# SANITARY SEWERAGE IMPROVEMENTS

FOR

# HARRIMAN , TENNESSEE

## DECEMBER 1988

## CDBG PROJECT NO. Z - 38353

## JOB NO. 88-05

White Taylor Walker / GM

Brentwood — Engineers • Surveyors • Landscape Architects • Planners — Huntsville

## INDEX OF DRAWINGS

89--0019

| SHEET | DESCRIPTION |
|---|---|
| 1. | KEY MAP |
| 2. | LINE "A" STA. 0+00 TO STA. 15+50 E.O.L. |
| 3. | F.M. I STA. 0+00 TO STA. 5+05 E.O.L.<br>LINE "A-I" STA. 10+00 TO STA. 6+00 E.O.L.<br>LINE "B" STA. 0+00 TO STA. 3+05 E.O.L. |
| 4. | LINE "C" STA. 0+32 TO STA. 14+00 |
| 5. | LINE "C" STA. 14+00 TO STA. 17+00 E.O.L.<br>LINE "D" STA. 0+00 TO STA. 3+00 E.O.L. |
| 6. | LINE "D" STA. 3+00 TO STA. 15+00 |
| 7. | LINE "E" STA. 0+00 TO STA. 27+08 E.O.L. |
| 8. | LINE "E" STA. 31+00 TO STA. 16+00 E.O.L. |
| 9. | PUMP STATION SITE PLAN AND DETAILS |
| 10. | PUMP STATION DETAILS |
| 11. | STANDARD SEWER DETAILS |
| 12. | STANDARD MANHOLE DETAILS |

APPROVAL EXPIRES FEB 9 1990 DEPARTMENT OF HEALTH & ENVIRONMENT Division of Construction Grants & Loans

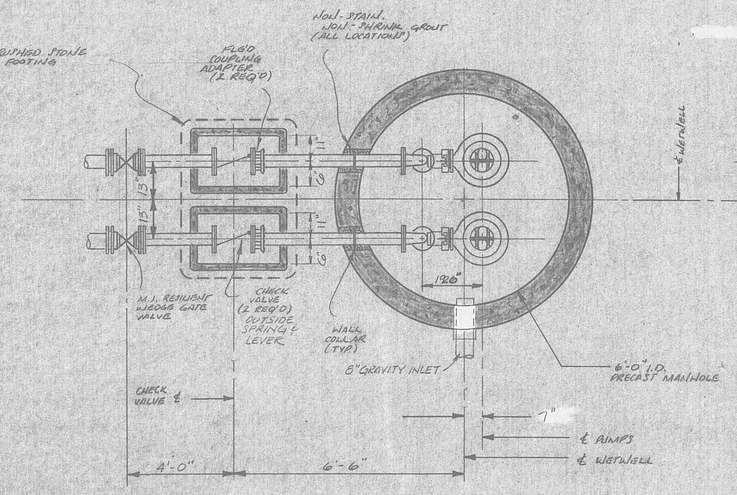
APPROVED FOR CONSTRUCTION
The above well/sewer/sewage treatment plant has been inspected and reviewed by the TENN. DEPT. OF HEALTH & ENVIRONMENT, DIVISION OF CONSTRUCTION GRANTS & LOANS and is hereby approved for construction by the commissioner
FEB 9 1989
APPROVAL EXPIRES 1 year from approval date
This approval shall not be construed as a guarantee of operation or as a warranty that the approved facilities will reach the desired results
For the Commissioner
BY

BERT E. TAYLOR REGISTERED AGRICULTURAL ENGINEER No. 6921 STATE OF TENNESSEE 1-6-89

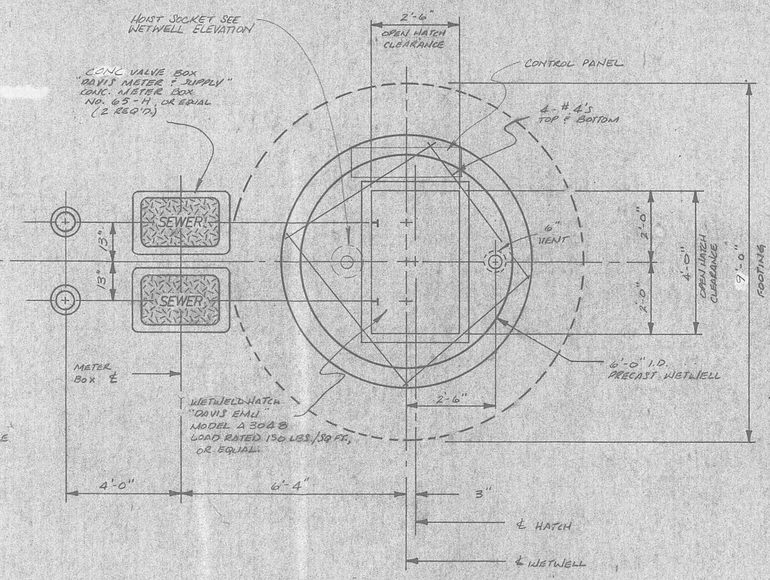
SET NO. _____

APPROVAL EXPIRES
FEB 9 1990
TENN DEPT OF HEALTH & ENVIRONMENT
Division of Construction Grants & Loans

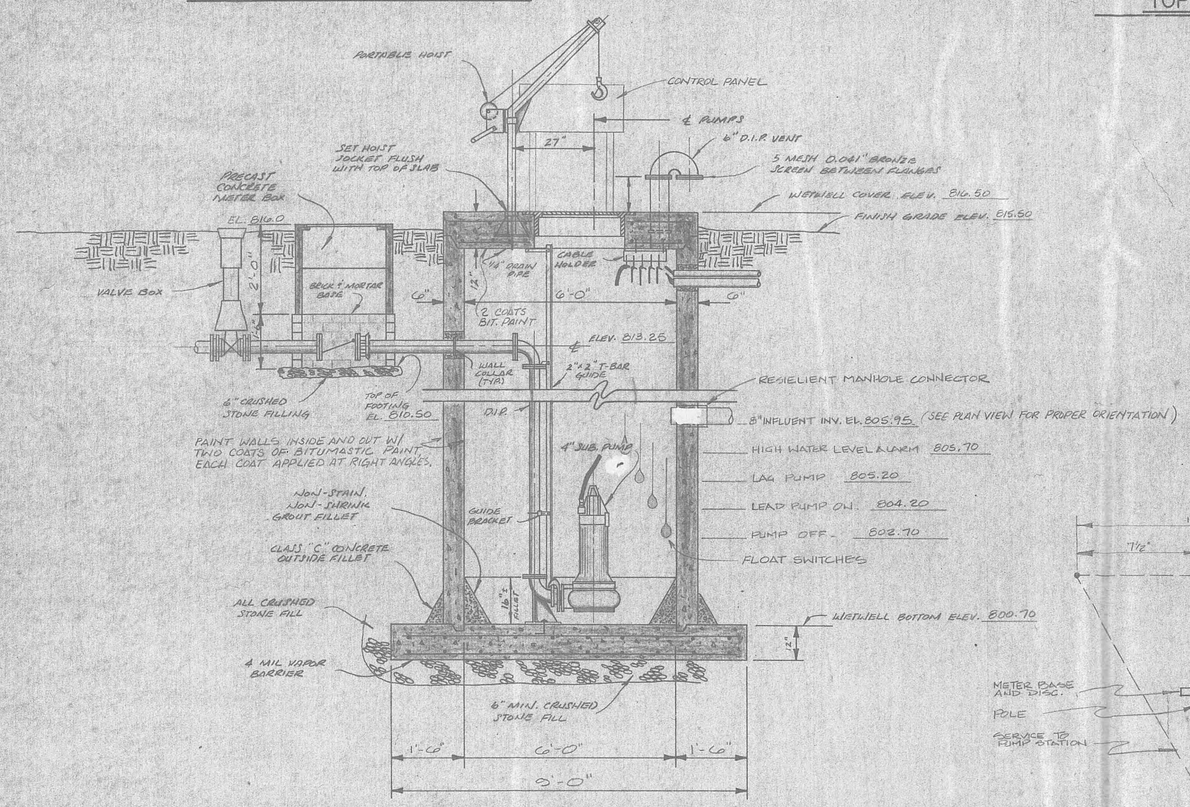
APPROVED FOR CONSTRUCTION
The document bearing this stamp has been received and reviewed by the TENN. DEPT. OF HEALTH & ENVIRONMENT DIVISION OF CONSTRUCTION GRANTS & LOANS and is hereby approved for construction by the commissioner
FEB 9 1989
APPROVED _____ expires 1 year from approval date
This approval shall not be construed as creating a presumption of correct operation or as warranting by the commissioner that the approved facilities will reach the desired goals.
For the Commissioner
BY _____



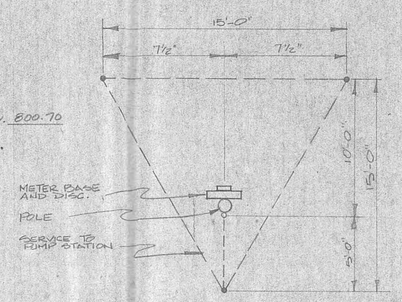

WETWELL CUT PLAN



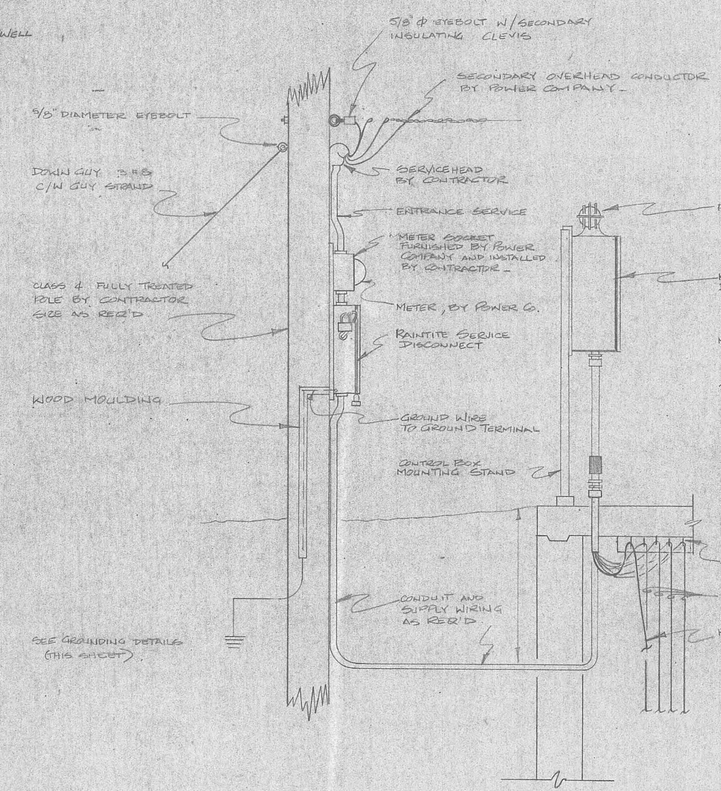

TOP PLAN




WETWELL ELEVATION SECTION




PUMP STATION GROUNDING DETAIL
NO SCALE




POWER POLE / CONTROL BOX DETAIL
NO SCALE

ROBERT E. TAYLOR
REGISTERED ENGINEER
No. 8031
STATE OF TENNESSEE

# WHITE - TAYLOR - WALKER, INC.
NASHVILLE, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| | |
|---|---|
| DESIGNED RET | SCALE AS SHOWN |
| DRAWN MAH | DATE DEC '88 |
| CHECKED RET | JOB NO 88-05 |

