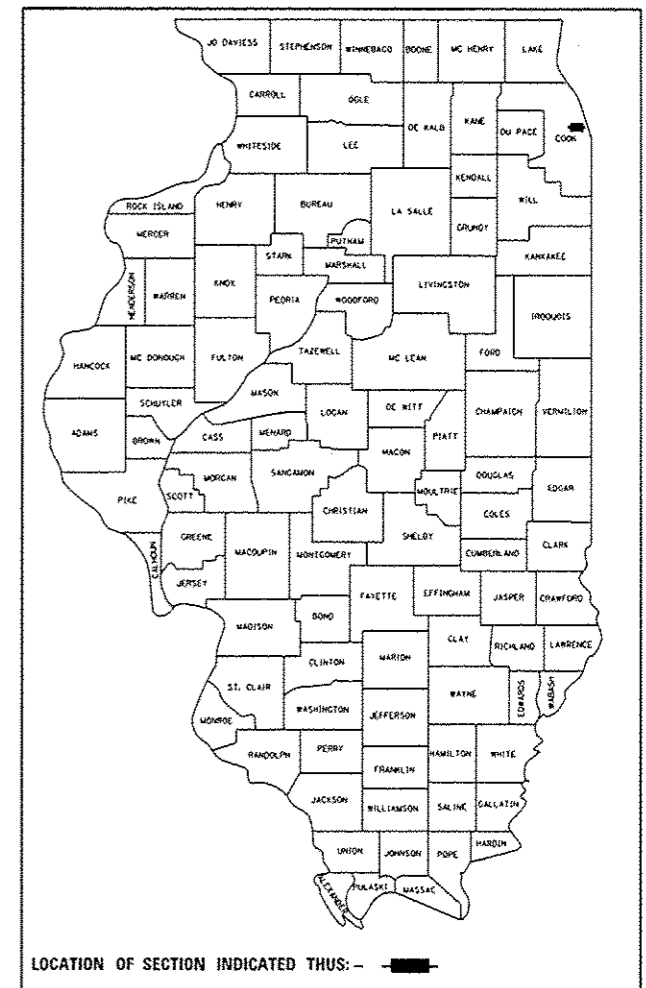


11-04-2016 LETTING ITEM 038

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|             |                |          |                    |           |
|-------------|----------------|----------|--------------------|-----------|
| F.A.U. RTE. | SECTION        | COUNTY   | TOTAL SHEETS       | SHEET NO. |
| 1401        | 0303-476-HB-BR | COOK     | 20                 | 1         |
|             |                | ILLINOIS | CONTRACT NO. 62C28 |           |

D-91-327-16



# PROPOSED HIGHWAY PLANS

FAU ROUTE 1401: GRAND AVENUE  
OVER I-90/94 (KENNEDY EXPRESSWAY)  
SECTION: 0303-476-HB-BR  
BRIDGE SUBSTRUCTURE REPAIRS  
COOK COUNTY

C-91-327-16

FOR INDEX OF SHEETS, SEE SHEET NO. 2

IMPROVEMENT IS LOCATED IN  
THE CITY OF CHICAGO

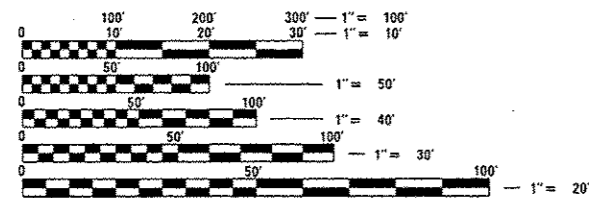
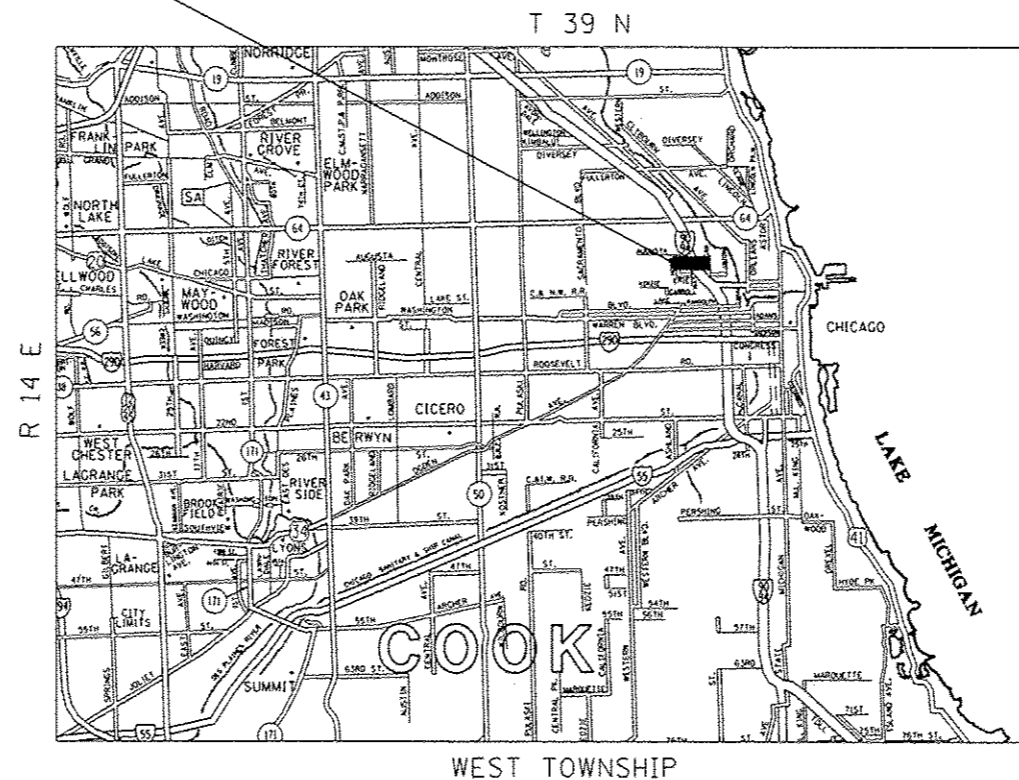
### TRAFFIC DATA

2014 ADT GRAND AVENUE: 14,000  
2015 ADT I-90/94: 228,600

### POSTED SPEED LIMIT

GRAND AVENUE: 30 MPH  
I-90/94: 45 MPH

SN 016-2048  
LOCATION OF IMPROVEMENT



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.

C.U.A.N.  
CHICAGO UTILITY ALERT NETWORK  
312-744-7000

PROJECT ENGINEER: JEAN ALAIN MIDY (847) 221-3056  
PROJECT MANAGER: ISSAM RAYYAN (847) 705-4178

CONTRACT NO. 62C28

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 18, 2016  
John F. ... REGIONAL ENGINEER

Sept 30, 2016  
Melvin M. Addis, PE ENGINEER OF DESIGN AND ENVIRONMENT

Sept 30, 2016  
... DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION   |
|-----------|---|
| 1         | COVER SHEET   |
| 2         | INDEX OF SHEETS, STANDARDS, AND GENERAL NOTES       |
| 3         | SUMMARY OF QUANTITIES                               |
| 4-14      | SUBSTRUCTURE REPAIR SHEETS                          |
| 15-17     | TRAFFIC CONTROL SHEETS                              |
| 18        | SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES (TC-17) |
| 19-20     | MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS (TC-12) |

STANDARD NO.

|           |
|-----------|
| 643001-02 |
| 701106-02 |
| 701400-08 |
| 701401-09 |
| 701428-01 |
| 701901-05 |
| 704001-08 |
| 782006    |

DESCRIPTION

|   |
|---|
| SAND MODULE IMPACT ATTENUATORS                        |
| OFF ROAD OPERATION-MULTILANE MORE THAN 15 AWAY        |
| APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY          |
| LANE CLOSURE, FREEWAY / EXPRESSWAY                    |
| TRAFFIC CONTROL SETUP REMOVAL FREEWAY EXPRESSWAY      |
| TRAFFIC CONTROL DEVICES                               |
| TEMPORARY CONCRETE BARRIER                            |
| GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS |

GENERAL NOTES

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

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE CITY OF CHICAGO.

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 CONTRACTOR'S 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.

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

THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM THE BUREAU OF MAINTENANCE BRIDGE INSPECTORS.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

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 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.

|  |                     |            |           |   |  |                           |                |        |              |           |    |
|--|---------------------|------------|-----------|---|--|---------------------------|----------------|--------|--------------|-----------|----|
| FILE NAME :  | USER NAME : hessann | DESIGNED - | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>GRAND AVENUE OVER I-90/94 (SN 016-2048)<br/>INDEX OF SHEETS, STANDARDS, &amp; GENERAL NOTES</b> | F.A.U. RTE.               | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |    |
| \\ill084EBIDINTEG\illinois.gov\PI007\Documents\DOT Offices\District 1\Projects\01327\BRW\016\Design\0132716-shr-plan.dgn |                     | CHECKED -  | REVISED - |   |  | 1401                      | 0303-476-HB-BR | COOK   | 20           | 2         |    |
| PLOT SCALE * 100.0000' / in.   |                     | DATE -     | REVISED - |   |  | CONTRACT NO. 62C28        |                |        |              |           |    |
| PLOT DATE * 8/25/2016  |                     |            |           |   |  | SCALE:                    | SHEET          | OF     | SHEETS       | STA.      | TO |
|  |                     |            |           |   |  | ILLINOIS FED. AID PROJECT |                |        |              |           |    |

100 %  
STATE URBAN

| SUMMARY OF QUANTITIES |  |        |                  | CONSTRUCTION TYPE CODE |  |  |  |  |  |
|-----------------------|--|--------|------------------|------------------------|--|--|--|--|--|
| CODE NO               | ITEM   | UNIT   | TOTAL QUANTITIES | 0014                   |  |  |  |  |  |
| 67000400              | ENGINEER'S FIELD OFFICE, TYPE A                                      | CAL MO | 6                | 6                      |  |  |  |  |  |
| 67100100              | MOBILIZATION   | LSUM   | 1                | 1                      |  |  |  |  |  |
| 70106800              | CHANGEABLE MESSAGE SIGN  | CAL MO | 2                | 2                      |  |  |  |  |  |
| 70400100              | TEMPORARY CONCRETE BARRIER   | FOOT   | 250              | 250                    |  |  |  |  |  |
| 70400200              | RELOCATE TEMPORARY CONCRETE BARRIER                                  | FOOT   | 250              | 250                    |  |  |  |  |  |
| 70600250              | IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3        | EACH   | 1                | 1                      |  |  |  |  |  |
| 70600350              | IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3         | EACH   | 1                | 1                      |  |  |  |  |  |
| 78200011              | BARRIER WALL REFLECTORS, TYPE C                                      | EACH   | 40               | 40                     |  |  |  |  |  |
| X0327980              | PAVEMENT MARKING REMOVAL - WATER BLASTING                            | SO FT  | 270              | 270                    |  |  |  |  |  |
| X7011015              | TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)                         | LSUM   | 1                | 1                      |  |  |  |  |  |
| X7030045              | WET REFLECTIVE TEMPORARY TAPE TYPE III, 8 INCH                       | FOOT   | 400              | 400                    |  |  |  |  |  |
| X7040125              | PINNING TEMPORARY CONCRETE BARRIER                                   | EACH   | 20               | 20                     |  |  |  |  |  |
| Z0012754              | STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES) | SO FT  | 2511             | 2511                   |  |  |  |  |  |
| Z0073200              | TEMPORARY SHORING AND CRIBBING                                       | EACH   | 21               | 21                     |  |  |  |  |  |

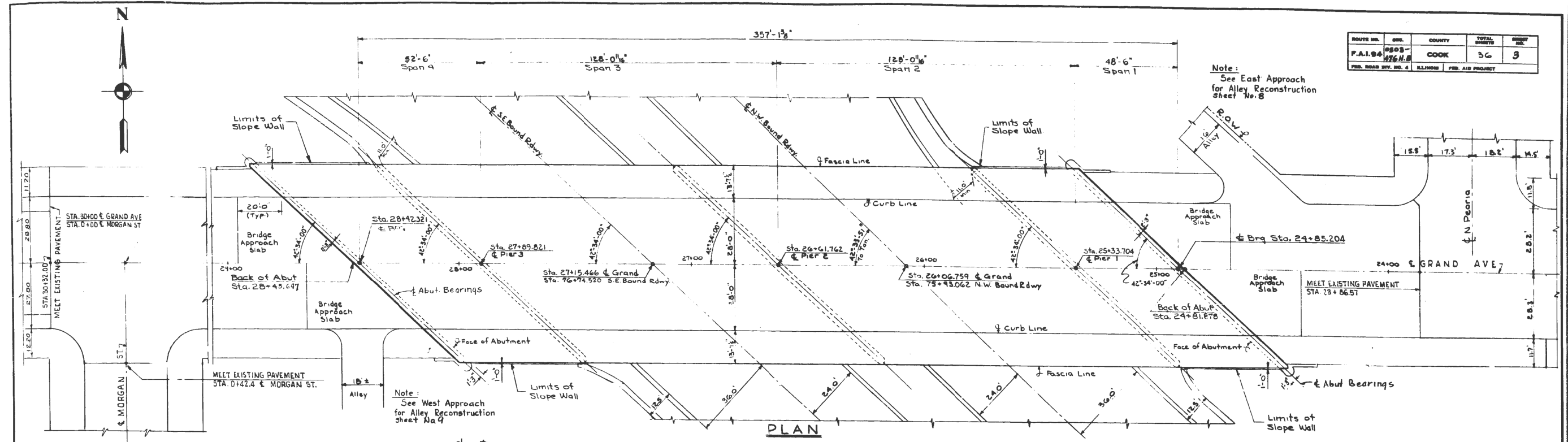
| SUMMARY OF QUANTITIES |      |      |                  | CONSTRUCTION TYPE CODE |  |  |  |  |  |
|-----------------------|------|------|------------------|------------------------|--|--|--|--|--|
| CODE NO               | ITEM | UNIT | TOTAL QUANTITIES |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |
|                       |      |      |                  |                        |  |  |  |  |  |

