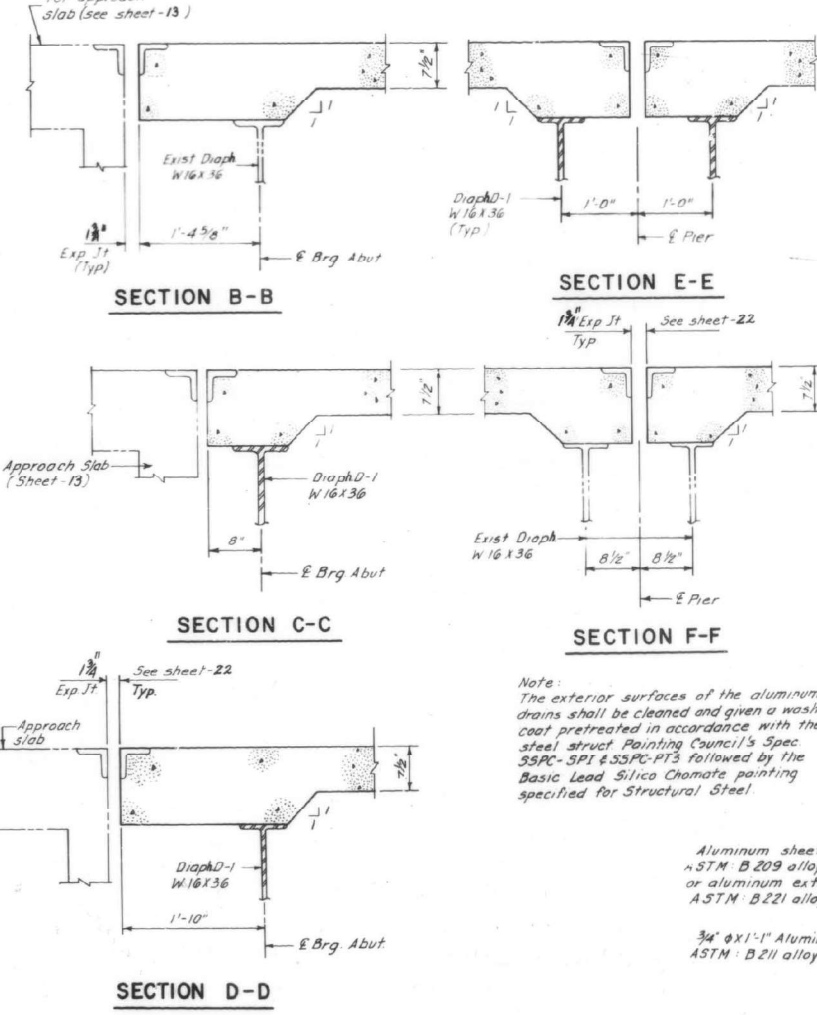
**EXTERIOR GIRDER** and **INTERIOR GIRDER**

**METHOD OF DETERMINING FILLET HEIGHT "f"**

After all steel has been erected or all existing steel has been adjusted elevations of top of the girders shall be taken at the stations shown on this sheet and sheet-20. These elevations subtracted from the top of deck elevations shown on this sheet and sheet-20, minus slab thickness equals the fillet heights above top of girders.



**DETAIL A** (Sheet-19, Sheet-20) and **DETAIL B** (Sheet-19, Sheet-20)



**Notes**  
1. Work this sheet with sheet-19 & sheet-20

**Note:**  
The exterior surfaces of the aluminum drains shall be cleaned and given a wash-coat pretreated in accordance with the steel struct. Painting Council's Spec SSPC-SP1 & SSPC-PT3 followed by the Basic Lead Silica Chromate painting specified for Structural Steel.

FOR INFORMATION ONLY

DEPARTMENT OF TRANSPORTATION  
**TOP OF DECK ELEVATIONS AND MISCELLANEOUS DETAILS**  
BRIDGE NO. 016-0829  
TOUHY AVENUE OVER THE DES PLAINES RIVER  
DATE JAN 1989  
CHECKED BY M.S.B.

REVISIONS	
NAME	DATE

SCALE: NONE

MODEL: S-13  
FILE NAME: P:\040058-01-002 (ENG) - PTB 195-016 Phase II Var. VanEngineering\WO 16 - Bridge Beam Repairs at Touhy Ave\500 Drawings\502 CADD Sheets\162R32-0160829-sh-510 to 519-As Built.dgn  
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APPLICABLE AS-BUILT PLANS  
STRUCTURE NO. 016-0829

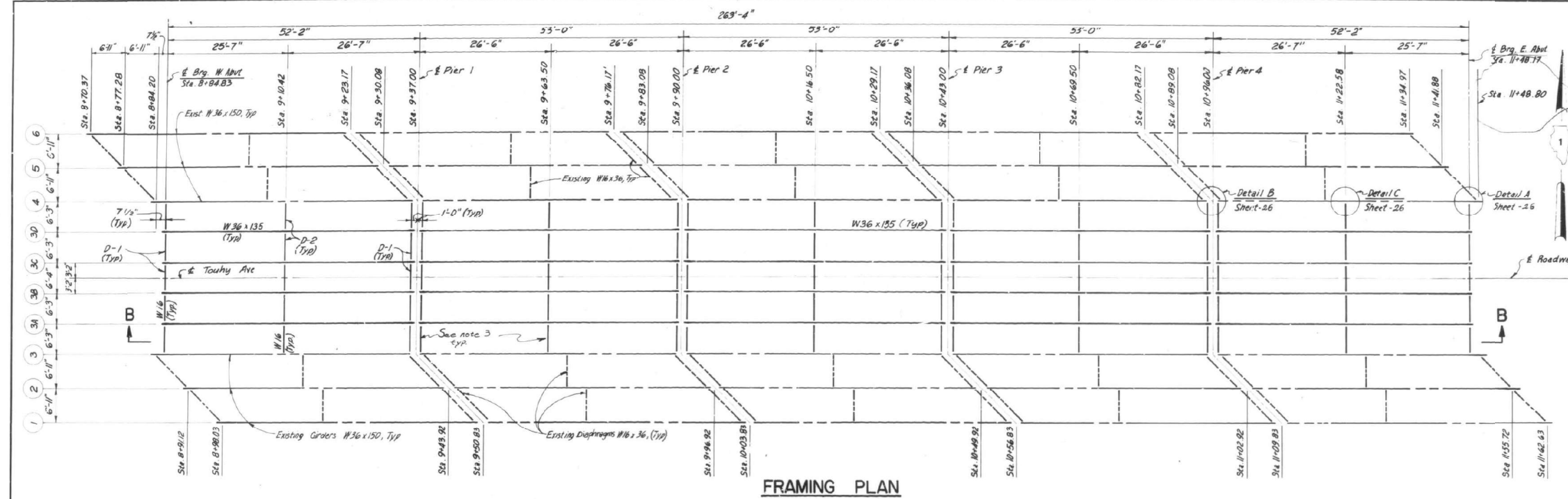
SHEET S-13 OF S-19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21	STRUCTURE REHAB	COOK	37 26
				CONTRACT NO. 62R32
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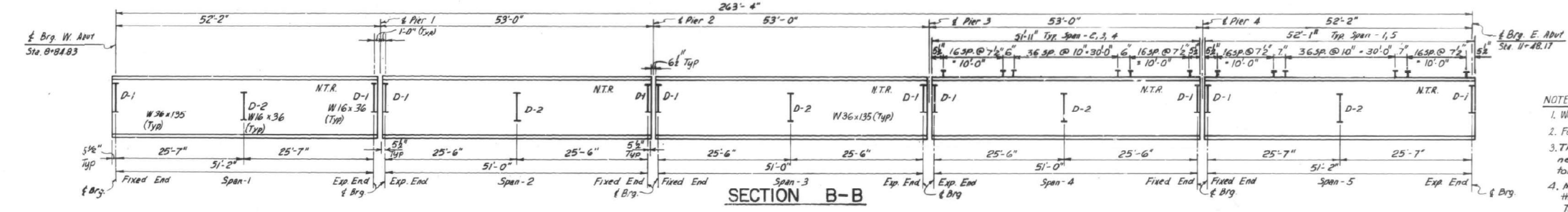
S-13

