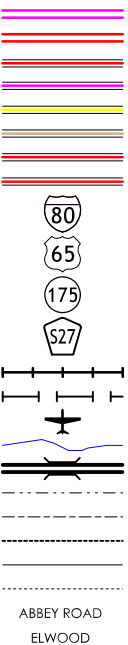


LEGEND

INTERSTATE HIGHWAY
PRIMARY HIGHWAY-DIVIDED
PRIMARY HIGHWAY
PORTLAND CEMENT CONCRETE ROAD
ASPHALT ROAD
BITUMINOUS ROAD
GRAVEL ROAD
EARTHEN ROAD

INTERSTATE HIGHWAY
UNITED STATES HIGHWAY
STATE HIGHWAY
COUNTY HIGHWAY
RAILROAD
PIPELINE
AIRPORT
HYDROLOGY
BRIDGE
STATE BOUNDARY
COUNTY BOUNDARY
CORPORATE BOUNDARY
TOWNSHIP LINE
SECTION LINE
ROAD NAMES
UNINCORPORATED PLACE



Highway Division

PLANS OF PROPOSED IMPROVEMENTS ON THE

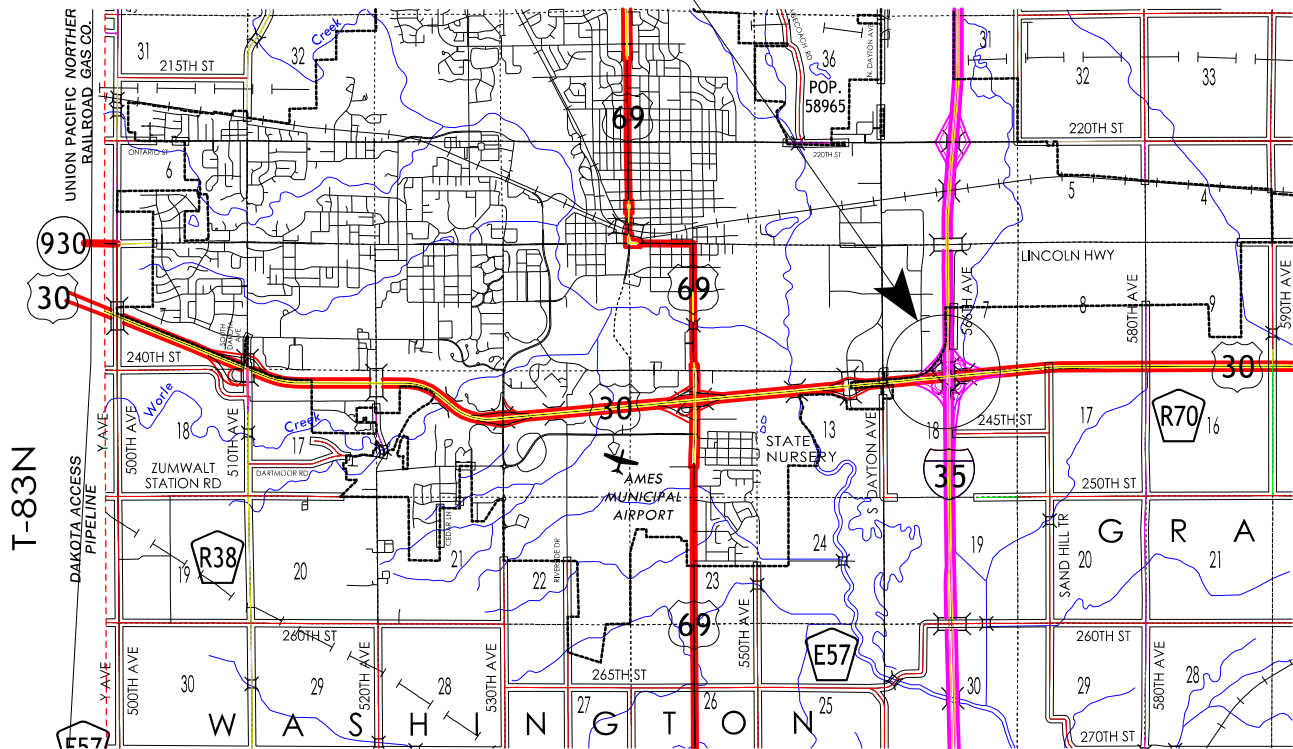
INTERSTATE ROAD SYSTEM

STORY COUNTY

BRIDGE REPAIR
ON I-35 OVER US 30
AT JCT. US 30 (N.B./S.B.)

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN 121 (NB) & 221 (SB)
FHWA 49210 (NB) & 49220 (SB)



R-24W

R-23W

LOCATION MAP

PROJECT DIRECTORY NAME: 8503501020

REVISIONS



1-800-292-8989
www.iowaonecall.com



STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED
ON SHEET NUMBER C.2

DESIGN DATA RURAL

2018 AADT 28,900 V.P.D.
TRUCKS 22 %
TOTAL DESIGN ESALs 18,600,000
INCLUDES BOTH NB AND SB TRAFFIC

INDEX OF SEALS

SHEET NO.	NAME	TYPE
I	GORDON L. PORT	STRUCTURAL DESIGN
A.I	BRIAN J. BIRKLAND	ROADWAY DESIGN

STRUCTURAL DESIGN



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: Gordon L. Port Date: 11/17/2020
Printed or Typed Name: Gordon L. Port

My license renewal date is December 31, 2020

Pages or sheets covered by this seal: I THRU I3

GENERAL NOTES:

THIS DESIGN IS FOR REPAIRS TO THE EXISTING 232'-1 x 40'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE ON N.B. I-35 OVER US 30 IN STORY COUNTY.

ELECTRONIC COPIES OF ORIGINAL DESIGN PLANS AND REPAIR PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR AS PART OF THE E-FILES SUPPLIED WITH THE CONTRACT DOCUMENTS. DIMENSIONS SHOWN ON THESE PLANS ARE BASED ON DESIGN PLANS (ORIGINAL DESIGN NO. 1162, REPAIR DESIGNS NO. 580 & 590).

SEE DESIGN SHEET 2 FOR LIST OF REPAIR ITEMS.

FAINT LINES ON PLANS INDICATE EXISTING PORTIONS OF THE BRIDGE.

ALL DIMENSIONS AND DETAILS SHOWN ON THESE PLANS PERTINENT TO NEW CONSTRUCTION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING CONSTRUCTION.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

THE TOP AND INTERIOR FACES OF THE EXISTING CONCRETE RAILING AND CURBS ARE TO BE CLEANED AND SEALED IN ACCORDANCE WITH ARTICLE 2403.03, P, OF THE STANDARD SPECIFICATIONS. IF NEW SECTIONS OF RAIL ARE BEING CONSTRUCTED, THE NEW SECTIONS SHALL NOT BE SEALED. ALL COSTS ASSOCIATED WITH CLEANING AND SEALING OF THE CONCRETE RAILS AND CURBS SHALL BE INCLUDED IN THE UNIT PRICE BID ITEM "DECK REPAIR, CLASS A".

UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE BRIDGE CONTRACTOR OF THE CONSTRUCTION STARTING DATE.

AREAS OF CURB DESIGNATED BY THE ENGINEER ARE TO BE REPAIRED USING CONCRETE REPAIR NOTES AND DETAILS INCLUDED IN THESE PLANS.

PRESENT DECK THICKNESS IS ABOUT 7 8⁄16 INCHES, INCLUDING THE EXISTING OVERLAY. THE CONTRACTOR SHALL EXERCISE CARE IN REMOVING CONCRETE IN ORDER TO PREVENT UNNECESSARY UNBONDING OF REINFORCING STEEL.

CONSTRUCTION SHALL BE DONE IN STAGES WITH AT LEAST TWO LANES OF TRAFFIC IN EACH DIRECTION MAINTAINED AT ALL TIMES IN ACCORDANCE WITH "TRAFFIC CONTROL PLAN" NOTE.

PLAN QUANTITY OF DECK REPAIR IS BASED ON THE "DECK REPAIR PLAN" AS SHOWN IN THESE PLANS. CROSS HATCHED PORTIONS REPRESENT CLASS B BRIDGE DECK REPAIR. THE PLAN QUANTITY FOR "CLASS B DECK REPAIR" IS ESTIMATED BASED ON RECENT IOWA DOT BRIDGE INSPECTION REPORTS. THE PLAN QUANTITY OF "CLASS A DECK REPAIR" IS ESTIMATED AS 20% OF THE BRIDGE DECK AREA PLUS THE AREAS OF THE TOPS OF BACKWALLS FOR ESTIMATING PURPOSES. ACTUAL SPALLED AND HOLLOW AREAS, AS DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION SHALL BE REPAIRED.

UPPER LIMIT OF CLASS A AND CLASS B REPAIR IS DEFINED AS THE EXISTING TOP OF DECK. FINISHING AND CURING SHALL BE AS REQUIRED FOR AN OVERLAY (ARTICLE 2413.03 OF THE STANDARD SPECIFICATIONS).

SPECIFICATIONS:

DESIGN: AASHTO SERIES 2002.

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES 2002.

REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60.

CONCRETE IN ACCORDANCE WITH SECTION 8, f'c = 4.0 KSI.

ESTIMATED BRIDGE REPAIR QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUANTITY
1	2413-0698074	DECK REPAIR, CLASS A	SY	218.8	
2	2413-0698075	DECK REPAIR, CLASS B	SY	25.3	
3	2426-6772016	CONCRETE REPAIR	SF	56	
4	2533-4980005	MOBILIZATION	LS	1.00	

ESTIMATE REFERENCE INFORMATION:

ITEM NO.	DESCRIPTION
1	INCLUDES FURNISHING AND PLACING CONCRETE SEALER.

DESIGN HISTORY
AT THIS SITE

DES. NO.	TYPE OF WORK
1162	ORIGINAL DESIGN
580	DECK OVERLAY
590	BEAM REPAIRS
---	MACADAM STONE SLOPE PROTECTON
121	BRIDGE REPAIRS

DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)

232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE

43'-1 1⁄2 & 51'-5 1⁄2 END SPANS2 - 68'-9 INTERIOR SPANS

GENERAL NOTES AND QUANTITIES

STA. 573+83.63 (I-35)DECEMBER, 2020

STORY COUNTY

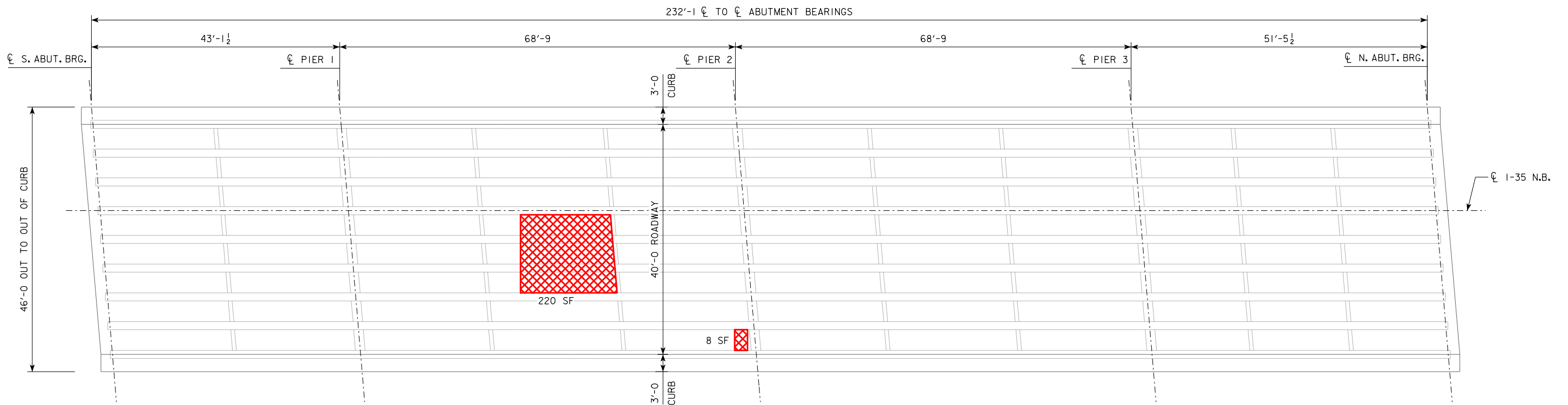
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 6FILE NO. 31781DESIGN NO. 121

NOTE:
ROADWAY QUANTITIES SHOWN
ELSEWHERE IN THESE PLANS.

TRAFFIC CONTROL PLAN:
THE ROADWAY WILL BE OPEN TO THRU TRAFFIC.
REFER TO THE TRAFFIC CONTROL PLAN SHOWN
ELSEWHERE IN THESE PLANS.





DECK REPAIR PLAN

(FAINT LINES INDICATE GIRDER & DIAPHRAGM LOCATIONS)

LEGEND	
	DECK REPAIR, CLASS B

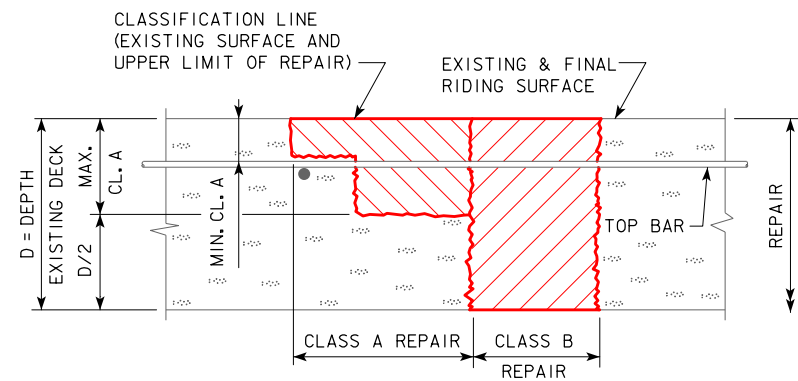


NOTE:
THE QUANTITY FOR "DECK REPAIR, CLASS A" IS ESTIMATED TO BE 20% OF THE BRIDGE DECK AREA PLUS THE AREAS OF THE TOPS OF BACKWALLS AND IS NOT SHOWN ABOVE. ACTUAL SPALLED AND HOLLOW AREAS, AS DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION SHALL BE REPAIRED.

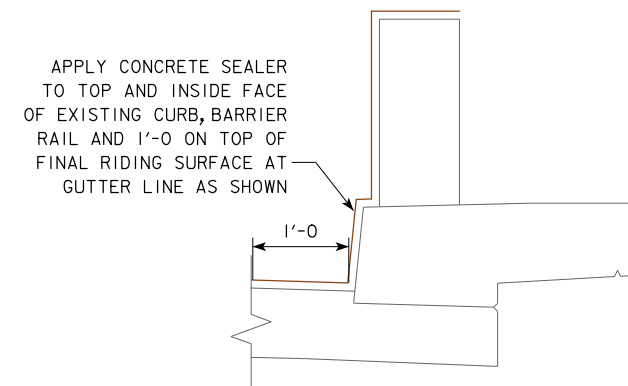
DECK REPAIR, CLASS B	
I-35 NORTHBOUND	TOTAL
DECK	25.3
TOTAL (SQ. YDS.)	25.3

DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)	
232'-1" x 40'-0" PRETENSIONED	
PRESTRESSED CONCRETE BEAM BRIDGE	
43'-1 1/2" & 51'-5 1/2" END SPANS	2 - 68'-9" INTERIOR SPANS
DECK REPAIR PLAN	
STA. 573+83.63 (I-35)	DECEMBER, 2020
STORY COUNTY	
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION	
DESIGN SHEET NO. <u>3</u> OF <u>6</u>	FILE NO. <u>31781</u> DESIGN NO. <u>121</u>

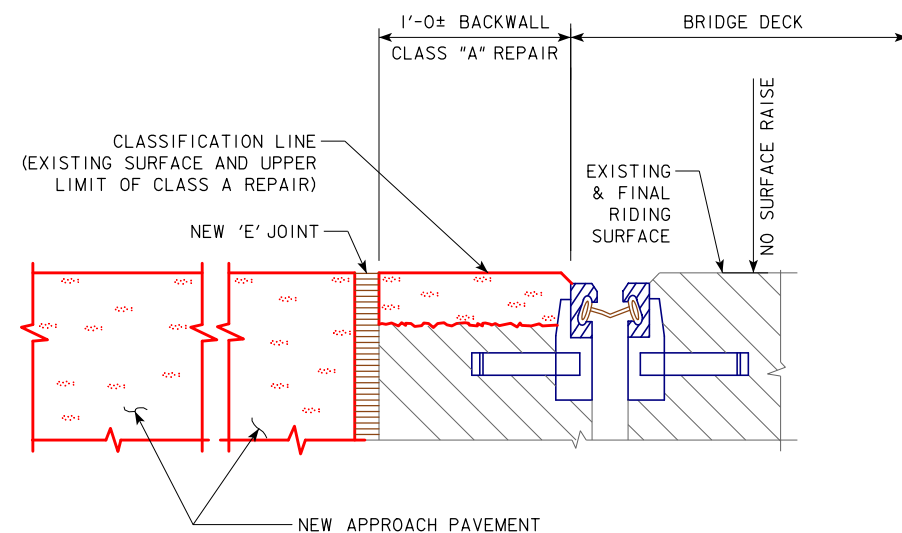




REPAIR DEFINITION



CONCRETE SEALER DETAIL

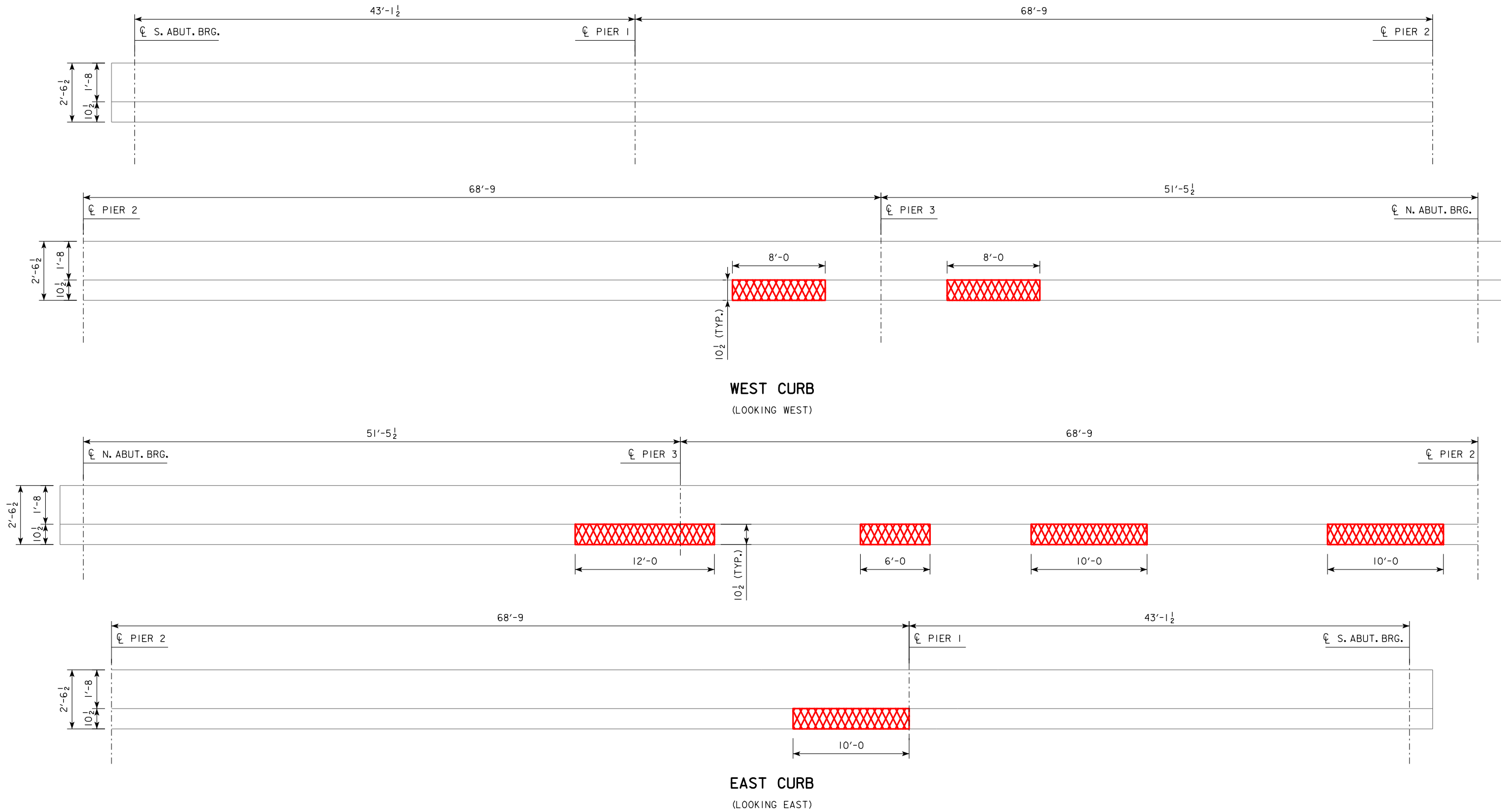


PART LONGITUDINAL SECTION ALONG ROADWAY
BOTH ABUTMENTS

NOTE:
THE CLASS "A" REPAIR AREA SHOWN AT THE JOINT SHALL BE REMOVED TO A MINIMUM DEPTH 1 INCH BELOW THE EXISTING BACKWALL LONGITUDINAL REINFORCING. THE EXISTING REINFORCING BARS SHALL BE CAREFULLY EXPOSED AND INCORPORATED INTO THE NEW CONSTRUCTION WORK.



DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)
**232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
43'-1½ & 51'-5½ END SPANS 2 - 68'-9 INTERIOR SPANS
REPAIR DETAIL SHEET
STA. 573+83.63 (1-35) DECEMBER, 2020
STORY COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 4 OF 6 FILE NO. 31781 DESIGN NO. 121



NORTHBOUND BRIDGE CURB REPAIR

LEGEND

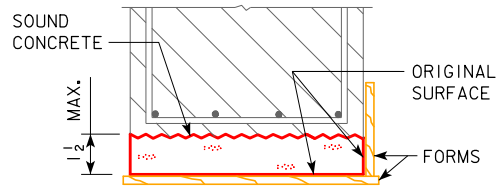
INDICATES REGULAR REPAIR

NOTE:
ACTUAL CONCRETE REPAIR AREAS ARE TO
BE DETERMINED BY THE ENGINEER
AT THE TIME OF CONSTRUCTION.

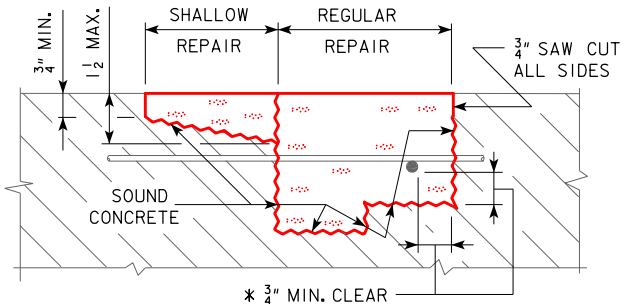


DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)
**232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
43'-1 1/2 & 51'-5 1/2 END SPANS 2 - 68'-9 INTERIOR SPANS
CONCRETE REPAIR ELEVATION
STA. 573+83.63 (I-35) DECEMBER, 2020
STORY COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 5 OF 6 FILE NO. 31781 DESIGN NO. 121

REVISED 10-14 - DELETED ALL REFERENCES TO GROUT. SECTION 2426 COVERS THIS REQUIREMENT AND DOESN'T NEED TO STATED ON THE PLANS.
ENGLISHREPAIRRETROFITBRIDGES.DGN 1045 - THIS SHEET REDRAWN 9-27-90.

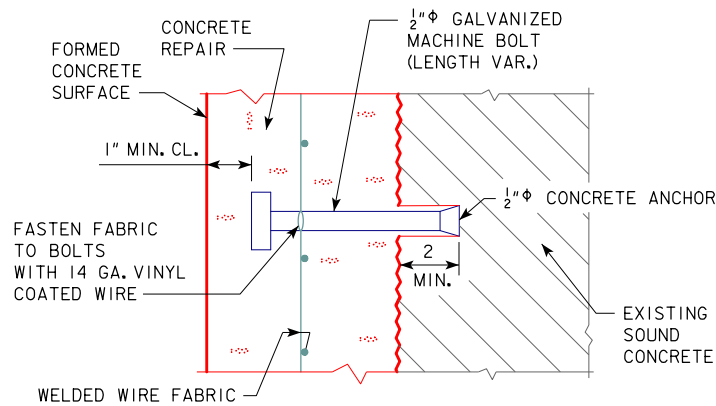


SHALLOW REPAIR
BOTTOM SURFACE



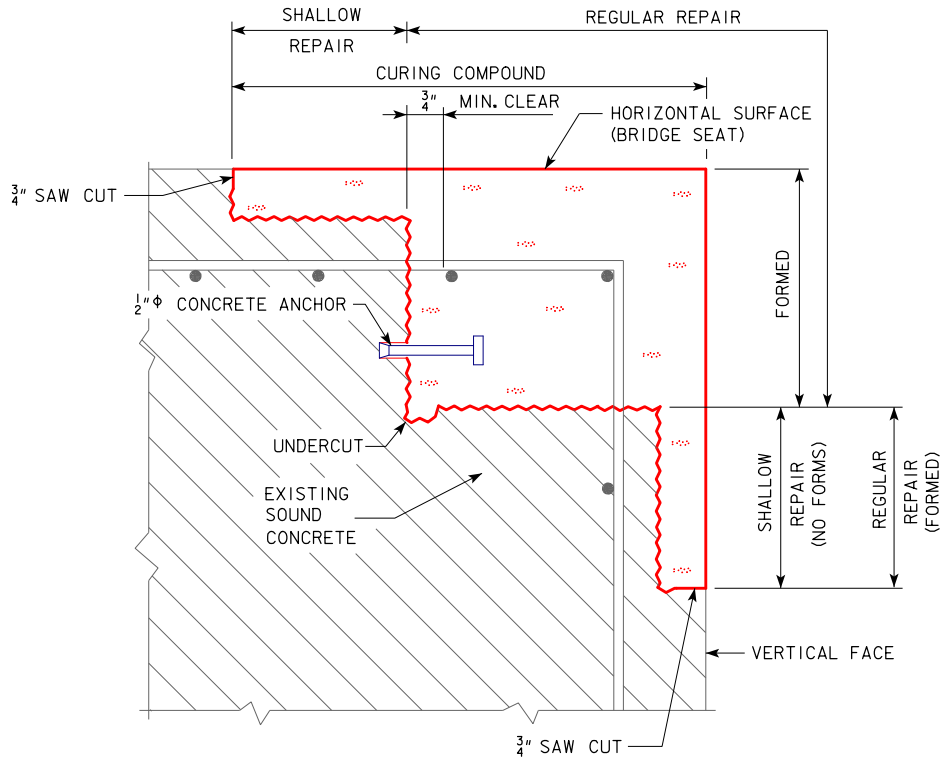
REPAIR DEFINITION

* INDICATES CLEARANCE FOR AN UN-BONDED REBAR.