14

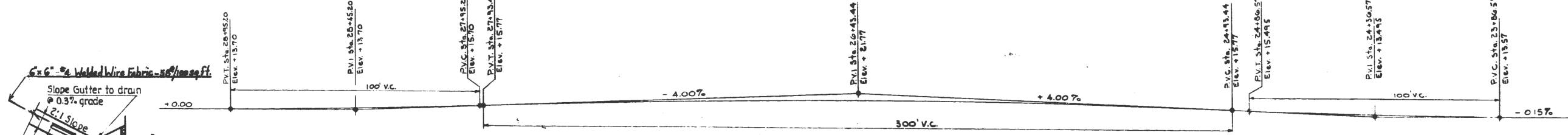
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|--|---|------------|-----------|---|--|--------------------|---------------------|---|--------------|-----------|
| FILE NAME :  | USER NAME : hssom                                     | DESIGNED - | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>GRAND AVENUE OVER I-90/94 (SN 016-2048)<br/>SUMMARY OF QUANTITIES</b> | F.A.U. RTE.        | SECTION             | COUNTY  | TOTAL SHEETS | SHEET NO. |
| per:\ILLOBAC\BID\TEG\11\m1s\per\FW\DOT\Document\1007 | Office\District\Project\032716-CAD\Date Design\032716 | CHECKED -  | REVISED - |   |  | 1401               | 0303-476-HB-BR      | COOK  | 20           | 3         |
| PLR1 SCALE * 1000000 / In                            | DATE -  | REVISED -  | REVISED - |   |  | CONTRACT NO. 62C28 |                     | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT |              |           |
| PLOT DATE * 8/25/2016                                | DATE -  | REVISED -  | REVISED - |   |  | SCALE:             | SHEET NO. OF SHEETS | STA. TO STA.                                    |              |           |

| ROUTE NO.                 | SEC.        | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| F.A. 1-94                 | 0303-476-HB | COOK   | 36           | 3         |
| ILLINOIS FED. AID PROJECT |             |        |              |           |

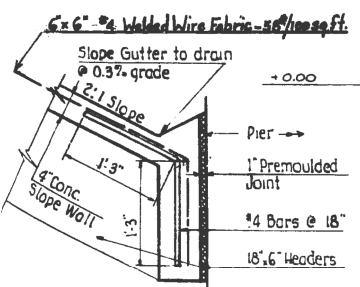
Note:  
See East Approach  
for Alley Reconstruction  
sheet No. 8



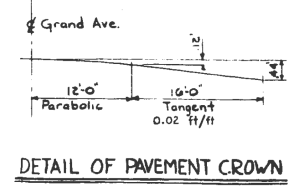
PLAN



PROFILE



DETAIL 'A'

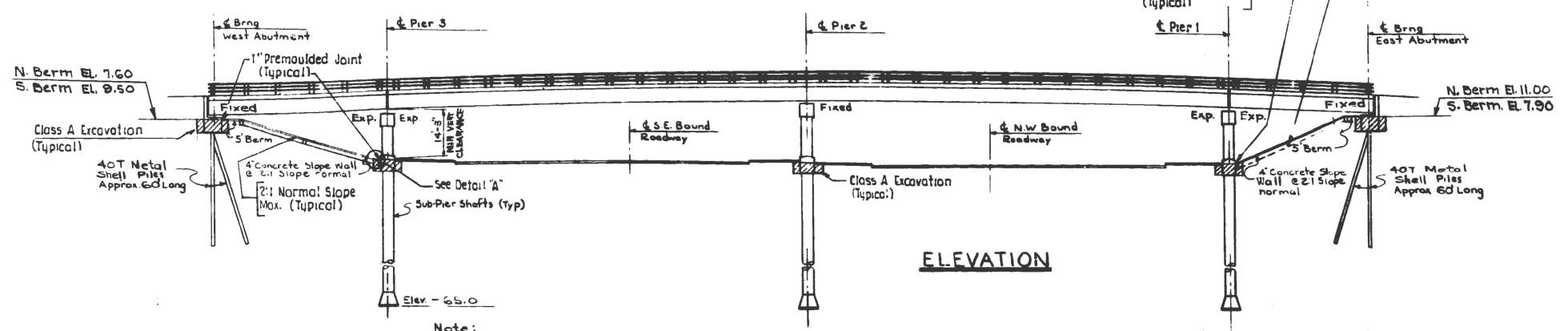


DETAIL OF PAVEMENT CROWN

# FOR INFORMATION ONLY

## DESIGN DATA

|                                 |                                |
|---------------------------------|--------------------------------|
| Design Load (Live)              | H20-S16-44                     |
| Specifications                  | A.A.S.H.O. 1937 Edition        |
| Concrete                        | f <sub>c</sub> = 3,500 p.s.i.  |
| Concrete with Earth Pressure    | f <sub>c</sub> = 1,000 p.s.i.  |
| Concrete without Earth Pressure | f <sub>c</sub> = 1,400 p.s.i.  |
| Structural Steel                | f <sub>s</sub> = 18,000 p.s.i. |
| Reinforcement Steel             | f <sub>s</sub> = 20,000 p.s.i. |
| Modular Ratio                   | n = 10                         |
| Wearing Surface                 | 25 p.s.f.                      |
| Pier-Sub Pier Bearing Pressure  | 12,000 p.s.f.                  |
| Lateral Earth Pressure          | 45 p.c.f.                      |
| Minimum Pile Bearing            | 40 Tons                        |



ELEVATION

Note:  
Final Elevation of Sub-Pier Bells to  
be determined in  
Field during Construction  
by the Engineer.

ILLINOIS DIVISION OF HIGHWAYS  
NORTHWEST EXPRESSWAY  
ERIE STREET INTERCHANGE  
GRAND AVENUE GRADE SEPARATION  
GENERAL PLAN

SCALE: NONE DATE: JULY 1988



| ROUTE NO.            | SEC. | COUNTY   | TOTAL SHEETS     | SHEET NO. |
|----------------------|------|----------|------------------|-----------|
| F.A. 184             | 0303 | COOK     | 20               | 15        |
| P.A. 184             |      | 476 H.B. |                  |           |
| PUB. ROAD DIV. NO. 4 |      | ILLINOIS | FED. AID PROJECT |           |

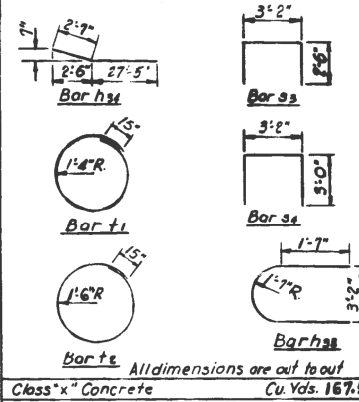
**GAP BEAM ELEVATIONS**

| Mark | Elevation | Mark | Elevation |
|------|-----------|------|-----------|
| b1   | 11-844'   | b9   | 11-184'   |
| b2   | 11-725'   | b10  | 10-970'   |
| b3   | 11-544'   | b11  | 10-703'   |
| b4   | 11-544'   | b12  | 10-410'   |
| b5   | 11-544'   | b13  | 10-109'   |
| b6   | 11-505'   | b14  | 9-801'    |
| b7   | 11-441'   | b15  | 9-562'    |
| b8   | 11-323'   | b16  | 9-315'    |

**PIER I REINFORCING BAR SCHEDULE**

| Bar | No  | Size | Length | Shape |
|-----|-----|------|--------|-------|
| h88 | 6   | #8   | 24'-9" | —     |
| h89 | 6   | #8   | 37'-0" | —     |
| h90 | 8   | #8   | 10'-3" | —     |
| h91 | 8   | #8   | 10'-0" | —     |
| h92 | 12  | #8   | 10'-0" | —     |
| h93 | 18  | #5   | 8'-8"  | U     |
| h94 | 6   | #6   | 30'-0" | —     |
| h95 | 14  | #6   | 37'-0" | —     |
| h96 | 32  | #6   | 9'-6"  | —     |
| h97 | 8   | #6   | 9'-0"  | —     |
| h98 | 12  | #5   | 22'-3" | —     |
| h99 | 8   | #5   | 23'-9" | —     |
| h90 | 20  | #5   | 57'-0" | —     |
| h49 | 6   | #6   | 31'-9" | —     |
| h50 | 14  | #6   | 24'-9" | —     |
| s3  | 104 | #4   | 8'-2"  | □     |
| s4  | 96  | #4   | 9'-2"  | □     |
| v14 | 55  | #9   | 12'-0" | —     |
| v15 | 55  | #9   | 10'-0" | —     |
| v16 | 110 | #9   | 7'-9"  | —     |
| v17 | 246 | #1   | 33'-6" | —     |
| f1  | 80  | #4   | 9'-8"  | ○     |
| f2  | 580 | #4   | 11'-3" | ○     |

**Bending Diagrams**

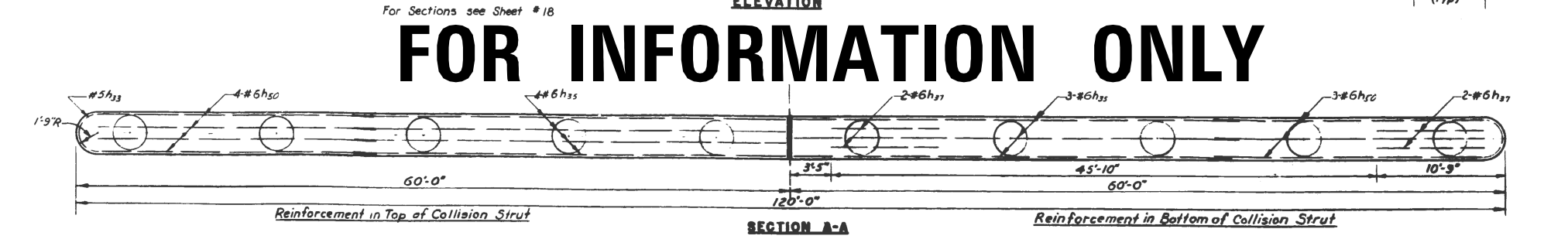
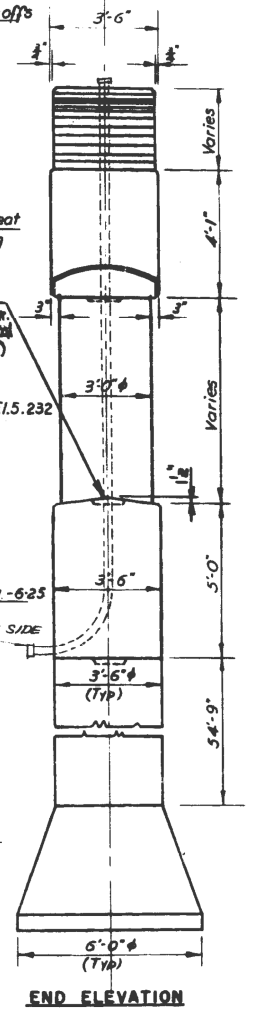
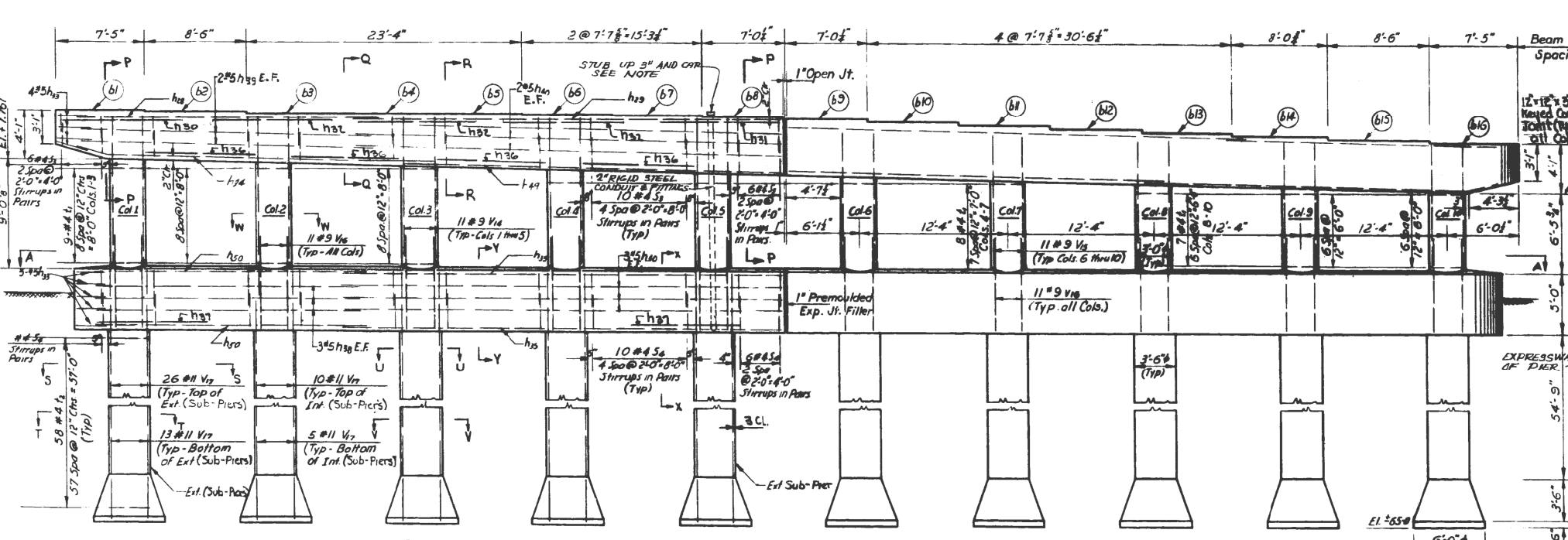
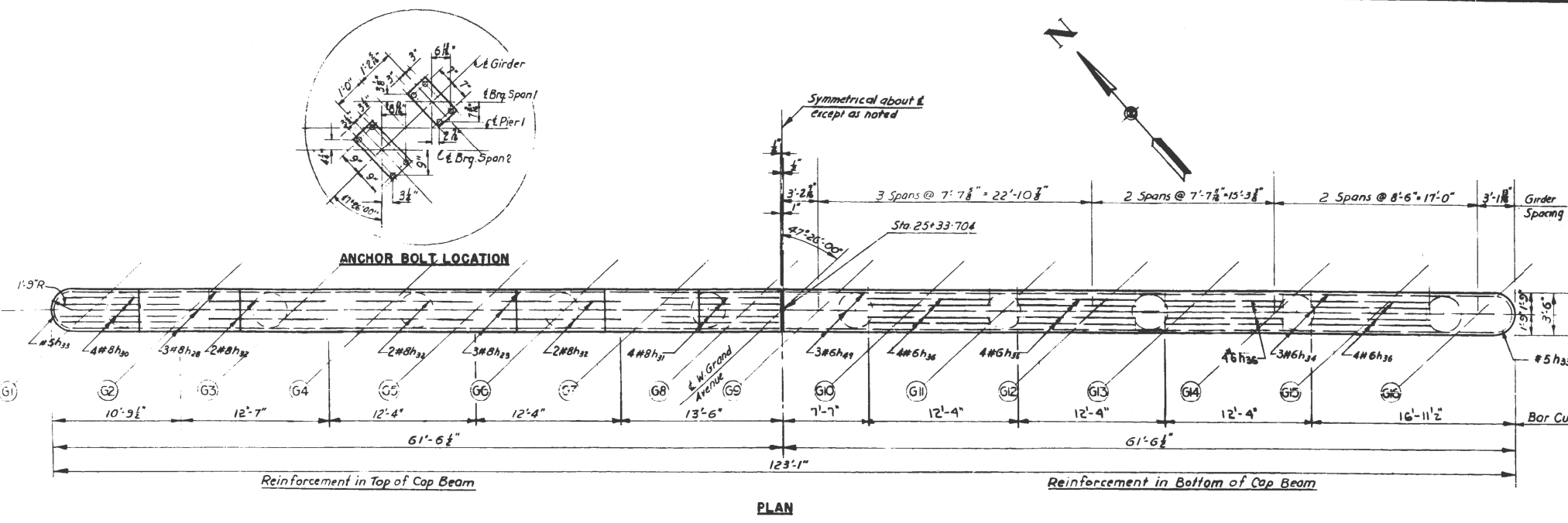
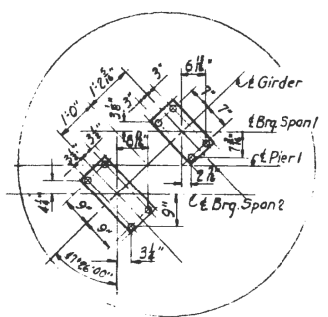


