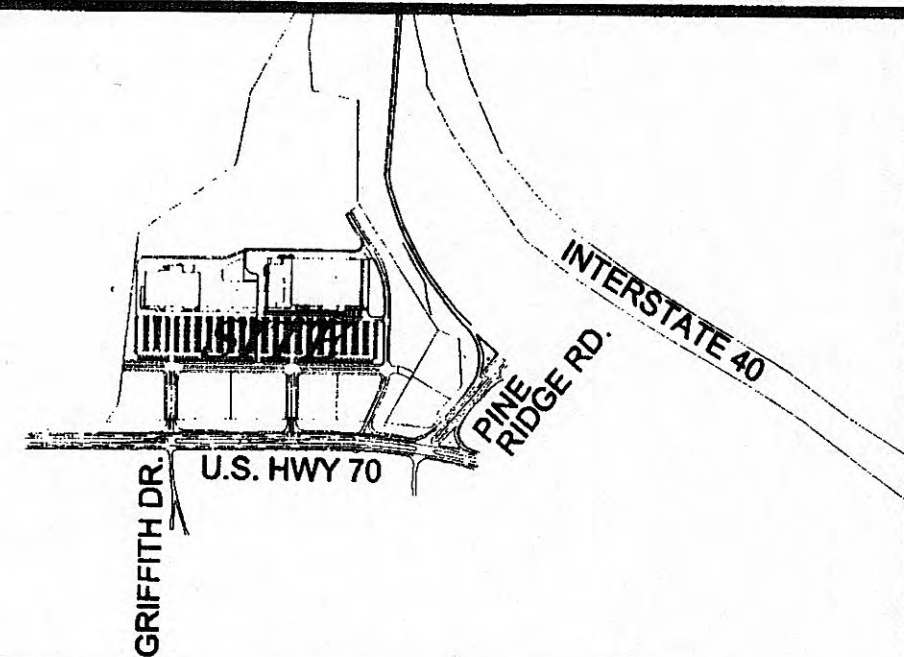




Vicinity Map

N.T.S.

CONTACTS

City of Harriman

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City of Harriman
P.O. Drawer 433
Harriman, TN 37748
(865) 882-1951

Water

Cathy Ingram or Bob Ellis
Roane Central Utility Board
2727 Roane State Highway
Harriman, TN 37748
(865) 882-7969

Sewer

James Maynor
Roane County
200 E. Race Street
Kingston, TN 37763
(865) 354-2702

Gas

James Burnham
Harriman Utilities Board
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Harriman, TN 37748
(865) 882-3242

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Harriman, TN 37748
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D. O. T.

Mark Best
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Knoxville, TN 37914
(865) 594-9170

Surveyor

Daniel P. Humphreys, RLS, LS
SITE Incorporated
2033 Castaic Lane, Suite 101
Knoxville, TN 37932
(865) 693-5010

INFRASTRUCTURE PLANS FOR PINNACLE POINT DEVELOPMENT

Harriman, Tennessee

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Owners:

Prestige Land Company
1324 Lawnville Road
Kingston, TN 37763

City of Harriman
330 Roane Street
Harriman, TN 37748



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SITE/CIVIL CD062
CAUTION - NOTICE TO CONTRACTOR
The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the field. The information is not to be relied on as being exact or complete. The Contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plans.

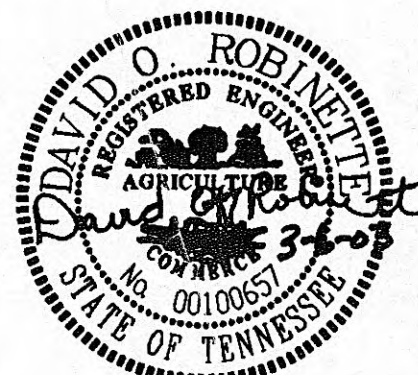
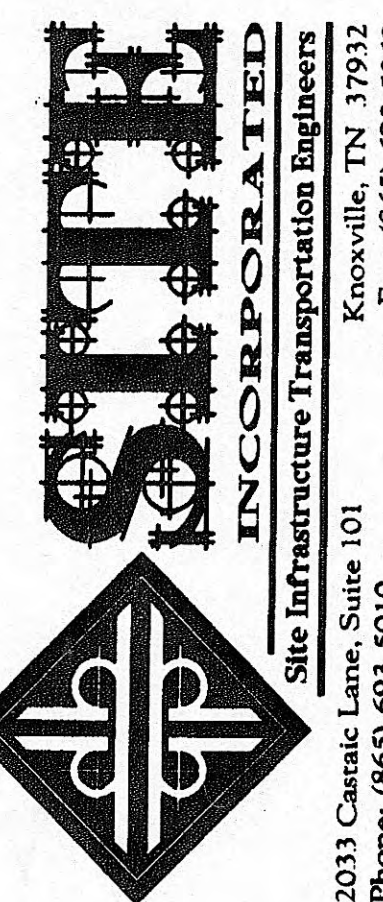
Cover Sheet
Pinnacle Pointe Development
US Highway 70 at Pine Ridge Road
Harriman, Tennessee
Owner: Prestige Land Company & City of Harriman
Utility

