

11/18/2024

**8680-00-04
Superior
Bong Bridge B-16-38
Douglas County**

B-16-38

Quantity Calculations

Prepared by



Madison, WI



Design: KLK	Checked: SKH	Proj. No: Bong Bridge
Date: 11/5/2024	Date: 11/12/2024	Structure: B-16-38
Bridge No: B-16-38		Project: 22114-008
		Country: Douglas

B-16-38
Quantity Calculations

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	UNIT 3	UNIT 4	UNIT 5	UNIT 6	UNIT 7	UNIT 8	UNIT 9	UNIT 10	UNIT 11	UNIT 12	UNIT 13	TOTAL
203.0270	REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-16-38	EACH	---	---	---	---	---	---	---	---	---	---	---	1
502.0100	CONCRETE MASONRY BRIDGES	CY	8.5	6.6	4.4	13.6	13.6	9.1	9.3	8.5	8.5	8.6	4.8	96
502.3210	PIGMENTED SURFACE SEALER	SY	35	29	20	57	57	38	38	35	35	35	20	399
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	60	96	64	94	97	63	65	60	60	60	34	753
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	670	1,090	740	1,050	1,070	700	720	670	670	670	380	8,430
531.8990	ANCHOR ASSEMBLIES POLES ON STRUCTURES	EACH	2	3	2	3	3	2	2	2	2	2	1	24
652.0310	CONDUIT RIGID NONMETALLIC SCHEDULE 80 1-INCH	LF	3	5	3	5	5	3	3	3	3	3	3	38
652.0320	CONDUIT RIGID NONMETALLIC SCHEDULE 80 1 1/2-INCH	LF	3	2	---	---	---	---	2	---	---	---	---	6
652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	39	74	50	39	75	50	51	47	47	47	26	547
SPV.0060	JUNCTION BOXES 8X8X6-INCH	EACH	---	1	---	---	---	---	1	---	---	---	---	2
	NON-BID ITEMS													
	FILLER	SIZE		1"	1"									1"



Design:	KLK	Checked:	SKH	Proj. No:	Bong Bridge
Date:	11/5/2024	Date:	11/12/2024	Structure:	B-16-38
Bridge No.:	B-16-38	Project:	22114-008	County:	Douglas

B-16-38

203.0270

Removing Structure Over Waterway Debris Capture B-16-38

SUMMARY:

Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL	Unit
---	---	---	---	---	---	---	---	---	---	---	1	EACH



Design: KLK	Checked: SKH	Proj. No: Bong Bridge
Date: 11/5/2024	Date: 11/12/2024	Structure: B-16-38
Bridge No.: B-16-38		Project: 22114-008
		County: Douglas

B-16-38**502.0100**
Concrete Masonry Bridges**SUMMARY:**

Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL	Unit
8.5	6.6	4.4	13.6	13.6	9.1	9.3	8.5	8.5	8.6	4.8	96	CY

Unit 3

Span 7 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 21.92 ft
Volume = 4.38 CY

Span 8 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 20.46 ft
Volume = 4.09 CY

Total = 8.48

Unit 6

Span 14 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.46 ft
Volume = 4.49 CY

Span 15 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.46 ft
Volume = 4.49 CY

Span 16 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 23.08 ft
Volume = 4.62 CY

Total = 13.60

Unit 7

Span 17 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.50 ft
Volume = 4.50 CY

Span 18 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.50 ft
Volume = 4.50 CY

Span 19 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 23.17 ft
Volume = 4.63 CY

Total = 13.63

Unit 8

Span 20 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.67 ft
Volume = 4.53 CY

Span 21 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.75 ft
Volume = 4.55 CY

Total = 9.08

Unit 9

Span 22 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.83 ft
Volume = 4.57 CY

Span 23 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 23.58 ft
Volume = 4.72 CY

Total = 9.28

Unit 10

Span 23 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 19.83 ft
Volume = 3.97 CY

Span 24 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.90 ft
Volume = 4.58 CY

Total = 8.55

Unit 11

Span 25 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 19.83 ft
Volume = 3.97 CY

Span 26 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.90 ft
Volume = 4.58 CY

