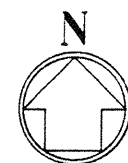
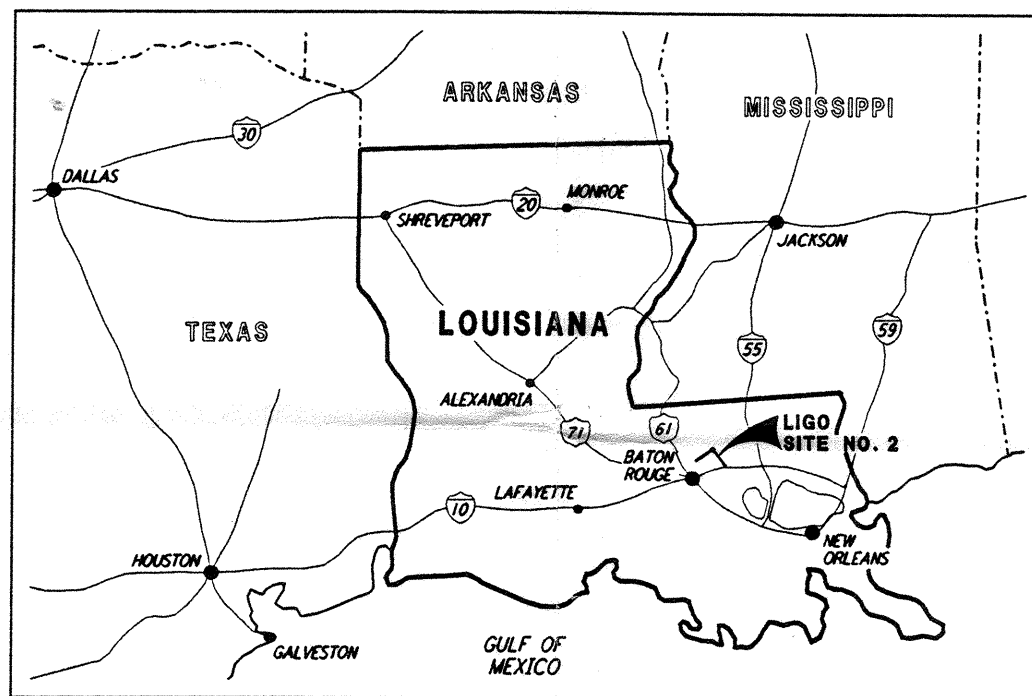


