

**Drain:** PEBBLE BROOK DRAIN **Drain #:** 191  
**Improvement/Arm:** VILLAGES AT PEOPLE BROOK-SECTION 3  
**Operator:** JOH **Date:** 3-3-04  
**Drain Classification:** Urban/Rural **Year Installed:** 1992

### GIS Drain Input Checklist

- Pull Source Documents for Scanning QA 3-3
- Digitize & Attribute Tile Drains N/A
- Digitize & Attribute Storm Drains QA 3-3
- Digitize & Attribute SSD QA 3-3
- Digitize & Attribute Open Ditch N/A
- Stamp Plans QA 3-3
- Sum drain lengths & Validate QA 3-3
- Enter Improvements into Posse QA 3-3
- Enter Drain Age into Posse July 4-23
- Sum drain length for Watershed in Posse July 4-23
- Check Database entries for errors QA 3-3

**Gasb 34 Footages for Historical Cost**  
**Drain Length Log**

Drain-Improvement: PEBBLE BROOK DRAIN - VILLAGES AT PEBBLE BROOK SECTION 3

Drain Type:	Size:	Length <i>SURVEYOR'S RECORD</i>	Length (DB Query)	Length Reconcile	If Applicable	
					Price:	Cost:
SSD	6"	5,530'	3,932'	-1,598'		
RCP	12"	378'	378'	Ø		
	15"	143'	143'	Ø		
	21"	247'	247'	Ø		
	24"	975'	1,237'	+262'		
PVC	24"	125'	81'	-44'		

Sum:      7,398'      6,018'      -1,380'

Final Report: \_\_\_\_\_

Comments:

SR AND AB DISAGREE ON 6" AND 24" LENGTHS

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TO: Hamilton County Drainage Board

*Jan 19, 1993 Meeting*

RE: Pebble Brook Drain, Villages @ Pebble Brook Section 3 Arm

Attached is a petition, non-enforcement request, plans, calculations, quantity summary and assessment roll for the Pebble Brook Drain, Villages @ Pebble Brook Section 3 Arm I have reviewed the submittals and petition and have found each to be in proper form.

I have made a personal inspection of the land described in the petition. Upon doing so, I believe that the drain is practicable; will improve the public health; benefit a public highway and be of public utility; and that the costs, damages and expenses of the proposed drain will probably be less than the benefits accruing to the owners of land likely to be benefited. The drain will consist of the following:

6" SSD	5330ft	24" RCP	1092ft
15" RCP	221ft	24" PVC	125ft
21" RCP	247ft		

The total length of the drain will be 7015 feet.

The subsurface drains (SSD) to be part of the regulated drain are those located under the curbs and those main lines between lots or in rear yards. Only the main SSD lines which are located within the easement are to be maintained as regulated drain. Laterals for individual lots will not be considered part of the regulated drain. The portion of the SSD which will be regulated other than those under curbs are as follows: Rear of Lot 58 to 60; also under curbs on Private Drives serving Lots 56 to 63.

I have reviewed the plans and believe the drain will benefit each lot equally. Therefore, I recommend each lot be assessed equally. I also believe that no damages will result to landowners by the construction of this drain. I recommend a maintenance assessment of \$20.00 per lot, \$2.00 per acre for roadways, with a \$20.00 minimum. With this assessment the total annual assessment for the drain/this section will be \$580.

Parcels assessed for this drain may be assessed for the George Booth or Sly Run at sometime in the future.

I believe this proposed drain meets the requirements for Urban Drain Classification as set out in IC 36-9-27-67 to 69. Therefore, this drain shall be designated as an Urban Drain.

I recommend the Board set a hearing for this proposed drain for January 1993, also I recommend the Board approve the non-enforcement request at the time of hearing, if the petition is approved.

  
Kenton C. Ward  
Hamilton County Surveyor

**Irrevocable Letter of Credit**

INB National Bank  
One Indiana Square  
Indianapolis, Indiana 46266

*Released*



**INB.**

Date: November 30, 1992cw

SWIFT Address: INBI US 44    Telex Number 205615    Phone: 266-6153		INB NO. <b>SB 035981</b>	Credit Number Advising Bank No.
Advising Bank	Applicant The Village at Pebblebrook L.P. PO Box 277 Carmel Indiana 46032		
Beneficiary Hamilton County Board of Commissioners Noblesville Indiana 46060	Amount USD 73,303.00		Expiration Date November 30, 1993

We hereby issue in your favor this irrevocable letter of credit which is available against the following documents:

Drafts drawn at— sight

on INB National Bank Indianapolis Indiana

bearing the clause; "Drawn under irrevocable letter of credit No. **SB 035981**  
Other documents:

Beneficiary's signed certificate stating that the applicant has failed to construct the necessary storm sewers at The Village at Pebblebrook L.P. subdivision section 3.

COPY OF US 320-6320-00

Special Conditions: This letter of credit shall be automatically extended for a period of one year from expiration date of November 30, 1993, and on each successive expiration date, unless we send you notification by certified, registered or express mail at least 45 days prior to such expiration date that the letter of credit will not be extended or renewed. In any event the final expiration date shall be November 30, 1994.

We hereby engage with  You  drawers and/or bona fide holders that drafts drawn and negotiated in conformity with the terms of this credit will be duly honored on presentation and that drafts accepted within the terms of this credit will be duly honored at maturity.  
The amount of each draft must be endorsed on the reverse of this credit by the negotiating bank.  
The Advising Bank is requested to notify the beneficiary without adding their confirmation.

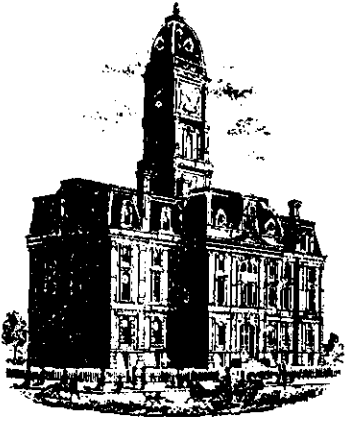
Very truly yours,

*Matthew M. Hatcher*  
This copy printed from the Digital Archives of the Hamilton County Surveyor's Office; One Hamilton Co. Square, Ste. 188, Noblesville, In 46060

**Advising Bank's Notification**

Place/date/name/signature of advising bank.

Except so far as otherwise expressly stated, this documentary credit is subject to the "Uniform Customs and Practice for Documentary Credits" (1983 Revision) International Chamber of Commerce (Publication No. 400)



SURVEYOR'S OFFICE  
**Hamilton County**

Kenton C. Ward, Surveyor

Phone (317) 776-8495

Fax (317) 776-9628

Suite 146

One Hamilton County Square

Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

January 8, 1997

Re: **Pebblebrook Drain -Villages of  
Pebblebrook Sec. 3 Arm**

Attached are as-builts, certificate of completion & compliance, and other information for Villages of Pebblebrook Sec. 3. An inspection of the drainage facilities for this section has been made and the facilities were found to be complete and acceptable.

During construction, changes were made to the drain which will alter the plans submitted with my report for this drain dated January 19, 1993. The changes are as follows:

Structure 147-~~149~~<sup>90</sup> consists of 15" RCP which was shortened from 221' feet to 143' feet.  
Structure 149-150 consists of 24" RCP which was shortened from 522' feet to 423' feet.  
Structure 142-97 consists of 24" RCP which was shortened from 125' feet to 81' feet.  
Structure 97 -149 consists of 24" RCP which was lengthened from 347' feet to 373' feet.  
An additional structure was added. Structure 90-148 which consists of 12" RCP at 378' feet.

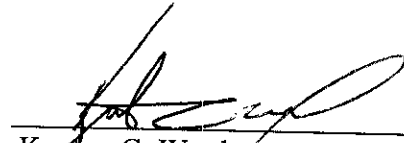
The length of the drain due to the changes described above is now ~~7208~~<sup>7398</sup> feet.

The non-enforcement was approved by the Board at its meeting on January 19, 1993 and recorded under instrument #9302865.

The bond or letter of credit from INB National Bank, number 035981 for storm sewers and 035982 for monuments and markers, dated November 30, 1992, in the amount of \$73,303.00 and \$300.00, has been released.

I recommend the Board approve the drains construction as complete and acceptable.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kenton C. Ward', is written over a horizontal line.

Kenton C. Ward,  
Hamilton County Surveyor

KCW/slm

# CONSTRUCTION PLANS FOR THE VILLAGES AT PEBBLE BROOK SECTION I & III

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SPECIFICATIONS
3-8	SITE DEVELOPMENT PLAN
9-10	STORM & STREET PLAN AND PROFILES
11-14	STREET AND SANITARY SEWER PLAN AND PROFILES
15-18	STORM SEWER PLAN AND PROFILES
19	ENTRANCE DRIVE DETAIL
20-21	INTERSECTION DETAIL SHEETS
22	EROSION CONTROL PLAN
23-24	DETAILS
25	NOTES

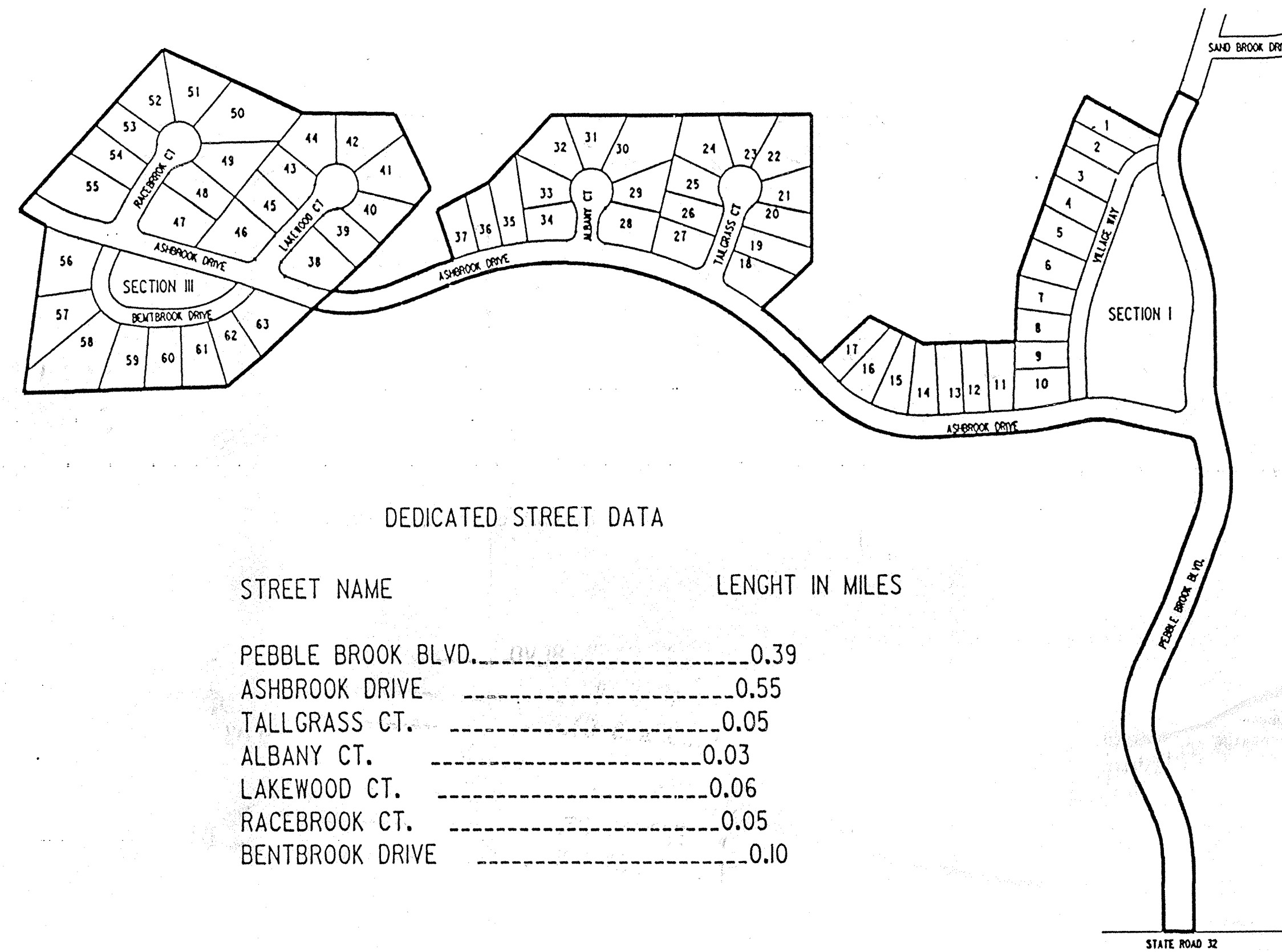
SHEET NO.	REVISIONS
4-18	STORM SEWER LAYOUT 2/20/92
4-18	SITE RE-GRADING, STORM SEWER LAYOUT 4/10/92
15-18	STORM SEWER LAYOUT 5/4/92
6,11,14,21	REVISED SECTION 3 DIRT GRADES 9/23/92
16-18	REVISED STORM SEWER LAYOUT 9/23/92

LAST REVISION DATE: FEBRUARY 20, 1992  
 MARCH 5, 1992  
 MARCH 16, 1992  
 APRIL 10, 1992  
 APRIL 27, 1992

**NOTES:**

CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PERMIT ISSUING AGENCIES WITHIN THE TIME FRAME SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING CONSTRUCTION.

ANY ALTERATIONS TO THESE PLANS NOT AUTHORIZED BY MSE ENGINEERING AND NOT IN ACCORDANCE WITH THE PLANS AND RECORDS ON FILE AT MSE ENGINEERING OFFICES SHALL RELIEVE MSE ENGINEERING OF RESPONSIBILITY FOR OVERALL ACCURACY OF PLANS.



**DEDICATED STREET DATA**

STREET NAME	LENGTH IN MILES
PEBBLE BROOK BLVD.....	0.39
ASHBROOK DRIVE.....	0.55
TALLGRASS CT.....	0.05
ALBANY CT.....	0.03
LAKWOOD CT.....	0.06
RACEBROOK CT.....	0.05
BENTBROOK DRIVE.....	0.10

PLANS PREPARED FOR

THE ESTRIDGE DEVELOPMENT CO., INC.

148 WEST CARMEL DRIVE

INDIANAPOLIS, INDIANA 46032

PHONE: (317) 846-7311

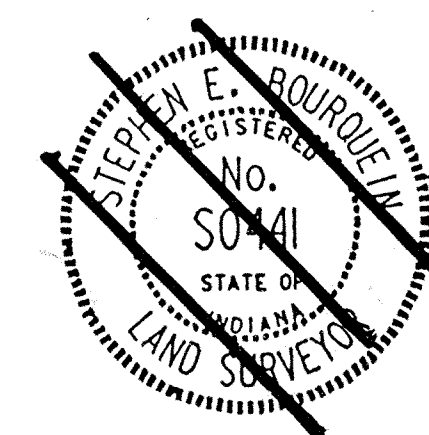
**MSE Engineering**

MSE Corporation  
 501 Congressional Boulevard  
 Suite 110  
 Carmel, IN 46032  
 317 843-5080  
 317 843-5089 FAX

**Sanitary and Storm  
AS-BUILTS**

As-built information provided by MSE Corporation, certified this \_\_\_\_\_ day of \_\_\_\_\_, 1992.

