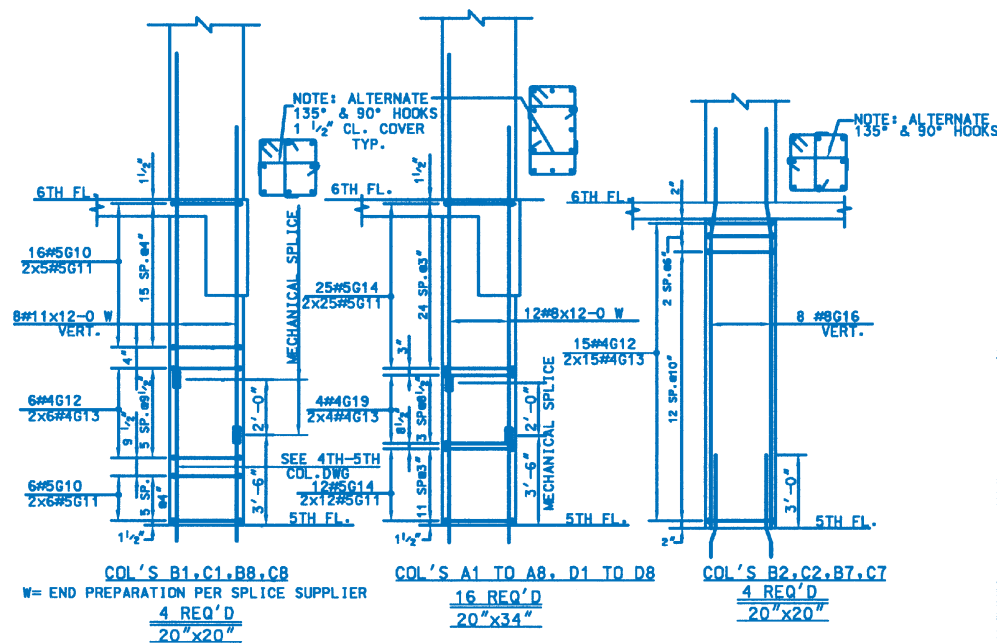


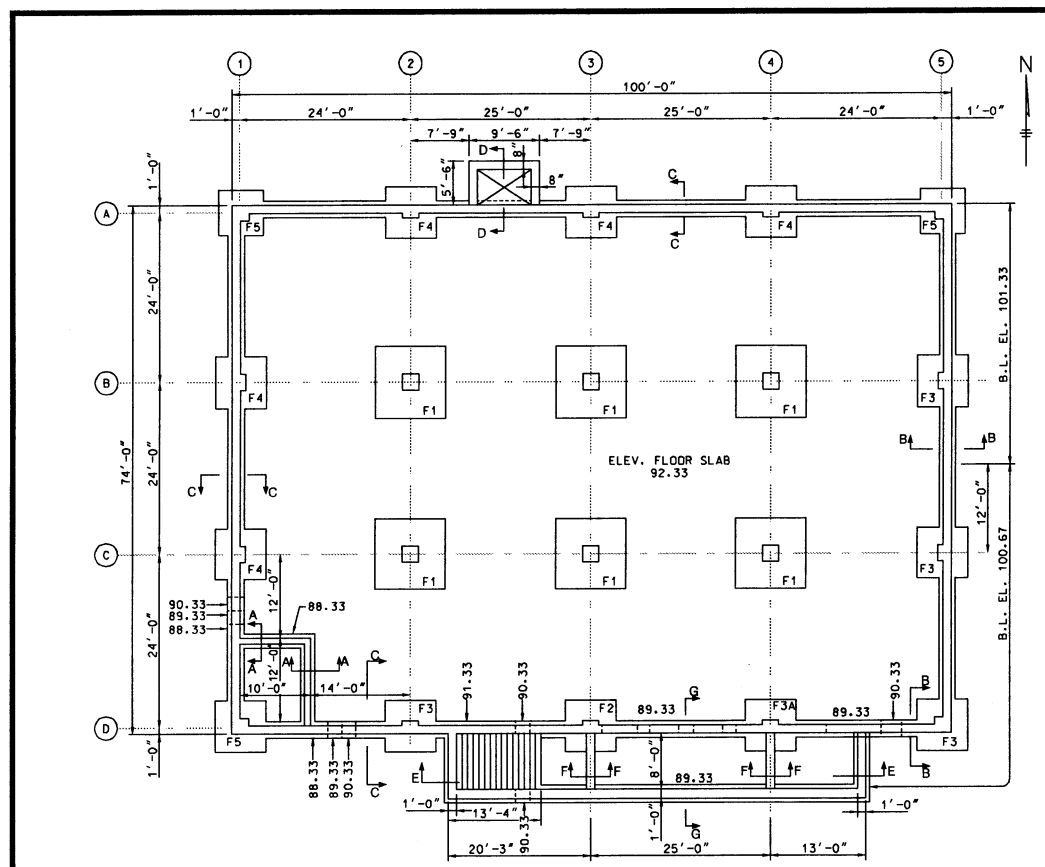
# ACI DETAILING MANUAL-2004

*Including:*

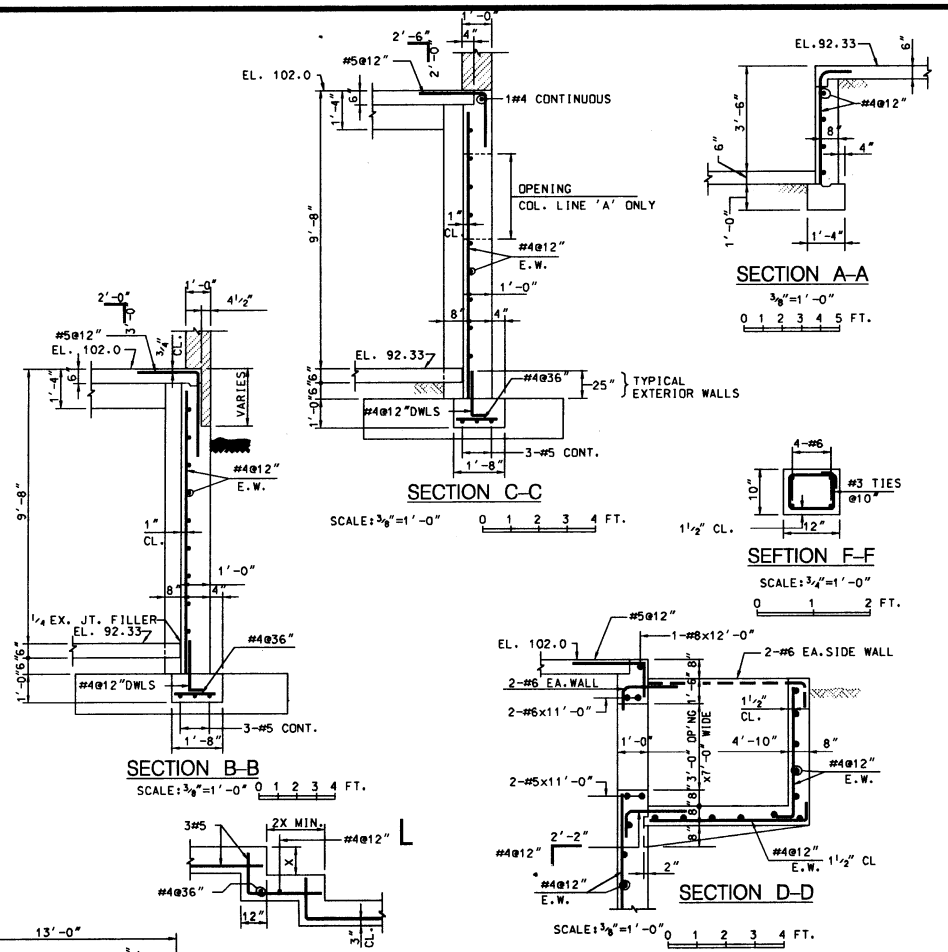
- Details and Detailing of Concrete Reinforcement (ACI 315-99)
- Manual of Structural and Placing Drawings for Reinforced Concrete Structures (ACI 315R-04)
- Supporting Reference Data