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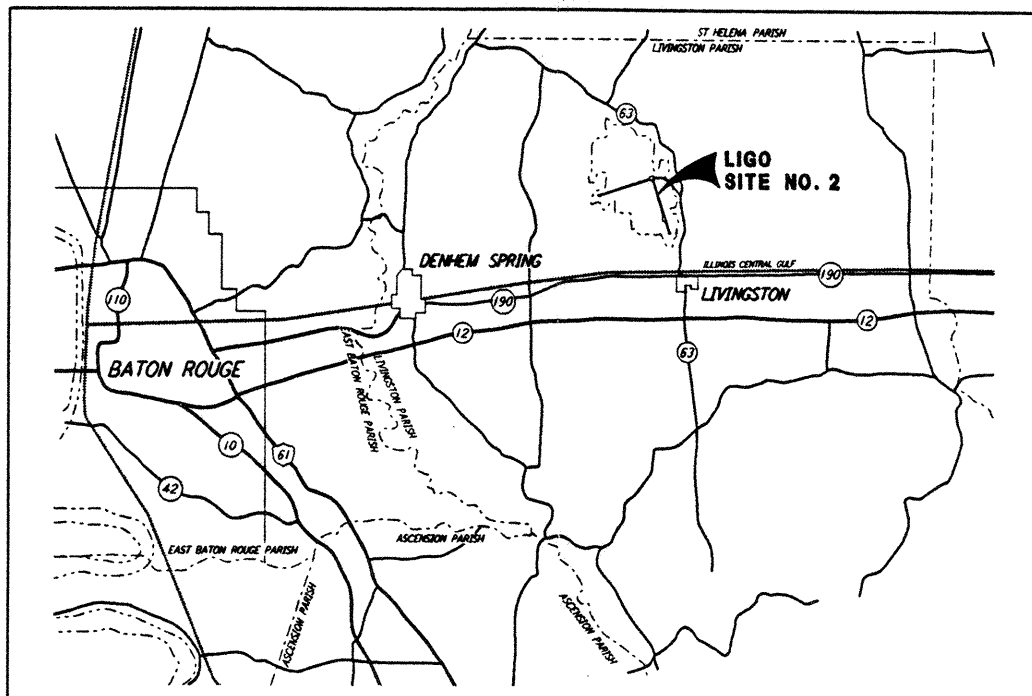
DRAWING INDEX			
REV	DATE	DRAWING NUMBER	DRAWING TITLE
<b>CIVIL</b>			
1	3-20-97	LA-C-501	CIVIL, DRAWING INDEX, LOCATION & VICINITY MAPS
0	11-15-96	LA-C-502	CIVIL, GENERAL NOTES, LEGEND & ABBREVIATIONS
0	11-15-96	LA-C-503	CIVIL, DRAWING MATRIX
1	3-20-97	LA-C-504	CIVIL, TYPICAL SECTIONS AND DETAILS
1	2-03-97	LA-C-505	CIVIL, CORNER STATION PLAN
<b>SOUTHWEST ARM</b>			
1	2-03-97	LA-C-511	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 0+00 TO STA 14+00
1	2-03-97	LA-C-512	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 14+00 TO STA 28+00
1	2-03-97	LA-C-513	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 28+00 TO STA 42+00
1	2-03-97	LA-C-514	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 42+00 TO STA 56+00
1	3-20-97	LA-C-515	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 56+00 TO STA 70+00
1	2-03-97	LA-C-516	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 70+00 TO STA 84+00
1	2-03-97	LA-C-517	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 84+00 TO STA 98+00
1	2-03-97	LA-C-518	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 98+00 TO STA 112+00
1	2-03-97	LA-C-519	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 112+00 TO STA 126+00
1	2-03-97	LA-C-520	CIVIL, SOUTHWEST ARM, PLAN AND PROFILE, STA 126+00 TO STA 133+00
1	3-20-97	LA-C-521	CIVIL, SOUTHWEST ARM, PUMP STATION, PLOT AND UTILITY PLAN
<b>SOUTHEAST ARM</b>			
1	2-03-97	LA-C-531	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 0+00 TO STA 14+00
1	2-03-97	LA-C-532	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 14+00 TO STA 28+00
1	2-03-97	LA-C-533	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 28+00 TO STA 42+00
1	2-03-97	LA-C-534	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 42+00 TO STA 56+00
1	2-03-97	LA-C-535	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 56+00 TO STA 70+00
1	2-03-97	LA-C-536	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 70+00 TO STA 84+00
1	2-03-97	LA-C-537	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 84+00 TO STA 98+00
1	2-03-97	LA-C-538	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 98+00 TO STA 112+00
1	2-03-97	LA-C-539	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 112+00 TO STA 126+00
1	2-03-97	LA-C-540	CIVIL, SOUTHEAST ARM, PLAN AND PROFILE, STA 126+00 TO STA 133+00
1	2-03-97	LA-C-541	CIVIL, SOUTHEAST ARM, PUMP STATION, PLOT AND UTILITY PLAN
<b>STRUCTURAL</b>			
0	11-15-96	LA-S-501	STRUCTURAL, BEAM TUBE ENCLOSURE, GENERAL NOTES, ABBREVIATIONS & LEGEND
1	2-28-97	LA-S-502	STRUCTURAL, KEY PLAN OF BEAM TUBE ENCLOSURE & PARTIAL ENLARGED PLANS
1	2-28-97	LA-S-502A	STRUCTURAL, SOUTHWEST ARM BEAM TUBE ENCLOSURE PARTIAL ENLARGED PLANS
1	2-28-97	LA-S-503	STRUCTURAL, BEAM TUBE ENCLOSURE PLANS, SECTIONS & DETAILS
1	2-28-97	LA-S-504	STRUCTURAL, KEY PLAN OF BEAM TUBE ENCLOSURE FOUNDATION & PARTIAL ENLARGED PLANS
0	2-28-97	LA-S-504A	STRUCTURAL, SOUTHWEST ARM BEAM TUBE ENCLOSURE FOUNDATION & PARTIAL ENLARGED PLANS
1	2-28-97	LA-S-505	STRUCTURAL, BEAM TUBE ENCLOSURE, SECTIONS & DETAILS, SHEET 1
1	2-28-97	LA-S-506	STRUCTURAL, BEAM TUBE ENCLOSURE, SECTIONS & DETAILS, SHEET 2
1	2-28-97	LA-S-507	STRUCTURAL, BEAM TUBE ENCLOSURE, MID STATIONS "A" & "B" FOUNDATION PLANS
1	2-28-97	LA-S-508	STRUCTURAL, BEAM TUBE ENCLOSURE, CONCRETE SLAB AND JOINT DETAILS
<b>ELECTRICAL</b>			
0	11-15-96	LA-E-505	ELECTRICAL, GROUNDING DETAILS
0	11-15-96	LA-E-507	ELECTRICAL, MID STATION A, GROUNDING & UNDERGROUND PLAN
0	11-15-96	LA-E-517	ELECTRICAL, MID STATION B, GROUNDING & UNDERGROUND PLAN



