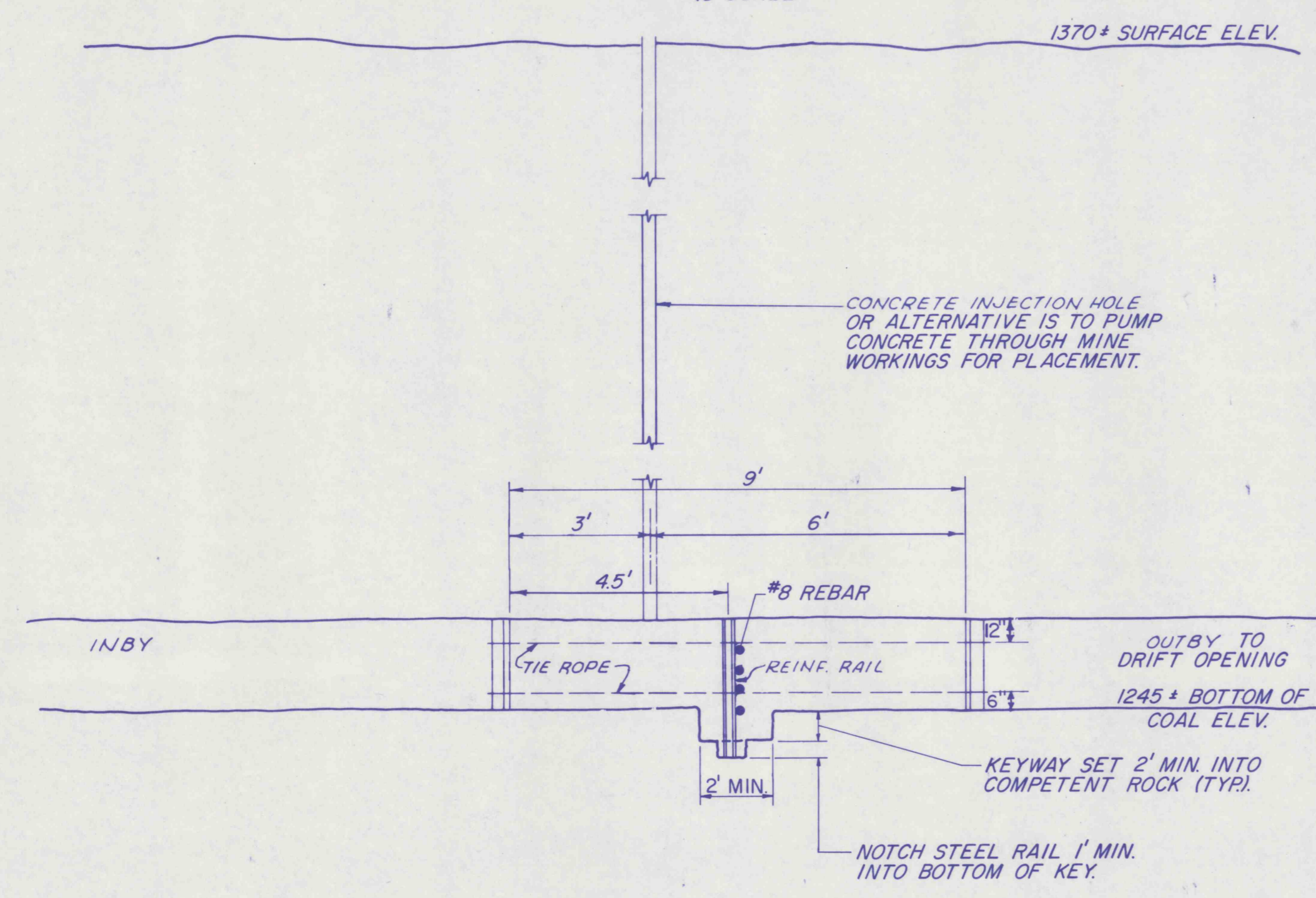
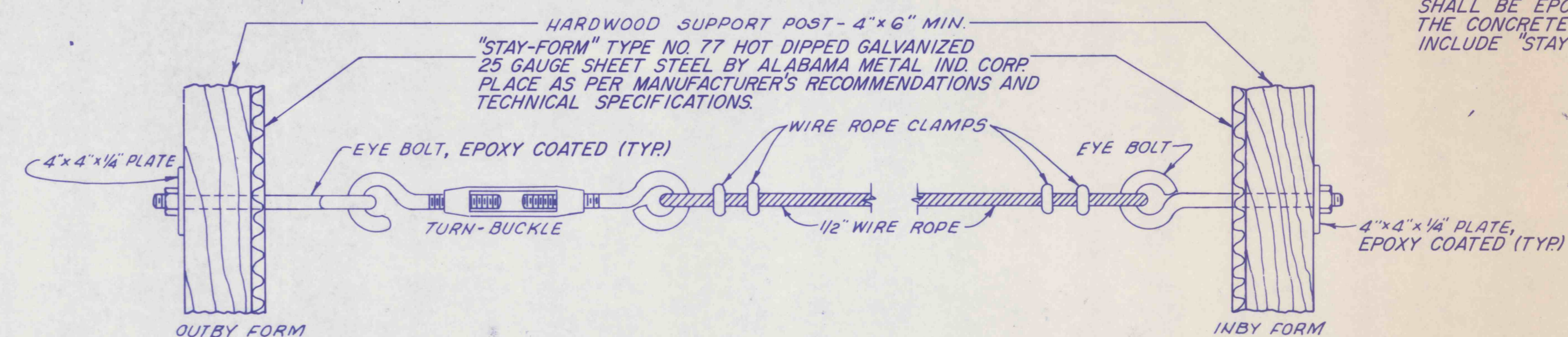