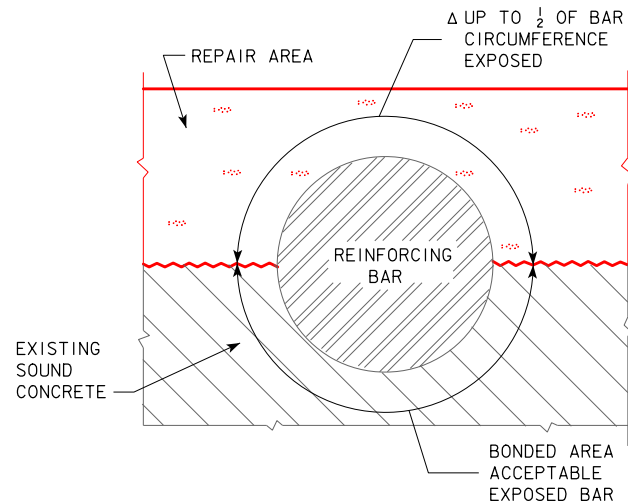


ANCHOR DETAIL

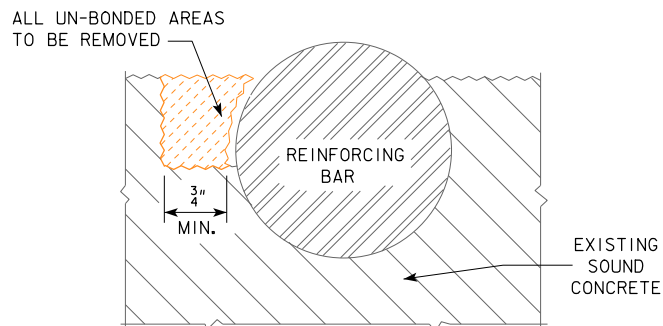
FOR SPACING AND USE OF CONCRETE ANCHORS
AND WWF SEE THE REPAIR NOTES.



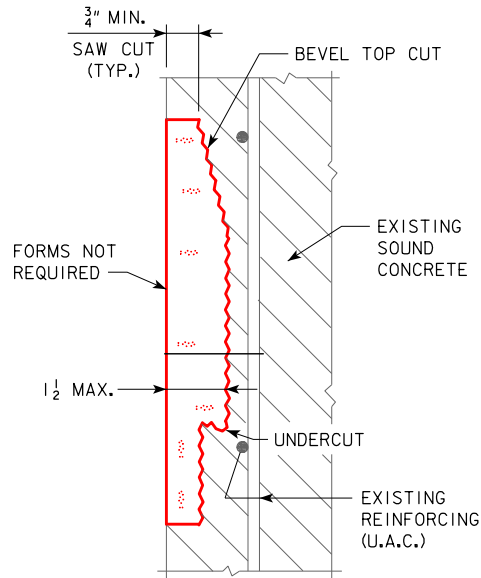
CORNER REPAIR



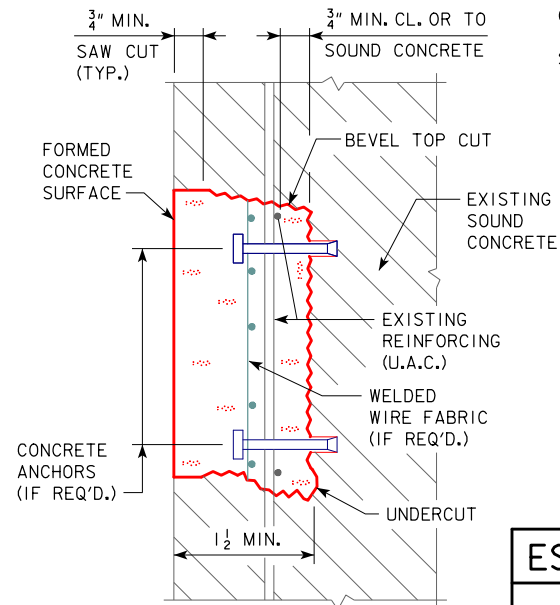
Δ IF MORE THAN 1/2 OF THE REBAR IS EXPOSED IT
SHALL BE TREATED AS AN UN-BONDED REBAR.



CONCRETE REMOVAL
ADJACENT TO REINFORCING



SHALLOW REPAIR
VERTICAL FACE



REGULAR REPAIR
VERTICAL FACE

REPAIR NOTES:

THE SPALLED AND HOLLOW AREAS OF THIS BRIDGE AS NOTED AND SHOWN IN THESE PLANS SHALL BE REPAIRED AS FOLLOWS:

ALL THE COSTS OF EQUIPMENT AND MATERIALS REQUIRED TO REPAIR THE SPALLED AND HOLLOW AREAS OF THIS BRIDGE SHALL BE INCLUDED IN THE PRICE BID FOR "CONCRETE REPAIR".

THE PRICE BID FOR "CONCRETE REPAIR" SHALL INCLUDE THE COST OF ALL CONCRETE ANCHORS AND WELDED WIRE FABRIC REQUIRED BY THE PLANS.

THE ENGINEER SHALL DETERMINE AND OUTLINE BY VISUAL AND AUDIBLE INSPECTION THE ACTUAL AREAS OF THE CONCRETE REPAIRS. THE CONTRACTOR SHALL BE PAID FOR THE ACTUAL AMOUNT OF REPAIRS MADE ON A SQUARE FOOT BASIS BASED ON THE PRICE BID PER SQUARE FOOT.

ALL EXISTING REINFORCING BARS THAT ARE EXPOSED BY CONCRETE REMOVAL SHALL BE CLEANED AND CAREFULLY INCORPORATED INTO THE NEW WORK, EXCEPT BADLY DETERIORATED EXISTING REINFORCING WHICH SHALL BE REPLACED AS DIRECTED BY THE ENGINEER.

THE CONCRETE ANCHORS REQUIRED SHALL HAVE A MINIMUM PULL OUT OF 5000 LBS. BASED ON 4000 PSI CONCRETE. AN ANCHOR MEETING THE REQUIREMENTS OF IOWA D.O.T. MATERIALS I.M. 453.09 AND THE PULL OUT LOAD ABOVE IS REQUIRED. THE ANCHORS SHALL BE GALVANIZED AND SHALL BE INSTALLED ACCORDING TO RECOMMENDATIONS OF THE MANUFACTURER. THE COST OF FURNISHING AND INSTALLING THE CONCRETE ANCHORS SHALL BE INCLUDED IN THE PRICE BID FOR "CONCRETE REPAIR".

THE WELDED WIRE FABRIC SHALL BE ASTM A185 AND GALVANIZED AS PER ASTM A-641. THE WWF WIRES SHALL BE SPACED 3 x 3 OR 4 x 4 AND THE WIRES SHALL HAVE A NOMINAL AREA OF 0.014 TO 0.029 SQUARE INCHES INCLUSIVE, EXAMPLE "WWF 3 x 3 - W1.4 x W2.9".

WHERE REINFORCEMENT HAS BEEN EXPOSED AND CLEARANCE AROUND THE PERIPHERY OF THE EXISTING BAR IS PROVIDED NO SUPPLEMENTAL REINFORCING IS REQUIRED, EXCEPT WHERE EXISTING REINFORCEMENT DENSITY AND PATTERN ARE SUCH THAT INDIVIDUAL OPEN SPACES BETWEEN BARS ARE OF 1.5 SQUARE FOOT OR LARGER. FOR THIS CONDITION 1/2 CONCRETE ANCHORS AND WELDED WIRE FABRIC SHALL BE INSTALLED AT THE RATE OF ONE CONCRETE ANCHOR WITH WWF PER EACH 1.5 SQUARE FEET OF AREA WITHIN EACH OPEN SPACE.

REPAIRING THE STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 2426, OF THE STANDARD SPECIFICATIONS.

CONCRETE PLACEMENT QUANTITIES

MARK	TYPE	UNITS	QUANTITY
①	SHALLOW REPAIR	SQ. FT.	0
②	REGULAR REPAIR	SQ. FT.	56
TOTAL (SQ. FT.)			56

ESTIMATED CONCRETE REPAIR QUANTITIES

DESCRIPTION	UNITS	AMOUNT
CONCRETE REPAIR	SQ. FT.	56

DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)
**232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
43'-1 1/2 & 51'-5 1/2 END SPANS 2 - 68'-9 INTERIOR SPANS
CONCRETE REPAIR
STA. 573+83.63 (I-35) DECEMBER, 2020
STORY COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 6 OF 6 FILE NO. 31781 DESIGN NO. 121



DESIGN TEAM AJV/RGV/BRH/GLP

STANDARD SHEET 1045

STORY COUNTY

PROJECT NUMBER MBIN-035-1(506)112--OM-85

SHEET NUMBER 7

11/17/2020 8:54:54 AM wb L:\DEPT\6\8500.19-FY 21 MB-Rehab-Cleaning\Story 121-221\Drawings\BRG-85035506.dgn 850121S006 11x17-pdf.pltcf9

GENERAL NOTES:

THIS DESIGN IS FOR REPAIRS TO THE EXISTING 232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE ON S.B. 1-35 OVER US 30 IN STORY COUNTY.

ELECTRONIC COPIES OF ORIGINAL DESIGN PLANS AND REPAIR PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR AS PART OF THE E-FILES SUPPLIED WITH THE CONTRACT DOCUMENTS. DIMENSIONS SHOWN ON THESE PLANS ARE BASED ON DESIGN PLANS (ORIGINAL DESIGN NO. 1162, REPAIR DESIGN NO. 480).

SEE DESIGN SHEET 2 FOR LIST OF REPAIR ITEMS.

FAINT LINES ON PLANS INDICATE EXISTING PORTIONS OF THE BRIDGE.

ALL DIMENSIONS AND DETAILS SHOWN ON THESE PLANS PERTINENT TO NEW CONSTRUCTION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING CONSTRUCTION.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

THE TOP AND INTERIOR FACES OF THE EXISTING CONCRETE RAILING AND CURBS ARE TO BE CLEANED AND SEALED IN ACCORDANCE WITH ARTICLE 2403.03, P, OF THE STANDARD SPECIFICATIONS. IF NEW SECTIONS OF RAIL ARE BEING CONSTRUCTED, THE NEW SECTIONS SHALL NOT BE SEALED. ALL COSTS ASSOCIATED WITH CLEANING AND SEALING OF THE CONCRETE RAILS AND CURBS SHALL BE INCLUDED IN THE UNIT PRICE BID ITEM "DECK REPAIR, CLASS A".

UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE BRIDGE CONTRACTOR OF THE CONSTRUCTION STARTING DATE.

AREAS OF CURB DESIGNATED BY THE ENGINEER ARE TO BE REPAIRED USING CONCRETE REPAIR NOTES AND DETAILS INCLUDED IN THESE PLANS.

PRESENT DECK THICKNESS IS ABOUT 7 ⁹/₁₆ INCHES, INCLUDING THE EXISTING OVERLAY. THE CONTRACTOR SHALL EXERCISE CARE IN REMOVING CONCRETE IN ORDER TO PREVENT UNNECESSARY UNBONDING OF REINFORCING STEEL.

CONSTRUCTION SHALL BE DONE IN STAGES WITH AT LEAST TWO LANES OF TRAFFIC IN EACH DIRECTION MAINTAINED AT ALL TIMES IN ACCORDANCE WITH "TRAFFIC CONTROL PLAN" NOTE.

PLAN QUANTITY OF DECK REPAIR IS BASED ON THE "DECK REPAIR PLAN" AS SHOWN IN THESE PLANS. CROSS HATCHED PORTIONS REPRESENT CLASS B BRIDGE DECK REPAIR. THE PLAN QUANTITY FOR "CLASS B DECK REPAIR" IS ESTIMATED BASED ON RECENT IOWA DOT BRIDGE INSPECTION REPORTS. THE PLAN QUANTITY OF "CLASS A DECK REPAIR" IS ESTIMATED AS 20% OF THE BRIDGE DECK AREA PLUS THE AREAS OF THE TOPS OF BACKWALLS FOR ESTIMATING PURPOSES. ACTUAL SPALLED AND HOLLOW AREAS, AS DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION SHALL BE REPAIRED.

UPPER LIMIT OF CLASS A AND CLASS B REPAIR IS DEFINED AS THE EXISTING TOP OF DECK. FINISHING AND CURING SHALL BE AS REQUIRED FOR AN OVERLAY (ARTICLE 2413.03 OF THE STANDARD SPECIFICATIONS).

SPECIFICATIONS:

DESIGN: AASHTO SERIES 2002.

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES 2002.

REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60.

CONCRETE IN ACCORDANCE WITH SECTION 8, $f'_c = 4.0$ KSI.

ESTIMATED BRIDGE REPAIR QUANTITIES

[illegible]

ESTIMATE REFERENCE INFORMATION:

<u>ITEM NO.</u>	<u>DESCRIPTION</u>
I	INCLUDES FURNISHING AND PLACING CONCRETE SEALER.

DESIGN HISTORY AT THIS SITE	
DES. NO.	TYPE OF WORK
1162	ORIGINAL DESIGN
480	DECK OVERLAY
---	MACADAM STONE SLOPE PROTECTON
221	BRIDGE REPAIRS



whks
engineers + planners + land surveyors

NOTE:
ROADWAY QUANTITIES SHOWN
ELSEWHERE IN THESE PLANS.

TRAFFIC CONTROL PLAN:
THE ROADWAY WILL BE OPEN TO THRU TRAFFIC.
REFER TO THE TRAFFIC CONTROL PLAN SHOWN
ELSEWHERE IN THESE PLANS.

DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)

232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE

43'-1½ & 51'-5½ END SPANS 2 - 68'-9 INTERIOR SPAN

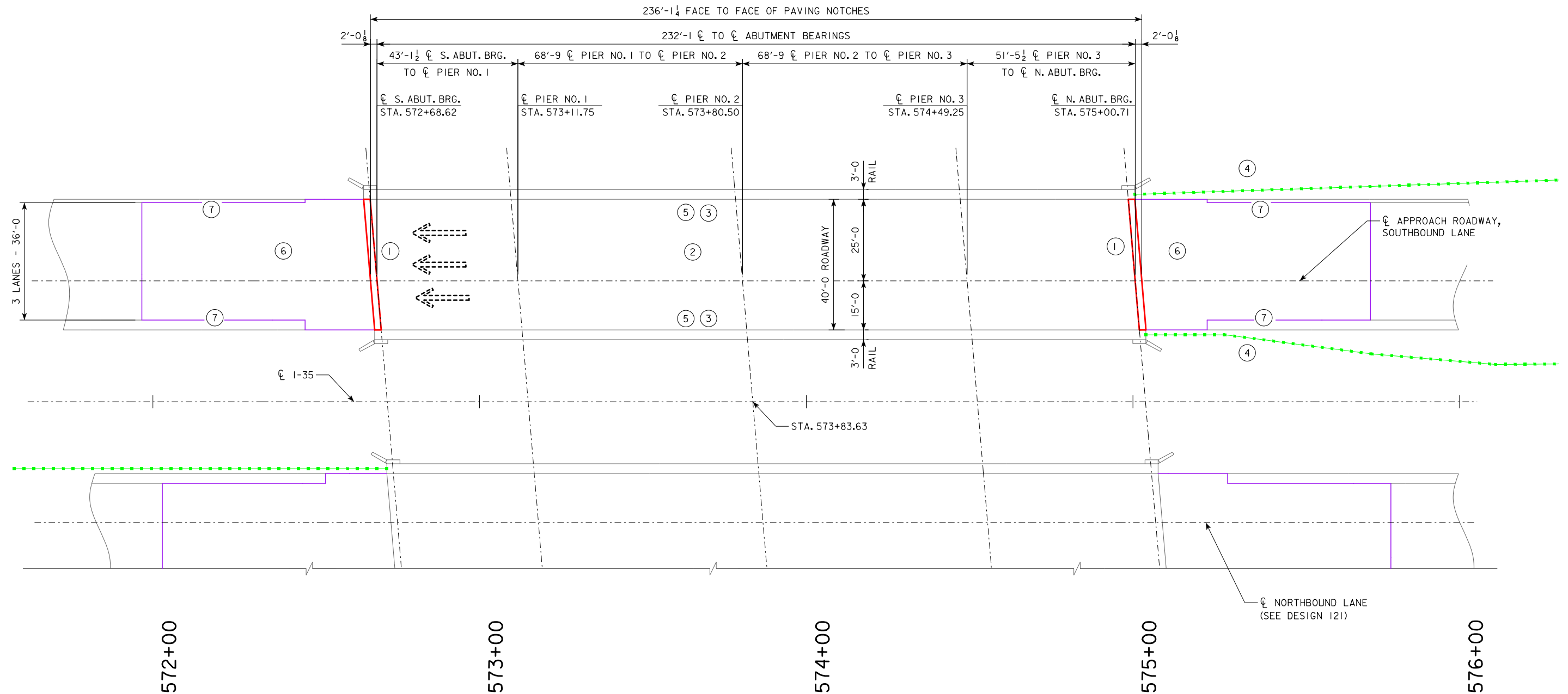
GENERAL NOTES AND QUANTITIES

STA. 573+83.63 (1-35) DECEMBER, 2020

STORY COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

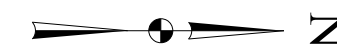
DESIGN SHEET NO. 1 OF 6 FILE NO. 31781 DESIGN NO. 221



SITUATION PLAN

REPAIRS SHALL CONSIST OF:

- ① PERFORM CLASS A DECK REPAIRS TO TOP OF ABUTMENT BACKWALLS, 1'-0" WIDTH.
- ② PERFORM CLASS A AND CLASS B DECK REPAIRS AS NEEDED.
- ③ CONCRETE REPAIR OF CURBS.
- ④ REMOVE AND REPLACE OBSOLETE GUARDRAILS, OUTSIDE AND INSIDE SHOULDERS.
- ⑤ CLEAN AND SEAL CONCRETE BARRIER RAILS AND CURBS.
- ⑥ REMOVE AND REPLACE BOTH BRIDGE APPROACHES.
- ⑦ CONSTRUCT PAVED SHOULDERS.



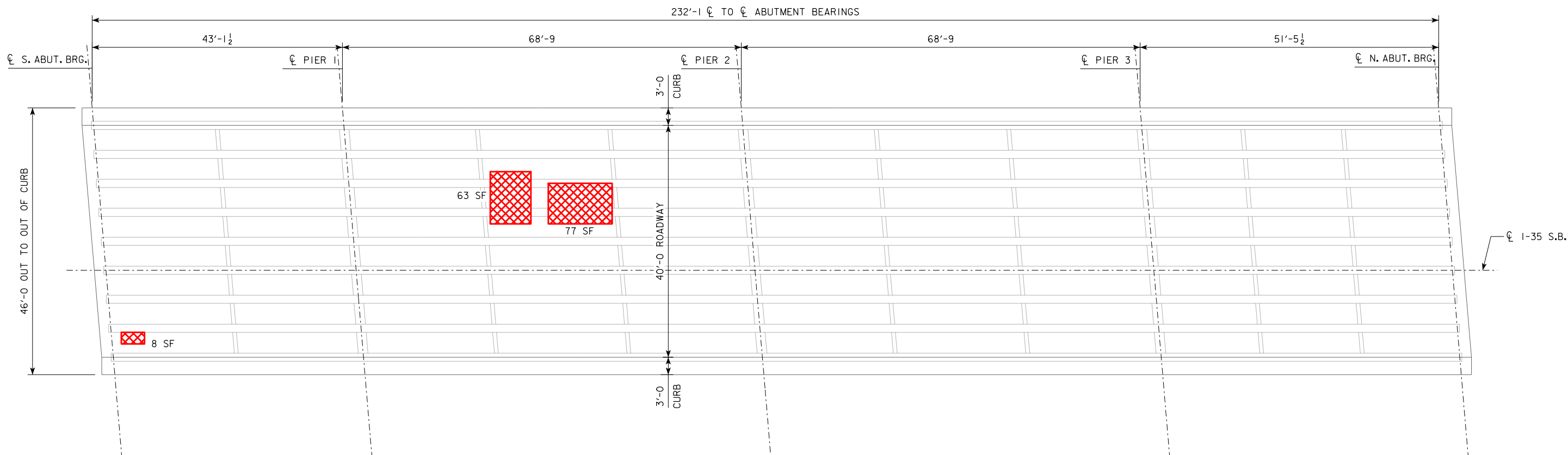
TRAFFIC ESTIMATE

2019 AADT 15,550 V.P.D.
TRUCKS 21 %

LOCATION:

I-35 SOUTHBOUND OVER US 30
T-83N, R-23W
SECTIONS 7 & 18
GRANT TOWNSHIP
STORY COUNTY
MAINT. NO. 8511.8L035
FHWA NO. 049220
LATITUDE 42.008004
LONGITUDE -93.571286

DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)
**232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
43'-1 1/2' & 51'-5 1/2' END SPANS 2 - 68'-9' INTERIOR SPAN
SITUATION PLAN
STA. 573+83.63 (I-35) DECEMBER, 2020
STORY COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 2 OF 6 FILE NO. 31781 DESIGN NO. 221

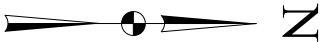


LEGEND

 DECK REPAIR, CLASS B

DECK REPAIR PLAN

(FAINT LINES INDICATE GIRDER & DIAPHRAGM LOCATIONS)



NOTE:
THE QUANTITY FOR "DECK REPAIR, CLASS A" IS ESTIMATED TO BE 20% OF THE BRIDGE DECK AREA PLUS THE AREAS OF THE TOPS OF BACKWALLS AND IS NOT SHOWN ABOVE. ACTUAL SPALLED AND HOLLOW AREAS, AS DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION SHALL BE REPAIRED.