All dimensions are out to out  
 Class "x" Concrete Cu. Yds. 167.5  
 Reinforcement Bars Lbs. 62,392  
 Sub-Pier Shafts, 42" Dia. Lin. Ft. 588  
 Sub-Pier Bells Cu. Ft. 420

NOTE:  
 2" RIGID STEEL CONDUIT & FITTINGS  
 TO BE INCIDENTAL TO CLASS "X" CONCRETE

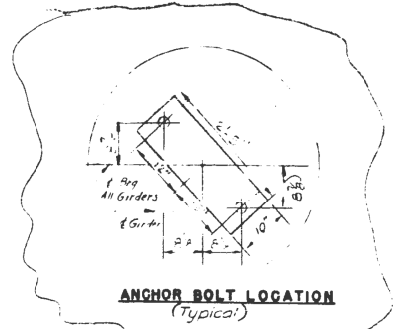
ILLINOIS DIVISION OF HIGHWAYS  
 NORTHWEST EXPRESSWAY  
 ERIE STREET INTERCHANGE  
 GRAND AVENUE GRADE SEPARATION  
 PIER I

SCALE: NONE DATE: JULY 1959



**FOR INFORMATION ONLY**

| ROUTE NO.                                       | SEC.          | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---------------|--------|--------------|-----------|
| F.A. 194  | 0303-476 H.B. | COOK   |              | 16        |
| FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT |               |        |              |           |

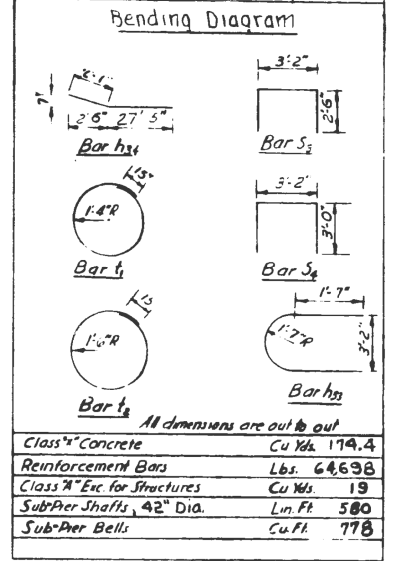


**GAP-BEAM ELEVATION**

| U.L. Elevation | Mark      | Station |         |
|----------------|-----------|---------|---------|
| C1             | 12 31' 4" | C9      | 13 21'  |
| C2             | 12 51' 4" | C4      | 12 51'  |
| C3             | 13 01' 4" | C11     | 1 149'  |
| C4             | 1 179'    | C12     | 1 179'  |
| C5             | 12 52'    | C17     |         |
| C6             | 1 110'    | C18     | 1 110'  |
| C7             | 13 246'   | C15     | 12 885' |
| C8             | 12 321'   | C13     | 12 855' |

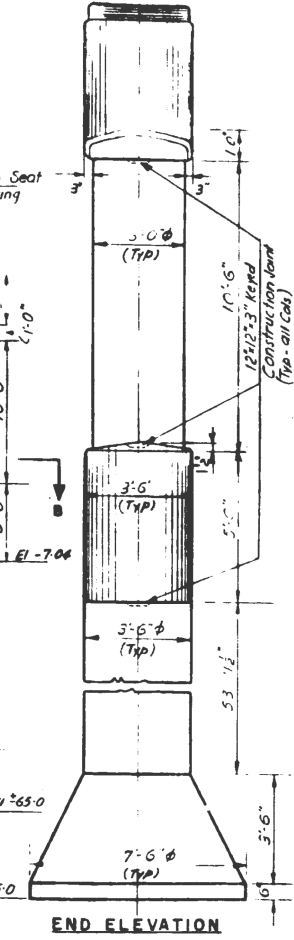
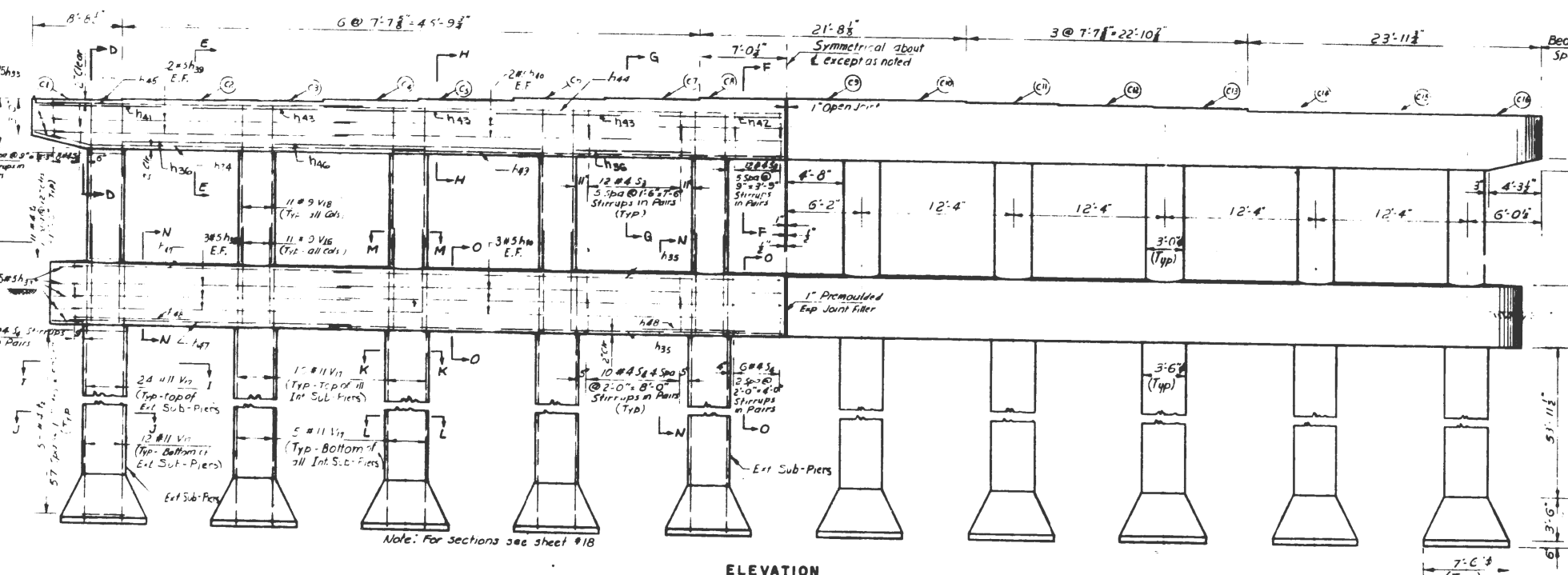
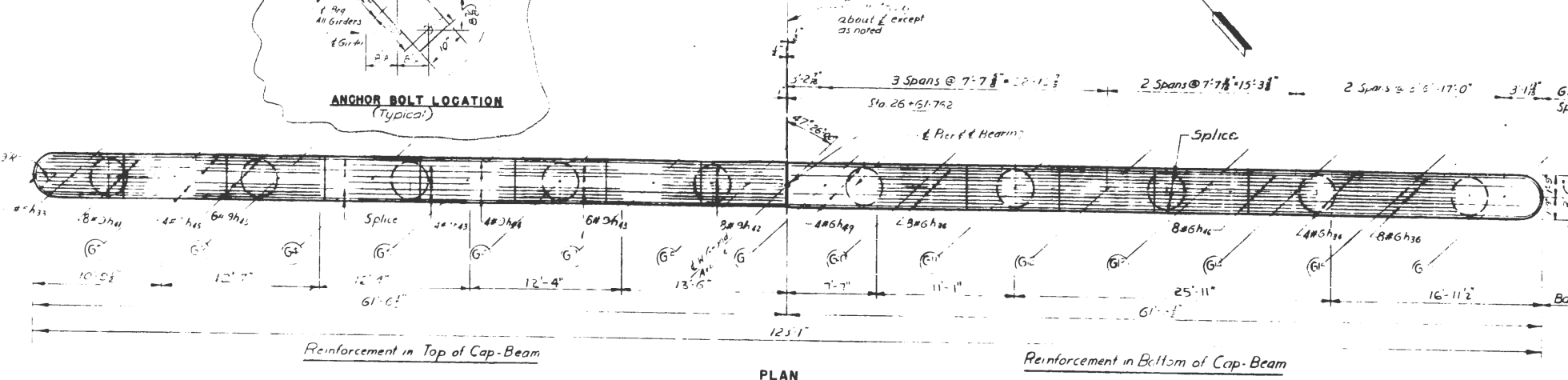
**PIER 2 REINFORCING BAR SCHEDULE**

| Bar | No. | Size | Length | Shape |
|-----|-----|------|--------|-------|
| h35 | 16  | #5   | 8'-0"  |       |
| h36 | 4   | #5   | 37'-0" |       |
| h37 | 4   | #5   | 37'-0" |       |
| h38 | 16  | #5   | 37'-0" |       |
| h39 | 6   | #5   | 23'-9" |       |
| h40 | 20  | #5   | 37'-0" |       |
| h41 | 16  | #9   | 10'-3" |       |
| h42 | 16  | #9   | 10'-3" |       |
| h43 | 32  | #9   | 10'-0" |       |
| h44 | 8   | #9   | 37'-0" |       |
| h45 | 8   | #9   | 24'-6" |       |
| h46 | 16  | #6   | 24'-6" |       |
| h47 | 14  | #6   | 23'-2" |       |
| h48 | 8   | #6   | 9'-0"  |       |
| h49 | 8   | #6   | 37'-9" |       |
| S8  | 136 | #4   | 8'-2"  |       |
| S8  | 96  | #4   | 9'-2"  |       |
| V16 | 110 | #9   | 7'-9"  |       |
| V17 | 234 | #11  | 33'-6" |       |
| V18 | 110 | #9   | 14'-3" |       |
| E1  | 110 | #4   | 9'-8"  |       |
| E2  | 580 | #4   | 11'-3" |       |



|                               |          |        |
|-------------------------------|----------|--------|
| Class "C" Concrete            | Cu Yds   | 179.4  |
| Reinforcement Bars            | Lbs.     | 64,698 |
| Class "A" Exc. for Structures | Cu Yds   | 19     |
| Sub-Pier Shafts, 42" Dia.     | Lin. Ft. | 580    |
| Sub-Pier Bells                | Cu Ft.   | 778    |

ILLINOIS DIVISION OF HIGHWAYS  
 NORTHWEST EXPRESSWAY  
 ERIE STREET INTERCHANGE  
 GRAND AVENUE GRADE SEPARATION  
**PIER 2**  
 SCALE: NONE DATE: JULY 1954  
 REVISED 11/3/59