SHEET-21 OF 33

MODEL: S-14  
 FILE NAME: P:\040058-01-002 (ENG) - PTB\_195-016 Phase II Var VanEngineering\WO 16 - Bridge Beam Repairs at Touhy Ave\500 Drawings\502 CADD Sheets\162R32-0160829-sh1-510 to 519-As Built.dgn  
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FRAMING PLAN



SECTION B-B

TOP OF GIRDER ELEVATION \*

GIRDERS 3A, 3D

LOCATION	ELEVATION	LOCATION
Span-1		
& Brg. W. Abut.	633.59	& Brg. E. Abut.
Mid span	634.03	Mid span
& Brg. Pier-1	634.42	& Brg. Pier-4
Span-2		
& Brg. Pier-1	634.45	& Brg. Pier-4
Mid span	634.73	Mid span
& Brg. Pier-2	634.89	& Brg. Pier-3
Span-3		
& Brg. Pier-2	634.90	& Brg. Pier-3
Mid span (& Bridge)	634.96	Mid span (& Bridge)

GIRDERS 3B, 3C

LOCATION	ELEVATION	LOCATION
Span-1		
& Brg. W. Abut.	633.63	& Brg. E. Abut.
Mid span	634.13	Mid span
& Brg. Pier-1	634.52	& Brg. Pier-4
Span-2		
& Brg. Pier-1	634.55	& Brg. Pier-4
Mid span	634.83	Mid span
& Brg. Pier-2	634.99	& Brg. Pier-3
Span-3		
& Brg. Pier-2	635.00	& Brg. Pier-3
Mid span (& Bridge)	635.06	Mid span (& Bridge)

\* FOR FABRICATION ONLY.

FOR INFORMATION ONLY

MOMENT TABLE

@ 0.5 span

I <sub>s</sub>	(in <sup>4</sup> )	7800
I <sub>c</sub>	(in <sup>4</sup> )	19600
S <sub>s</sub>	(in <sup>3</sup> )	433
S <sub>cb</sub>	(in <sup>3</sup> )	626
DL	(ft)	0.87
H <sub>h</sub>	(ft)	2.92
I <sub>s</sub> - Non Comp (ksi)		8.0
JDL	(ft)	0.30
M <sub>sol</sub>	(ft)	101
M <sub>LL</sub>	(ft)	398
M <sub>Imp</sub>	(ft)	112
Total	(ft)	611
I <sub>s</sub> Comp (ksi)		11.7
I <sub>s</sub> Total (ksi)		19.7
VR		46

REACTION TABLE

R <sub>DL</sub>	(k)	23
R <sub>SDL</sub>	(k)	8
R <sub>LL</sub>	(k)	36
I <sub>mp</sub>	(k)	10
R Total	(k)	77

I<sub>s</sub> and S<sub>s</sub> are the Moment of Inertia and Section Modulus of the Steel Section.  
 I<sub>c</sub> and S<sub>cb</sub> are the Moment of Inertia and Section Modulus of the Composite Section.  
 VR is the Maximum Impact shear range used to determine Shear Connector Spacing.

- NOTES:
1. Work this Sheet with Sheet-26 and Sheet-27
  2. For General Notes see Sheet-14.
  3. The bolts for the diaphragms between the new & existing beams should not be fully torqued until Stage II is completed.
  4. Members designated N.T.R. shall conform to the supplemental requirements for Match Toughness Requirements (Zone 2).

6. During removal of existing concrete deck and cleaning of shear connectors (in accordance with Article 509) care shall be taken so as not to damage existing shear connectors. If shear connectors are damaged they shall be replaced as directed by the Engineer at no additional cost.

SUMMARY OF QUANTITIES

ITEM	UNIT	QTY.
Structural Steel	L. Sum	1
Shear Stud Connectors	Each	4,260
Cleaning & Painting Steel Bridge	L. Sum	1

REVISIONS

NAME	DATE

DEPARTMENT OF TRANSPORTATION

**GIRDER FRAMING PLAN & SECTION**

**BRIDGE NO. 016-0829**

**TOUHY AVENUE OVER THE DES PLAINES RIVER**

DATE JAN. 1980  
 CHECKED BY M.G.B.

SCALE: NO SCALE

Revised: 6-6-80  
 Revised: 7-11-80

SHEET-25 OF 33



USER NAME =	atiemann	DESIGNED -	AT, JK	REVISED -	
PLOT SCALE =		CHECKED -	KH	REVISED -	
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

APPLICABLE AS-BUILT PLANS  
 STRUCTURE NO. 016-0829

SHEET S-14 OF S-19 SHEETS

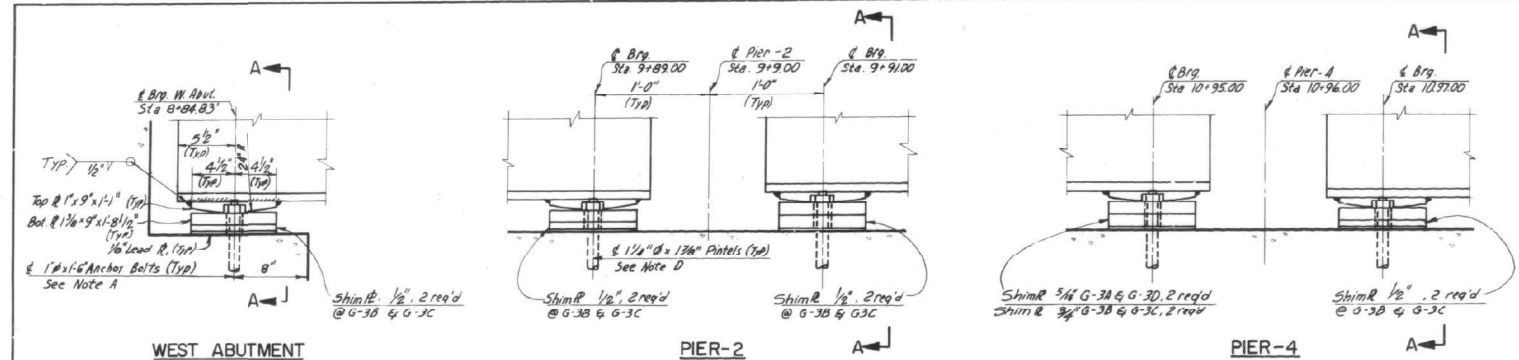
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21	STRUCTURE REHAB	COOK	37
				27
				CONTRACT NO. 62R32

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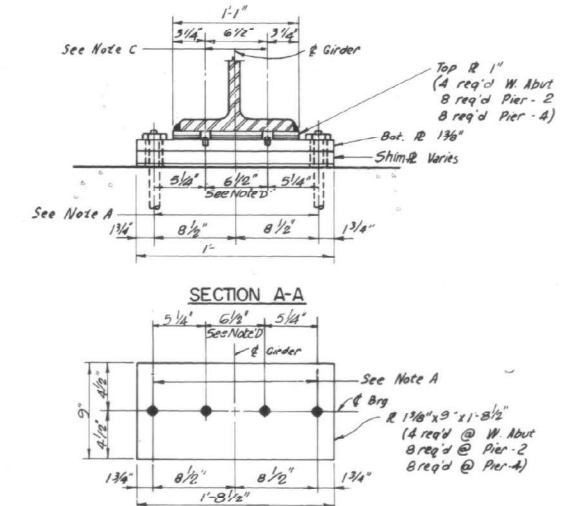