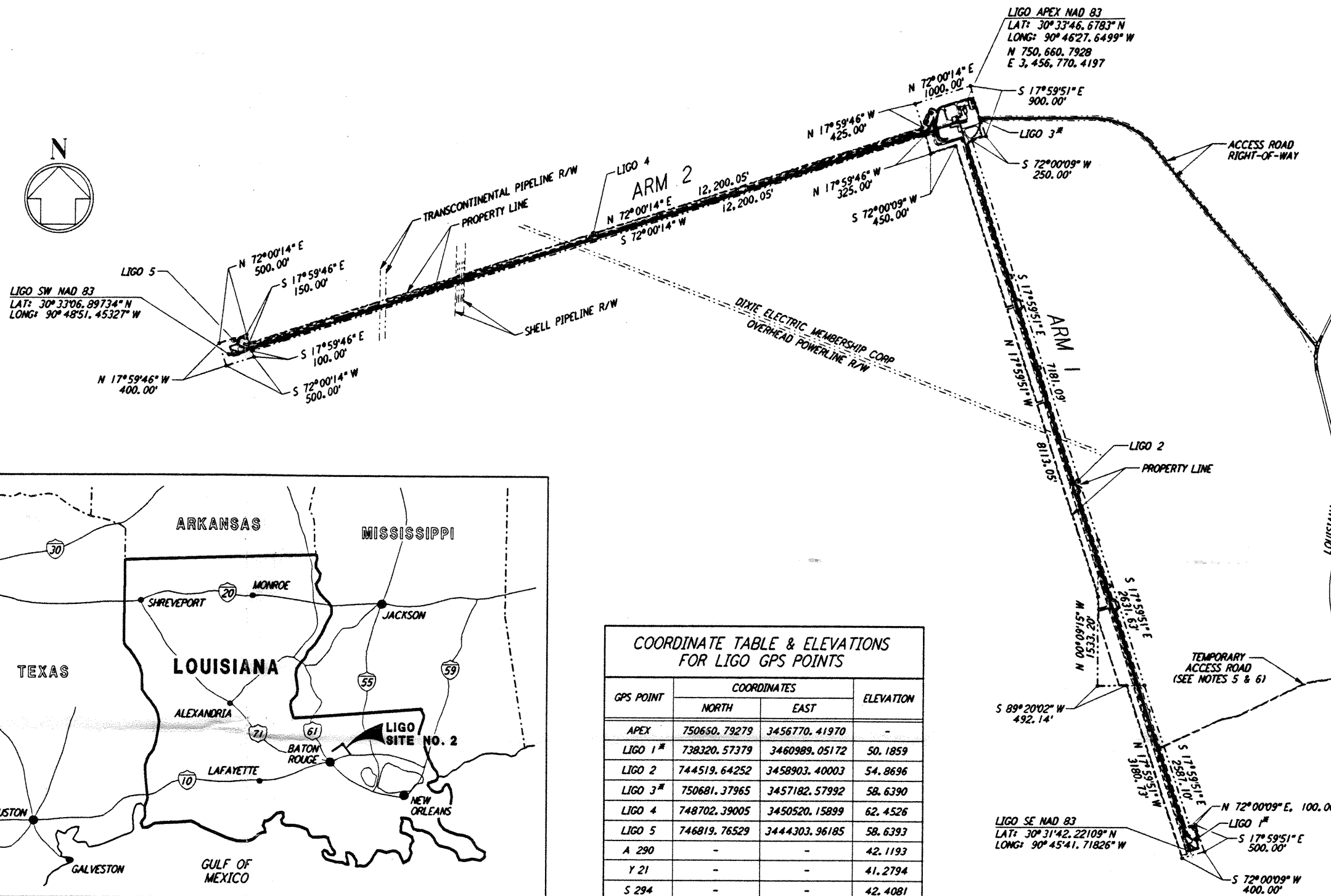
LIGO SW MAD 83  
LAT: 30°37'06.89734"N  
LONG: 90°48'51.45327"W