**FOR INFORMATION ONLY**

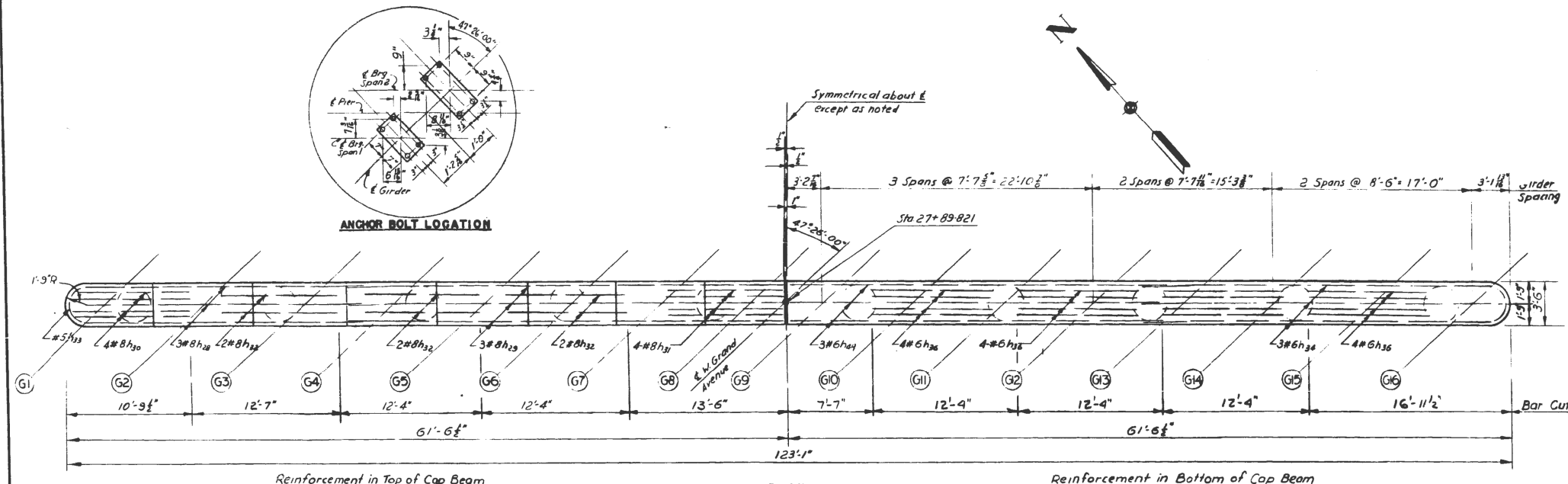
| ROUTE NO.  | SHE.          | COUNTY | TOTAL SHEETS | SHEET NO. |
|--|---------------|--------|--------------|-----------|
| F.A. 194   | 0303-476 H.B. | COOK   | 36           | 17        |
| FED. ROAD DIV. DIST. 4 ILLINOIS FED. AID PROJECT |               |        |              |           |

**GAP-BEAM ELEVATION**

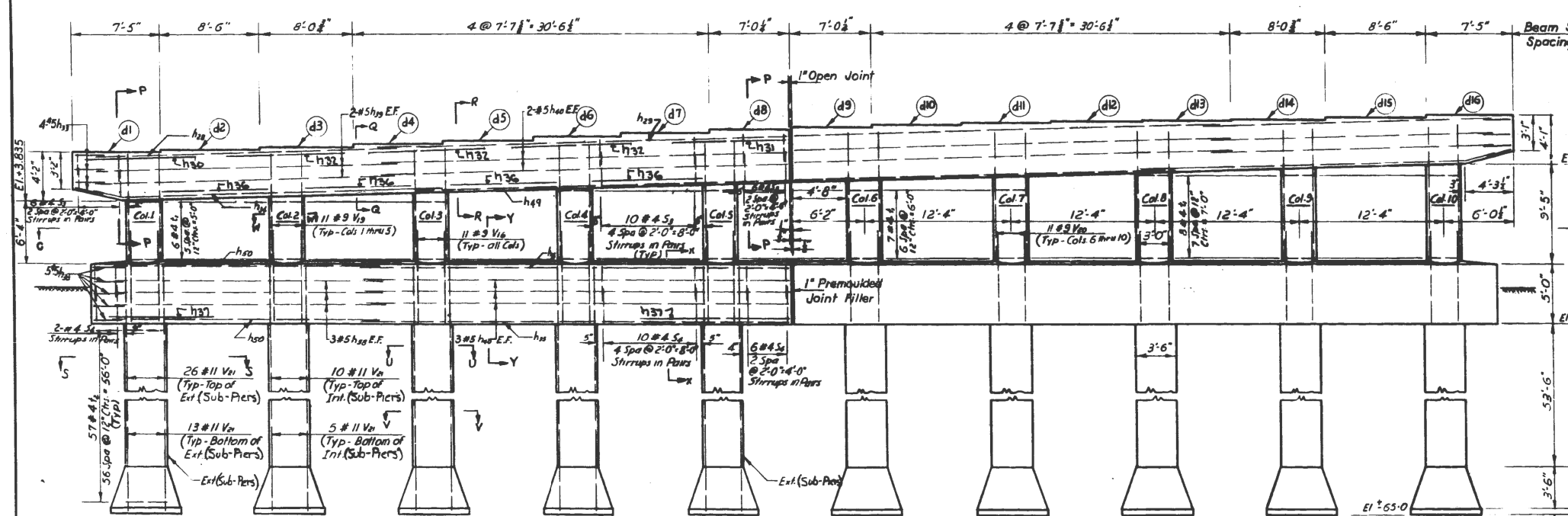
| Mark | Elevation | Mark | Elevation |
|------|-----------|------|-----------|
| d1   | 8.002'    | d9   | 10.014'   |
| d2   | 8.194'    | d10  | 10.221'   |
| d3   | 8.386'    | d11  | 10.371'   |
| d4   | 8.662'    | d12  | 10.463'   |
| d5   | 8.960'    | d13  | 10.546'   |
| d6   | 9.259'    | d14  | 10.621'   |
| d7   | 9.555'    | d15  | 10.821'   |
| d8   | 9.818'    | d16  | 11.001'   |

**PIER 3 REINFORCING BAR SCHEDULE**

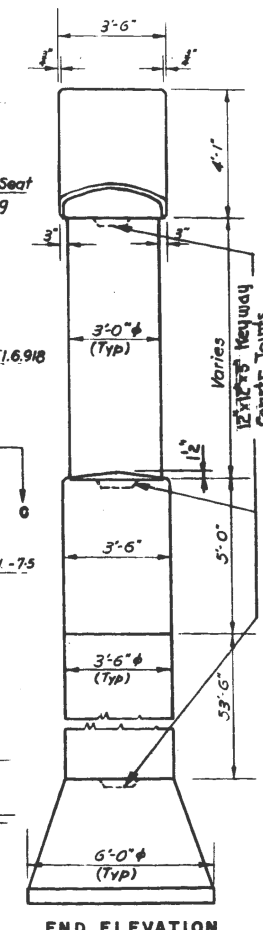
| Bar | No. | Size | Length | Shape |
|-----|-----|------|--------|-------|
| h28 | 6   | #8   | 24'-9" |       |
| h29 | 6   | #8   | 37'-0" |       |
| h30 | 8   | #8   | 10'-3" |       |
| h31 | 8   | #8   | 10'-0" |       |
| h32 | 12  | #8   | 10'-0" |       |
| h33 | 18  | #5   | 8'-2"  |       |
| h34 | 6   | #6   | 30'-0" |       |
| h35 | 14  | #6   | 37'-0" |       |
| h36 | 32  | #6   | 9'-6"  |       |
| h37 | 8   | #6   | 9'-0"  |       |
| h38 | 12  | #5   | 22'-3" |       |
| h39 | 8   | #5   | 23'-9" |       |
| h40 | 20  | #5   | 37'-0" |       |
| h41 | 6   | #6   | 31'-9" |       |
| h50 | 14  | #6   | 24'-9" |       |
| S3  | 104 | #4   | 8'-2"  |       |
| S4  | 96  | #4   | 9'-2"  |       |
| V6  | 110 | #9   | 7'-9"  |       |
| V9  | 55  | #9   | 9'-0"  |       |
| V10 | 55  | #9   | 10'-9" |       |
| V11 | 246 | #11  | 32'-3" |       |
|     |     |      |        |       |
| E1  | 70  | #4   | 9'-8"  |       |
| E2  | 570 | #4   | 11'-5" |       |



**PLAN**

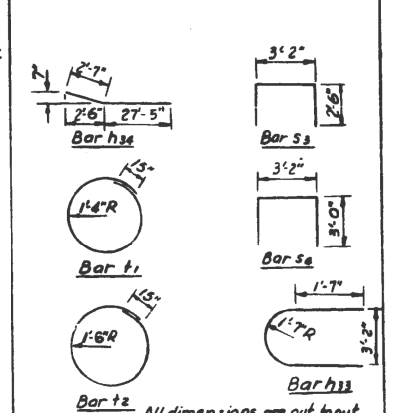


**ELEVATION**



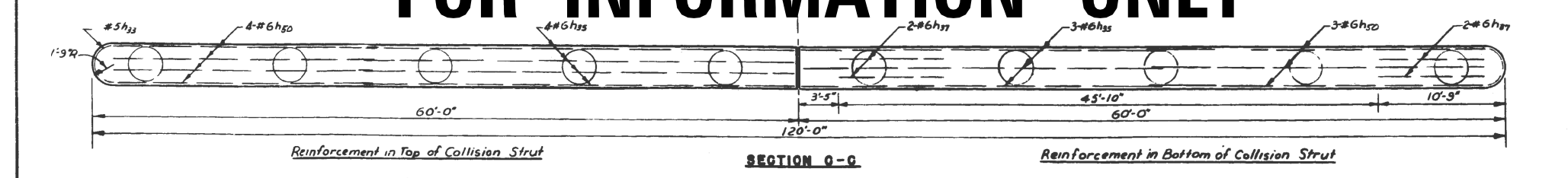
**END ELEVATION**

**Bending Diagram**



|                               |                |
|-------------------------------|----------------|
| Class "x" Concrete            | Cu. Yds. 167.9 |
| Reinforcement Bars            | Lbs. 60,198    |
| Class "A" Exc. for Structures | Cu. Yds. 35    |
| Sub-Pier Shafts, 42" Dia.     | Lin. Ft. 575   |
| Sub-Pier Bells                | Cu. Ft. 420    |

**FOR INFORMATION ONLY**



**SECTION G-G**

|  |                       |            |           |
|--|-----------------------|------------|-----------|
| FILE NAME =  | USER NAME = hassann   | DESIGNED - | REVISED - |
| p:\v\11084EBIDINTEG\illinois.gov\PIWIDOT\Documents\IDOT Offices\District 1\Projects\DI32716\Design\DI32716-sh-t-plan.dgn |                       | CHECKED -  | REVISED - |
| Default  | PLOT DATE = 8/25/2016 | DATE -     | REVISED - |

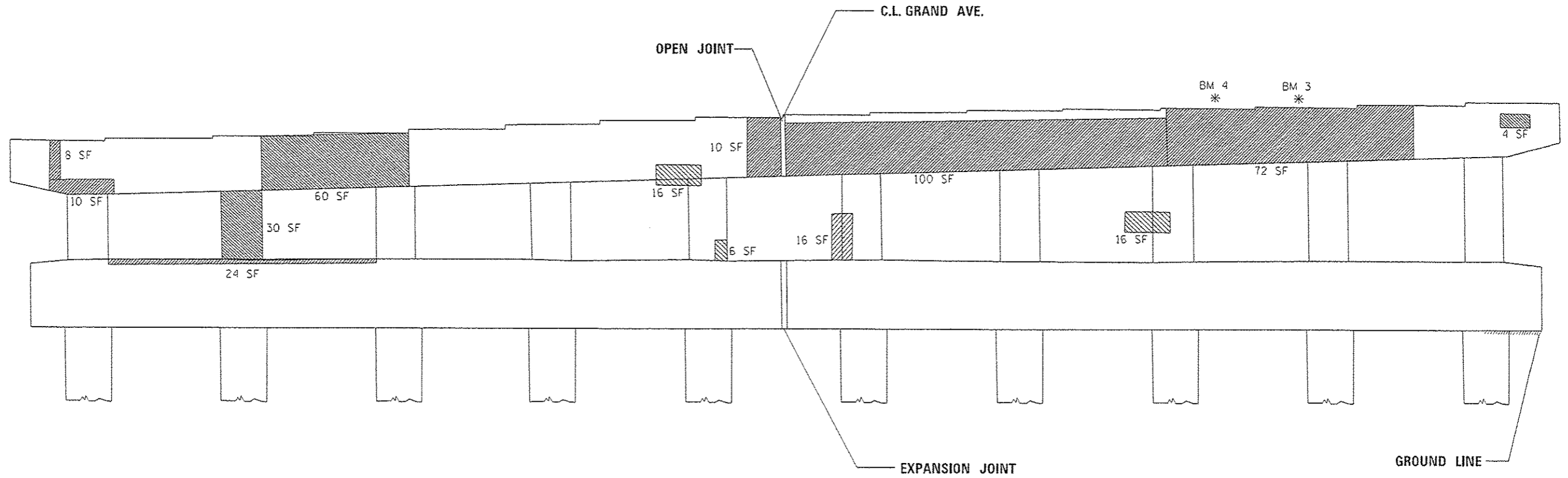
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GRAND AVENUE OVER I-90/94 (SN 016-2048)  
PIER 3 (DETAILS)**

SCALE: SHEET OF SHEETS STA. TO STA.

| F.A.U. RTE.               | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------|-----------|
| 1401                      | 0303-476-HB-BR | COOK   | 20           | 8         |
| CONTRACT NO. 62C28        |                |        |              |           |
| ILLINOIS FED. AID PROJECT |                |        |              |           |





- STRUCTURAL REPAIR OF CONCRETE < 5 INCHES
- \* TEMP. SHORING & CRIBBING

**REACTIONS SN 016-2048**

| INTERIOR GIRDER REACTION TABLE |                            |                                  |        |                            |
|--------------------------------|----------------------------|----------------------------------|--------|----------------------------|
|                                | E. Abut.<br>E. Brg. Pier 1 | W. Brg. Pier 1<br>E. Brg. Pier 3 | Pier 2 | W. Brg. Pier 3<br>W. Abut. |
| R DL (k)                       | 23.0                       | 54.0                             | 185.5  | 25.2                       |
| R LL (k)                       | 28.1                       | 31.7                             | 76.2   | 28.6                       |
| R IMP (k)                      | 8.1                        | 6.3                              | 9.9    | 8.1                        |
| R (total) (k)                  | 59.2                       | 92.0                             | 271.6  | 61.9                       |