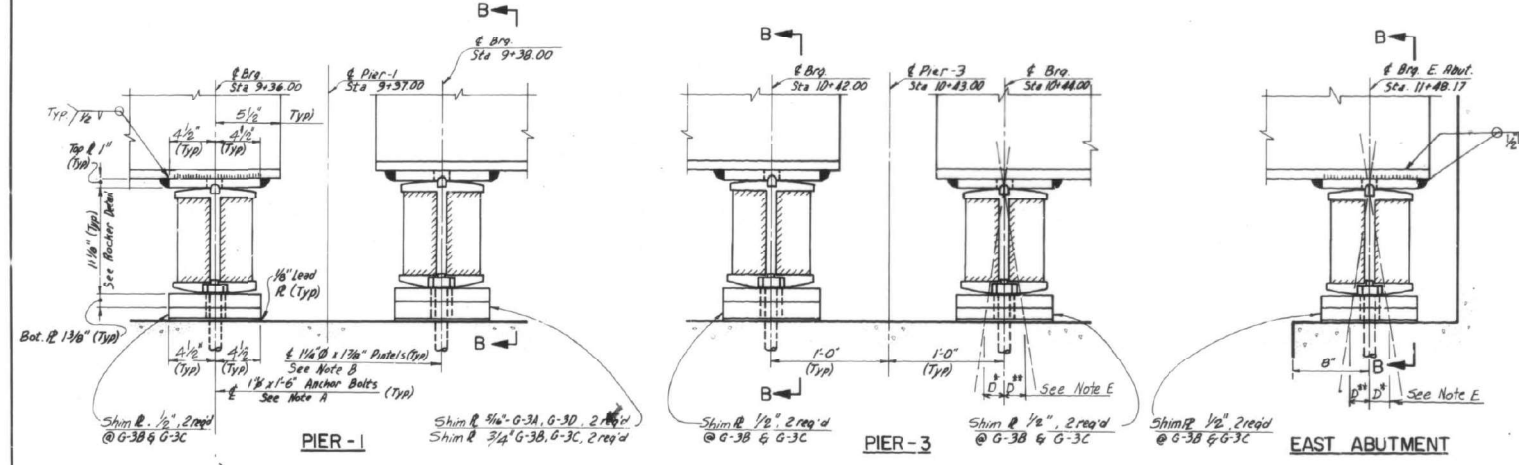
FA RTE	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
525	1975-046	COOK	33	27
STA. 8+45.00		TO STA. 11+88.00		



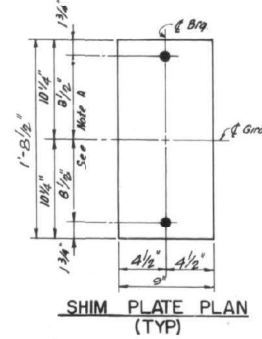
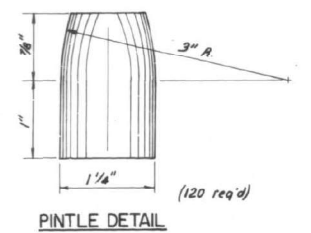
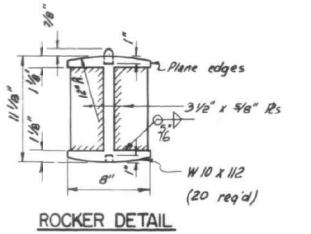
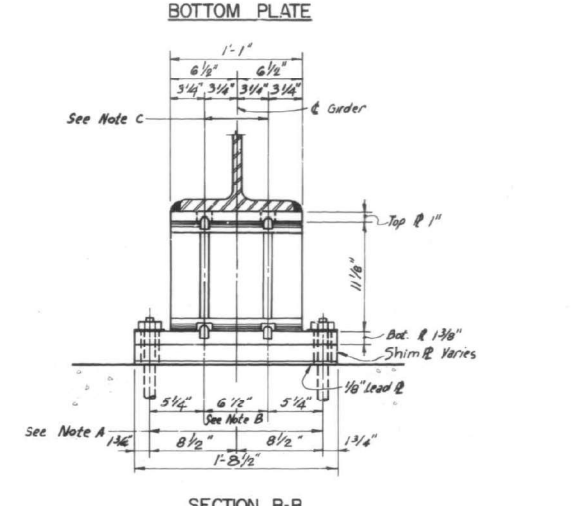
**DETAILS OF FIXED BEARINGS**



- NOTES:**
1. Work this Sheet with Sheet-25 & Sheet-26
  2. After Girders have been erected and the dimensions D' & D'' are determined holes at Expansion Bearings shall be drilled and anchor bolts shall be grouted in place. Anchor bolts at Fixed Bearings may be built into the masonry.



**DETAILS OF EXPANSION BEARINGS**



- Note A:** 1/2" holes for 1" x 1-6" Anchor Bolts. 2 1/2" x 2 1/2" x 3/16" R Washer under nut.
- Note B:** 1 3/8" holes - 1" deep in Rocker for 1 1/4" Pintel's threaded or press fit
- Note C:** 1 3/8" holes in Top R for 1 1/4" Pintel's threaded or press fit
- Note D:** 1 3/8" holes in Bottom R for 1 1/4" Pintel's threaded or press fit
- Note E:** D' Side of Brg. away from fixed Brg. @ 1/100 of expansion for every 15' fall below the normal temp. of 50°F
- D'' Side of Brg. toward fixed Brg. @ 1/100 of expansion for every 15' rise above the normal temp. of 50°F.

**SHIM PLATE DETAILS**

Location	Station	G-3A @ G-3D	G-3B @ G-3C
		Thickness #req'd	Thickness #req'd
Span 1	W. Abut.	8+84.03	1/2" 2
	Pier 1	9+36.00	1/2" 2
Span 2	Pier 1	9+38.00	5/16" 2
	Pier 2	9+89.00	1/2" 2
Span 3	Pier 2	9+91.00	1/2" 2
	Pier 3	10+42.00	1 1/2" 2
Span 4	Pier 3	10+44.00	1/2" 2
	Pier 4	10+95.00	5/16" 2
Span 5	Pier 4	10+97.00	1/2" 2
	E. Abut.	11+48.17	1/2" 2

FOR INFORMATION ONLY

DEPARTMENT OF TRANSPORTATION

**GIRDER BEARING DETAILS**

BRIDGE NO. 016-0829  
TOUHY AVENUE OVER  
THE DES PLAINES RIVER

DATE JAN 1980  
CHECKED BY M.G.B.

SCALE: NONE

SHEET-27 OF 33

REVISIONS	
NAME	DATE

MODEL: S-16  
FILE NAME: P:\040058-01-002 (ENG) - PTB\_195-016 Phase II Var. VanEngineering\WO 16 - Bridge Beam Repairs at Touhy Ave\500 Drawings\502 CADD Sheets\162R32-0160829-sh1-510 to 519-As Built.dgn

**Bowman**

311 S. Wacker Drive, Suite 1950  
Chicago, Illinois 60606  
312-454-0580  
www.bowman.com

USER NAME =	atiemann	DESIGNED -	AT, JK	REVISED -	
PLOT SCALE =		CHECKED -	KH	REVISED -	
PLOT DATE =	03/24/2022	DRAWN -	AT, JK	REVISED -	
		CHECKED -	AJN	REVISED -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

APPLICABLE AS-BUILT PLANS  
STRUCTURE NO. 016-0829

SHEET S-16 OF S-19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21	STRUCTURE REHAB	COOK	37 29
				CONTRACT NO. 62R32
		ILLINOIS FED. AID PROJECT		





**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES
3.	SUMMARY OF QUANTITIES
4-7.	BRIDGE DETAILS SN 016-0829
8-9.	BRIDGE DETAILS SN 016-2009
10.	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)
11.	ARTERIAL ROAD INFORMATION SIGN (TC-22)

**GENERAL NOTES**

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. (48 HOUR NOTIFICATION IS REQUIRED)

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AND THE CITY OF DES PLAINES.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINING WORK.