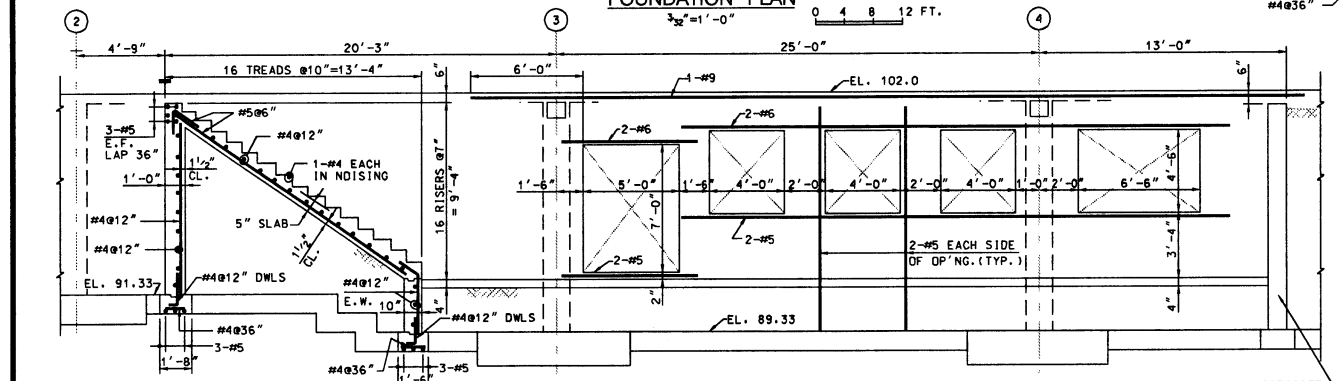
PUBLICATION SP-66 (04)



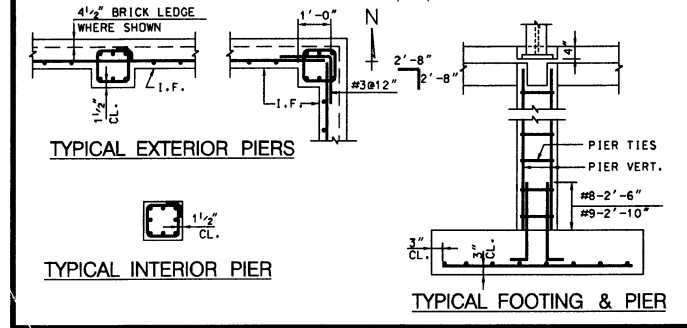
FOUNDATION PLAN  
SCALE: 1/8"=1'-0"



TYPICAL STEPPED FOOTING



ELEVATION E-E  
SCALE: 1/4"=1'-0"



FOOTING SCHEDULE		
MARK	SIZE	REINF.
F1	9'-0"x9'-0"x1'-11"	10-#8 E.W.
F2	8'-0"x8'-0"x1'-10"	10-#7 E.W.
F3	7'-6"x7'-6"x1'-8"	9-#7 E.W.
F4	7'-0"x7'-0"x1'-7"	8-#7 E.W.
F5	6'-6"x6'-6"x1'-6"	9-#6 E.W.

PIER SCHEDULE			
PIER	SIZE	VERTICAL	TIES
B2, B3, B4 C2, C3, C4	16"x16"	8-#9	#3@12"
D3, D4	16"x16"	8-#8	#3@12"
A1 THRU A5 B1, B5, C1, C5 D2, D5	16"x16"	6-#8	#3@12"
D1	16"x16"	6-#8	#3@12"

NOTES:

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 318-99 BUILDING CODE.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
3. f'c = 4000 PSI @ 28 DAYS FOR FOOTINGS & WALLS. f'c = 5000 PSI @ 28 DAYS FOR PIERS.
4. MAXIMUM SIZE OF AGGREGATE IS 3/4 IN.
5. ALL REINFORCING BAR SPLICES ARE TO BE CLASS B TENSION SPLICES PER LAP SPLICE SCHEDULE UNLESS OTHERWISE SHOWN. WALL HORIZONTALS ARE TO BE CONSIDERED "TOP BARS".
6. EXTEND #5 LONGITUDINAL BARS IN WALL FOOTINGS 1'-0" INTO COLUMN FOOTINGS.
7. E.W. = EACH WAY, E.F. = EACH FACE.
8. ALL ELEVATIONS SHOWN ON PLAN ARE TO TOP OF FOOTING.
9. UNLESS OTHERWISE NOTED TOP OF ALL FOOTINGS AT ELEV. 91.33.