Total = 8.55

Unit 12

Span 27 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 19.83 ft
Volume = 3.97 CY

Span 29 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 22.92 ft
Volume = 4.58 CY

Total = 8.55

Unit 13

Span 30 Approach Slab Parapet

Parapet Area = 5.40 ft²
Parapet Length = 23.88 ft
Volume = 4.78 CY

Total = 4.78

Solid Median Barrier Total = 84.49 CY

Input Final Volume = 84.5 CY

Unit 4

Span 9 Approach Slab Parapet

Normal Parapet Area = 2.37 ft²
Normal Parapet Length = 20.25 ft
Lighting Parapet Area = 4.39 ft²
Lighting Parapet Length = 3.00 ft
Volume = 2.3 CY

Span 10 Approach Slab Parapet

Normal Parapet Area = 2.37 ft²
Normal Parapet Length = 20.00 ft
Lighting Parapet Area = 4.39 ft²
Lighting Parapet Length = 3.00 ft
Volume = 2.2 CY

Span 11 Approach Slab Parapet

Normal Parapet Area = 2.37 ft²
Normal Parapet Length = 18.00 ft
Lighting Parapet Area = 4.39 ft²
Lighting Parapet Length = 3.00 ft
Volume = 2.1 CY

Total = 6.58

Unit 5

Span 12 Approach Slab Parapet

Normal Parapet Area = 2.37 ft²
Normal Parapet Length = 19.46 ft
Lighting Parapet Area = 4.39 ft²
Lighting Parapet Length = 3.00 ft
Volume = 2.2 CY

Span 13 Approach Slab Parapet

Normal Parapet Area = 2.37 ft²
Normal Parapet Length = 20.08 ft
Lighting Parapet Area = 4.39 ft²
Lighting Parapet Length = 3.00 ft
Volume = 2.3 CY

Total = 4.45

Separated Median Barrier = 11.02 CY

Input Final Volume = 11.1 CY



Design: KLK	Checked: SKH	Proj. No: Bong Bridge
Date: 11/5/2024	Date: 11/12/2024	Structure: B-16-38
Bridge No.: B-16-38		Project: 22114-008
		County: Douglas

B-16-38**502.3210****Pigmented Surface Sealer****SUMMARY:**

Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL	Unit
35	29	20	57	57	38	38	35	35	35	20	399	SY

Unit 3

Parapet Length = 21.92 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 18 SY

Parapet Length = 20.46 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 17 SY

(distance along slope)

Total = 35

Unit 6

Parapet Length = 22.46 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

Parapet Length = 22.46 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

Parapet Length = 23.08 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

(distance along slope)

Total = 57

Unit 7

Parapet Length = 22.50 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

Parapet Length = 22.50 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

Parapet Length = 23.17 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

(distance along slope)

Total = 57

Unit 8

Parapet Length = 22.67 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

Parapet Length = 22.75 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

(distance along slope)

Total = 38

Unit 9

Parapet Length = 22.83 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

Parapet Length = 23.58 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

(distance along slope)

Total = 38

Unit 10

Parapet Length = 19.83 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 16 SY

Parapet Length = 22.90 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

(distance along slope)

Total = 35

Unit 11

Parapet Length = 19.83 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 16 SY

Parapet Length = 22.90 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

(distance along slope)

Total = 35

Unit 12

Parapet Length = 19.83 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 16 SY

Parapet Length = 22.92 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 19 SY

(distance along slope)

Total = 35

Unit 13

Parapet Length = 23.88 ft
Parapet Height = 2.86 ft
Parapet Top Width = 1.50 ft
Area = 20 SY

(distance along slope)

Total = 20

Total Area = 350 SY

Unit 4

Normal Parapet Length = 20.25 ft
Lighting Parapet Length = 3.00 ft
Parapet Height = 2.86 ft
Normal Parapet Top Width = 0.66 ft
Lighting Parapet Width = 1.5 ft
Area = 10 SY

Normal Parapet Length = 20.25 ft
Lighting Parapet Length = 3.00 ft
Parapet Height = 2.86 ft
Normal Parapet Top Width = 0.66 ft
Lighting Parapet Width = 1.5 ft
Area = 10 SY

