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# LIVINGSTON CONSTRUCTION CONTRACTS

PRESENTATION TO THE NSF

NOVEMBER 12, 1996

G. STAPFER

# OVERVIEW

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- SCOPE OF CONSTRUCTION CONTRACTS
- PROCUREMENT APPROACH
- SOLICITATION
- BIDDING
- CONTRACTOR SELECTION REVIEW
- SCHEDULE

# CONTRACT SCOPE

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- **TWO CONTRACTS**

- BUILDING AND INFRASTRUCTURE
- CONCRETE SLAB AND PRECAST ENCLOSURES

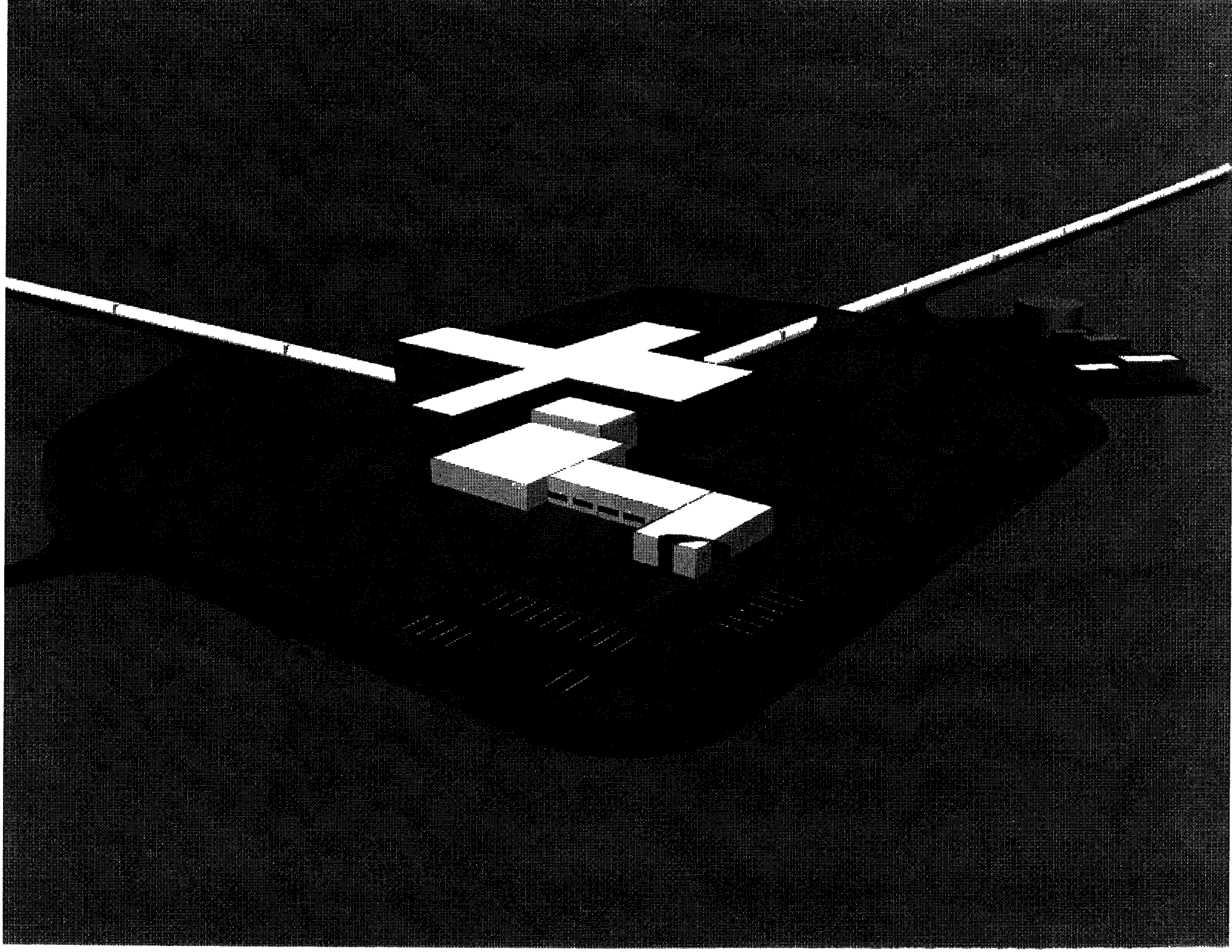
- **RATIONALE**

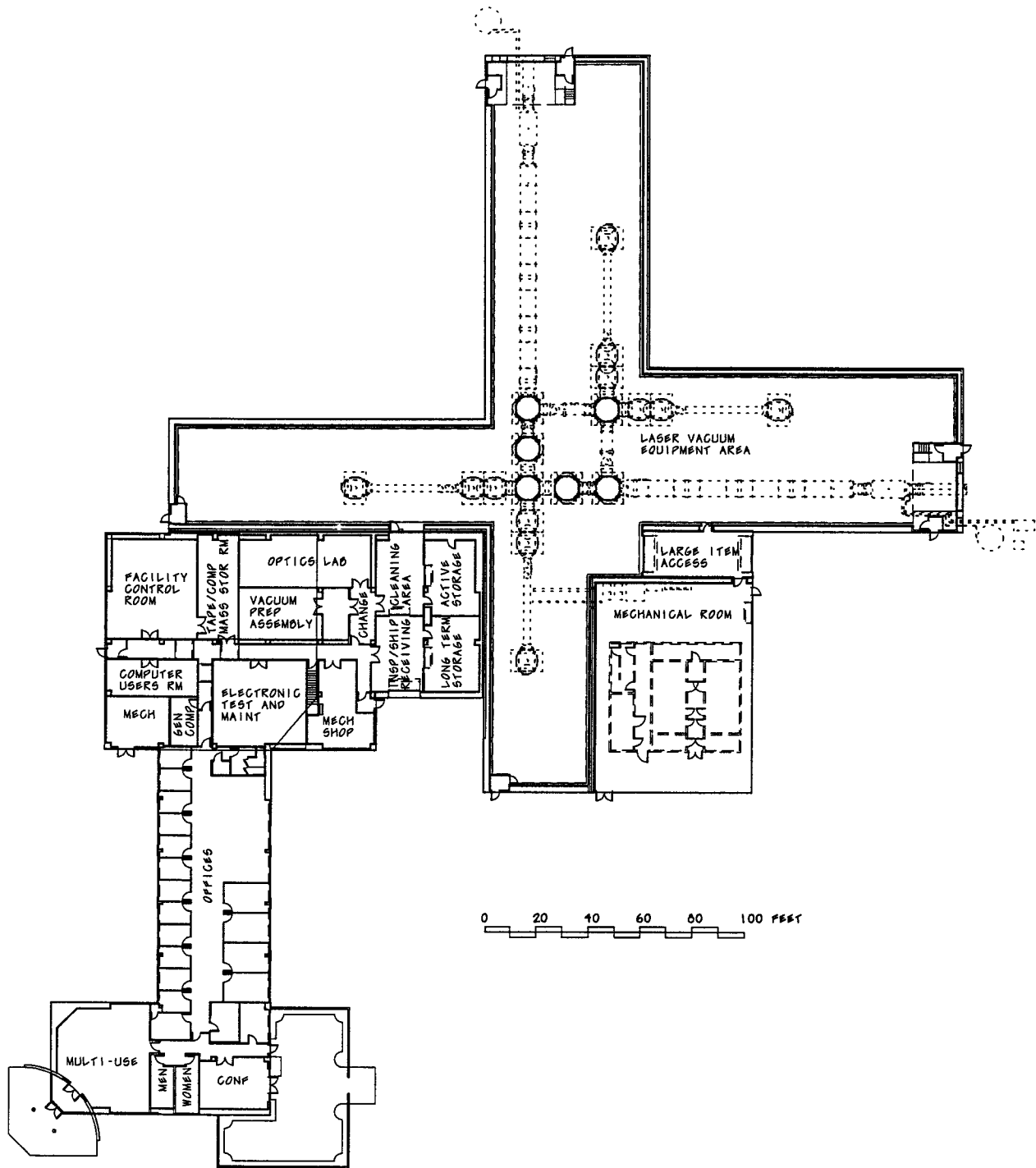
- SPECIALIZED SCOPE FOR CONCRETE SLAB AND ENCLOSURES
- LOWER OVERALL COST

# BUILDING AND INFRASTRUCTURE

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- **CORNER STATION**
  - DESIGNED FOR TWO INTERFEROMETER CAPABILITY
  - APPROXIMATELY 57,000 SQUARE FEET OF HIGH BAY, LABORATORIES AND OFFICES
  - HIGH BAY (LVEA) CRANES, 32 FEET CEILING HEIGHT
- **TWO END STATIONS**
  - APPROXIMATELY 8,000 SQUARE FOOT HIGH BAY
- **TWO MID STATIONS**
  - SMALL MINIMAL BUILDINGS WITHOUT FACILITIES
- **INFRASTRUCTURE**
  - CHILLER PLANTS, ROADS, PARKING POWER DISTRIBUTION