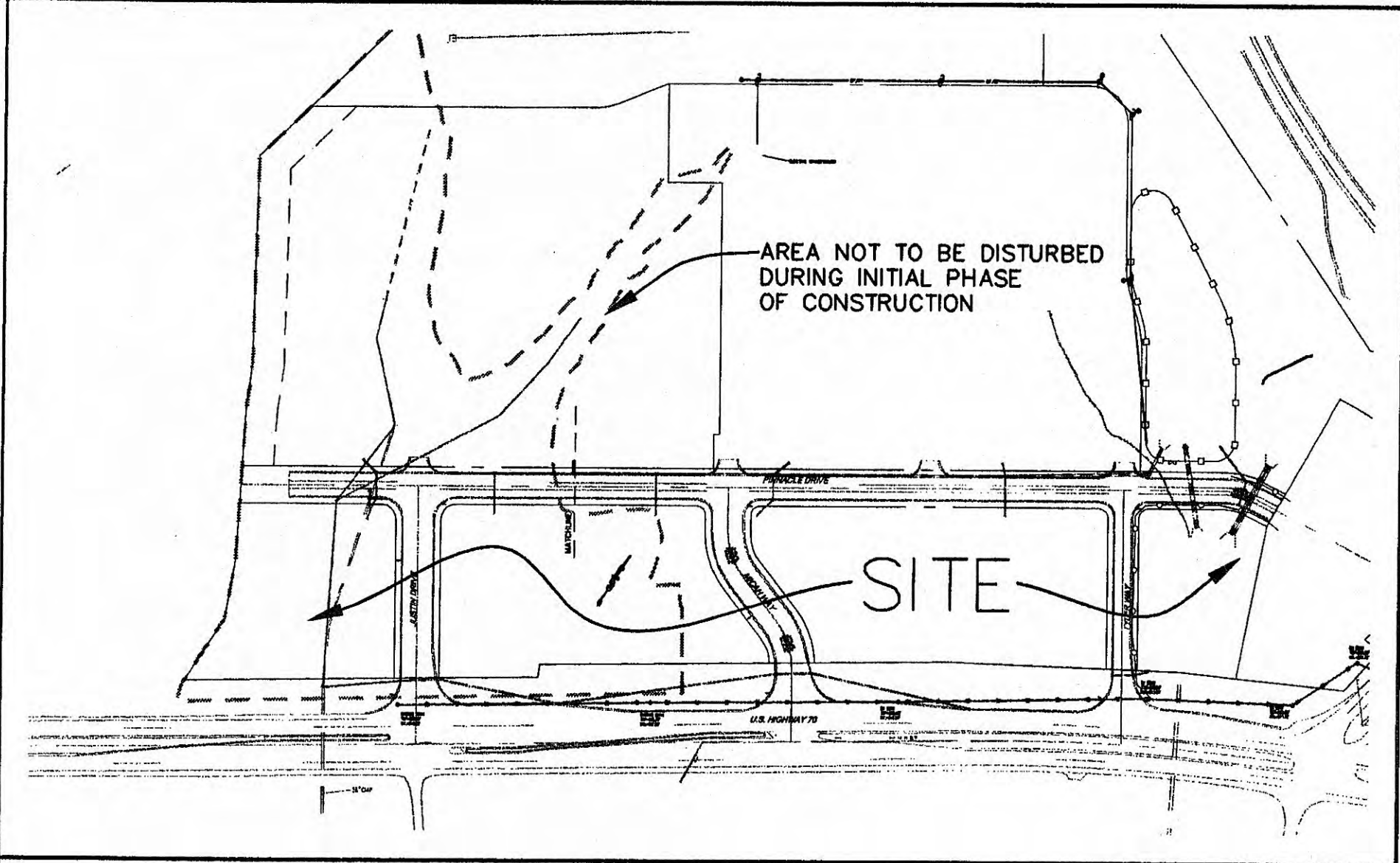
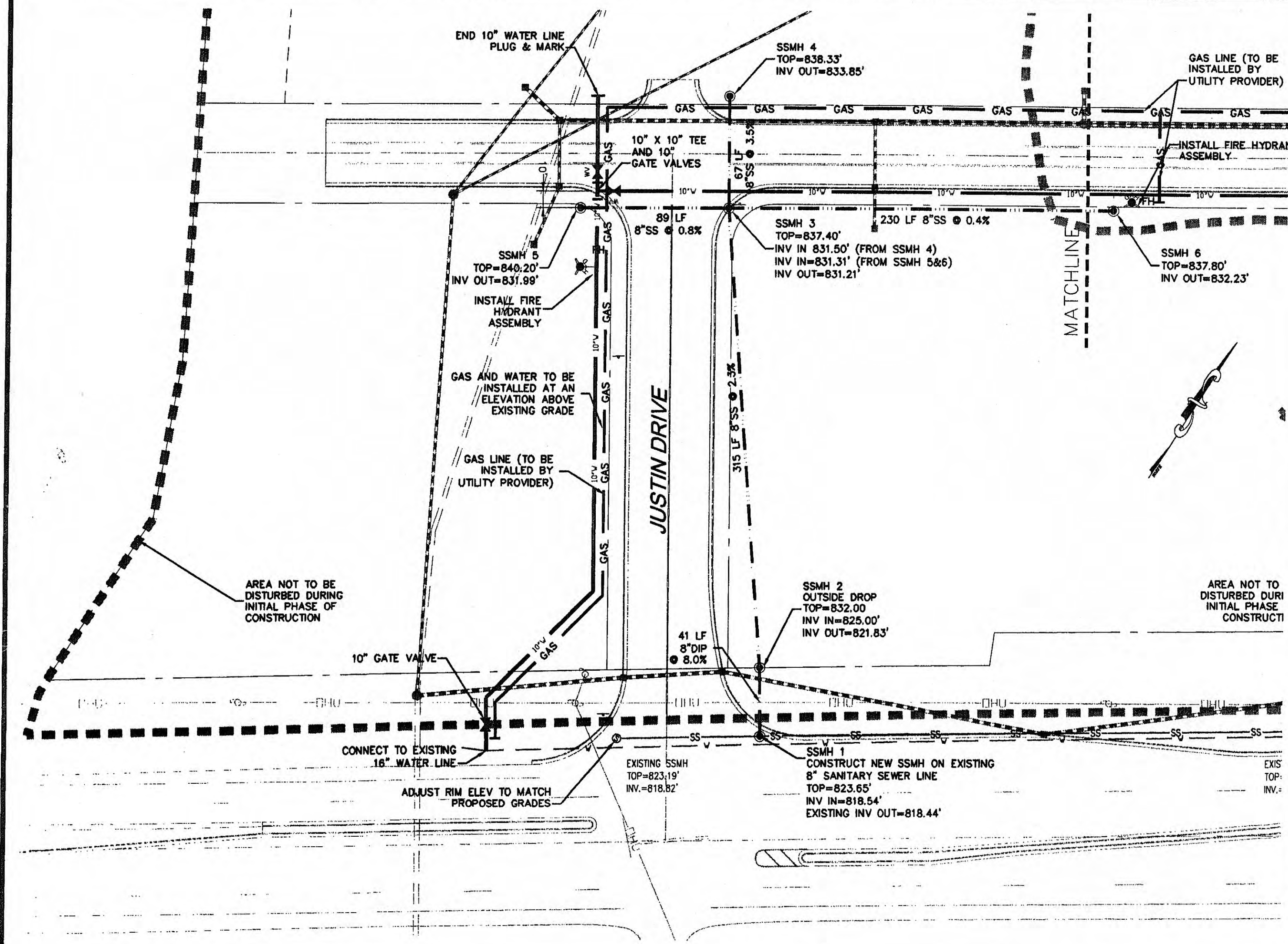
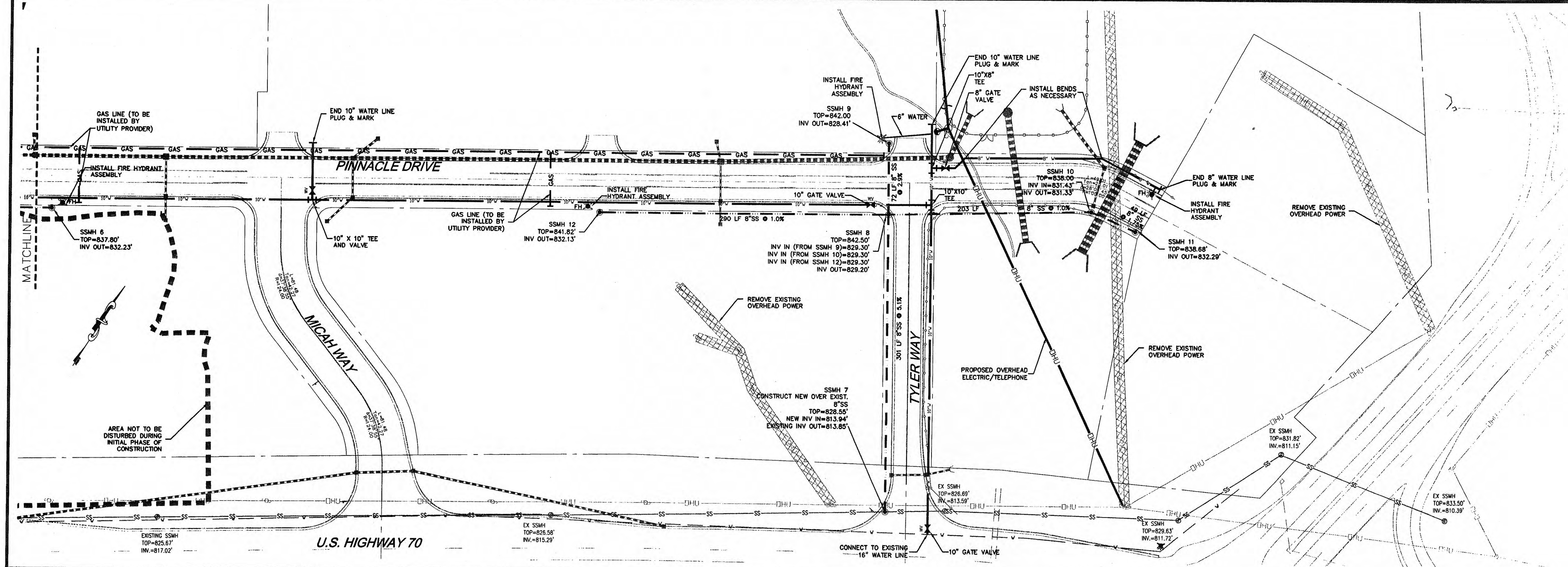
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REVISIONS