Parapet Length on Appr Slabs = 18.00 ft
Lighting Parapet Length = 3.00 ft
Parapet Height = 2.86 ft
Normal Parapet Top Width = 0.66 ft
Lighting Parapet Width = 1.5 ft
Area = 9 SY

(distance along slope)

Total = 29

Unit 5

Normal Parapet Length = 19.46 ft
Lighting Parapet Length = 3.00 ft
Parapet Height = 2.86 ft
Normal Parapet Top Width = 0.66 ft
Lighting Parapet Width = 1.5 ft
Area = 10 SY

Normal Parapet Length = 20.08 ft
Lighting Parapet Length = 3.00 ft
Parapet Height = 2.86 ft
Normal Parapet Top Width = 0.66 ft
Lighting Parapet Width = 1.5 ft
Area = 10 SY

(distance along slope)

Total = 20

Total Area = 49 SY



Design: **KLK**
Date: **11/5/2024**
Bridge No.: **B-16-38**

Checked: **SKH**
Date: **11/12/2024**

Proj. No. **Bong Bridge**
Structure: **B-16-38**
Project: **22114-008**
County: **Douglas**

B-16-38

502.4205

Adhesive Anchors No. 5 Bar

SUMMARY:

Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL	Unit
60	96	64	94	97	63	65	60	60	60	34	753	EACH

Median Parapet

Unit 3 P506	60
Unit 6 P506	94
Unit 7 P506	97
Unit 8 P506	63
Unit 9 P506	65
Unit 10 P506	60
Unit 11 P506	60
Unit 12 P506	60
Unit 13 P506	34

Total **593** EACH

Split Parapet

Unit 4 L506	48
Unit 4 L507	48
Unit 5 L506	32
Unit 5 L507	32

Unit 4 Total = **96**

Unit 5 Total = **64**

Total **160** EACH



Design:	KUK	Checked:	SKH	Proj. No.	Bong Bridge
11/12/2024	11/5/2024	Date:	11/12/2024	Structure:	B-16-38
Bridge No.:	B-16-38			Project:	22114-008
				County:	Douglas

B-16-38

505.0600

Bar Steel Reinforcement HS Coated Structures

SUMMARY:

Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL	Unit
670	1090	740	1050	1070	700	720	670	670	670	380	8430	LB

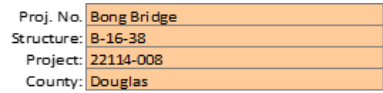
Median Parapet

Unit 3	670
Unit 6	1,050
Unit 7	1,070
Unit 8	700
Unit 9	720
Unit 10	670
Unit 11	670
Unit 12	670
Unit 13	380

Total 6,600

Split Parapet

Unit 4	1,090
Unit 5	740
Total	1,830





Design:	KLK	Checked:	SKH	Proj. No.	Bong Bridge
Date:	11/5/2024	Date:	11/12/2024	Structure:	B-16-38
Bridge No.:	B-16-38			Project:	22114-008
				County:	Douglas

B-16-38

505.0600

Bar Steel Reinforcement HS Coated Structures

SPLIT PARAPET (U4) BILL OF BARS

Mark Designation:

L

TOTAL WT STAINLESS:	0 LBS.
TOTAL WT COATED:	1,090 LBS.
TOTAL WT UNCOATED:	0 LBS.

Structural Unit:				SPLIT PARAPET (U4)								
BAR MARK				LENGTH			STAINLESS STEEL	BENT	BAR SERIES	DESCRIPTION	WT/FT	TOTAL
Letter	Size	No.	No. Req'd.	FT.	IN.	COAT						
L	4	1	40	2	0	X		X		Parapet Vert. - As Req'd	0.668	53.4400
L	4	2	81	4	10	X		X		Parapet Vert.	0.668	261.5220
L	5	3	15	6	2	X		X		Parapet Vert. - Light Base	1.043	96.4775
L	5	4	15	3	4	X		X		Parapet Vert. - Light Base	1.043	52.1500
L	4	5	8	2	8	X				Parapet Horiz. - Light Base	0.668	14.2507
L	5	6	48	2	11	X		X		Parapet Vert. - Anchors	1.043	146.0200
L	5	7	48	1	4	X				Parapet vert. - Anchors	1.043	66.7520
L	4	8	16	22	11	X				Parapet Horiz. - Span 9 & 10	0.668	244.9333
L	4	9	8	20	8	X		X		Parapet Horiz. - Span 11	0.668	110.4427
L	4	12	6	3	4	X		X		Parapet Horiz. - Light Base	0.668	13.3600
L	4	13	12	2	7	X		X		Parapet Tie - Light Base	0.668	20.7080