DECK REPAIR, CLASS B	
I-35 SOUTHBOUND	TOTAL
DECK	16.4
TOTAL (SQ. YDS.)	
16.4	

DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)

232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE

43'-1 1/2 & 51'-5 1/2 END SPANS 2 - 68'-9 INTERIOR SPAN

DECK REPAIR PLAN

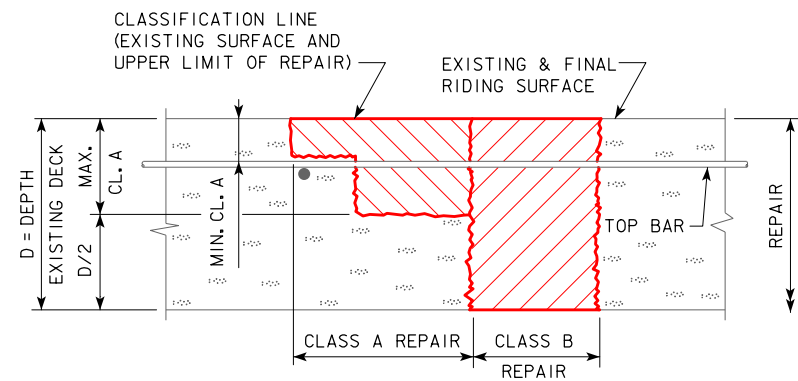
STA. 573+83.63 (I-35) DECEMBER, 2020

STORY COUNTY

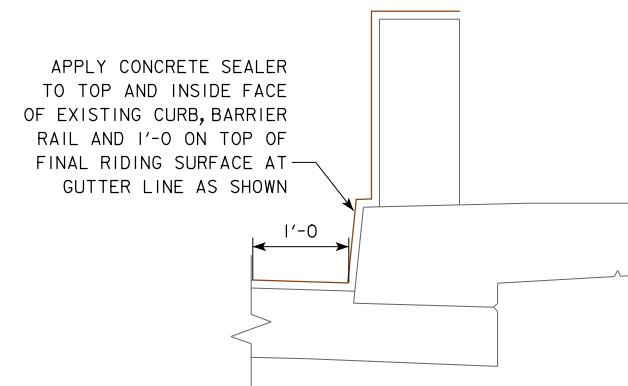
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 3 OF 6 FILE NO. 31781 DESIGN NO. 221

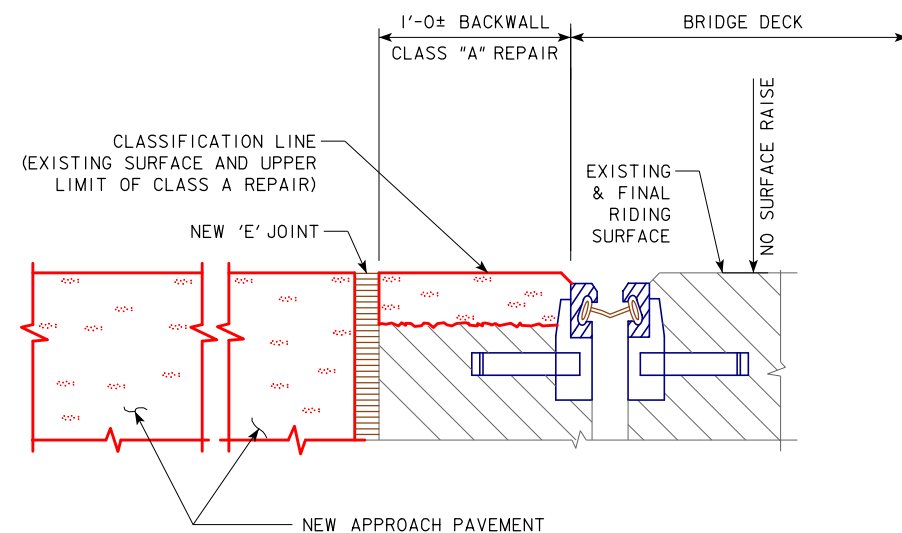




REPAIR DEFINITION



CONCRETE SEALER DETAIL

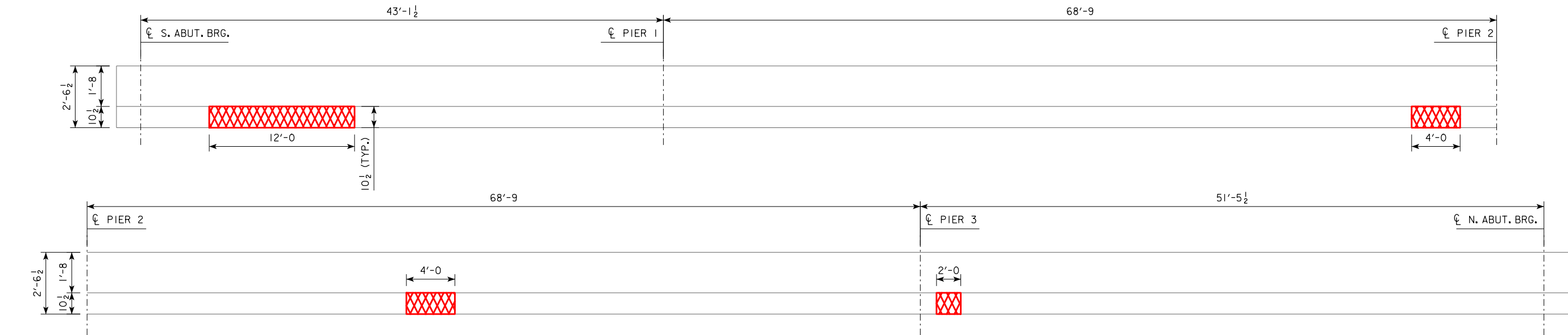


PART LONGITUDINAL SECTION ALONG ROADWAY
BOTH ABUTMENTS

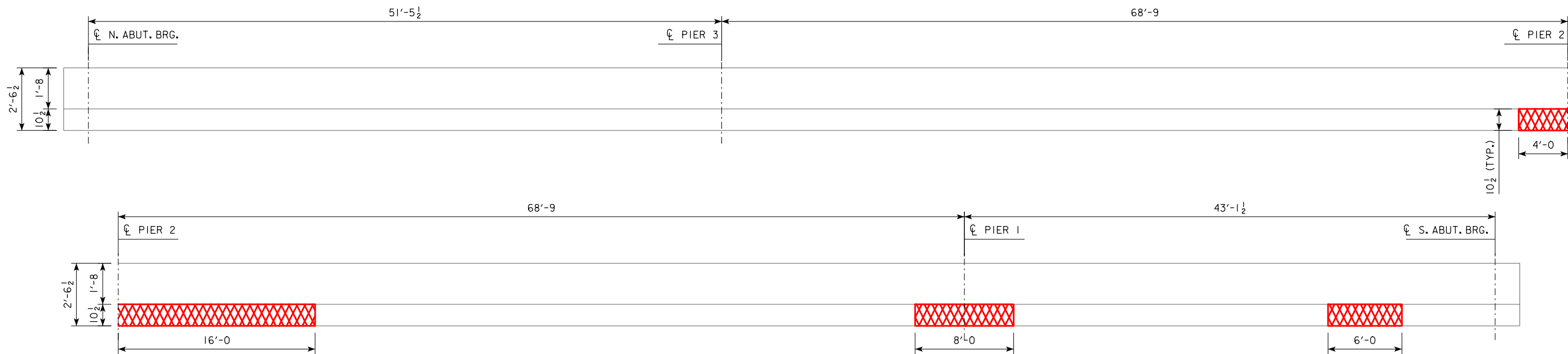
NOTE:
THE CLASS "A" REPAIR AREA SHOWN AT THE JOINT SHALL BE REMOVED TO A MINIMUM DEPTH 1 INCH BELOW THE EXISTING BACKWALL LONGITUDINAL REINFORCING. THE EXISTING REINFORCING BARS SHALL BE CAREFULLY EXPOSED AND INCORPORATED INTO THE NEW CONSTRUCTION WORK.



DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)
**232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
43'-1½ & 51'-5½ END SPANS 2 - 68'-9 INTERIOR SPAN
REPAIR DETAIL SHEET
STA. 573+83.63 (1-35) DECEMBER, 2020
STORY COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 4 OF 6 FILE NO. 31781 DESIGN NO. 221



WEST CURB
(LOOKING WEST)



EAST CURB
(LOOKING EAST)

NORTHBOUND BRIDGE CURB REPAIR

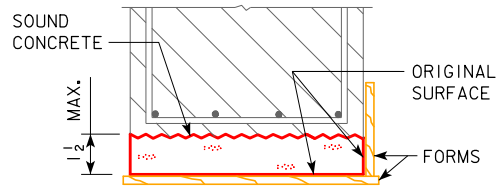
LEGEND	
	INDICATES REGULAR REPAIR

NOTE:
ACTUAL CONCRETE REPAIR AREAS ARE TO
BE DETERMINED BY THE ENGINEER
AT THE TIME OF CONSTRUCTION.

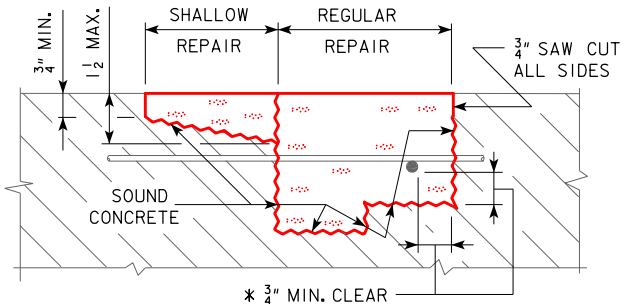


DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)	
232'-1 x 40'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE	
43'-1 1/2' & 51'-5 1/2' END SPANS	2 - 68'-9 INTERIOR SPAN
CONCRETE REPAIR ELEVATION	
STA. 573+83.63 (I-35)	DECEMBER, 2020
STORY COUNTY	
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION	
DESIGN SHEET NO. <u>5</u> OF <u>6</u>	FILE NO. <u>31781</u> DESIGN NO. <u>221</u>

REVISED 10-14 - DELETED ALL REFERENCES TO GROUT. SECTION 2426 COVERS THIS REQUIREMENT AND DOESN'T NEED TO STATED ON THE PLANS.
ENGLISHREPAIRRETROFITBRIDGES.DGN 1045 - THIS SHEET REDRAWN 9-27-90.

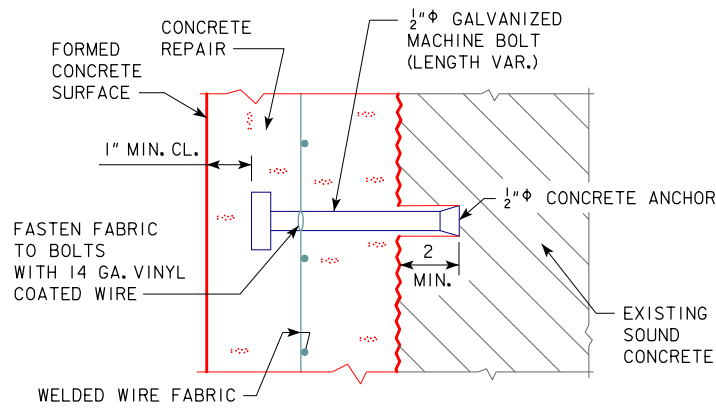


SHALLOW REPAIR
BOTTOM SURFACE



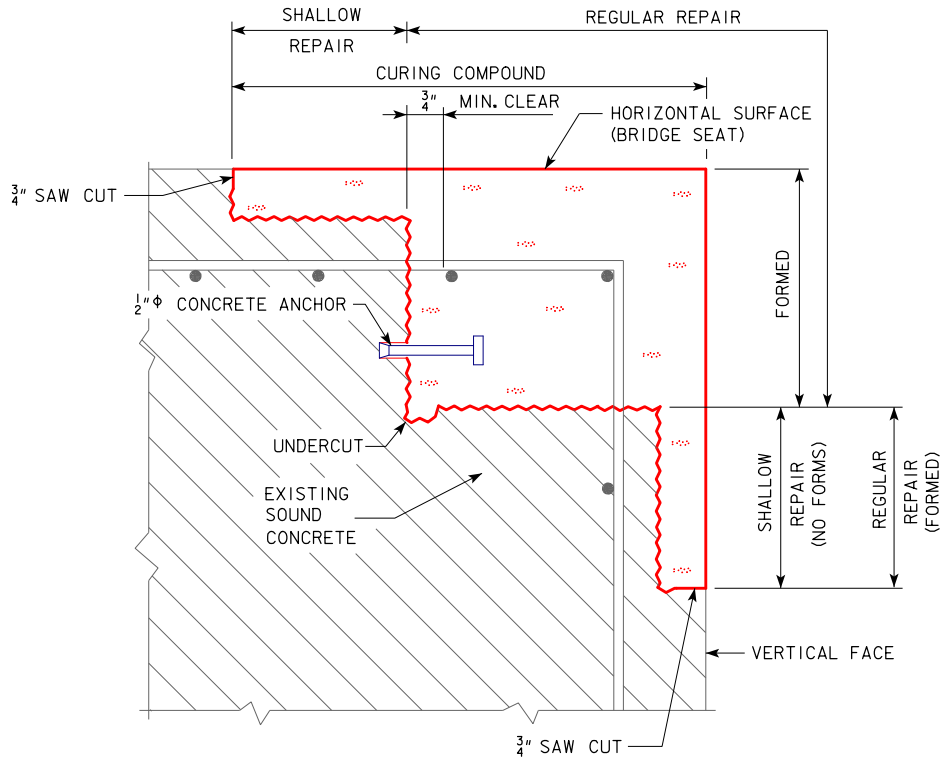
REPAIR DEFINITION

* INDICATES CLEARANCE FOR AN UN-BONDED REBAR.

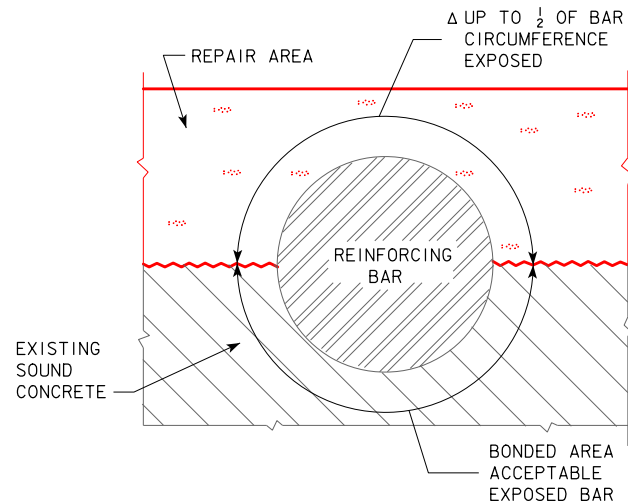


ANCHOR DETAIL

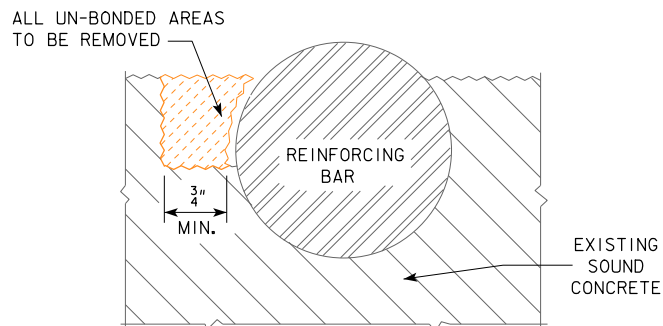
FOR SPACING AND USE OF CONCRETE ANCHORS
AND WWF SEE THE REPAIR NOTES.



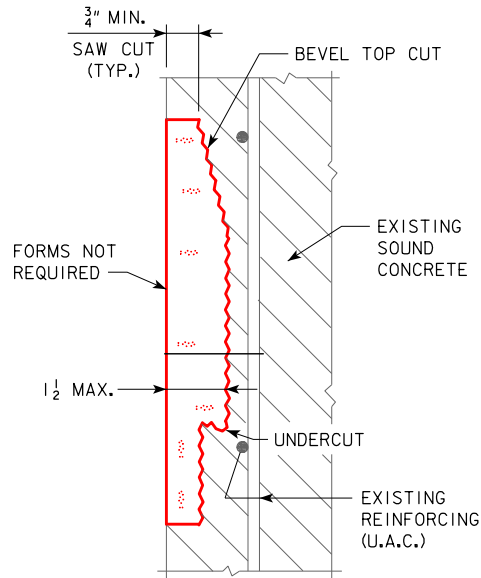
CORNER REPAIR



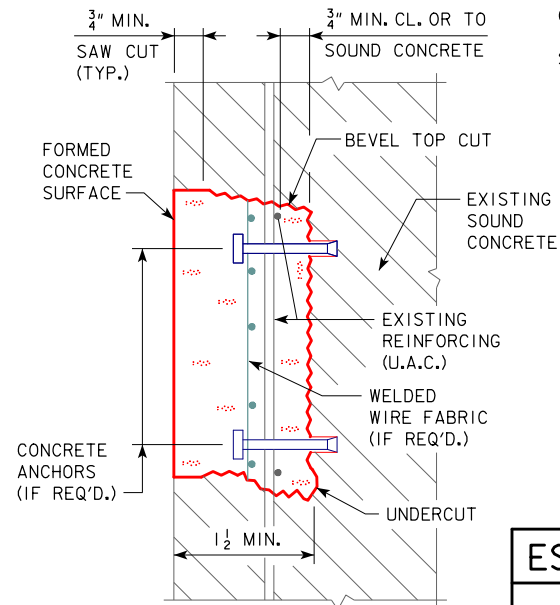
Δ IF MORE THAN 1/2 OF THE REBAR IS EXPOSED IT
SHALL BE TREATED AS AN UN-BONDED REBAR.



CONCRETE REMOVAL
ADJACENT TO REINFORCING



SHALLOW REPAIR
VERTICAL FACE



REGULAR REPAIR
VERTICAL FACE

REPAIR NOTES:

THE SPALLED AND HOLLOW AREAS OF THIS BRIDGE AS NOTED AND SHOWN IN THESE PLANS SHALL BE REPAIRED AS FOLLOWS:

ALL THE COSTS OF EQUIPMENT AND MATERIALS REQUIRED TO REPAIR THE SPALLED AND HOLLOW AREAS OF THIS BRIDGE SHALL BE INCLUDED IN THE PRICE BID FOR "CONCRETE REPAIR".

THE PRICE BID FOR "CONCRETE REPAIR" SHALL INCLUDE THE COST OF ALL CONCRETE ANCHORS AND WELDED WIRE FABRIC REQUIRED BY THE PLANS.

THE ENGINEER SHALL DETERMINE AND OUTLINE BY VISUAL AND AUDIBLE INSPECTION THE ACTUAL AREAS OF THE CONCRETE REPAIRS. THE CONTRACTOR SHALL BE PAID FOR THE ACTUAL AMOUNT OF REPAIRS MADE ON A SQUARE FOOT BASIS BASED ON THE PRICE BID PER SQUARE FOOT.

ALL EXISTING REINFORCING BARS THAT ARE EXPOSED BY CONCRETE REMOVAL SHALL BE CLEANED AND CAREFULLY INCORPORATED INTO THE NEW WORK, EXCEPT BADLY DETERIORATED EXISTING REINFORCING WHICH SHALL BE REPLACED AS DIRECTED BY THE ENGINEER.

THE CONCRETE ANCHORS REQUIRED SHALL HAVE A MINIMUM PULL OUT OF 5000 LBS. BASED ON 4000 PSI CONCRETE. AN ANCHOR MEETING THE REQUIREMENTS OF IOWA D.O.T. MATERIALS I.M. 453.09 AND THE PULL OUT LOAD ABOVE IS REQUIRED. THE ANCHORS SHALL BE GALVANIZED AND SHALL BE INSTALLED ACCORDING TO RECOMMENDATIONS OF THE MANUFACTURER. THE COST OF FURNISHING AND INSTALLING THE CONCRETE ANCHORS SHALL BE INCLUDED IN THE PRICE BID FOR "CONCRETE REPAIR".

THE WELDED WIRE FABRIC SHALL BE ASTM A185 AND GALVANIZED AS PER ASTM A-641. THE WWF WIRES SHALL BE SPACED 3 x 3 OR 4 x 4 AND THE WIRES SHALL HAVE A NOMINAL AREA OF 0.014 TO 0.029 SQUARE INCHES INCLUSIVE, EXAMPLE "WWF 3 x 3 - W1.4 x W2.9".

WHERE REINFORCEMENT HAS BEEN EXPOSED AND CLEARANCE AROUND THE PERIPHERY OF THE EXISTING BAR IS PROVIDED NO SUPPLEMENTAL REINFORCING IS REQUIRED, EXCEPT WHERE EXISTING REINFORCEMENT DENSITY AND PATTERN ARE SUCH THAT INDIVIDUAL OPEN SPACES BETWEEN BARS ARE OF 1.5 SQUARE FOOT OR LARGER. FOR THIS CONDITION 1/2 CONCRETE ANCHORS AND WELDED WIRE FABRIC SHALL BE INSTALLED AT THE RATE OF ONE CONCRETE ANCHOR WITH WWF PER EACH 1.5 SQUARE FEET OF AREA WITHIN EACH OPEN SPACE.

REPAIRING THE STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 2426, OF THE STANDARD SPECIFICATIONS.

CONCRETE PLACEMENT QUANTITIES

MARK	TYPE	UNITS	QUANTITY
①	SHALLOW REPAIR	SQ. FT.	0
②	REGULAR REPAIR	SQ. FT.	44
TOTAL (SQ. FT.)			44

ESTIMATED CONCRETE REPAIR QUANTITIES

DESCRIPTION	UNITS	AMOUNT
CONCRETE REPAIR	SQ. FT.	44

DESIGN FOR REPAIRS TO A 4°50'30" SKEW (R.A.)
**232'-1 x 40'-0 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
43'-1 1/2 & 51'-5 1/2 END SPANS 2 - 68'-9 INTERIOR SPAN
CONCRETE REPAIR
STA. 573+83.63 (I-35) DECEMBER, 2020
STORY COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 6 OF 6 FILE NO. 31781 DESIGN NO. 221



DESIGN TEAM AJV/RGV/BRH/GLP

STANDARD SHEET 1045

STORY COUNTY

PROJECT NUMBER MBIN-035-1(506)112--OM-85

SHEET NUMBER 13

11/17/2020 8:54:57 AM wb L:\DEPT\6\8500.19-FY 21 MB-Rehab-Cleaning\Story 121-221\Drawings\BRG-85035506.dgn 850221S006 11x17-pdf.pltcf9

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Roadway Title Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 2	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Project Description
C.1	Estimated Roadway Quantities
C.1 - 2	Estimate Reference Information
C.2	Standard Road Plans
C.2	Index of Tabulations
C.2	General Notes
C.2 - 9	Tabulations
D Sheets	Mainline Plan and Profile Sheets
* D.1 - 3	I-35 Plan Sheets
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Staging Notes
J.1	511 Travel Restrictions
J.1	Coordinated Operations
J.2	Staging Typical Cross Sections
* J.3	Traffic Control and Staging Legend
* J.4 - 17	Traffic Control and Staging, Stage 1
* J.18 - 31	Traffic Control and Staging, Stage 2
* J.32 - 45	Traffic Control and Staging, Stage 3
* J.46 - 48	Detour Maps for Loop Closures
	 * Color Plan Sheets



Design No. 121 & 221
File No. 31781



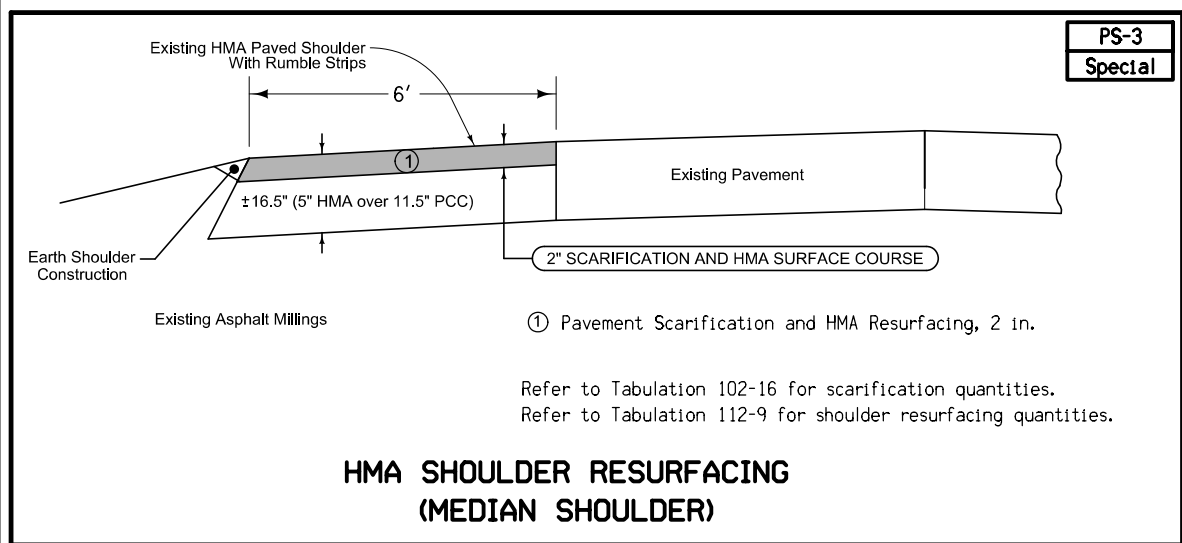
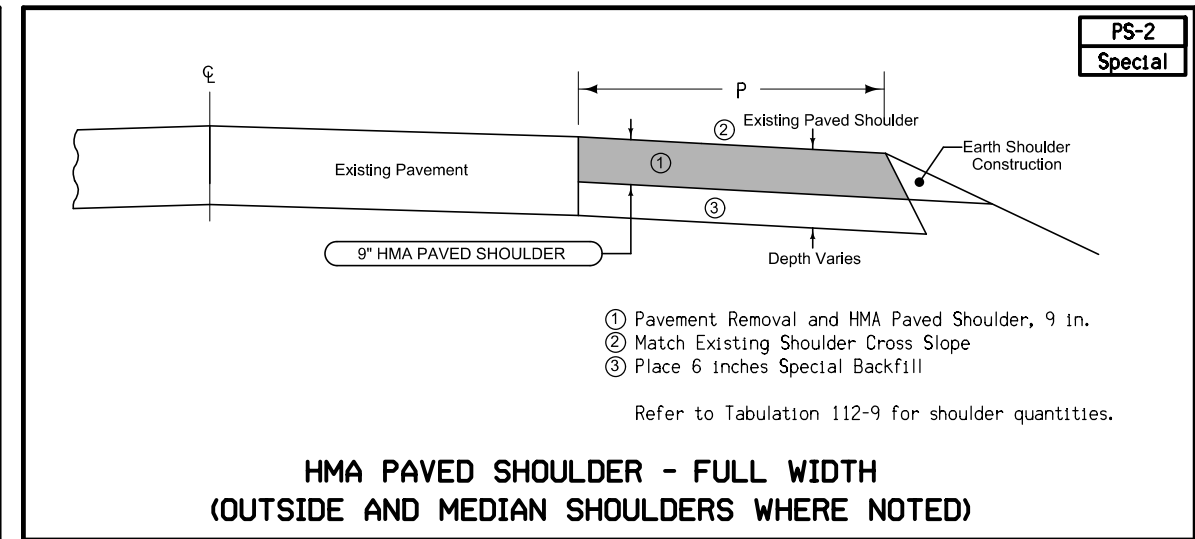
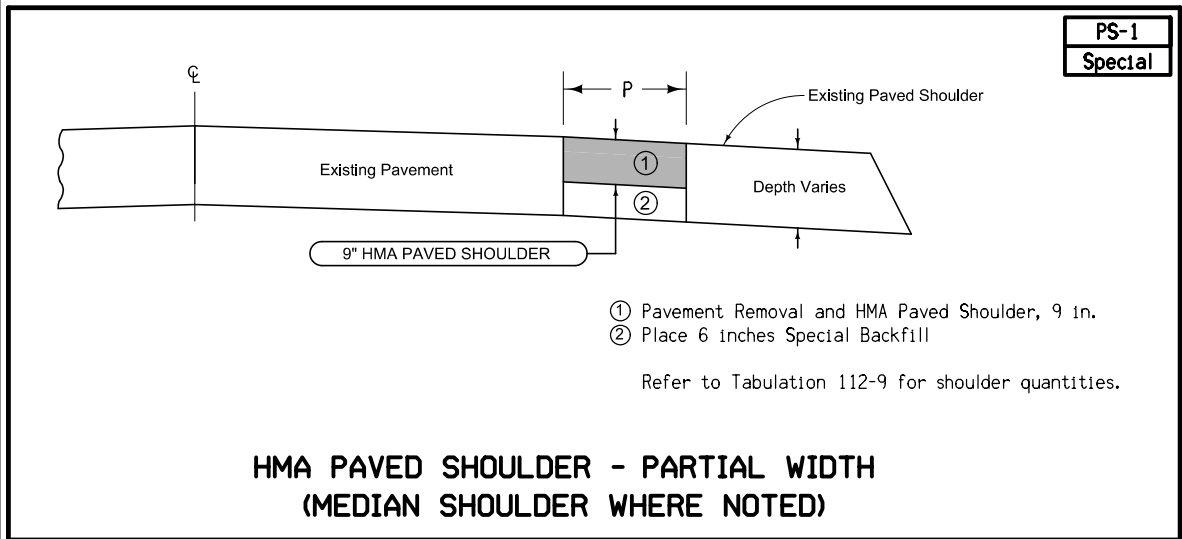
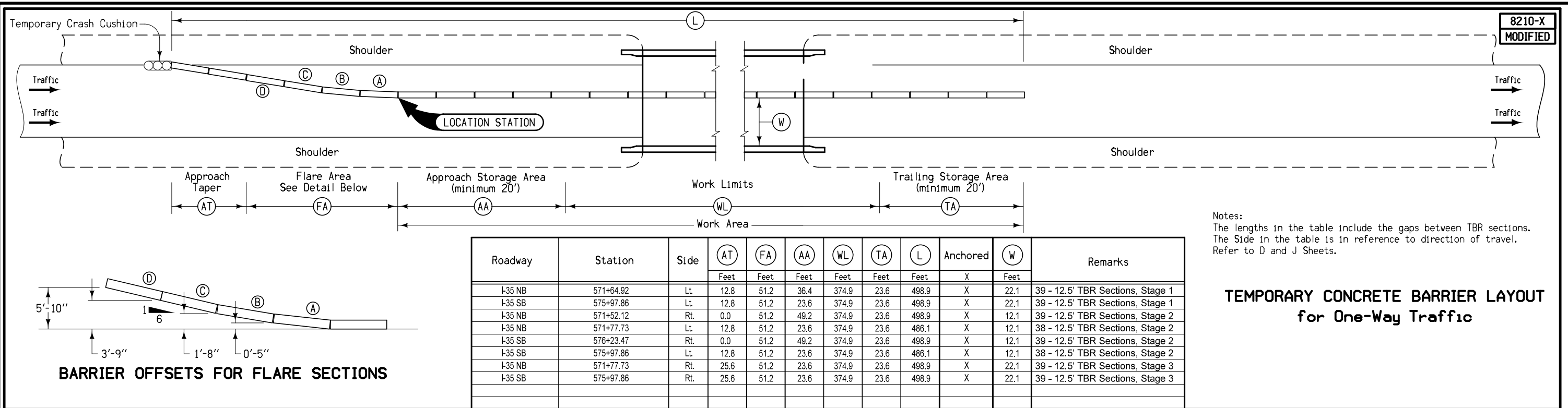
I hereby certify that this plan was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