**SEAL AREA NO. 33  
PLAN VIEW**  
NO SCALE

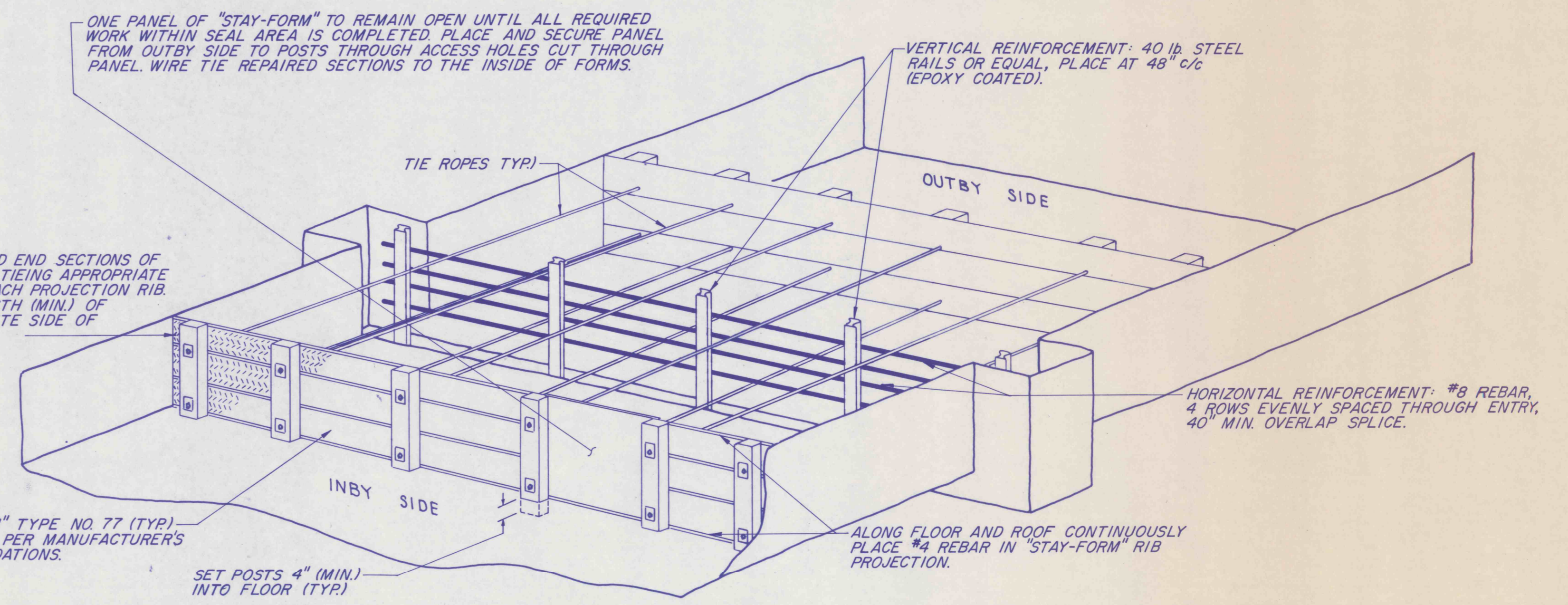


**SEAL AREA NO. 33  
ELEVATION VIEW**  
