

# GENERAL NOTES:

## 1. BENCHMARKS:

- "X" CENTER BOLT AT TOP OF FIRE HYDRANT EAST OF HIGHWAY #146 IN FRONT OF 1001 BUILDING.  
ELEVATION = 974.40
- TOP ARROWHEAD OF FIRE HYDRANT ON NORTHWEST CORNER SPRING STREET AND WASHINGTON AVENUE.  
ELEVATION = 993.16

- EXISTING 10" Ø SEWER IS TO BE ABANDONED AFTER THE NEW SEWER IS INSTALLED AND OPERATIONAL.

- ALL DISTURBED AREAS TO BE PROVIDED SURFACE RESTORATION. ALL GRASS AREAS TO BE SEEDED WITH LAWN MIX GRASS SEED. ALL TRAIL AND ACCESS DRIVE AREAS AS WELL AS AREAS SHOWN ON PLANS AT BOAT RAMP DISTURBED BY CONSTRUCTION SHALL BE SURFACED WITH 4" INCHES OF CRUSHED ROCK, 3/4-INCH OR LESS IN SIZE.

## 4. EARTHWORK:

TOPSOIL TO BE STRIPPED: 780 C.Y.  
EARTHFILL: 1650 C.Y.

THESE QUANTITIES ARE PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE TO DETERMINE HIS OWN QUANTITIES. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE FILL MATERIAL OFF-SITE AT HIS OWN EXPENSE AND TO TRANSPORT THE MATERIAL TO THE SITE AND COMPACT TO 90% MAXIMUM DENSITY.

- CONTRACTOR TO DISPOSE OF BRICK MANHOLE AND CONCRETE RUBBLE (3 PIECES) LYING ON SURFACE NEAR PROPOSED MANHOLE #14 AT AN OFF-SITE LOCATION. COST OF REMOVAL SHALL BE INCIDENTAL TO THE PROJECT.

- CONTRACTOR TO ABANDON 6-INCH PVC DRAINAGE PIPE LOCATED 10 FEET SOUTH OF PROPOSED MANHOLE #12.

- CONTRACTOR TO RESTORE ANY PARK STRUCTURES DISTURBED BY SEWER CONSTRUCTION.

- CONTRACTOR TO REMOVE AND REPLACE TELEPHONE POLE BARRIERS, CRUSHED ROCK AND CONCRETE PLANKS AT BOAT RAMP AS REQUIRED BY SEWER CONSTRUCTION. CONCRETE PLANKS ARE CHAINED TOGETHER. CONTRACTOR MAY CUT CHAIN TO REMOVE PLANK AND SHALL SPICE CHAIN WITH SPICE LINK OF SIZE EQUAL TO OR GREATER THAN EXISTING CHAIN. ANY CONCRETE PLANKS DAMAGED SHALL BE REPLACED WITH A SIMILAR CONCRETE PLANK FASTENED BY CHAIN TO EXISTING PLANKS.

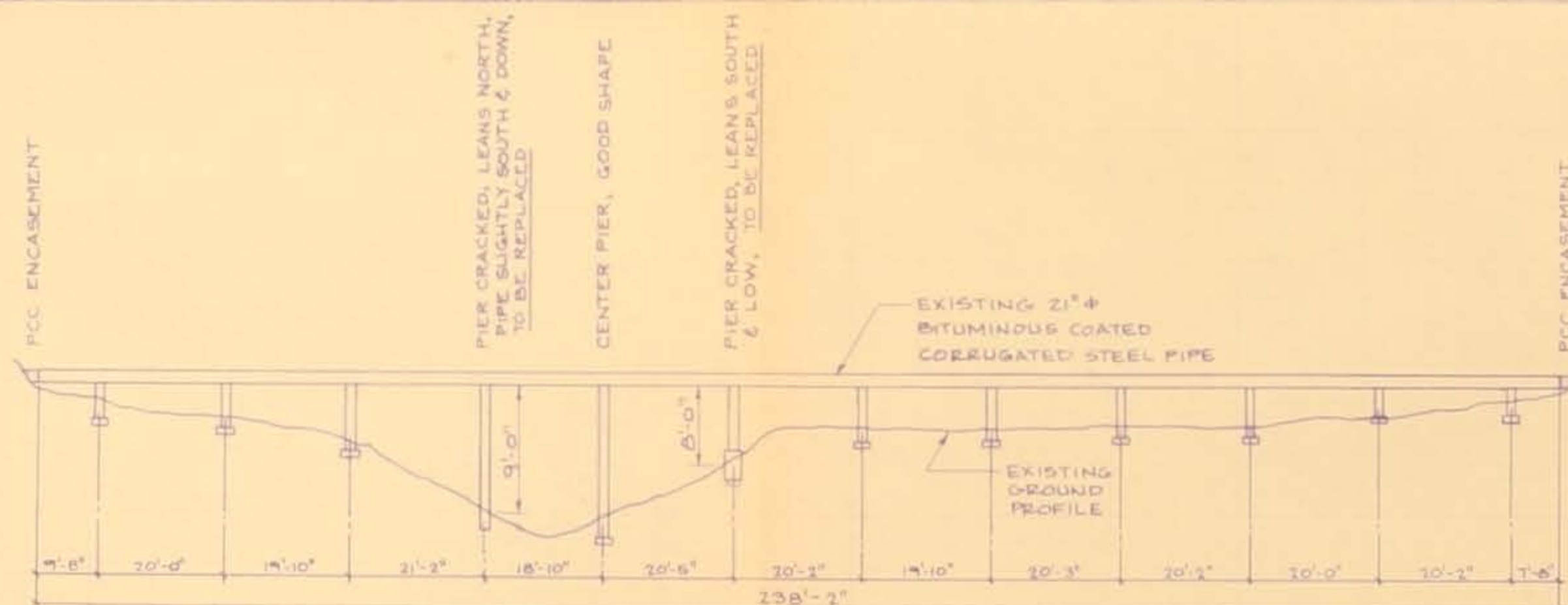
- CONTRACTOR TO PROVIDE STREAM CROSSING OF CONCRETE ENCASED DUCTILE IRON PIPE AT LOCATION SHOWN. CONTRACTOR SHALL PROVIDE EROSION CONTROL MATTING IN SUFFICIENT QUANTITY PLACED SUCH THAT NO SILTATION OF STREAM WILL RESULT.

