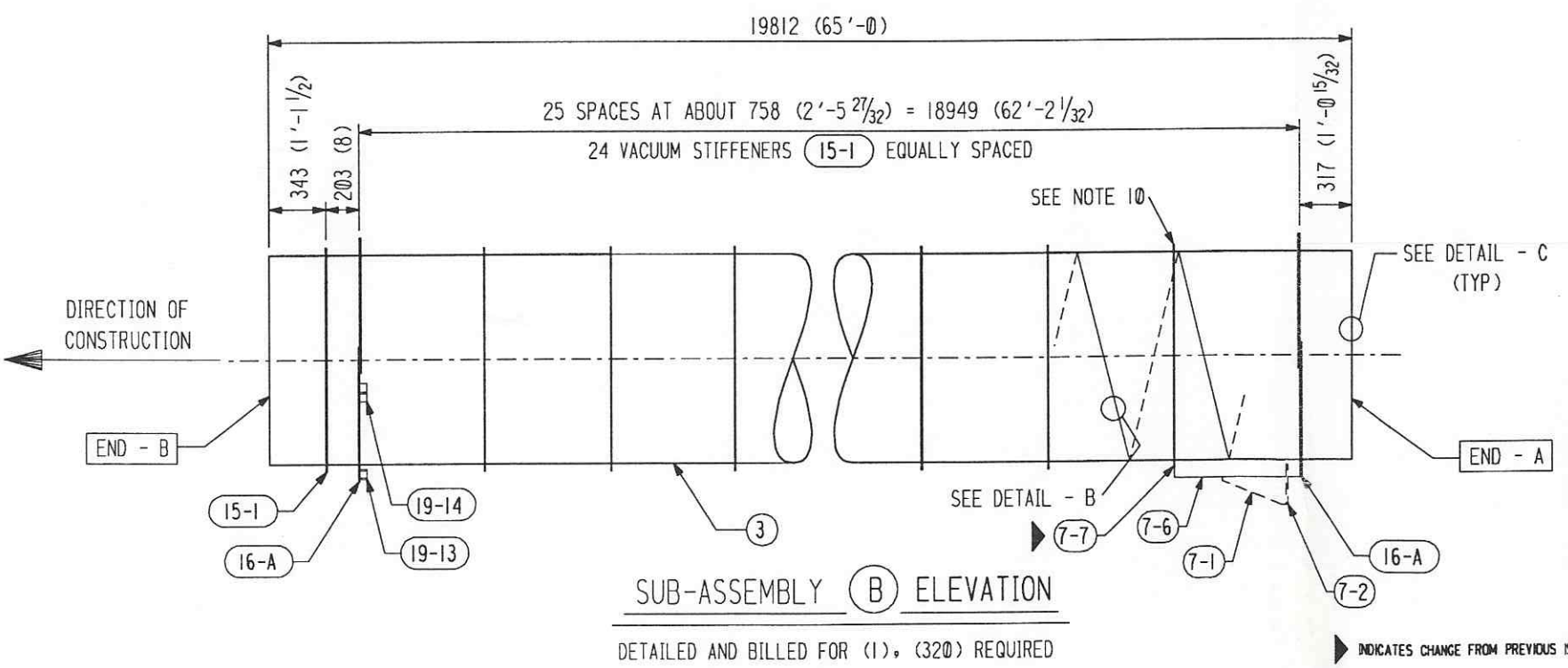
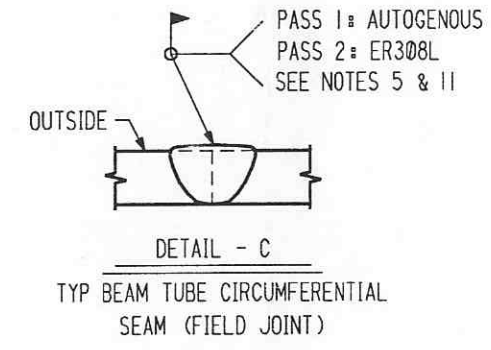
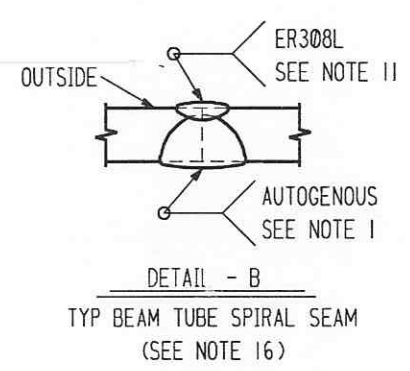
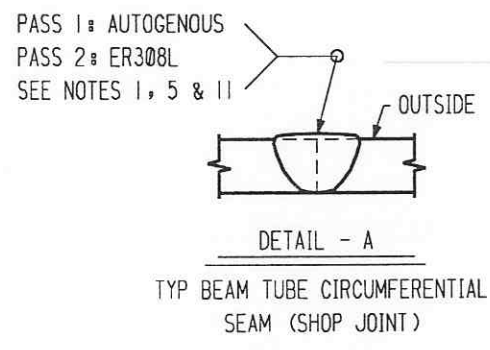


SUB-ASSEMBLY (A) ELEVATION
 DETAILED AND BILLED FOR (1), (384) REQUIRED



SUB-ASSEMBLY (B) ELEVATION
 DETAILED AND BILLED FOR (1), (320) REQUIRED

SHP PC	MARK	ASSM PC	DESCRIPTION	LENGTH MM	SPEC	ID
1	4-A		BEAM TUBE SUB-ASSEMBLY - A			
	4-1	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 62'-11)	19177	M1	A
	4-2	1	EXPANSION JOINT (SEE HYSpan DWG. #50418)	635 (2'-1)	M2	A
	15-1	25	VACUUM STIFFENER			
	16-A	1	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
1	4-B		BEAM TUBE SUB-ASSEMBLY - B			
	4-3	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 65'-0)	19812	M1	A
	7-6	1	FIXED SUPPORT BRACKET			
	7-7	1	STIFFENER REINFORCEMENT			
	15-1	25	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
			M1 = MAT'L SPEC C-240-0186 (SA240 TP 304L HRAP)			
			M2 = MAT'L SPEC C-EJ-CO (SA240 TP 304L HRAP)			

NOTES: (FOR DWG. #4 SHT. 1 THRU 7)