LOCATION MAP  
NOT TO SCALE



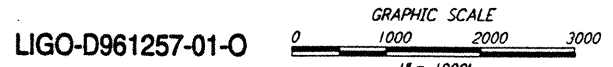
VICINITY MAP  
NOT TO SCALE



COORDINATE TABLE & ELEVATIONS FOR LIGO GPS POINTS			
GPS POINT	COORDINATES		ELEVATION
	NORTH	EAST	
APEX	750650.79279	3456770.41970	-
LIGO 1#	738320.57379	3460989.05172	50.1859
LIGO 2	744519.64252	3458903.40003	54.8696
LIGO 3#	750681.37965	3457182.57992	58.6390
LIGO 4	748702.39005	3450520.15899	62.4526
LIGO 5	746819.76529	3444303.96185	58.6393
A 290	-	-	42.1193
Y 21	-	-	41.2794
S 294	-	-	42.4081

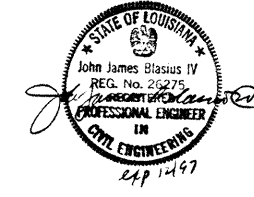
NOTE: GPS COORDINATE POINTS ARE HIGH ACCURACY  
# LIGO 1 AND LIGO 3 SHALL BE RE-ESTABLISHED BY CONTRACTOR IN NEW A LOCATION, TO BE DETERMINED.

- SURVEY NOTES:**
- PROPERTY LINE LOCATION AND LIGO ACCESS ROAD RIGHT-OF-WAY ARE BY A SURVEY PERFORMED BY ALEX THERIOT JR & ASSOCIATES, INC., DENHAM SPRINGS, DATED MARCH 12, 1993.
  - HORIZONTAL AND VERTICAL CONTROLS ARE FROM A VERNON F. MEYER GPS SURVEY, AND ARE AS FOLLOWS:  
HORIZONTAL CONTROL: ALL BEARINGS AND DISTANCES SHOWN HEREON ARE LAMBERT GRID, NAD 83/92, LOUISIANA SOUTH ZONE (1702).  
VERTICAL CONTROL: ELEVATIONS SHOWN ARE MEAN SEA LEVEL, DATUM NAVD 88. ELEVATIONS ARE A LEAST SQUARES ADJUSTMENT HOLDING TO NAVD 88 VALUES OF NGS ADJUSTED ELEVATION OF BENCHMARK A 290, Y 21 AND S 294 (VERT. ORDER - FIRST CLASS 1)
  - CALTECH WILL PROVIDE FIVE (5) GPS SURVEY MONUMENTS FOR INITIAL CONTROL OF THE WORK. ADDITIONAL (APPROXIMATELY 15) FIRST ORDER GPS MONUMENTS ARE NECESSARY TO ACCURATELY PLACE THE EQUIPMENT.
  - ROUGH GRADING DRAWINGS WERE BASED ON AN APEX COORDINATE OF N 750662.6458, E 3456770.8116. THIS ROUGH GRADING APEX POINT, GRID, OR OTHER ROUGH GRADING COORDINATES SHALL NOT BE USED FOR THE CONTROL OF THE WORK IN THIS CONTRACT.
  - CONTRACTOR SHALL USE THE TEMPORARY ACCESS ROAD WHEN DIRECTED BY THE CONSTRUCTION MANAGER. THIS MAY BE AT ANY TIME, BUT PRIMARILY DURING CONSTRUCTION OF THE MAIN ACCESS ROAD BY OTHERS.
  - CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL FOR TEMPORARY ACCESS ROAD, AS WELL AS BEAM TUBE SERVICE ROADS IN ACCORDANCE WITH THE SPECIFICATIONS.
  - CONTRACTOR IS RESPONSIBLE FOR MAINTAINING BEAM TUBE SERVICE ROADS AT DESIGN GRADE, TO PROVIDE SMOOTH PASSAGE FOR ALL CONSTRUCTION TRAFFIC.



DRAWING NO.	DESCRIPTION	NO.	DATE	BY	CHKD	ENGR	PROJ	DESCRIPTION
1	3-20-97	WRB	CL					ADDED REVISION/DATE COLUMNS, UPDATED INDEX

ISSUED FOR CONSTRUCTION		
DRAWN	WRB	11-15-96
CHECKED	ML	11-15-96
ENGINEER	JB	11-15-96
PROJ	TDM	11-15-96



**PARSONS**  
100 WEST WALNUT STREET  
PASADENA, CALIFORNIA

**LIGO**  
CALIFORNIA INSTITUTE OF TECHNOLOGY  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

LASER INTERFEROMETER  
GRAVITATIONAL-WAVE OBSERVATORY  
BEAM TUBE ENCLOSURE - LIVINGSTON, LA

CIVIL  
DRAWING INDEX  
LOCATION & VICINITY  
MAPS

AS NOTED PPI50969 8094  
SHEET NUMBER PROJECT NUMBER

**LA-C-501**