Jeffrey A. Meyerrose  
 Registered Land Surveyor No. 890003-IN



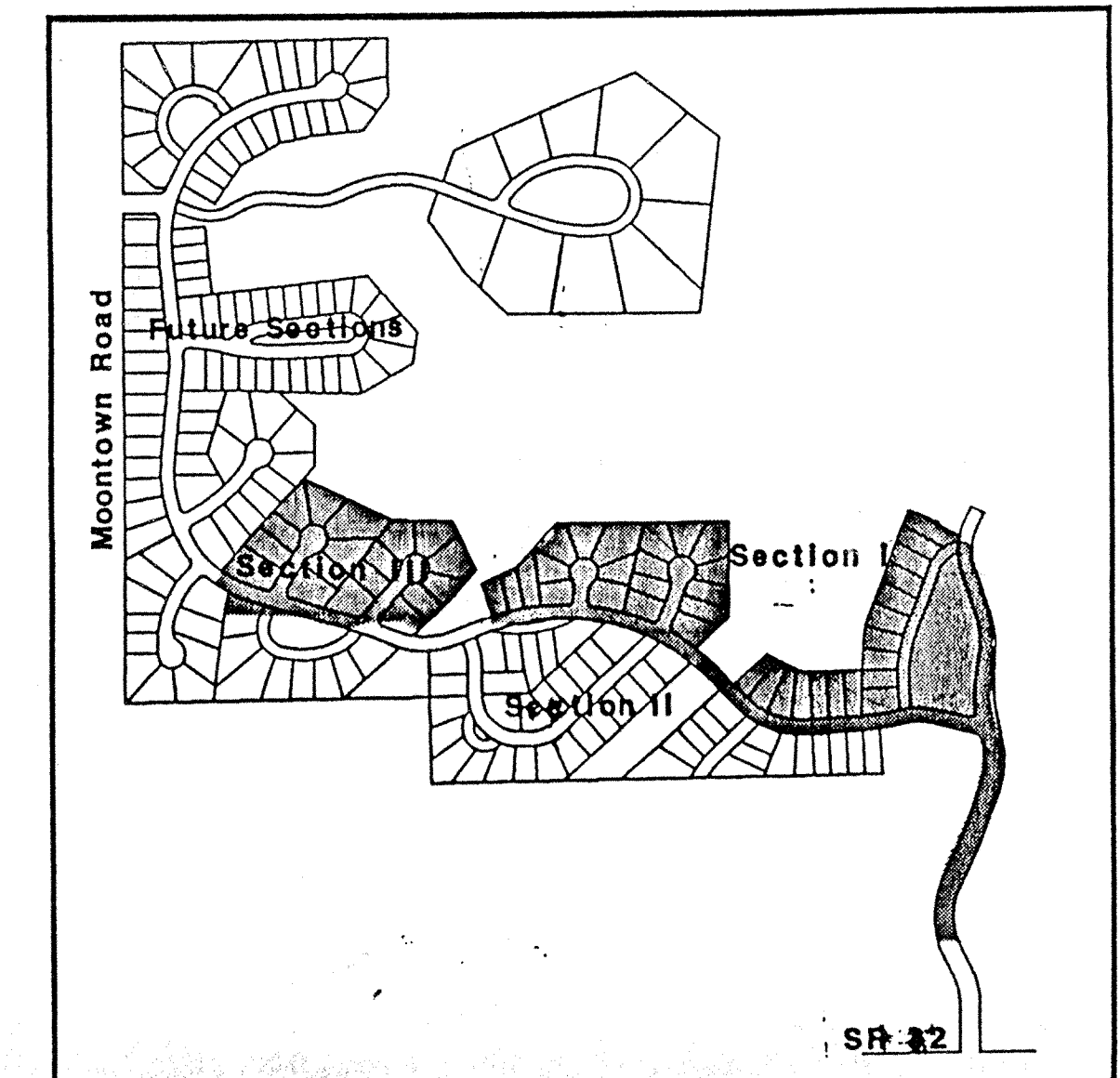
This 10 day of March, 1992

*Jeffrey A. Meyerrose*  
 Registered Land Surveyor #890003-IN, Indiana

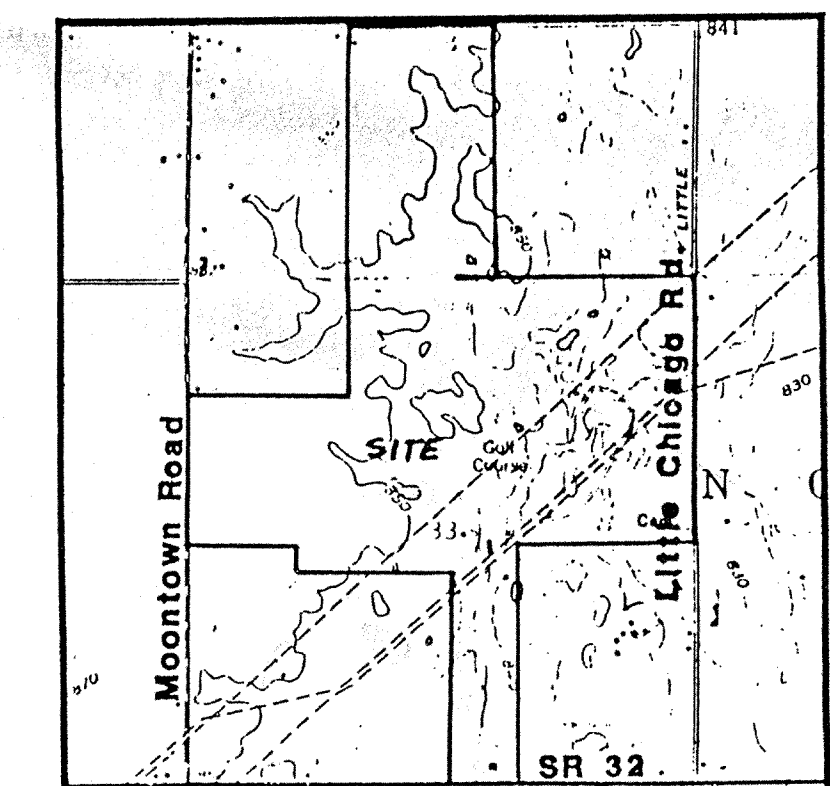
**FILED**

JUL 31 1996

OFFICE OF HAMILTON COUNTY SURVEYOR



SITE LOCATION MAP



VICINITY MAP

**PROJECT DATA**

SECTION #	ACREAGE	# OF LOTS	LOTS/ACRE
SECTION I	26.92 AC.	37	1.37
SECTION III	11.84 AC.	27	2.28

1 of 14  
 SHEET / OF 25  
 JOB No. 114-0548

SITE WORK GENERAL NOTES AND SPECIFICATIONS

**I. GENERAL CONDITIONS**

A. The Contractor shall be responsible for obtaining or verifying that all permits and approvals are obtained from the respective city, county and state agencies prior to starting construction.

B. It shall be the Contractor's responsibility to determine the exact location of all existing utilities in the vicinity of the construction area prior to starting construction.

C. The Contractor shall be responsible for notification and coordination of all construction with the respective utility companies.

D. It shall be the responsibility of the Developer and Contractor to maintain quality control throughout the project; failure to do so may result in removal and replacement of defective work. It is recommended that the Developer have a qualified inspector on the job site at all times during construction.

E. It is essential that the work performed in conjunction with this project be installed according to these specifications. The Engineer will be required to certify that certain portions of this project were completed as per the construction plans. Therefore it is necessary to obtain approval and acceptance by the local, county, and state agencies that the construction was completed in compliance with these plans and specifications.

F. The designation A.S.T.M. shall refer to the American Society of Testing and Materials standards. The latest revision of listed A.S.T.M. standards shall prevail.

G. The designation I.N.D.O.T. shall refer to the Indiana Department of Transportation Standard Specifications dated 1988 and all subsequent revisions.

**II. CLEARING AND GRUBBING**

A. Clearing and grubbing shall consist of cutting, removal and satisfactory disposal of all trees, down timber, brush, projecting roots, stumps, rubbish, boulders, broken concrete, fencing (as designated), and other material on the project site and within the boundary as shown on the Construction Documents and/or as designated by "construction limits".

B. Special care shall be taken to insure that trees to be left remaining in the project area shall not receive limb, bark or root injuries. When such injuries occur, all rough edges of scarred areas shall be removed in accordance with accepted horticultural practice and the scars coated thoroughly with an asphaltum base tree paint.

C. All "unsuitable material" from clearing operations stated in Item II-A shall be removed to disposal area(s) off the project site; unless a Bury Pit is utilized. Bury Pits shall not be located below proposed building or pavement areas nor below proposed drainage structures or impoundment areas. Written permission of project owner must be obtained for bury pit construction on site.

D. Materials shall not be disposed of by burning unless approved by the local Fire Marshal.

**III. TREE REMOVAL AND PROTECTION**

A. Trees shall be removed from the project site only in areas occupied by roadway and surfaced areas in accordance with specifications of Hamilton County.

B. Trees shall be removed from the project site as directed by the Developer and so designated.

C. Trees shall be removed from the project site where they interfere with the placement of storm or sanitary sewers.

D. The Contractor shall endeavor to save and protect trees of value and worth which do not impair construction of improvements as designated. In the event cut or fill exceeds 0.5 foot over the root area, the Developer shall be consulted with respect to protective measures to be taken, if any, to preserve such trees.

E. The Contractor shall be responsible for determining the method of protection of tops, trunks and roots of existing trees on the project site which are to remain. Existing trees exposed to potential damage shall be boxed, fenced or otherwise protected before any adjacent work is started. Earth, construction material, and equipment shall not be stockpiled or stored within the spread of branches. Branches which need to be removed or are broken shall be neatly trimmed and scars shall be covered with tree paint.

F. See note II-B.

**IV. STRIPPING OF TOPSOIL**

A. The Contractor shall verify that all topsoil has been removed in the areas to be occupied by road, walks and designated building areas. Topsoil shall be removed to a depth of 6 inches or deeper, if necessary, to assure the removal of vegetation matter where required.

B. Topsoil shall be kept separated from suitable fill materials and shall not be used as fill under pavement and/or building areas.

C. Topsoil shall be stored at a location where it does not interfere with construction operations. Excess topsoil shall be removed from the site. Topsoil storage areas shall be approved in writing by the Owner.

D. Topsoil shall be reasonably free from subsoil debris and stones.

**V. GRADING**

A. The Contractor shall perform all grading operations to bring subgrades, after final compaction, to the grades required for site improvement.

B. Subgrade shall be proffrolled with appropriate equipment and all spongy and otherwise unsuitable material shall be removed and replaced with suitable material.

C. Subgrade for streets shall be prepared in compliance with Hamilton County specifications. Subgrade for streets shall be compacted to 95% of standard proctor in the upper 6" of depth with moisture control. Depths of embankment below the upper 6" shall be compacted to 92% of standard proctor. See Pavement Construction Section XI.

D. All fill material shall be formed from soil free of deleterious material. Prior to placement of fill, a sample of the proposed fill material should be submitted to the soils engineer for his approval. The fill material should be placed in layers not to exceed eight (8") inches in loose thickness and should be spread and dried to a moisture content which will permit proper compaction.

E. All fill material in areas outside of building and pavement areas shall be compacted lightly and protected from erosion. Areas of building construction shall not have unsuitable material placed in that location, and fill shall be compacted in accordance with the Soils Engineer's report (minimum of 95% standard proctor).

**VI. SANITARY SEWER CONSTRUCTION**

A. Current Town of Westfield and State specifications shall prevail as to materials and methods of construction.

B. The Contractor shall notify the Town of Westfield Engineer forty-eight hours prior to commencement of sanitary construction and testing. The contractor shall notify the Town of Westfield Engineer and the Engineer for scheduling of all inspections during construction.

C. Sanitary sewers shall be installed in accordance with the Indiana Department of Environmental Management (IDEM) requirements.

D. Sanitary sewers shown on the construction plans shall be PVC, ABS, PVC composite, extra strength vitrified clay, or ductile iron. PVC should conform to A.S.T.M. D-3034 (S.D.R. 35) pipe. The minimum cell classification for PVC shall be 12454B or 12454C. ABS or PVC composite pipe shall conform to A.S.T.M. D-2680. Extra strength vitrified clay pipe shall conform to A.S.T.M. C-700. Ductile iron pipe shall conform to A.N.S.I. A-21.51 (AWWA C-151).

E. All fittings and joints shall be manufactured and installed in accordance with the pipe manufacturer's specifications.

F. Sanitary manholes, including concrete adjusting rings, shall be precast concrete in accordance with A.S.T.M. C-478.

G. Castings shall be of type and kind as shown on the Structure Data Table.

H. Manufactured wyes or tees shall be used for lateral connections.

I. Water and sewer line crossings and separations shall be in accordance with Ten States Standards and local codes.

1. Where water lines and sewer lines cross and the water line cannot be placed above the sewer line a minimum of 18" with a minimum cover of 48", the sewer line shall be constructed of waterworks grade cast iron pipe with mechanical joints.

2. Where water lines and sanitary sewer lines run parallel with one another, a minimum of 10' horizontal separation shall be maintained.

J. All future sewer installation, either connected to or extended from this system, shall be constructed in accordance with these specifications.

K. No roof drains, footing drains, and/or surface water drains, including temporary connections during construction, may be connected to the sanitary sewer system.

L. Buildings shall be serviced by a 6" minimum sanitary sewer lateral. The end of the sewer lateral shall be indicated on the surface with a metal fence post set directly above its termination point. The ends shall be plugged and sealed with a water tight clay or plastic disc. Wyes are to be tilted up to 45 degrees from the horizontal, with suitable fittings for all changes in direction.

M. The Contractor shall provide the Engineer with "as-built" locations and information for all sanitary sewer laterals within ten days after completion.

N. Concrete riser sections shall have either "O" rings or rubber type gaskets which meet A.S.T.M. C-433.

O. Manhole waterstops shall be installed at all connections to manholes, where flexible-type manhole connections are not used.

P. All precast manholes shall be bedded on a 6" crushed stone foundation as shown in the Details. The granular foundation shall be compacted with vibratory tamps.

Q. The Contractor shall remove any water which may accumulate in trenches by pumping or other suitable methods.

R. The Contractor shall be responsible for all tests for leakage, infiltration, and deflection as established by the Town of Westfield and the IDEM. Any portions not passing said tests for acceptance shall be repaired or replaced at the Contractor's expense, including re-excavation and backfill costs. All testing shall be observed by a Professional Engineer for certification within forty days after completion.

S. Pipe shall be laid in open trenches, except when conditions require tunneling or jacking of pipe. Written permission from all regulatory agencies is required prior to tunneling or jacking of pipe.

T. Trenches shall be opened far enough ahead of pipe laying to reveal obstructions, and shall be properly protected and/or barricaded when left unattended.

U. Contractor shall be responsible for sheeting and bracing of trenches as necessary to protect workmen and adjacent structures. All trenching shall be done in accordance with O.S.H.A. standards to protect workmen.