**TOTAL BILL OF MATERIAL**

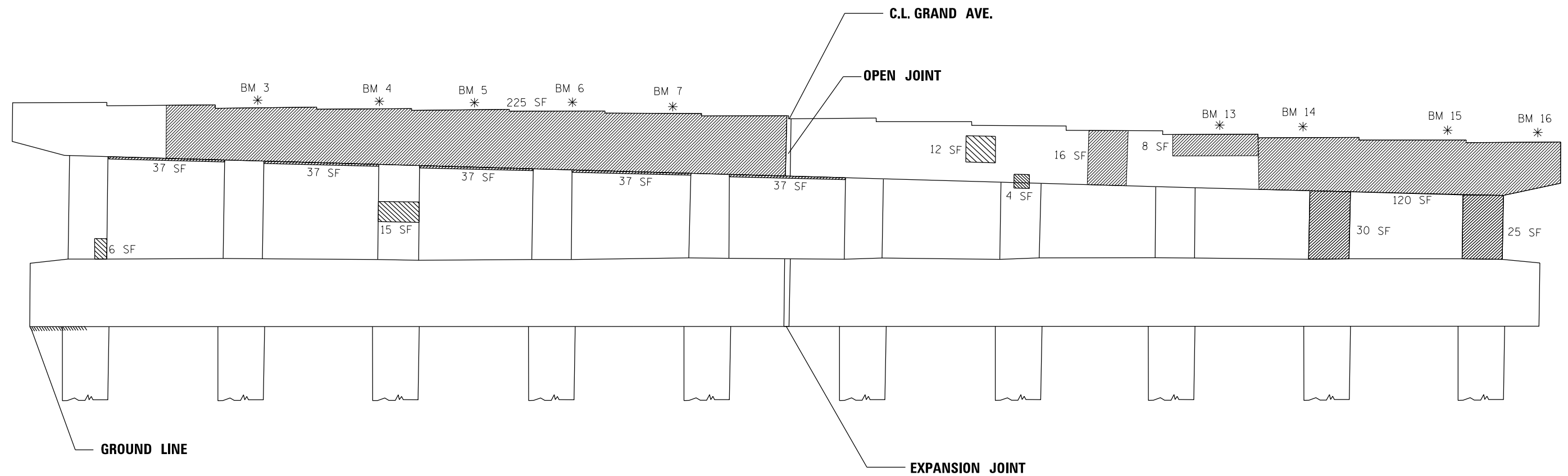
| ITEM                                     | UNIT  | QUANTITY |
|--|-------|----------|
| STRUCTURAL REPAIR OF CONCRETE < 5 INCHES | SQ FT | 2511     |
| TEMP. SHORING & CRIBBING                 | EACH  | 21       |

**PIER 1 EAST FACE BILL OF MATERIAL**

| ITEM                                     | UNIT  | QUANTITY |
|--|-------|----------|
| STRUCTURAL REPAIR OF CONCRETE < 5 INCHES | SQ FT | 372      |
| TEMP. SHORING & CRIBBING                 | EACH  | 2        |



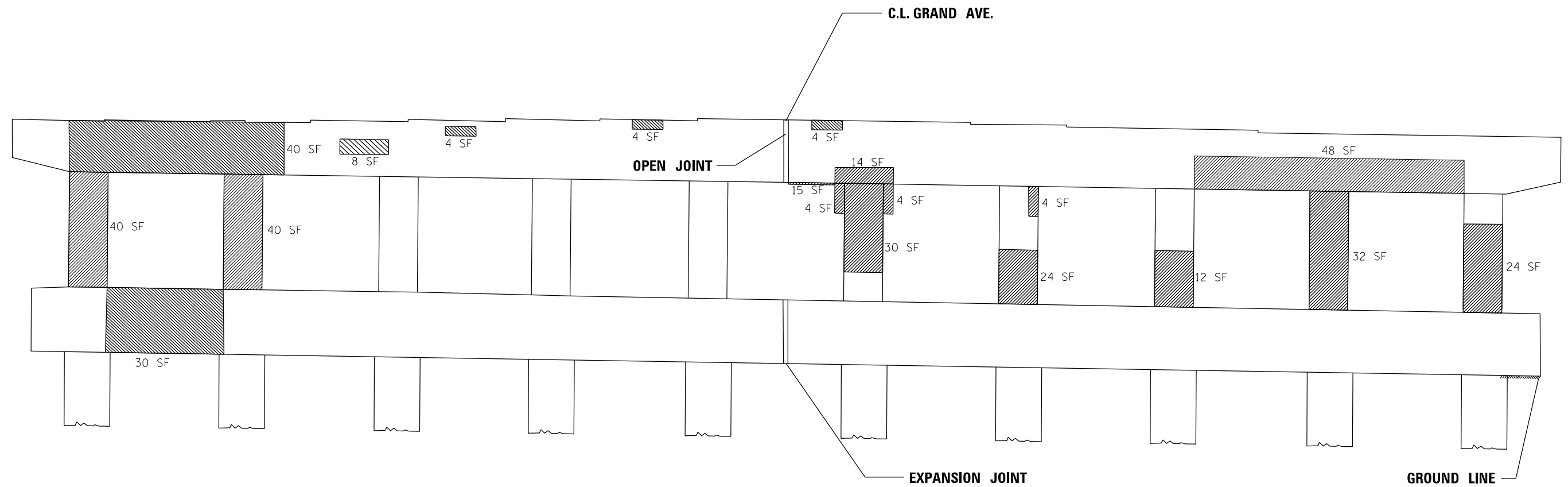
*David Carl Puzey* 9/27/16  
Expires 11/30/18



- STRUCTURAL REPAIR OF CONCRETE < 5 INCHES
- \* TEMP. SHORING & CRIBBING

**PIER 1 WEST FACE BILL OF MATERIAL**

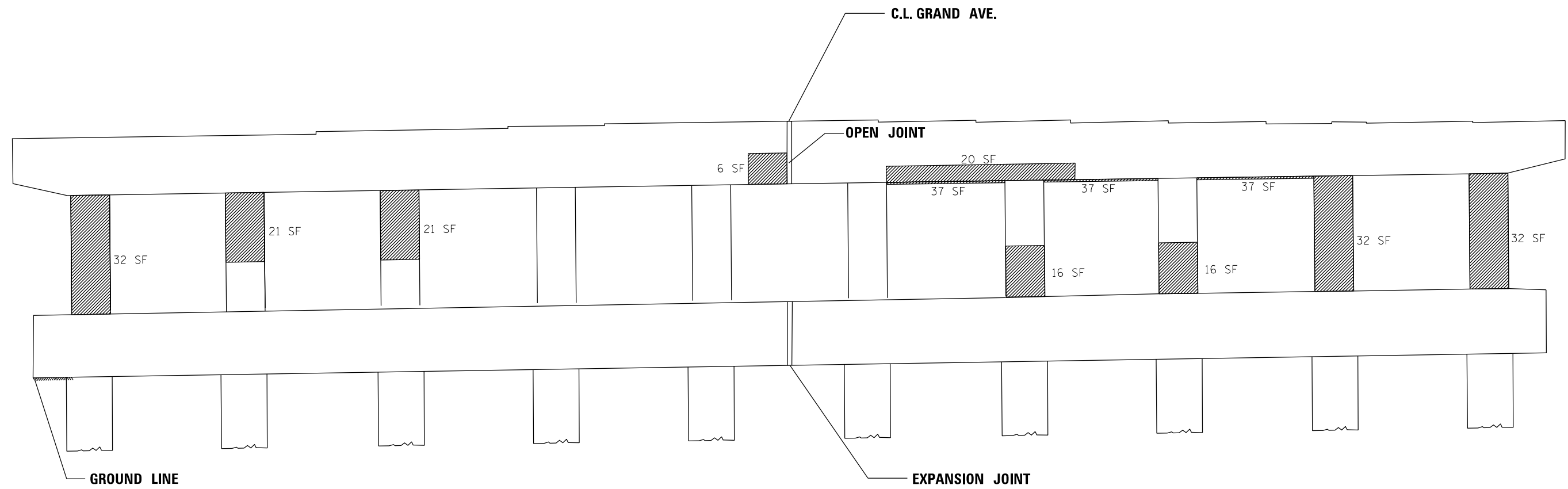
| ITEM                                     | UNIT  | QUANTITY |
|--|-------|----------|
| STRUCTURAL REPAIR OF CONCRETE < 5 INCHES | SQ FT | 646      |
| TEMP. SHORING & CRIBBING                 | EACH  | 9        |



- STRUCTURAL REPAIR OF CONCRETE < 5 INCHES
- \* TEMP. SHORING & CRIBBING

**PIER 2 EAST FACE BILL OF MATERIAL**

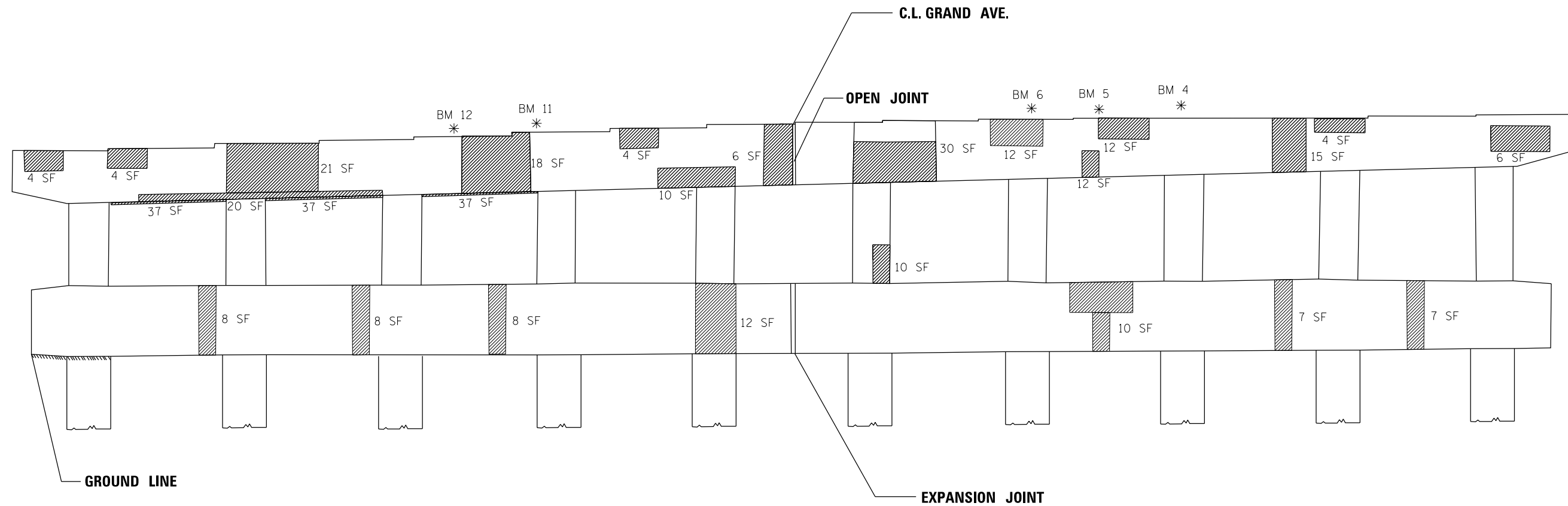
| ITEM                                     | UNIT  | QUANTITY |
|--|-------|----------|
| STRUCTURAL REPAIR OF CONCRETE < 5 INCHES | SQ FT | 381      |
| TEMP. SHORING & CRIBBING                 | EACH  | 0        |



- STRUCTURAL REPAIR OF CONCRETE < 5 INCHES
- \* TEMP. SHORING & CRIBBING

**PIER 2 WEST FACE BILL OF MATERIAL**

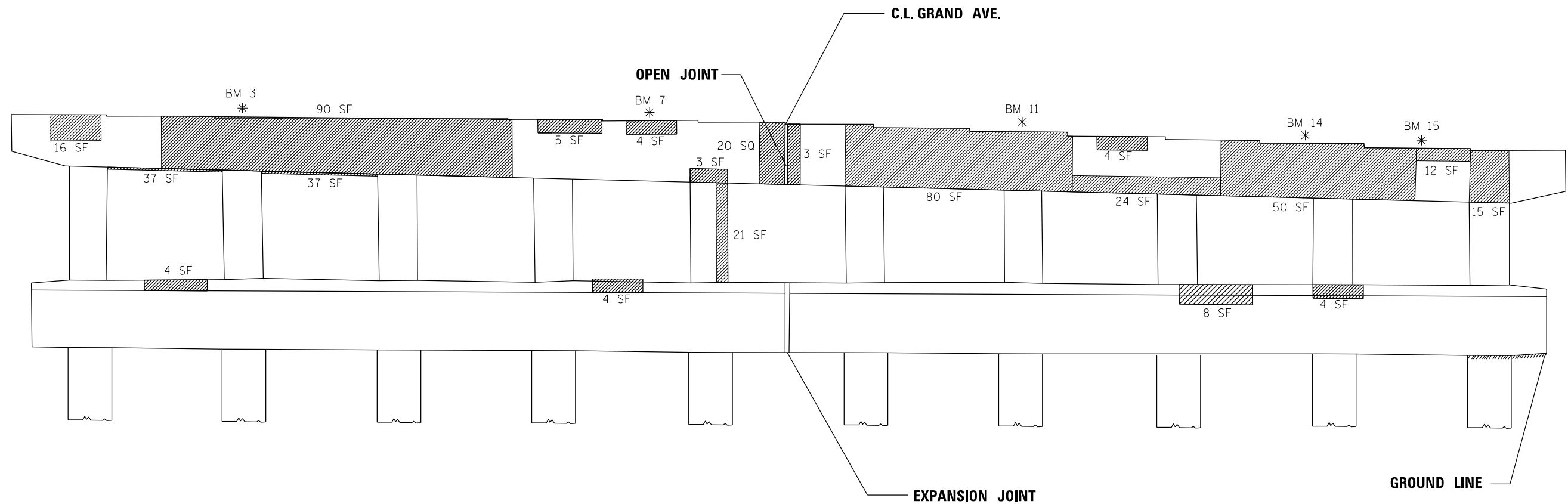
| ITEM                                     | UNIT  | QUANTITY |
|--|-------|----------|
| STRUCTURAL REPAIR OF CONCRETE < 5 INCHES | SQ FT | 307      |
| TEMP. SHORING & CRIBBING                 | EACH  | 0        |