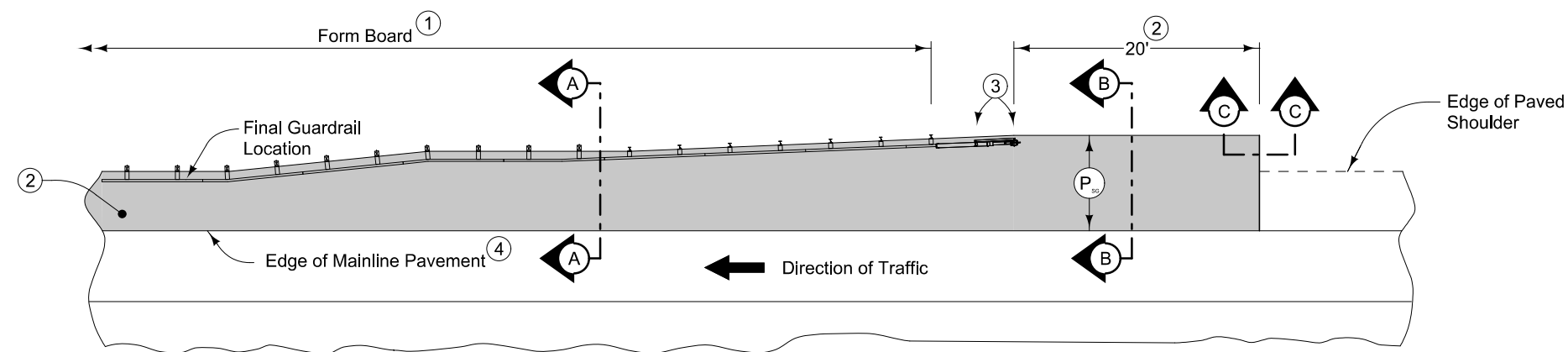
Signature Brian J. Birkland 11-17-20
Date

Printed or Typed Name Brian J. Birkland

My license renewal date is December 31, 2020

Pages or sheets covered by this seal: A.1, B.1-B.2, C.1-C.9, D.1-D.3, J.1-J.48





PLAN VIEW

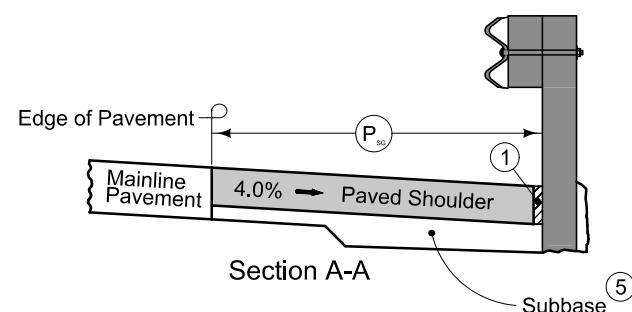
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at $P/2$ from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

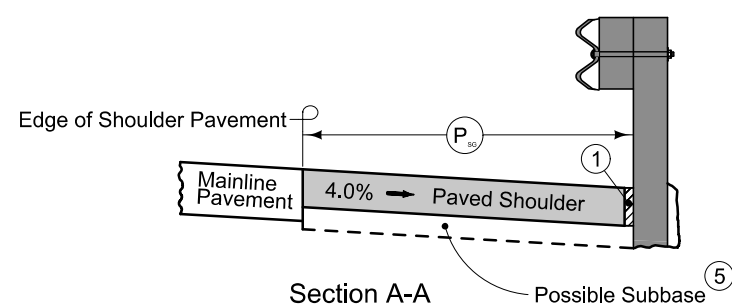
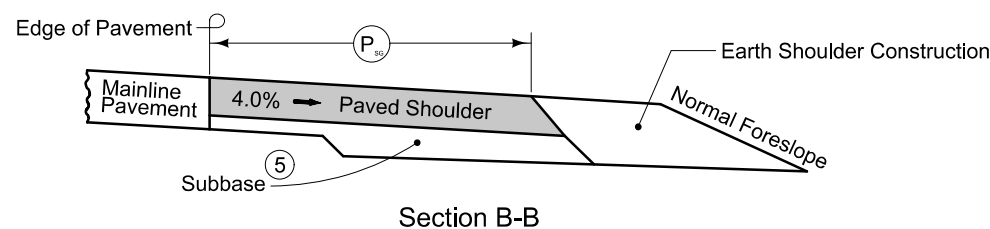
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

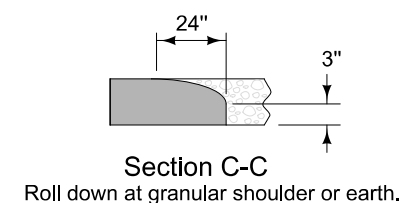
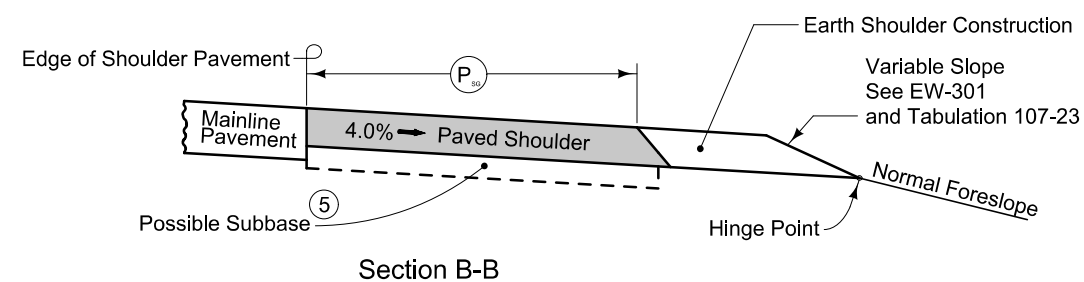
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'KT-1 joint for PCC shoulder.
'B' joint for HMA shoulder.
- ⑤ Refer to other details in the plan.



NEW CONSTRUCTION



EXISTING SHOULDER

PAVED SHOULDER AT GUARDRAIL
(REPLACEMENT OF PAVED SHOULDER ADJACENT TO MAINLINE)

[illegible][illegible]

111-25 10-18-11 INDEX OF TABULATIONS		
Tabulation	Tabulation Title	Sheet No.
C Sheets		
100-0A	ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)	C.1
100-1D	PROJECT DESCRIPTION	C.1
100-4A	ESTIMATE REFERENCE INFORMATION	C.1 - C.2
100-19	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	C.3
102-16	NOTCHES AND RUNOUTS FOR RESURFACING	C.4
102-5	EXISTING PAVEMENT	C.3
103-10	TOPSOIL STRIPPING AND PLACEMENT	C.3
105-4	STANDARD ROAD PLANS	C.2
107-23	GRADING FOR GUARDRAIL INSTALLATIONS	C.4
108-8A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.4
108-9A	HIGH TENSION CABLE GUARDRAIL	C.4
108-13A	SAFETY CLOSURES	C.6
108-22	PAVEMENT MARKING LINE TYPES	C.7 - C.9
108-30	CRASH CUSHIONS	C.6
108-33	TEMPORARY BARRIER RAIL	C.6
108-35	TEMPORARY LANE SEPARATOR SYSTEM	C.6
110-1	REMOVAL OF PAVEMENT	C.3
110-7A	REMOVAL OF STEEL BEAM GUARDRAIL	C.4
110-7B	REMOVAL OF CABLE GUARDRAIL	C.4
111-25	INDEX OF TABULATIONS	C.2
112-6	BRIDGE APPROACH SECTION	C.5
112-9	SHOULDERS	C.5

232-3C 04-16-19 EROSION CONTROL (NATIVE GRASS SEEDING)	232-3C 04-16-19 EROSION CONTROL (RURAL SEEDING)																
Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed and mulch on the disturbed area lying 8 feet or more beyond the shoulder as follows:	Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area lying 8 feet adjacent to shoulder and median as follows:																
SEED MIX: <table> <tr> <td>Big bluestem (Andropogon geradii)</td><td>6 lbs. PLS/Acre (7.0 kg/ha)</td></tr> <tr> <td>Indiangrass (Sorghastrum nutans)</td><td>6 lbs. PLS/Acre (7.0 kg/ha)</td></tr> <tr> <td>Little bluestem (Schizachyrium scoparium)</td><td>6 lbs. PLS/Acre (7.0 kg/ha)</td></tr> <tr> <td>Partridge Pea (Chamaecrista fasciculata)</td><td>4 lbs. PLS/Acre (4.5 kg/ha)</td></tr> <tr> <td>Sideoats grama (Bouteloua curtipendula)</td><td>4 lbs. PLS/Acre (4.5 kg/ha)</td></tr> <tr> <td>Canada wildrye (Elymus canadensis)</td><td>2 lbs. PLS/Acre (2.2 kg/ha)</td></tr> <tr> <td>Switchgrass (Panicum virgatum)</td><td>1 lbs. PLS/Acre (1.1 kg/ha)</td></tr> <tr> <td>Oats (Avena sativa)</td><td>32 lbs./Acre (36.0 kg/ha)</td></tr> </table>	Big bluestem (Andropogon geradii)	6 lbs. PLS/Acre (7.0 kg/ha)	Indiangrass (Sorghastrum nutans)	6 lbs. PLS/Acre (7.0 kg/ha)	Little bluestem (Schizachyrium scoparium)	6 lbs. PLS/Acre (7.0 kg/ha)	Partridge Pea (Chamaecrista fasciculata)	4 lbs. PLS/Acre (4.5 kg/ha)	Sideoats grama (Bouteloua curtipendula)	4 lbs. PLS/Acre (4.5 kg/ha)	Canada wildrye (Elymus canadensis)	2 lbs. PLS/Acre (2.2 kg/ha)	Switchgrass (Panicum virgatum)	1 lbs. PLS/Acre (1.1 kg/ha)	Oats (Avena sativa)	32 lbs./Acre (36.0 kg/ha)	Place seed and fertilize according to the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications. Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications. Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are all incidental to mobilization and will not be paid for separately.
Big bluestem (Andropogon geradii)	6 lbs. PLS/Acre (7.0 kg/ha)																
Indiangrass (Sorghastrum nutans)	6 lbs. PLS/Acre (7.0 kg/ha)																
Little bluestem (Schizachyrium scoparium)	6 lbs. PLS/Acre (7.0 kg/ha)																
Partridge Pea (Chamaecrista fasciculata)	4 lbs. PLS/Acre (4.5 kg/ha)																
Sideoats grama (Bouteloua curtipendula)	4 lbs. PLS/Acre (4.5 kg/ha)																
Canada wildrye (Elymus canadensis)	2 lbs. PLS/Acre (2.2 kg/ha)																
Switchgrass (Panicum virgatum)	1 lbs. PLS/Acre (1.1 kg/ha)																
Oats (Avena sativa)	32 lbs./Acre (36.0 kg/ha)																
Furnish Big bluestem, Indiangrass, Canada wildrye and Little bluestem that is debarbed or equal to facilitate the application of seed.	254- 10-02-0 INCIDENT MANAGEMENT																
Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa. Oats are excluded from this requirement.	An incident management plan, provided by the District Office, will be discussed at the pre-construction conference.																
Place seed according to the requirements of Article 4169.02 of the Standard Specifications.	262- 10-18-0 UTILITIES (NOT A POINT 25 PROJECT)																
Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.	This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.																
Preparing the seedbed, furnishing and applying seed and mulch are incidental to mobilization and will not be paid for separately.																	

102-5 04-18-17																					
EXISTING PAVEMENT																					
No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth	Type	Depth	Type	Depth	Type	Depth	Source	Type	Durability Class	Type	
1	85	I-35	1,2	105.79	111.75	2013		MPIN-035-1(708)106--0N-85	MSS												
2	85	I-35	1,2			2008		IMX-35-4(130)106--02-85	HMA	2					MIL	2	AMES MINE	C. LST.			
3	85	I-35	1,2			2008	W	IMX-35-4(130)106--02-85	HMA	2					MIL	2	AMES MINE	C. LST.			WIDENINF WIDTH VARIES
4	85	I-35	1			2002	V	IMX-35-4(88)96--02-77	AAC	2.5	AAC	2									0.41 MI PATCH
5	85	I-35	1			1987		IR-35-3(47)87	AAC	1.5	AAC	3					AMES MINE	C. LST.			
6	85	I-35	1,2			1965		I-IG-35-4(12)103	PCC	10	GSB	4					CHRISTENSEN	GRAVEL	I		
7	85	I-35	1	111.75	112.72	1988		IR-35-5(45)111	PCC	11.5	GSB	9									
8	85	I-35	1					IMX-035-5(109)112--02-85	HMA	5											
9	85	I-35	2	105.79	111.75	1989		IR-35-4(58)105	AAC	4.5							AMES MINE	C. LST.			
10	85	I-36	2	111.75	126.04	1999		IM-35-5(71)111-13-85	PCC	12	GSB	10					ALDEN	C. LST.	I		

110-1 04-16-13						
REMOVAL OF PAVEMENT						
Refer to Tabulation 102-5						
* Not a Bid Item						
Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	Remarks
				SY	LF	
561+56.00	569+82.00	Out	HMA	917.8	20.0	Prior to Stage 1, Shoulder. NB I-35
577+93.93	584+69.14	Out	HMA	600.2	16.0	Prior to Stage 1, Shoulder. SB I-35
561+56.00	568+21.53	In	HMA	443.7	6.0	Stage 1, Shoulder, NB I-35
568+21.53	568+53.80	In	HMA	34.0		Stage 1, Shoulder, NB I-35
568+53.80	568+91.46	In	HMA	36.5		Stage 1, Shoulder, NB I-35
568+91.46	571+57.16	In	HMA	235.3		Stage 1, Shoulder, NB I-35
571+57.16	571+94.32	In	HMA	25.2		Stage 1, Shoulder, NB I-35
571+94.32	572+02.88	In	HMA	4.0		Stage 1, Shoulder, NB I-35
572+02.88	572+52.88	In	HMA	23.6		Stage 1, Shoulder, NB I-35
572+02.88	572+72.92	In	HMA/PCC	101.0	82.6	Stage 1, Bridge Approach, NB I-35
575+09.02	575+78.98	In	HMA/PCC	103.8	82.5	Stage 1, Bridge Approach, NB I-35
575+28.98	575+78.98	In	HMA	37.0	6.5	Stage 1, Shoulder, NB I-35
561+56.00	570+54.48	In	HMA	399.3	8.0	Stage 1, Shoulder, SB I-35
570+54.48	571+57.64	In	HMA	92.4	4.1	Stage 1, Shoulder, SB I-35
571+57.64	571+95.33	In	HMA	25.8		Stage 1, Shoulder, SB I-35
571+95.33	571+96.61	In	HMA	0.6		Stage 1, Shoulder, SB I-35
571+96.61	572+46.61	In	HMA	23.6		Stage 1, Shoulder, SB I-35
571+96.61	572+66.57	In	HMA/PCC	103.8	82.5	Stage 1, Bridge Approach, SB I-35
575+02.67	575+72.71	In	HMA/PCC	101.0	82.5	Stage 1, Bridge Approach, SB I-35
575+22.71	575+72.71	In	HMA	36.8	0.0	Stage 1, Shoulder, SB I-35
575+72.71	577+92.00	In	HMA	211.5	8.2	Stage 1, Shoulder, SB I-35
572+02.88	572+73.35	Middle	HMA/PCC	78.3	80.9	Stage 2, Bridge Approach, NB I-35
575+09.44	575+78.98	Middle	HMA/PCC	77.3	79.1	Stage 2, Bridge Approach, NB I-35
571+96.61	572+66.15	Middle	HMA/PCC	77.3	79.1	Stage 2, Bridge Approach, SB I-35
575+02.25	575+72.71	Middle	HMA/PCC	78.3	80.9	Stage 2, Bridge Approach, SB I-35
570+87.52	572+02.88	Out	HMA	76.6	6.0	Stage 3, Shoulder, NB I-35
572+02.88	572+52.88	Out	HMA	19.0	0.0	Stage 3, Shoulder, NB I-35
572+02.88	572+52.88	Out	HMA/PCC	75.0	12.2	Stage 3, Bridge Approach, NB I-35
572+52.88	572+74.36	Out	HMA/PCC	37.1	0.0	Stage 3, Bridge Approach, NB I-35
575+10.48	575+28.98	Out	HMA/PCC	35.0	0.0	Stage 3, Bridge Approach, NB I-35
575+28.98	575+78.98	Out	HMA/PCC	75.0	13.5	Stage 3, Bridge Approach, NB I-35
575+28.98	575+78.98	Out	HMA	30.3	6.0	Stage 3, Shoulder, NB I-35
571+96.61	572+46.61	Out	HMA/PCC	75.0	13.5	Stage 3, Bridge Approach, SB I-35
571+96.61	572+46.61	Out	HMA	31.1	6.0	Stage 3, Shoulder, SB I-35
572+46.61	572+58.14	Out	HMA	3.9	0.0	Stage 3, Shoulder, SB I-35
572+46.61	572+65.15	Out	HMA/PCC	30.5	0.0	Stage 3, Bridge Approach, SB I-35
575+01.21	575+22.71	Out	HMA/PCC	35.1	0.0	Stage 3, Bridge Approach, SB I-35
575+22.71	575+72.71	Out	HMA/PCC	75.0	13.5	Stage 3, Bridge Approach, SB I-35
575+22.71	575+72.71	Out	HMA	14.0	0.0	Stage 3, Shoulder, SB I-35
575+72.71	576+89.20	Out	HMA	64.2	4.7	Stage 3, Shoulder, SB I-35
				4544.9	794.3	

100-19 04-19-16						
PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE						
Possible Standards: EC-204						
Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
570+50.00	572+75.00	Out		240.0		Stage 3 NB Foreslope
575+05.00	575+90.00	Out		90.0		Stage 3 NB Foreslope
571+90.00	572+70.00	Out		80.0		Stage 3 SB Foreslope
575+00.00	577+20.00	Out		250.0		Stage 3 SB Foreslope
			Subtotal:	660.0		
			+25%	170.0		
			Bid	830.0		
			Removal	830.0		

103-10 04-18-17						
TOPSOIL STRIPPING AND PLACEMENT						
Location				Topsoil Stripping Thickness	Topsoil Placement Thickness	Remarks
Road Identification	Dir. of Traffic	Begin Station	End Station			
				IN	IN	
I-35	NB	570+60.00	572+20.00	6.0	4.0	Outside
I-35	SB	575+57.00	577+12.00	6.0	4.0	Outside

108-8A

10-16-18

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

① Lane(s) to which the obstacle is adjacent.

② Not a bid item. Incidental to guardrail installation.

No.		Direction of Traffic	① Side O = Outside M = Median	Location		Layout Lengths				Long-Span System		Delineators and Object Markers ②				Bid Items												Remarks
				Station	Offset	BA-250, BA-260, LS-630, or LS-635						SI-211	Delineator SI-172	Object Marker			Bolted End Anchor	Post Adapter	Steel Beam Guardrail	Barrier Transition Section	BA-250 or LS-630				BA-260 or LS-635			
						VT1	VF	VT2	ET					Type 1	Type 2	Type 3					End Terminal	Barrier Transition Section	End Terminal					
																								Tangent	Flared	Tangent	Flared	
						BA-211	White	OM2-2	OM3-L	OM3-R	BA-202			BA-210	BA-200	BA-201					BA-205	BA-206	LS-625	LS-626	BA-221	BA-225		
STATION	TYPE	TYPE	EACH	EACH	EACH	EACH	TYPE	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH													
1	SB	M	575+08.21	15.0	53.125	62.50	0.00	37.5			2		5	1	1	B	1		75.0	1		1						Stage 1
2	NB	O	572+70.77	25.0	53.125	62.50	0.00	47.7			2		5	1	1	B	1		75.0	1	1							Stage 3
3	SB	O	575+04.82	25.0	53.125	62.50	0.00	47.7			2		5	1	1	B	1		75.0	1	1							Stage 3
										Totals:						3			225.0	3	2	1						

GRADING FOR GUARDRAIL INSTALLATIONS																	107-23 10-18-11
① Lane(s) to which the installation is adjacent. Refer to EW-301																	
Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks	
No.	① Direction of Traffic	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10	Embankment In Place		
														CY	CY		
1	NB	572+70.77	Out	4:1	51.1	1.8	113.2	8.0	113.2	8.0	163.2	10.0	47.1	12.0	161.0		
2	SB	575+04.82	Out	4:1	51.0	1.8	113.2	8.0	113.2	8.0	163.2	10.0	43.3	10.0	113.0		
														22.0	274.0		

110-7A
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

① Lane(s) to which the installation is adjacent.
② Includes length of End Terminals and End Anchors.

Location					Removal of Guardrail ②
No.	① Direction of Traffic	Station to Station	Side	LF	
1	SB	575+05.00	577+05.00	In	200.0
2	NB	570+72.00	572+72.00	Out	200.0
3	SB	575+02.00	577+02.00	Out	200.0
			Total:		600.0

110-7B

10-19-10

REMOVAL OF CABLE GUARDRAIL

* Not a bid item

① Lane(s) to which the installation is adjacent

Location					Type (High/Low Tension)	Cable	Post * Footings, Concrete	End Terminal*	Remarks
No.	① Direction of Traffic	Station to Station		Side		Remove	Remove	Remove	
						LF	Yes/No	No.	
1	SB	576+53.00	577+03.00	In	High Tension	50.0	Yes	1	Stage 1, tie to new guardrail

108-9A
04-20-10

HIGH TENSION CABLE GUARDRAIL										
① Lane(s) to which the installation is adjacent.					Refer to BA-351.					
No.	Direction of ① Traffic	Location		Dimensions				Bid Items		Remarks
		Station	Side	Offset	Approach	Obstacle	Trailing	Protection Length (C _A +C ₀ +C _T)	End Anchor	
				D ₀	C _A	C ₀	C _T	FT	No.	
1	SB	577+03.00	Med	12 +/-	0.0	0.0	50.0	50.0	1	Stage 1, tie new GR to existing

102-16 10-21-14																																																							
NOTCHES AND RUNOUTS FOR RESURFACING																																																							
Refer to PR-201 and PR-202.																																																							
① Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.																																																							
<table><tr><th rowspan="2">Location Station</th><th rowspan="2">Type of Notch or Runout</th><th>S</th><th>I</th><th>DI</th><th>L</th><th>M</th><th>Pavement ① Scarification</th><th colspan="2" rowspan="2">Remarks</th></tr><tr><th>IN</th><th>IN</th><th>IN</th><th>FT</th><th>IN</th><th>SY</th></tr><tr><td>575+78.98</td><td>Type 'N2'</td><td>2.0</td><td></td><td></td><td></td><td>2.0</td><td>6246.1</td><td colspan="2">NB, HMA Resurfaced Inside Shoulders</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr></table>										Location Station	Type of Notch or Runout	S	I	DI	L	M	Pavement ① Scarification	Remarks		IN	IN	IN	FT	IN	SY	575+78.98	Type 'N2'	2.0				2.0	6246.1	NB, HMA Resurfaced Inside Shoulders																					
Location Station	Type of Notch or Runout	S	I	DI	L	M	Pavement ① Scarification	Remarks																																															
		IN	IN	IN	FT	IN	SY																																																
575+78.98	Type 'N2'	2.0				2.0	6246.1	NB, HMA Resurfaced Inside Shoulders																																															

108-30 04-16-13																				
CRASH CUSHIONS																				
* Bid Item ① Lane(s) to which the installation is adjacent. ② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500																				
No.	① Direction of Traffic	Location Station	Side	ObstaCLe Width	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks
					Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10	Embankment in Place	Permanent	Permanent Severe Use		
										Length	Length	Length	Length	Length						
				FT	FT	FT	FT	FT	FT	CY	CY	EACH	EACH							
1	NB	571+01.00	In	1.88	X													End of TBR - Inside of centerline	Stage 1	
2	SB	576+74.50	In	1.88	X													End of TBR - Inside of centerline	Stage 1	
3	NB	571+01.00	Out	1.88	X													End of TBR - Outside of centerline	Stage 2	
4	SB	576+74.50	Out	1.88	X													End of TBR - Outside of centerline	Stage 2	
5	NB	571+01.50	Out	1.88	X													End of TBR - Outside of centerline	Stage 3	
6	SB	576+74.50	Out	1.88	X													End of TBR - Outside of centerline	Stage 3	
		Total:			6															