SANITARY SEWERAGE IMPROVEMENTS

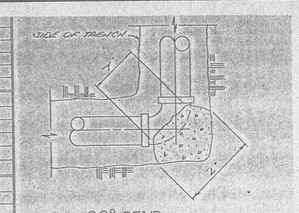
PUMP STATION

HARRIMAN, TENNESSEE

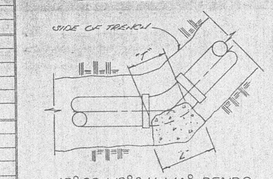
SHEET 9 OF 12

| SIZE | 3" | 4" | 6" | 8" | 10" | 12" |
|---|---|---|---|---|---|---|
| 90° BEND | | | | | | |
| D | 8" | 8" | 8" | 10" | 12" | 12" |
| L | 19" | 21" | 24" | 27" | 30" | 34" |
| W | 12" | 12" | 12" | 16" | 20" | 24" |
| T | 12" | 12" | 12" | 16" | 20" | 22" |
| 22½° & 11¼° BENDS | | | | | | |
| D | 6" | 6" | 6" | 8" | 10" | 12" |
| L | 13" | 16" | 19" | 20" | 22" | 26" |
| W | 12" | 12" | 12" | 14" | 16" | 18" |
| T | 13" | 14" | 16" | 16" | 18" | 18" |
| 11¼° BEND | | | | | | |
| D | 6" | 6" | 6" | 6" | 6" | 6" |
| L | 11" | 12" | 14" | 16" | 18" | 20" |
| W | 12" | 12" | 12" | 14" | 16" | 18" |
| T | 11" | 12" | 14" | 14" | 16" | 16" |
| TEE | | | | | | |
| D | 8" | 8" | 8" | 10" | 12" | 12" |
| L | 15" | 16" | 18" | 18" | 21" | 27" |
| W | 12" | 12" | 12" | 16" | 20" | 28" |
| T | 9" | 10" | 12" | 12" | 16" | 18" |
| ACCESS PORT | | | | | | |
| D | 6" | 6" | 6" | 8" | 10" | 12" |
| L | 19" | 21" | 24" | 28" | 30" | 30" |
| W | 12" | 12" | 12" | 12" | 28" | 28" |
| T | 31" | 33" | 36" | 12" | 12" | 12" |

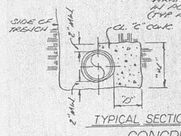
ALL DIMENSIONS ARE IN INCHES



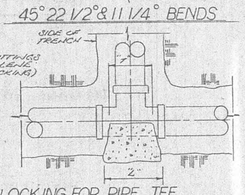

90° BEND




45° 22 1/2° & 11 1/4° BENDS

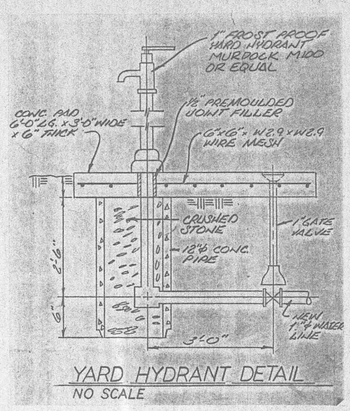



TYPICAL SECTION

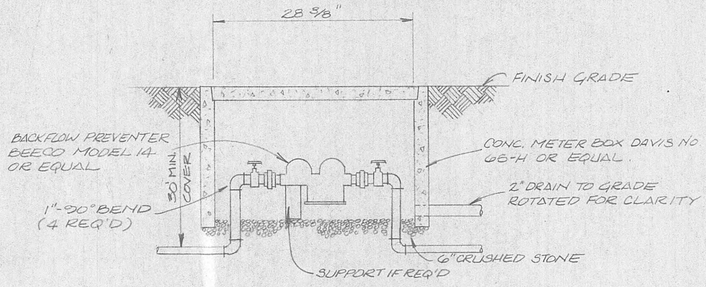



CONCRETE BLOCKING FOR PIPE TEE

NOTE
1. IF EXACT SIZE PIPE BLOCKING IS NOT SHOWN USE NEXT LARGER SIZE
2. DEPTH "D" MAY BE GREATER BUT SHOULD BE ADJUSTED TO ALLOW WORKING SPACE. THE PIER MUST BE PLACED AGAINST UNDISTURBED EARTH.



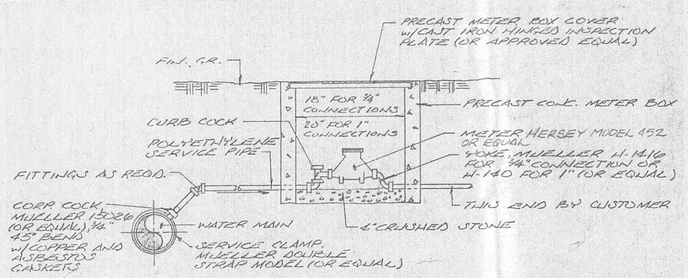

YARD HYDRANT DETAIL
NO SCALE




BACKFLOW PREVENTER DETAIL
NO SCALE

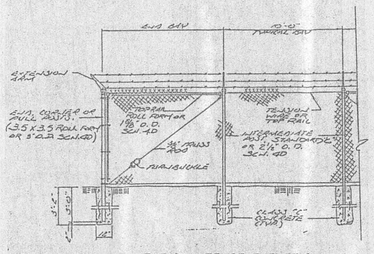
APPROVAL EXPIRES
FEB 9 1990
TENN DEPT OF HEALTH & ENVIRONMENT
Division of Construction Grants & Loans

APPROVED FOR CONSTRUCTION
The document bearing this stamp has been reviewed and reviewed by the TENN. DEPT. OF HEALTH & ENVIRONMENT DIVISION OF CONSTRUCTION GRANTS & LOANS and is hereby approved for construction by the commissioner
FEB 9 1989
APPROVED expires 1 year from approval date
This approval shall not be construed as creating a presumption of correct operation or as warranting by the commissioner that the approved facilities will reach the designed goals. For the Commissioner
BY

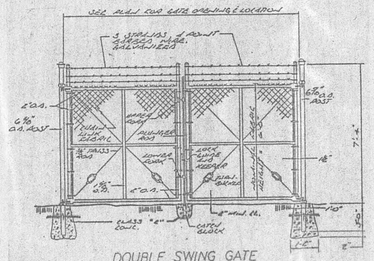



TYPICAL METER SETTING FOR 3/4" AND 1" SERVICES

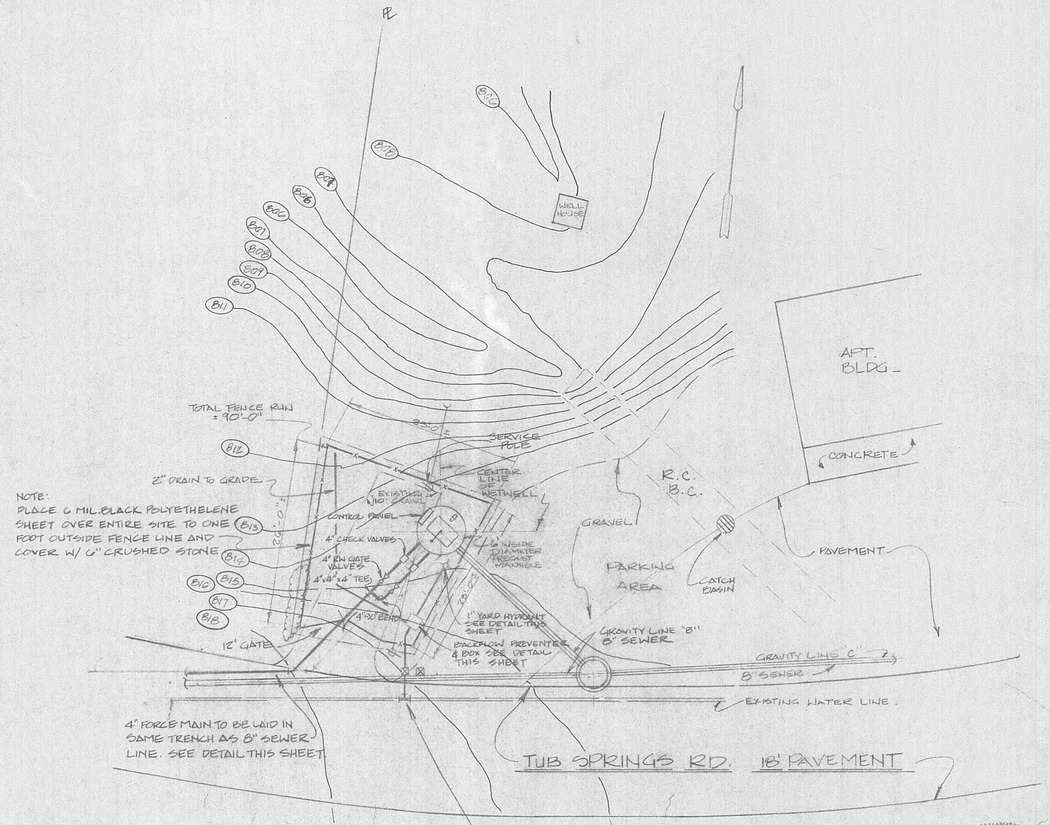
DS 1-8



TYPICAL FENCE ELEVATION
NO SCALE



DOUBLE SWING GATE ELEVATION




PUMP STATION SITE PLAN
SCALE 1" = 10'

ROBERT E. TAYLOR REGISTERED ENGINEER No. 6031 STATE OF TENNESSEE

# WHITE - TAYLOR - WALKER, INC.
NASHVILLE, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| DESIGNED | SCALE |
|---|---|
| RET | AS SHOWN |
| DRAWN PF | DATE DEC. 88 |
| CHECKED RET | JOB NO. 88-05 |