V. Manhole inverts shall be shaped for flow channels with Class "B" Concrete and smoothly finished in a semi-circular section conforming to the inside diameter of the connecting sewers. Changes in size and grade shall be made by smooth true curves for all connecting sewers at each manhole.

W. Granular backfill shall be required under all pavement areas and within 5' of the edge of pavement, plus a distance of one-half the depth of the sewer in areas proximate to pavement.

**VII. EROSION PROTECTION DURING CONSTRUCTION**

A. The Contractor shall provide adequate erosion protection measures during construction.

1. Rip-rap at locations designated on the plans.

2. Swales draining the site shall be mulch seeded or sodded and Contractor shall be responsible for establishing grass cover.

3. Construction operations conducted on private or city-owned property shall be neatly finish graded and mulch seeded.

**VIII. STORM SEWER CONNECTION**

A. Storm sewer structures shall comply with current specifications of Hamilton County and all agencies with respect to design and quality of construction.

B. All storm sewer construction inside public right-of-way, either existing or proposed, shall be in accordance with Hamilton County specifications. Contractor shall notify the County Surveyor forty-eight hours prior to commencement of storm sewer construction.

C. Where reinforced concrete pipe is shown on the construction plans, it shall be in accordance with A.S.T.M. C-76 Class III Wall "B", unless otherwise specified on the plans.

D. Where corrugated metal pipe is shown on the construction plans, it shall be 16 gauge unless otherwise specified and shall have the connecting bands and seals as specified by the manufacturer. C.M.P. may be either aluminum pipe or zinc coated steel sheets in accordance with A.S.T.M. A-444.

E. Manholes, catchbasins, and inlets may be precast concrete, or poured in place concrete.

F. Precast concrete and steel for manholes and inlets shall be in accordance with A.S.T.M. C-478.

G. Castings shall be as shown on the Structure Data Table.

H. Granular backfill shall be required under all pavement areas, and within 5' of the edge of pavement, plus a distance of one-half the depth of the sewer in areas proximate to the pavement.

**IX. UTILITIES**

A. Water Line

1. See Sanitary Sewers Notes for vertical and horizontal separations (Note VI-1 and 2).

2. All water lines shall be in accordance with the Standards and Specifications of the Indiana State Board of Health and the Harbour Water Corporation. Sterilization of water mains shall be in accordance with the Indiana State Board of Health and the Harbour Water Corporation for procedures and time of treatment.

3. Pressure tests for the water system shall be done in accordance with manufacturer's recommendations and the Harbour Water Corporation specifications.

4. Granular backfill shall be required for all utility crossings under pavement areas. See Section VI-W.

5. All water lines within the existing or proposed right-of-way or special easements requested by the Harbour Water Corporation shall be ductile iron or copper and shall be installed in accordance with the local water company specifications.

6. Where private water lines are shown on the contract plans the pipe materials shall meet the Harbour Water Corporation specifications.

7. Thrust blocks shall be installed in accordance with the details contained within the plans or the Harbour Water Corporation standard specifications as applicable.

8. Felt material not to exceed 3/8 inch thick shall be placed between pipes and concrete thrust blocks.

9. All valves and appurtenances for domestic and fire protection water mains shall be approved by the Underwriters Laboratories and Factory Mutual for critical use.

B. Electric and Telephone

1. Conduit shall be required for all crossings under pavement areas.

2. Granular backfill shall be required for all crossings under pavement areas and three feet beyond the edge of the pavement.

3. Concrete pads for electric and telephone transformers shall be set at the approximate ground grade as shown on the Site Development Plans.

**X. GRANULAR BACKFILL**

Shall be in accordance with I.N.D.O.T. Standard Specifications.

**XI. PAVEMENT CONSTRUCTION**

A. All pavement construction shall be in accordance with the plans and specifications and conform to the minimum standards of Hamilton County.

B. Subgrade shall be prepared in compliance with Section 207.02 of the I.N.D.O.T. standard specifications, except that upper six inches shall be compacted to 95% of standard proctor density. No traffic shall be permitted on the prepared subgrade prior to paving.

C. Backfilling of utility trenches with granular material under pavement areas is required and shall conform to Hamilton County specifications.

D. Contractor shall notify the Hamilton County Highway Department forty-eight hours prior to commencement of street construction within any existing or proposed right-of-way.

**XII. CONCRETE CURB AND WALKS**

A. See Detail Sheet for type and details. Curbs and walks within existing or proposed right-of-way shall be constructed in accordance with Hamilton County specifications.

B. Concrete shall be ready mixed Portland cement conforming to A.S.T.M. C-150. Aggregate shall conform to A.S.T.M. C-33. Compressive strength of concrete at 28 days shall be 4000 p.s.i. Where required, reinforcement shall be welded steel wire fabric conforming to A.S.T.M. A-185.

C. Application

1. Place concrete only on a moist, compacted subgrade or base free from loose material. Place no concrete on muddy or frozen subgrade.

2. Concrete shall be deposited so as to require as little rehandling as practical. When concrete is to be placed at an atmospheric temperature of 35+/-F. or less, Paragraph 702.10 of the I.N.D.O.T. Specifications, 1988 edition, shall apply.

3. Except as otherwise specified, cure all concrete by one of the methods described in Section 501.17 of the I.N.D.O.T. Specifications, 1988 edition.

**XIII. FINISH GRADING AND SEEDING (Developer shall designate location if required.)**

A. Topsoil or approved fill shall be spread over the rough grade to a depth sufficient to insure finish grades are met after rolling and settlement. The minimum thickness of the topsoil shall not be less than 4". New grades shall slope uniformly between levels established on the plans. Intersections of new grades with existing grades shall be uniform and smooth.

B. Fertilizer and agricultural limestone shall be spread uniformly over the area to be seeded and mixed into the top two inches of soil with a disk harrow, rotary tiller, or other approved equipment. Fertilizer shall be spread at the rate of 800 pounds per acre and agricultural limestone at the rate of one-half ton per acre, unless otherwise specified.

C. A seeding mixture in stripping, cut, or fill areas shall be applied at a rate of 90 pounds per acre with a mixture as follows: 18 lbs. Kentucky Bluegrass, 18 lbs. Park Kentucky Bluegrass, 18 lbs. Delta Kentucky Bluegrass, 10 lbs. Pennlawn Fescue and 26 lbs. Annual Ryegrass. Wood cellulose fibre, straw or mulch, as approved by the Engineer shall be applied at a rate of 3/4 tons per acre.

**XIV. LIME MODIFIED SOIL (Developer shall designate location if required.)**

A. The use of Lime Modification shall be used to improve the upper 12" of subgrade that does not conform to Section 207 of the 1988 I.N.D.O.T. Specifications. The lime used shall be "Polyhydrated Lime, Code L", as manufactured by Mississippi Lime, or equal. The following construction procedures shall be utilized.

1. The subgrade shall be placed to the proper grade.

2. Lime shall be dry placed on the subgrade at an application rate of 24 to 36 pounds per square yard as directed by the Engineer. The lime and soil shall then be mixed by tractor-drawn disc harrows, scarifiers, rotary mixers, or front end loaders equipped with bucket teeth. Several passes shall be made to a depth of 12" as directed by the Engineer.

3. Initial compaction shall be performed with a sheepfoot roller. The soil and lime shall be compacted in 6" lifts until the proper grade is obtained. Grading will be accomplished by blading the excess to one lane and compacting the mixed lime and soil in the 6" lifts. The final passes shall be made with a steel wheel or pneumatic-tired roller as approved by the Engineer.

4. The density of the soil-lime mixture will be determined by the Hamilton County Highway Department near the end of the finishing operations. Any portion of the soil-lime mixture not passing the density requirements shall be determined by the Hamilton County Highway Department in accordance with AASHTO T-191.

5. When compaction of the lime-soil mixture is nearing completion, the surface shall be sloped to the required lines, grades, and cross section, and compaction continued using a steel wheeled roller until the minimum specified density is obtained.

6. The surface shall be maintained in a moist condition by means of a fine spray of water during all finishing operations. The treated material shall be maintained in a moist condition by sprinkling with water for a period of seven days, or thereafter until in the opinion of the Engineer the lime-modified soil will support traffic without being damaged. When allowed on the subgrade, traffic shall exercise further care in driving over it so as not to tear up the subgrade.

7. Caution: Lime and lime mixtures are caustic in nature. The manufacturer of the lime shall be consulted to determine what special precautions are required to protect the skin, and particularly the eyes.

**XV. FORCE MAIN**

A. PVC Force Main shown on the construction plans shall be Poly(vinyl Chloride) Pipe Bell-Ring, as manufactured by Ethyl Corporation or approved equal. The pipe shall have a gasketed joint with an integral bell which is a homogeneous part of the pipe. The pipe and accessories shall be certified to meet or exceed the following specification standards and approvals:

1. Pipe shall be in accordance with A.S.T.M. D2241 Standard Specification with a Standard Dimension ratio of 21 (SDR-21).

2. Pipe and Fitting Compound shall be in accordance with A.S.T.M. D1784 Standard Specification for Rigid Poly (Vinyl Chloride) Compounds.

3. Joints shall be in accordance with A.S.T.M. D3139 Standard Specifications for Plastic Pressure Pipes using Flexible Elastomeric Seals.

4. Fabricated Fittings shall be in accordance with Standard Specifications for A.S.T.M. D2564, A.S.T.M. D2855, A.S.T.M. D2241 and A.S.T.M. D2466 as applicable.

5. Lubricant - Pipe must be fitted with the use of a non-toxic lubricant.

6. Gaskets shall be in accordance with A.S.T.M. F477 Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

7. Manufactured pipes must conform to the following:

a. Quick Burst Test, A.S.T.M. 1599, for 755 p.s.i. without failure of pressure in 60 to 70 seconds.

b. Sustained Pressure Test, A.S.T.M. Method D1598, for 1000 hours at a pressure of 260 p.s.i.

c. Acetone Immersion Test, in accordance with A.S.T.M. 2152, after twenty minutes immersion in a sealed container of anhydrous (99.5% pure) acetone, a sample shall show no visible flaking, spalling or disintegration.

d. Vice Flating Test, A.S.T.M. 2241, placed between two flat parallel plates a 2" long ring shall be compressed to 60% of the outside diameter in 2 to 5 minutes and there shall be no evidence of splitting or shattering.

**XVI. REMOVAL OF PAVEMENT, SIDEWALKS, CURBS, ETC.**

A. Pavement removal shall consist of the removal and satisfactory disposal of bituminous pavement or the total of any combination of base, binder and surface course of any pavement on a rigid base (including the base).

B. Prior to performing the work of pavement removal at locations indicated on the plans, or where directed, cement concrete pavement to be removed shall be cut with a power driven concrete saw along designated lines. Sawing shall be such that any portion of the pavement to remain in place will not be damaged. Any portion that is damaged or removed outside the designated lines shall be replaced by the Contractor, at his expense.

**XVII. SEALING CRACKS AND JOINTS IN BITUMINOUS PAVEMENT**

A. Reflection cracks and joints, both longitudinal and transverse, as well as checked, cracked and alligator areas shall be sealed using from 0.10 to 0.15 gallon per square yard of AE-90 or AE-150 bituminous material and covering with either No. 14-2 or No. 17 sand. The cracks, joints and alligator areas shall be cleaned by blowing with compressed air or other suitable means prior to the placing of the bituminous sealing material. The bituminous material shall be allowed to penetrate the cracks and joints in the existing surface and any surplus shall be squeegeed back and forth over the area to refill them. Any excess material shall be squeegeed off the pavement. The sealed surface shall be covered with approximately 5 pounds of sand per square yard.

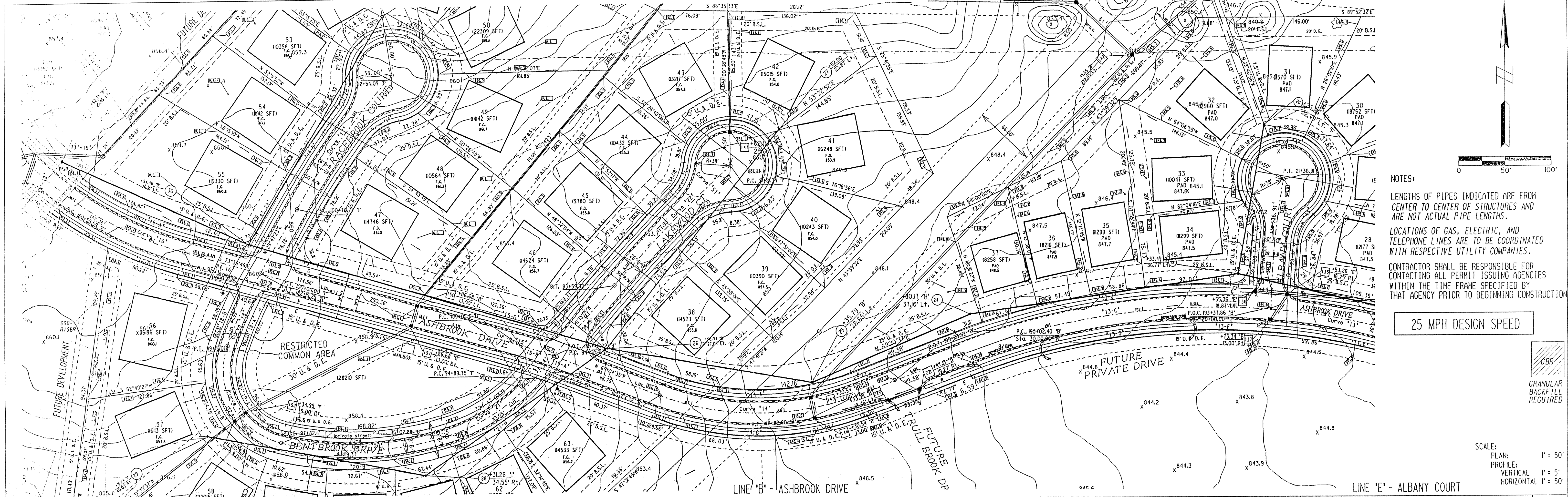
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FILED  
JUL 31 1996  
OFFICE OF HAMILTON COUNTY SURVEYOR

Sanitary and Storm  
AS-BUILTS

Revisions and Dates:		Designed by:		<b>Mid States Engineering, Inc.</b> 501 Congressional Blvd., Suite 110 Carmel, IN 46032 317-843-5080	Title:  <b>SPECIFICATIONS</b>
MARCH 5, 1992	Drawn by:	Scale: N/A Job No.: 174-0548 Tube No.: Sheet No.: Of: 75			
REV. 3/16/92	Checked by:				
REISSUED 4/10/92	Approved by:				
RE-ISSUED 4/27/92	Date: 1/31/92				