NO. DATE COMMENTS

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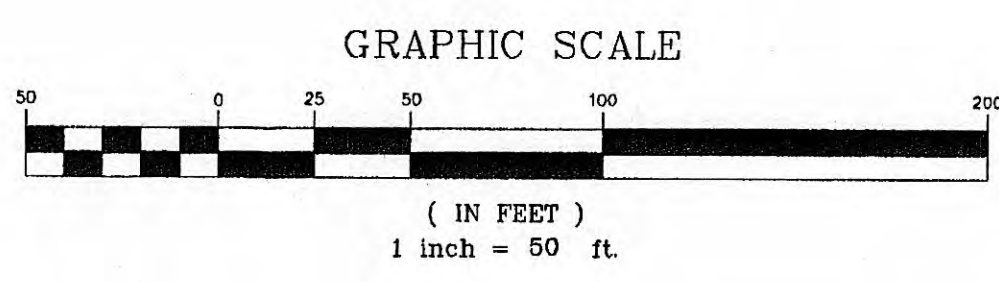




SITE MECHANICAL DETAIL REFERENCE SCHEDULE		
MARK	REFERENCED ITEM	COMMENT
SSMH	SANITARY SEWER MANHOLE	



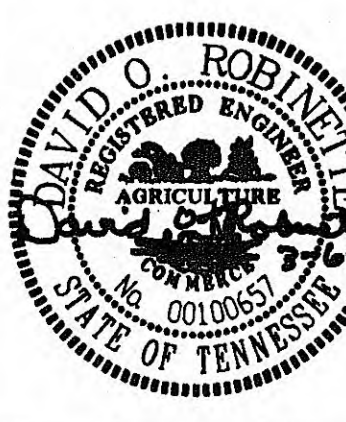
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- NOTES:
1. STORM SEWER IS SHOWN FOR COORDINATION PURPOSES ONLY. SEE GRADING PLANS FOR INVERT & PIPE SIZE INFORMATION.
 2. WATER MAIN CONSTRUCTION SHALL MEET OF EXCEED ROANE CENTRAL UTILITY BOARD SPECIFICATION.
 3. CONTRACTOR SHALL COORDINATE WITH BOB ELLIS OF ROANE CENTRAL UTILITY BOARD FOR ALL WATER TAPS.
 4. CONTRACTOR SHALL COORDINATE WITH ROANE COUNTY PRIOR TO MAKING ANY SANITARY SEWER TAPS.
 5. CONTRACTOR SHALL COORDINATE WITH JAMES BURNHAM OF HARRIMAN UTILITIES BOARD FOR ALL GAS WORK.



SSMH INCORPORATED
Site Infrastructure Transportation Engineers
2033 Casale Lane, Suite 101
Knoxville, TN 37932
Phone: (865) 693-5010
Fax: (865) 693-5011



DAVID O. ROBINETTE
REGISTERED ENGINEER
AGRICULTURE
0010053
STATE OF TENNESSEE

Infrastructure Utility Plan

Pinnacle Pointe Development

US Highway 70 at Pine Ridge Road
Harriman, Tennessee
Owner: City of Harriman

DRAWN BY: Imm DATE: 03/06/03

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REVISIONS

NO.	DATE	COMMENTS

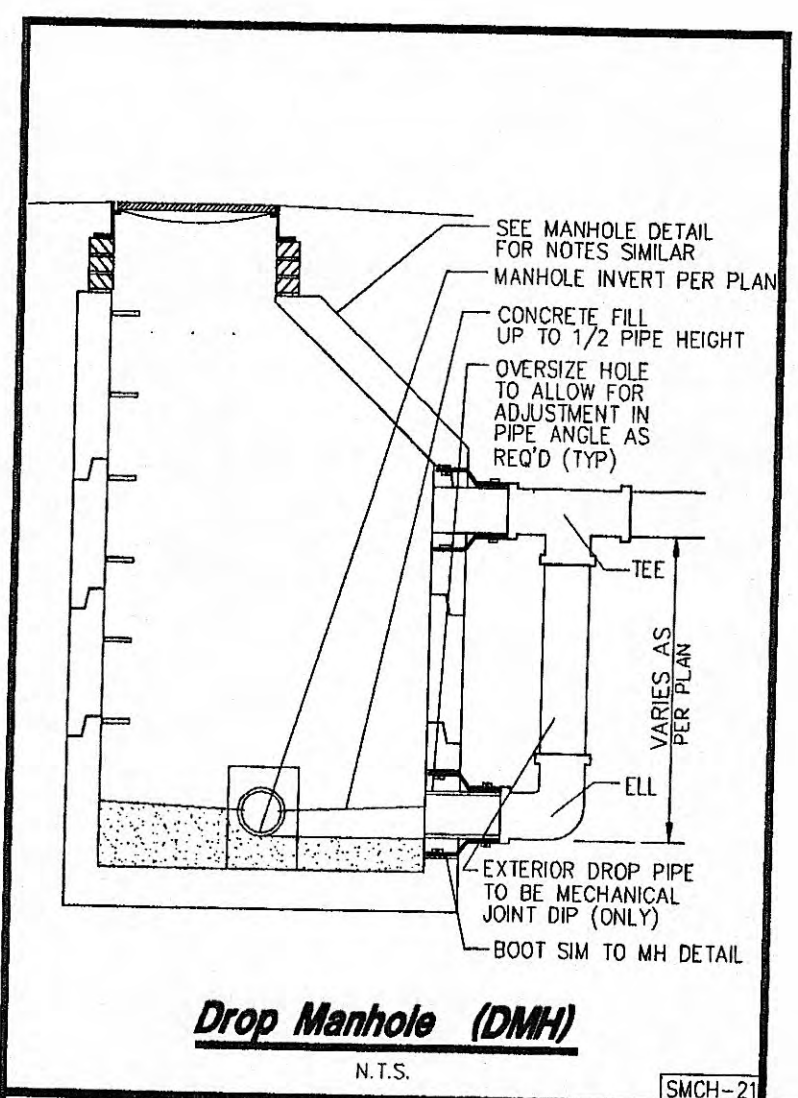
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Utility Notes and Details
Pinnacle Pointe Development
US Highway 70 at Pine Ridge Road
Harriman, Tennessee
Owner: City of Harriman

DRAWN BY: lm DATE: 03/06/03
CHECKED BY: geb FILE: 197off site utility

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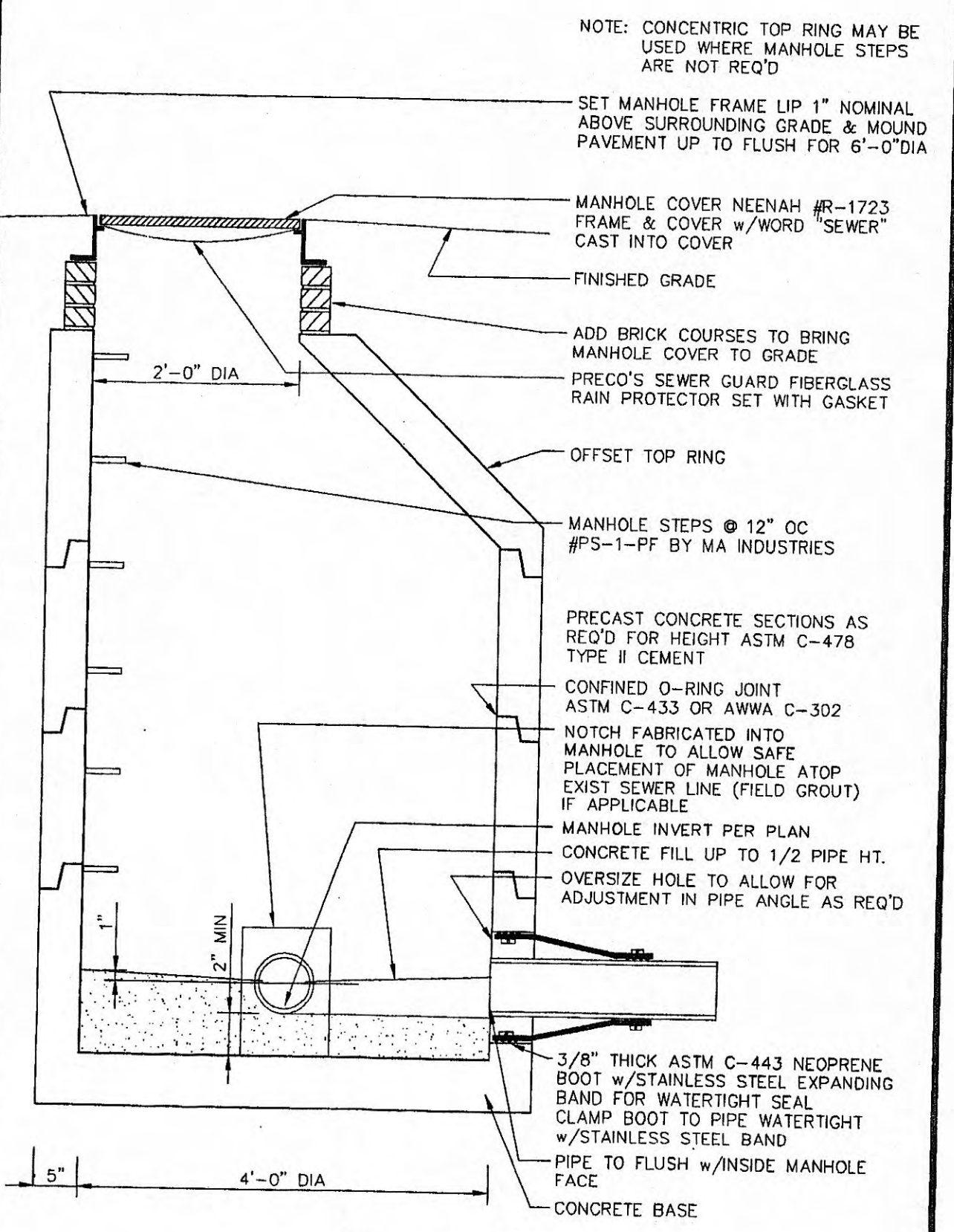
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SITE/MECHANICAL CD193 REV
ON-SITE MECHANICAL MATERIAL SCHEDULE