PROPERTY LINE

FOR CONTINUATION SEE ELECTRICAL DRAWING LA-E-203

FOR CONTINUATION SEE ELECTRICAL DRAWING LA-H-213

CHILLER YARD

TRANSFORMER PAD  
W/ GUARD POSTS  
(EXIST)

ELECTRICAL VAULT (EXIST)

3" CWS  
3" CHR  
2" A

(EXIST)

EOB

SLOPE DRAIN LINE  
TO DAYLIGHT AT  
TOE OF SLOPE

CHILLED WATER  
RETURN AND  
FOR CONTINUA  
MECHANICAL D

HOLDING TA

4" SANITARY SE  
FOR CONTINUA  
PLUMBING DRAI

FOR CONTINUATION  
SEE ELECTRICAL  
DRAWING  
LA-E-213

54.46  
INV

3" DRAIN LINE  
FOR CONTINUATION SEE  
PLUMBING DRAWING  
LA-P-211

END-STATION  
FF 57.46

LIQUID NITROGEN  
STORAGE TANK

AMBIENT  
VAPORIZER  
GH<sub>2</sub> SYSTEM

NITROGEN TRANSFER LINES  
FOR CONTINUATION SEE  
VACUUM EQUIPMENT DRAWINGS

4" CO (C)  
CPB

N 738194.2210  
E 3460830.6345

130+85.60  
EQUIPMENT INTERFACE

3.37  
TION  
.3481  
.0006

S 17°59'46" E

128+56.87  
BC 1E ROAD  
END-STATION  
BEGIN WORK

TUBE





# CONCRETE SLAB AND PRECAST ENCLOSURE

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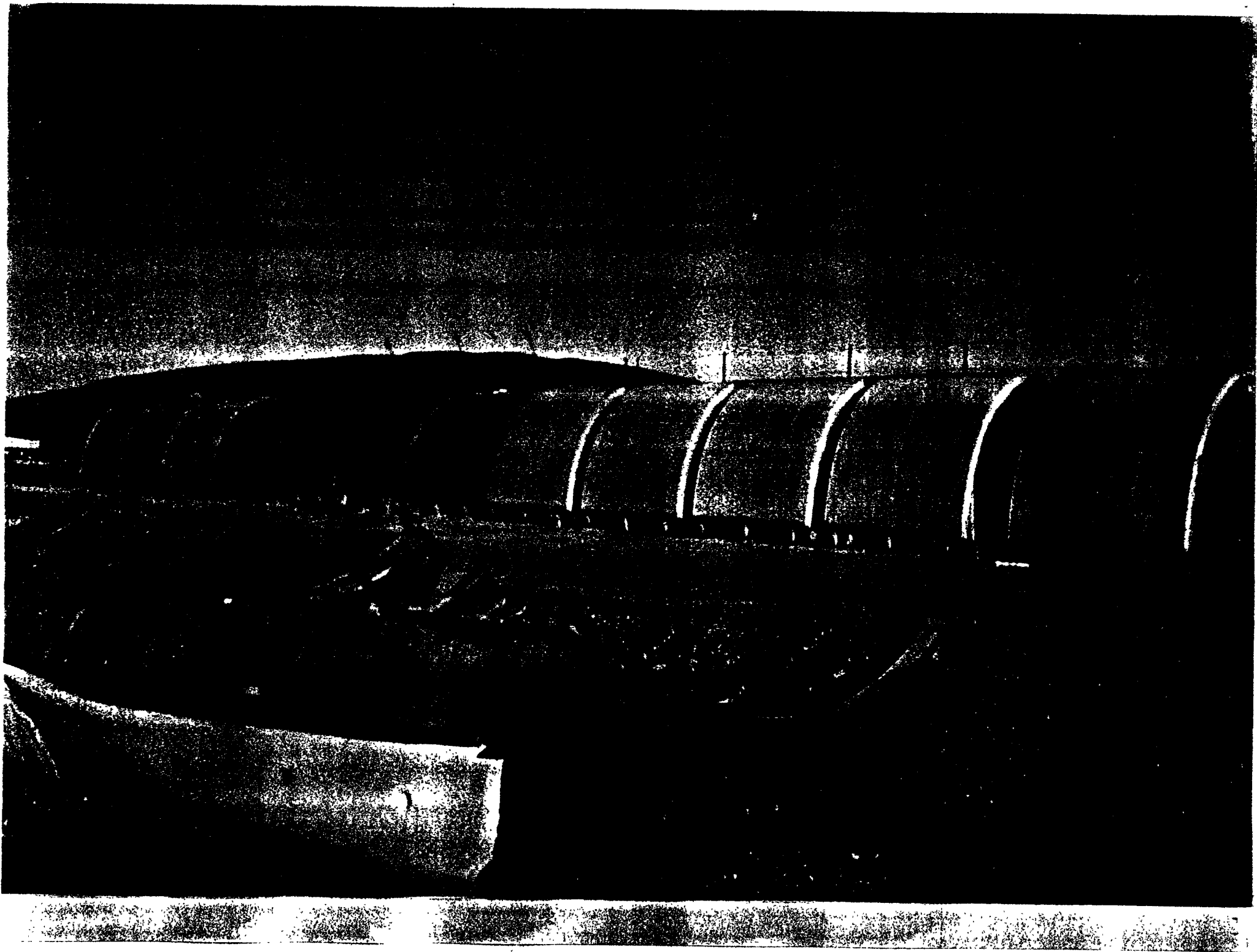
- CONSTRUCT APPROXIMATELY 5 MILES OF SERVICE ROAD, 20 FEET WIDE
- LAY 5 MILES OF PRECISION SLAB, 14 FEET WIDE, 8 INCHES THICK
- FABRICATE AND DELIVER 2600 PRECAST CONCRETE ENCLOSURES
- INSTALL ENCLOSURES OVER THE BEAM TUBE, GROUT AND SEAL