108-33 10-15-19									
TEMPORARY BARRIER RAIL									
Possible Standard: BA-401 Possible Detail: 560-7									
* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.									
No.	Station to Station		Length	(Select One)		Anchored*	Modular Glare	Remarks	
			LF	Concrete BA-401	Steel 560-7		Screen System (Y/N)		
1	571+01.10	576+00.00	487.5	X		No	No	Stage 1	I-35 NB
2	571+75.70	576+74.50	487.5	X		No	No	Stage 1	I-35 SB
3	571+01.10	575+99.90	487.5	X		No	Yes	Stage 2	I-35 NB
4	571+14.20	575+99.90	475.0	X		No	No	Stage 2	I-35 NB
5	571+75.70	576+74.50	487.5	X		No	Yes	Stage 2	I-35 SB
6	571+75.70	576+61.60	475.0	X		No	No	Stage 2	I-35 SB
7	571+01.10	575+99.90	487.5	X		No	No	Stage 3	I-35 NB
8	571+75.70	576+74.50	487.5	X		No	No	Stage 3	I-35 SB
		Bid Length:	3875.0					Bid Length doesn't inlcude gaps between barrier sections.	
								Refer to Detail 8210-x on Sheet B.1	

108-35 04-17-12			
TEMPORARY LANE SEPARATOR SYSTEM			
See TC-61			
Station to Station		Length	Remarks
		LF	
558+06.00	563+06.00	500	Stage 2 NB
563+06.00	571+51.00	845	Stage 2 NB
563+06.00	571+77.00	871	Stage 2 NB
575+99.00	584+70.00	871	Stage 2 SB
576+24.00	584+70.00	846	Stage 2 SB
584+70.00	589+70.00	500	Stage 2 SB
	Total:	4433	

108-13A 08-01-08			
SAFETY CLOSURES			
Refer to Section 2518 of the Standard Specifications			
Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
0EB-35NB Loop	1		Stages 1-3
0WB-35SB Loop	1		Stages 1-3
5SB-30EB Loop	1		Stage 3
Total:	3		

***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

****NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.**

ELW4: Edge Line Right (White) @ 1.00

CHW8: Channelizing Line (White) @ 2.00

CHY8: Channelizing Line (Yellow) @ 2.00

FILE NO.	31781	ENGLISH	DESIGN TEAM	WHKS & CO.		STORY	COUNTY	PROJECT NUMBER	MBIN-035-1(506)112--0M-85	SHEET NUMBER	C.7
----------	--------------	---------	-------------	-----------------------	--	-------	--------	----------------	----------------------------------	--------------	------------

***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

****NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.**

ELW4: Edge Line Right (White) @ 1.00

CHY8: Channelizing Line (Yellow) @ 2.00

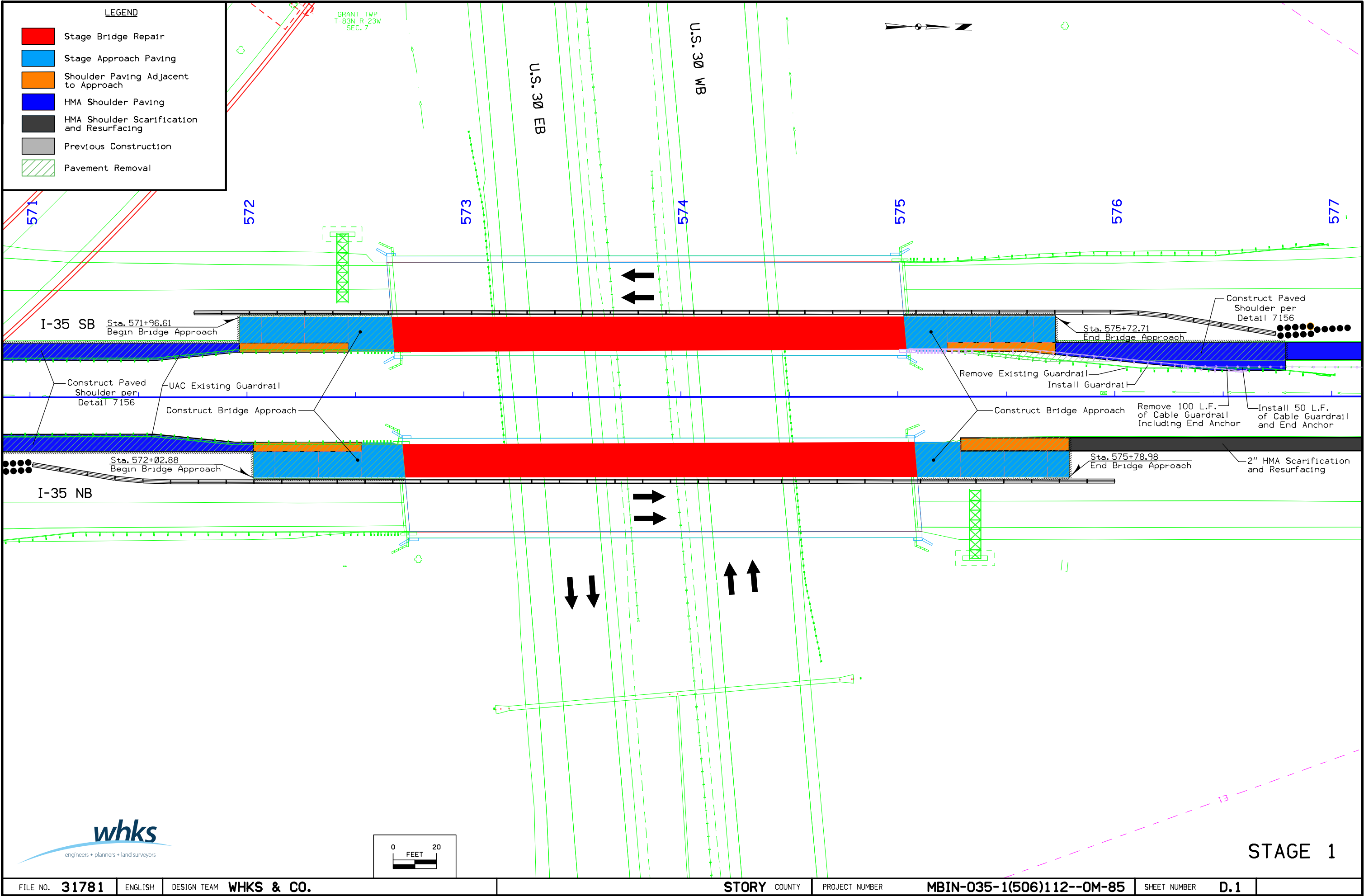
FILE NO.	31781	ENGLISH	DESIGN TEAM	WHKS & CO.		STORY	COUNTY	PROJECT NUMBER	MBIN-035-1(506)112--0M-85	SHEET NUMBER	C.8	
----------	--------------	---------	-------------	-----------------------	--	--------------	--------	----------------	----------------------------------	--------------	------------	--

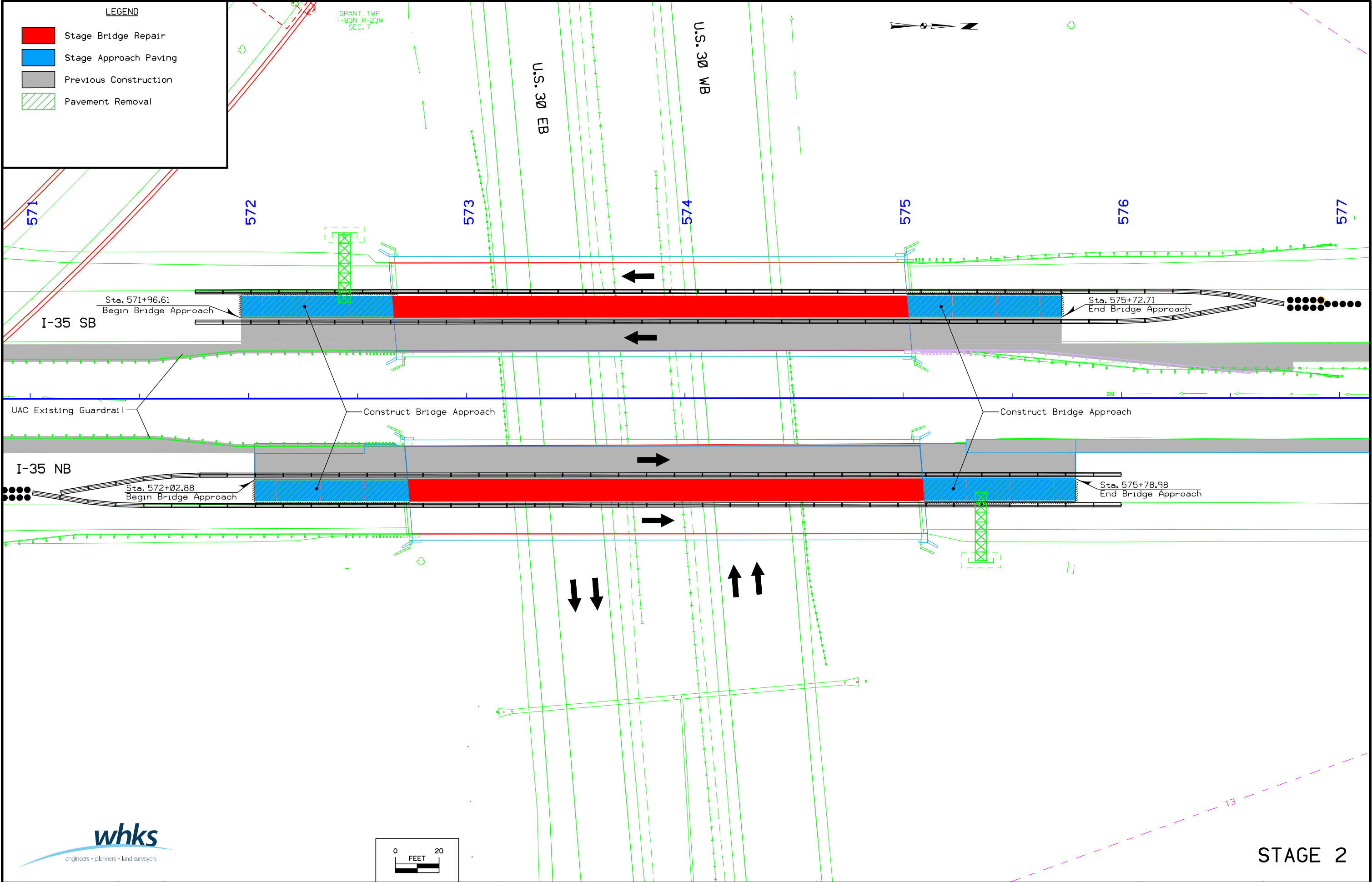
PAVEMENT MARKING LINE TYPES

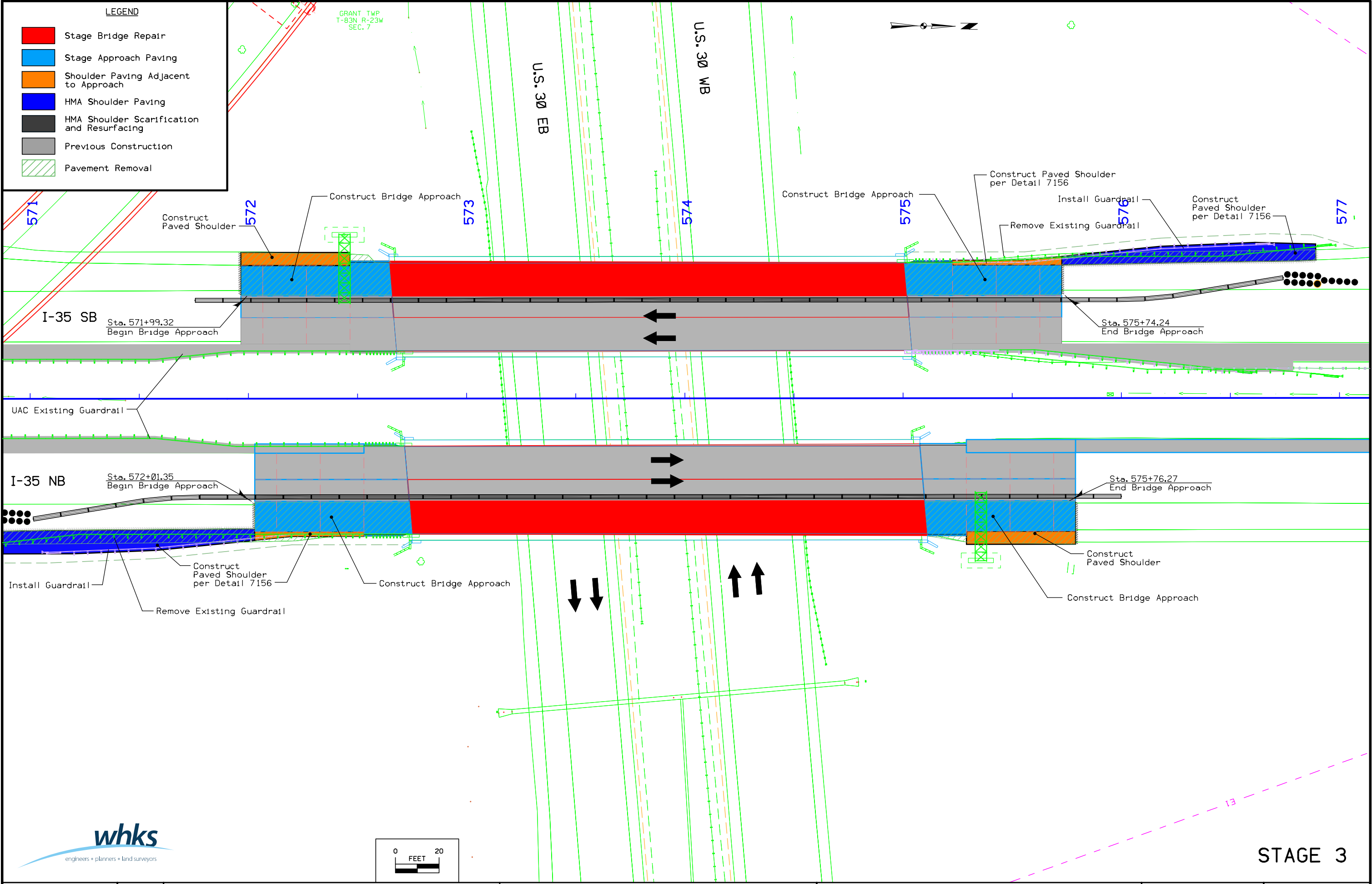
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

See PM-110
BCY4: Broken Centerline (Yellow) @ 0.25
DCY4: Double Centerline (Yellow) @ 2.00
NPY4: No Passing Zone Line (Yellow) @ 1.25
BLW4: Broken Lane Line (White) @ 0.25
ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00
CHW8: Channelizing Line (White) @ 2.00
CHY8: Channelizing Line (Yellow) @ 2.00

			Location					Length by Line Type (Unfactored)													Remarks			
Road ID	Station to Station		Dir. of Travel	Marking Type			Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	CHW8	CHY8							
							IN	C	OUT															
I-35				Factored Total: Waterborne/Solvent Paint					-	-	-	30.95	47.26	46.29	389.84	79.46	-	-	-	-	-	-	-	-
				Factored Total: Wet Retroreflective Removable Tape					-	-	-	-	-	-	211.26	105.62	-	-	-	-	-	-	-	-
				Factored Total: Removal of Paint					-	-	-	29.01	47.16	47.73	363.08	64.48	-	-	-	-	-	-	-	-
				Factored Total: Removal of Removable Tape					-	-	-	-	-	-	211.24	105.62	-	-	-	-	-	-	-	-
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based								593.80												
				Bid Quantity: Wet Retroreflective Removable Tape Markings								316.88												
				Bid Quantity: Pavement Markings Removed								551.46												
				Incidental Removal of Removable Tape								316.86												







108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic on I-35 and U.S. 30 and all corresponding ramps and loops shall remain open at all times, except as noted below.

The EB US 30 to NB I-35 loop shall be closed during Stages 1-3. See sheet J.46 for detour.
The WB US 30 to SB I-35 loop shall be closed during Stages 1-3. See sheet J.47 for detour.
The SB I-35 to EB US 30 loop shall be closed during Stages 3. See sheet J.48 for detour.

Place traffic control for loop closures according to Standard Road Plan TC-417.

For bridge repair work directly above US 30, traffic control on US 30 shall involve implementation of a lane closure according to TC-418 (Lane Closure on Divided Highway). An alternate plan shall be proposed to the Engineer if situations arise for construction that will endanger motorists or vehicles.

Two lanes of traffic shall be maintained on northbound and southbound I-35 during peak hours. No lane and shoulder closures will be allowed on I-35 NB/SB during peak hours. Peak Hours are shaded on Tab. 108-23B.
No lane closures will be allowed on days of home ISU football games.
The Engineer may modify closure hours based upon unexpected high traffic volumes.

Drums shown on J Sheets shall be placed on a 55 ft. spacing.
Channelizers on J Sheets shall be placed on a 100 ft. spacing, except as noted on Standard Road Plan TC-417.

111-01
04-17-12

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided	

108-26A
08-01-08

STAGING NOTES

Prior to Stage 1 Traffic

-Close the outside lane during non-peak times according to Standard Road Plans TC-418 and TC-420.

Prior to Stage 1 Construction

-Construct paved shoulder strengthening on the outside shoulders in two locations as shown on J.6 to J.8 and Tab. 112-9.

Stage 1 Traffic

-Close the EB US 30 to NB I-35 Loop using Standard Road Plan TC-417. Refer to Sheet J.46 for detour.
-Close the WB US 30 to SB I-35 Loop using Standard Road Plan TC-417. Refer to Sheet J.47 for detour.
-The following applies for both the northbound and southbound I-35:
-Shift the outside lane onto the outside shoulder. Shift the inside lane onto the outside lane. Close off the inside lane with TBR. Refer to sheets J.4 to J.17.

Stage 1 Construction

-Construct the inside 15 feet of the north and south bridge approaches of NB I-35.
-UAC existing south guardrail. Remove and reinstall if necessary for paving bridge approach and paved shoulder next to guardrail.
-Construct the inside 15 feet of the north and south bridge approaches of SB I-35.
-UAC existing south guardrail. Remove and reinstall if necessary for paving bridge approach and paved shoulder next to guardrail.
-Remove and replace existing north guardrail and HMA paved shoulder next to the guardrail posts as shown on Detail 7156 on Sheet B.2.
-Remove north cable guardrail end anchor and extend cable guardrail to new steel beam guardrail and install new end acnchor.
-Scarify and overlay the inside shoulder north of the NB I-35 bridge.
-Perform Class 'A' Deck Repair, Class 'B' Deck Repair, and Concrete Repair of Curbs of NB and SB I-35 bridges.

108-26A
08-01-08

STAGING NOTES

Stage 2 Traffic

-Loops closed in Stage 1 remain closed.
-The following appies for both the northbound and southbound I-35:
-Shift the inside lane towards the inside shoulder. The outside lane remains on the outside shoulder. Close off the center lane with TBR and temporary lane separator system. Refer to sheets J.18 to J.31.

Stage 2 Construction

-The following appies for both the northbound and southbound I-35:
-Construct the center 10 feet of the north and south bridge approaches.
-Perform Class 'A' Deck Repair and Class 'B' Deck Repair of NB and SB I-35 bridges.

Stage 3 Traffic

-Loops closed in Stage 1 remain closed.
-Close the SB I-35 to EB US 30 Loop using Standard Road Plan TC-417. Refer to Sheet J.48 for detour.
-The following appies for both the northbound and southbound I-35:
-Shift the outside lane to the center lane. The inside lane remains towards the inside shoulder. Close off the outside lane with TBR. Refer to Sheets J.32 to K.45.

Stage 3 Construction

-The following appies for both the northbound and southbound I-35:
-Construct the outside 15 feet of the north and south bridge approaches.
-Remove and replace existing guardrail and HMA paved shoulder next to the guardrail posts as shown on Detail 7156 on Sheet B.2.
-Perform Class 'A' Deck Repair, Class 'B' Deck Repair, and Concrete Repair of Curbs of NB and SB I-35 bridges.

108-23B
10-17-17

TRAFFIC CONTROL CLOSURE TABLE(S)

* This is to only be used in conjunction with Tabulation 108-23A
Shaded area indicates times that lane closures are not allowed

For Northbound I-35																																																		
	AM																Noon	PM																																
	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30		
SUN																																																		
MON																																																		
TUE																																																		
WED																																																		
THU																																																		
FRI																																																		
SAT																																																		

For Southbound I-35																																																		
	AM																Noon	PM																																
	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30		
SUN																																																		
MON																																																		
TUE																																																		
WED																																																		
THU																																																		
FRI																																																		
SAT																																																		

108-25
10-21-14

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
I-35	Both	Story	I-35 over U.S. 30 near Ames	U.S. 30	Barrier	FHWA 49210/49220	Horizontal	N/A	12'-0"	11'-0"	N/A	Stg. 2

FILE NO. 31781

ENGLISH

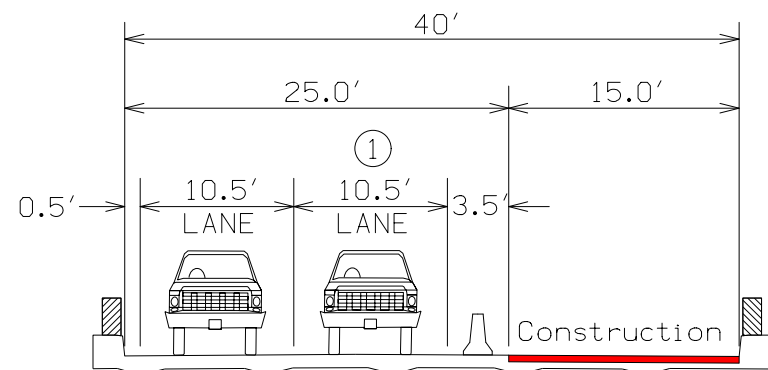
DESIGN TEAM WHKS & CO.

STORY COUNTY

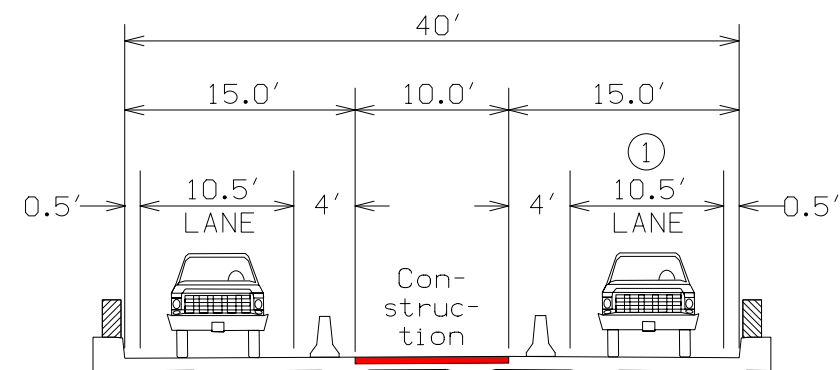
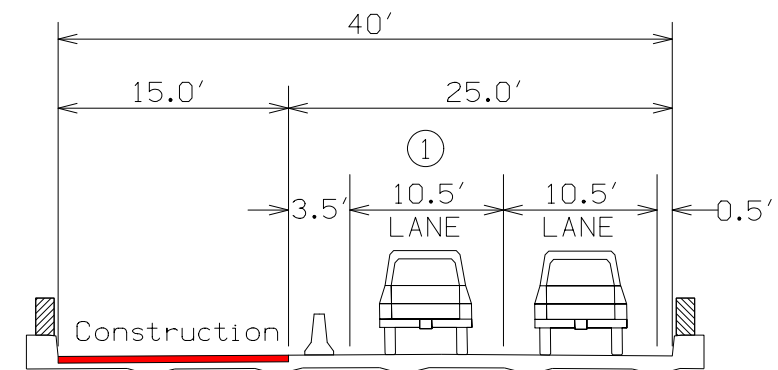
PROJECT NUMBER MBIN-035-1(506)112--0M-85

SHEET NUMBER J.1

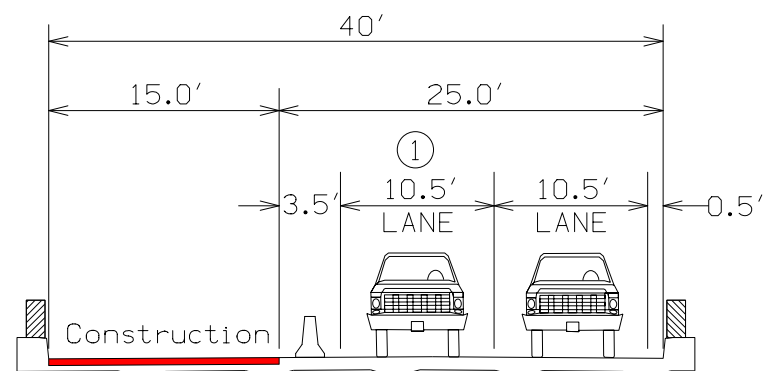
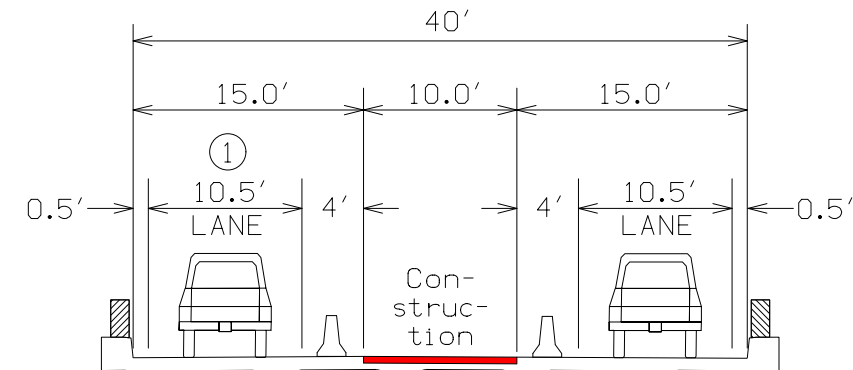
11/17/20207:11:28 PMbbirklandK:\8500.19\Story I-35 over I-30\Plans\85035506_j01.xlsm



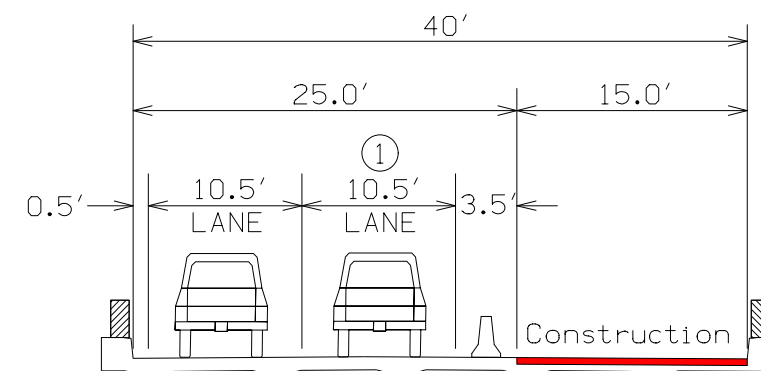
STAGE 1
(LOOKING AHEAD STATION)



STAGE 2
(LOOKING AHEAD STATION)



STAGE 3
(LOOKING AHEAD STATION)



I-35 SB

I-35 NB

TYPICAL CONSTRUCTION SECTIONS

① Lane may be closed during Non Peak hours.