- CIRCUMFERENTIAL SEAM WILL BE WELDED BEFORE CLEANING AND LEAK TESTING.
- DIMENSIONS POSITIONING VACUUM STIFFENERS (15-1) LOCATE THE CENTERLINE OF THE STIFFENER.
- DIMENSIONS POSITIONING SUPPORT RINGS (16-A) LOCATE THE CENTER OF THE LAP JOINT.
- ORIENT SUPPORT RINGS (16-A) SO BOTTOM HALF OF RING IS CLOSEST TO THE NEAREST TUBE END (UNLESS NOTED).
- ORIENT BEAM TUBE SPIRAL WELD SEAMS AND EXPANSION JOINT LONGITUDINAL SEAMS AS SHOWN ON DRAWING 0 SHT. 2.
- MARK [END-A] AND [END-B] OF EACH BEAM TUBE SECTION AFTER SPIRAL WELDING PER FABSEQ, SECT. 3.3.
- WORK THIS DRAWING WITH DWG. #0, 7, 15, 16, 19, 20 AND 21.
- DIMENSIONS POSITIONING SUPPORT RINGS (21-A) LOCATE THE CENTERLINE OF THE RING.
- RECORD WIDTH OF COIL MATERIAL USED TO FABRICATE EACH TUBE SECTION ON THE QA RECORD DRAWING FOR THAT TUBE.
- SEE DRAWING #7 FOR LOCATION OF WELD FOR THIS RING ONLY. OTHER RINGS CAN BE WELDED ON EITHER SIDE.
- WELD FILLER METAL TO BE CLEANED PER SPEC WMS-ER308L.
- TOLERANCE OF SUB-ASSEMBLY LENGTH IS +/- 4 MM.
- DISTANCE FROM EACH SUPPORT RING (16-A) TO NEAREST END OF SUB-ASSEMBLY TO BE AS DETAILED WITHIN +/- 4 MM.
- MAXIMUM CLEAR SPACE BETWEEN TWO ADJACENT STIFFENERS TO BE NO GREATER THAN 762 MM (30 IN).
- THE EXPANSION JOINTS (2) FOR SUB-ASSEMBLIES (E), (G), (J), (K), (M) AND (R) SHALL HAVE EQUAL OR HIGHER SPRING RATES THAN THE EXPANSION JOINTS FOR THE ADJACENT SUB-ASSEMBLY (A).
- INSIDE AND OUTSIDE WELD AT THE SEAM SHALL OVERLAP TO PROVIDE COMPLETE PENETRATION.

APPROVED

M. Jellison 7-30-96
 CBI DATE

S. Jones 8-5-96
 CALTECH DATE

REVISIONS

BY	CHKD	DATE	REV.	REVISIONS
3	DTR	3-1-96	1	REV. ENTIRE DWG.
4	CST	3-1-96	2	ADDED PC. 7-7 TO ASST. B
5	DTR	7-26-96	3	REV. ENTIRE DWG.
6	DTR	6-29-96	4	

CBI

LIGO BEAM TUBE
 HANFORD, WA & LIVINGSTON, LA
 SUB-ASSEMBLIES
 (A) & (B)

CUSTOMER'S NO. BY KJR CHKD DET DATE 3-15-94 D.E. THONN ENGINEERING ASSIGNED

CONTRACT NO. 953571

DWG 4 SHT 1 REV 5

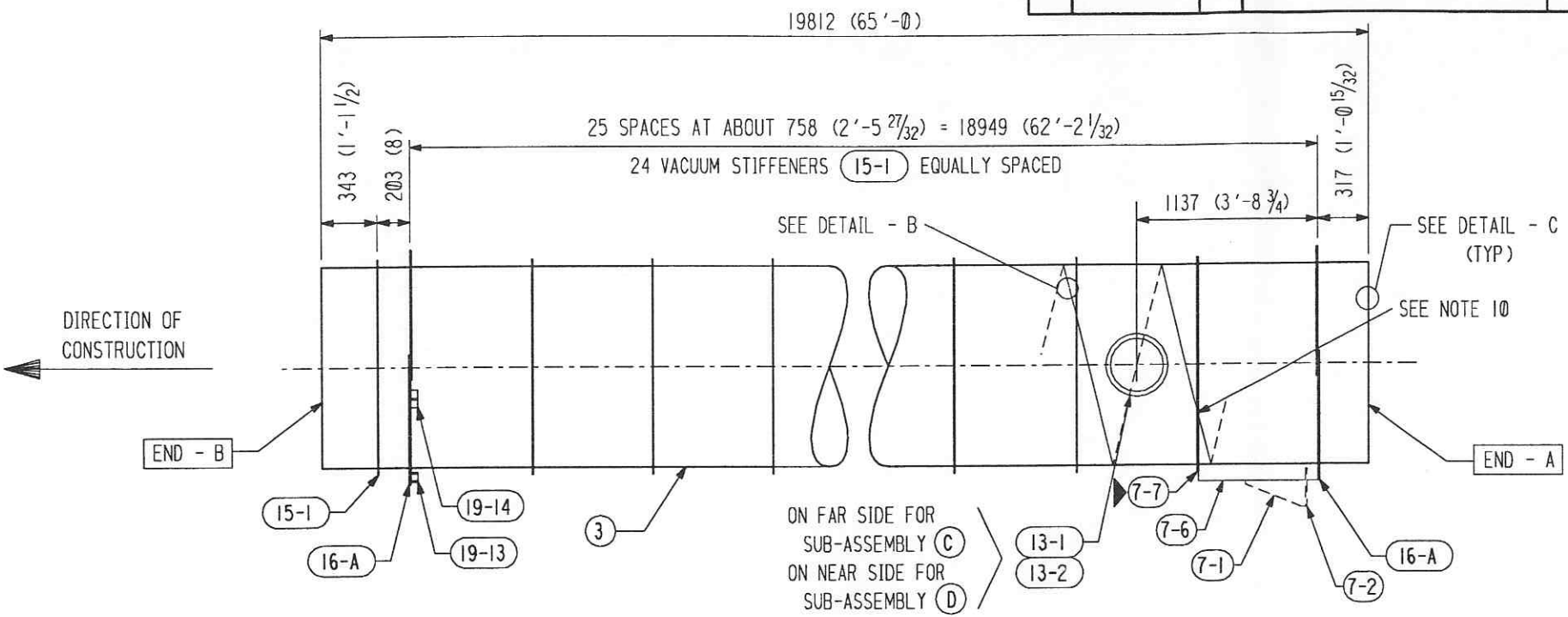
LIGO-D950034-05-B

55710104.DGN

INDICATES CHANGE FROM PREVIOUS ISSUE

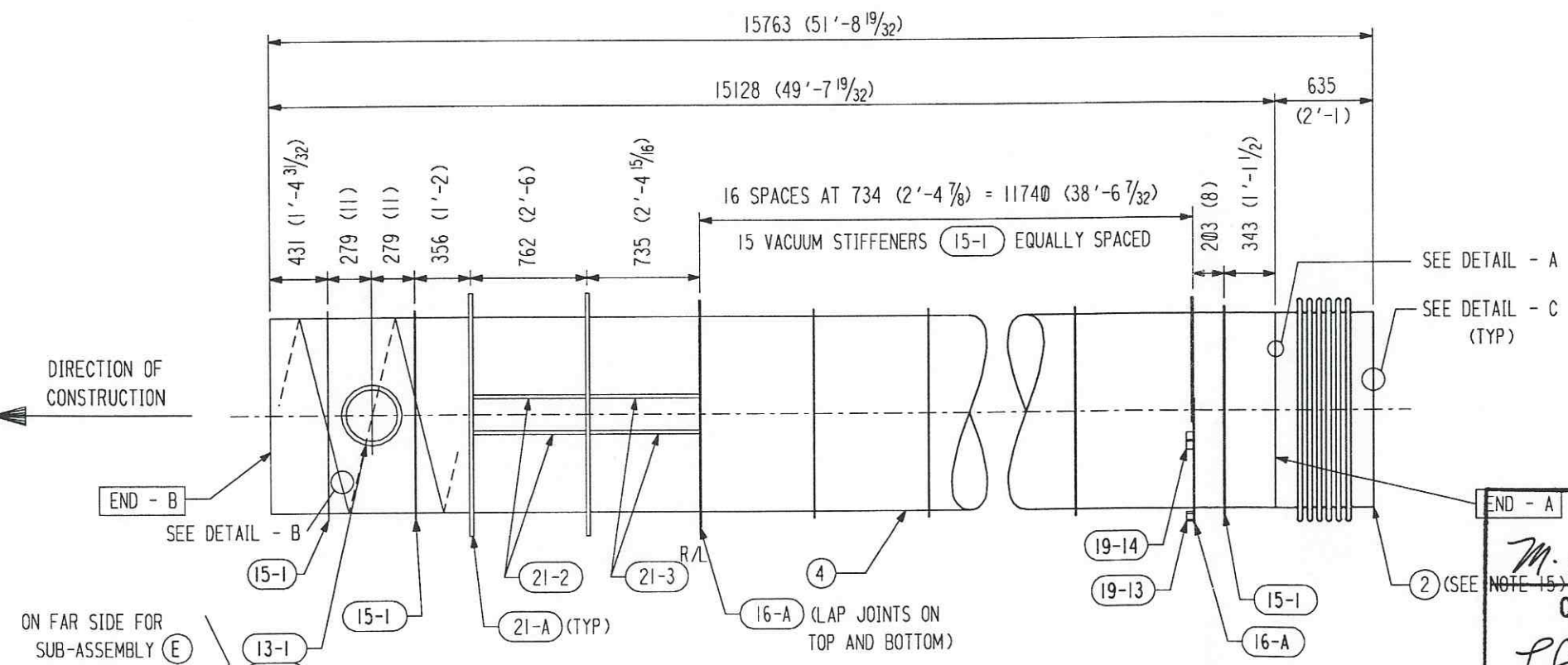
SHP PC	MARK	ASSM PC	DESCRIPTION	LENGTH MM	SPEC	ID
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			

