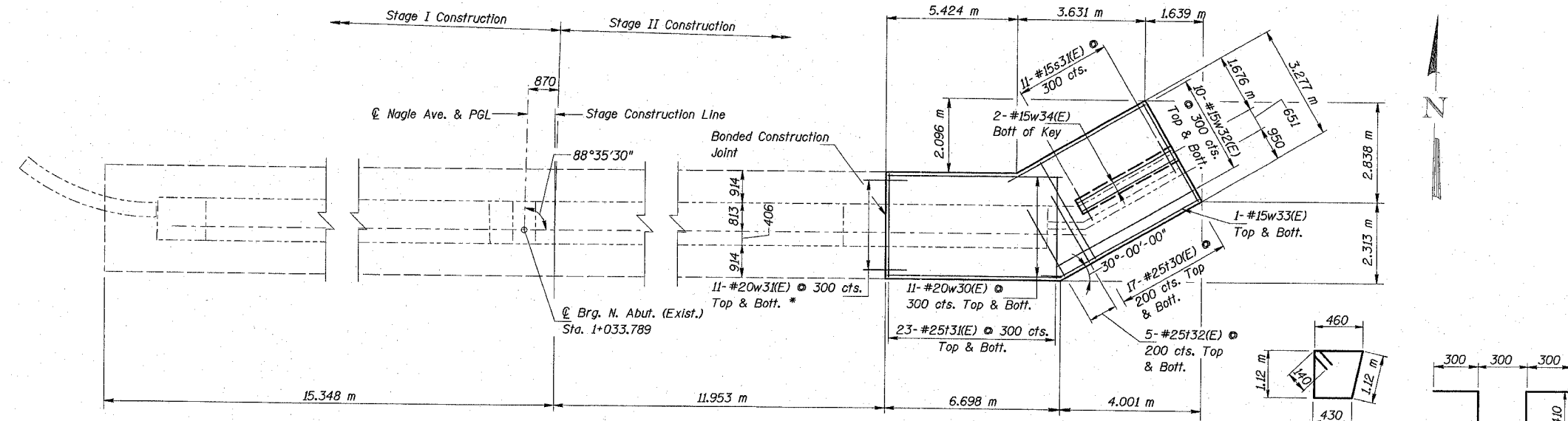
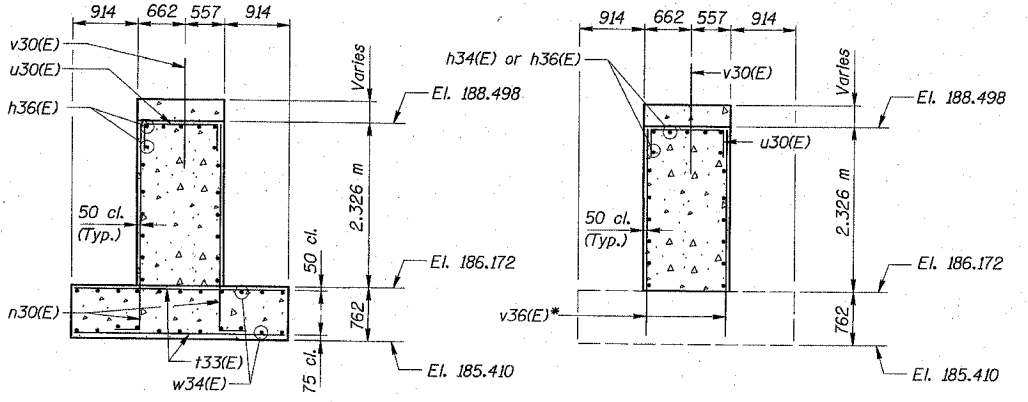