- STRUCTURAL REPAIR OF CONCRETE < 5 INCHES
- \* TEMP. SHORING & CRIBBING

**PIER 3 EAST FACE BILL OF MATERIAL**

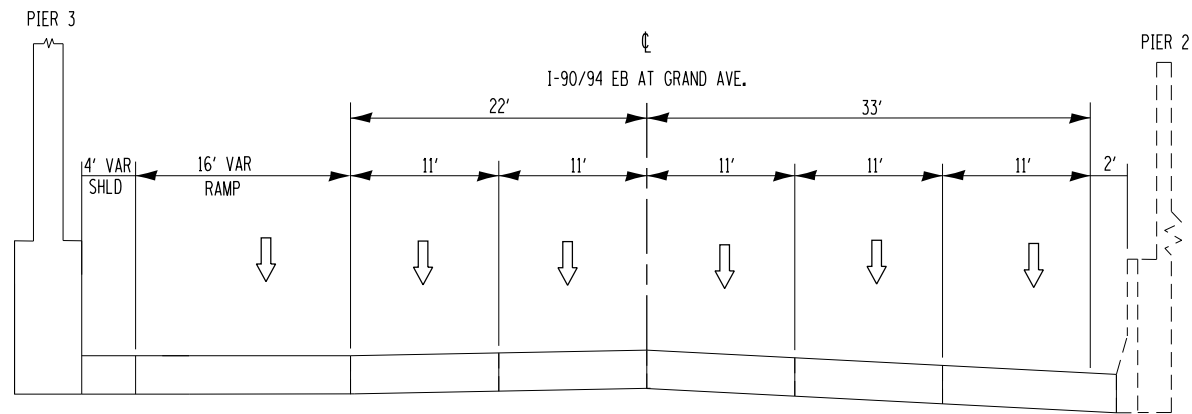
| ITEM                                     | UNIT  | QUANTITY |
|--|-------|----------|
| STRUCTURAL REPAIR OF CONCRETE < 5 INCHES | SQ FT | 364      |
| TEMP. SHORING & CRIBBING                 | EACH  | 5        |



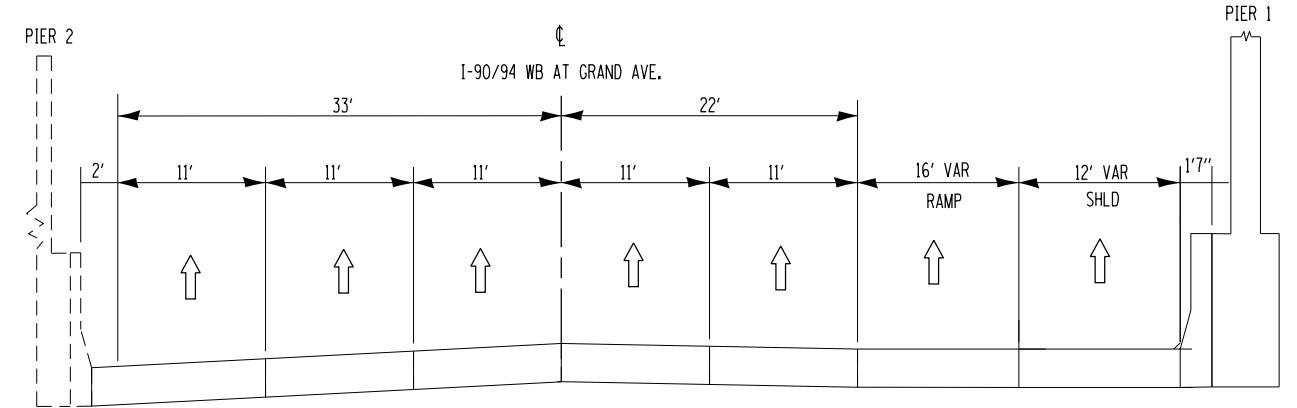
- STRUCTURAL REPAIR OF CONCRETE < 5 INCHES
- \* TEMP. SHORING & CRIBBING

**PIER 3 WEST FACE BILL OF MATERIAL**

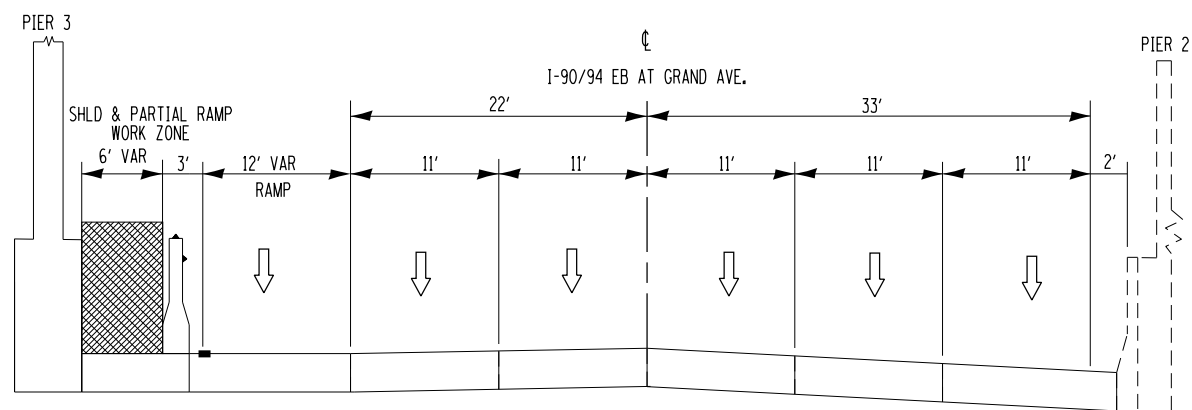
| ITEM                                     | UNIT  | QUANTITY |
|--|-------|----------|
| STRUCTURAL REPAIR OF CONCRETE < 5 INCHES | SQ FT | 441      |
| TEMP. SHORING & CRIBBING                 | EACH  | 5        |



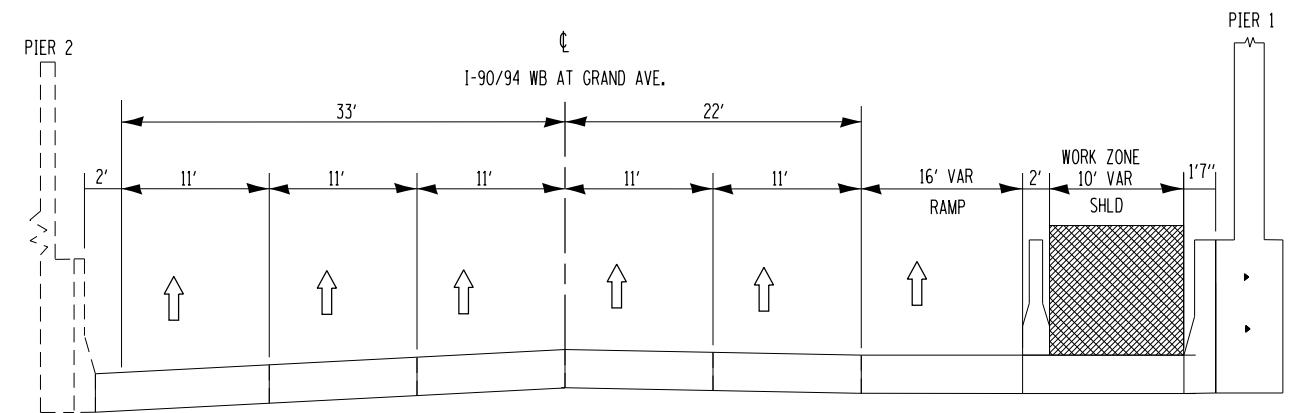
EXISTING TYPICAL CROSS SECTION  
I-90/94 EB AT GRAND AVE.



EXISTING TYPICAL CROSS SECTION  
I-90/94 WB AT GRAND AVE.



PROPOSED STAGING TYPICAL CROSS SECTION  
I-90/94 EB AT GRAND AVE.



PROPOSED STAGING TYPICAL CROSS SECTION  
I-90/94 WB AT GRAND AVE.

|   |                              |            |           |
|---|------------------------------|------------|-----------|
| FILE NAME =   | USER NAME = hassann          | DESIGNED - | REVISED - |
| p:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 1\Projects\DI32716\BROWNS\Design\DI32716-sh-t-pln.dgn |                              | REVISED -  | REVISED - |
| Default   | PLOT SCALE = 100.0000' / in. | CHECKED -  | REVISED - |
|   | PLOT DATE = 8/25/2016        | DATE -     | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

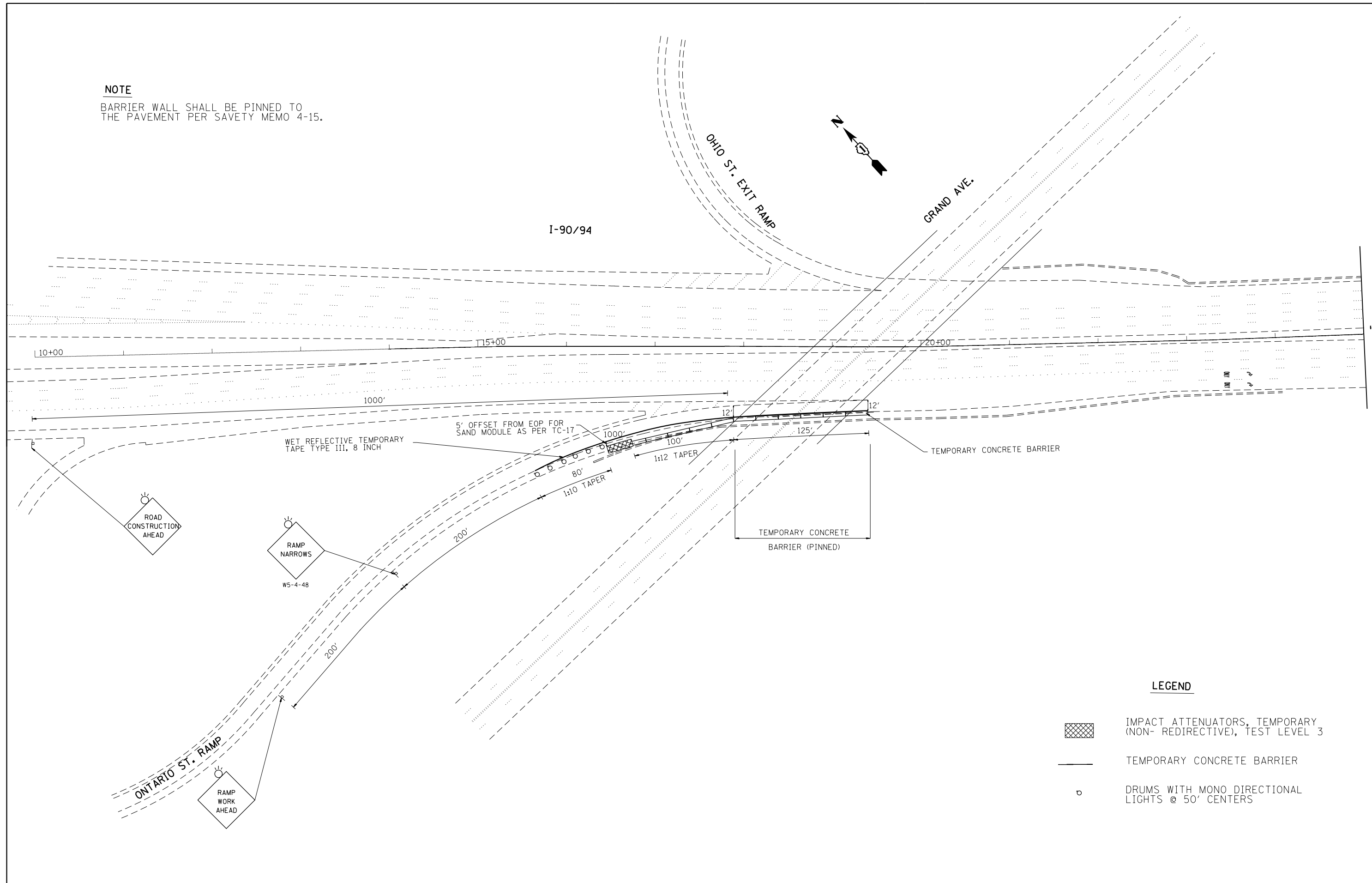
GRAND AVENUE OVER I-90/94 (SN 016-2048)  
EXISTING AND PROPOSED STAGING TYPICAL SECTIONS

SCALE: SHEET OF SHEETS STA. TO STA.




| F.A.U. RTE.        | SECTION        | COUNTY | TOTAL SHEETS              | SHEET NO. |
|--------------------|----------------|--------|---------------------------|-----------|
| 1401               | 0303-476-HB-BR | COOK   | 20                        | 15        |
| CONTRACT NO. 62C28 |                |        | ILLINOIS FED. AID PROJECT |           |

**NOTE**

BARRIER WALL SHALL BE PINNED TO THE PAVEMENT PER SAVETY MEMO 4-15.