SHP PC	MARK	ASSM PC	DESCRIPTION	LENGTH MM	SPEC	ID
1	4-C		BEAM TUBE SUB-ASSEMBLY - C			
	4-3	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 65'-0)	19812	M1	A
	7-6	1	FIXED SUPPORT BRACKET			
	7-7	1	STIFFENER REINFORCEMENT			
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	25	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
1	4-D		BEAM TUBE SUB-ASSEMBLY - D			
	4-3	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 65'-0)	19812	M1	A
	7-6	1	FIXED SUPPORT BRACKET			
	7-7	1	STIFFENER REINFORCEMENT			
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	25	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
1	4-E		BEAM TUBE SUB-ASSEMBLY - E			
	4-4	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 49'-7 19/32)	15128	M1	A
	4-2	1	EXPANSION JOINT (SEE HYSpan DWG. #50418)	635	M2	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	18	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			
1	4-J		BEAM TUBE SUB-ASSEMBLY - J			
	4-4	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 49'-7 19/32)	15128	M1	A
	4-2	1	EXPANSION JOINT (SEE HYSpan DWG. #50418)	635	M2	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	18	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			



SUB-ASSEMBLIES (C) & (D) ELEVATION

(C) DETAILED AND BILLED FOR (1), (28) REQUIRED ; (D) DETAILED AND BILLED FOR (1), (28) REQUIRED



SUB-ASSEMBLIES (E) & (J) ELEVATION

(E) DETAILED AND BILLED FOR (1), (2) REQUIRED ; (J) DETAILED AND BILLED FOR (1), (2) REQUIRED

APPROVED

M. Tellalian 7-30-96
CBI DATE

S. Jones 8-5-96
CALTECH DATE

REVISIONS

BY	CHKD	DATE	BY	CHKD	DATE
3	DTR	4-18-96	5	MLT	7-24-96
4	DTR	7-24-96	4	MLT	8-24-96

REMARKS

ADDED ENTIRE SHT. 7-7 TO ASSY. C & D.

ADDED ENTIRE SHT.

CBI

LIGO BEAM TUBE
HANFORD, WA & LIVINGSTON, LA
SUB-ASSEMBLIES
(C), (D), (E) & (J)

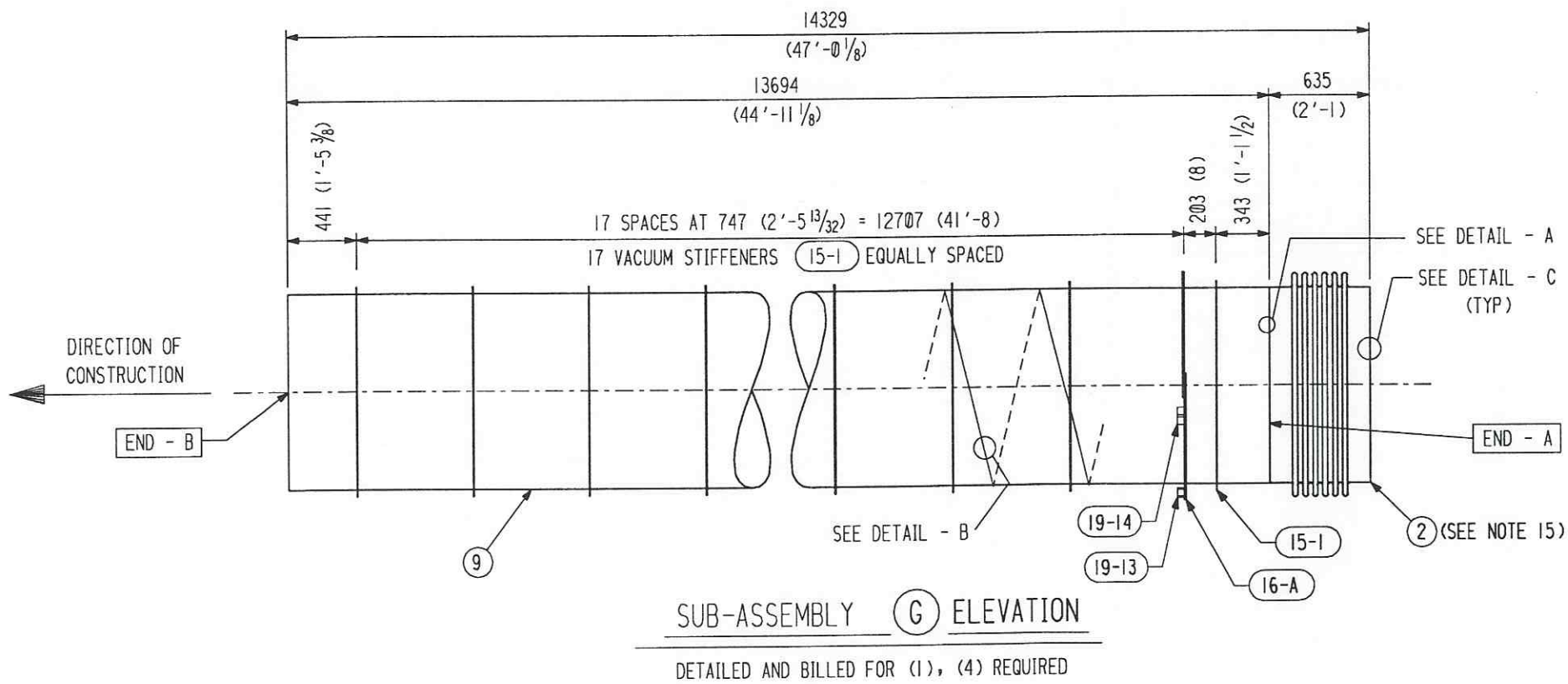
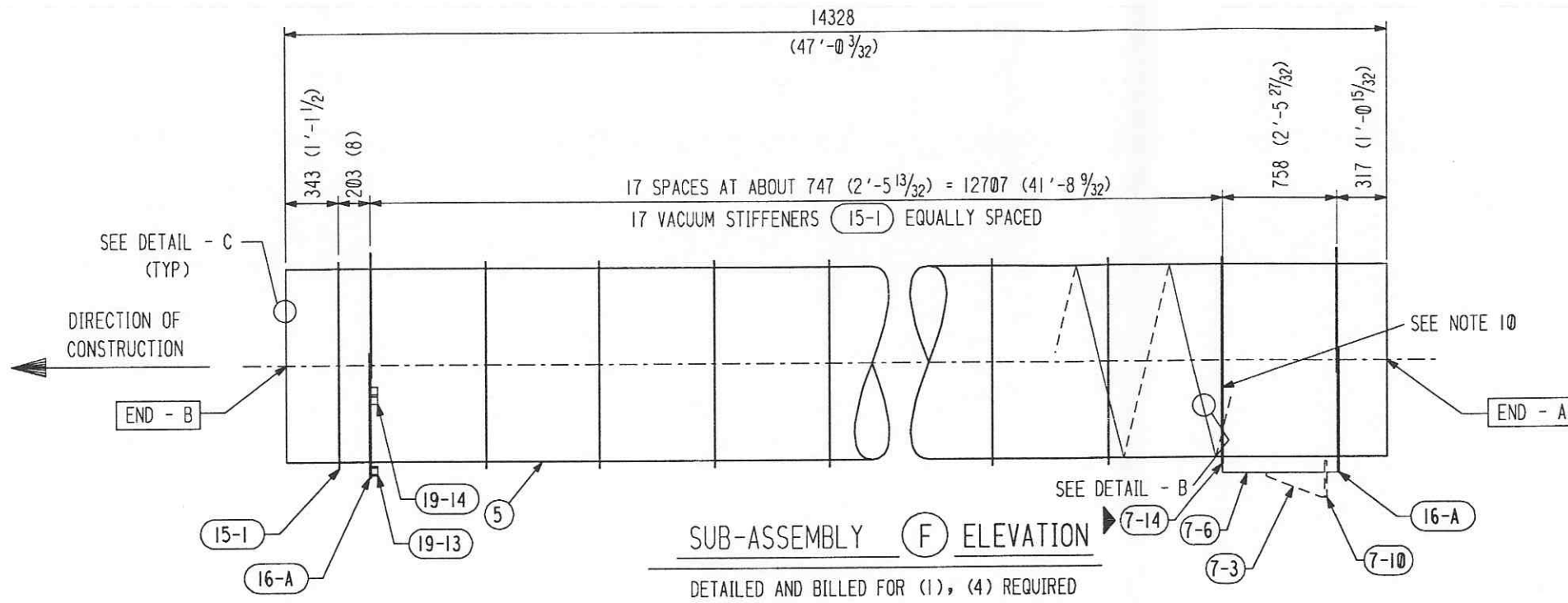
CUSTOMER'S NO. 953571
BY DTR CHKD CST DATE 3/11/96
M. L. TELLALIAN
ENGINEERING ASSIGNED