PIPE	BEDDING	BACKFILL	MIN
MATERIAL	MATERIAL	MATERIAL	CVR
SEWER	PVC TM D3034 SDR 35	SAND OR GRADED STONE	EARTH 48"
WATER MAIN	PVC AWWA C-900	SAND OR GRADED STONE	EARTH 48"
GAS MAIN	PROVIDED AND INSTALLED BY GAS UTILITY COMPANY		
DOMESTIC GAS	PROVIDED AND INSTALLED BY GAS UTILITY COMPANY		

SEE SITE MECHANICAL NOTES FOR ADDITIONAL REQUIREMENTS



SITE/MECHANICAL CD069 REV 02-05-93
SITE MECHANICAL NOTES

GENERAL
The requirements listed below are intended to serve as an outline of general requirements. Additional requirements are set forth in the project manual. Contractor is cautioned to consider all requirements of the project manual during the bidding process.

GOVERNMENT AUTHORITIES
Contractor shall obtain all necessary permits and pay all required installation and service tap fees, access fees, and impact fees.

Before beginning installation, Contractor shall verify with local utility purveyor that utility systems are indicated on the construction documents are approved by the utility.

Location dimensions shown are approximate only and must be field verified and coordinated with other trades. Extras will not be allowed due to lack of coordination.

As-built plans must be maintained throughout project and furnished to Owner's Representative after completion of work. Consult project specifications manual for additional requirements.

All lines are to be maintained by a utility authority and shall be of materials and installation as directed by that authority even if such a line is "on-site".

EXISTING UTILITIES
Contact utility company for on-site verification of location, size, depth, etc. of all underground utilities prior to commencement of work.

Taps into public utilities shall be performed in accordance with utility company requirements.

Refer to existing topography and utility survey for information of existing utilities. Existing utilities reproduced on site mechanical plan for convenience only.

Relocation of existing utilities (if any) shall be coordinated by the Contractor with all governing authorities as to timing, repairs, charges, etc. Contractor shall pay all fees.

SANITARY SEWER SYSTEM
Site sewer shall have minimum slope per foot of .004 feet on 8" and larger lines.

Provide top elevation of manholes as required to be flush with finish grade. See grading plan for finish elevation of grade. Top elevations were indicated on mechanical site plan are approximate. Contractor shall coordinate to ensure flush top.

LINE CLEARANCES
Horizontal distance of 10 feet shall be maintained between water and sewer mains. A minimum separation of 18" vert and horiz shall be maintained between all pipes.

If a vertical distance between water main and sewer is less than 18" when water main crosses over sewer or anytime a water main crosses under sewer, the sewer main must be ductile iron pipe for a distance of 20 feet centered on the crossing. No joint shall be within 9 feet of the crossing.

EXCAVATION AND BACKFILL
Earth backfill where specified shall be of same material and compaction as approved material generally used for structural fill elsewhere on this site (see excavation notes C-3).

Pipe bedding shall be as scheduled. Stone bedding or backfill where required shall be 3/4" to 1-1/2" diameter compacted to 93% modified proctor. Sand shall be clean and without deleterious material.

Refer to trench detail on drawings for limits of bed and backfill. Testing of trench bedding compaction shall not be required unless noted otherwise.

Testing of trench backfill compaction shall be 1 field density test per 500 CY or 100 LF of backfill.

TESTING AND SANITIZATION
All site mechanical lines must be tested and approved by local inspectors or utility authorities as applicable prior to covering of such lines. Copies of utility approval must be submitted to Owner's Representative before payment for work can be authorized.

Any line that is to be maintained by the utility authority shall also be tested in accordance with the requirements and under the supervision of the utility authority.

The following tests shall be performed on the site mechanical systems in the presence of the Owner's Representative and in accordance with the methods which are set forth in the project specifications manual:

- Water and fire piping - hydrostatic (200 PSI) and sterilization
- Gravity sanitary sewer main - a.) Mirror/lamp test & air pressure test, and b.) Mandrel test 30 days after backfilling sanitize fire and water lines before placing any such line in service.

Sanitize with a chlorine solution of at least 50 PPM in the water for a period of 24 hours or as directed to meet the requirements of local and state health departments.