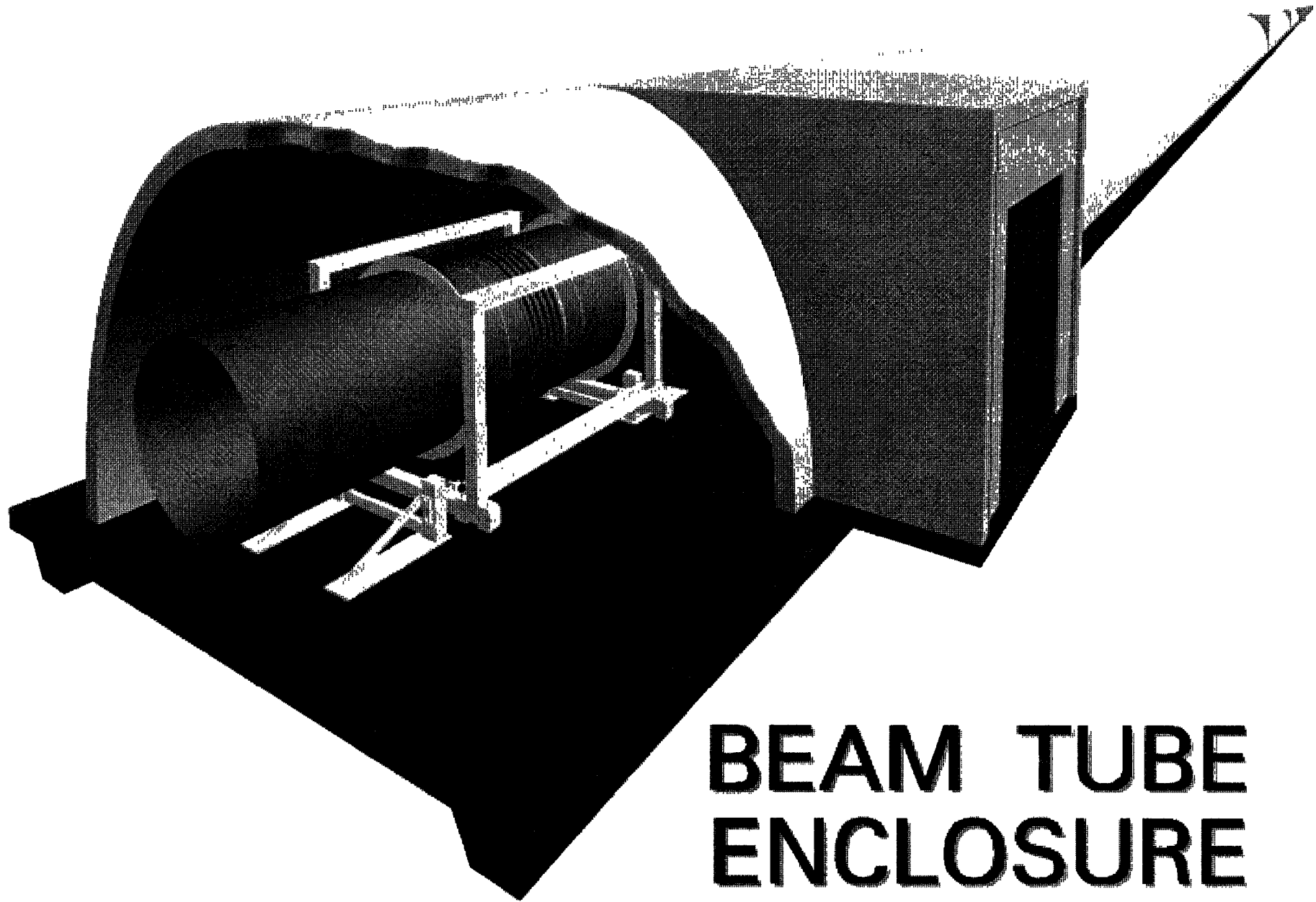
# ENCLOSURE INSTALLATION

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- WILL PROPOSE THE SAME APPROACH AS WE ARE PURSUING IN HANFORD, I.E. “JUST IN TIME DELIVERY”
- FABRICATION CONTRACTOR IS ALSO RESPONSIBLE FOR INSTALLATION
- SINGLE CONTRACTOR SHOULD MAKE THIS APPROACH SIMPLER, NO “FINGER POINTING”
- CONTRACT INCLUDES SPECIAL PROVISION TO FACILITATE THIS APPROACH







**BEAM TUBE  
ENCLOSURE**

# SOLICITATION PROCESS

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- **ADVERTISEMENT**

- ADVERTISED IN COMMERCE BUSINESS DAILY
- PLACED ADS IN MAJOR NEWSPAPERS FROM TEXAS TO GEORGIA
- CONTACTED IN EXCESS OF 400 LOCAL CONTRACTORS WITH INFORMATION FLYER

- **INDUSTRY BRIEFING**

- CONDUCTED INDUSTRY BRIEFING ON AUGUST 6, 1996
- 70 CONTRACTORS ATTENDED

- **SLU SMALL BUSINESS DEVELOPMENT CENTER**

- PROVIDED SUPPORT CONDUCTING INDUSTRY BRIEFING
- COMPILED LIST OF LOCAL CONTRACTORS

# PROCUREMENT SCHEDULE

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- **PROCUREMENT**
  - INVITATION FOR BID
  - PARALLEL PROCUREMENT PROCESS FOR BOTH IFBs
- **ISSUE IFB**
  - BID PACKAGES MAILED ON AUGUST 2, 1996
  - 92 BID HOLDERS