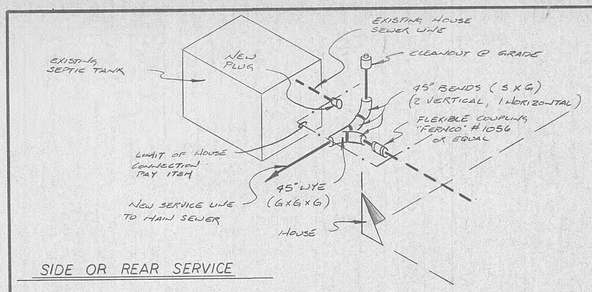
SANITARY SEWERAGE IMPROVEMENTS

PUMP STATION SITE PLAN AND DETAILS

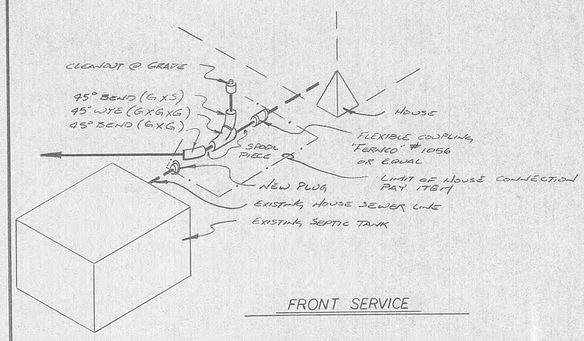
HARRIMAN, TENNESSEE

SHEET 10 OF 12

BRUNING 40-23 72041

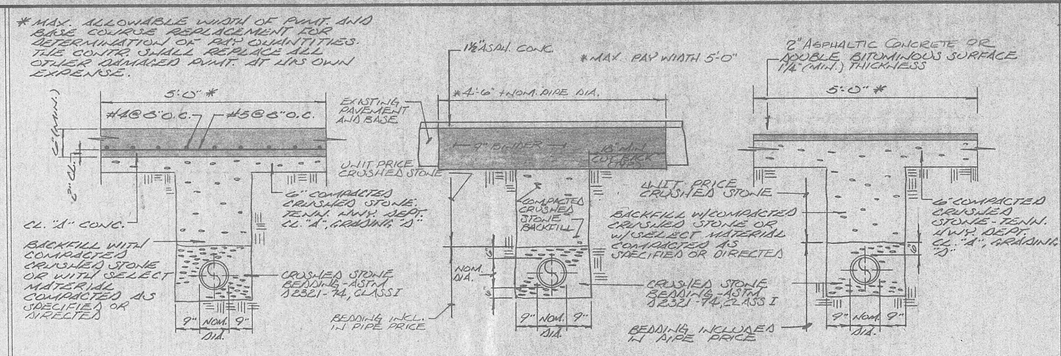



SIDE OR REAR SERVICE




FRONT SERVICE

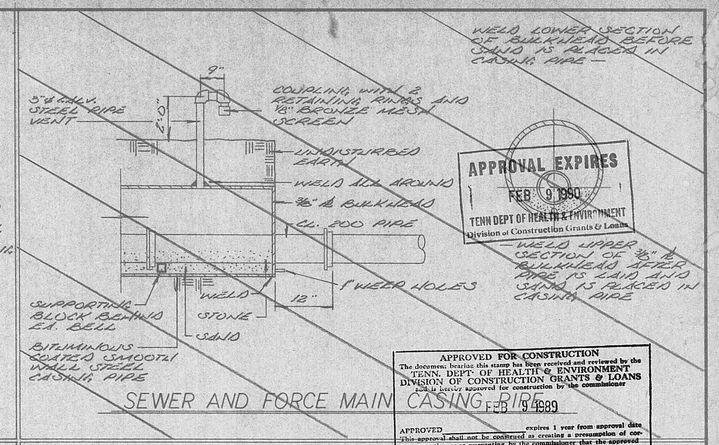
TYPICAL HOUSE CONNECTION DETAILS




CONCRETE PAVEMENT REPLACEMENT

OPEN-CUT PAVEMENT REPLACEMENT WITHIN STATE HIGHWAY RIGHT-OF-WAY

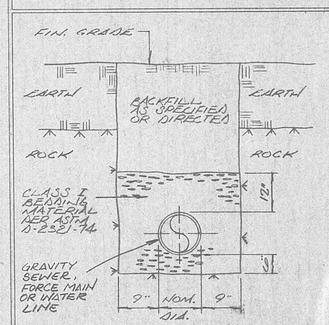
BITUMINOUS PVMT. REPLACEMENT



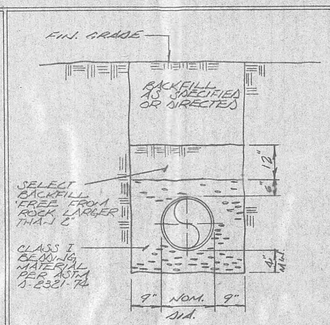

APPROVAL EXPIRES FEB 9 1990
TENN DEPT OF HEALTH & ENVIRONMENT
Division of Construction Grants & Loans

APPROVED FOR CONSTRUCTION
The document bearing this stamp has been reviewed and reviewed by the TENN. DEPT. OF HEALTH & ENVIRONMENT DIVISION OF CONSTRUCTION GRANTS & LOANS
This is hereby approved for construction by the commissioner
FEB 9 1989
APPROVED _____ expires 1 year from approval date.
This approval shall not be construed as creating a presumption of correct operation or as warranting by the commissioner that the approved facilities will reach the designed goals.
For the Commissioner
BY _____

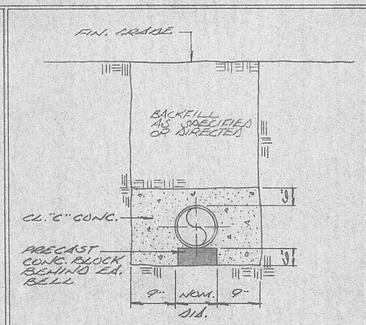
SEWER AND FORCE MAIN CASING PIPE



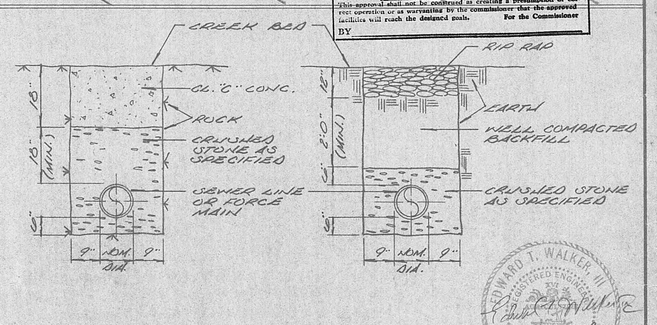

STANDARD PIPE BEDDING IN ROCK TRENCH



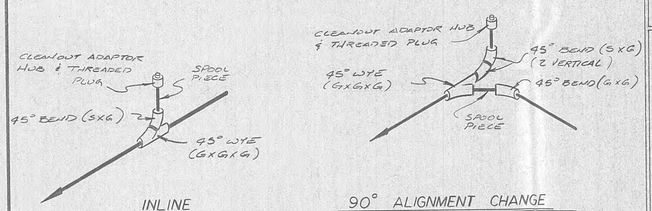

STANDARD PIPE BEDDING (P.V.C. SEWERS)




STANDARD CONCRETE ENCASEMENT



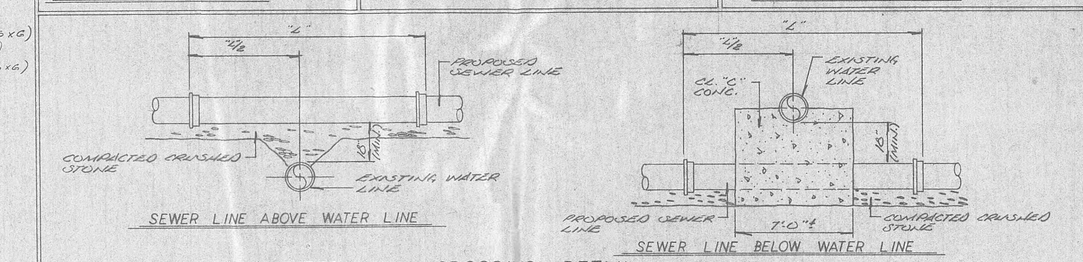

TYPICAL STREAM CROSSING




INLINE

90° ALIGNMENT CHANGE

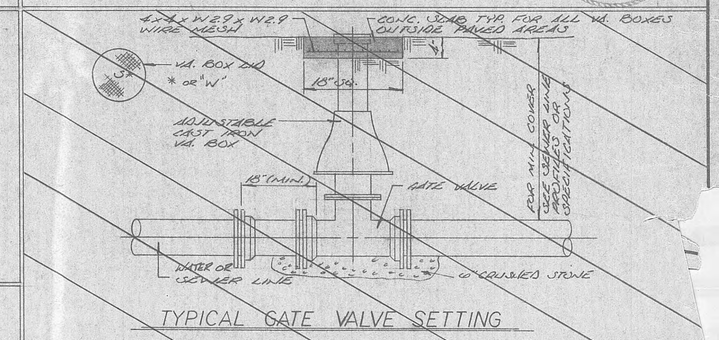
TYPICAL CLEANOUT DETAILS



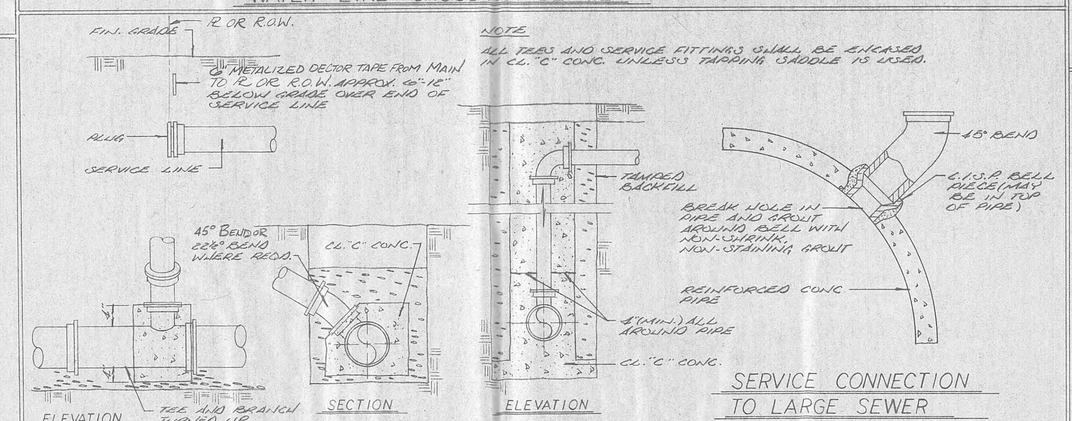

SEWER LINE ABOVE WATER LINE

SEWER LINE BELOW WATER LINE

WATER LINE CROSSING DETAIL



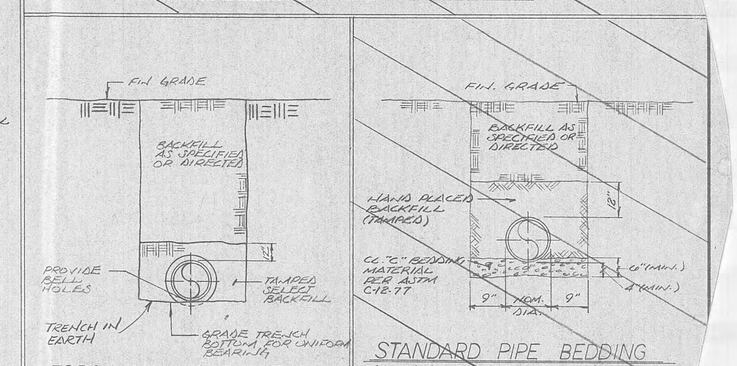

TYPICAL GATE VALVE SETTING




HOUSE CONNECTION DETAIL

VERT. STACK FOR HOUSE CONNECTION

SERVICE CONNECTION TO LARGE SEWER




FORCE MAIN AND WATER LINE STANDARD BEDDING DETAIL

STANDARD PIPE BEDDING (CLAY OR CONCRETE SEWERS)