**BILL OF MATERIAL**

| BAR NO.                             | NO. | SIZE           | LENGTH (m) | SHAPE |
|-------------------------------------|-----|----------------|------------|-------|
| h30(E)                              | 5   | #15            | 6.20       | —     |
| h31(E)                              | 5   | #15            | 12.92      | —     |
| h32(E)                              | 5   | #15            | 15.89      | —     |
| h33(E)                              | 5   | #15            | 10.46      | —     |
| h34(E)                              | 16  | #15            | 0.80       | —     |
| h35(E)                              | 38  | #15            | 0.60       | —     |
| h36(E)                              | 19  | #15            | 6.55       | —     |
| h37(E)                              | 8   | #10            | 4.65       | —     |
| h38(E)                              | 8   | #10            | 4.53       | —     |
| h39(E)                              | 9   | #10            | 4.1        | —     |
| h40(E)                              | 9   | #10            | 3.98       | —     |
| h41(E)                              | 3   | #15            | 4.02       | —     |
| h42(E)                              | 3   | #15            | 4.22       | —     |
| h43(E)                              | 5   | #15            | 5.03       | —     |
| n30(E)                              | 36  | #15            | 3.22       | L     |
| n31(E)                              | 19  | #20            | 3.3        | —     |
| n32(E)                              | 8   | #15            | 0.94       | —     |
| s30(E)                              | 11  | #15            | 3.41       | □     |
| s31(E)                              | 11  | #15            | 1.72       | □     |
| t30(E)                              | 34  | #25            | 3.18       | —     |
| t31(E)                              | 46  | #25            | 2.95       | —     |
| t32(E)                              | 10  | #25            | 1.9        | —     |
| u30(E)                              | 22  | #15            | 1.70       | □     |
| u31(E)                              | 96  | #15            | 1.42       | □     |
| v30(E)                              | 72  | #15            | 1.31       | —     |
| v31(E)                              | 8   | #15            | 4.90       | —     |
| v32(E)                              | 134 | #15            | 0.60       | —     |
| v33(E)                              | 30  | #15            | 1.10       | —     |
| v34(E)                              | 10  | #20            | 3.45       | —     |
| v35(E)                              | 4   | #10            | 4.74       | —     |
| v36(E)                              | 8   | #15            | 2.53       | —     |
| w30(E)                              | 22  | #20            | 6.60       | —     |
| w31(E)                              | 22  | #20            | 1.20       | —     |
| w32(E)                              | 20  | #15            | 4.52       | —     |
| w33(E)                              | 2   | #15            | 5.32       | —     |
| w34(E)                              | 2   | #15            | 3.03       | —     |
| Concrete Structures                 |     | m <sup>3</sup> | 77.4       |       |
| Reinforcement Bars                  |     | kg             | 3,620      |       |
| Epoxy Coated                        |     | kg             | 3,620      |       |
| Structure Excavation                |     | m <sup>3</sup> | 769        |       |
| Porous Granular Embankment          |     | m <sup>3</sup> | 719        |       |
| High Performance Enhanced Shotcrete |     | m <sup>2</sup> | 0.1        |       |
| Furnished Excavation                |     | m <sup>3</sup> | 125        |       |