Design: **KLK**
Date: **11/5/2024**
Bridge No.: **B-16-38**

Checked: **SKH**
Date: **11/12/2024**

Proj. No: **Bong Bridge**
Structure: **B-16-38**
Project: **22114-008**
County: **Douglas**

B-16-38

505.0600

Bar Steel Reinforcement HS Coated Structures

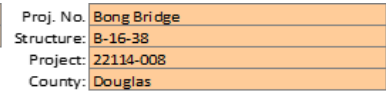
SPLIT PARAPET (U5) BILL OF BARS

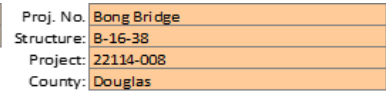
Mark Designation:

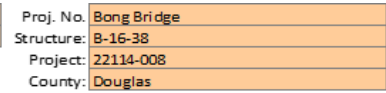
L

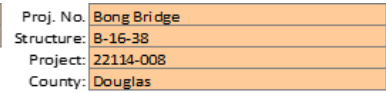
TOTAL WT STAINLESS:	0 LBS.
TOTAL WT COATED:	740 LBS.
TOTAL WT UNCOATED:	0 LBS.

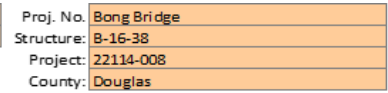
Structural Unit:				SPLIT PARAPET (U5)								
BAR MARK				LENGTH			STAINLESS STEEL	BENT	BAR SERIES	DESCRIPTION	WT/FT	TOTAL
Letter	Size	No.	No. Req'd.	FT.	IN.	COAT						
L	4	1	27	2	0	X		X		Parapet Vert. - As Req'd	0.668	36.0720
L	4	2	54	4	10	X		X		Parapet Vert.	0.668	174.3480
L	5	3	10	6	2	X		X		Parapet Vert. - Light Base	1.043	64.3183
L	5	4	10	3	4	X		X		Parapet Vert. - Light Base	1.043	34.7667
L	4	5	8	2	8	X				Parapet Horiz. - Light Base	0.668	14.2507
L	5	6	32	2	11	X		X		Parapet Vert. - Anchors	1.043	97.3467
L	5	7	32	1	4	X				Parapet vert. - Anchors	1.043	44.5013
L	4	10	8	22	1	X				Parapet Horiz. - Span 12	0.668	118.0133
L	4	11	8	22	9	X		X		Parapet Horiz. - Span 13	0.668	121.5760
L	4	12	4	3	4	X		X		Parapet Horiz. - Light Base	0.668	8.9067
L	5	13	8	2	7	X		X		Parapet Tie - Light Base	1.043	21.5553

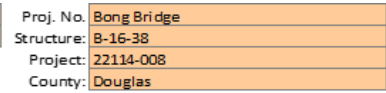


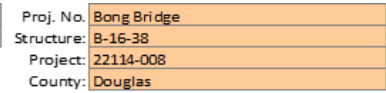


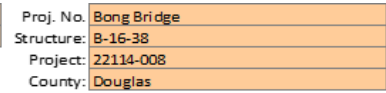














Design:	KLK	Checked:	SKH	Proj. No:	Bong Bridge
Date:	11/5/2024	Date:	11/12/2024	Structure:	B-16-38
Bridge No.:	B-16-38	Project:	22114-008		
		County:	Douglas		

B-16-38

531.8990

Anchor Assemblies Poles on Structures

SUMMARY:

Unit 3	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL	Unit
2	2	3	2	3	3	2	2	2	2	2	1	24	EACH

Median Parapet

Unit 3	2
Unit 6	3
Unit 7	3
Unit 8	2
Unit 9	2
Unit 10	2
Unit 11	2
Unit 12	2
Unit 13	1
Total	19 EACH

Split Parapet

Unit 4	3
Unit 5	2
Total	5 EACH



Design: **KLK**
Date: **11/5/2024**
Bridge No.: **B-16-38**

Checked: **SKH**
Date: **11/12/2024**

Proj. No: **Bong Bridge**
Structure: **B-16-38**
Project: **22114-008**
County: **Douglas**

B-16-38

652.0310

Conduit Rigid Nonmetallic Schedule 80 1-Inch

SUMMARY:

Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL	Unit
3	5	3	5	5	3	3	3	3	3	3	38	LF

Median Parapet

Unit 3	3
Unit 6	4.5
Unit 7	4.5
Unit 8	3
Unit 9	3
Unit 10	3
Unit 11	3
Unit 12	3
Unit 13	3
Total	30

LF

Split Parapet

Unit 4	4.5
Unit 5	3
Total	7.5

LF



Design: **KLK**
Date: **11/5/2024**
Bridge No.: **B-16-38**

Checked: **SKH**
Date: **11/12/2024**

Proj. No. **Bong Bridge**
Structure: **B-16-38**
Project: **22114-008**
County: **Douglas**

B-16-38

652.0320

Conduit Rigid Nonmetallic Schedule 80 1 1/2-Inch

SUMMARY:

Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL
3	2	---	---	---	---	2	---	---	---	---	6

Unit 3 Span 7	2.66
Unit 4 Span 9	1.5
Unit 9 Span 22	1.5
Total	5.7 LF



Design:	KLK	Checked:	SKH	Proj. No:	Bong Bridge
Date:	11/5/2024	Date:	11/12/2024	Structure:	B-16-38
Bridge No.:	B-16-38			Project:	22114-008
				County:	Douglas

B-16-38

652.0325

Conduit Rigid Nonmetallic Schedule 80 2-Inch

SUMMARY:

Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL	Unit
39	74	50	39	75	50	51	47	47	47	26	547	LF

Median Parapet

Unit 3 Span 7	16.00
Unit 3 Span 8	22.79
Unit 6 Span 14	24.79
Unit 6 Span 15	24.79
Unit 6 Span 16	25.41
Unit 7 Span 17	24.83
Unit 7 Span 18	24.83
Unit 7 Span 19	25.50
Unit 8 Span 20	25.00
Unit 8 Span 21	25.08
Unit 9 Span 22	25.16
Unit 9 Span 23	25.91
Unit 10 Span 23	22.16
Unit 10 Span 24	25.23
Unit 11 Span 25	22.16
Unit 11 Span 26	25.23
Unit 12 Span 27	22.16
Unit 12 Span 29	25.25
Unit 13 Span 30	26.21

Total 458.49 LF

Split Parapet

Unit 4 Span 9	25.58
Unit 4 Span 10	25.58
Unit 4 Span 11	23.33
Unit 5 Span 12	24.79
Unit 5 Span 13	25.41

Total 124.69 LF

Unit 4 = 74.49

Unit 5 = 50.20

Unit 3 = 38.79

Unit 6 = 74.99

Unit 7 = 75.16

Unit 8 = 50.08

Unit 9 = 51.07

Unit 10 = 47.39

Unit 11 = 47.39

Unit 12 = 47.41

Unit 13 = 26.21



Design:	KLK	Checked:	SKH	Proj. No.	Bong Bridge
Date:	11/5/2024	Date:	11/12/2024	Structure:	B-16-38
Bridge No.:	B-16-38	Project:	22114-008		
		County:	Douglas		

B-16-38

SPV.0060

Junction Boxes 8x8x6-Inch

SUMMARY:

Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	TOTAL	Unit
---	1	---	---	---	---	1	---	---	---	---	2	EACH

Unit 4 Span 9	1
Unit 9 Span 22	1
Total	2 EACH