ROBERT E. TAYLOR REGISTERED ENGINEER No. 8031 STATE OF TENNESSEE

EDWARD T. WALKER III REGISTERED ENGINEER No. 11355 STATE OF TENNESSEE

# WHITE - TAYLOR - WALKER, INC.
BRENTWOOD, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| DESIGNED | SCALE |
|---|---|
| RET | NONE |
| DRAWN TFG | DATE DEC. 88 |
| CHECKED RET | JOB NO. 88-05 |

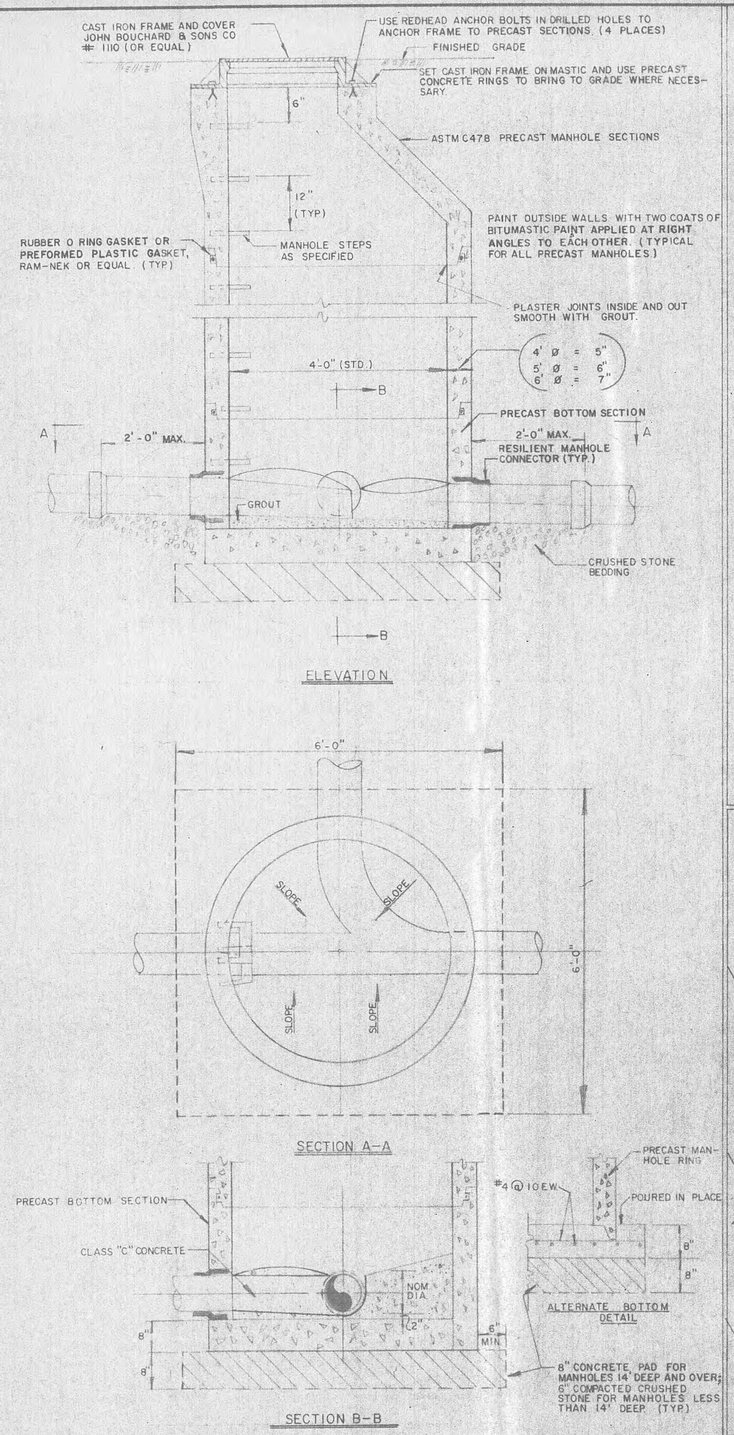
SANITARY SEWERAGE IMPROVEMENTS

STANDARD SEWER DETAILS

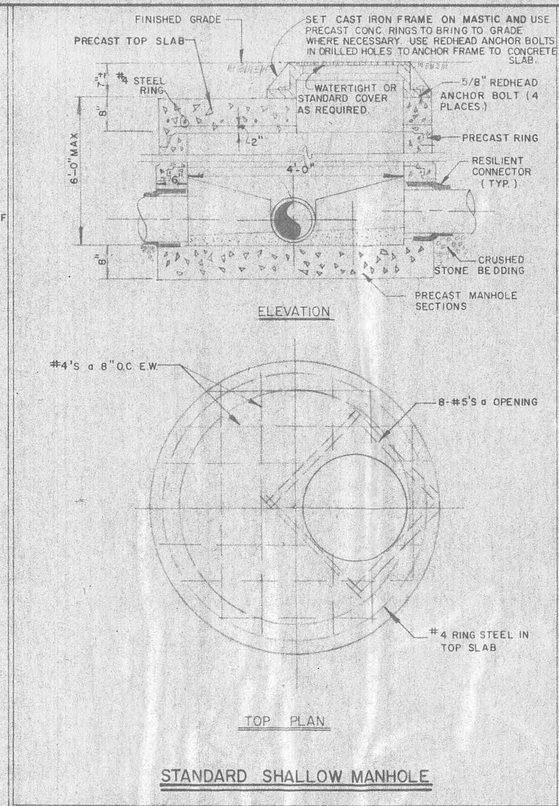
HARRIMAN, TENNESSEE

SHEET 11 OF 11

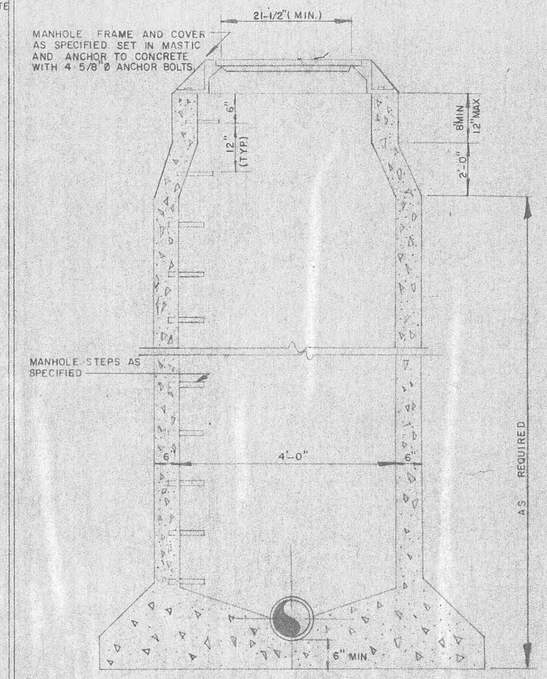
BRUNING 40-23 46821



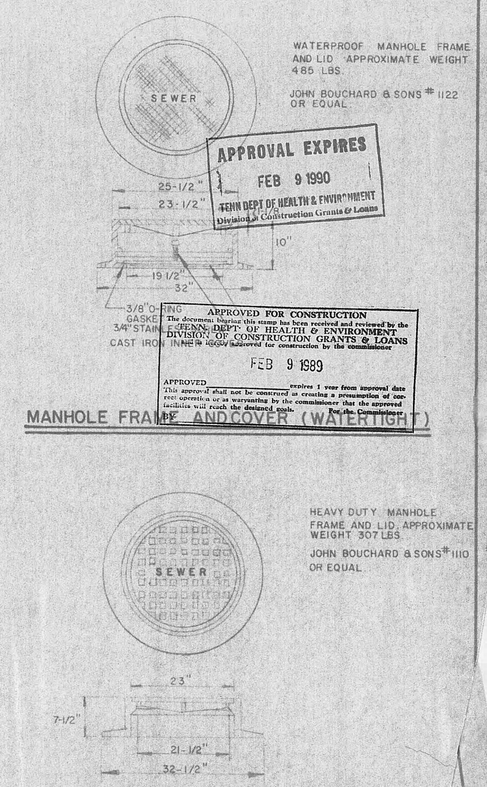

STANDARD PRECAST MANHOLE




STANDARD SHALLOW MANHOLE

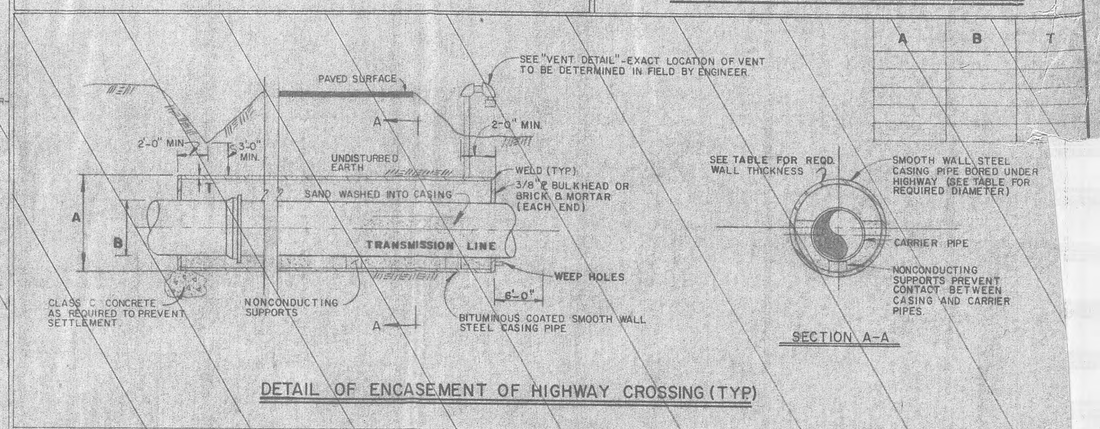



CAST-IN-PLACE MANHOLE




MANHOLE FRAME AND COVER (WATERTIGHT)

MANHOLE FRAME AND COVER (TRAFFIC)




| A | B | T |
|---|---|---|
| | | |

DETAIL OF ENCASEMENT OF HIGHWAY CROSSING (TYP)




STANDARD DROP MANHOLE

ROBERT E. TAYLOR REGISTERED ENGINEER No. 6034 STATE OF TENNESSEE

DRAWING 40-23-46821

# WHITE - TAYLOR - WALKER, INC.
NASHVILLE, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| | |
|---|---|
| DESIGNED RET | SCALE NO SCALE |
| DRAWN TFG | DATE DEC. 88 |
| CHECKED RET | JOB NO. 88-05 |