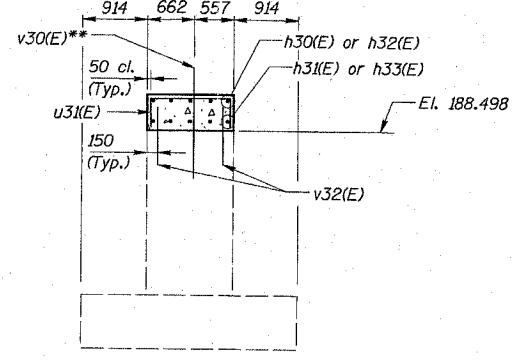


**FOOTING PLAN**

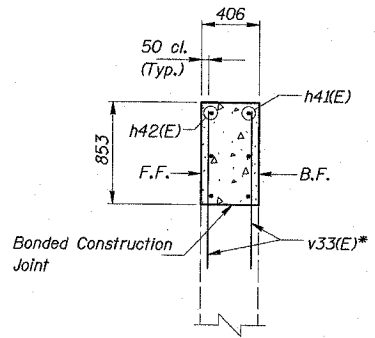


**SECTION A-A**

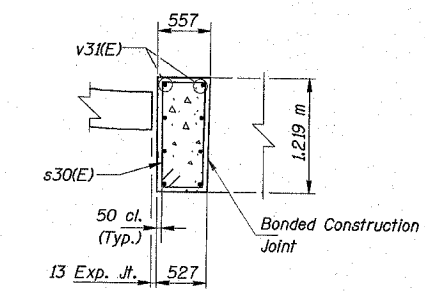
**SECTION B-B**



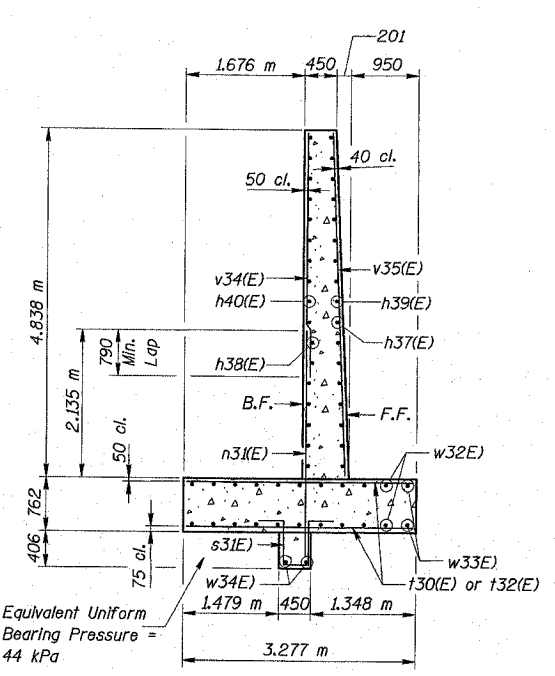
**SECTION C-C**



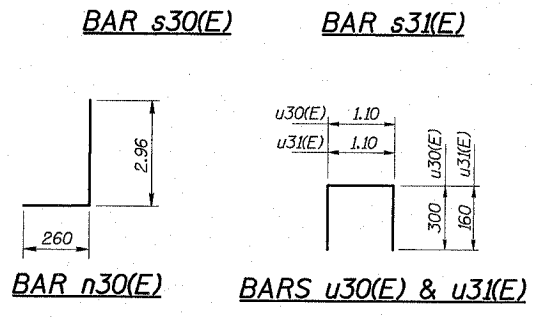
**SECTION D-D**



**SECTION E-E**



**SECTION F-F**



| BAR    | A    | B     | C    | D    |
|--------|------|-------|------|------|
| h37(E) | 1.6  | 2.771 | 3.2  | 1.45 |
| h38(E) | 1.54 | 2.667 | 3.08 | 1.45 |
| h39(E) | 1.6  | 2.771 | 3.2  | 900  |
| h40(E) | 1.54 | 2.667 | 3.08 | 900  |
| w33(E) | 1.76 | 3.914 | 4.52 | 800  |

\* Drill and epoxy grout bars 300 (Min.) into existing structure according to Section 584 of the Standard Specifications.

Notes:  
 Reinforcement bars designated (E) shall be epoxy coated. All dimensions are in millimeters (mm) except as noted. Work this sheet with Sheet S29.

Minimum Bar Laps:  
 #15 = 640  
 #20 = 790

**COLLINS ENGINEERS**  
 123 N. WACKER DR., SUITE 300  
 CHICAGO, IL 60606  
 (312) 704-9300  
 ILLINOIS PROFESSIONAL DESIGN FIRM  
 LICENSE NO. 184-000993

| REVISIONS |      |
|-----------|------|
| NAME      | DATE |
|           |      |
|           |      |
|           |      |
|           |      |
|           |      |
|           |      |
|           |      |
|           |      |
|           |      |
|           |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 90 (1-90)  
 AT NAGLE AVENUE  
 F.A.U. RTE. 2783 SEC 1314B  
 COOK COUNTY STATION 0+998.813  
 STRUCTURE NO. 016-0708  
**NORTH ABUTMENT DETAILS**  
 DRAWN BY KAC  
 CHECKED BY LDB/DGS  
 DATE: DEC. 2004