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	 Existing Pavement Shading
Gray, Light	(48)	 Previously Constructed Pavement Shading
Gray, Med	(80)	 Previously Constructed Granular Surface Shading
Blue, Light	(230)	 Proposed Pavement Shading
Lavender	(9)	 Temporary Pavement Shading
Brown, Med	(237)	 Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS	
LINEWORK	Design Color No.

LINEWORK	Design Color No.	
Green	(2)	 Existing Topographic Features and Labels
Magenta	(5)	 Pavement Marking Call Outs
Blue	(1)	 Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	 Pavement Markings, Yellow
Off White	(254)	 Pavement Markings, White
Violet	(15)	 Temporary barrier rail, Unpinned
Flush Orange	(228)	 Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	 Existing Pavement Shading
Gray, Light	(48)	 Previously Constructed Pavement Shading
Gray, Med	(80)	 Proposed Granular Surface Shading
Gray, Med	(80)	 Previously Constructed Granular Surface Shading
Blue, Light	(230)	 Proposed Pavement Shading
Lavender	(9)	 Temporary Pavement Shading
Brown, Light	(236)	 Proposed Grading Limits Shading
Pink, Dark	(13)	 Proposed MSE or CIP Wall Shading
Red	(3)	 Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	 Previously Constructed Structure

PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.



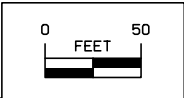
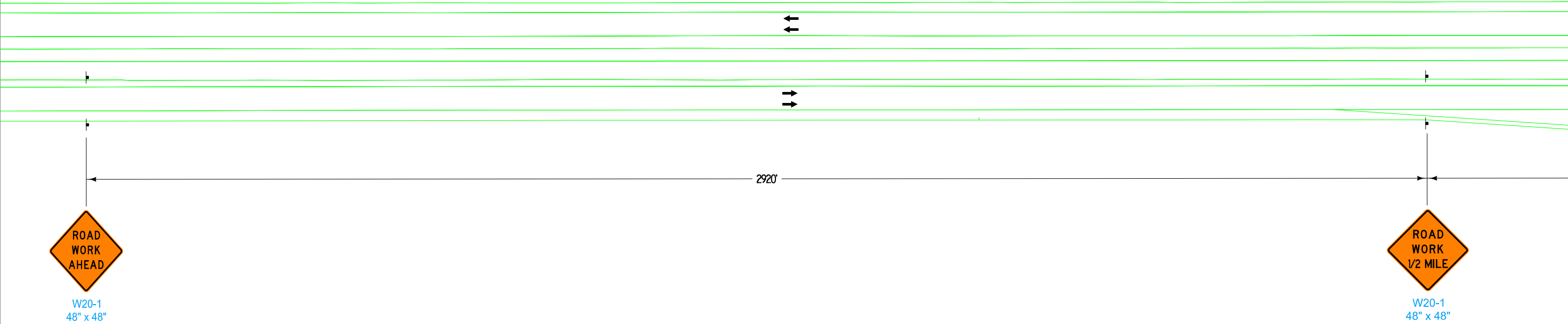
TRAFFIC CONTROL AND STAGING

(COVERS SHEET SERIES J)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 1
During Peak Hours (1 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



SPEED
LIMIT
65

R2-1
48" x 60"

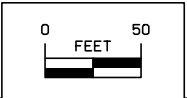
500'

625



W3-5
48" x 48"

1293



Traffic Control Stage 1
During Peak Hours (2 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



END
ROAD WORK

G20-2A
48" x 24"

900'

660'

500'

500'

660'

Construct Shoulder prior to Stage 1

SPEED
LIMIT
55

R2-1
48" x 60"



W1-4R
48" x 48"

ALL
LANES

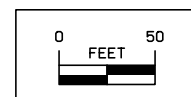
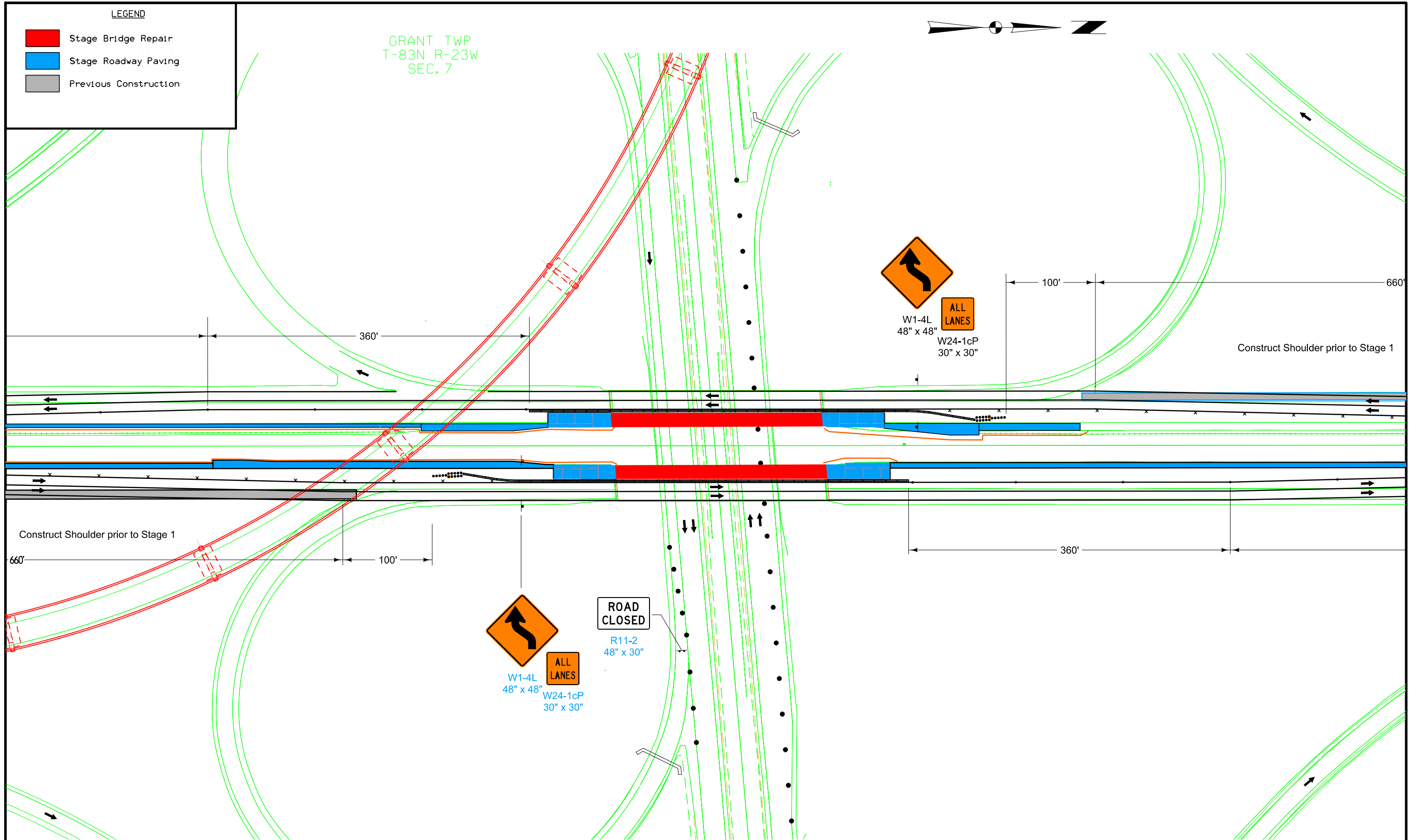


Traffic Control Stage 1
During Peak Hours (3 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7

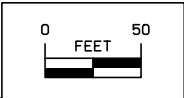
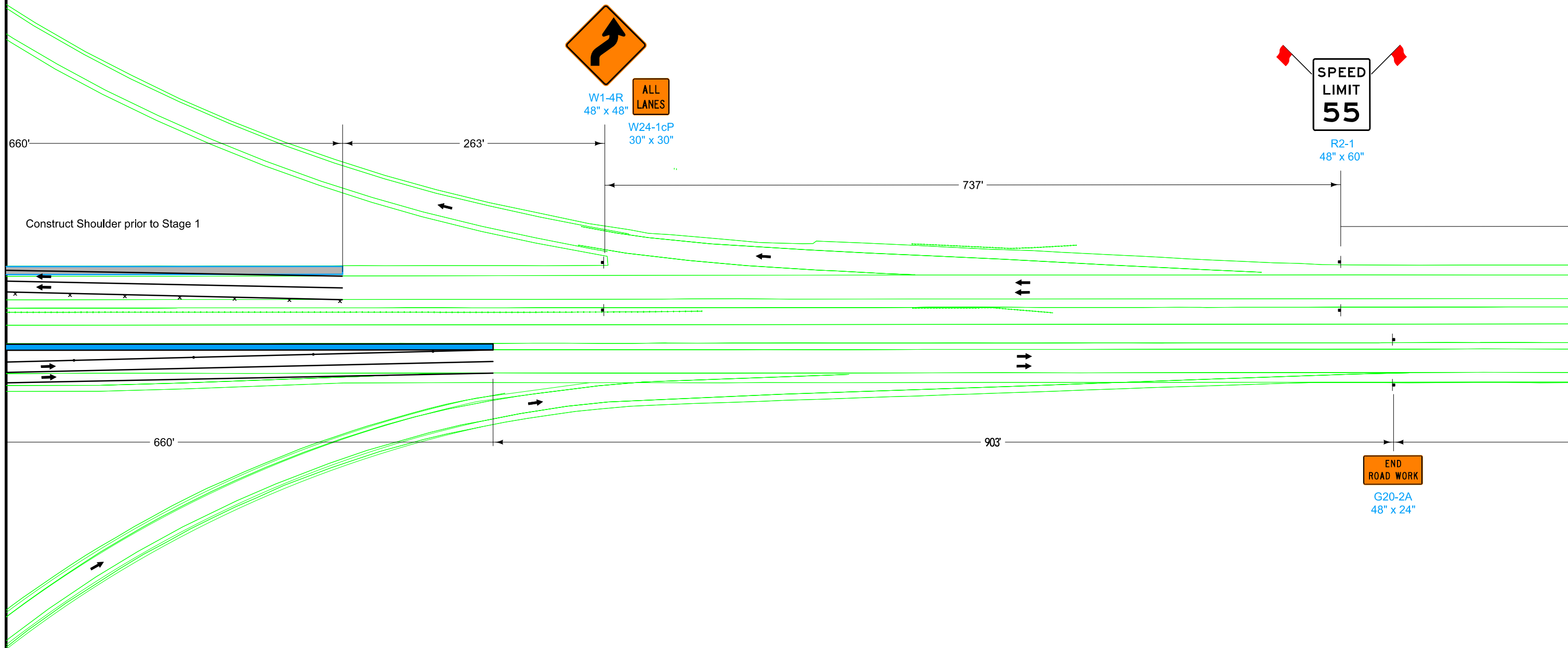


Traffic Control Stage 1
During Peak Hours (4 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 1
During Peak Hours (5 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W3-5
48" x 48"

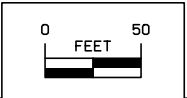
1340'

500'



R2-1
48" x 60"

500'



Traffic Control Stage 1
During Peak Hours (6 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7

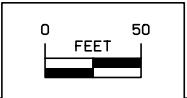


W20-1
48" x 48"



W20-1
48" x 48"

3000'

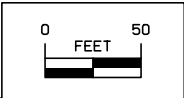
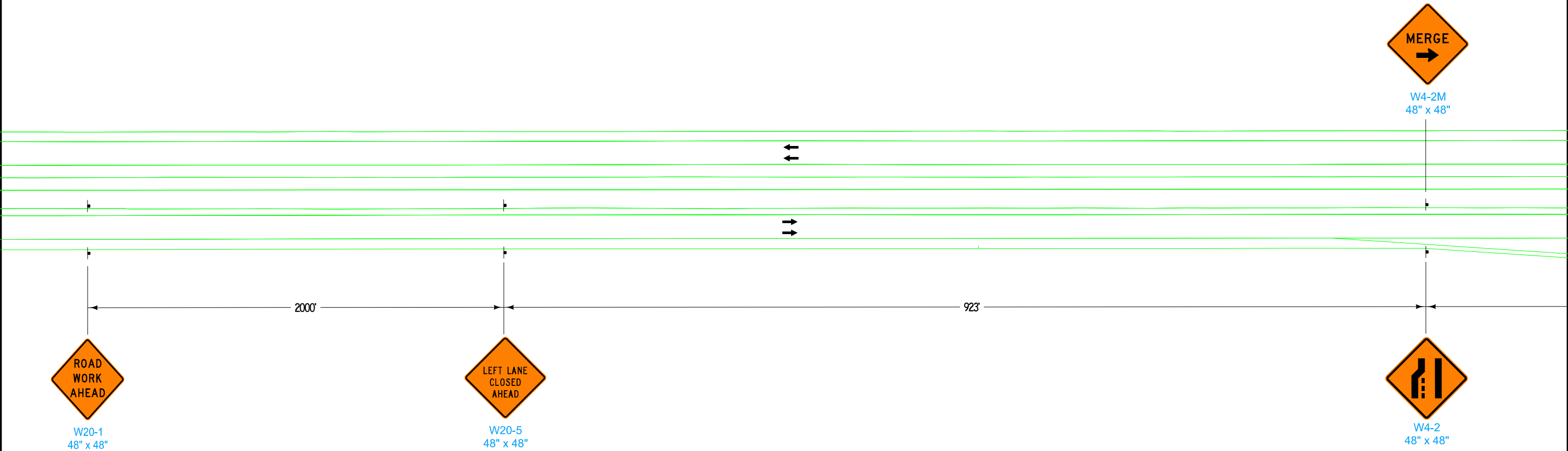


Traffic Control Stage 1
During Peak Hours (7 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 1
During Non Peak Hours (1 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



SPEED
LIMIT
65

R2-1
48" x 60"

500'



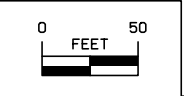
625

454

840'



W3-5
48" x 48"



Traffic Control Stage 1
During Non Peak Hours (2 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



END
ROAD WORK

G20-2A
48" x 24"

800'

100'

660'

Construct Shoulder prior to Stage 1

500'

500'

660'

SPEED
LIMIT
55

R2-1
48" x 60"



W1-4R
48" x 48"

ALL
LANES

W24-1cP
30" x 30"

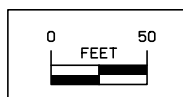
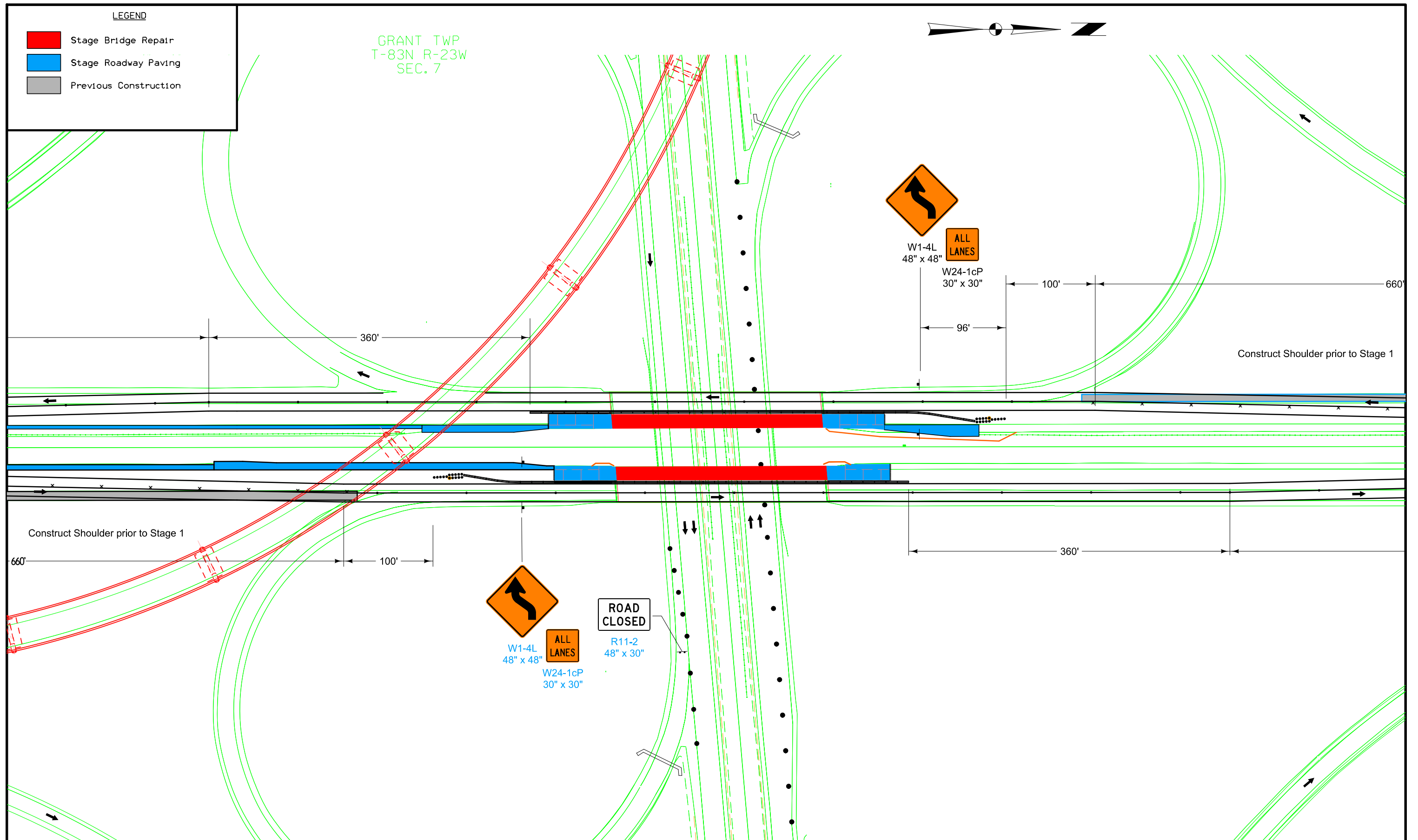


Traffic Control Stage 1
During Non Peak Hours (3 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7

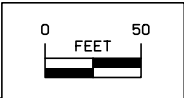
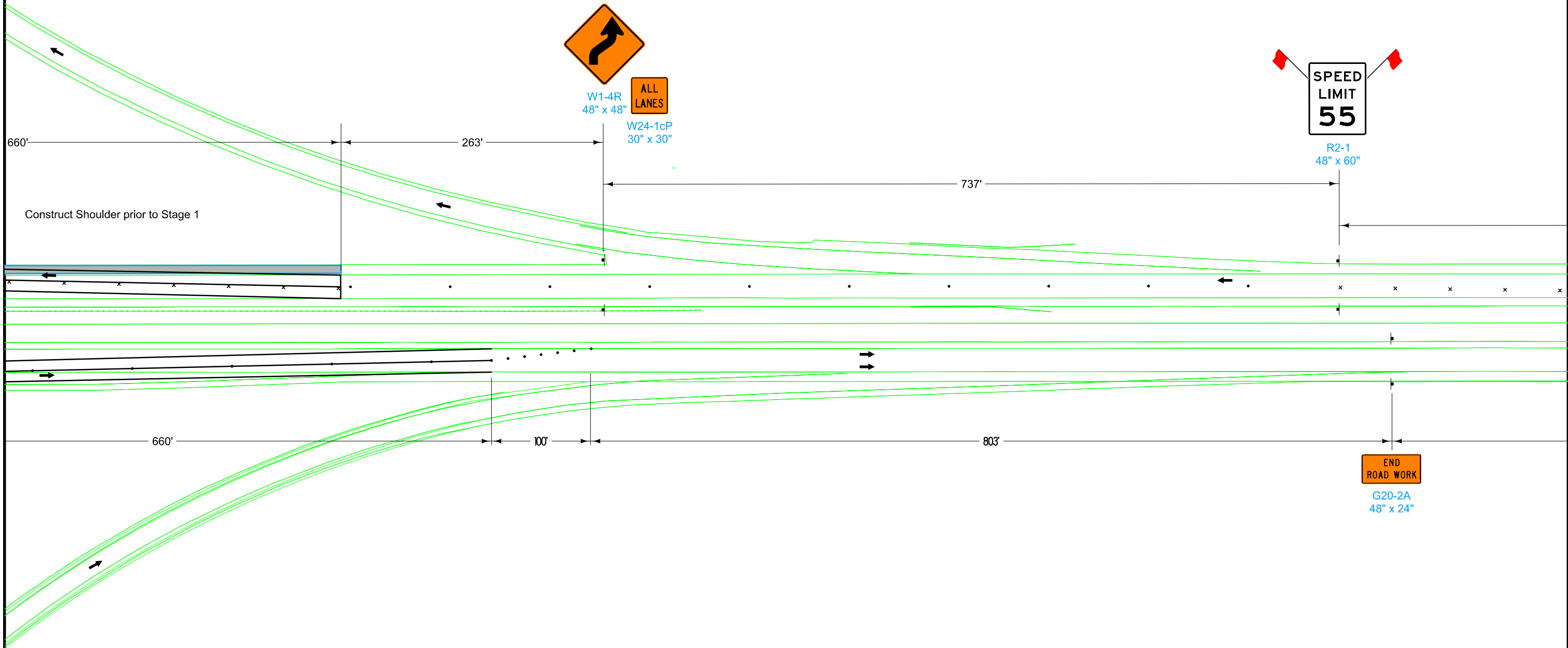


Traffic Control Stage 1
During Non Peak Hours (4 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 1
During Non Peak Hours (5 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W3-5
48" x 48"

840'

500'

500'

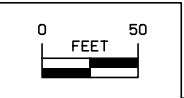
x x x x x x x x x x x



500'



R2-1
48" x 60"



Traffic Control Stage 1
During Non Peak Hours (6 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W4-2
48" x 48"

1000'



W20-5
48" x 48"

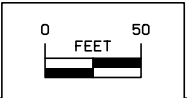
2000'



W20-1
48" x 48"



W4-2M
48" x 48"

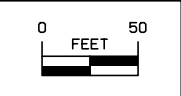
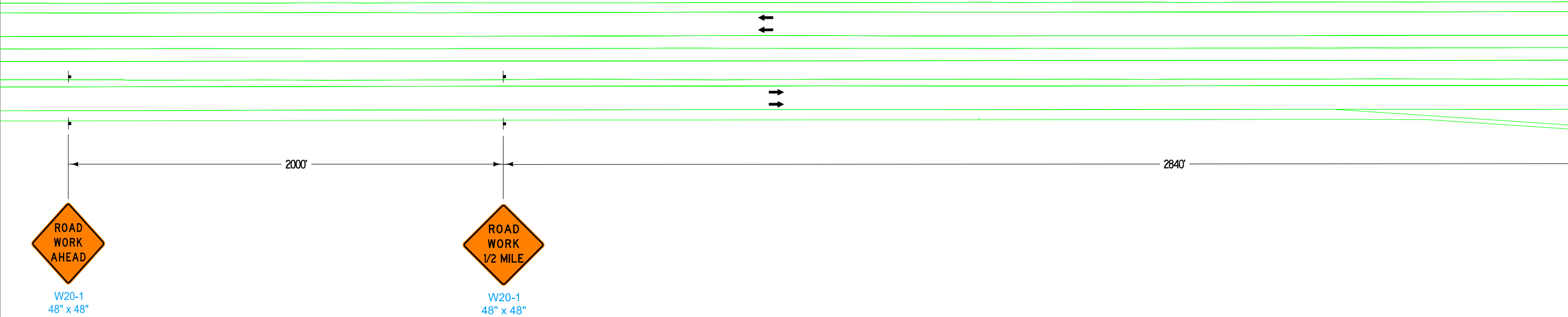


Traffic Control Stage 1
During Non Peak Hours (7 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 2
During Peak Hours (1 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



SPEED
LIMIT
65

R2-1
48" x 60"

500'

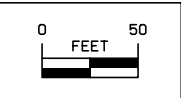
STAY
IN
LANE

R4-9
24" x 30"



W3-5
48" x 48"

1000'



Traffic Control Stage 2
During Peak Hours (2 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



END
ROAD WORK

G20-2A
48" x 24"

500'

400'

660'

500'

500'

SPEED
LIMIT
55

R2-1
48" x 60"

LANES
NARROW

Special
48" x 48"

W12-1
48" x 48"