SANITARY SEWERAGE IMPROVEMENTS

STANDARD MANHOLE DETAILS

HARRIMAN, TENNESSEE

SHEET 12 OF 12

APPROVAL EXPIRES
FEB 9 1990
TENN DEPT OF HEALTH & ENVIRONMENT
Division of Construction Grants & Loans

APPROVED FOR CONSTRUCTION
The document bearing this stamp has been received and reviewed by the TENN. DEPT. OF HEALTH & ENVIRONMENT DIVISION OF CONSTRUCTION GRANTS & LOANS and is hereby approved for construction by the commissioner
FEB 9 1989
APPROVED _____ expires 1 year from approval date. This approval shall not be construed as creating a presumption of correct operation or as warranting by the commissioner that the approved facilities will reach the designed goals. For the Commissioner
BY _____

# WHITE - TAYLOR - WALKER, INC.
NASHVILLE, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | 11-16-88 | REDRAWN LINES SHIFTED TO MATCH ACTUAL FIELD SURVEY | FLE |

| DESIGNED | SCALE |
|---|---|
| RDW | 1" = 800' |
| DRAWN | DATE |
| PF | FEB. 1988 |
| CHECKED | JOB NO. |
| RDW | 88-05 |

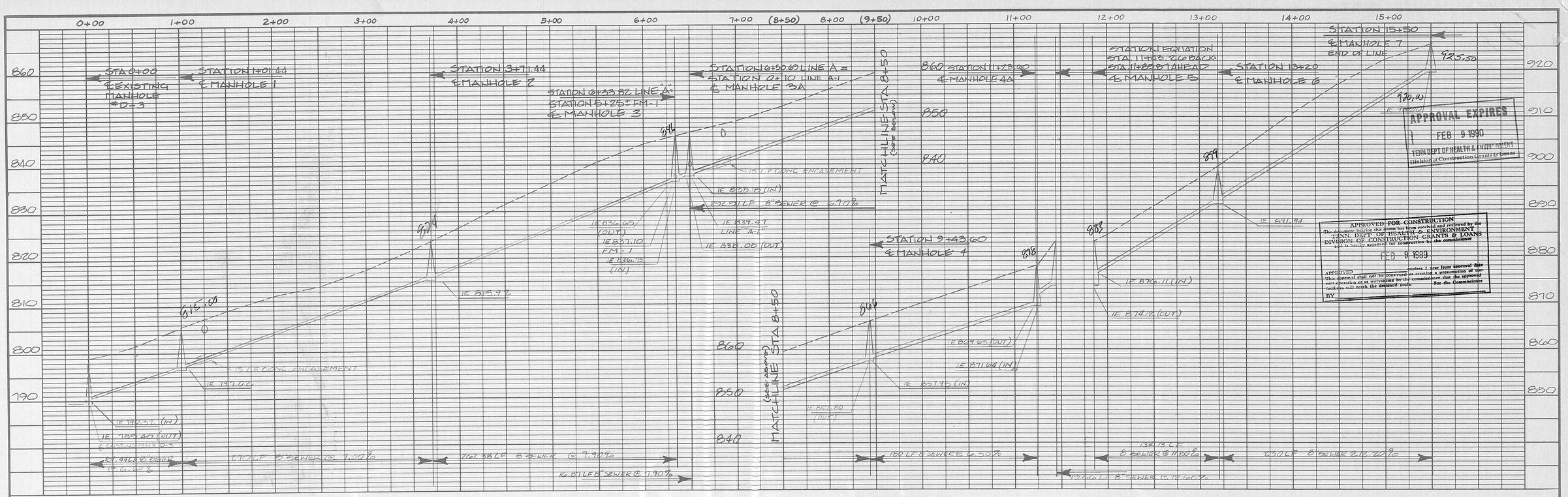
SANITARY SEWER IMPROVEMENTS

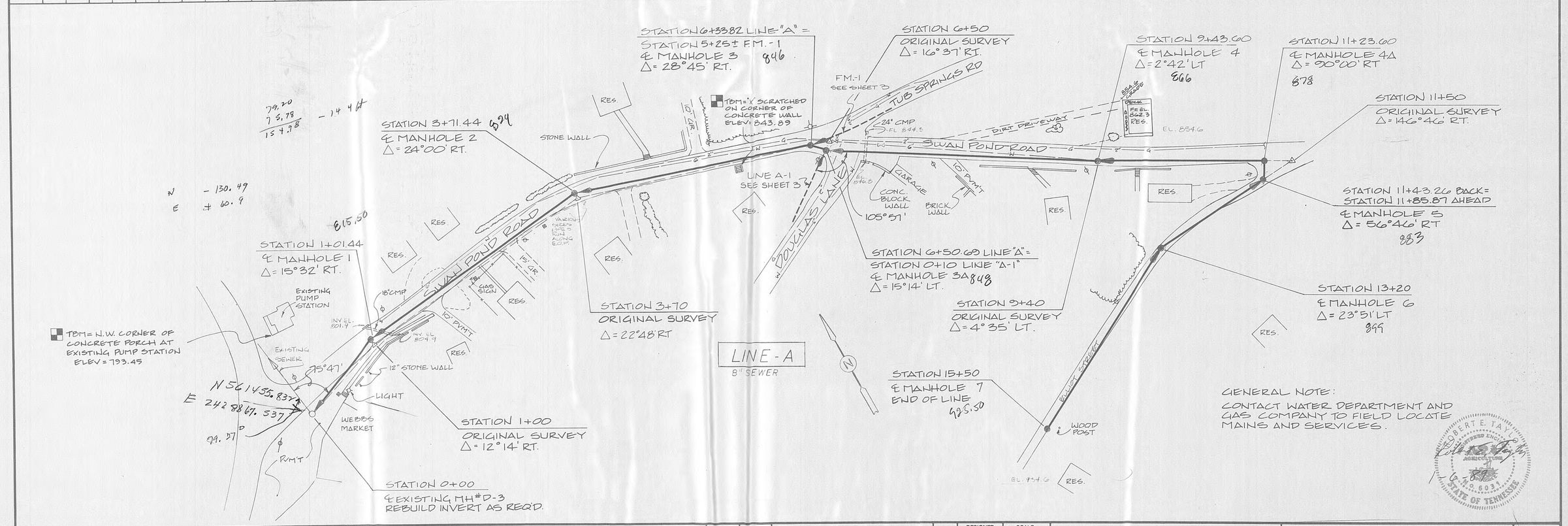
KEY MAP

HARRIMAN, TENNESSEE

SHEET 1 OF 12

BRINKING 40-23 4592.1




# WHITE - TAYLOR - WALKER, INC.

BRENTWOOD, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| DESIGNED | SCALE |
|---|---|
| RET | HOR 1"=50' VER 1"=10' |
| DRAWN TG/GLE | DATE DEC. '88 |
| CHECKED RET | JOB NO. 88-05 |

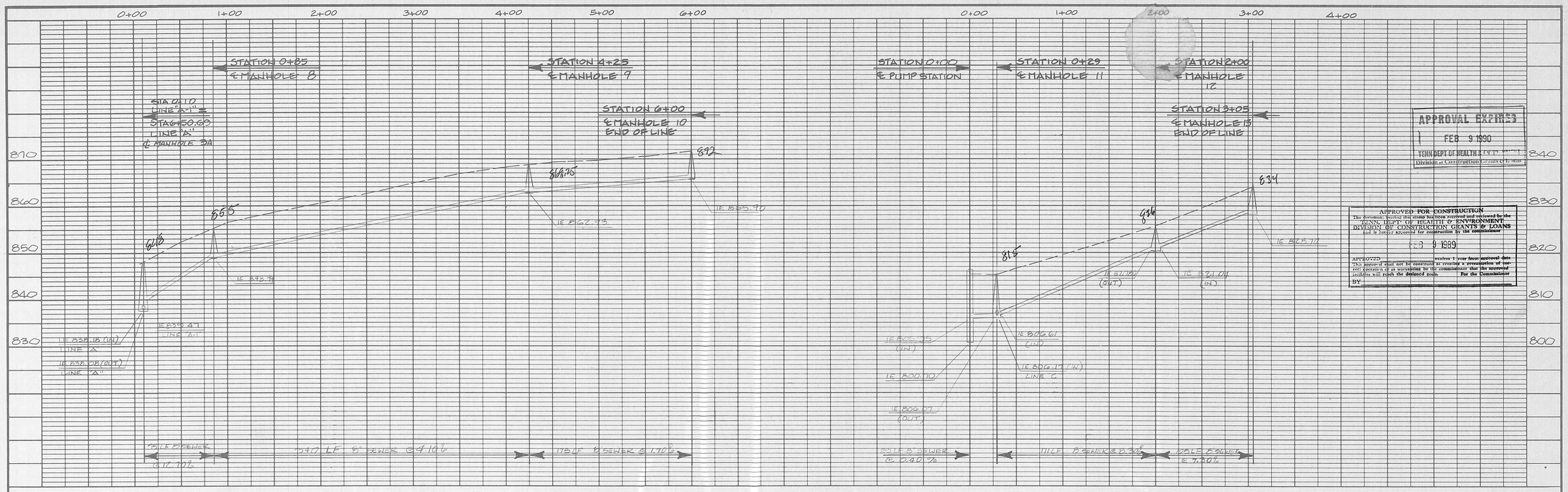
SANITARY SEWERAGE IMPROVEMENTS

LINE "A" STA. 0+00 TO STA 15+50 E.O.L.