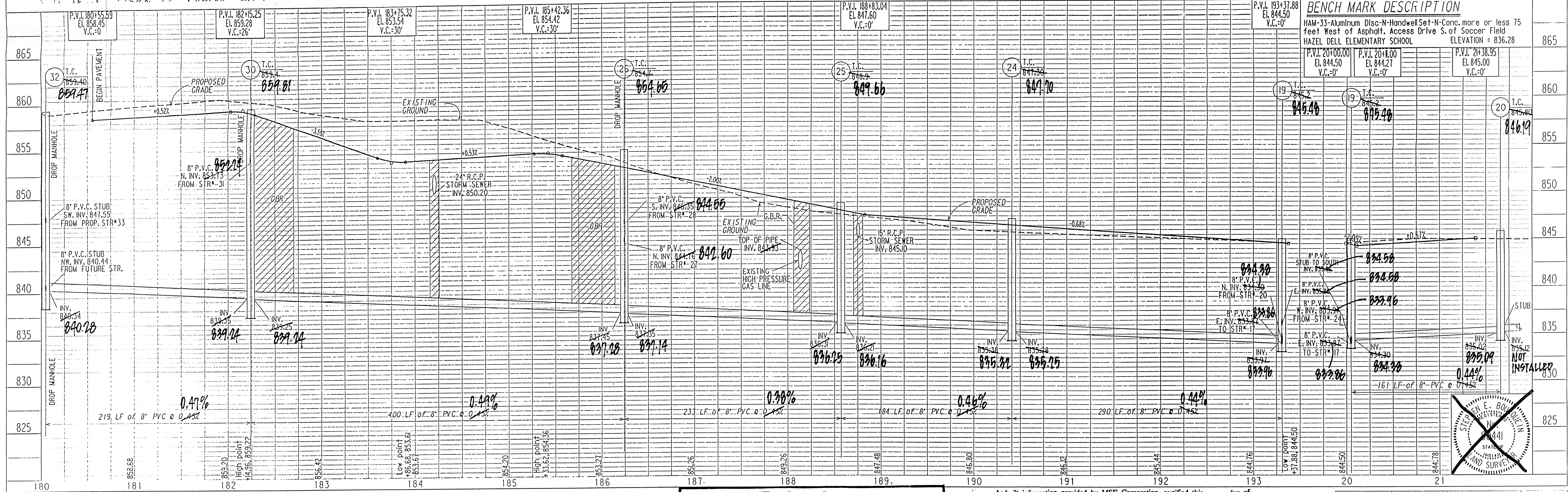




NOTES:  
 LENGTHS OF PIPES INDICATED ARE FROM CENTER TO CENTER OF STRUCTURES AND ARE NOT ACTUAL PIPE LENGTHS.  
 LOCATIONS OF GAS, ELECTRIC, AND TELEPHONE LINES ARE TO BE COORDINATED WITH RESPECTIVE UTILITY COMPANIES.  
 CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PERMIT ISSUING AGENCIES WITHIN THE TIME FRAME SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING CONSTRUCTION.

25 MPH DESIGN SPEED

SCALE:  
 PLAN: 1" = 50'  
 PROFILE: 1" = 5'  
 HORIZONTAL: 1" = 50'



MSE Engineering  
**Sanitary and Storm**  
**AS-BUILTS**

As-built information provided by MSE Corporation, certified this day of \_\_\_\_\_, 1992.  
 THE VILLAGES AT PEBBLE BROOK  
 SECTION ONE  
**FILED**  
 JUL 31 1992  
 OFFICE OF HAMILTON COUNTY SURVEYOR

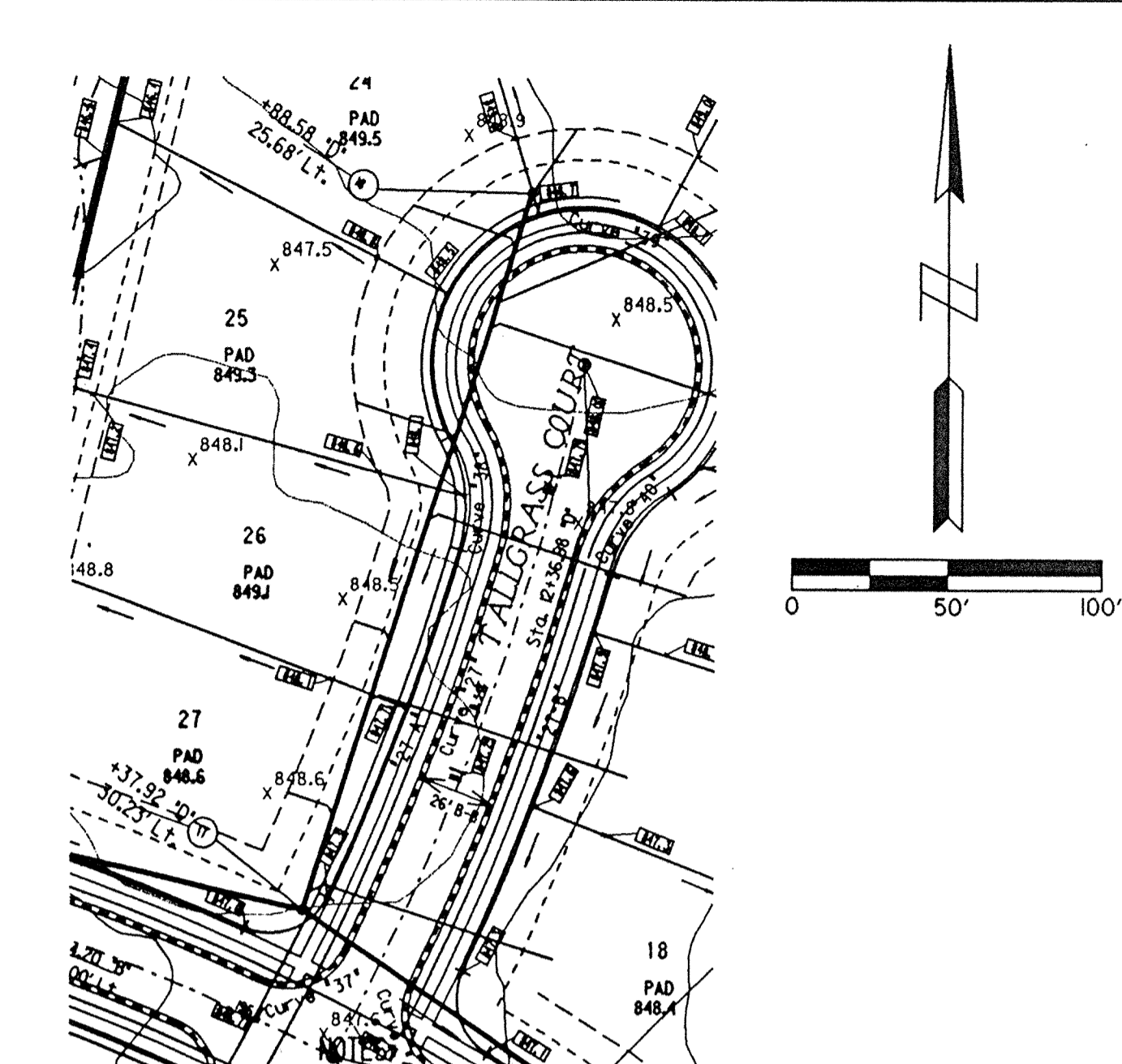
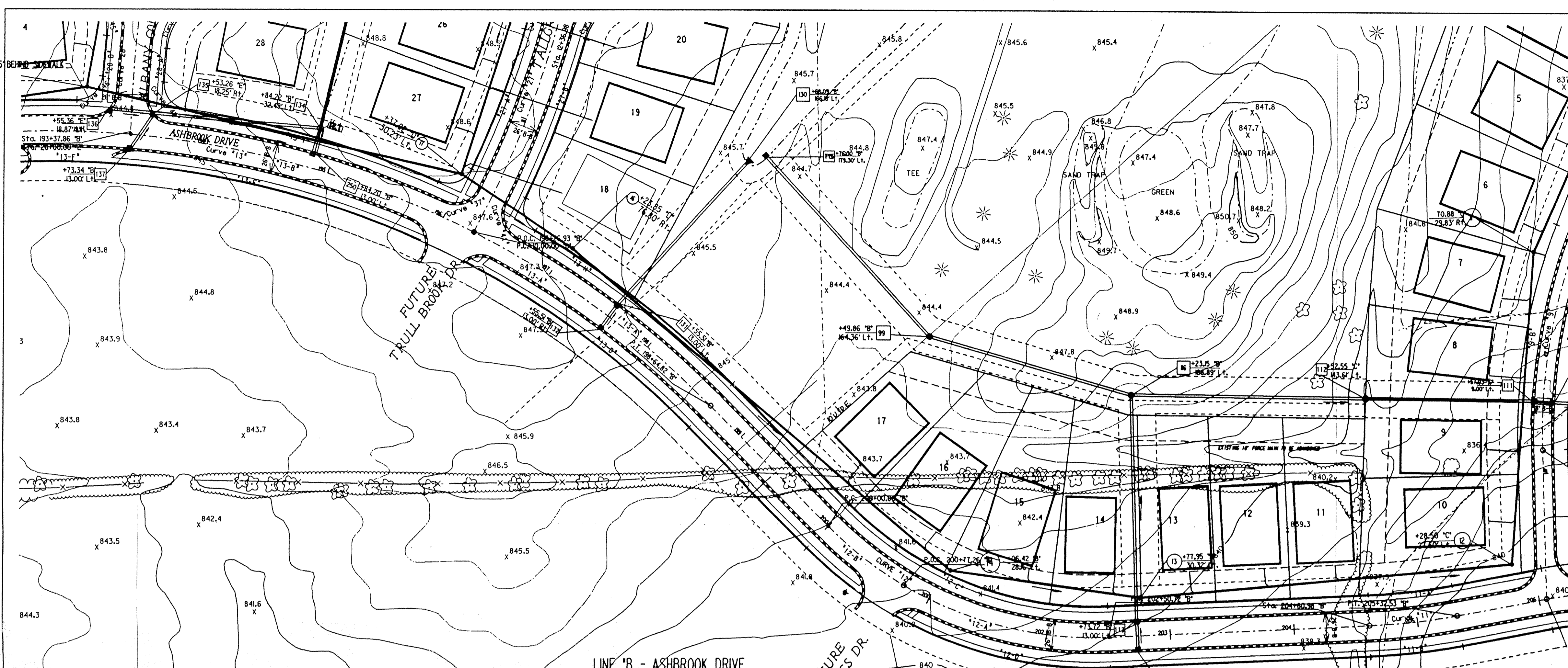
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	DDN	PRF
84-0548	'8E'	14	14	5485PYS	5485PYS

MARCH 5, 1992  
 REVISION MARCH 16, 1992  
 REVISION APRIL 10, 1992  
 REVISION SEPT. 14, 1992 PER DRT BALANCE  
 REVISION SEPT. 23, 1992 PER FIELD LOCATION

30 of 14  
 STREET & SANITARY SEWER  
 PLAN & PROFILES

PLAN	SURVEYED	BY	DATE
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	NOTED		
	BY		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	NOTED		
	BY		
	NO.		



LENGTHS OF PIPES INDICATED ARE FROM CENTER-TO-CENTER OF STRUCTURES AND ARE NOT ACTUAL PIPE LENGTHS.

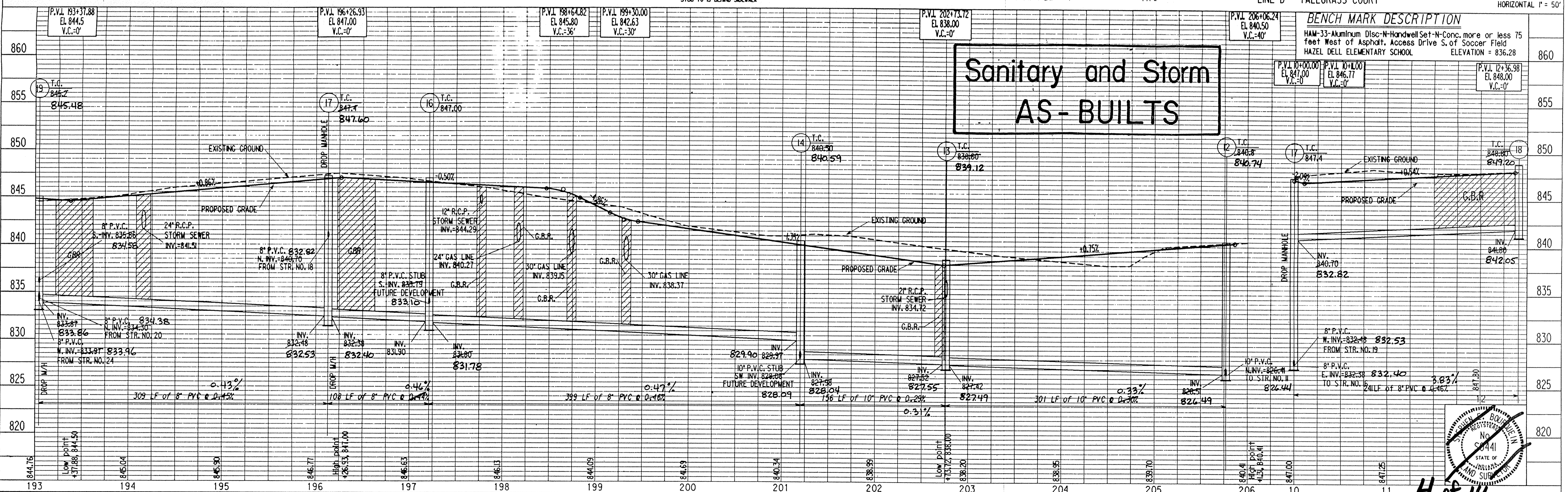
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GRANULAR BACKFILL REQUIRED

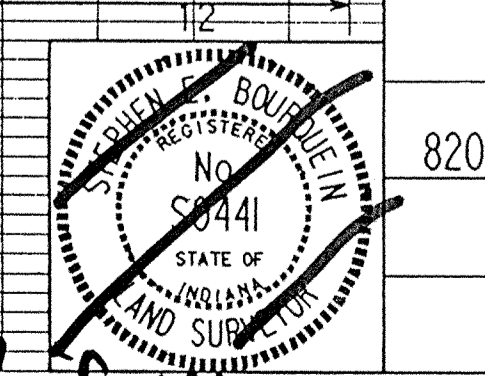
25 MPH DESIGN SPEED

SCALE:  
PLAN: 1" = 50'  
PROFILE: 1" = 5'  
VERTICAL: 1" = 5'  
HORIZONTAL: 1" = 50'



# Sanitary and Storm AS-BUILTS

BENCH MARK DESCRIPTION	
HAM-33 Aluminum Disc-N-Handwell Set-N-Conc. more or less 75 feet West of Asphalt. Access Drive S. of Soccer Field	ELEVATION = 836.28
HAZEL DELL ELEMENTARY SCHOOL	