- CONTRACTOR SHALL REMOVE AND REPLACE FENCING AS REQUIRED BY SEWER CONSTRUCTION.

- CONTRACTOR SHALL REMOVE SHRUBS AT LOCATION NORTH OF EXISTING MANHOLE #5A AND STORE WITH EARTH BALLED ON ROOTS. SHRUBS SHALL BE REPLACED AFTER BACKFILL IS COMPLETED. CARE SHALL BE EXERCISED TO CAUSE A MINIMUM OF DAMAGE TO SHRUBS WHILE CONSTRUCTION IS IN PROGRESS.

- CONTRACTOR SHALL PROVIDE WATERTIGHT LIDS FOR ALL PROPOSED MANHOLES.

- CONTRACTOR TO DISPOSE OF CONCRETE PIERS RUBBLE AT AN OFF-SITE LOCATION. COST OF REMOVAL SHALL BE INCIDENTAL TO THE AERIAL CROSSING PIER REPAIRS.



AERIAL CROSSING  
SOUTH ELEVATION  
NO SCALE

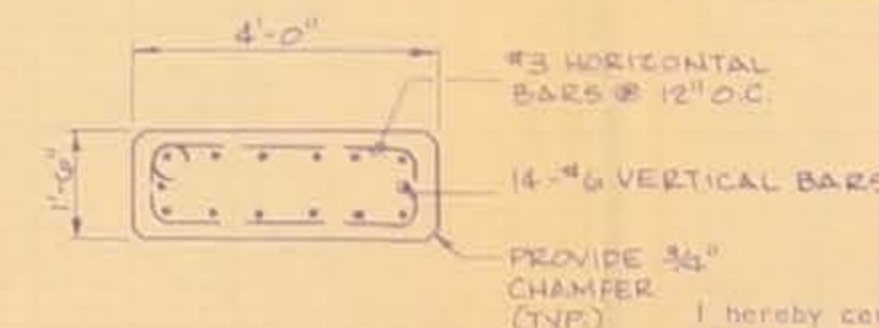


AERIAL CROSSING  
VIEWED FROM SOUTHWEST  
NO SCALE

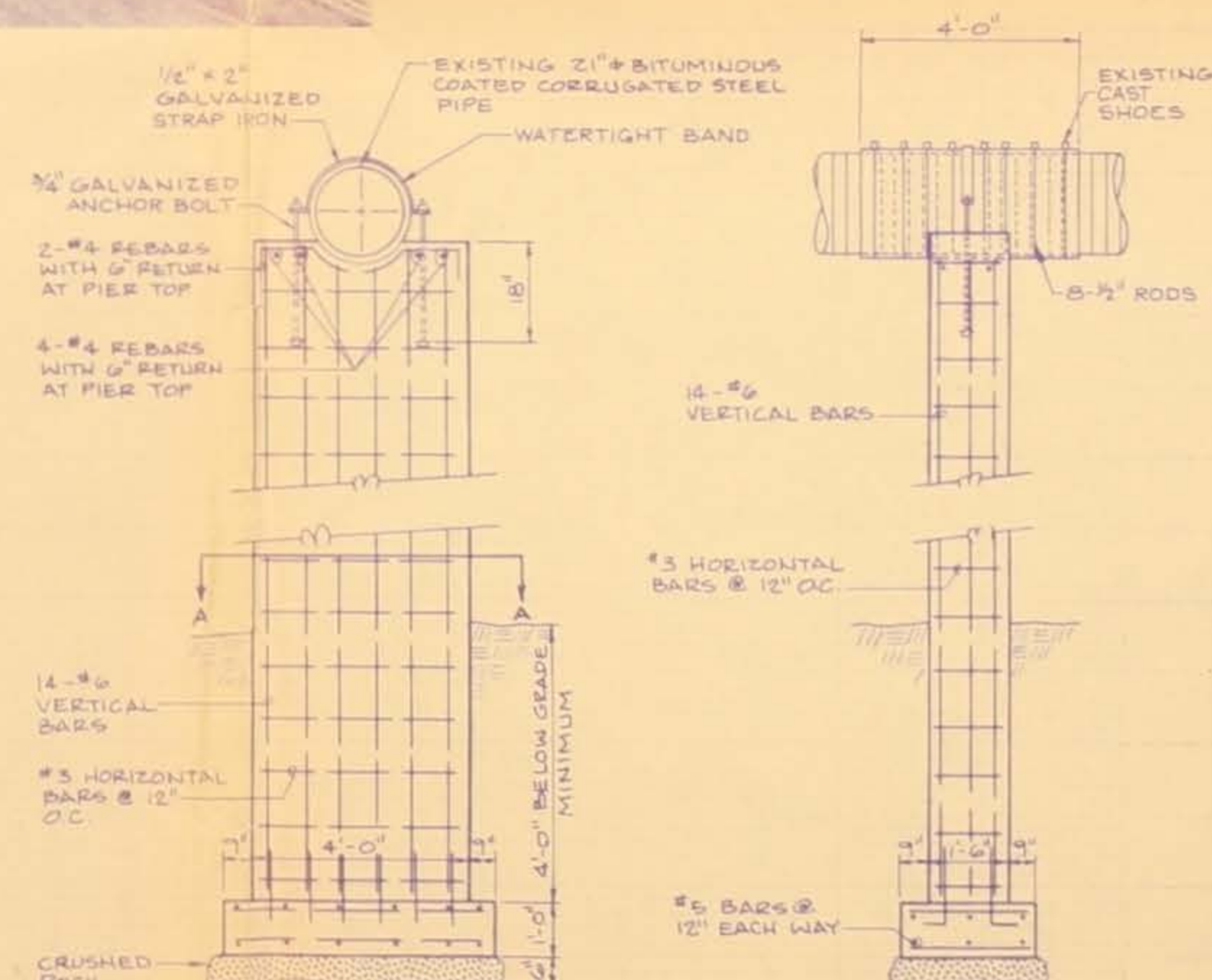
## AERIAL CROSSING PIER REPAIRS

### CONTRACTOR SHALL:

- PROVIDE TEMPORARY SHORING AND BRACING OF AERIAL CROSSING PIPE ADJACENT TO PIERS TO BE RECONSTRUCTED.
- REMOVE DESIGNATED EXISTING CONCRETE PIERS.
- CONSTRUCT NEW CONCRETE PIERS AND FOOTINGS ON 6-INCH CRUSHED ROCK COMPACTED TO 95% MAXIMUM DENSITY.
- PROVIDE 3/4" X 18" GALVANIZED ANCHOR BOLTS AND 1/2" X 2" GALVANIZED STRAP IRONS FOR EXISTING PIPE.
- REALIGN EXISTING SEWER TO PROVIDE UNIFORM GRADE AND HORIZONTAL ALIGNMENT.
- REMOVE TEMPORARY SHORING AND BRACING AND RESTORE SURFACE WITH PASTURE MIX GRASS SEED.



REPLACEMENT PIER  
SECTION A-A  
SCALE: 3/8" = 1'-0"



TYPICAL REPLACEMENT PIER ELEVATIONS  
SCALE: 3/8" = 1'-0"

I hereby certify that this plan, specification, or report was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Engineer under the laws of the State of Iowa and that I am competent to prepare this document.

Allen R Baker 5019 3-7 1985  
Iowa Registration No.