HARRIMAN, TENNESSEE

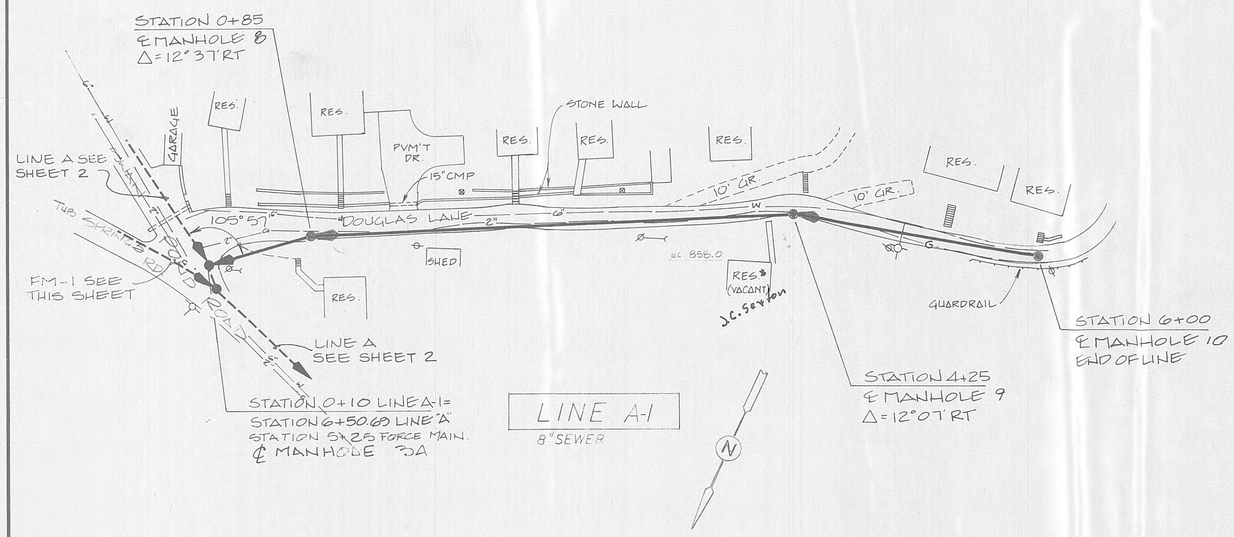
SHEET 2 OF 12

BRUNING 69351

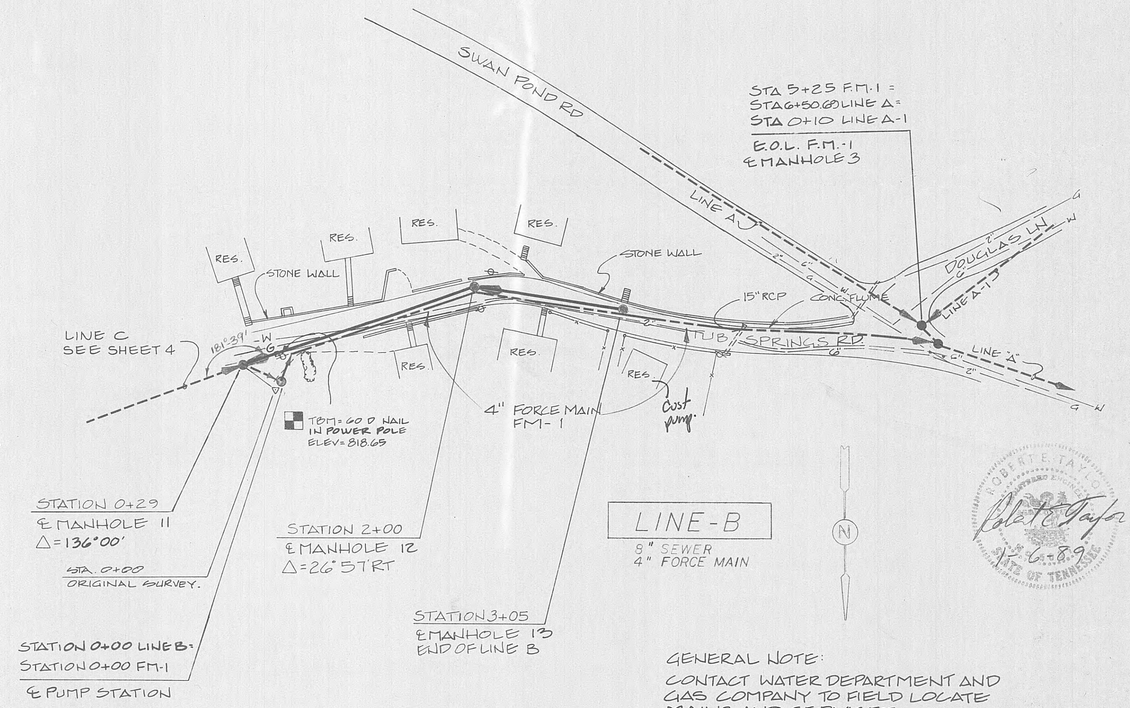



APPROVAL EXPIRES
FEB 9 1990
TENN. DEPT. OF HEALTH & ENVIRONMENT
Division of Construction Grants & Loans

APPROVED FOR CONSTRUCTION
The document bearing this stamp has been reviewed and reviewed by the TENN. DEPT. OF HEALTH & ENVIRONMENT DIVISION OF CONSTRUCTION GRANTS & LOANS and is hereby approved for construction by the commissioner
FEB 9 1989
APPROVED ____ expires 1 year from approval date
This approval shall not be construed as creating a presumption of correct operation or as warranting by the commissioner that the approved facilities will meet the defined goals. For the Commissioner
BY ____




LINE A-1
8" SEWER




LINE-B
8" SEWER
4" FORCE MAIN

ROBERT E. TAYLOR
No. 9
STATE OF TENNESSEE
Robert E. Taylor
1-6-89

GENERAL NOTE:
CONTACT WATER DEPARTMENT AND GAS COMPANY TO FIELD LOCATE MAINS AND SERVICES.

# WHITE - TAYLOR - WALKER, INC.
BRENTWOOD, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| | |
|---|---|
| DESIGNED R E T | SCALE HOR. 1" = 50' VER. 1" = 10' |
| DRAWN D L E | DATE DEC. '88 |
| CHECKED R E T | JOB NO. 88-05 |

SANITARY SEWERAGE IMPROVEMENTS

LINE A-1 STA. 0+00 TO STA. 6+00 E.O.L.
LINE B STA. 0+00 TO STA. 3+05 E.O.L.
FM 1 STA. 0+00 TO STA. 5+05 E.O.L.

HARRIMAN, TENNESSEE

SHEET 3 OF 12

BRUNING 44-132 69351

GENERAL NOTE:
CONTACT WATER DEPARTMENT AND GAS COMPANY TO FIELD LOCATE MAINS AND SERVICES.

ROBERT E. TAYLOR REGISTERED ENGINEER No. 6031 STATE OF TENNESSEE

# WHITE - TAYLOR - WALKER, INC.

BRENTWOOD, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| DESIGNED | SCALE |
|---|---|
| R E T | HOR. 1"=50' VER. 1"=10' |
| DRAWN T G | DATE DEC. '88 |
| CHECKED R E T | JOB NO. 88-05 |

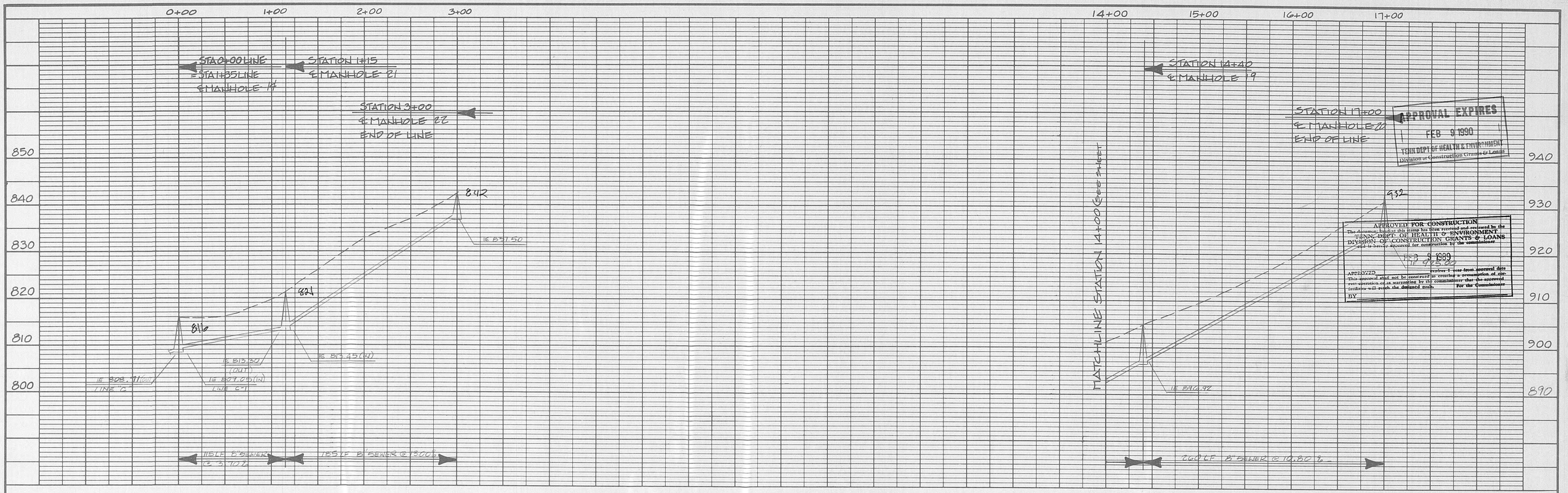
SANITARY SEWERAGE IMPROVEMENTS

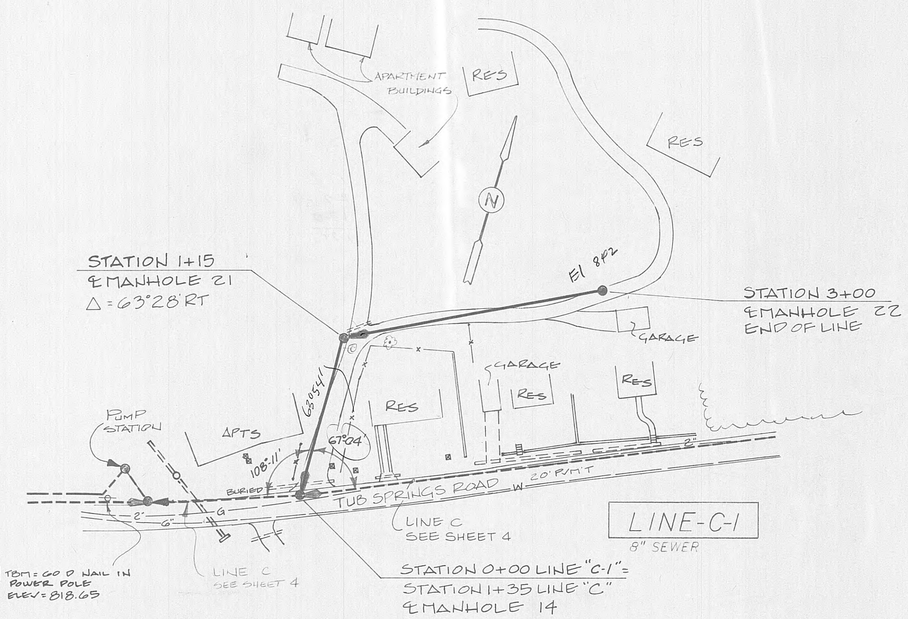
LINE "C" STA. 0+32 TO STA. 14+00

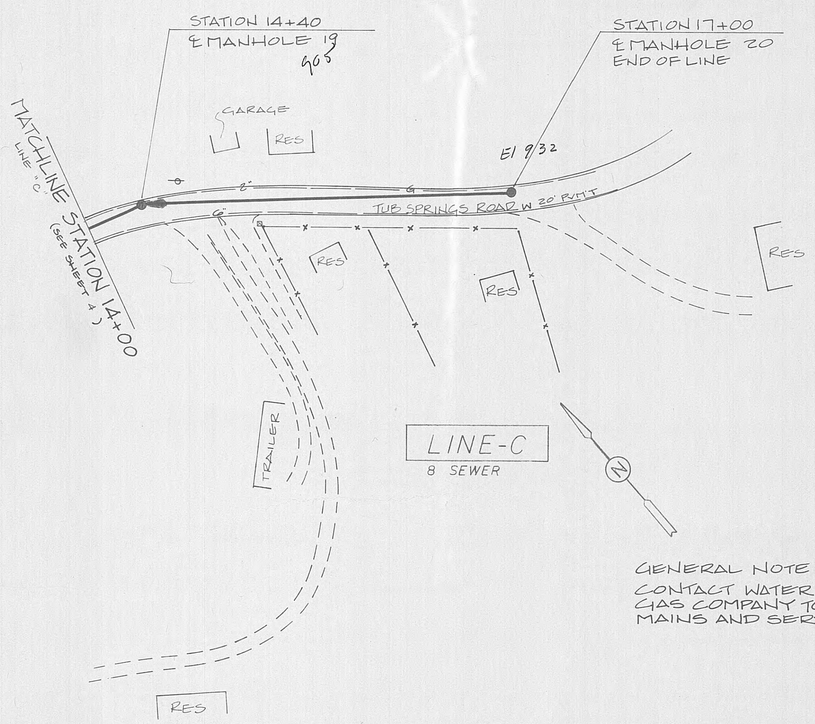
HARRIMAN, TENNESSEE

SHEET 4 OF 12

BRUNING 69351




GENERAL NOTE:
CONTACT WATER DEPARTMENT AND GAS COMPANY TO FIELD LOCATE MAINS AND SERVICES.