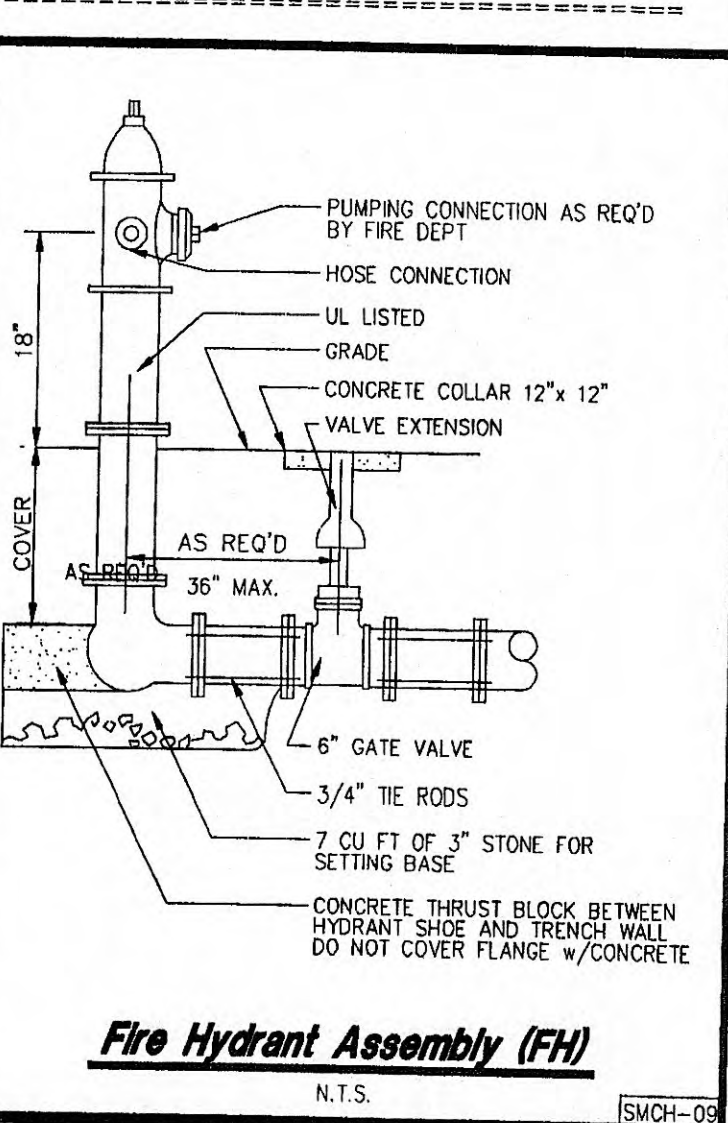
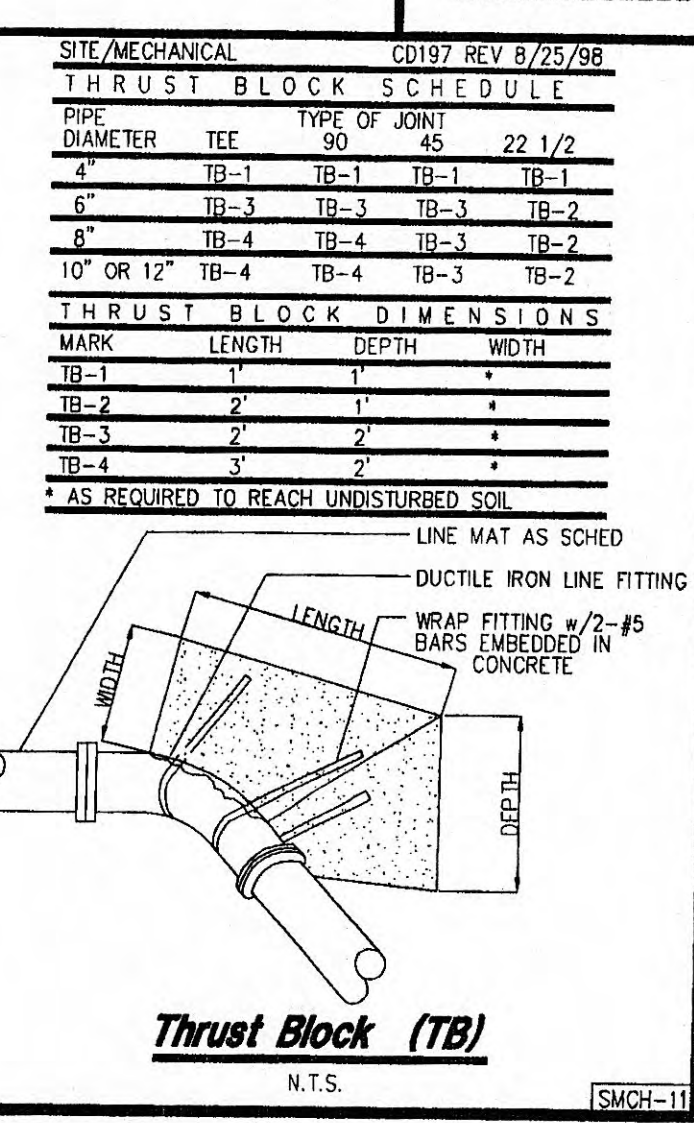
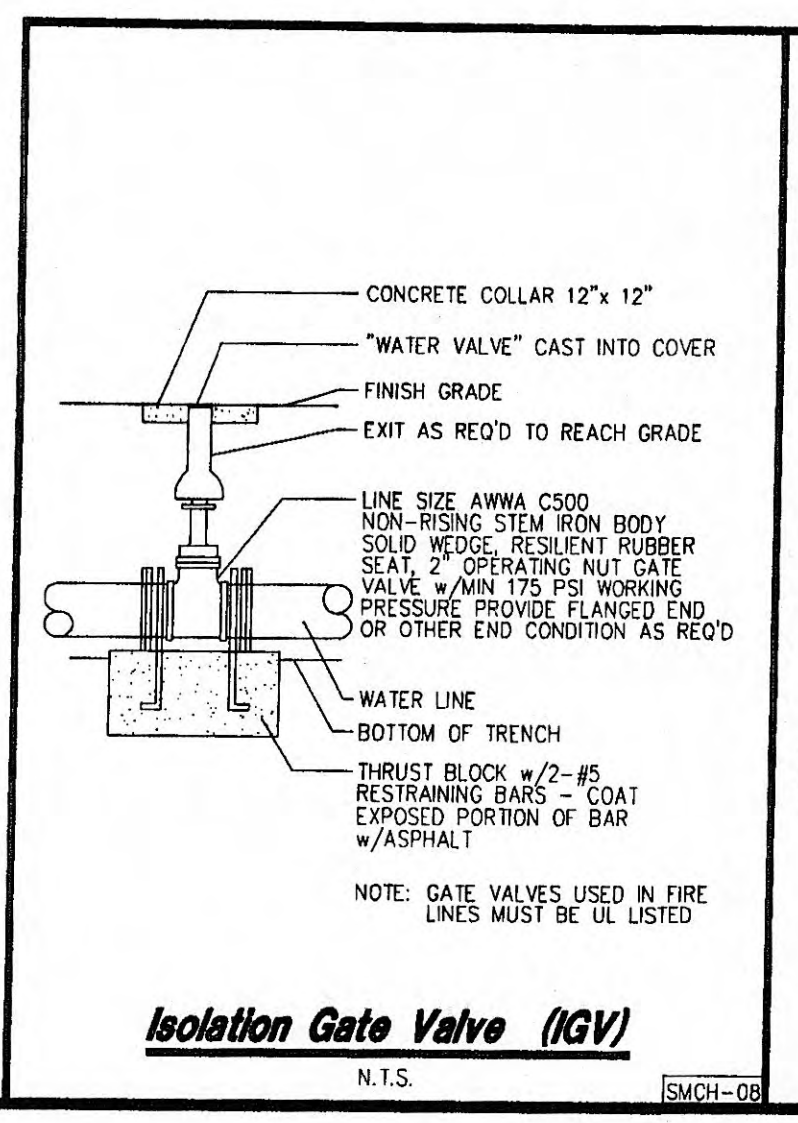
Duration of each waterline pressure test shall be not less than 2 hours.