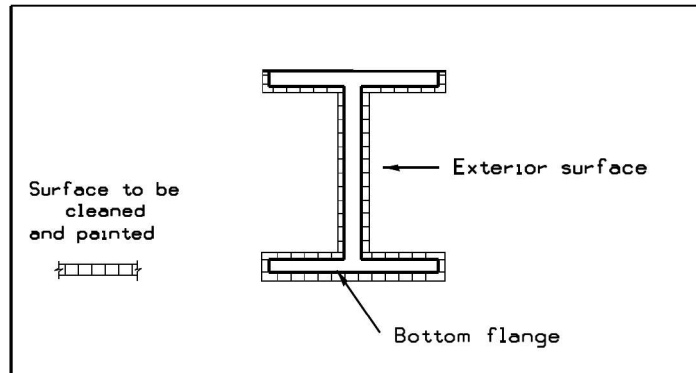
PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED BASED AT THE UNIT PRICE BID FOR THE WORK.

ALL VERTICAL CLEARANCE SIGNAGE, IF EXISTING, SHALL BE RESTORED TO THE CONDITION EXISTING PRIOR TO THE START OF WORK ASSOCIATED WITH THIS CONTRACT.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND PRESERVE THE EXISTING BRIDGE LIGHTING AT ANY LOCATIONS THAT LIGHTING IS ENCOUNTERED ADJACENT TO AN AREA TO BE CLEANED AND PAINTED.



**STATE STANDARDS**

STD. NO.	DESCRIPTION
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24' FROM PAVEMENT EDGE
701101-05	OFF-RD OPERATIONS, MULTILANE, 15' TO 24' FROM PAVEMENT EDGE
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701606-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701801-06	SIDEWALK, CORNER OR CROSSWALK CLOSURE
701901-08	TRAFFIC CONTROL DEVICES

**GENERAL PAINT NOTES**

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES".

SN 016-0829

ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING - SSPC-SP10. THESE AREAS SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 -0Z/E/U. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR STEEL SURFACES SHALL BE GRAY, MUNSELL NO 5B 7/1. THE COLOR OF THE FINAL FINISH COAT FOR THE EXTERIOR AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE REDDISH BROWN, MUNSELL NO 2,5YR 3/4.

ALL ITEMS (SUCH AS, BUT NOT LIMITED TO; CONDUITS, BRACKETS AND DECK DRAINS) ATTACHED TO OUTSIDE OF THE FASCIA BEAMS SHOULD BE CLEANED AND PAINTED

SN 016-2009

HANDRAIL ONLY SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING - SSPC-SP10. THE AREA OF HANDRAIL SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 -0Z/E/U. THE COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL NO 5B 7/1.

A MINIMUM OF ONE (1) AIR MONITOR FOR SN 016-0829 WILL BE REQUIRED TO MONITOR ABRASIVE BLASTING AND A MINIMUM OF FOUR (4) FOR SN 016-2009.

OPERATIONS. SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES."

FOR INFORMATION ONLY

\* 1) FAP 341  
2) FAU 2691

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PLOT DATE = 7/25/2019	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	ILLINOIS

MODEL: S-19  
FILE NAME: P:\040058-01-002 (ENG) - PTB\_195-016 Phase II Var VanEngineering\WO 16 - Bridge Beam Repairs at Touhy Ave\500 Drawings\502 CADD Sheets\162R32-0160829-shi-510 to 519-As Built.dgn

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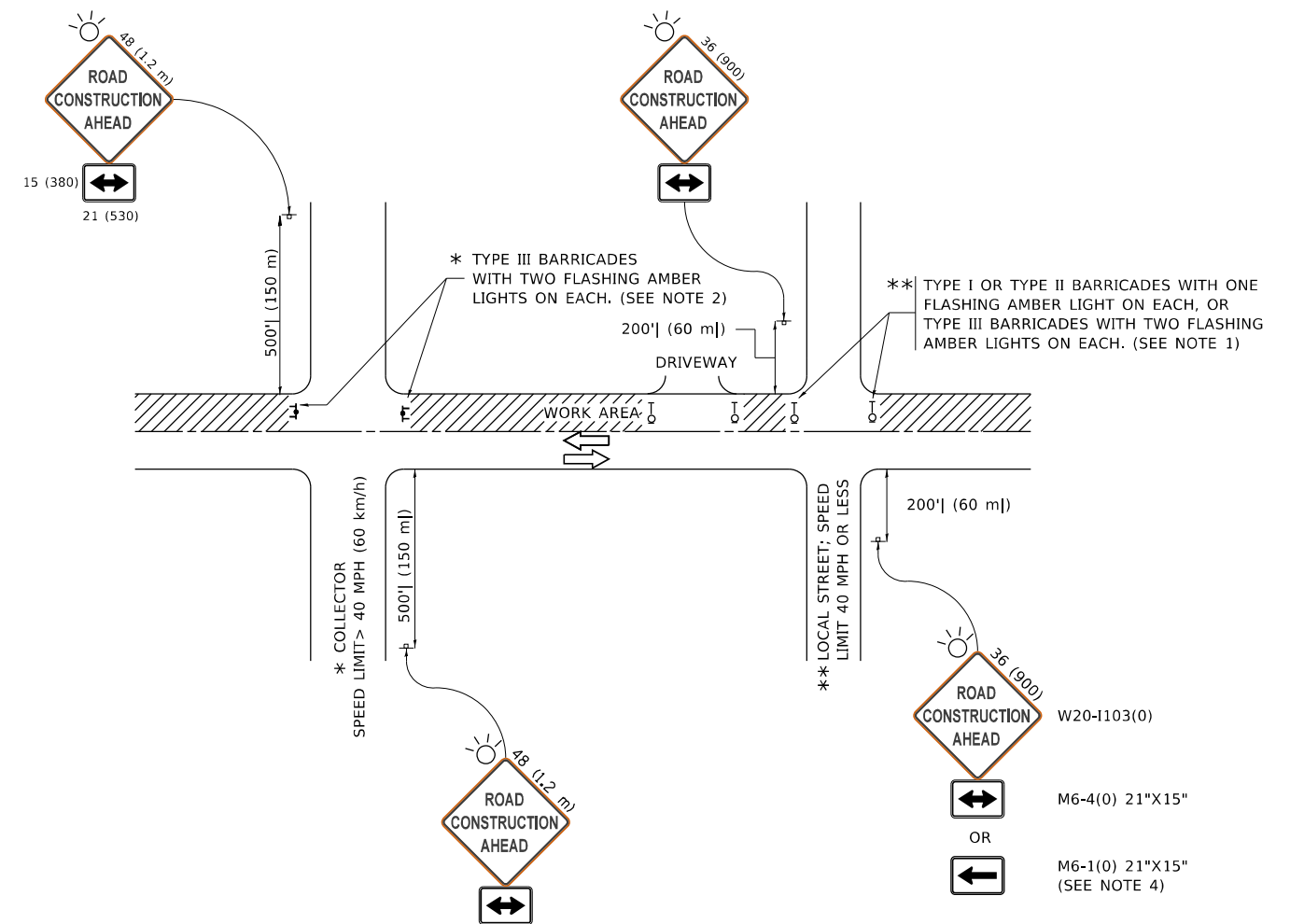
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PLOT DATE = 03/24/2022	CHECKED - AJN	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**APPLICABLE AS-BUILT PLANS  
STRUCTURE NO. 016-0829**

SHEET S-19 OF S-19 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUCTURE REHAB	COOK	37	32
CONTRACT NO. 62R32				
ILLINOIS FED. AID PROJECT				



**NOTES:**

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
4. SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.