ROBERT E. TAYLOR REGISTERED ENGINEER No. 8093 STATE OF TENNESSEE

# WHITE - TAYLOR - WALKER, INC.
BRENTWOOD, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| DESIGNED | SCALE |
|---|---|
| R E T | HOR. 1" = 50' VER. 1" = 10' |
| DRAWN | DATE |
| D L E | DEC. '88 |
| CHECKED | JOB NO. |
| R E T | 88-05 |

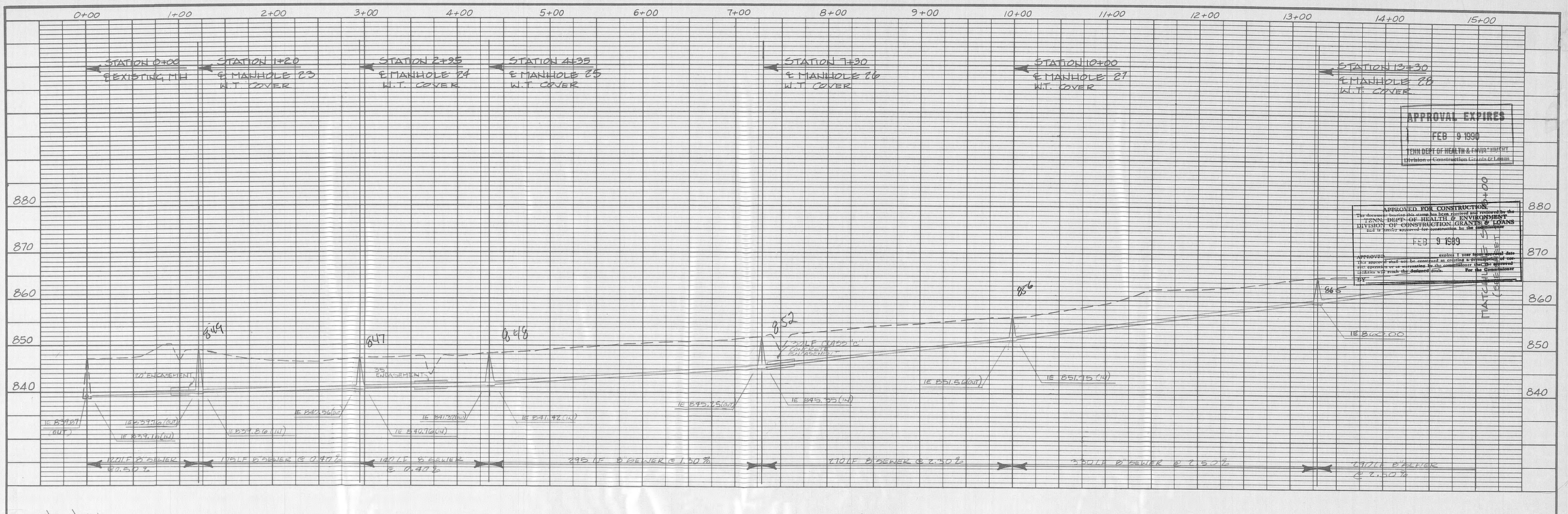
SANITARY SEWERAGE IMPROVEMENTS

LINE "C-1" STA. 0+00 TO STA. 3+00 E.O.L.
LINE "C" STA. 14+00 TO STA. 17+00 E.O.L.

HARRIMAN, TENNESSEE.

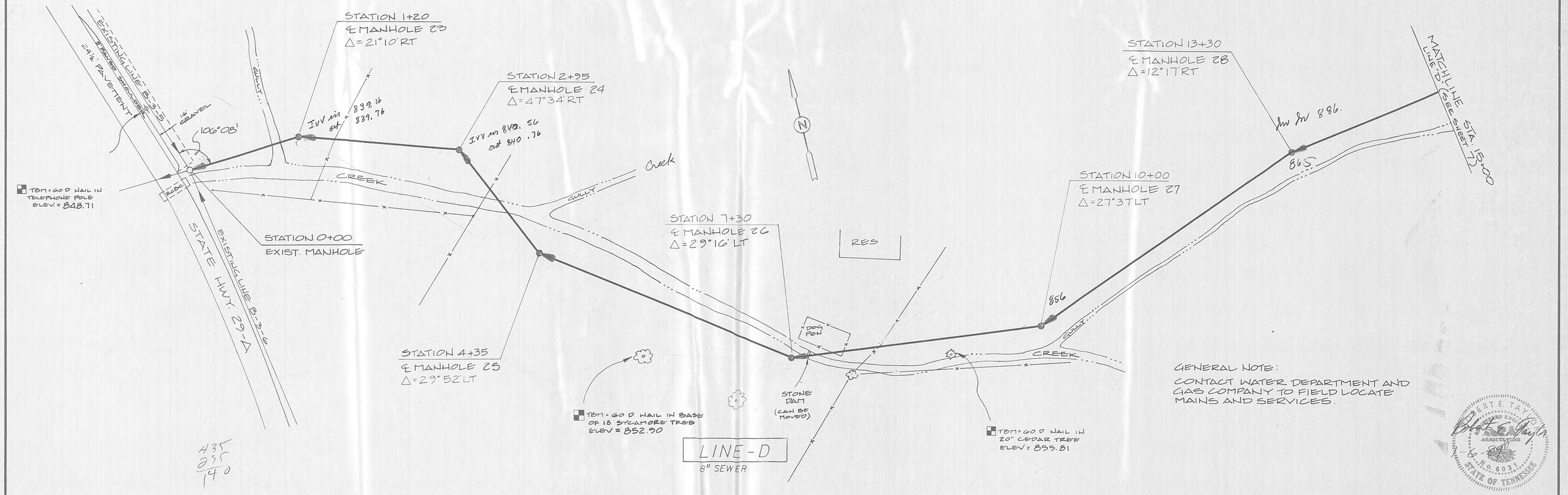
SHEET 5 OF 12

BRUNING 69351




APPROVAL EXPIRES
FEB 9 1990
TENN DEPT OF HEALTH & ENVIRONMENT
Division of Construction Grants & Loans

APPROVED FOR CONSTRUCTION
The document bearing this stamp has been reviewed and reviewed by the TENN. DEPT. OF HEALTH & ENVIRONMENT DIVISION OF CONSTRUCTION GRANTS & LOANS and is hereby approved for construction by the undersigned.
FEB 9 1989
APPROVED
expires 1 year from approval date
This approval shall not be construed as creating a determination of compliance with executive orders or operating by the commissioner that the approved facilities will reach the designed goals.
For the Commissioner
BY:




GENERAL NOTE:
CONTACT WATER DEPARTMENT AND GAS COMPANY TO FIELD LOCATE MAINS AND SERVICES.

ROBERT E. TAYLOR
REGISTERED ENGINEER
AGRICULTURE
No. 6031
STATE OF TENNESSEE

# WHITE - TAYLOR - WALKER, INC.
BRENTWOOD, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| | |
|---|---|
| DESIGNED RET | SCALE HOR 1"=50' VER 1"=10' |
| DRAWN DLE | DATE DEC.'88 |
| CHECKED RET | JOB NO. 88-05 |