LAP SPLICE SCHEDULE		
BAR SIZE	TOP BARS	OTHER BARS
#3	24"	19"
#4	32"	25"
#5	40"	31"
#6	48"	37"
#7	70"	54"
#8	80"	62"
#9	91"	70"

REVISIONS

MARK	DESCRIPTION	DATE

**OFFICE BUILDING  
FOUNDATION & PIERS**

**TRIANGLE ENGINEERING**  
101 N. MAIN STREET  
SOMEWHERE, ALASKA 99501  
TEL: 123-456-7890 FAX: 123-456-7891

OFFICE BUILDING FOR BAILEY-JONES CO.  
EASTON, PA

ARCHITECT: R.A. SMITH & ASSOCIATES ARCHITECTS

CONTRACTOR: HYPER-MEGA-GLOBAL CONSTRUCTION.COM LTD., INC.

DATE: 1/1/01    DRAWN BY: A.B.C.    SHEET: **S1**  
JOB NO.: 12-345    CHECKED BY: X.Y.Z.

**DRAWING P-1—  
FOUNDATIONS (PLACING DRAWING)**

The detailer has, because of the complexity of the construction, drawn complete wall elevations for both the West (Elevation 2-2) and South (Elevation 7-7) walls. The East (Section 5-5) and North (Section 3-3) walls are shown in cross section. The column footing and pier reinforcing bars are shown in schedules.

In drawing wall elevations where footing steps occur, the detailer refers to the “Typical Stepped Footing” detail on the structural drawing and footing elevations on the plan view. The exact horizontal location of these steps, however, is not given. In this case, the detailer makes an assumption, shows the dimensions on the elevations (see Elevation 2-2), circles same, and adds a note asking the engineer to verify.

Because fabricators stock bars in 60 ft lengths, horizontal runs of bars in excess of 30 ft have been detailed in multiples of 30 ft lengths plus the remainder length to complete the run. Vertical bars on the inside face are detailed between piers as the pier reinforcement makes it necessary to have wall bars in addition. Because wall dowels are provided for all vertical bars, some of the dowels project from the column footings.

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**Structural and placing drawings presented in this manual are examples of drafting style and graphic arrangement. These drawings are demonstrative examples of how structural and placing drawings are configured from a drafting perspective only. They are in no way to be used as structural designs, although, in general, they meet the requirements of ACI 318 or those of the AASHTO specifications or Caltrans requirements. The sample structural drawings emphasize how the engineer should clearly indicate design requirements and convey necessary information to the detailer, including specific locations of cutoff points and amount of steel.**

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**DRAWING P-1A—  
FOUNDATIONS (PLACING DRAWING)**

The detailer has, because of the complexity of the construction, drawn complete wall elevations for both the West (Elevation 2-2) and South (Elevation 7-7) walls. The East (Section 5-5) and North (Section 3-3) walls are shown in cross section. The column footing and pier reinforcing bars are shown in schedules.