  - COST PER PACKAGE, \$200
- **JOB WALK** (*CROWN STERLING SUITES HOTEL, BATON ROUGE*)
  - AUGUST 29, 1996, 9:00AM FOR IFB-EJ-250
  - AUGUST 29, 1996 ,1:00PM FOR IFB-EJ-246
- **BID DUE DATE** (*CROWN STERLING SUITES HOTEL, BATON ROUGE*)
  - OCTOBER 15, 1996, 1:00 AND 2:00PM

# BID ADDENDUM

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## FOUR BID ADDENDUM WERE ISSUED

- » ADDENDUM NO 1
  - ADDED PREVAILING LABOR RATES FOR LOUISIANA
- » ADDENDUM NO 2
  - ADDED BEAM TUBE INSTALLATION PROVISION
  - RESPONSE TO QUESTIONS
- » ADDENDUM NO 3
  - ADDED MAINTENANCE OF BY-PASS ACCESS ROAD AND SERVICE ROADS
- » ADDENDUM NO 4
  - FINAL RESPONSE TO QUESTIONS



# BID RESULTS

## SLAB & PRECAST ENCLOSURES

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<u>ORDER RECEIVED</u>	<u>BIDDER</u>	<u>BID PRICE</u>
1	TECKNIT SHIELDING SYSTEMS PASSAIC, NJ	NON-RESPONS
2	ACME MATERIALS & CONSTRUCTION SPOKANE, WA	\$10,699,99.53
3	BOH BROTHERS CONSTRUCTION BATON ROUGE, LA	\$9,395,000.00
4	WOODROW WILSON CONSTRUCTION CO BATON ROUGE, LA	<b>\$8,813,000.00</b>
5	HENSEL PHELPS CONSTRUCTION CO LITTLE ROCK, AR	\$9,575,000.00
6	PARSONS PASADENA, CA	\$7,901,000.00 (\$8,838,660.00)