MSE Engineering

THE VILLAGES AT PEBBLE BROOK  
SECTION ONE  
JUL 01 1992

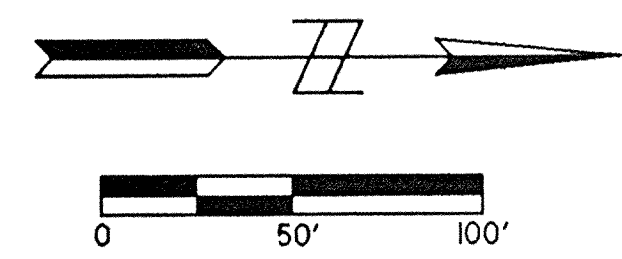
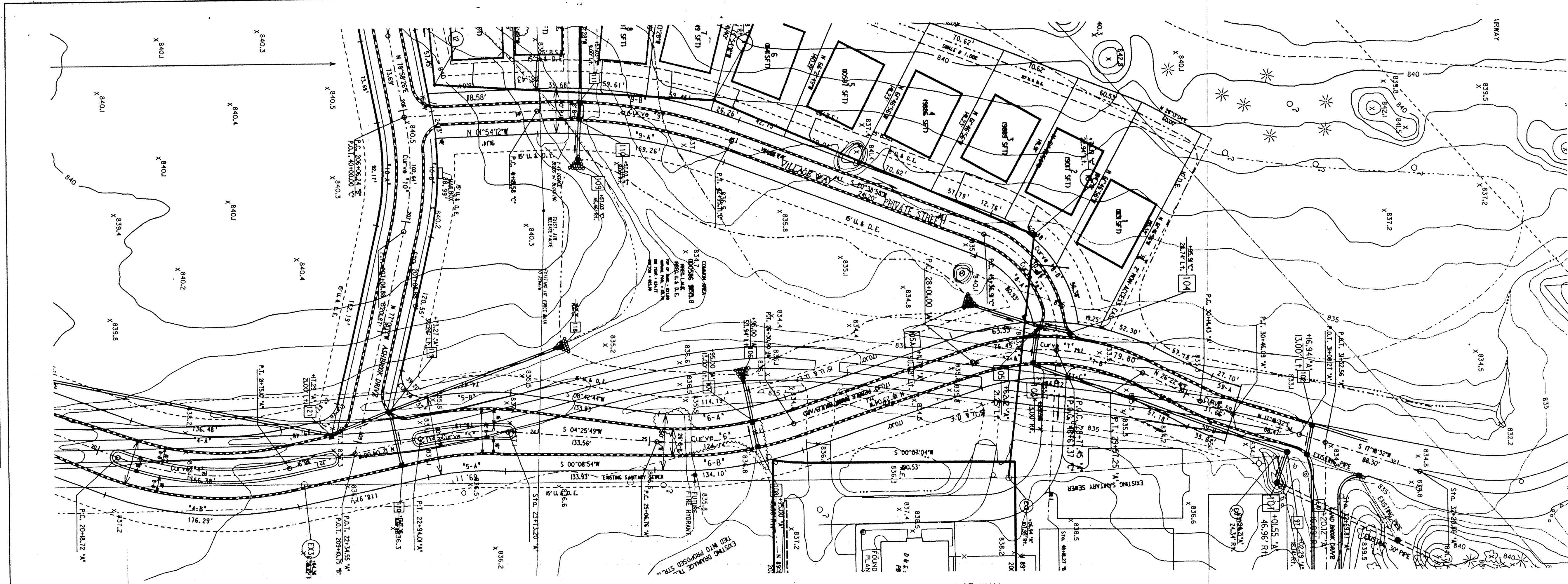
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	DATE	REVISED
84-0548	"B" & "D"	25	5485PPT	5485PPT	5485PPT

MARCH 5, 1992  
REVISED MARCH 16, 1992  
REVISED APRIL 10, 1992  
RE-ISSUED 4/27/92

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PLAN	DATE
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PROFILE	DATE
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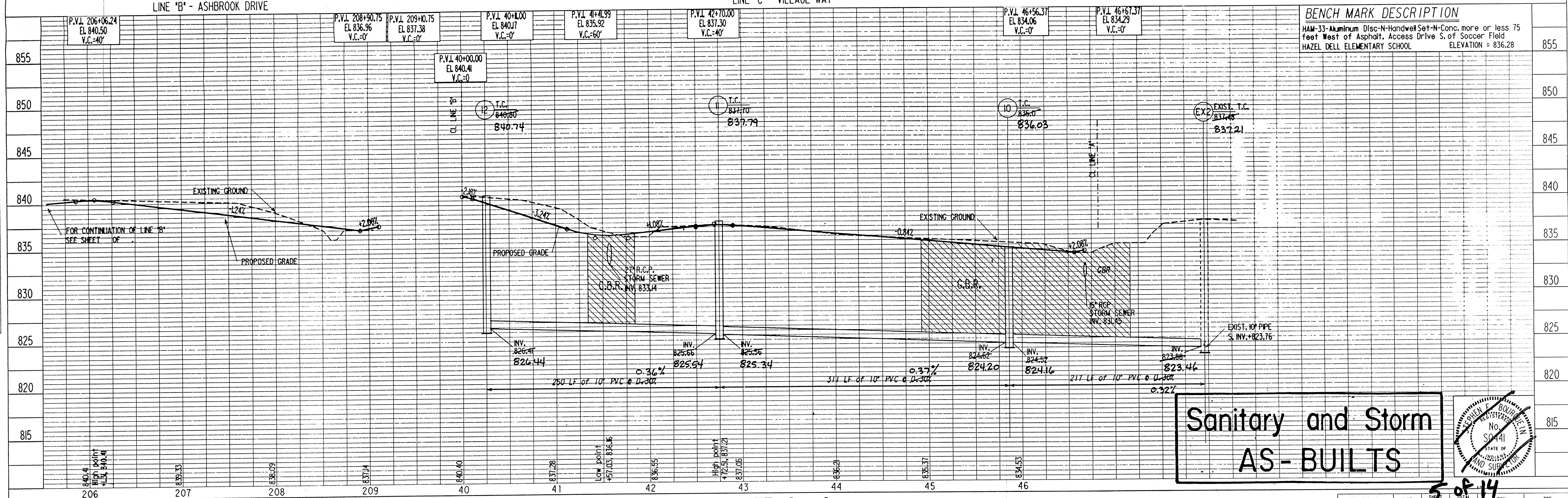
CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PERMIT ISSUING AGENCIES WITHIN THE TIME FRAME SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING CONSTRUCTION.

GRANULAR BACKFILL REQUIRED

CBR

**25 MPH DESIGN SPEED**

SCALE: PLAN: 1" = 50'  
 PROFILE: 1" = 5'  
 HORIZONTAL: 1" = 50'

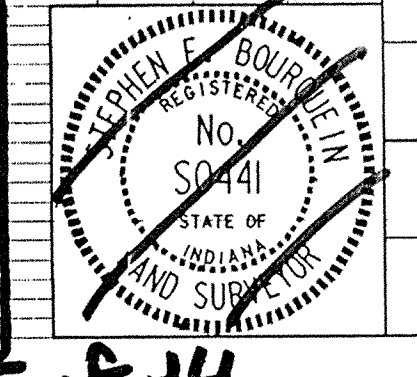


**BENCH MARK DESCRIPTION**

HAM-33 Aluminum Disc-N-Handwell Set-N-Conc. more or less 75 feet West of Asphalt, Access Drive S. of Soccer Field

HAZEL DELL ELEMENTARY SCHOOL ELEVATION = 836.28

**Sanitary and Storm AS-BUILTS**



MSE Engineering

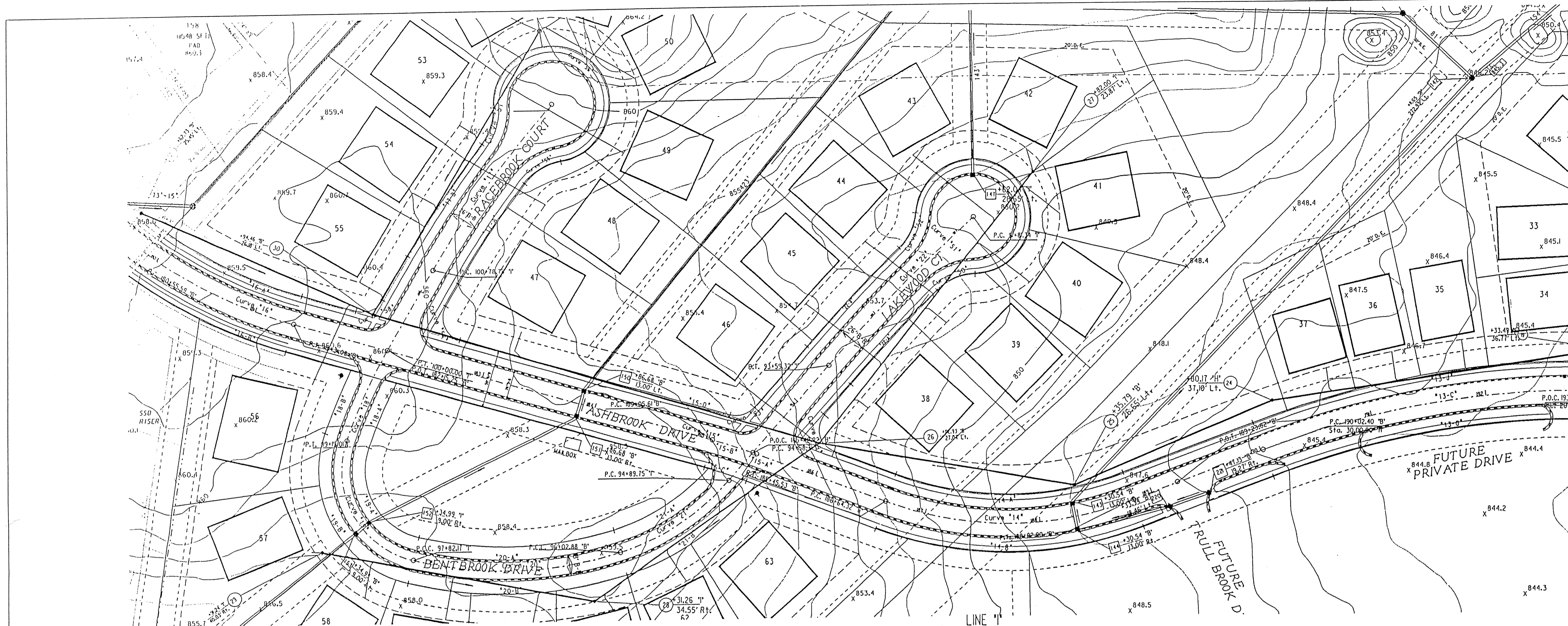
THE VILLAGES AT PEBBLE BROOK SECTION ONE

PROJECT NO.	LINE	DATE	DGN	PRF
04-0548	"B" & "C"	25	548SPD	548SPFD

MARCH 5, 1992  
 REV. MARCH 12, 1992  
 REV. MARCH 16, 1992  
 REV. APRIL 10, 1992  
 RE-ISSUED 4/27/92

STREET AND SANITARY SEWER PLAN & PROFILES

FILED  
 JUL 31 1998  
 OFFICE OF HAMILTON COUNTY SURVEYOR

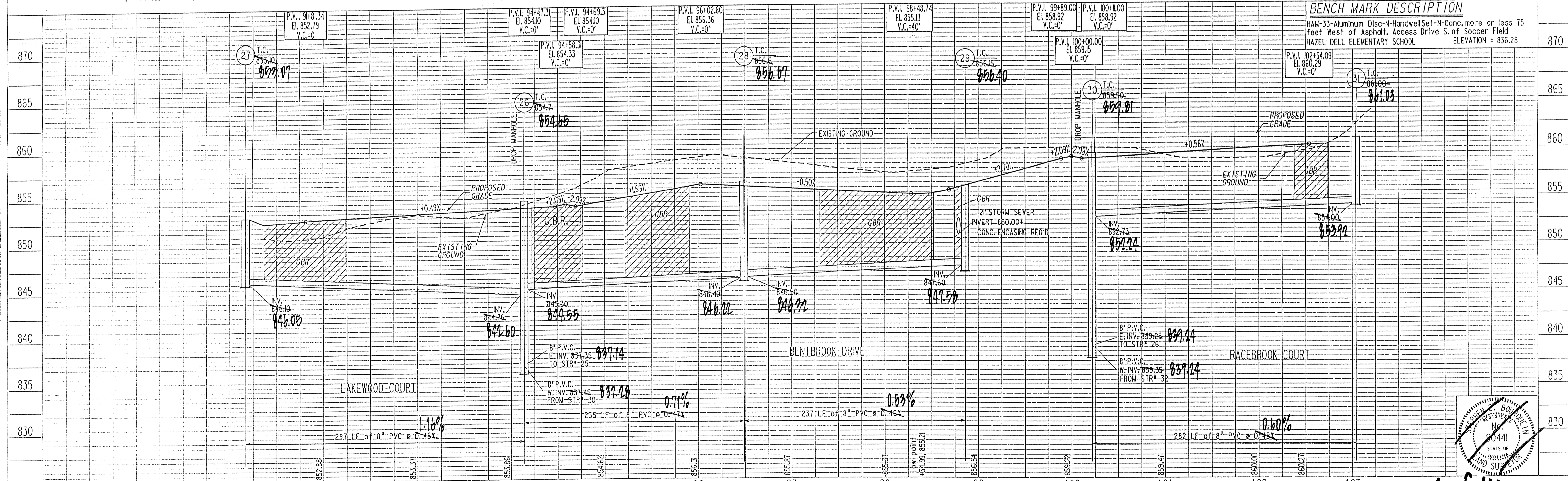


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GRANULAR BACKFILL REQUIRED  
 GBR

25 MPH DESIGN SPEED

SCALE:  
 PLAN: 1" = 50'  
 PROFILE: 1" = 5'  
 HORIZONTAL: 1" = 50'



**MSE Engineering**  
**Sanitary and Storm**  
**AS-BUILTS**

As-built information provided by MSE Corporation, certified this \_\_\_\_\_ day of \_\_\_\_\_, 1992.