CONTRACT NO. 953571
DWG 4 REV 5
SHT 2

L190-D960511-05-B

55710204.DGN

INDICATES CHANGE FROM PREVIOUS ISSUE



SHP PC	MARK	ASSEM PC	DESCRIPTION	LENGTH MM	SPEC	ID
1	4-F		BEAM TUBE SUB-ASSEMBLY - F			
	4-5	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 47'-0 ³ / ₃₂)	14328	M1	A
	7-6	1	FIXED SUPPORT BRACKET			
	7-14	1	STIFFENER REINFORCEMENT			
	15-1	18	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
1	4-G		BEAM TUBE SUB-ASSEMBLY - G			
	4-9	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 44'-11 ¹ / ₈)	13694	M1	A
	4-2	1	EXPANSION JOINT (SEE HYPAN DWG. #50418)	635 (2'-1)	M2	A
	15-1	18	VACUUM STIFFENER			
	16-A	1	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			

APPROVED

M. Tellalian 7-30-96

CBI DATE

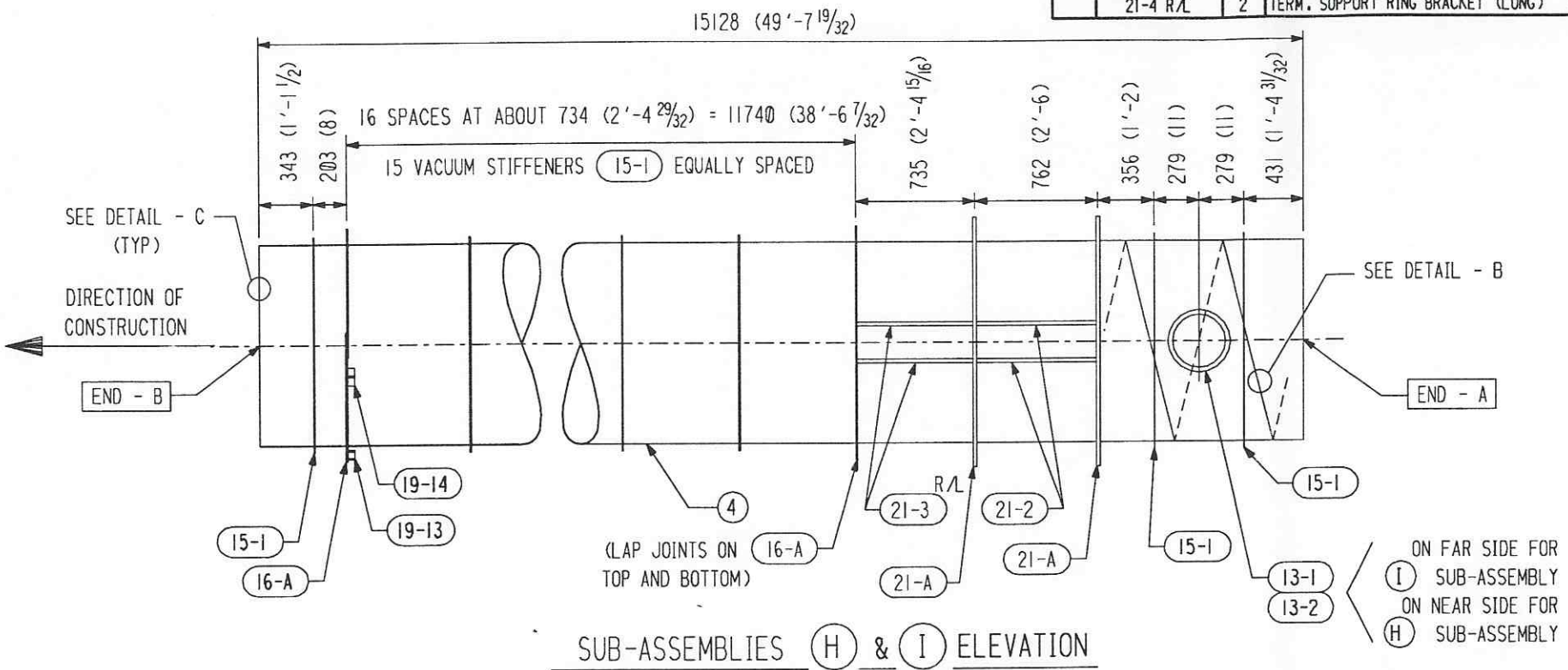
Jones 8-5-96

CALTECH DATE

BY		DATE		REVISIONS		REMARKS	
3	DTR	4-10-96	CST	5	MLT	7-26-96	ADDED PC. 7-14 TO ASSY. F.
4	DTR	7-26-96	MLT	4	DTR	6-24-96	REV. ENTIRE SHIT.
<p>CBI</p> <p>LIGO BEAM TUBE HANFORD, WA & LIVINGSTON, LA SUB-ASSEMBLIES (F) & (G)</p> <p>CUSTOMER'S NO: 953571</p> <p>CONTRACT NO: 953571</p> <p>BY DTR CHKD CST DATE 3/11/96</p> <p>M. L. TELLALIAN</p> <p>ENGINEERING ASSIGNED</p> <p>DWG 4 REV 5 SHT 3</p> <p>LIGO-D960511-05-B</p>							