# BID RESULTS

## BUILDINGS & INFRASTRUCTURE

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<u>ORDER RECEIVED</u>	<u>BIDDER</u>	<u>BID PRICE</u>
1	HENSEL PHELPS CONSTRUCTION CO LITTLE ROCK, AR	<b>\$13,455,000.00</b>
2	WOODROW WILSON CONSTRUCTION CO BATON ROUGE, LA	<b>\$14,530,000.00</b>
3	PARSONS PASADENA, CA	<b>\$13,495,000.00</b>

# LIGO COST COMPARISON

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<u>WBS</u>	<u>TASK DESCRIPTION</u>	<u>AMOUNT</u>
5C532	SLAB AND BEAM TUBE ENCLOSURES WOODROW WILSON CONSTRUCTION CO	\$8,813,000
5D532	BUILDING AND INFRASTRUCTURE HENSEL PHELPS CONSTRUCTION CO	\$13,455,000
	TOTAL LIVINGSTON CONSTRUCTION	<b>\$22,268,000</b>
	LIGO COST BOOK (SAME SCOPE)	<b>\$22,510,000</b>

# HENSEL PHELPS CONSTRUCTION

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- BUILDING AND INFRASTRUCTURE
- DUN & BRADSTREET
  - RATED - “GOOD” 4A2
  - STARTED - 1960
  - SALES - \$ 726 M
  - EMPLOYEES - 1,500-2,500
  - HISTORY - CLEAR
- LIGO EVALUATION
  - VISITED FACILITIES ON 11/7/96
  - REFERENCES GIVEN CHECKED OUT POSITIVE
  -

# WILSON CONSTRUCTION COMPANY

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- CONCRETE SLAB AND PRECAST ENCLOSURE
- DUN & BRADSTREET
  - RATED “GOOD” 3A2
  - STARTED 1958
  - SALES \$ 30 M
  - EMPLOYEES 60-120
  - HISTORY CLEAR
- LIGO EVALUATION
  - VISITED FACILITIES ON 11/8/96
  - REFERENCES GIVEN CHECKED OUT POSITIVE
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# SCHEDULE

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- FINAL SPECIFICATION AND RELEASE DRAWING ISSUED BY 11/15/96
- NOTICE OF AWARD 11/25/96
- PARTIAL NOTICE TO PROCEED 12/9/96
  - OFF SITE ACTIVITIES AND MOBILIZATION
- FINAL NOTICE TO PROCEED 2/1/97
  - ON SITE ACTIVITIES TO PROCEED
  - THIS DATE MAY BE EARLIER, DEPENDING ON FINAL SETTLEMENT DATA

# ACCESS PICTURE

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# ACCESS TO SITE

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- **ACCESS ROAD**

- PROVIDED BY THE STATE OF LOUISIANA
- CONSTRUCTION WAS DELAYED BY INTER DEPARTMENT ISSUES
- ESTIMATED TO BE COMPLETED BY MID 1997

- **BY-PASS ACCESS ROAD**

- RIGHT OF WAY OVER WEYERHAEUSER PROPERTY PROVIDED BY THE STATE OF LOUISIANA
- UPGRADING OF ROAD BED FOR CONSTRUCTION PERFORMED BY THE STATE OF Louisiana
- MAINTENANCE OF ROAD (UNTIL COMPLETION OF ACCESS ROAD) IS LIGO CONTRACTOR RESPONSIBILITY
- COST OF MAINTENANCE IS INCLUDED IN CONTRACTOR SCOPE AND BID



# SURFACE ROAD ACCESS

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- SCHEDULING OF ALL CONTRACTORS ASSURES MINIMUM INTERFERENCE ON SERVICE ROAD
- “JUST IN TIME DELIVERY” CONCEPT FOR BEAM TUBE ENCLOSURES WILL BE PURSUED TO OPTIMIZE THE AVAILABILITY OF THE SERVICE ROAD FOR OTHER NEEDS
- USE OF BY-PASS ROAD AND LOGGING ROADS ARE ALTERNATIVE APPROACHES TO BE USED IF NECESSARY