BASIN 1  
RELIEF SEWER



GRINNELL LOCATION MAP  
NO SCALE

Shive - Hattery & Associates  
Consulting Engineers  
Cedar Rapids • Iowa City • Davenport • Des Moines  
Dubuque • Ft. Madison • Vinton

Drawing Title  
AERIAL CROSSING PLAN & DETAILS  
1985 BASIN 1 RELIEF SEWER  
GRINNELL, IOWA

Sheet No.  
1  
Dwg. No.  
184218-Z

Description of Revision  
Rev. No.  
Date

N/A  
Field Book No.  
AS SHOWN  
Scale

Drawn JAS  
Checked DLM  
Reviewed ARB

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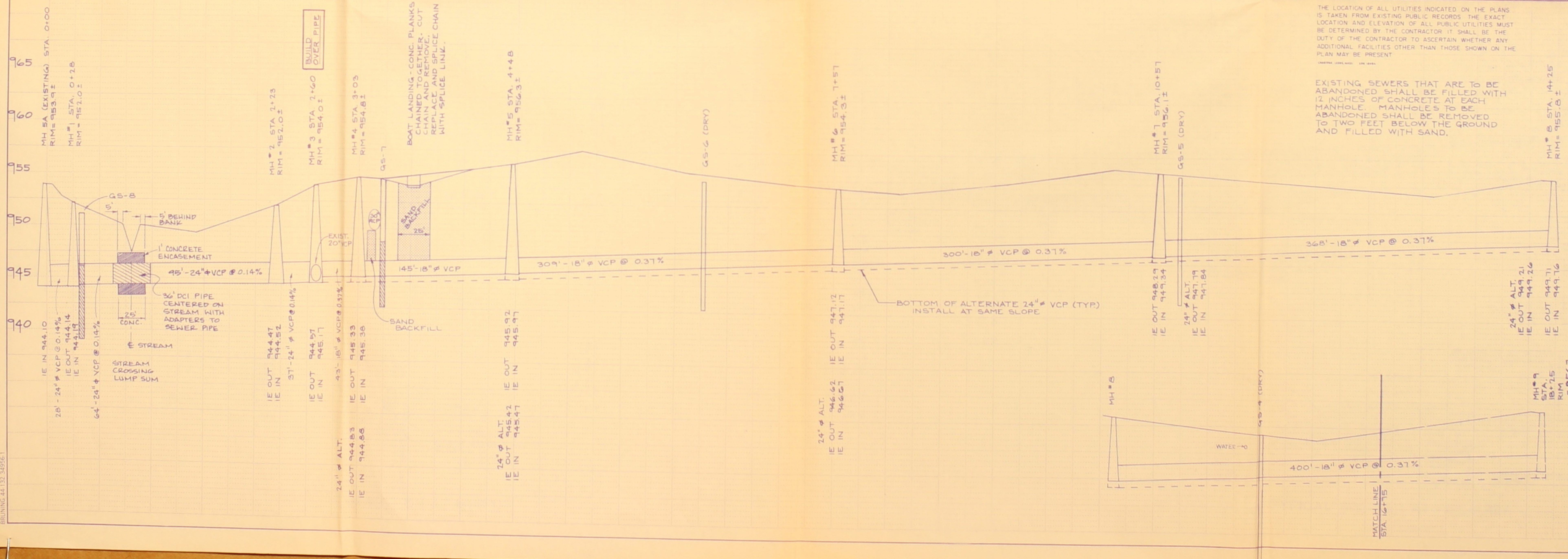
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BRUNING 44.132.34956.1



THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS IS TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLAN MAY BE PRESENT.

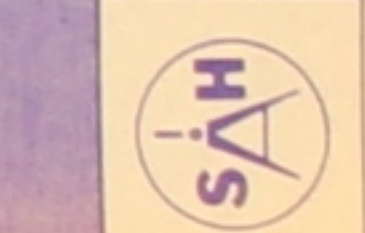
EXISTING SEWERS THAT ARE TO BE ABANDONED SHALL BE FILLED WITH 12 INCHES OF CONCRETE AT EACH MANHOLE. MANHOLES TO BE ABANDONED SHALL BE REMOVED TO TWO FEET BELOW THE GROUND AND FILLED WITH SAND.

Drawing Title  
**PLAN AND PROFILE  
1985 BASIN 1 RELIEF SEWER  
GRINNELL, IOWA**

Sheet No.  
**2**  
of  
**3**

Dwg. No.  
**184218-2**

**Shive - Hattery & Associates**  
Consulting Engineers  
Cedar Rapids - Iowa City - Davenport - Des Moines  
Dubuque - Ft. Madison - Vinton



Drawn JAS  
Checked DLW  
Reviewed ARB

Date 3-4-85  
Date 3-4-85  
Date 3-4-85

Field Book No. 505  
HORIZ. 1" = 50'  
VERT. 1" = 15'

Rev. No.  
Description of Revision  
Reviewed  
Date

| STATE | FED. ROAD DIST. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-------|---------------------|-------------|-----------|--------------|
| IOWA  | 5                   |             |           |              |

PROJECT NUMBER