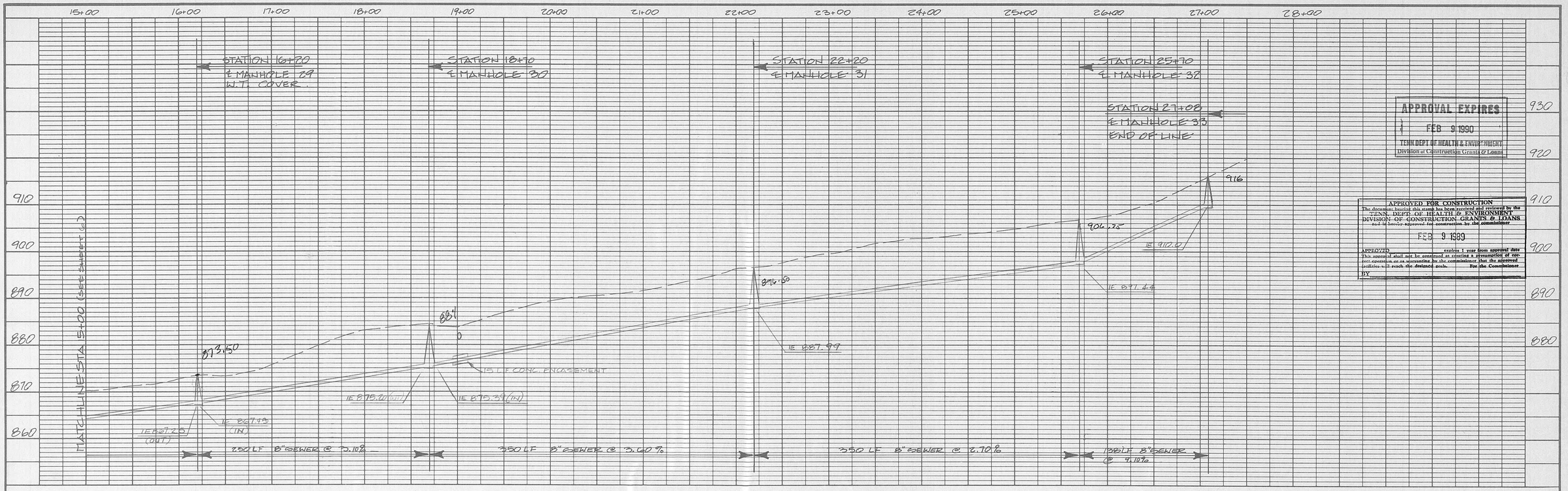
SANITARY SEWERAGE IMPROVEMENTS

LINE "D" STA. 0+00 TO STA. 15+00

HARRIMAN, TENNESSEE

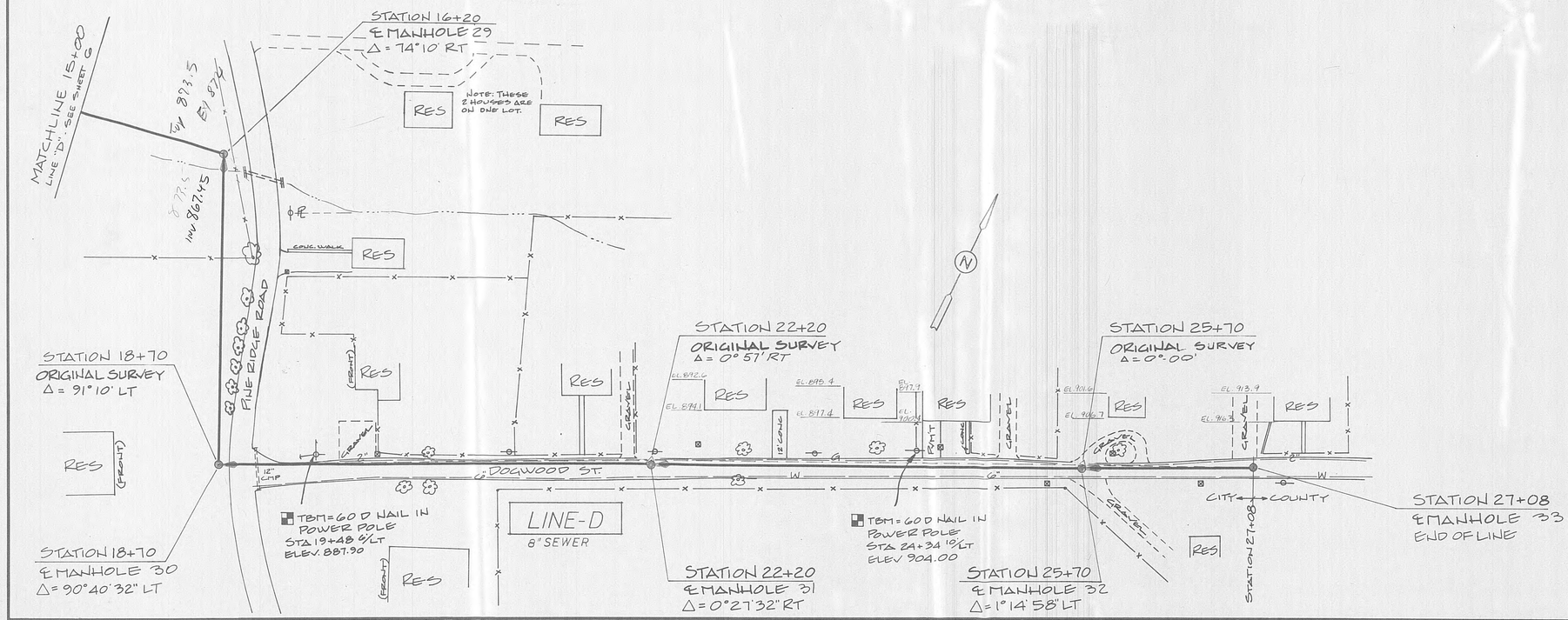
SHEET 6 OF 12

BRUNING 6935




APPROVAL EXPIRES
FEB 9 1990
TENN DEPT OF HEALTH & ENVIRONMENT
Division of Construction Grants & Loans

APPROVED FOR CONSTRUCTION
The document bearing this stamp has been reviewed and reviewed by the TENN. DEPT. OF HEALTH & ENVIRONMENT DIVISION OF CONSTRUCTION GRANTS & LOANS and is hereby approved for construction by the commissioner
FEB 9 1989
APPROVED expires 1 year from approval date
This approval shall not be construed as creating a presumption of correct operation or as warranting by the commissioner that the approved facilities will reach the designed goals. For the Commissioner
BY




GENERAL NOTE:
CONTACT WATER DEPARTMENT AND GAS COMPANY TO FIELD LOCATE MAINS AND SERVICES.

ROBERT E. TAYLOR
REGISTERED ENGINEER
16-88
STATE OF TENNESSEE

# WHITE - TAYLOR - WALKER, INC.
BRENTWOOD, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| | |
|---|---|
| DESIGNED RET | SCALE HOR 1"=50' VER 1"=10' |
| DRAWN DLE | DATE DEC'88 |
| CHECKED RET | JOB NO. 88-05 |

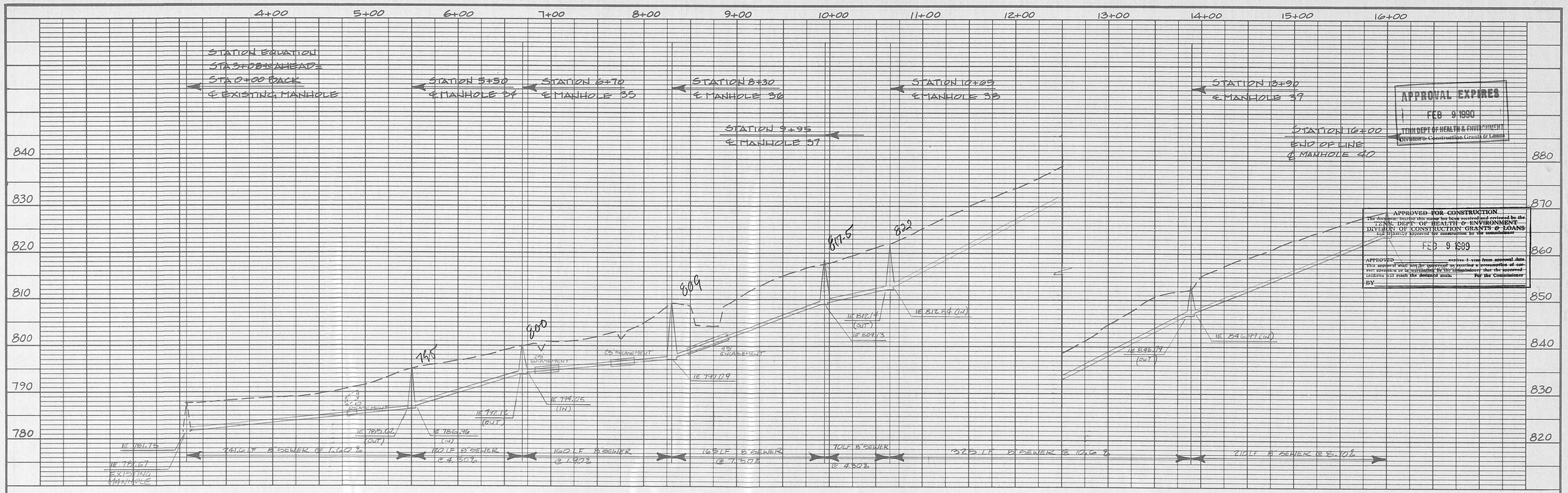
SANITARY SEWERAGE IMPROVEMENTS

LINE "D" STA. 15+00 TO STA. 27+08 EQL.

HARRIMAN, TENNESSEE.

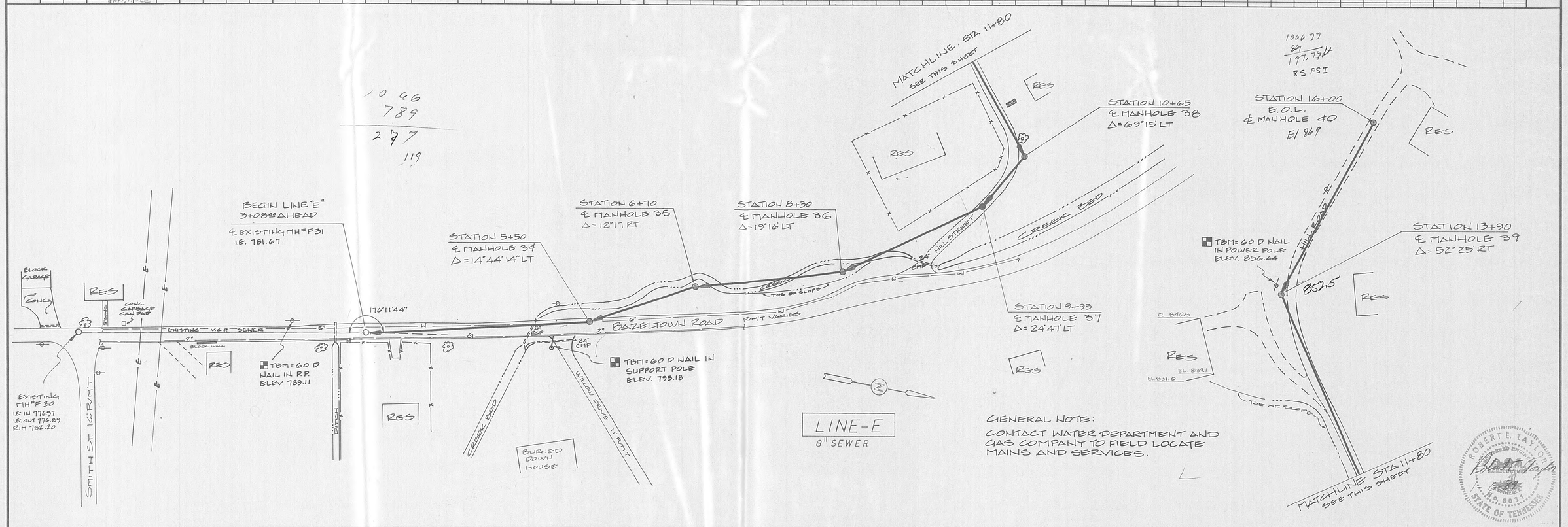
SHEET 7 OF 12

BRUNING 69351




APPROVAL EXPIRES
FEB 9 1990
TENN DEPT OF HEALTH & ENVIRONMENT
Division of Construction Grants & Loans

APPROVED FOR CONSTRUCTION
The document herein this stamp has been reviewed and reviewed by the TENN. DEPT. OF HEALTH & ENVIRONMENT DIVISION OF CONSTRUCTION GRANTS & LOANS and hereby approved for construction by the commissioner
FEB 9 1989
APPROVED ____ expires 1 year from approval date. This approval shall not be construed as neither a presumption of correct operation or as warranting by the commissioner that the approved facilities will reach the designed goals. For the Commissioner
BY ____




GENERAL NOTE:
CONTACT WATER DEPARTMENT AND GAS COMPANY TO FIELD LOCATE MAINS AND SERVICES.

ROBERT E. TAYLOR
Registered Engineer
No. 6031
STATE OF TENNESSEE

# WHITE - TAYLOR - WALKER, INC.
BRENTWOOD, TENNESSEE

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| DESIGNED | SCALE |
|---|---|
| RET | HOR 1" = 50' VER 1" = 10' |
| DRAWN DLE | DATE DEC '88 |
| CHECKED RET | JOB NO. 88-05 |

SANITARY SEWERAGE IMPROVEMENTS

LINE "E" STA. 0+00 TO STA. 16+00 EOL.

HARRIMAN, TENNESSEE

SHEET 8 OF 12

BRUNING 69351