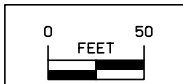
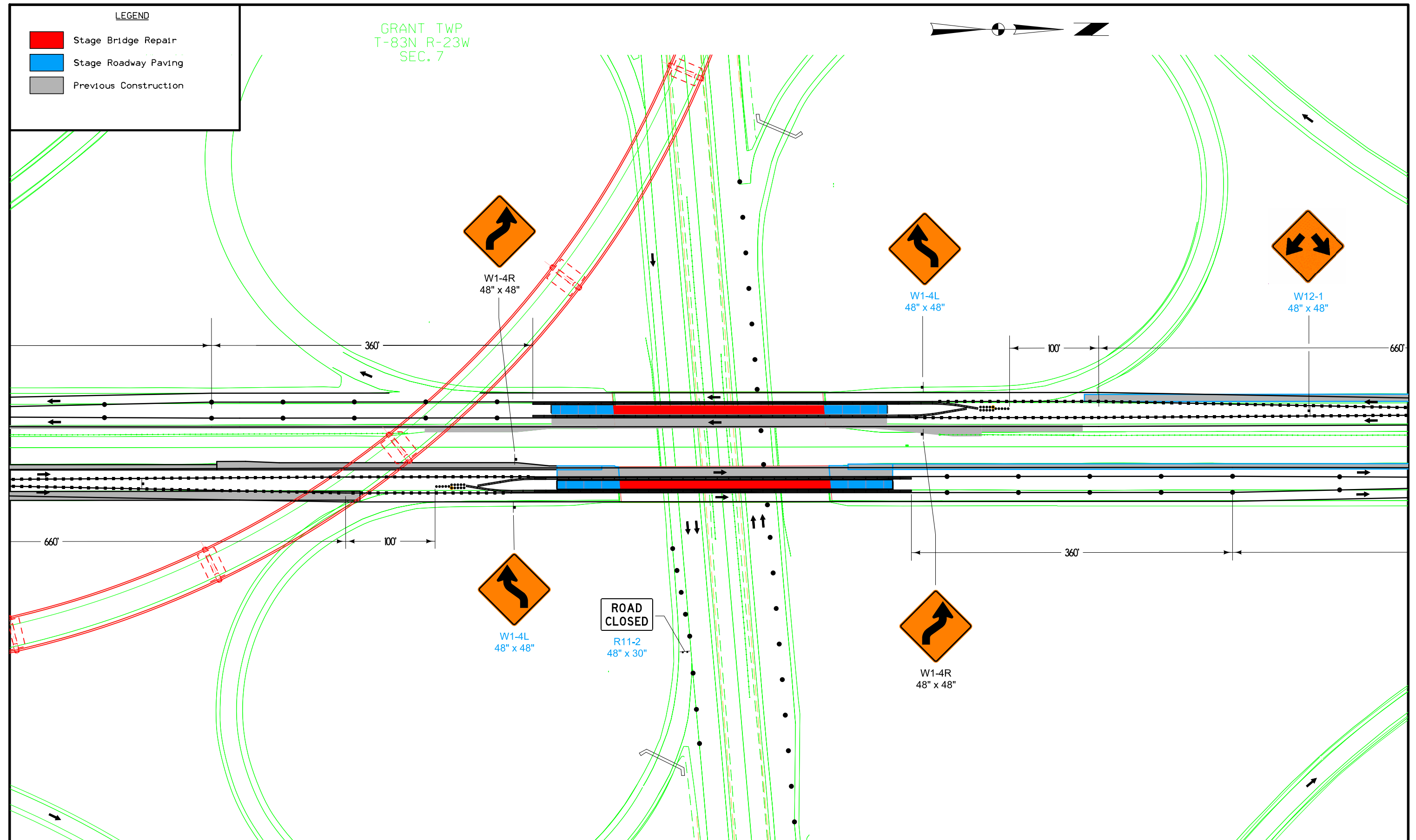


Traffic Control Stage 2
During Peak Hours (3 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 2
During Peak Hours (4 of 7)

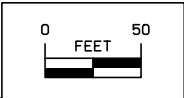
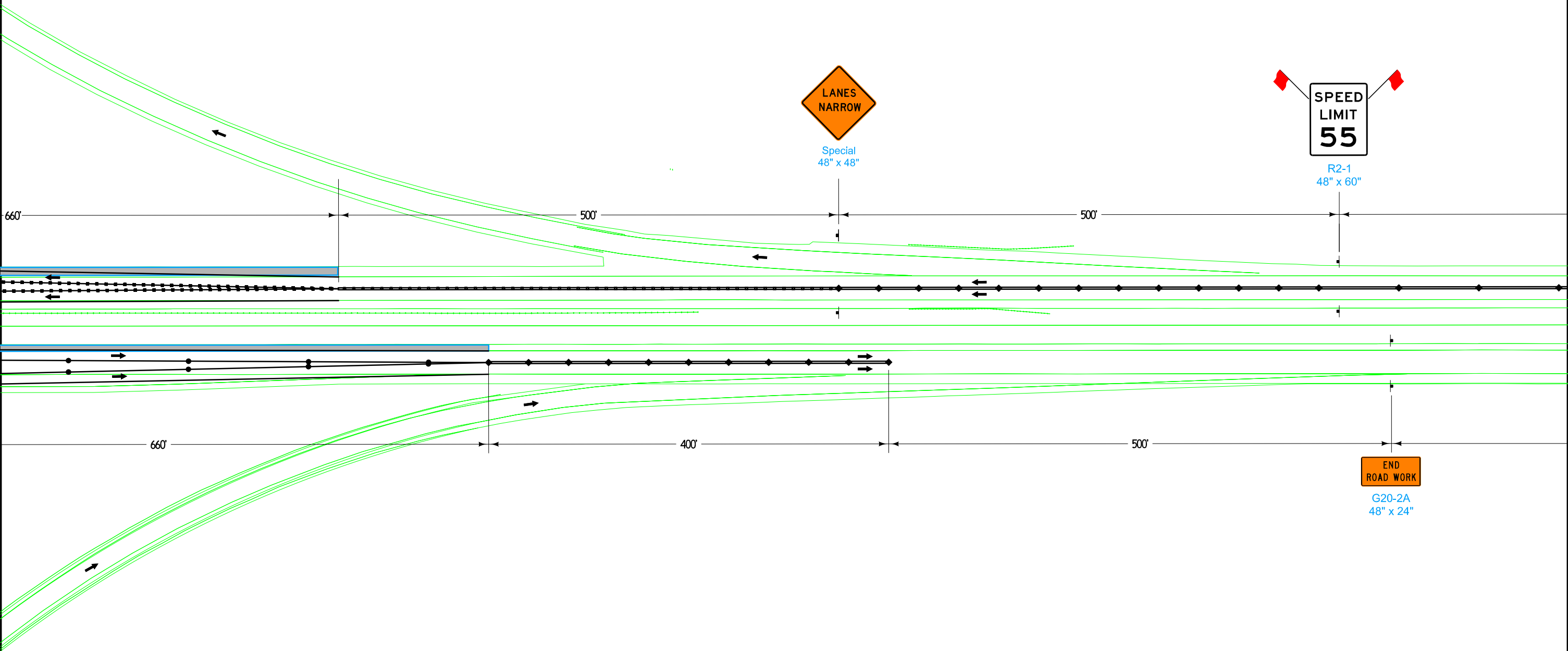
FILE NO. 31781	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER MBIN-035-1(506)112--0M-85	SHEET NUMBER J.21
-----------------------	---------	-----------------------------------	--------------	---	--------------------------

8:17:34 PM 11/17/2020 bbirkland K:\8500.19\Story I-35 over I-30\Plans\85035506.dsn

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 2
During Peak Hours (5 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W3-5
48" x 48"



R4-9
24" x 30"

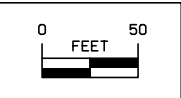
1000'

500'

500'



R2-1
48" x 60"



Traffic Control Stage 2
During Peak Hours (6 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



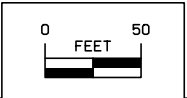
W20-1
48" x 48"



W20-1
48" x 48"

2840'

2000'



Traffic Control Stage 2
During Peak Hours (7 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W4-2M
48" x 48"



x x x x x x x x x x



W20-1
48" x 48"



W20-5
48" x 48"

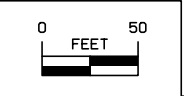


W4-2
48" x 48"

2000'

1000'

1000'



Traffic Control Stage 2
During Non Peak Hours (1 of 7)

LEGEND

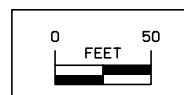
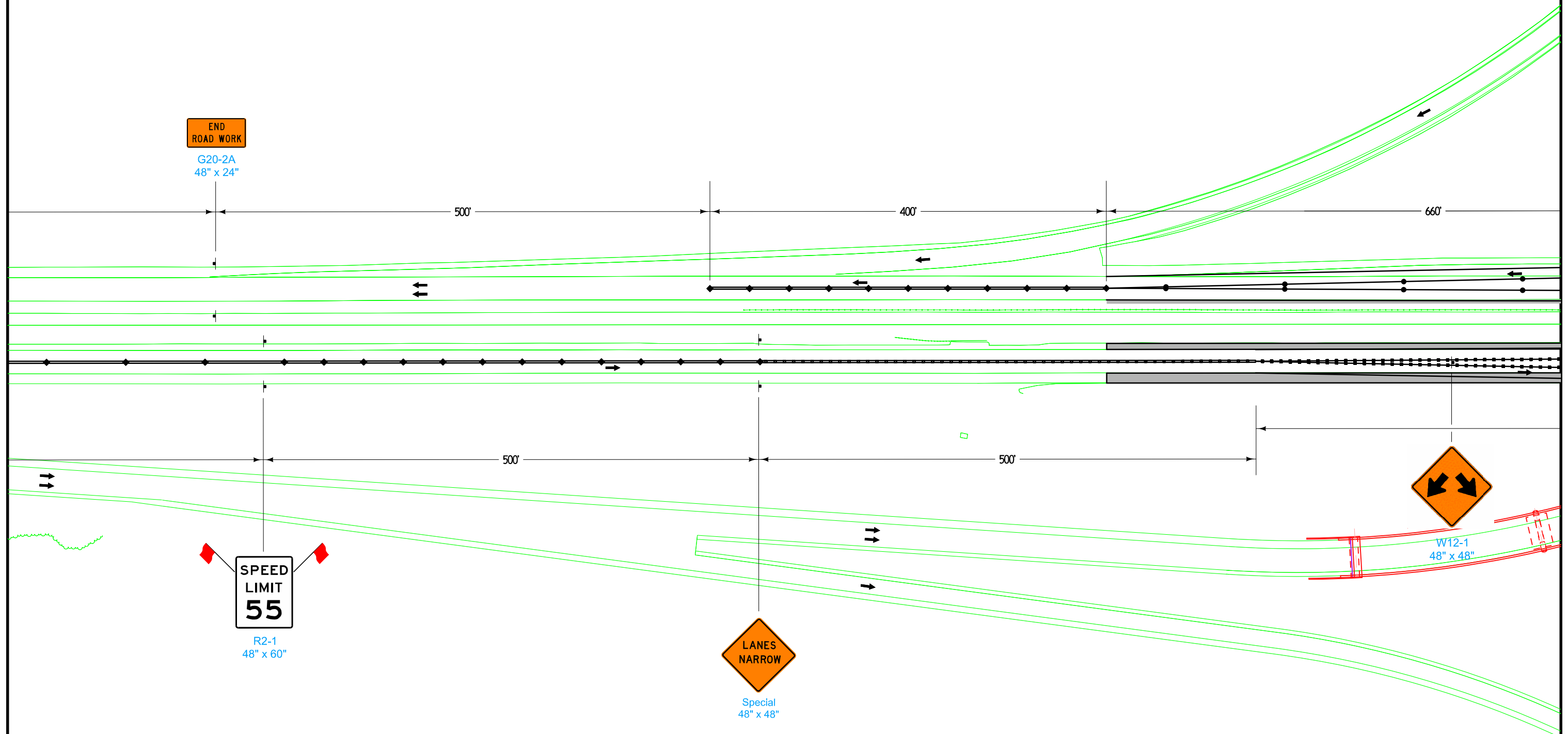
	Stage Bridge Repair
	Stage Roadway Paving
	Previous Construction



LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



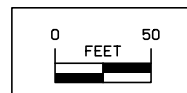
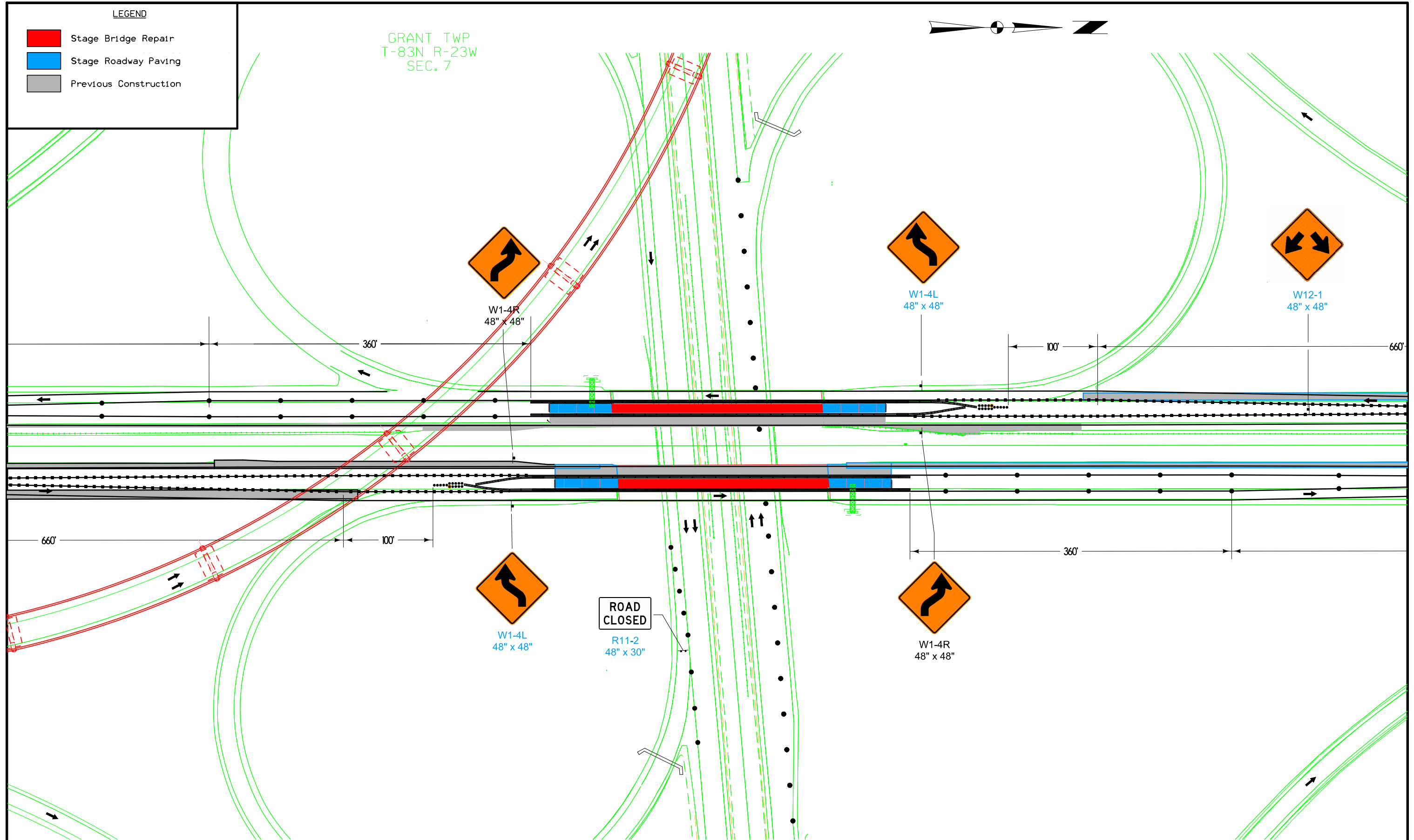
Traffic Control Stage 2
During Non Peak Hours (3 of 7)

FILE NO. 31781	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER MBIN-035-1(506)112--0M-85	SHEET NUMBER J.27
----------------	---------	------------------------	--------------	--	-------------------

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7

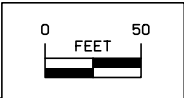
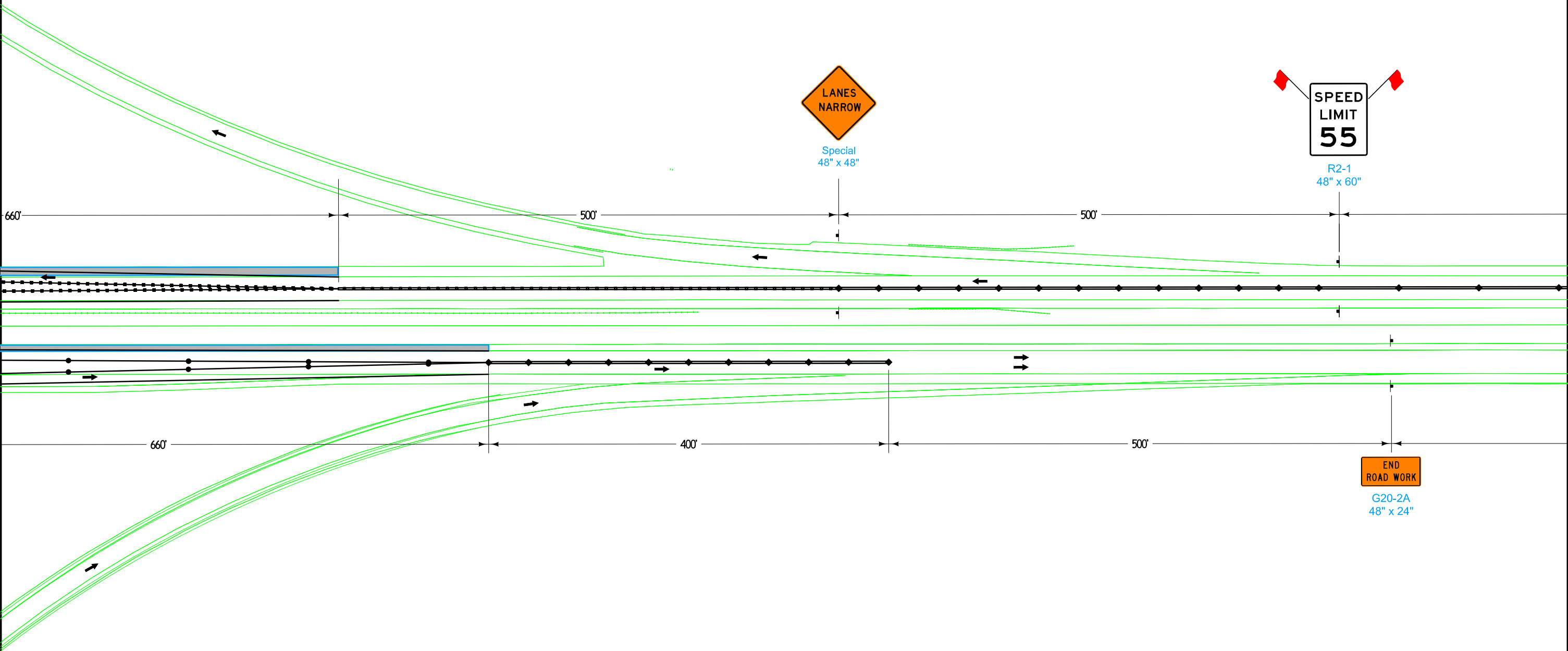


Traffic Control Stage 2
During Non Peak Hours (4 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 2
During Non Peak Hours (5 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W3-5
48" x 48"



R4-9
24" x 30"

1000'

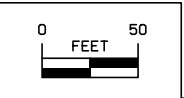
500'



500'



R2-1
48" x 60"

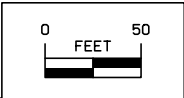
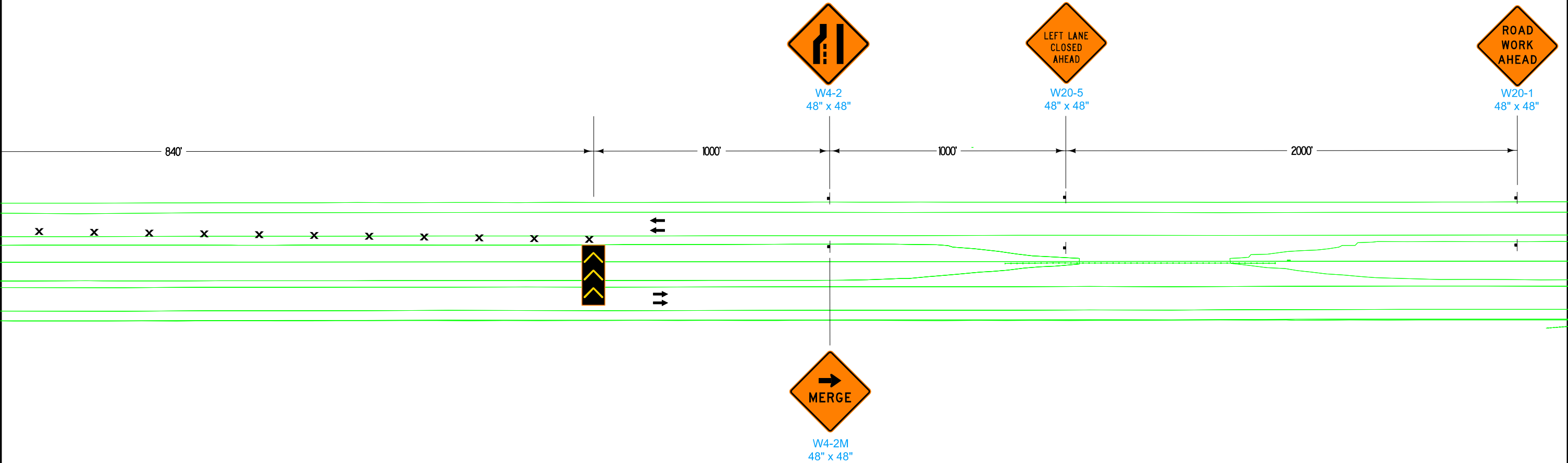


Traffic Control Stage 2
During Non Peak Hours (6 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7

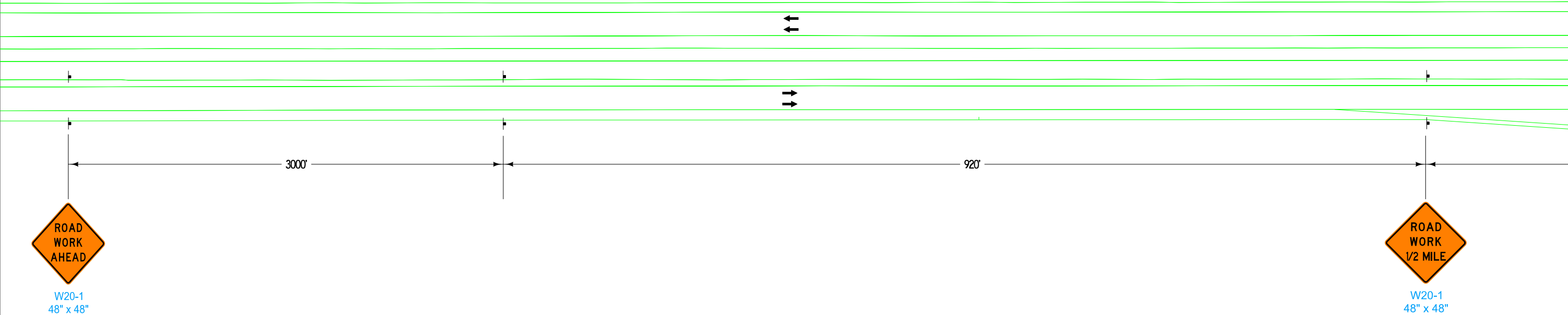


Traffic Control Stage 2
During Non Peak Hours (7 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



SPEED
LIMIT
65

R2-1
48" x 60"

500'

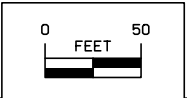


62'

1295'



W3-5
48" x 48"



Traffic Control Stage 3
During Peak Hours (2 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



END
ROAD WORK

G20-2A
48" x 24"

900'

660'

500'

500'

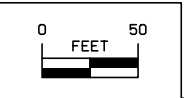
660'

SPEED
LIMIT
55

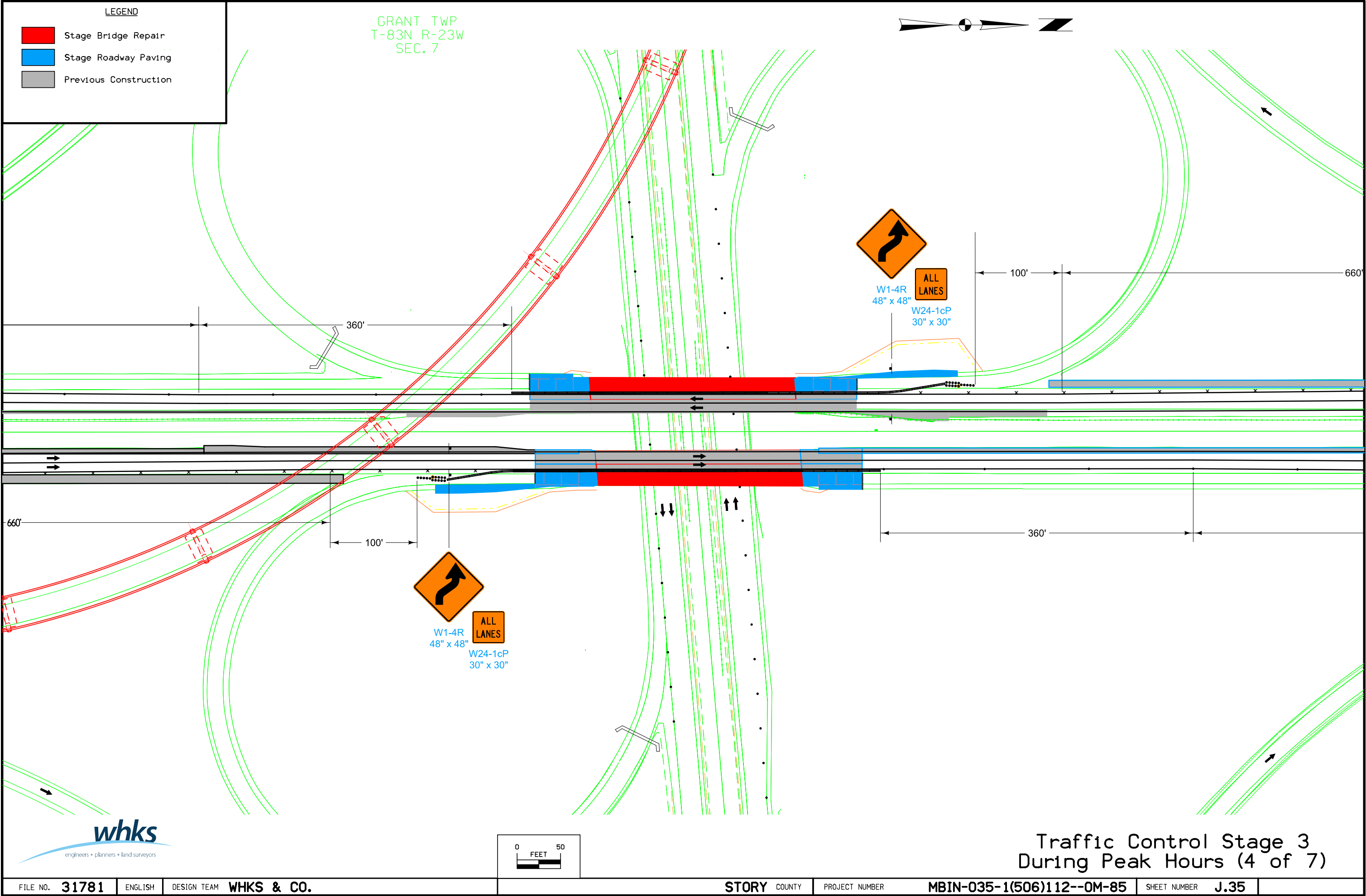
R2-1
48" x 60"