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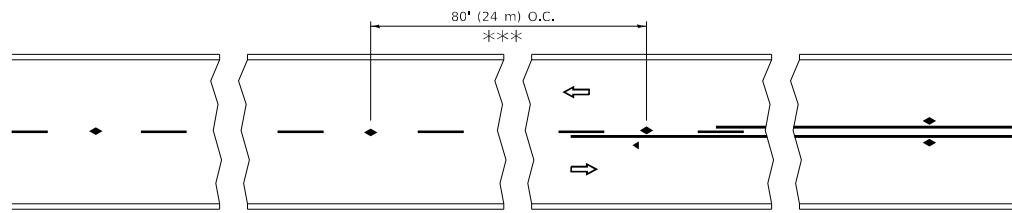
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PLOT SCALE = 50,0000 ' / in.	CHECKED -	REVISED - T. RAMMACHER 01-06-00
PLOT DATE = 3/4/2019	DATE - 06-89	REVISED - A. SCHUETZE 07-01-13
		REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION FOR  
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

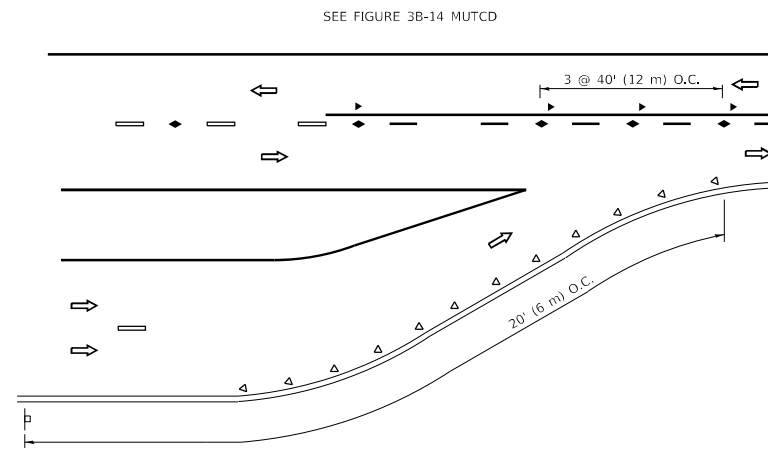
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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<b>TC-10</b>			CONTRACT NO.	
ILLINOIS FED. AID PROJECT				

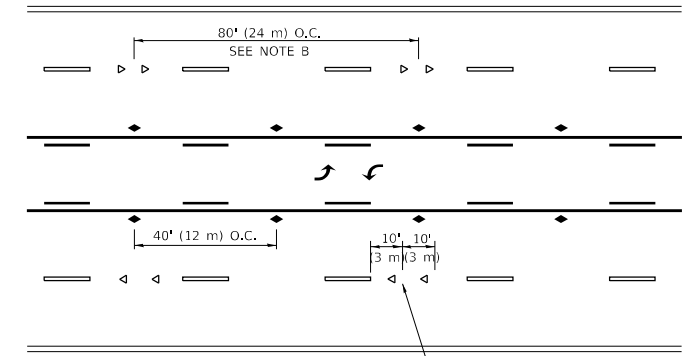


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

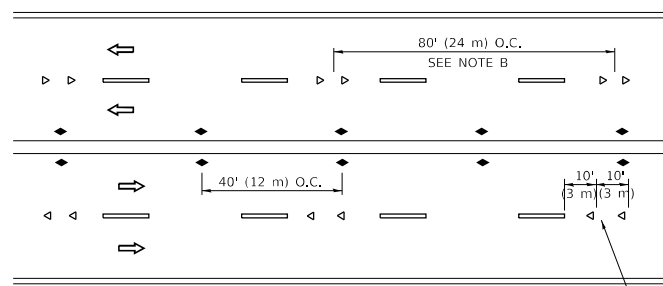
**TWO-LANE/TWO-WAY**



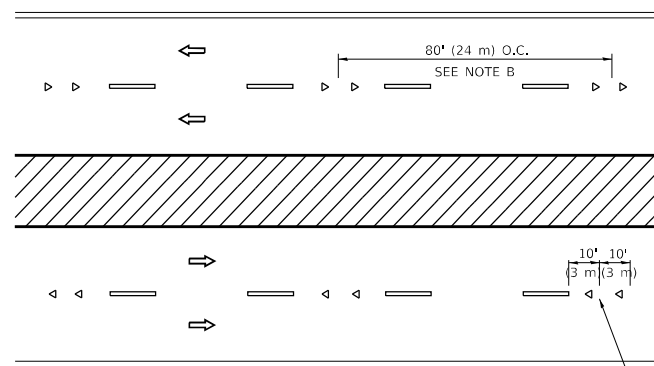
**LANE REDUCTION TRANSITION**



**TWO-WAY LEFT TURN**



**MULTI-LANE/UNDIVIDED**



**MULTI-LANE/DIVIDED**

**GENERAL NOTES**

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.
4. MARKERS ARE TO BE USED ADJACENT TO BOTH SOLID WHITE LINES IN DUAL LEFT TURN LANES

**SYMBOLS**

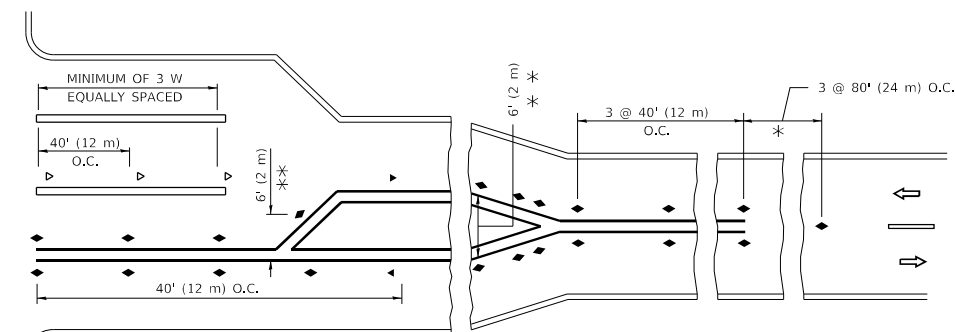
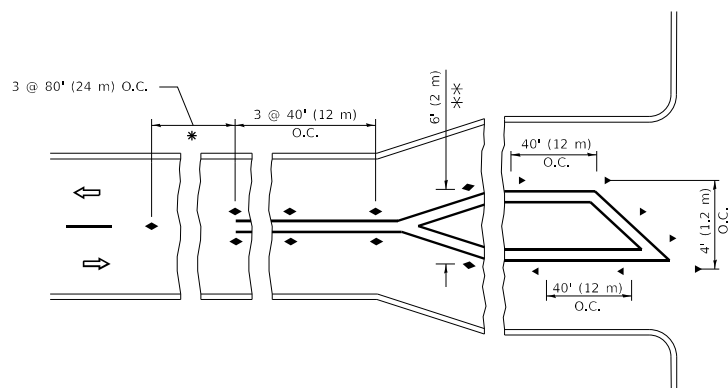
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

**LANE MARKER NOTES**

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

**DESIGN NOTES**

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



\* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE  
 \*\*\* WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

**TURN LANES**

All dimensions are in inches (millimeters) unless otherwise shown.