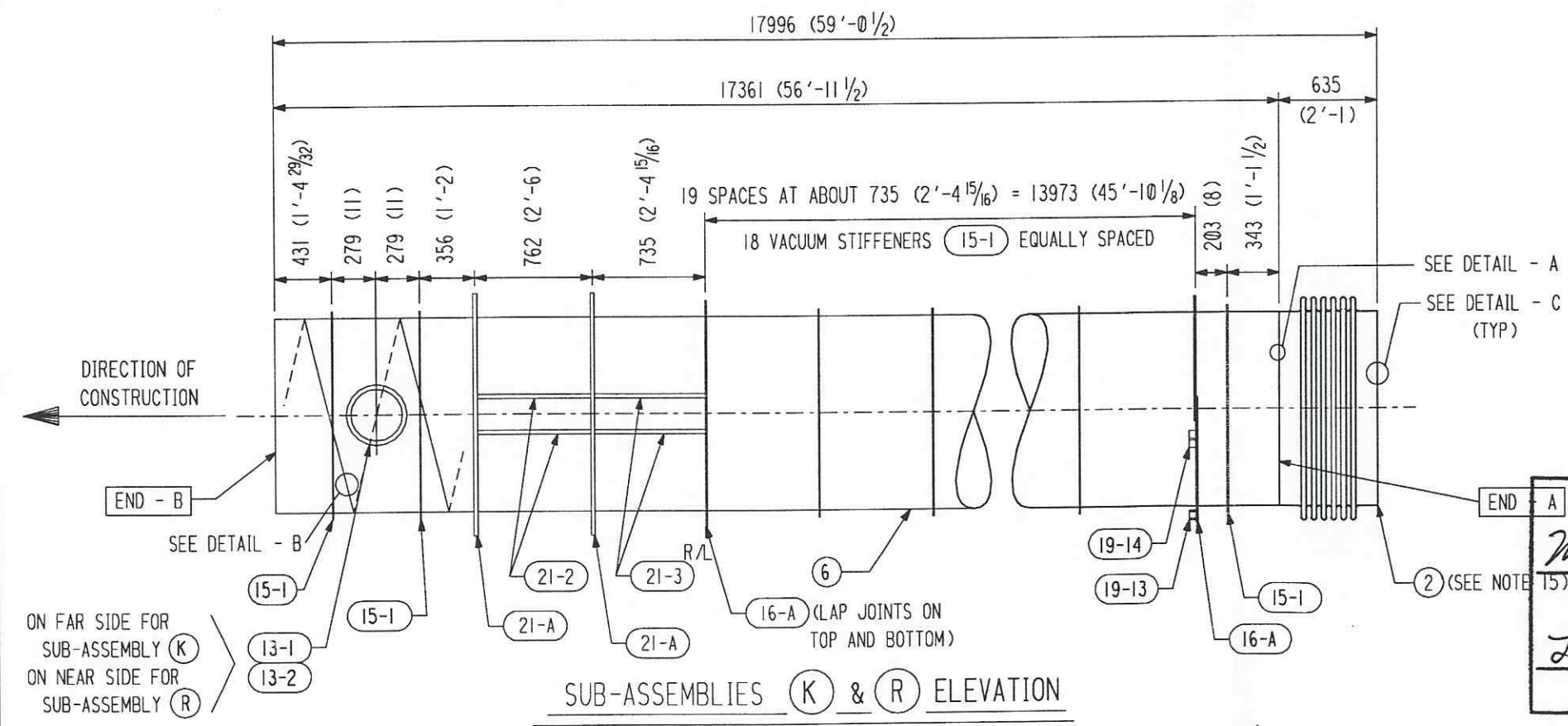
SHIP PC	MARK	ASSEM PC	DESCRIPTION	LENGTH MM	SPEC	D
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			

SHIP PC	MARK	ASSEM PC	DESCRIPTION	LENGTH MM	SPEC	D
I	4-H		BEAM TUBE SUB-ASSEMBLY - H			
	4-4	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 49'-7 19/32)	15128	MI	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	18	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			
I	4-I		BEAM TUBE SUB-ASSEMBLY - I			
	4-4	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 49'-7 19/32)	15128	MI	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	18	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			
I	4-K		BEAM TUBE SUB-ASSEMBLY - K			
	4-6	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 56'-11 1/2)	17361	MI	A
	4-2	1	EXPANSION JOINT (SEE HYSPAN DWG. #50418)	635 (2'-1)	M2	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	21	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			
I	4-R		BEAM TUBE SUB-ASSEMBLY - R			
	4-6	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 56'-11 1/2)	17361	MI	A
	4-2	1	EXPANSION JOINT (SEE HYSPAN DWG. #50418)	635 (2'-1)	M2	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	21	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			