Jeffrey A. Meyerrose  
 Registered Land Surveyor No. 890003-IN

PROJECT NO. 84-0548  
 LINE 11  
 SHEET 13 OF 14

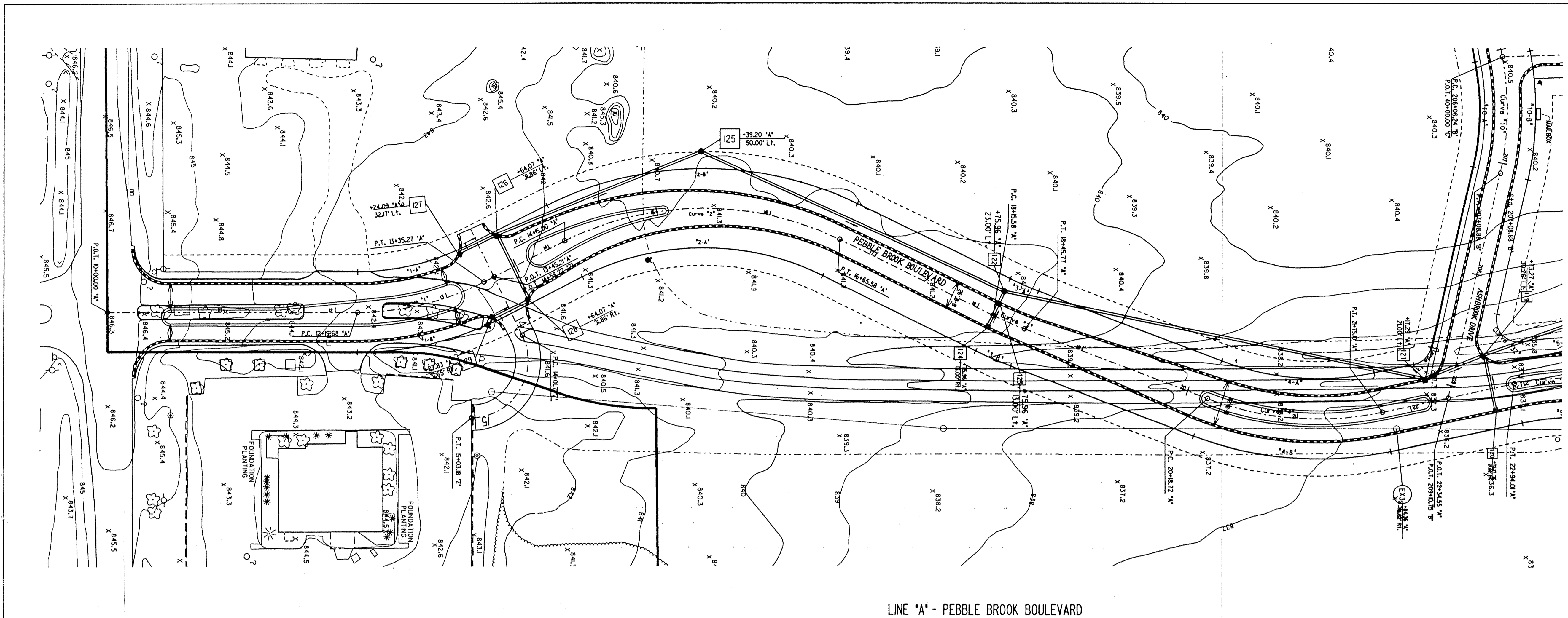
DATE: 04-05-92  
 DGN: 5485PP3  
 PRP: 5485PP3

FILED  
 JUL 31 1992  
 OFFICE OF HAMILTON COUNTY SURVEYOR

STREET & SANITARY SEWER  
 SECTION I  
 PLAN & PROFILES  
 MARCH 5, 1992  
 REVISED MARCH 16, 1992  
 REVISED APRIL 10, 1992  
 REVISED SEPT. 14, 1992 PER DIRT BALANCE  
 REVISED SEPT. 23, 1992 PER FIELD LOCATION

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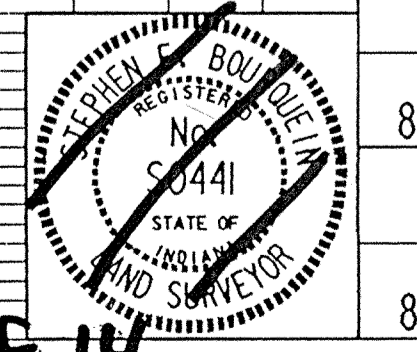
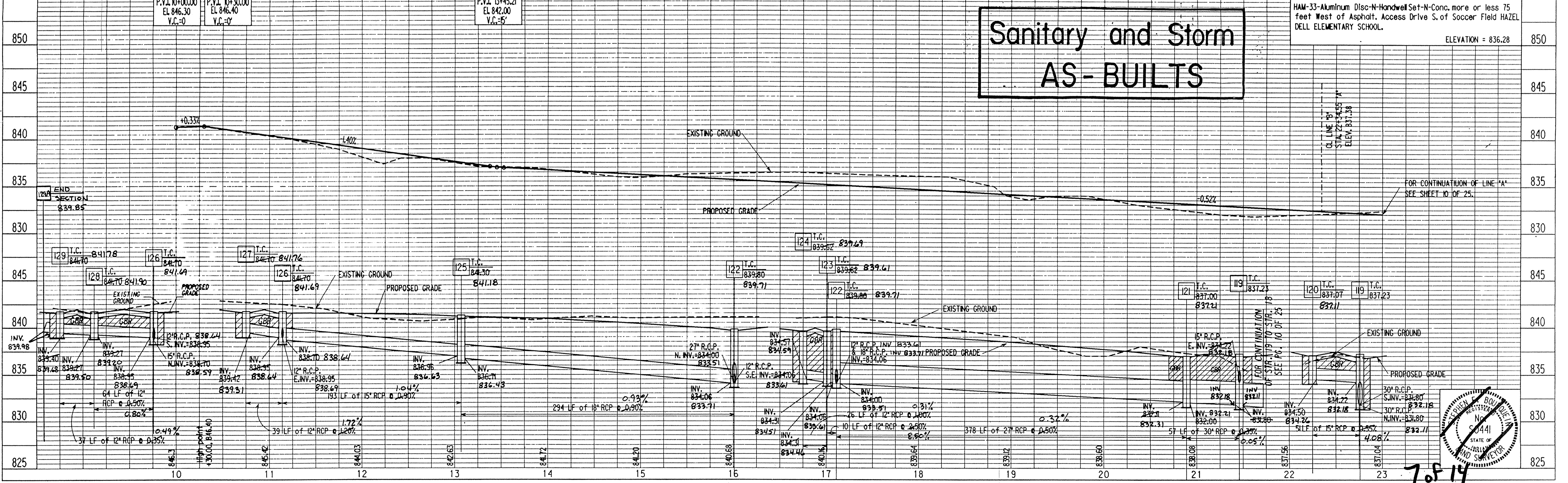


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 SCALE: PLAN: 1" = 50'  
 PROFILE: 1" = 50'  
 VERTICAL: 1" = 50'  
 HORIZONTAL: 1" = 50'

LINE 'A' - PEBBLE BROOK BOULEVARD

# Sanitary and Storm AS-BUILTS

HAM-33-Aluminum Disc-N-Handweld Set-N-Conc. more or less 75 feet West of Asphalt. Access Drive S. of Soccer Field HAZEL DELL ELEMENTARY SCHOOL.  
 ELEVATION = 836.28



MSE Engineering

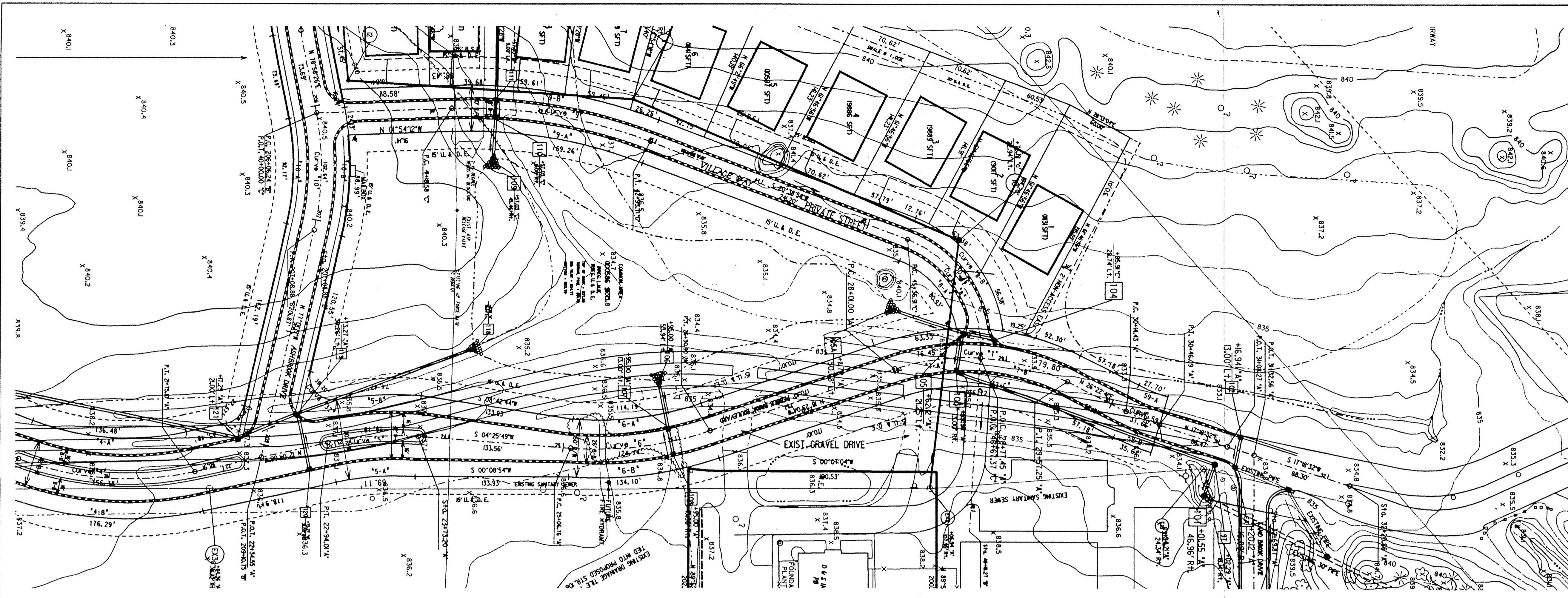
THE VILLAGES AT PEBBLE BROOK SECTION ONE

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	DN	PRF
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MARCH 5, 1992  
 REVISED MARCH 16, 1992  
 REVISED APRIL 10, 1992  
 RE-ISSUED 4/27/92

STREET AND STORM PLAN AND PROFILES

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APPROVED	
NO. OF SHEETS	
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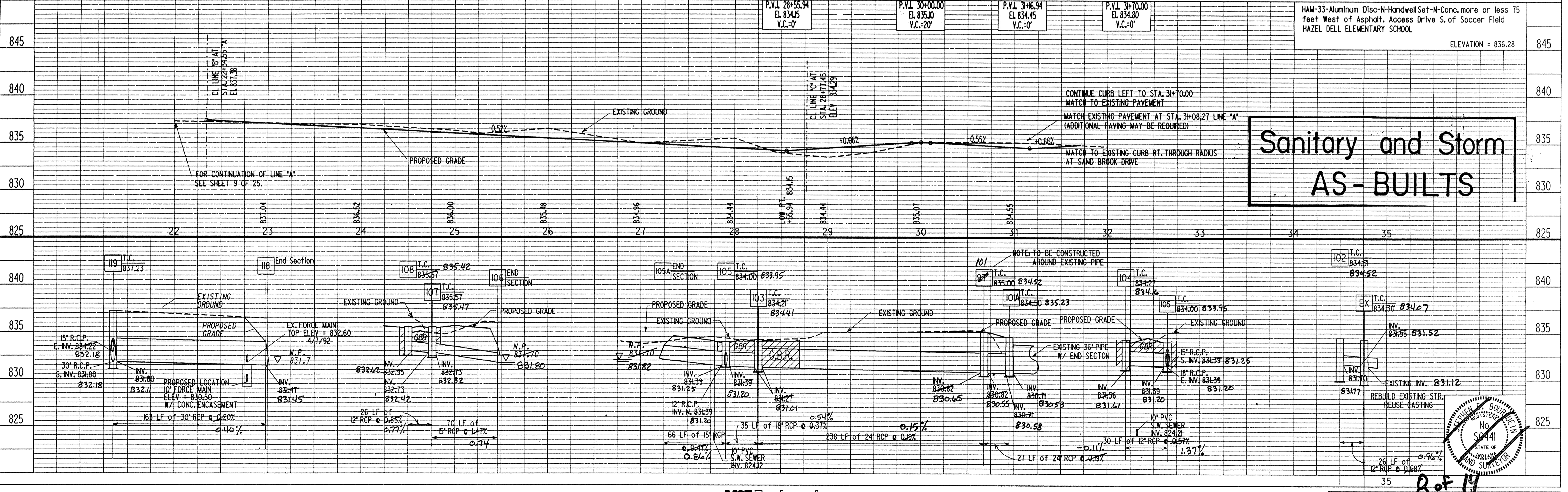
**25 MPH DESIGN SPEED**

SCALE: PLAN 1" = 50'  
 PROFILE 1" = 5'  
 HORIZONTAL 1" = 50'

**BENCH MARK DESCRIPTION**

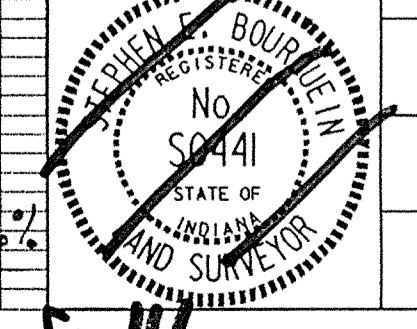
LINE 'A' - PEBBLE BROOK BOULEVARD

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BY	
APPROVED	
NO. OF SHEETS	
NO. OF THIS SHEET	
NO. OF THIS SHEET	
NO. OF THIS SHEET	
NO. OF THIS SHEET	



HAM-33 Aluminum Disc-N-Handwell Set-N-Conc. more or less 75 feet West of Asphalt, Access Drive S. of Soccer Field HAZEL DELL ELEMENTARY SCHOOL

ELEVATION = 836.28



**MSE Engineering**

THE VILLAGES AT PEBBLE BROOK  
 SECTION ONE  
**FILED**

PROJECT NO.	LINE	TOTAL SHEETS	DSN	PRF
14-0548	'A'	25	5485PP2	5485PP2

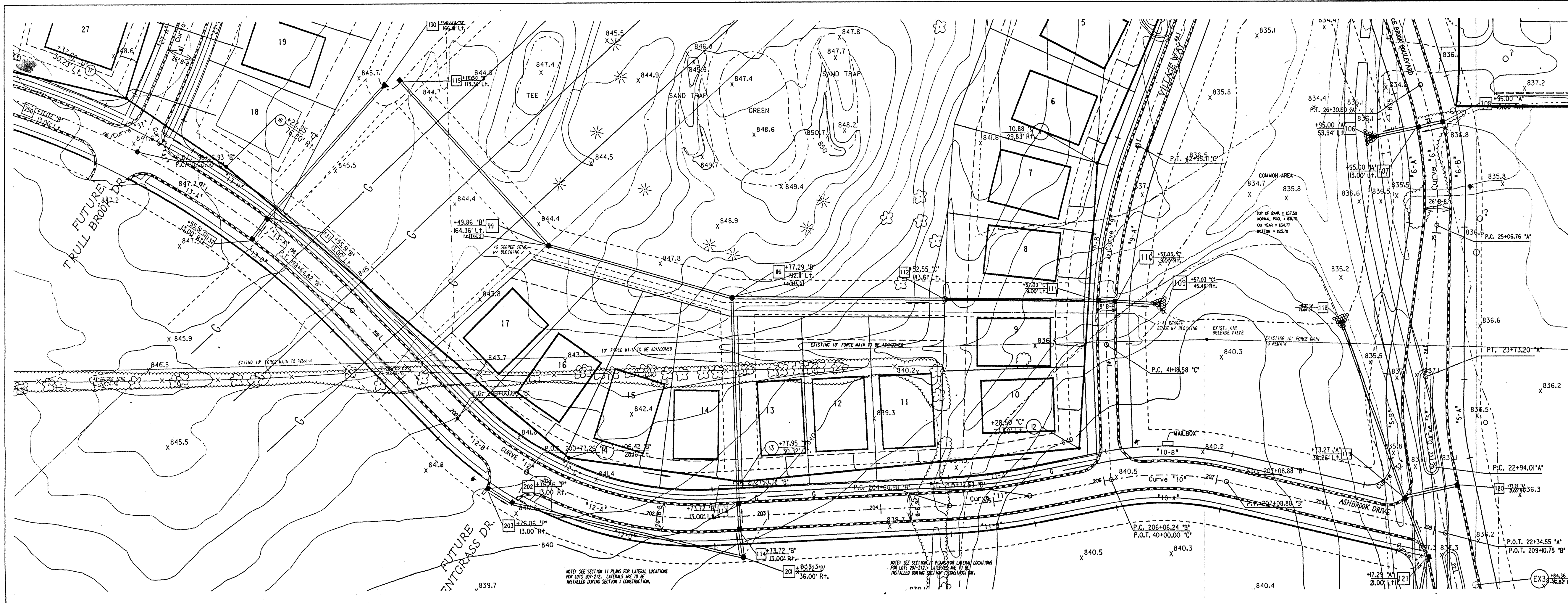
MARCH 5, 1992  
 REV. MARCH 16, 1992  
 REV. APRIL 20, 1992  
 RE-ISSUED 4/27/92