MODEL: D:\draft... FILE NAME: p:\u108a8e8d\ntec... PROJECTS\DOT... OFFICES\DIRTET... 11.dgn

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	DRAWN -	REVISED - T. RAMMACHER 01-06-00
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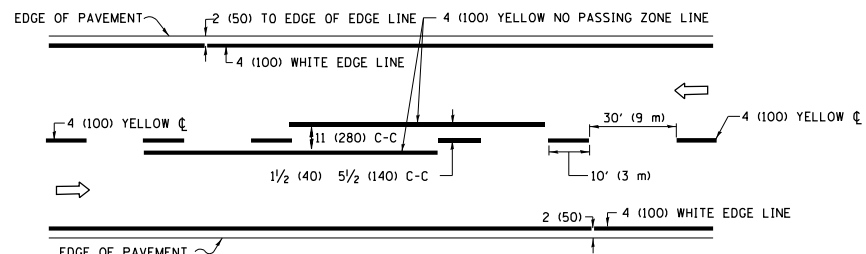
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TYPICAL APPLICATIONS  
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)**

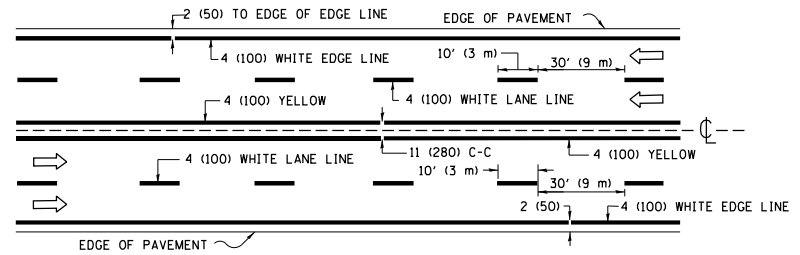
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUC REHAB	COOK	37	34
TC-11			CONTRACT NO.	
ILLINOIS		FED. AID PROJECT		

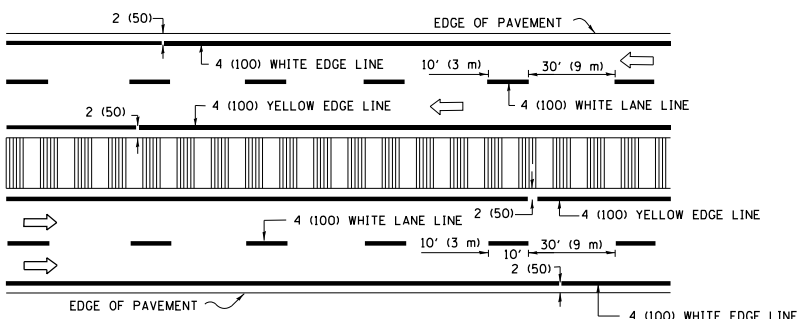




**2-LANE ROADWAY**

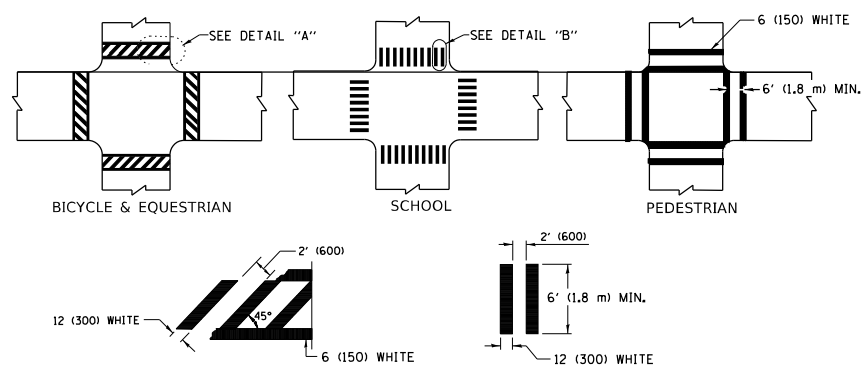


**MULTI-LANE UNDIVIDED**



**MULTI-LANE DIVIDED WITH MEDIAN**

**TYPICAL LANE AND EDGE LINE MARKING**

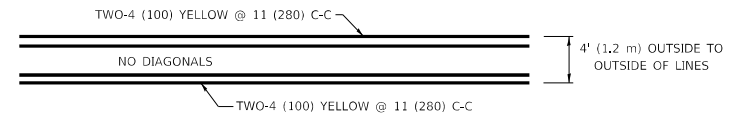


**DETAIL "A"**

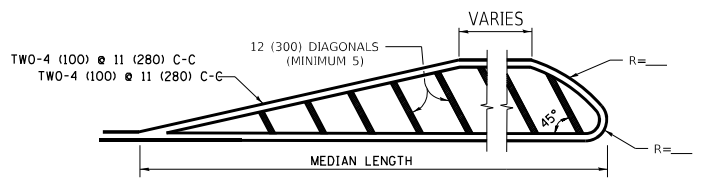
**DETAIL "B"**

**TYPICAL CROSSWALK MARKING**

\* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES



**4' (1.2 m) WIDE MEDIANS ONLY**

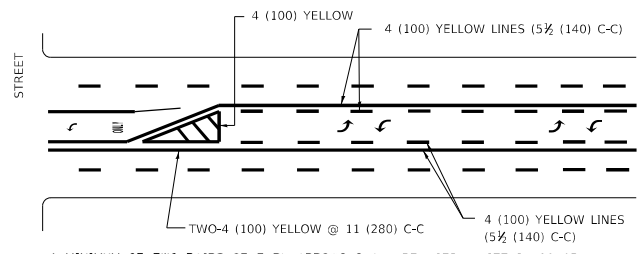


**MEDIANS OVER 4' (1.2 m) WIDE**

FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))  
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)  
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

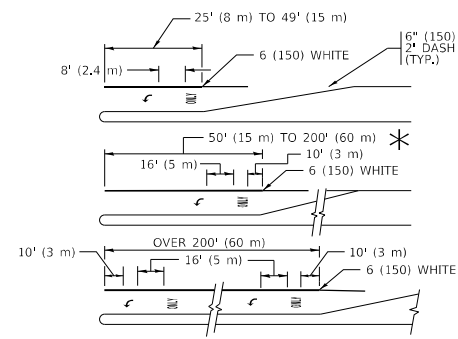
**TYPICAL PAINTED MEDIAN MARKING**



A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.