**LEGEND**

-  IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER
-  DRUMS WITH MONO DIRECTIONAL LIGHTS @ 50' CENTERS

|   |                              |            |           |
|---|------------------------------|------------|-----------|
| FILE NAME =   | USER NAME = hassann          | DESIGNED - | REVISED - |
| pw:\IL\084EBIDINTEG\illinois.gov\PWIDOT\Documents\IDOT Offices\District 1\Projects\D1327\Browns\Design\D132716-sht-plan.dgn |                              | REVISED -  | REVISED - |
| Default   | PLOT SCALE = 100.0000' / in. | CHECKED -  | REVISED - |
|   | PLOT DATE = 8/25/2016        | DATE -     | REVISED - |

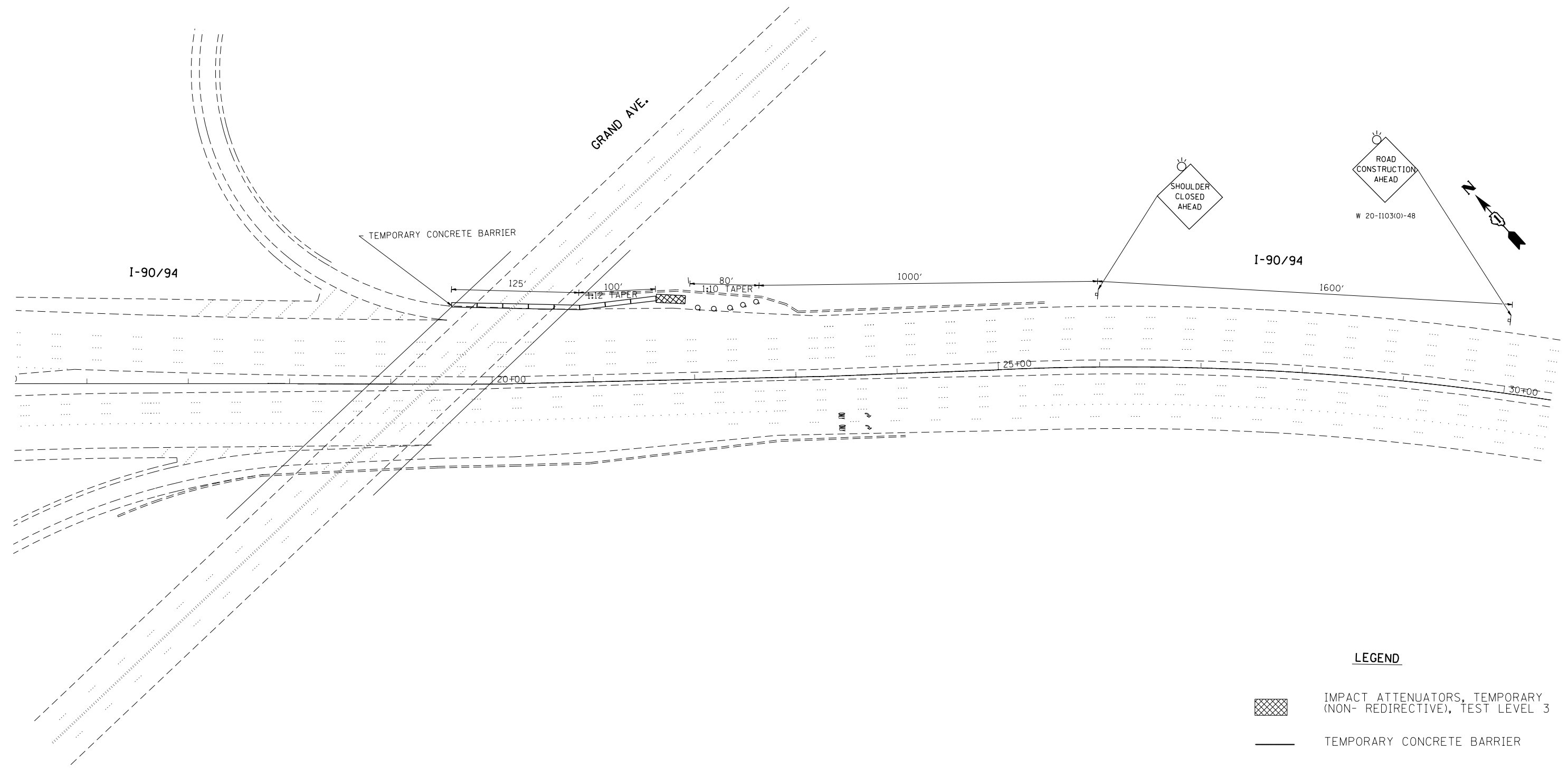
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GRAND AVENUE OVER I-90/94 EASTBOUND (SN 016-2048)  
STAGING PLAN**




SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

|                    |                |        |                           |           |
|--------------------|----------------|--------|---------------------------|-----------|
| F.A.U. RTE.        | SECTION        | COUNTY | TOTAL SHEETS              | SHEET NO. |
| 1401               | 0303-476-HB-BR | COOK   | 20                        | 16        |
| CONTRACT NO. 62C28 |                |        | ILLINOIS FED. AID PROJECT |           |



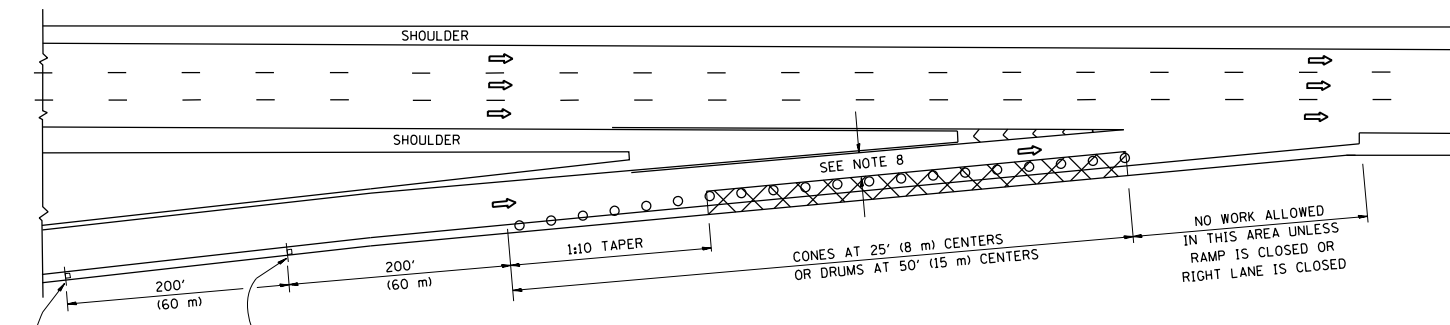


**LEGEND**

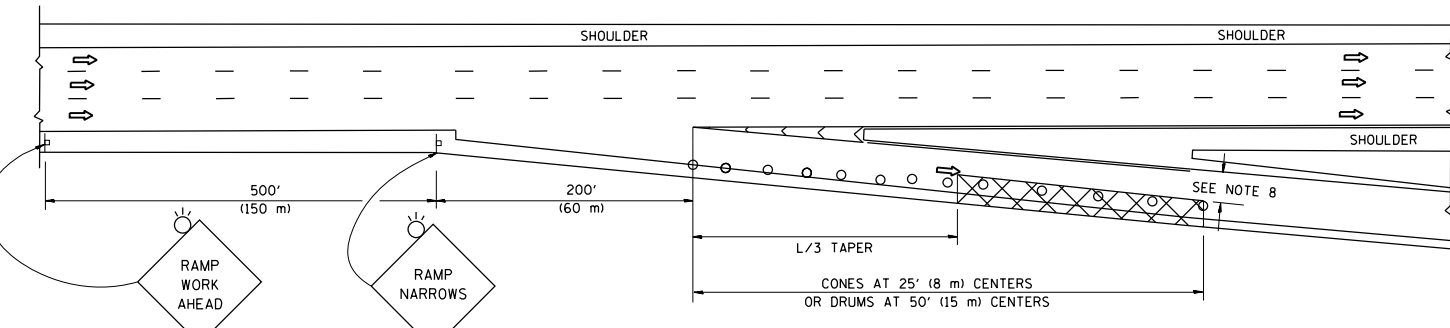
-  IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER
-  DRUMS WITH MONO DIRECTIONAL LIGHTS @ 50' CENTERS

|   |                     |            |           |   |  |                     |       |    |                |         |                |                 |                           |                           |
|---|---------------------|------------|-----------|---|--|---------------------|-------|----|----------------|---------|----------------|-----------------|---------------------------|---------------------------|
| FILE NAME =   | USER NAME = hassann | DESIGNED - | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>GRAND AVENUE OVER I-90/94 WESTBOUND (SN 016-2048)</b> |                     |       |    | F.A.U.<br>RTE. | SECTION | COUNTY         | TOTAL<br>SHEETS | SHEET<br>NO.              |                           |
| pw:\IL\084EBIDINTEG\illinois.gov\PIWIDOT\Documents\IDOT Offices\District 1\Projects\DI32716\Design\DI32716-sh-t-pln.dgn |                     |            |           |   | REVISED -  | <b>STAGING PLAN</b> |       |    |                | 1401    | 0303-476-HB-BR | COOK            | 20                        | 17                        |
| Default   |                     |            |           |   | REVISED -  | SCALE: 1"=50'       | SHEET | OF | SHEETS         | STA.    | TO             | STA.            | <b>CONTRACT NO. 62C28</b> |                           |
| PLOT DATE = 8/25/2016   |                     |            |           |   | REVISED -  |                     |       |    |                |         |                |                 |                           | ILLINOIS FED. AID PROJECT |

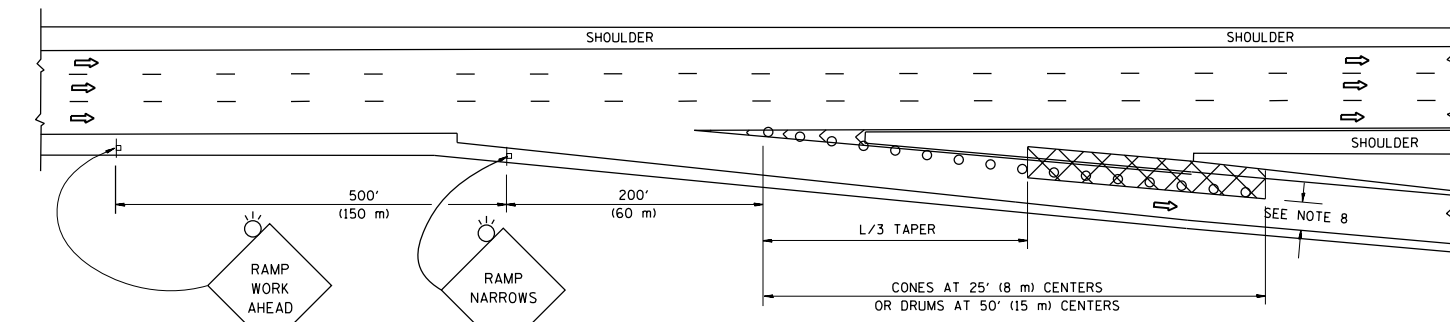
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

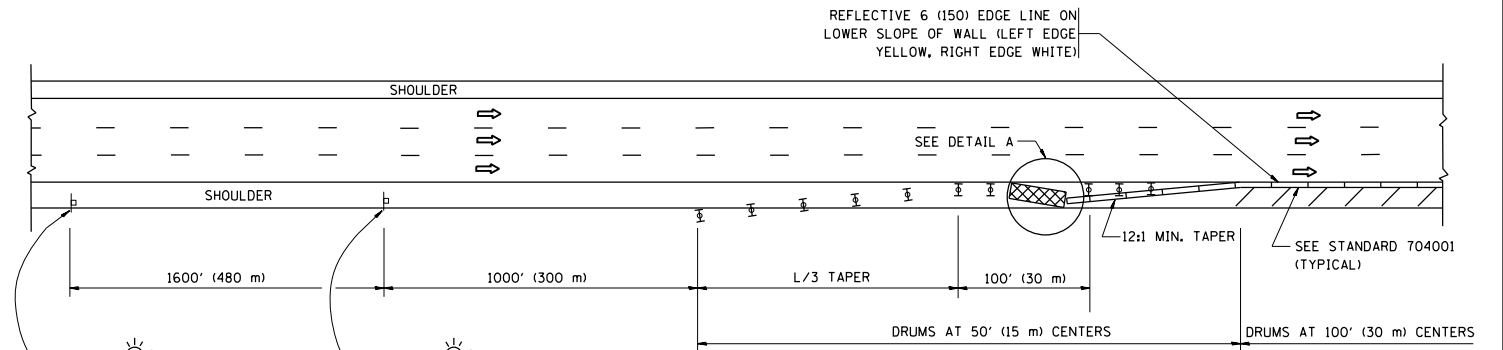
- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES

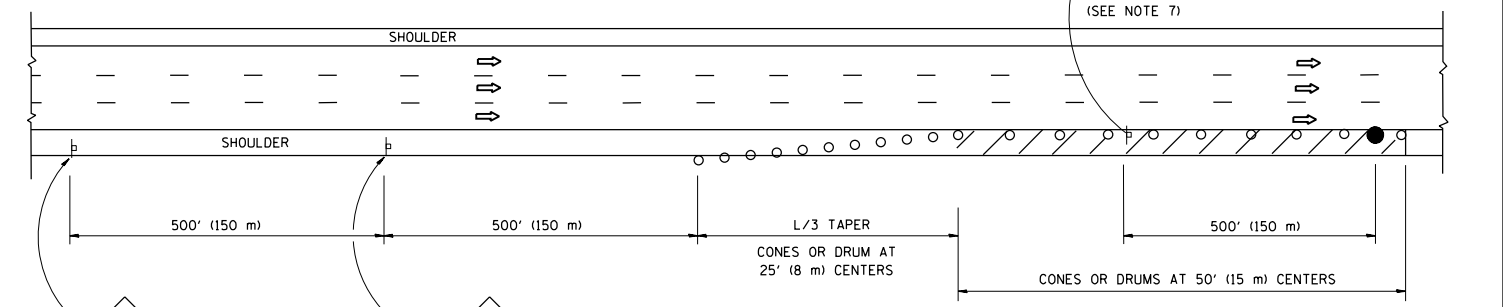
1. THE "L" DISTANCE EQUALS:
 

|                                      |                       |
|--------------------------------------|-----------------------|
| SPEED LIMIT                          | FORMULAS              |
| 45 mph (80 km/h)                     | METRIC ENGLISH        |
| OR GREATER:                          | L=0.65(W)(S) L=(W)(S) |
| W = WIDTH OF OFFSET IN FEET (METERS) |                       |
| S = NORMAL POSTED SPEED MPH (KM/H)   |                       |
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

SHOULDER CLOSURE DETAILS

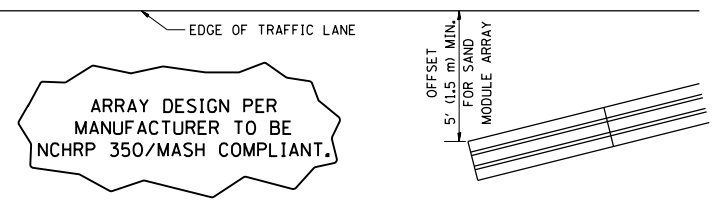


PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:  
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCR OACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

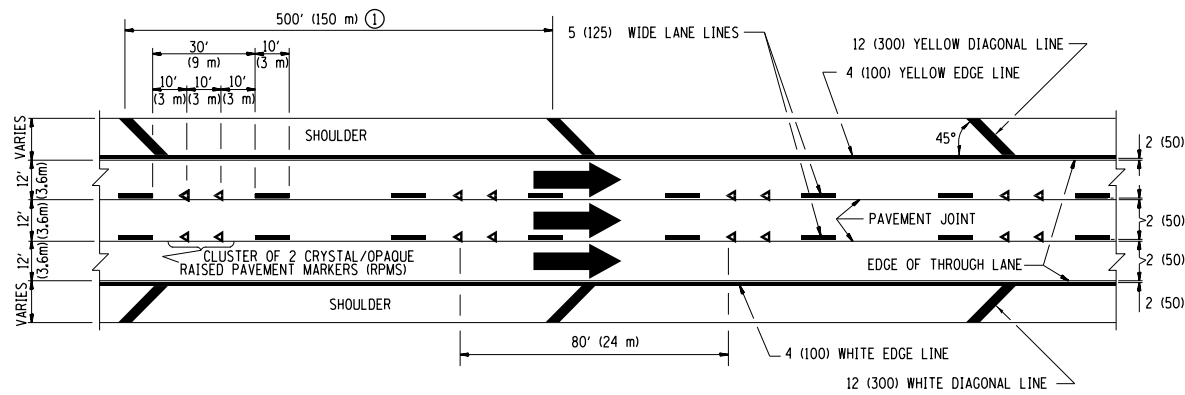


DETAIL "A"  
 IMPACT ATTENUATOR, TEMPORARY  
 (SEE NOTE 5)

5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
  - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
  - b. THE WORK AVTIVITY REQUIRES FREQUENT ENCR OACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION  
 16' MIN. WIDTH CURVE SECTION.