OFFICE OF HAMILTON COUNTY SURVEYOR

STREET & STORM SEWER PLAN & PROFILES

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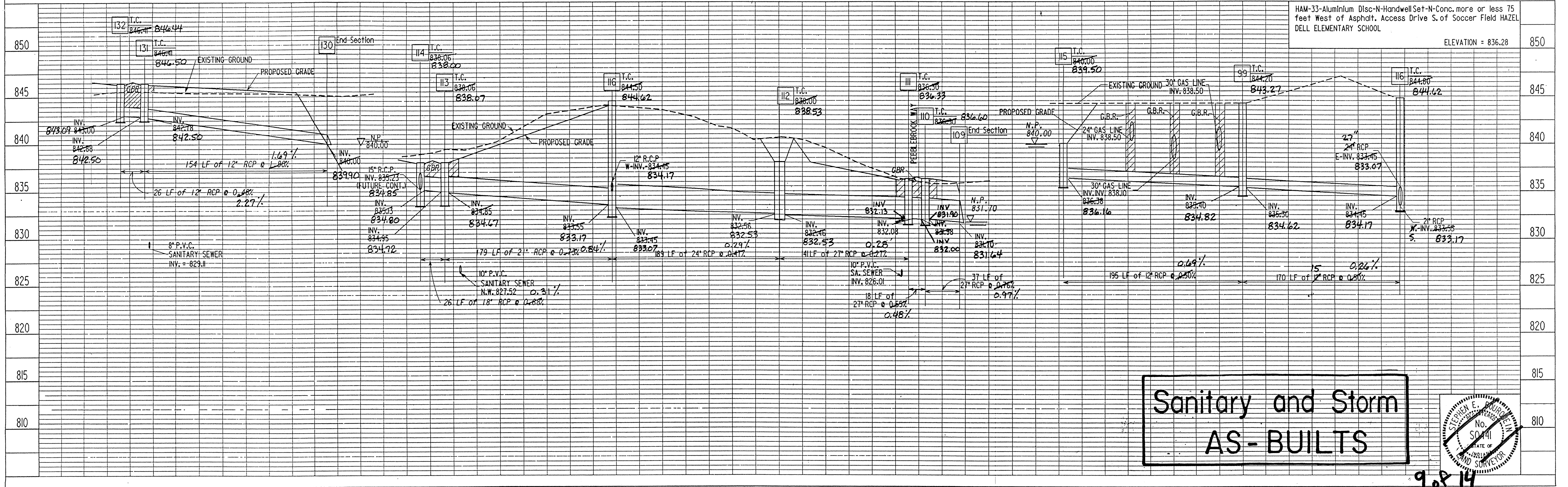


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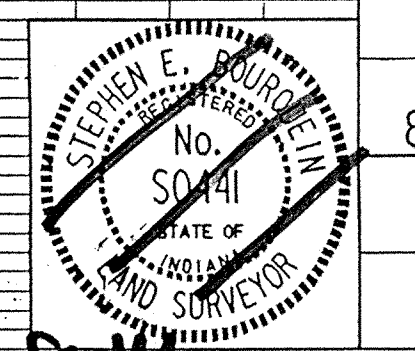
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 PLAN: P = 50'  
 PROFILE: P = 5'  
 VERTICAL: P = 5'  
 HORIZONTAL: P = 50'

**BENCH MARK DESCRIPTION**

HAM-33 Aluminum Disc-N-Handwell-Set-N-Conc. more or less 75 feet West of Asphalt. Access Drive S. of Soccer Field HAZEL DELL ELEMENTARY SCHOOL  
 ELEVATION = 836.28



**Sanitary and Storm AS-BUILTS**



MSE Engineering

THE VILLAGES AT PEBBLE BROOK  
 SECTION ONE  
 OFFICE OF HAMILTON COUNTY SURVEYOR

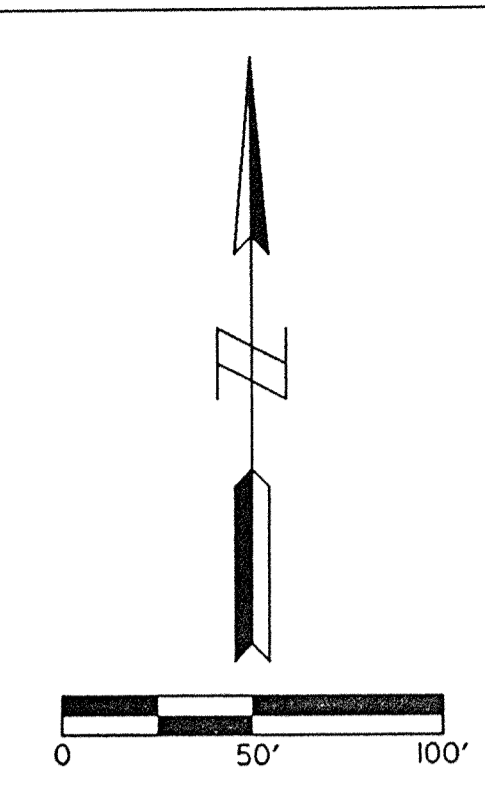
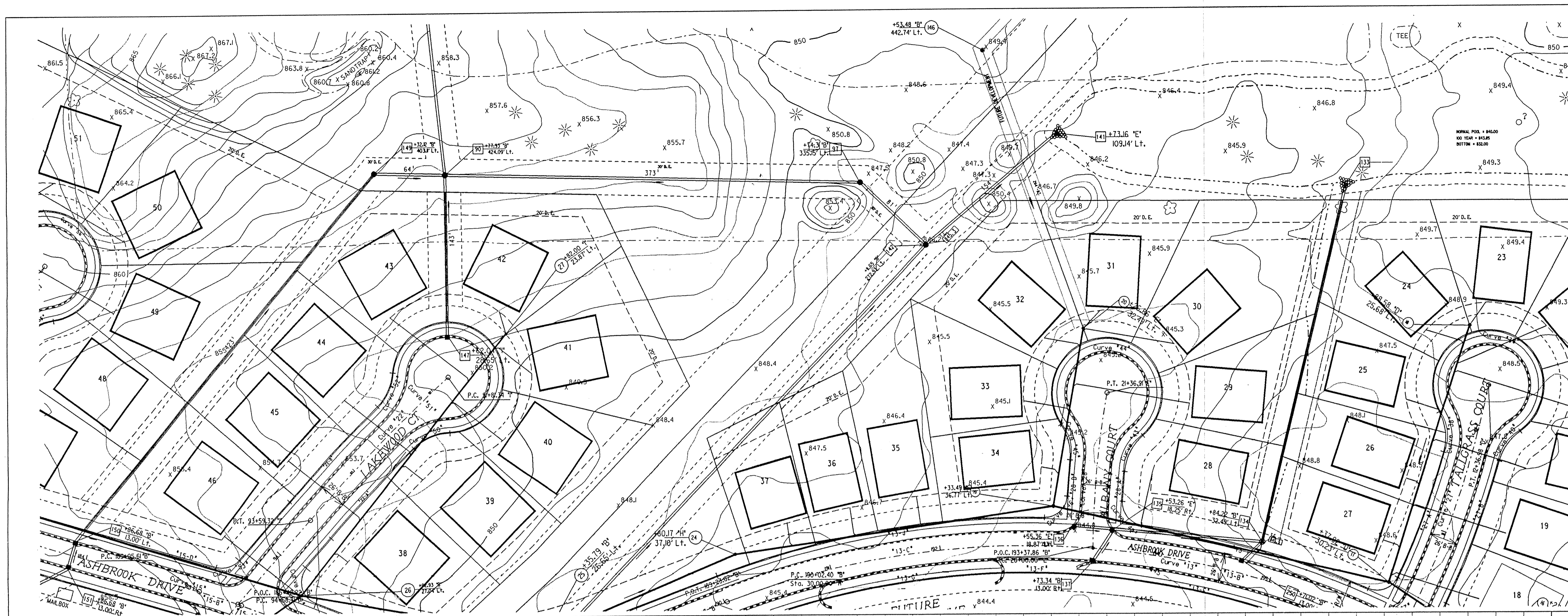
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	DGN	PRF
84-0548		25	5485PP3	5485PP3	5485PP3

MARCH 5, 1992  
 REV. MARCH 16, 1992  
 REV. APRIL 10, 1992  
 REISSUED 5/4/92

STORM SEWER PLAN & PROFILES

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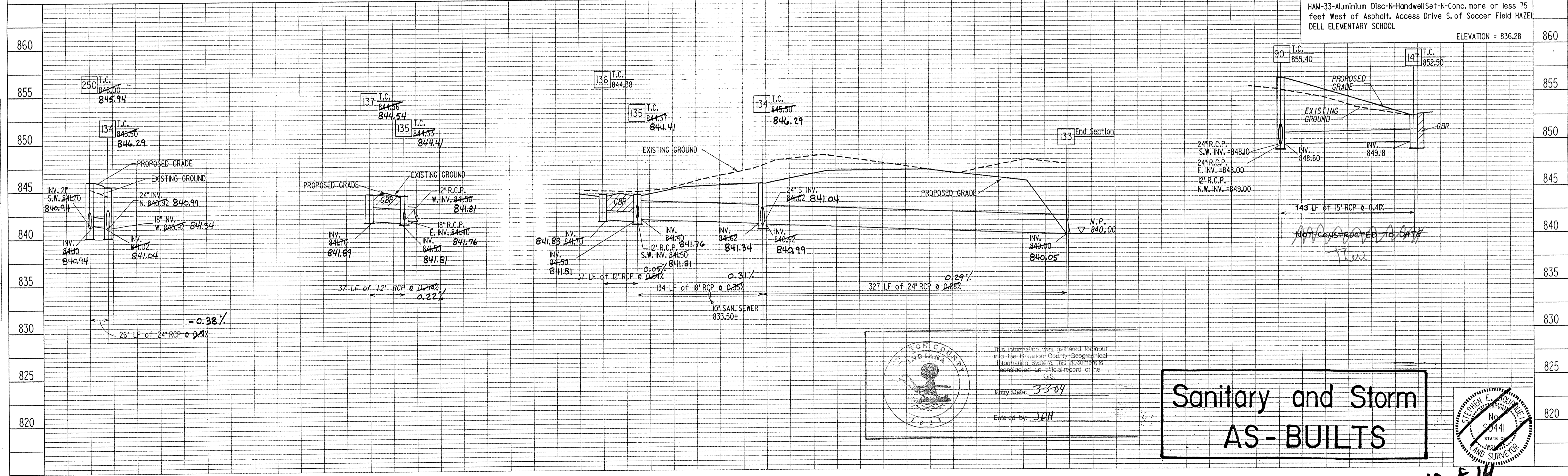
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CHECKED	
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25 MPH DESIGN SPEED SCALE: PLAN: 1" = 50'  
 PROFILE: 1" = 5'  
 HORIZONTAL: 1" = 50'

DATE	
BY	
PLANNED	
DESIGNED	
CHECKED	
NO.	



HAM-33-Aluminum Disc-N-Handwell Set-N-Conc. more or less 75 feet West of Asphalt. Access Drive S. of Soccer Field HAZEL DELL ELEMENTARY SCHOOL ELEVATION = 836.28

Seal of Hamilton County, Indiana  
 This information was gathered for input into the Hamilton County Geographic Information System. This document is considered an official record of the GIS.  
 Entry Date: 3-3-04  
 Entered by: JAH

**Sanitary and Storm AS-BUILTS**

Seal of the State of Indiana, Surveyor  
 No. 5441  
 STATE OF INDIANA  
 LAND SURVEYOR

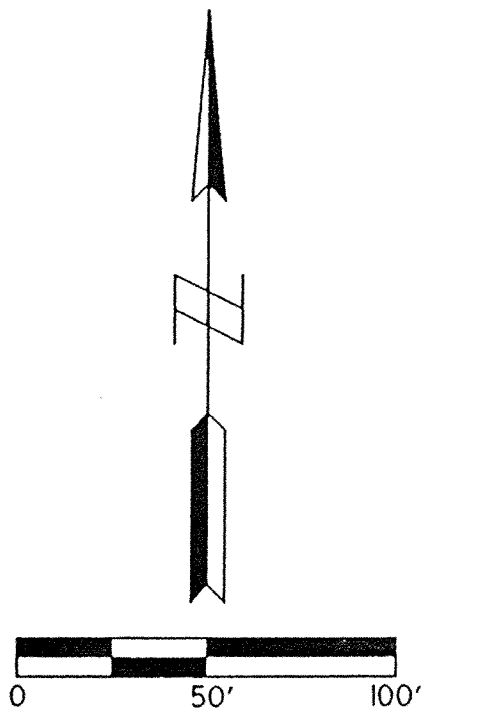
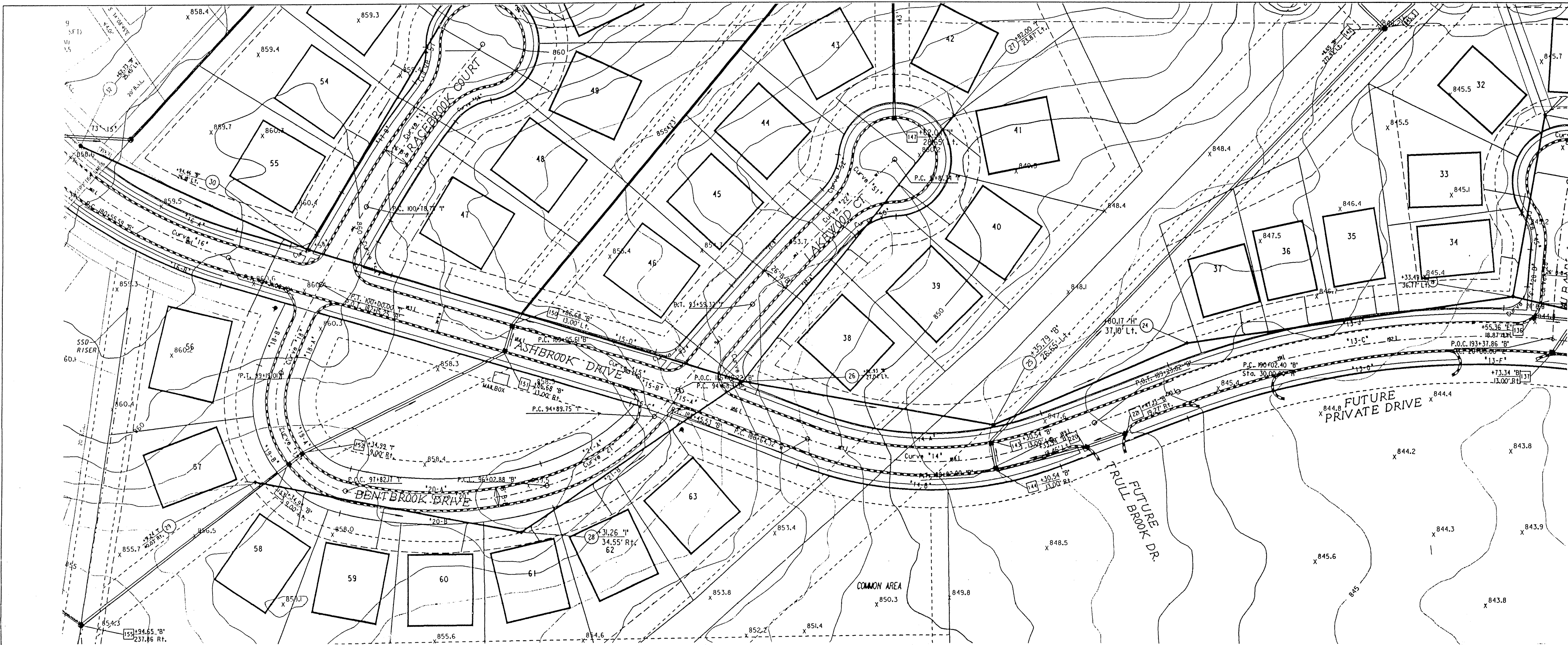
MSE Engineering