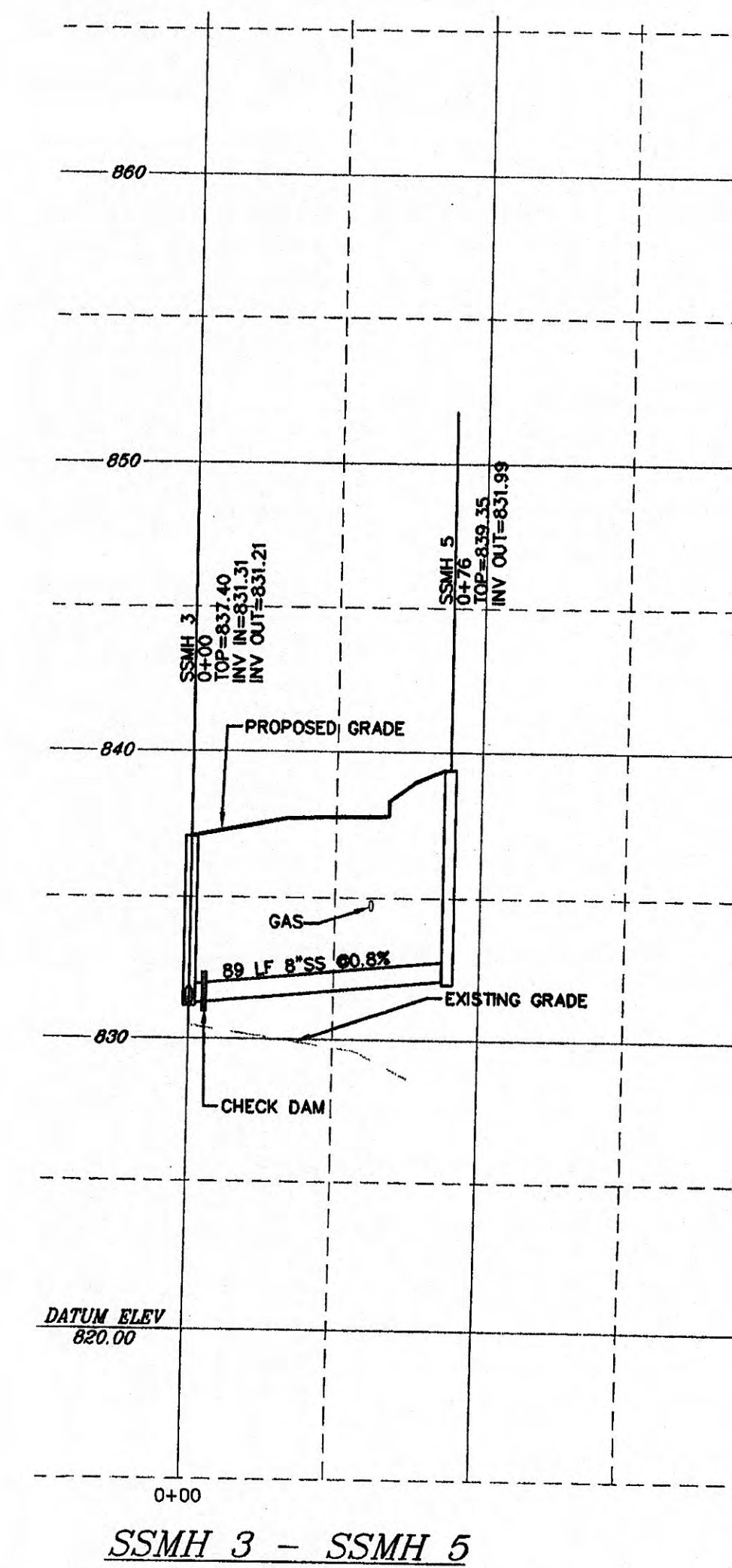
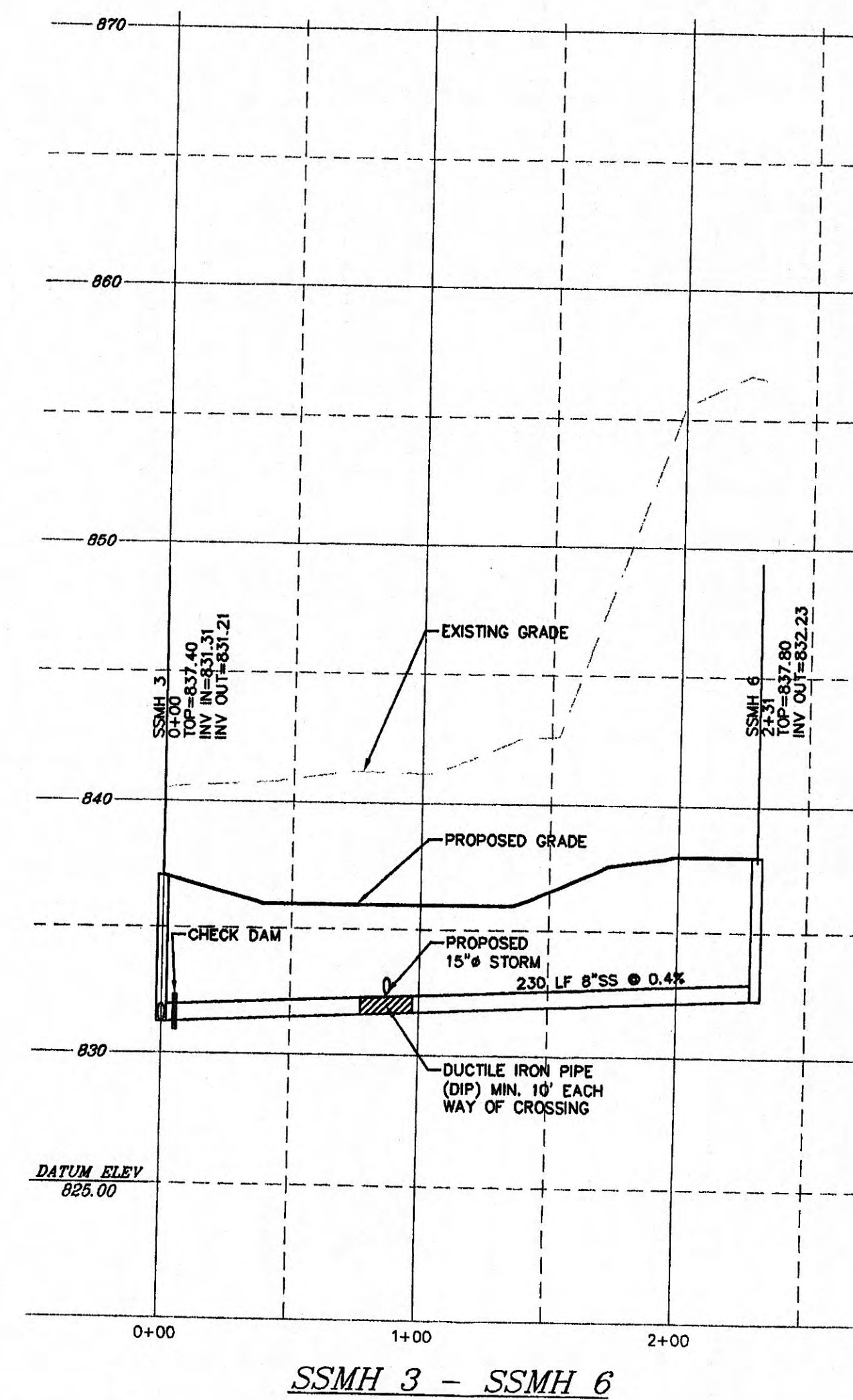
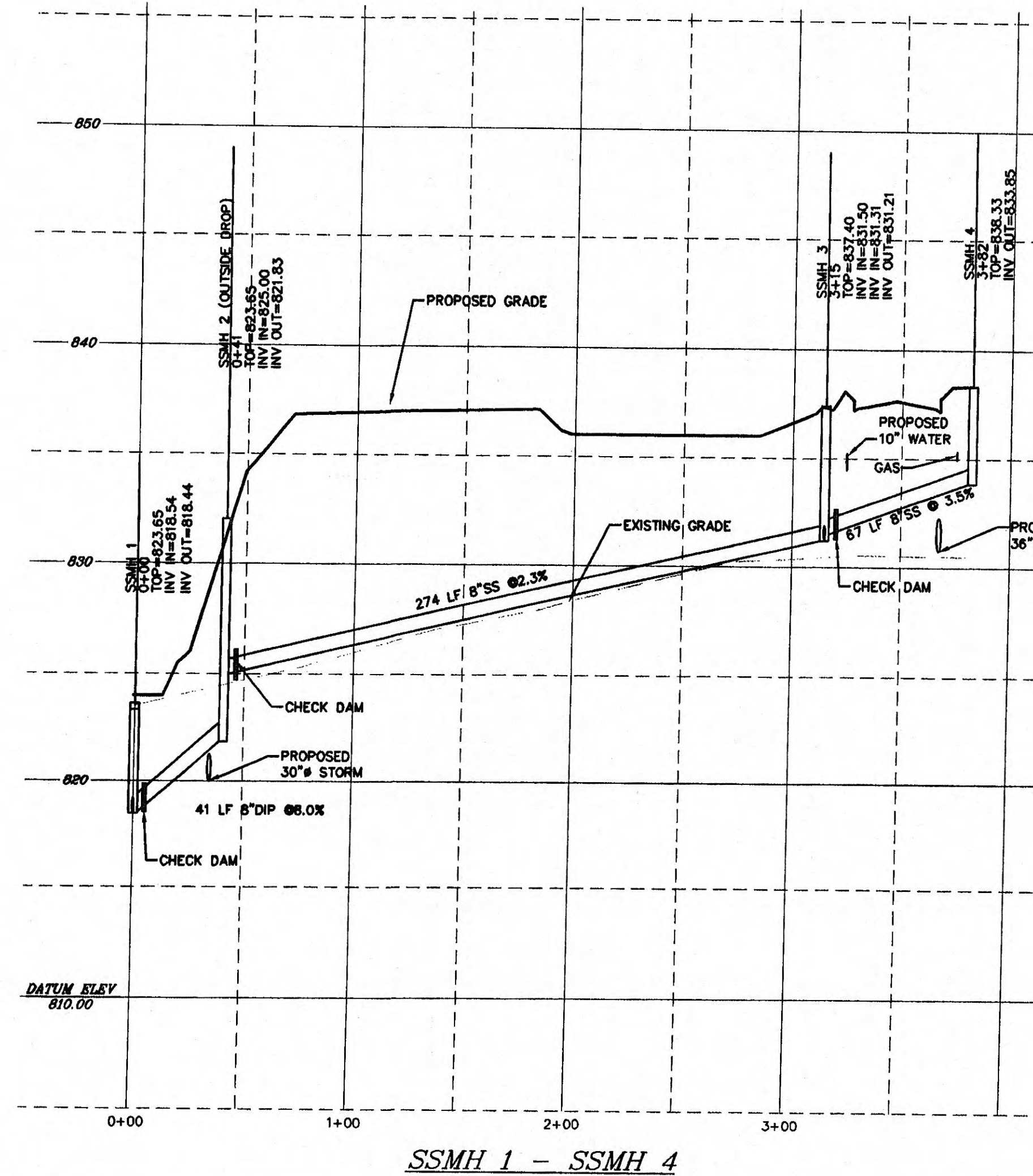
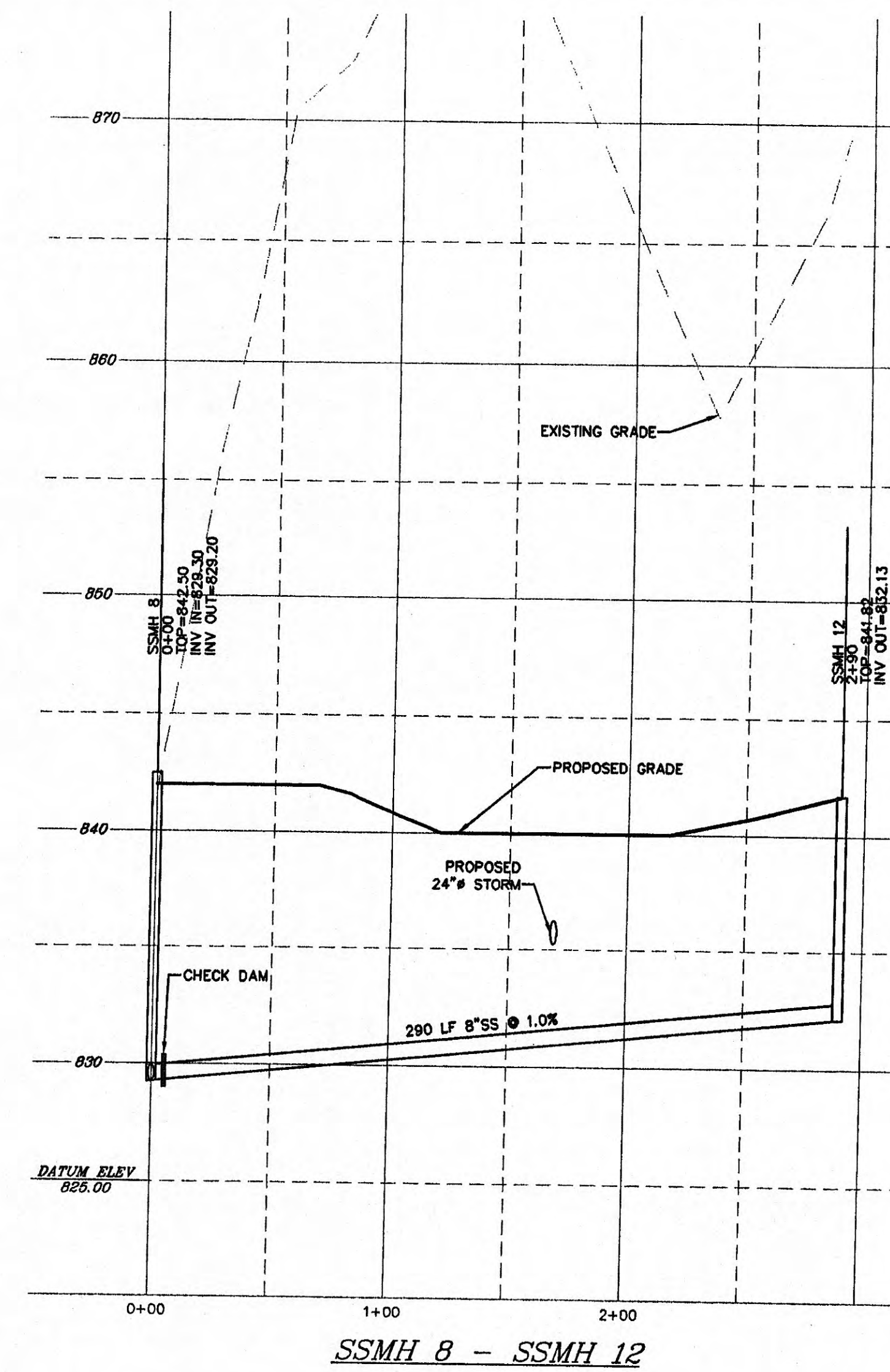