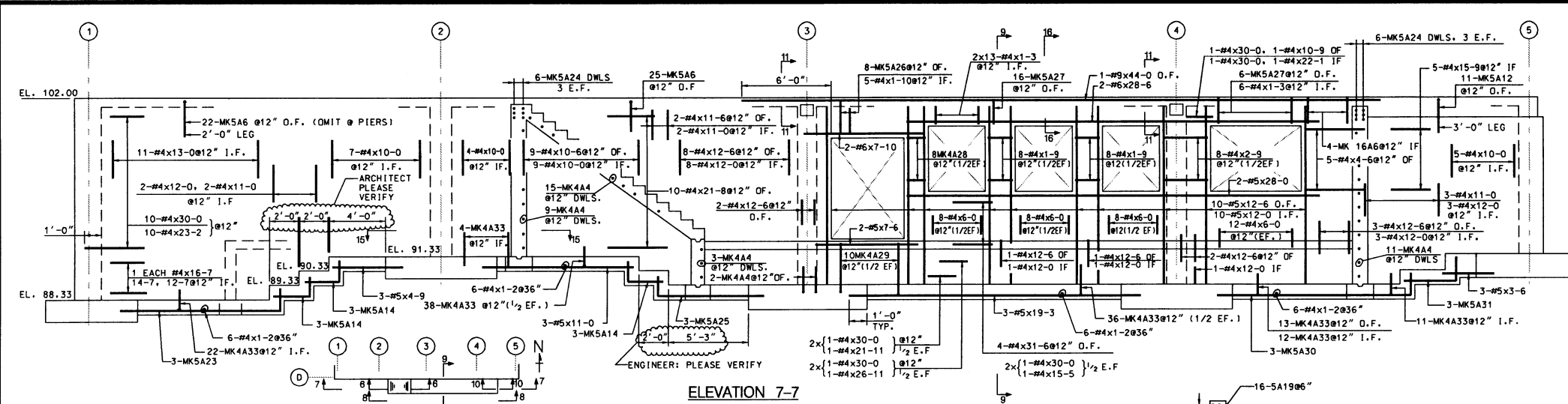
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Because fabricators stock bars in 60 ft lengths, horizontal runs of bars in excess of 30 ft have been detailed in multiples of 30 ft lengths plus the remainder length to complete the run. Vertical bars on the inside face are detailed between piers as the pier reinforcement makes it necessary to have wall bars in addition. Because wall dowels are provided for all vertical bars, some of the dowels project from the column footings.

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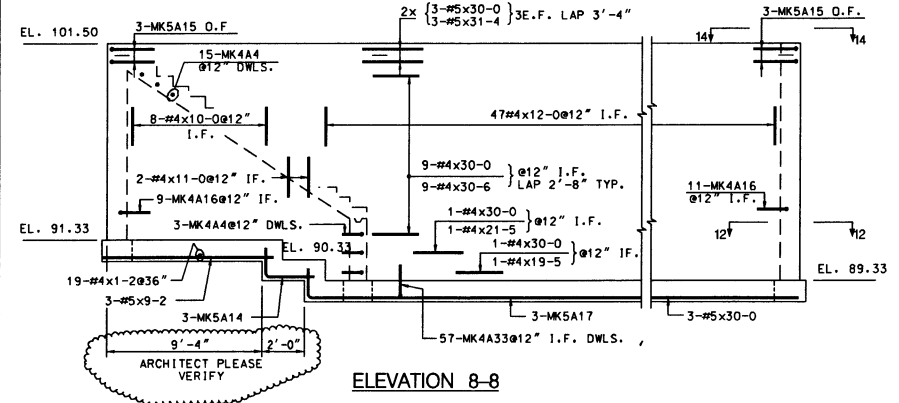
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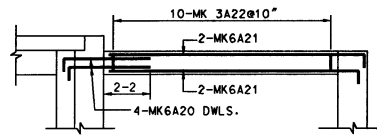