W1-4R
48" x 48"
W24-1cP
30" x 30"
ALL
LANES



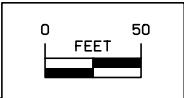
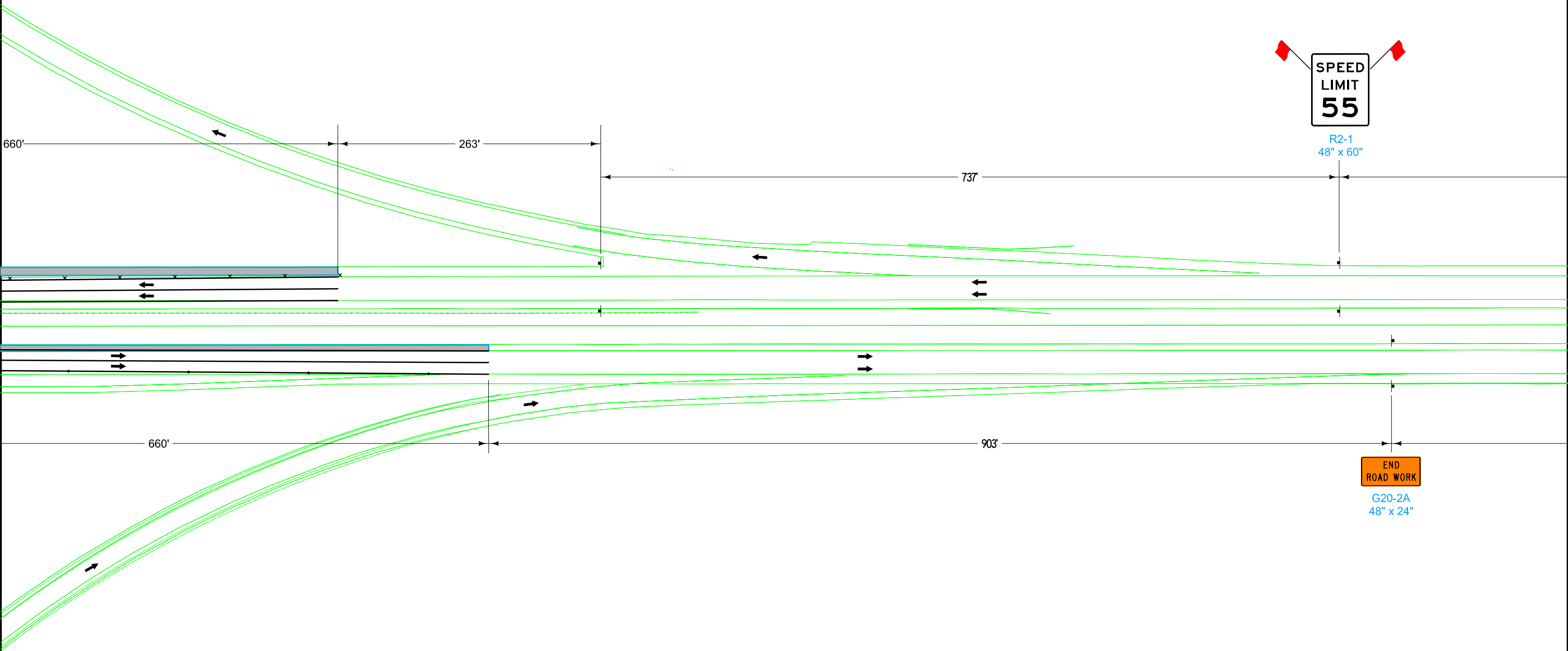
Traffic Control Stage 3
During Peak Hours (3 of 7)



LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 3
During Peak Hours (5 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W3-5
48" x 48"

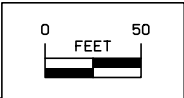
1340'

500'



R2-1
48" x 60"

500'



Traffic Control Stage 3
During Peak Hours (6 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7

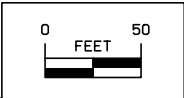


W20-1
48" x 48"



W20-1
48" x 48"

3000'



Traffic Control Stage 3
During Peak Hours (7 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W4-2
48" x 48"



2000'

920'



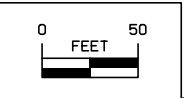
W20-1
48" x 48"



W20-5
48" x 48"



W4-2M
48" x 48"



Traffic Control Stage 3
During Non Peak Hours (1 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



SPEED
LIMIT
65

R2-1
48" x 60"

500'

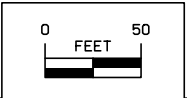
62'

455'

840'



W3-5
48" x 48"

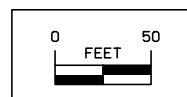
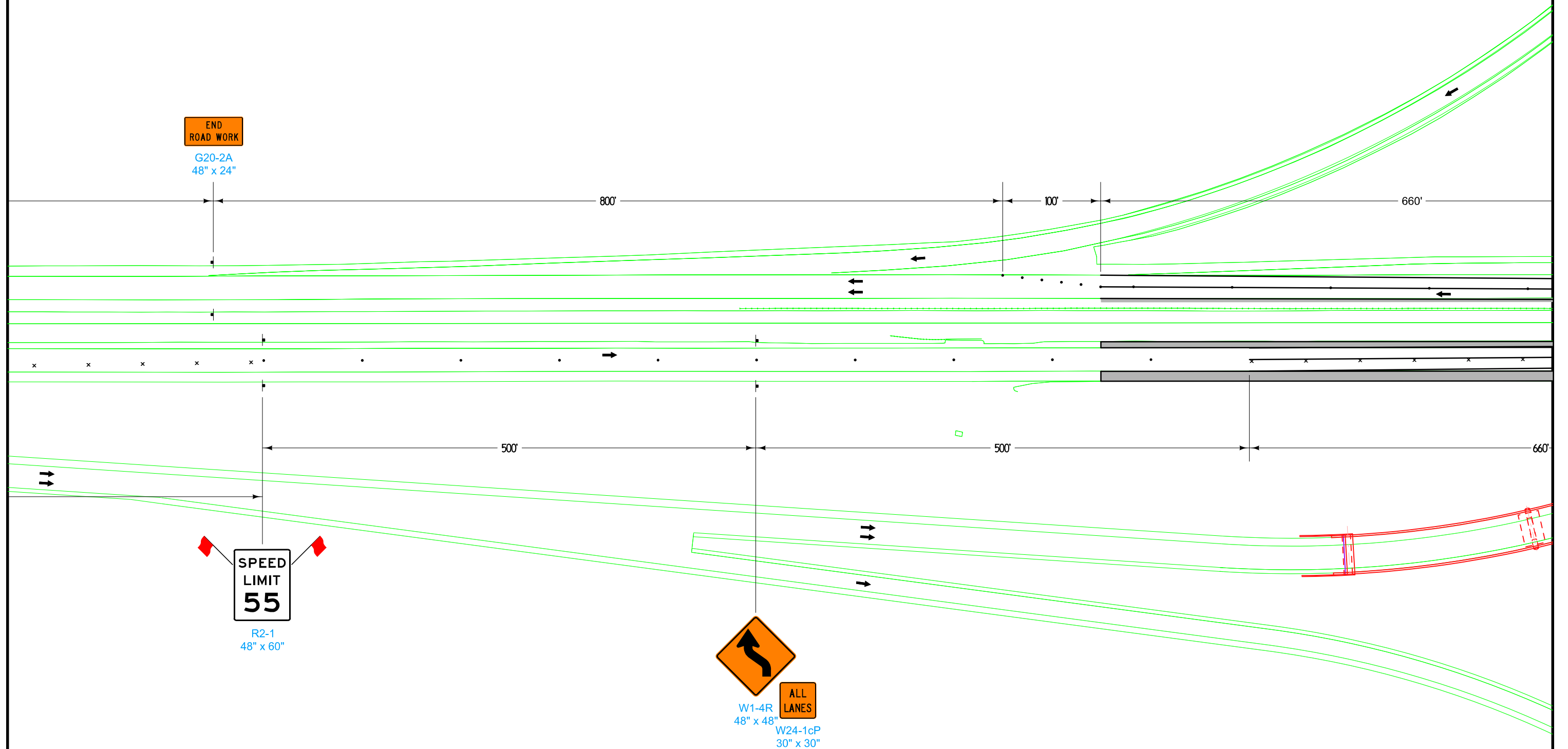


Traffic Control Stage 3
During Non Peak Hours (2 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



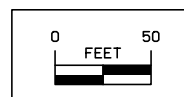
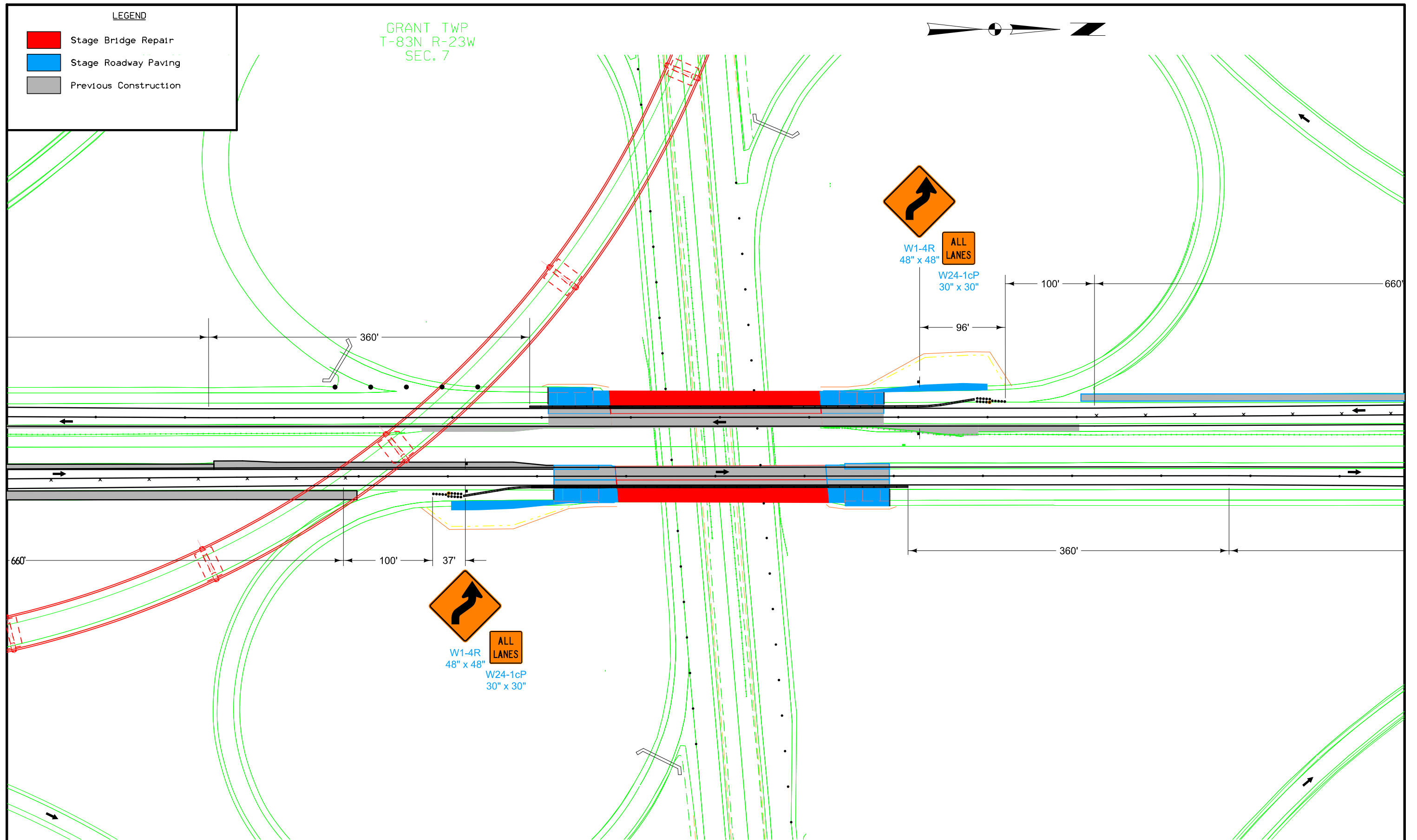
Traffic Control Stage 3
During Non Peak Hours (3 of 7)

FILE NO. 31781	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER MBIN-035-1(506)112--0M-85	SHEET NUMBER J.41
----------------	---------	------------------------	--------------	--	-------------------

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 3
During Non Peak Hours (4 of 7)

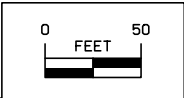
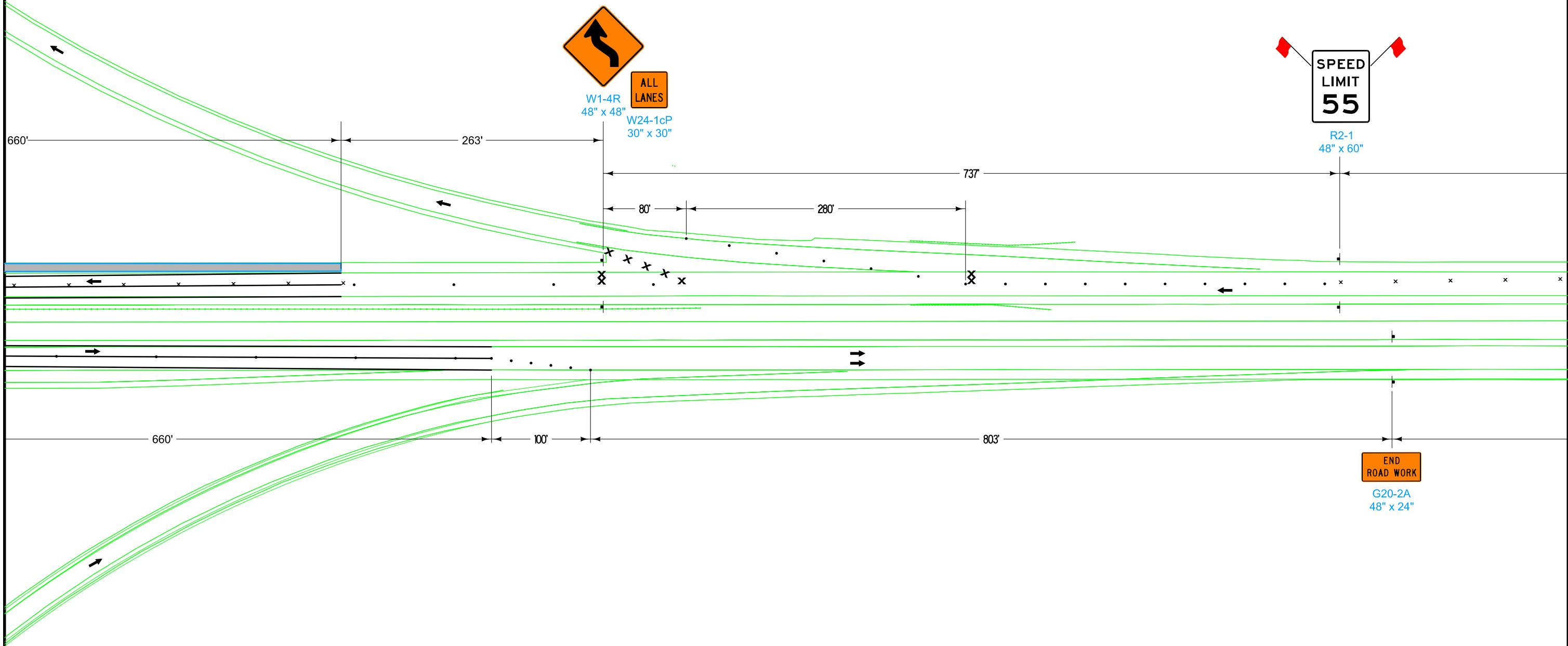
FILE NO. 31781	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER MBIN-035-1(506)112--0M-85	SHEET NUMBER J.42
-----------------------	---------	-----------------------------------	---------------------	---	--------------------------

8:17:57 PM 11/17/2020 bbirkland K:\8500.19\Story I-35 over I-30\Plans\85035506.dsn

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



Traffic Control Stage 3
During Non Peak Hours (5 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W3-5
48" x 48"

838'

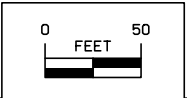
500'

500'

500'



R2-1
48" x 60"



Traffic Control Stage 3
During Non Peak Hours (6 of 7)

LEGEND

- Stage Bridge Repair
- Stage Roadway Paving
- Previous Construction

GRANT TWP
T-83N R-23W
SEC. 7



W4-2M
48" x 48"



W20-5
48" x 48"



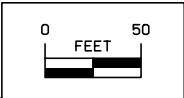
W20-1
48" x 48"

1000'

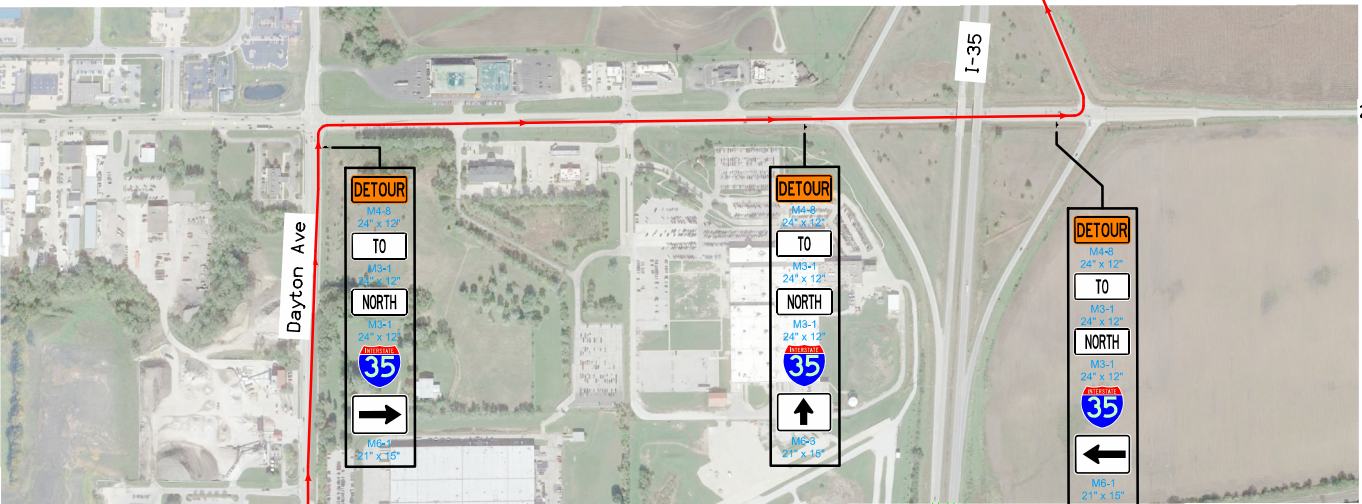
2000'



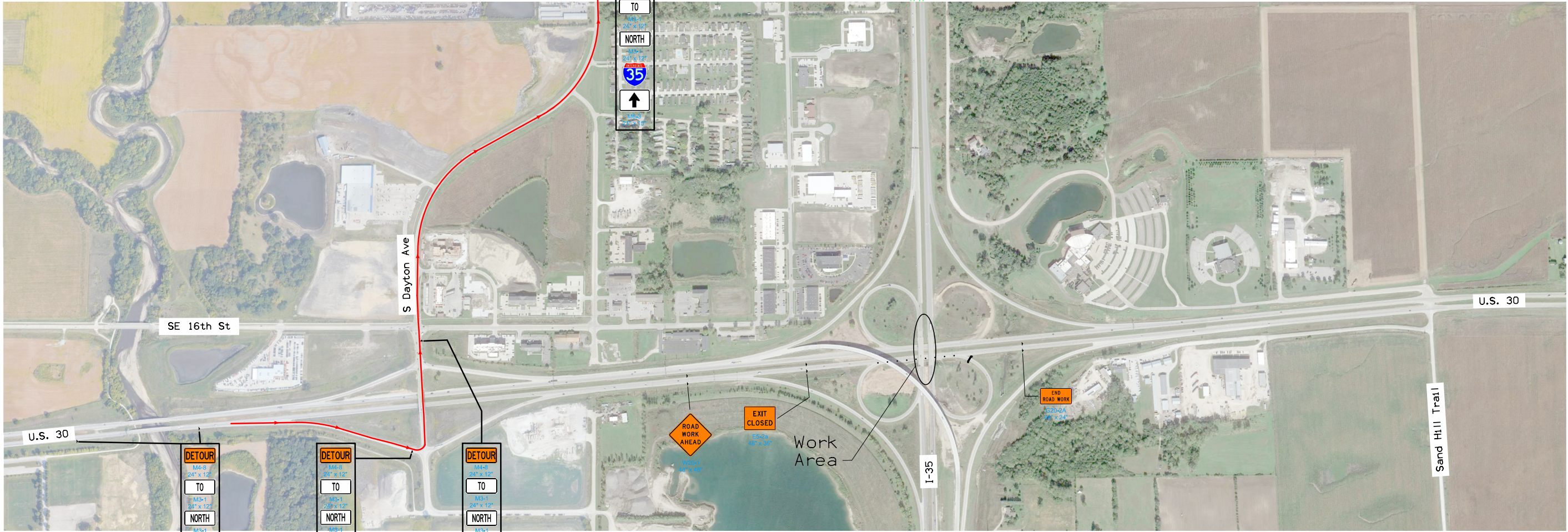
W4-2
48" x 48"



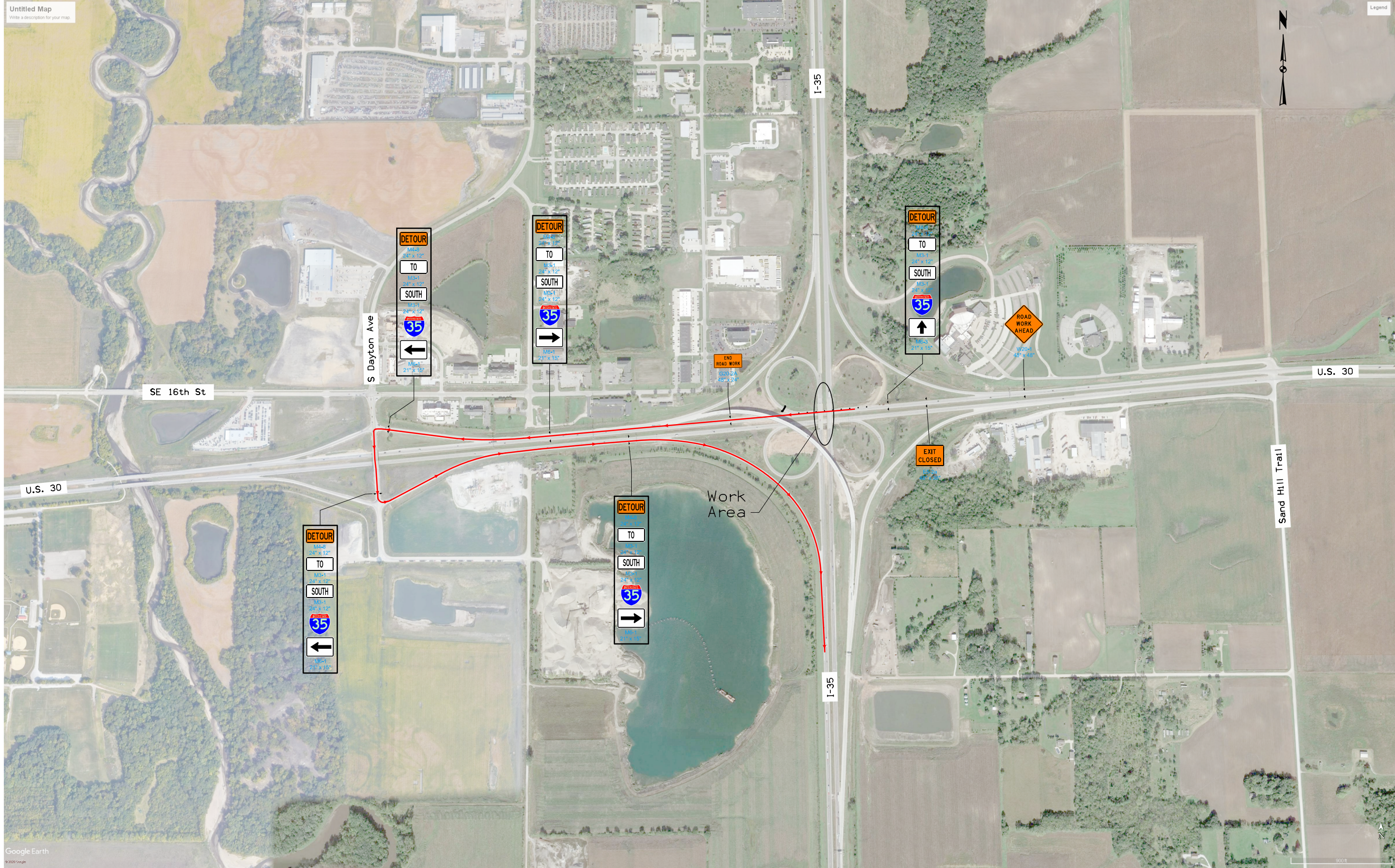
Traffic Control Stage 3
During Non Peak Hours (7 of 7)



Lincoln Way Co. Rd. E41



EB US 30 to NB I-35
Detour Map (Stage 3)



WB US 30 to SB I-35
Detour Map (Stage 3)



SB I-35 to EB US 30
Detour Map (Stage 3)