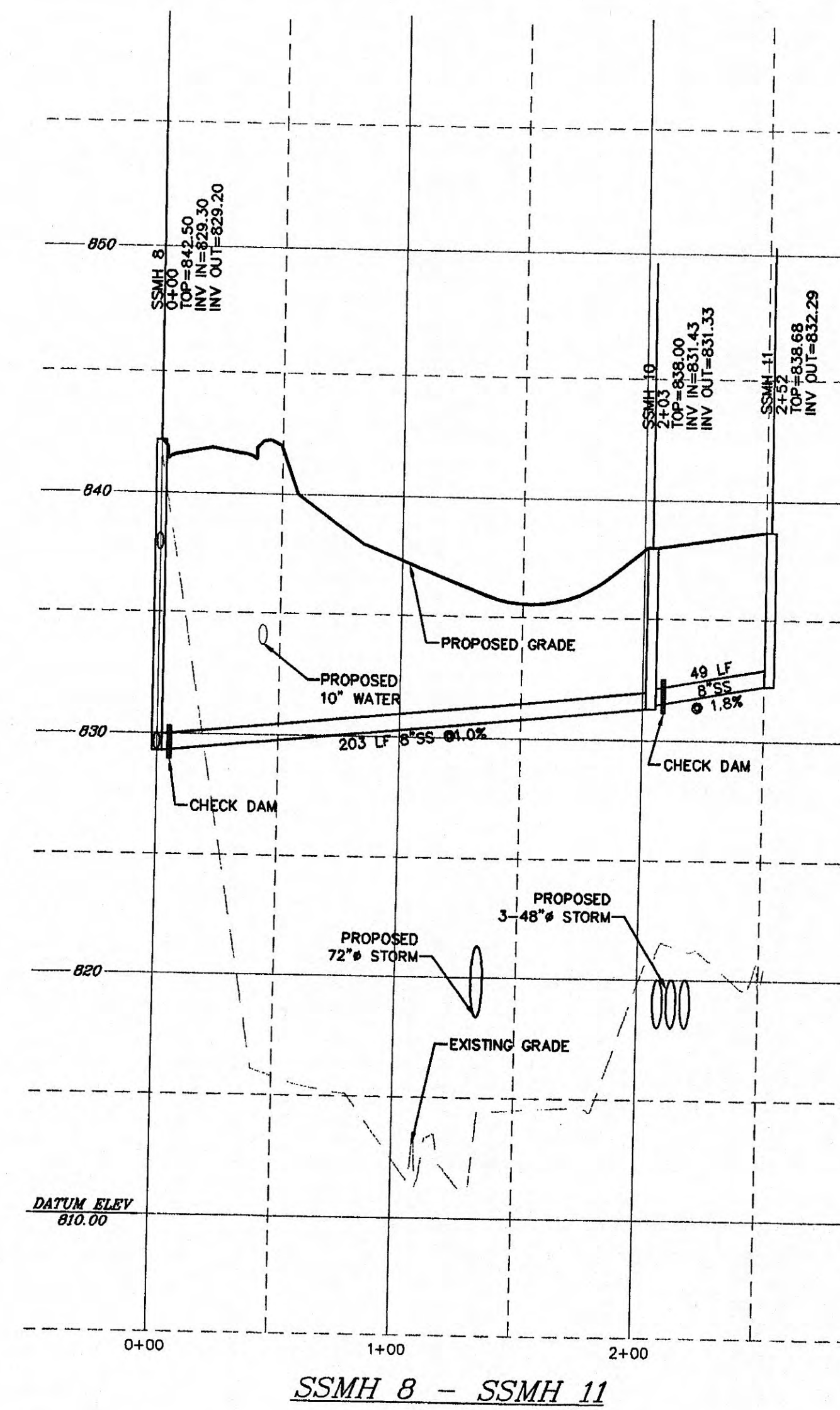
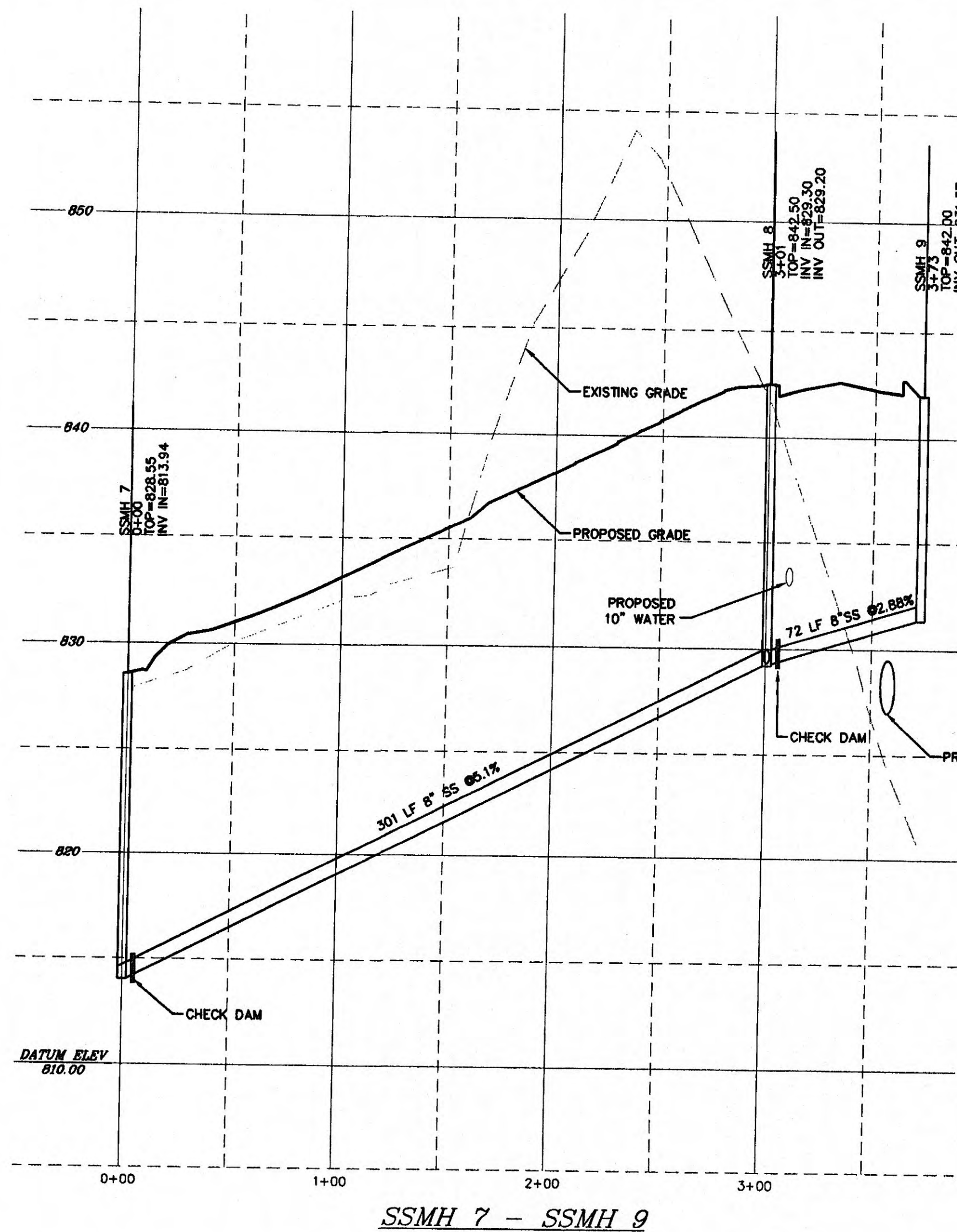
WATER MAIN SYSTEM
AWWA C508 check valves 150 PSI working pressure.
AWWA C500 gate valves 175 PSI working pressure.