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

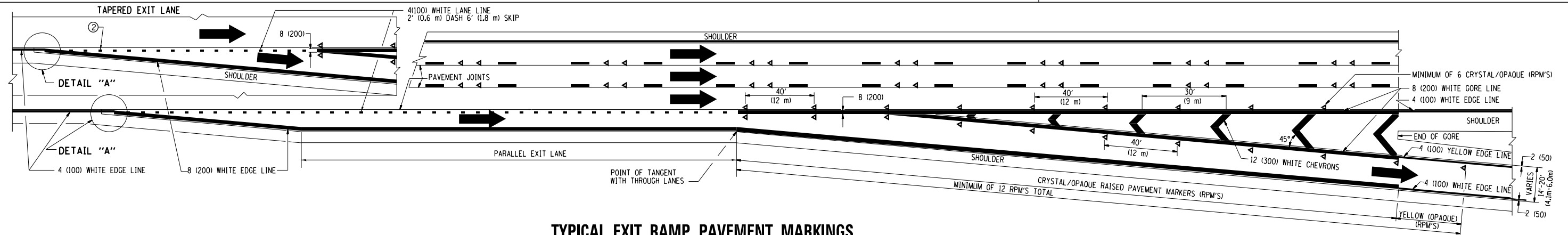
|   |                     |            |             |   |             |                         |              |             |   |                |              |           |    |
|---|---------------------|------------|-------------|---|-------------|-------------------------|--------------|-------------|---|----------------|--------------|-----------|----|
| FILE NAME =   | USER NAME = hassann | DESIGNED - | REVISED - - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. TO STA. | F.A.U. RTÉ. | SECTION   | COUNTY         | TOTAL SHEETS | SHEET NO. |    |
| pw:\11084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 1\Projects\DI32716\Design\DI32716-shr-pln.dgn |                     |            |             |   | REVISED - - |                         |              |             | 1401  | 0303-476-HB-BR | COOK         | 20        | 18 |
| PLOT SCALE = 100.0000' / 1in.   |                     |            |             |   | CHECKED -   |                         |              |             | CONTRACT NO. 62C28                              |                |              |           |    |
| PLOT DATE = 8/25/2016   |                     |            |             |   | DATE -      |                         |              |             | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT |                |              |           |    |
|   |                     |            |             | REVISED - M.D. 06-13                                      |             |                         |              |             |   |                |              |           |    |



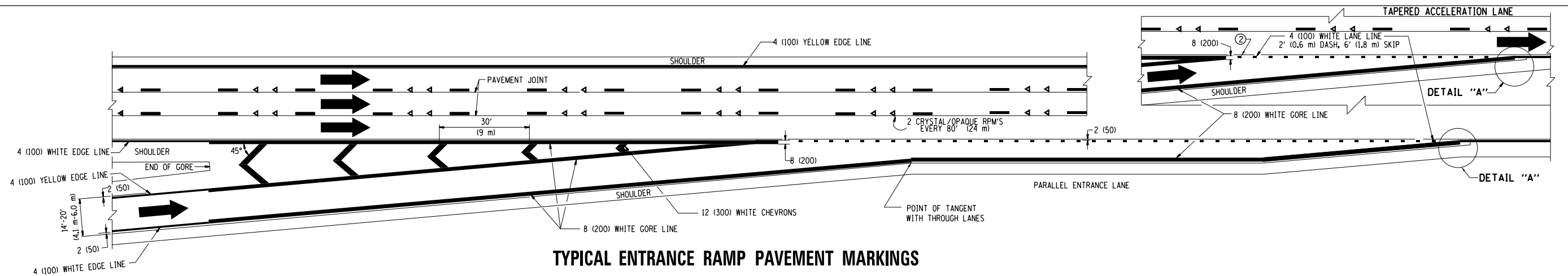
TYPICAL EDGE LINES & LANE LINES

**PAVEMENT MARKING MATERIALS**

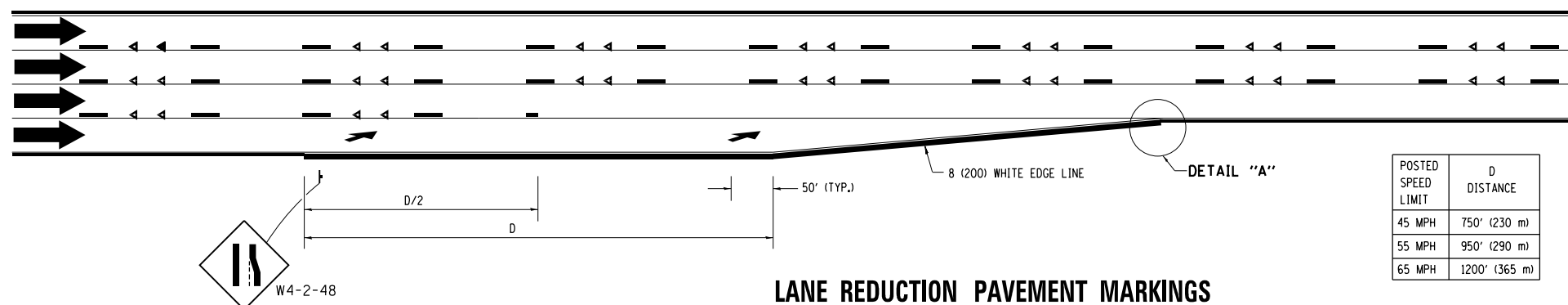
1. THERMO PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR THE EDGE LINES, GORE LINES, AND DIAGONAL LINES ON BITUMINOUS PAVEMENT ONLY.
2. PREFORMED PLASTIC TYPE B PAVEMENT MARKING LINE; INLAID OR GROOVED IN SHALL BE USED FOR ALL LANE LINES ON HMA PAVEMENT PROJECTS.
3. POLYUREA PAVEMENT MARKING SHALL BE USED FOR ALL MARKINGS ON PCC PROJECTS.



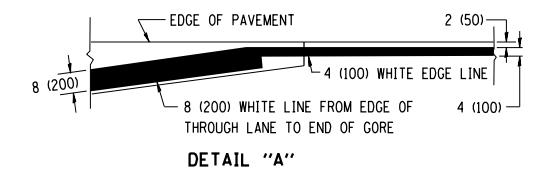
TYPICAL EXIT RAMP PAVEMENT MARKINGS



TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



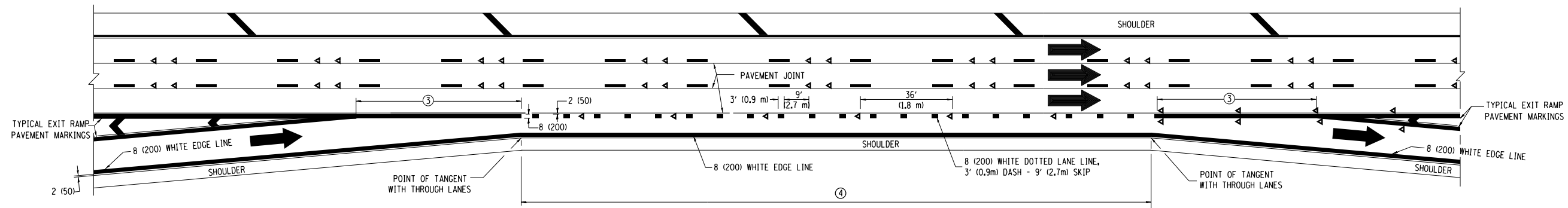
LANE REDUCTION PAVEMENT MARKINGS



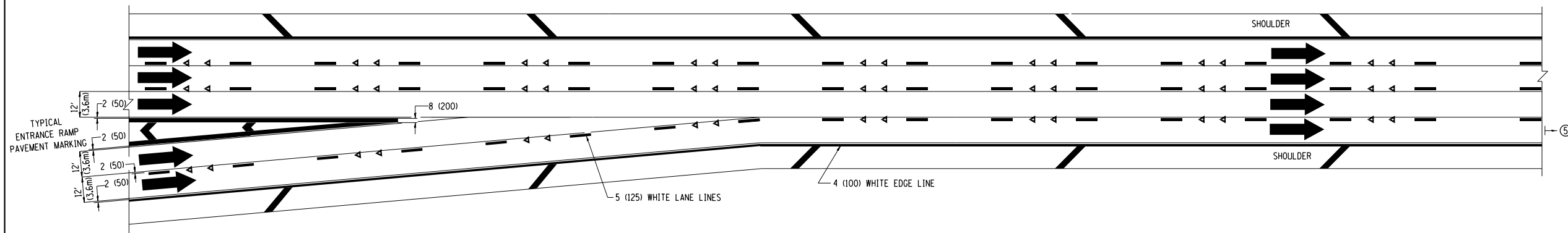
**NOTES:**

- ① THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.
- ② 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.

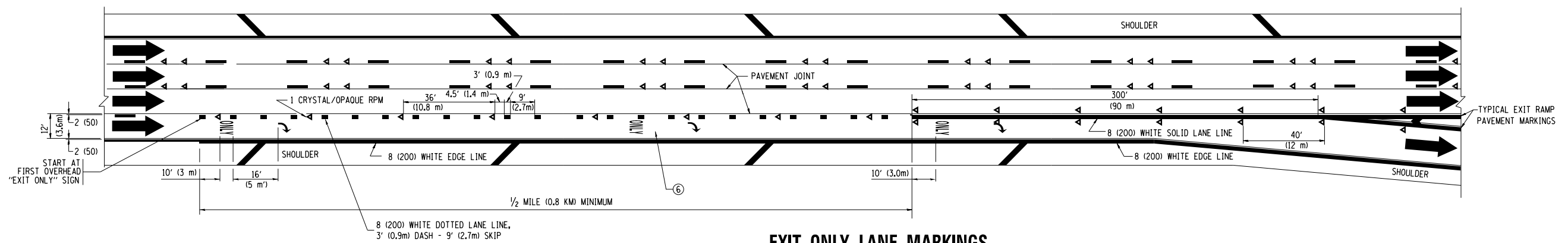
| POSTED SPEED LIMIT | D DISTANCE    |
|--------------------|---------------|
| 45 MPH             | 750' (230 m)  |
| 55 MPH             | 950' (290 m)  |
| 65 MPH             | 1200' (365 m) |



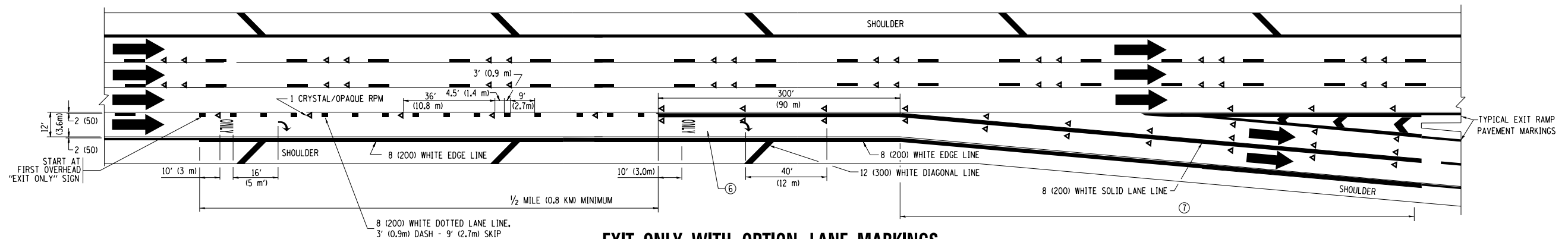
**AUXILIARY LANE MARKINGS**



**TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS**



**EXIT ONLY LANE MARKINGS**



**EXIT ONLY WITH OPTION LANE MARKINGS**

- NOTES**
- ③ OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).
  - ④ 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.
  - ⑤ FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.
  - ⑥ ONLY AND ARROWS EQUALLY SPACED, 500' (150 m) MAXIMUM SPACING. FULL SIZE LETTERS AND ARROW SHALL BE USED.
  - ⑦ CONTINUE 8" SOLID LANE LINE THROUGH EXIT TO END OF PAVED GORE.

|  |                              |            |           |
|--|------------------------------|------------|-----------|
| FILE NAME =  | USER NAME = hassan           | DESIGNED - | REVISED - |
| p:\11\084EBID\INTEG\illinois.gov\PI\DOT\Documents\DOT Offices\District 1\Projects\DI327\Design\DI32716-shr-pln.dgn |                              | REVISOR =  | REVISED - |
|  | PLOT SCALE = 100.0000' / in. | CHECKED -  | REVISED - |
|  | PLOT DATE = 8/25/2016        | DATE -     | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

| MULTI-LANE FREEWAY<br>PAVEMENT MARKING DETAILS |                         |      |         |
|--|-------------------------|------|---------|
| SCALE: NONE                                    | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA. |

| F.A.U. RTE.                                     | SECTION        | COUNTY | TOTAL SHEETS       | SHEET NO. |
|---|----------------|--------|--------------------|-----------|
| 1401  | 0303-476-HB-BR | COOK   | 20                 | 20        |
| TC-12   |                |        | CONTRACT NO. 62C28 |           |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT |                |        |                    |           |