SUB-ASSEMBLIES (H) & (I) ELEVATION

(H) DETAILED AND BILLED FOR (1), (2) REQUIRED ; (I) DETAILED AND BILLED FOR (1), (2) REQUIRED



SUB-ASSEMBLIES (K) & (R) ELEVATION

(K) DETAILED AND BILLED FOR (1), (2) REQUIRED ; (R) DETAILED AND BILLED FOR (1), (2) REQUIRED

APPROVED

M. Tellalian 7-30-96
CBI DATE

L. Jones 8-5-96
CALTECH DATE

CBI SUPPLIER'S / PURCHASER'S NO

LIGO BEAM TUBE
HANFORD, WA & LIVINGSTON, LA

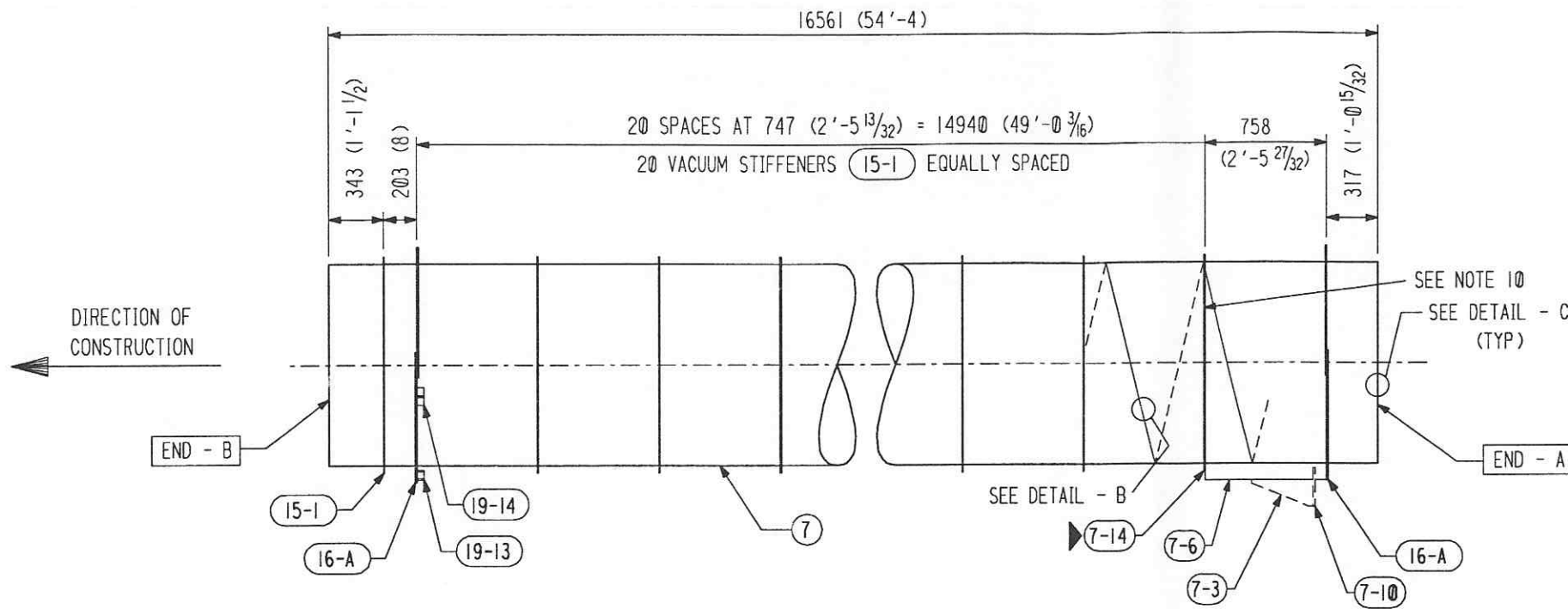
SUB-ASSEMBLIES
(H), (I), (K) & (R)

CUSTOMER'S NO CONTRACT NO
BY DTR CHKD CST DATE 3/11/96 953571

M. L. TELLALIAN DWG 4 REV 5
ENGINEERING ASSIGNED SHT 4

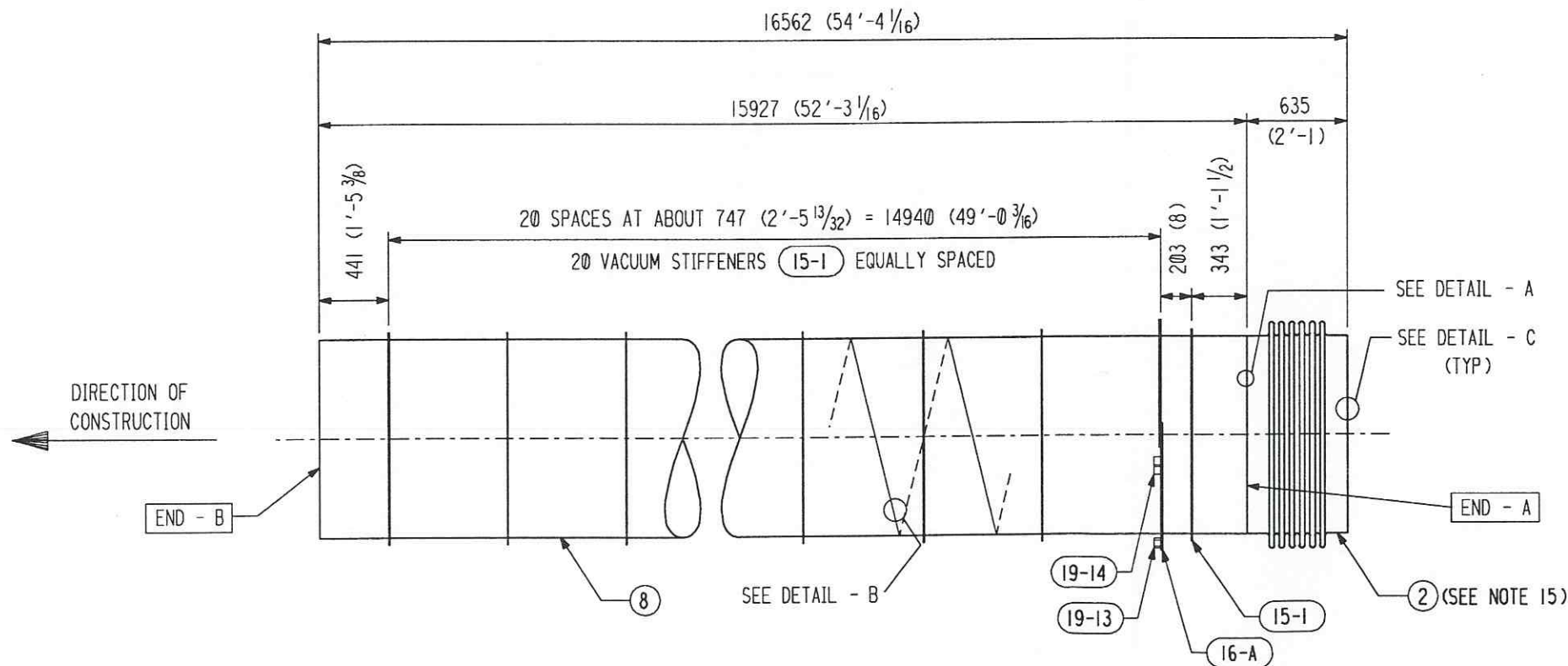
LIGO-D960511-05-B

55710404.DGN



SUB-ASSEMBLY (L) ELEVATION

DETAILED AND BILLED FOR (1), (4) REQUIRED



SUB-ASSEMBLY (M) ELEVATION

DETAILED AND BILLED FOR (1), (4) REQUIRED

SHP PC	MARK	ASSM PC	DESCRIPTION	LENGTH MM	SPEC	ID
1	4-L		BEAM TUBE SUB-ASSEMBLY - L			
	4-7	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 54'-4)	16561	MI	A
	7-6	1	FIXED SUPPORT BRACKET			
	7-14	1	STIFFENER REINFORCEMENT			
	15-1	21	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
1	4-M		BEAM TUBE SUB-ASSEMBLY - M			
	4-8	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 52'-3 1/16)	15927	MI	A
	4-2	1	EXPANSION JOINT (SEE HYSpan DWG. #50418)	635 (2'-1)	M2	A
	15-1	21	VACUUM STIFFENER			
	16-A	1	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			

APPROVED

M. Telloian 7-30-96
CBI DATE

L. Jones 8-5-96
CALTECH DATE

BY		DATE		REVISIONS		REMARKS	
3	CHKD	4-10-96	DTR	4	ADD'D ENTIRE SHIT.		
4	CHKD	7-26-96	M.L.T.	5	ADD'D PC. 7-14 TO ASSY. L.		
5	CHKD	6-24-96	DTR	6	REV. ENTIRE SHIT.		