Cement lined ductile iron pipe shall comply with ANSI/AWWA C151/A21.51 and ANSI/AWWA C104/A21.4 for cement lining.

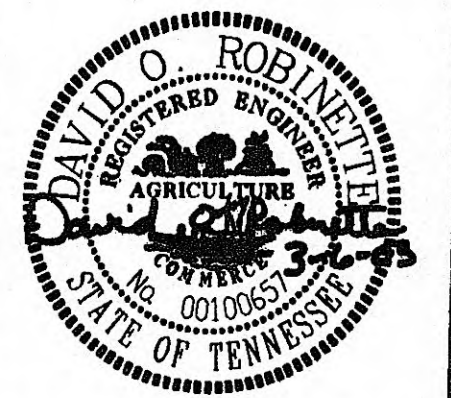
Cement lined mechanical joint ductile iron fittings shall comply with ANSI/AWWA C110/A21.10.

Provide thrust blocks of 3000 PSI concrete at all ells, and other changes in direction of water line. See thrust block detail.



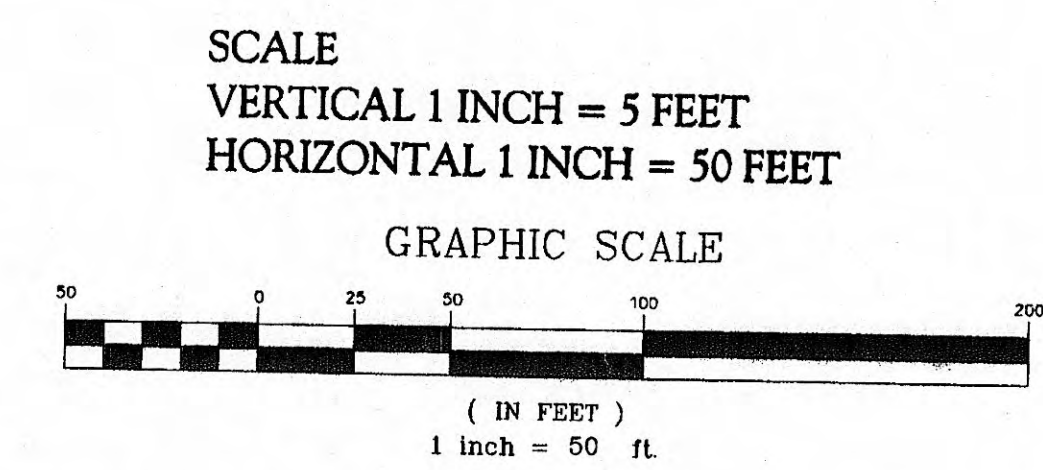


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Sanitary Sewer Profiles
Pinnacle Pointe Development
US Highway 70 at Pine Ridge Road
Harriman, Tennessee
Owner: City of Harriman

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C5.2