NO SCALE



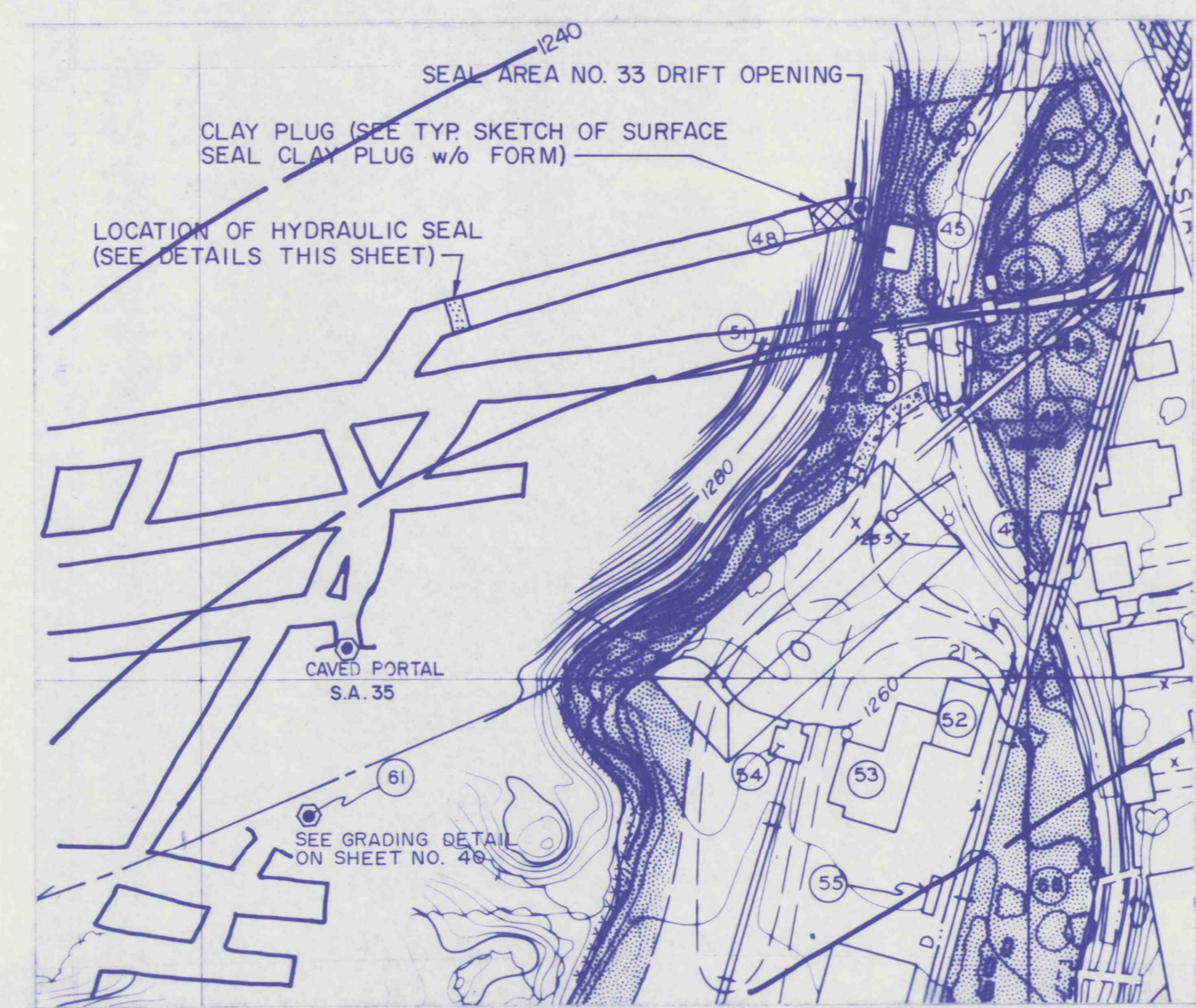
**SKETCH SHOWING TIE ROPE DETAILS FOR CONCRETE FORMS**  
NO SCALE