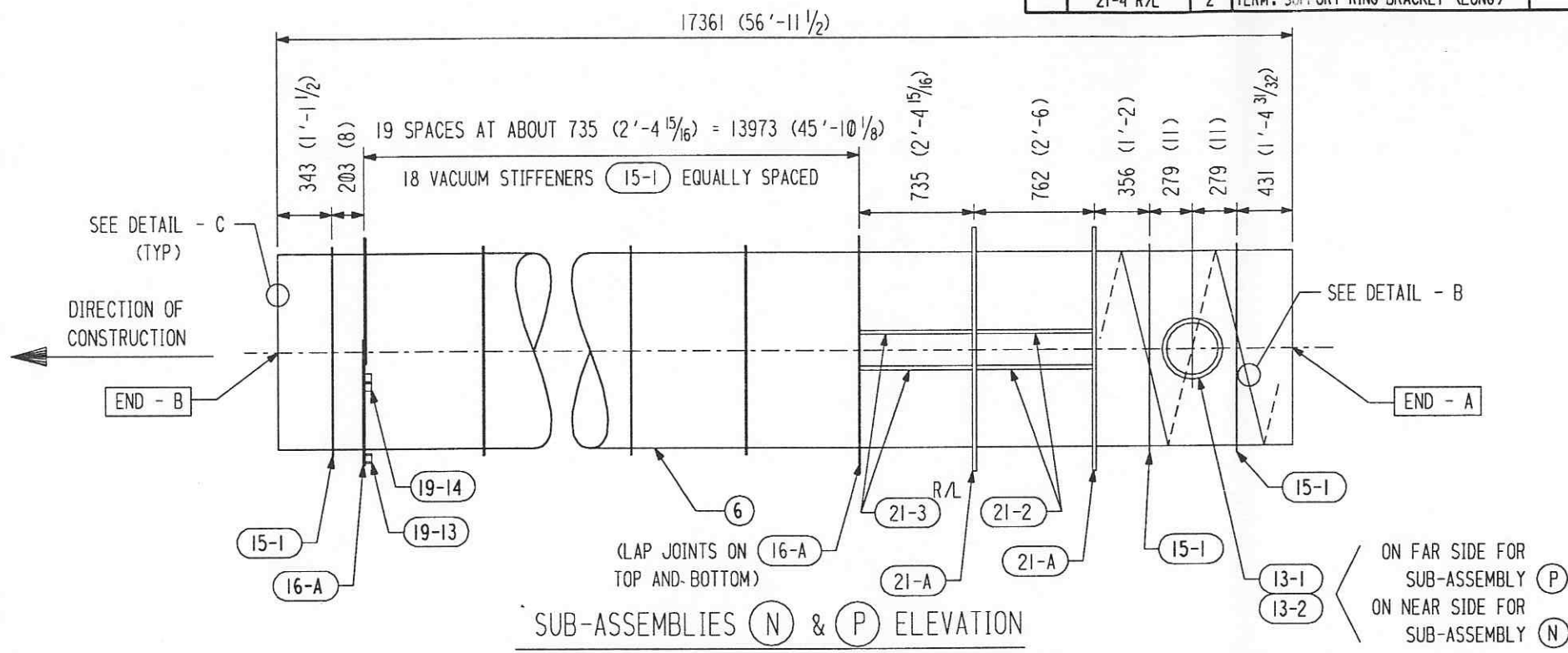
CBI		SUPPLIER'S / PURCHASER'S NO	
LIGO BEAM TUBE HANFORD, WA & LIVINGSTON, LA SUB-ASSEMBLIES (L & M)			
CUSTOMER'S NO		CONTRACT NO	
BY DTR_CHKD CST DATE 3/11/96		953571	
M. L. TELLALIAN ENGINEERING ASSIGNED		DWG 4	REV 5
		SHT 5	
LIGO-D960511-05-B			

55710504.DGN

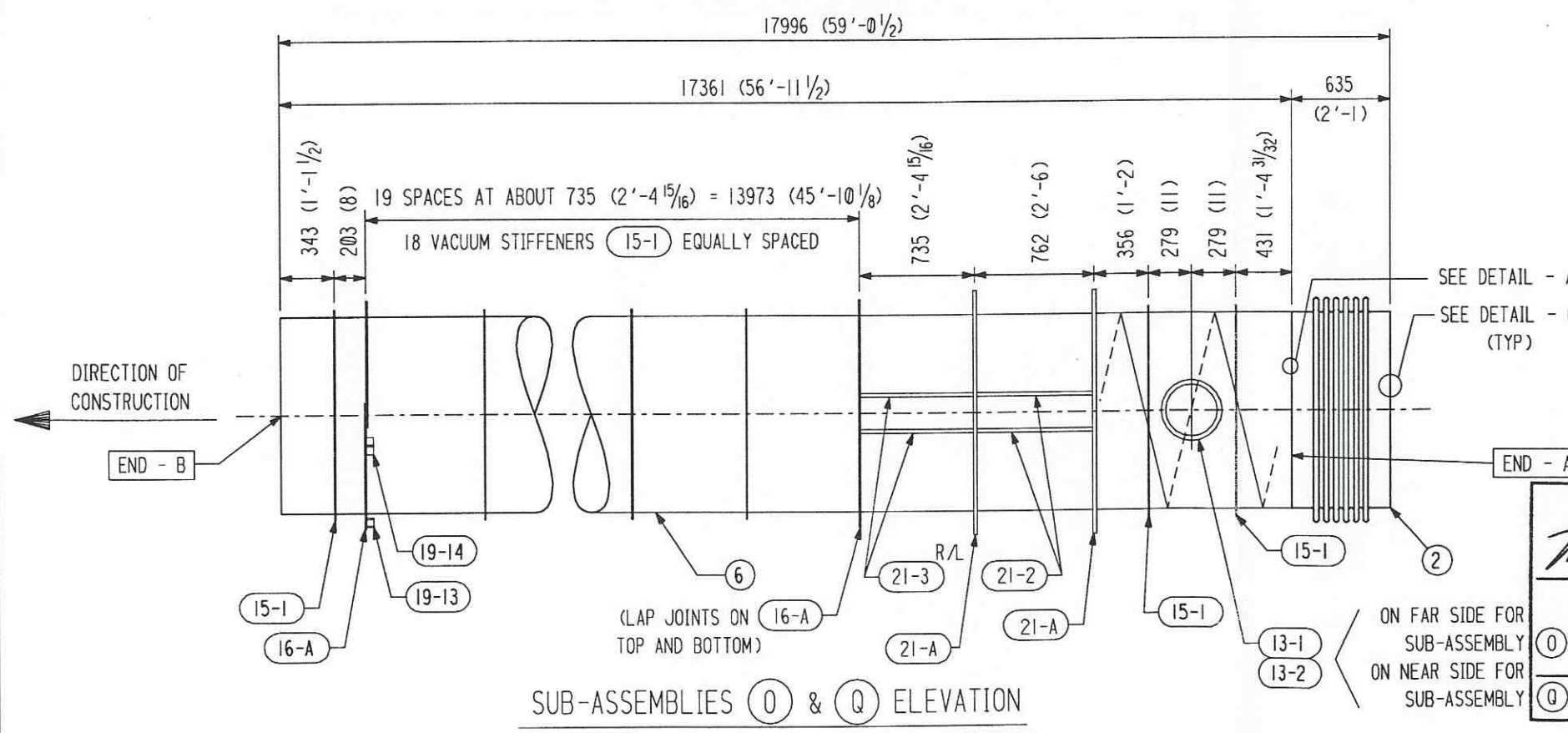
INDICATES CHANGE FROM PREVIOUS ISSUE

SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH MM	SPEC	ID
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			

SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH MM	SPEC	ID
1	4-N		BEAM TUBE SUB-ASSEMBLY - N			
	4-6	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 56'-11 1/2)	17361	MI	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	21	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			
1	4-P		BEAM TUBE SUB-ASSEMBLY - P			
	4-6	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 56'-11 1/2)	17361	MI	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	21	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			
1	4-O		BEAM TUBE SUB-ASSEMBLY - O			
	4-6	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 56'-11 1/2)	17361	MI	A
	4-2	1	EXPANSION JOINT (SEE HYPAN DWG. #50418)	635 (2'-1)	M2	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	21	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			
	21-A	2	TERMINATION SUPPORT RING ASS'Y			
	21-2	4	TERM. SUPPORT RING BRACKET (RECT.)			
	21-3 R/L	2	TERM. SUPPORT RING BRACKET (SHORT)			
	21-4 R/L	2	TERM. SUPPORT RING BRACKET (LONG)			
1	4-Q		BEAM TUBE SUB-ASSEMBLY - Q			
	4-6	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127 X 56'-11 1/2)	17361	MI	A
	4-2	1	EXPANSION JOINT (SEE HYPAN DWG. #50418)	635 (2'-1)	M2	A
	13-1	1	PUMP PORT FLANGE			
	13-2	1	PUMP PORT PAD PLATE			
	15-1	21	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			



(N) DETAILED AND BILLED FOR (1), (1) REQUIRED ; (P) DETAILED AND BILLED FOR (1), (1) REQUIRED



(O) DETAILED AND BILLED FOR (1), (1) REQUIRED ; (Q) DETAILED AND BILLED FOR (1), (1) REQUIRED ▶ INDICATES CHANGE FROM PREVIOUS ISSUE

APPROVED

M. Tellalian 7-30-96

CBI DATE

J. Jones 8-5-96

(O) CALTECH DATE

BY	CHKD	DATE	BY	CHKD	DATE	BY	CHKD	DATE	REVISIONS	REMARKS

SUPPLIER'S / PURCHASER'S NO

CBI

LIGO BEAM TUBE
HANFORD, WA & LIVINGSTON, LA

SUB-ASSEMBLIES
(N), (O), (P) & (Q)

CUSTOMER'S NO

CONTRACT NO 953571

BY DIR CHKD CST DATE 3/11/96

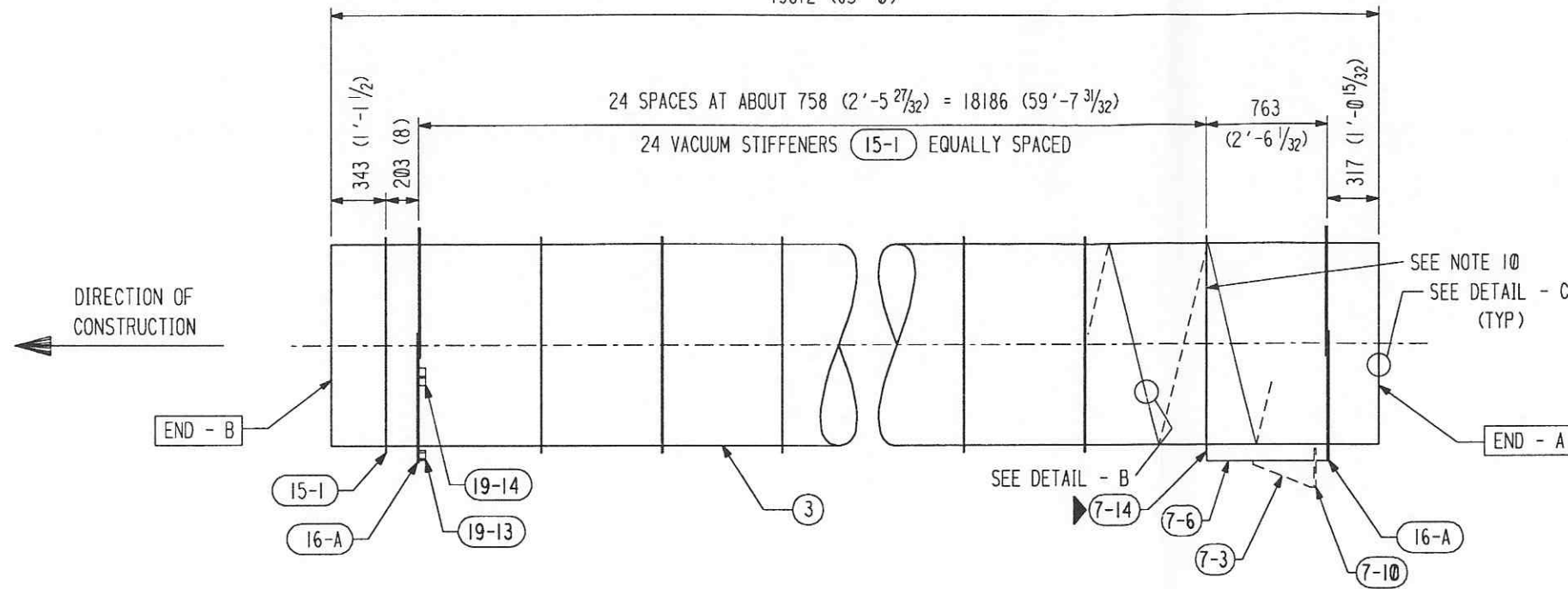
M. L. TELLALIAN
ENGINEERING ASSIGNED

DWG 4 REV 5
SHT 6

LIGO-D960511-05-B

55710604.DGN

19812 (65'-0)



SUB-ASSEMBLY (S) ELEVATION
 DETAILED AND BILLED FOR (1), (8) REQUIRED

SHP PC	MARK	ASSM PC	DESCRIPTION	LENGTH MM	SPEC	ID
1	4-5		BEAM TUBE SUB-ASSEMBLY - S			
	4-3	1	TUBE 1245 OD X 3.2 (49.00 OD X 0.127)	19812 (65'-0)	MI	A
	7-6	1	FIXED SUPPORT BRACKET			
	7-14	1	STIFFENER REINFORCEMENT			
	15-1	25	VACUUM STIFFENER			
	16-A	2	SUPPORT RING ASS'Y			
	19-13	1	LATERAL SUPPORT BRACKET			
	19-14	2	VERTICAL SUPPORT BRACKET			

APPROVED
M. Tellalian 7-30-96
 CBI DATE
J Jones 8-5-96
 CALTECH DATE

BY DTR		ADDED ENTIRE SHT.		REVISIONS		REMARKS	
BY	DATE	BY	DATE	BY	DATE		
3	4-18-96	5	7-26-96	4	6-24-96		
ADDED PC. 7-14 TO ASSY. S.							
REV. ENTIRE SHT.							
CUSTOMER'S NO		CONTRACT NO		DWG		REV	
BY DTR CHKD CST DATE 3/11/96		953571		4		5	
M.J. TELLALIAN		ENGINEERING ASSIGNED		SHT		7	
LIGO-D960511-05-B							

INDICATES CHANGE FROM PREVIOUS ISSUE