**MEDIAN WITH TWO-WAY LEFT TURN LANE**

**TYPICAL PAINTED MEDIAN MARKING**

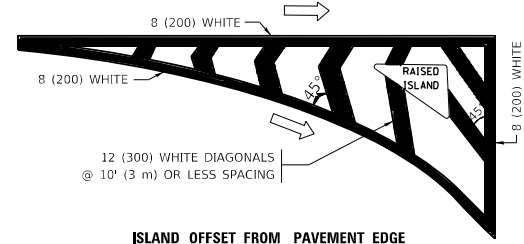


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  
AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

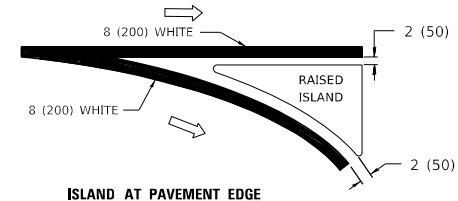
\* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

**TYPICAL LEFT (OR RIGHT) TURN LANE**

**TYPICAL TURN LANE MARKING**

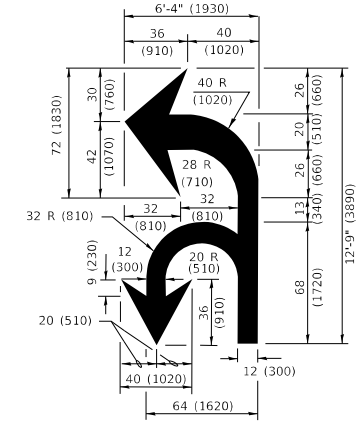


**ISLAND OFFSET FROM PAVEMENT EDGE**

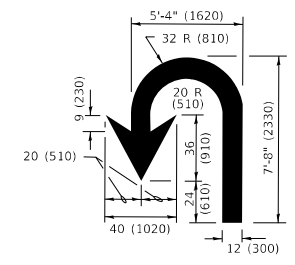


**ISLAND AT PAVEMENT EDGE**

**TYPICAL ISLAND MARKING**



**COMBINATION LEFT AND U-TURN**



**U-TURN**

**LANE REDUCTION TRANSITION**

\* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES "RR" IS 8' (1.8 m) LETTERS: 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

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DATE: 3/4/2019

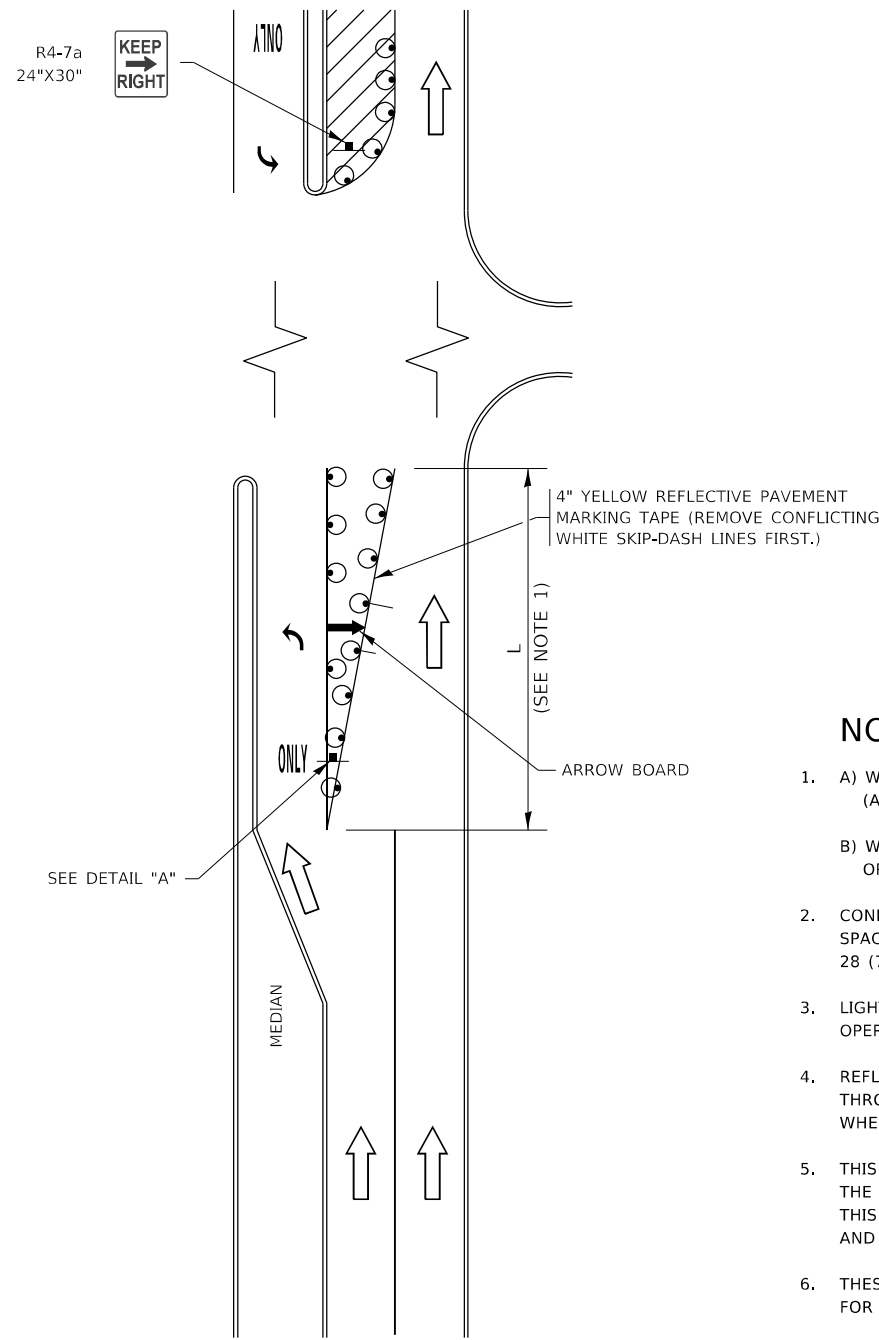
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PLOT DATE = 3/4/2019	DATE - 03-19-90	REVISED - C. JUCIUS 12-21-15
		REVISED - C. JUCIUS 04-12-16

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>DISTRICT ONE</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
<b>TYPICAL PAVEMENT MARKINGS</b>		341	FA 525 21 STRUC REHAB	COOK	37	35
SCALE: NONE		SHEET 1 OF 2 SHEETS		STA. TO STA.	CONTRACT NO.	

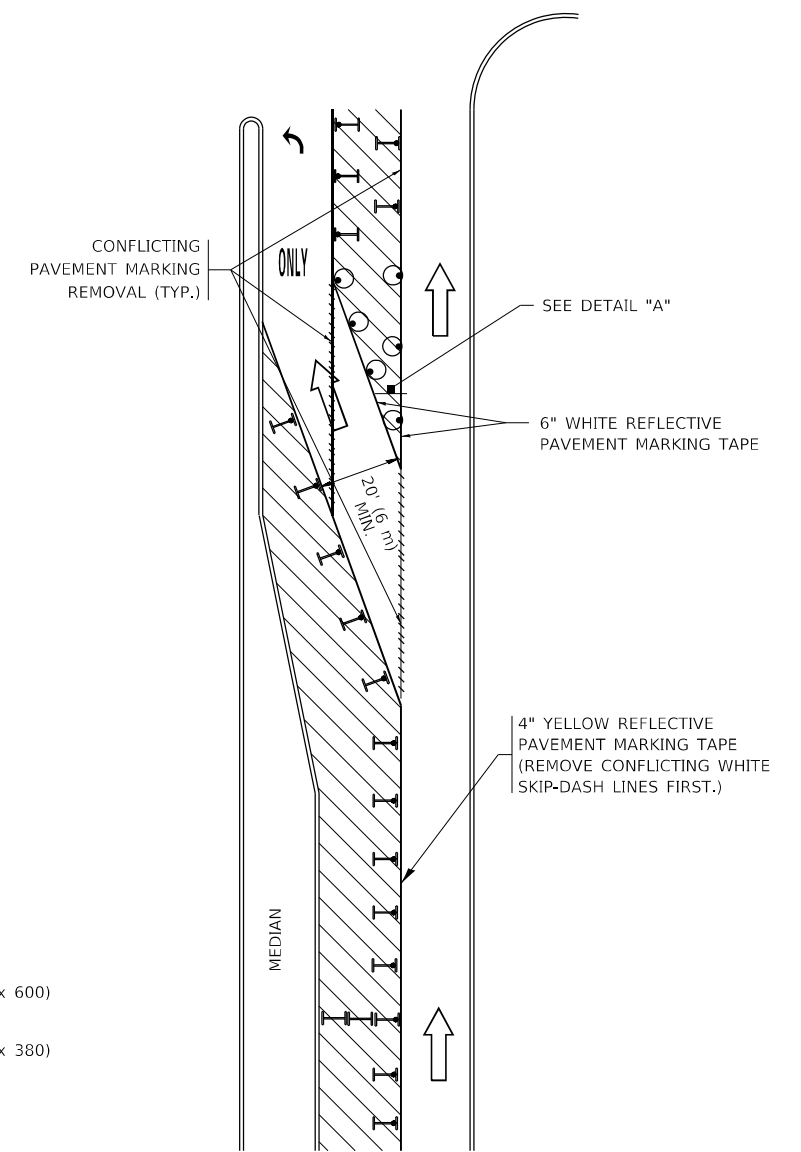
<b>TC-13</b>		ILLINOIS	FED. AID PROJECT
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# TURN BAY ENTRANCE AT START OF LANE CLOSURE TAPER