PARTIAL KEY PLAN

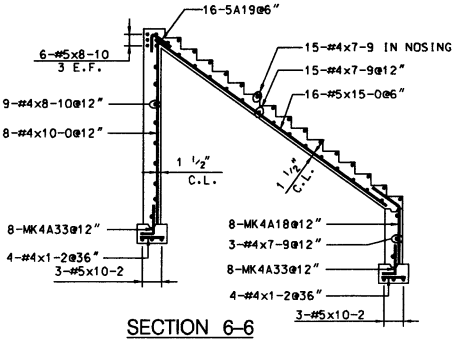
ELEVATION 7-7



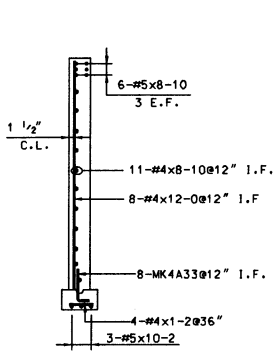
ELEVATION 8-8



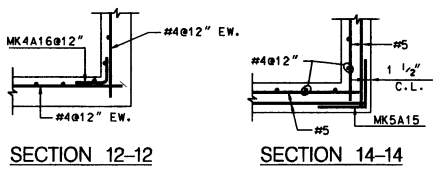
ELEVATION 11-11  
2 REQ'D THUS



SECTION 6-6

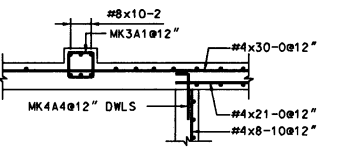


SECTION 10-10

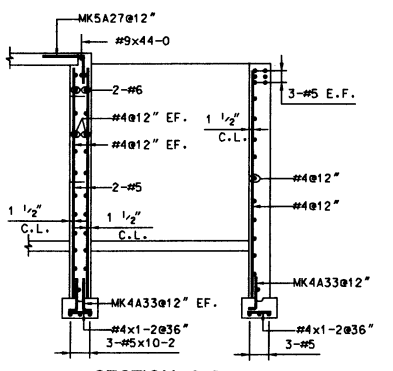


SECTION 12-12

SECTION 14-14



SECTION 15-15



SECTION 9-9

BENDING DETAILS  
SEE ACT. DETAILING MANUAL "TYP. BAR BENDS"

MARK	SIZE	LENGTH	TYPE	A	B	C	D	E	G	H	J	K
3A1	3	5-0	T2	0-4	1-1	1-1	1-1	1-1	0-4			
4A2	4	4-6	2	0-8	3-10							
4A3	4	10-6	2	0-8	9-10							
4A4	4	4-0	2	0-8	3-4							
4A5	4	12-6	2	0-8	11-10							
5A6	5	4-6	17	2-0	2-6							
4A7	4	4-2	2	0-8	3-6							
4A8	4	6-4	17	1-0	5-4							
4A9	4	11-2	17	1-0	9-2	1-0						
4A3	4	6-2	2	0-8	5-6							
6A11	6	6-4	2	1-0	5-4							
5A12	5	5-0	17	2-0	3-0							
5A13	5	14-6	17	1-6	13-0							
5A14	5	4-0	17	1-6	2-6							
5A15	5	6-8	17	3-4	3-4							
4A16	4	5-4	17	2-8	2-8							
5A17	5	21-1	17	1-6	19-7							
4A18	4	5-3	3	2-8	2-7				2-0			1-7
5A19	5	5-2	H1	2-7	2-7				2-0			1-7
6A20	6	5-7	2	1-0	4-7							
6A21	6	9-9	2	1-0	8-9							
3A22	3	3-4	T2	0-4	0-9	0-7	0-9	0-7	0-4			
5A23	5	12-3	17	1-6	10-9							
5A24	5	4-8	2	0-10	3-10							
5A25	5	8-6	17	1-6	7-0							
5A26	5	5-0	17	2-6	2-6							
5A27	5	5-1	17	2-7	2-6							
4A28	4	2-7	2	0-8	1-3							0-8
4A29	4	4-3	2	0-8	3-7							
5A30	5	14-9	17	1-6	13-3							
5A31	5	5-0	17	1-6	3-6							
6A32	6	5-10	2	1-0	4-10							
4A33	4	3-6	2	0-8	2-10							
9A34	9	6-0	2	1-7	4-5							
8A35	8	5-4	2	1-4	4-0							
4A36	4	3-7	2	0-8	2-11							
8A37	8	5-2	2	1-4	3-10							
8A38	8	5-1	2	1-4	3-9							
8A39	8	5-0	2	1-4	3-8							

NOTE: ALL REINFORCING BARS ASTM 615 GRADE 60  
FOR PLAN SEE DWG. P1  
I.F. = INSIDE FACE  
O.F. = OUTSIDE FACE  
E.F. = EACH FACE

LAP SPUCE SCHEDULE

BAR SIZE	TOP BARS	OTHER BARS
#3	24"	19"
#4	32"	25"
#5	40"	31"
#6	48"	37"
#7	70"	54"
#8	80"	62"
#9	91"	70"

REVISIONS

MARK	DESCRIPTION	DATE

OFFICE BUILDING  
FOUNDATION & PIERS

**SQUARE FABRICATORS**  
1186 36TH STREET  
CONCENTRICVILLE, IL 61802  
TEL: 867-664-3210 FAX: 867-664-3211

OFFICE BUILDING FOR BAILEY-JONES CO.  
EASTON, PA

ARCHITECT: R.A. SMITH & ASSOCIATES ARCHITECTS

ENGINEER: TRIANGLE ENGINEERING

DATE: 1/29/01 DRAWN BY: S.R.W. SHEET: P1A  
JOB NO.: 5-678 CHECKED BY: M.C.P.