SECURE CANTILEVERED END SECTIONS OF "STAY-FORM" BY WIRE TIEING APPROPRIATE SIZED REBAR INTO EACH PROJECTION RIB. PROVIDE EQUAL LENGTH (MIN.) OF STIFFENER ON OPPOSITE SIDE OF POST (TYR)



**SKETCH OF SEAL AREA NO. 33 FORM DETAILS PRIOR TO INSERTION OF CONCRETE**  
NO SCALE

NOTE: ALL EXPOSED STEEL AND WIRE ROPES SHALL BE EPOXY COATED TO 5' MIN INTO THE CONCRETE SEAL. THIS DOES NOT INCLUDE "STAY-FORM".



**SEAL AREA NO. 33  
LOCATION PLAN**  
SCALE: 1" = 100'

- GENERAL INSTRUCTIONS: SEAL AREA NO. 33 CONSTRUCTION
1. BIRD COAL MANAGEMENT WILL HAVE CAMERA DITCH REROUTED, FLOWING INTO MAIN SUMP AREA.
  2. BIRD COAL WILL BUILD OR INSTALL ANY VENTILATION CRITERIA FOR STATE AND FEDERAL LEGAL REQUIREMENTS.
  3. SECURE THE APPLICABLE WORK AREA IN THE MINE BY SETTING REQUIRED SAFETY SUPPORTS.
  4. ESTABLISH LOCATION FOR THE TWO FORMS AND FOR THE BOTTOM RIB KEY CUTS.
  5. MAKE BOTTOM AND RIB CUTS, REMOVE ALL LOOSE COAL, ROCK AND OTHER DEBRIS FROM SEAL AREA.
  6. CONSTRUCT INBY FORM INCLUDING INSTALLATION OF WIRE ROPE AND TIE BOLTS THROUGH THE INBY FORM SUPPORT POSTS.
  7. MOVE REINFORCEMENT STEEL INTO SEAL AREA.
  8. SET VERTICAL STEEL MEMBERS AS INDICATED. NOTCH VERTICAL STEEL RAILS 1" MINIMUM INTO BOTTOM OF KEY.
  9. PLACE AND TIE HORIZONTAL STEEL MEMBERS ON VERTICAL STEEL AS INDICATED; BE SURE TO PULL ALL TIE ROPES THROUGH REINFORCEMENT STEEL TO OUTBY SIDE OF SEAL AREA.
  10. CONSTRUCT OUTBY FORM, PLACE TIE ROPES INTO OUTBY EYEBOLTS AND TAKE SLACK IN TIE RODS WITH TURN-BUCKLES. DO NOT OVERSTRESS TIE ROPES.
  11. PLACE AND SECURE FINAL SECTION OF "STAY-FORM" SHEETING AS SHOWN ON THE DRAWINGS.
  12. INSERT CONCRETE INTO THE SEAL AREA THROUGH A DRILL HOLE FROM THE SURFACE OR BY PUMPING CONCRETE TO THE SEAL AREA THROUGH THE MINE WORKINGS.
  13. CONCRETE SHALL BE PLACED IN STAGES WITH TIME LIMITATIONS, KEEPING THE FOUR SIDE PLASTIC WHILE LETTING THE CONCRETE SET-UP UNDERNEATH.
  14. CORE DRILL 10' PAST THE BOTTOM OF SEAL AREA TO CHECK SEAL CONSTRUCTION IF UNDERGROUND RECONNAISSANCE IS NOT POSSIBLE.
  15. PRESSURE GROUT CORE HOLE, IF APPLICABLE, AND TOP OFF ALL DRILL HOLES TO THE SURFACE WITH CONCRETE.

RECEIVED  
SEP 29 1989

Dept. of Environmental Resources  
McMurray District Office

**SEAL DETAILS**  
MINE SEALING PLAN  
FOR  
BIRD COAL COMPANY  
DEEP MINE HYDRAULIC SEAL

STONY CREEK TOWNSHIP, CAMBRIA CO, PA  
CONEMAUGH TOWNSHIP, SOMERSET CO, PA

SCALE AS SHOWN	GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA, PENNSYLVANIA	SHEET NO 42
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