**FIGURE 1**

# TURN BAY ENTRANCE WITHIN A LANE CLOSURE



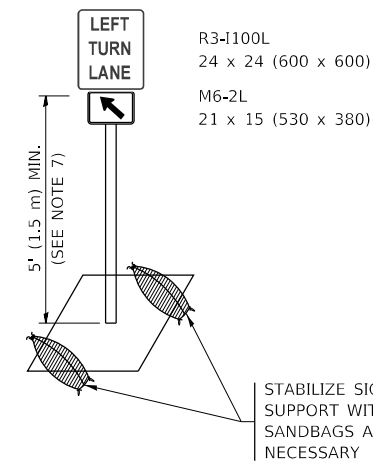
**FIGURE 2**

## LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- ARROW BOARD
- TYPE I OR II BARRICADE OR DRUM WITH STEADY BURN LIGHT
- DRUM WITH STEADY BURN LIGHT
- SIGN ASSEMBLY
- TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

## NOTES:

1. A) WHEN "L" IS  $\leq$  THE STORAGE LENGTH OF THE TURN LANE (AS SHOWN IN FIG. 1), USE FIGURE 1.  
B) WHEN "L" IS  $>$  THE STORAGE LENGTH OF THE TURN LANE OR THE TURN LANE IS WITHIN THE LANE CLOSURE, USE FIGURE 2.
2. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
3. LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
4. REFLECTIVE TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE BARRICADED AREAS OF EACH TURN BAY AS SHOWN WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN (14) DAYS.
5. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-1100R 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
6. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
7. THE SIGNS SHALL BE MOUNTED ABOVE THE BARRICADES/DRUMS ON SEPARATE SIGN SUPPORTS THAT MEET NCHRP 350 OR MASH REQUIREMENTS.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.



**DETAIL A**

All dimensions are in inches (millimeters) unless otherwise shown.

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	DRAWN - A. HOUSEH 11-07-95	REVISED - A. SCHUETZE 07-01-13
PLOT SCALE = 50.0000 ' / in.	CHECKED - A. HOUSEH 10-12-96	REVISED - A. SCHUETZE 09-15-16
PLOT DATE = 3/4/2019	DATE - T. RAMMACHER 01-06-00	REVISED -

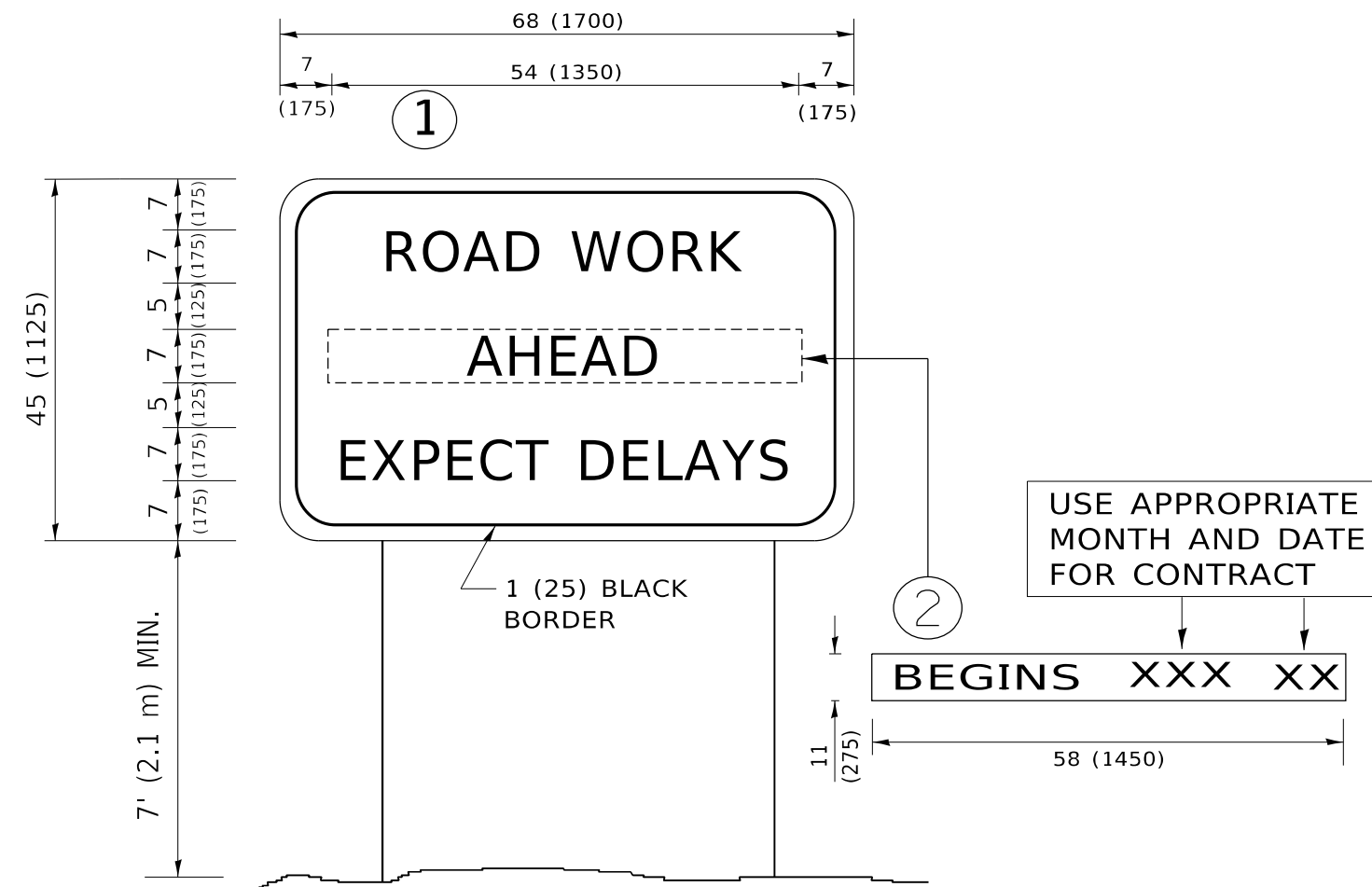
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS  
(TO REMAIN OPEN TO TRAFFIC)**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUC REHAB	COOK	37	36
TC-14			CONTRACT NO.	
ILLINOIS FED. AID PROJECT				





**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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	DRAWN -	REVISED - R. MIRS 12-11-97
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>ARTERIAL ROAD INFORMATION SIGN</b>			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	FA 525 21 STRUC REHAB	COOK	37	37
<b>TC-22</b>			CONTRACT NO.	
ILLINOIS FED. AID PROJECT				