THE VILLAGES AT PEBBLE BROOK SECTION ONE

PROJECT NO.	84-0548	LINE NO.	10 OF 14	TOTAL SHEETS	24	DCW	548SPP4	PPF	548SPP4
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MARCH 5, 1992  
 REVISED MARCH 16, 1992  
 REVISED APRIL 10, 1992  
 REVISED SEPT. 22, 1992 PER FIELD LOCATION  
 STORM SEWER PLAN & PROFILE





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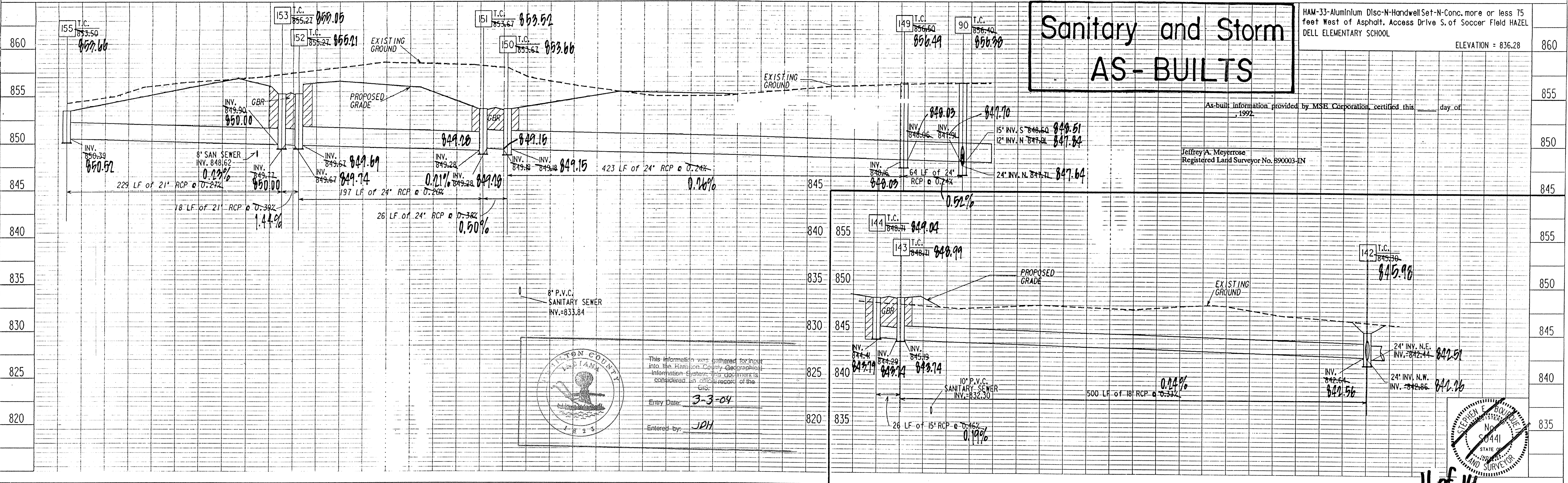
GRANULAR BACKFILL REQUIRED

25 MPH DESIGN SPEED  
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 HORIZONTAL: 1" = 50'

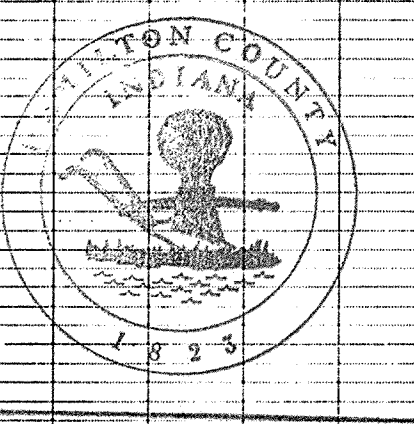
BENCH MARK DESCRIPTION

# Sanitary and Storm AS-BUILTS

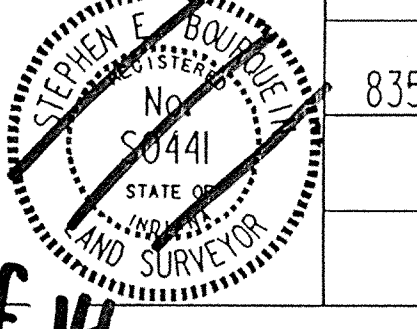
HAM-33-Aluminum Disc-N-Handwell Set-N-Conc. more or less 75 feet West of Asphalt, Access Drive S. of Soccer Field HAZEL DELL ELEMENTARY SCHOOL  
 ELEVATION = 836.28



As-built information provided by MSE Corporation, certified this \_\_\_\_\_ day of \_\_\_\_\_, 1992.  
 Jeffrey A. Meyerrose  
 Registered Land Surveyor No. 890003-IN



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 Entry Date: 3-3-04  
 Entered by: JPH



11 of 14

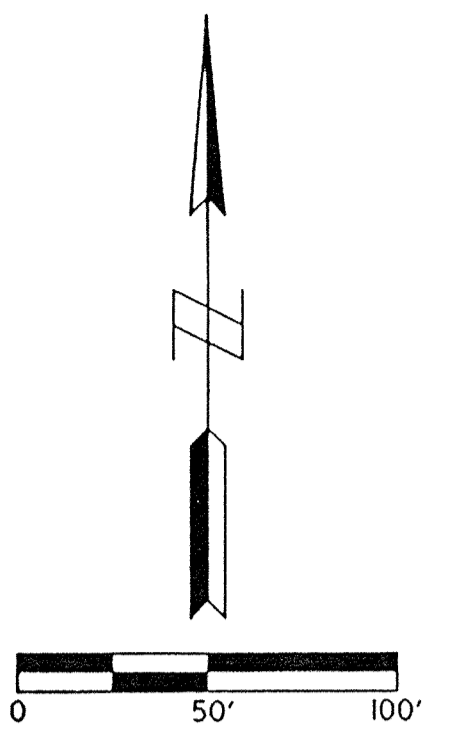
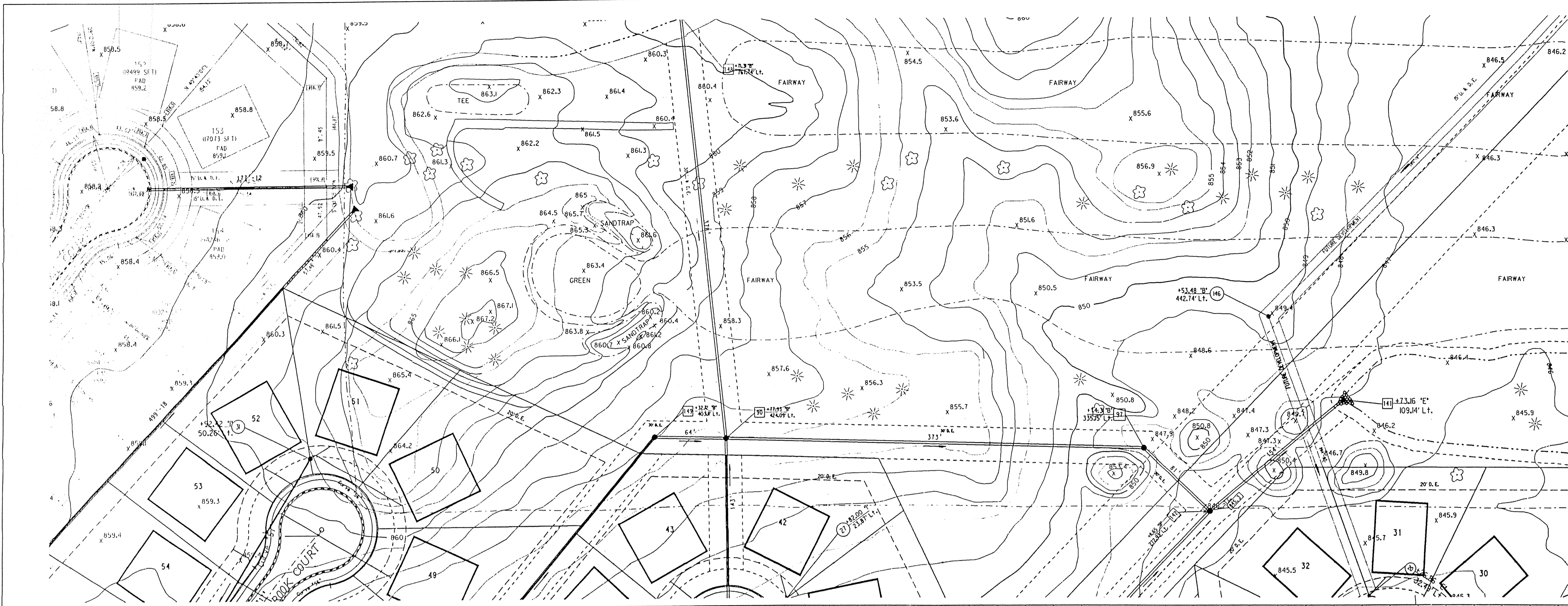
MSE Engineering

THE VILLAGES AT PEBBLE BROOK

PROJECT NO.	LINE	DATE	DCN	PRF
84-0548			5485PP8	5485PP8

FILED  
 JUL 31 1992  
 OFFICE OF HAMILTON COUNTY SURVEYOR

MARCH 5, 1992  
 REVISED MARCH 16, 1992  
 REVISED APRIL 10, 1992  
 REVISED SEPT. 14, 1992 PER DIRT BALANCE  
 REVISED SEPT. 22, 1992 PER FIELD LOCATION.  
 STORM SEWER PLAN & PROFILES



**NOTES:**

LENGTHS OF PIPES INDICATED ARE FROM CENTER TO CENTER OF STRUCTURES AND ARE NOT ACTUAL PIPE LENGTHS.

LOCATIONS OF GAS, ELECTRIC, AND TELEPHONE LINES ARE TO BE COORDINATED WITH RESPECTIVE UTILITY COMPANIES.

CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PERMIT ISSUING AGENCIES WITHIN THE TIME FRAME SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING CONSTRUCTION.

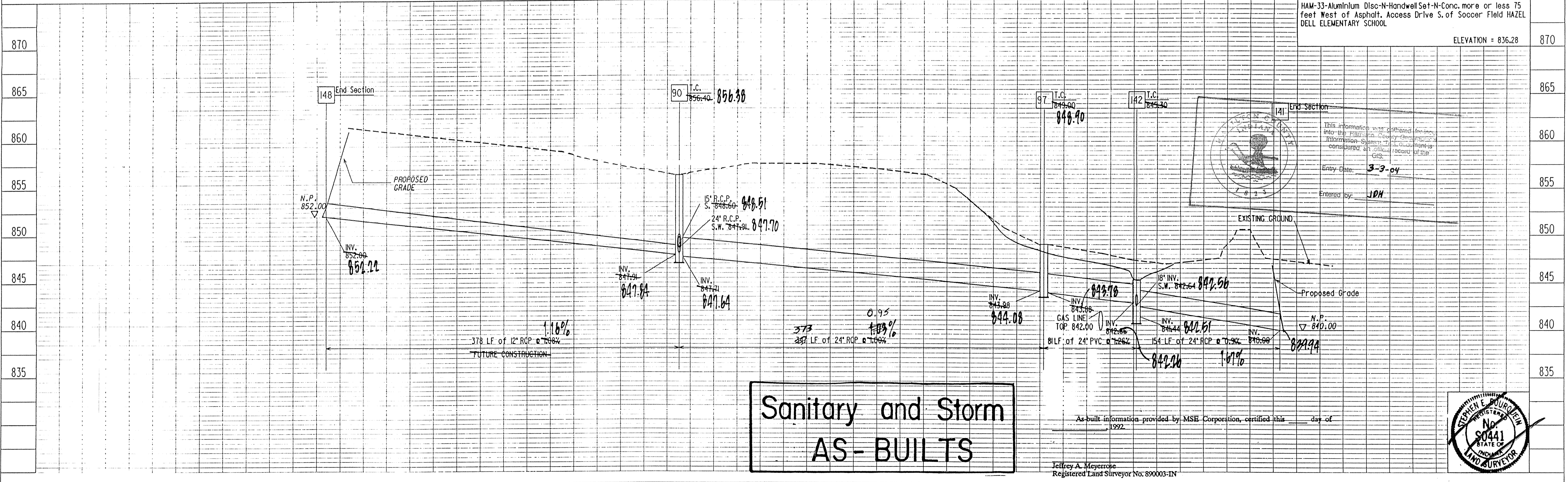
SCALE: PLAN: 1" = 50'  
PROFILE: 1" = 50'  
VERTICAL: 1" = 50'  
HORIZONTAL: 1" = 50'

**25 MPH DESIGN SPEED**

**BENCH MARK DESCRIPTION**

HAM-33-Aluminum Disc-N-Handwell Set-N-Conc. more or less 75 feet West of Asphalt. Access Drive S. of Soccer Field HAZEL DELL ELEMENTARY SCHOOL  
ELEVATION = 836.28

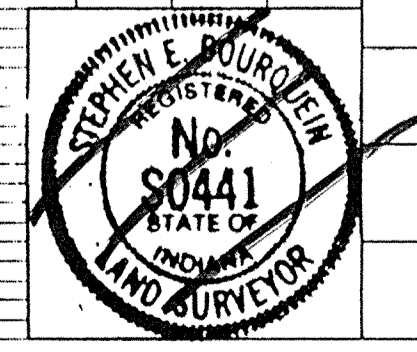
GRANULAR BACKFILL REQUIRED  
C&B



**Sanitary and Storm  
AS-BUILTS**

As-built information provided by MSE Corporation, certified this \_\_\_\_\_ day of \_\_\_\_\_, 1992.

Jeffrey A. Meyerroke  
Registered Land Surveyor No. 890003-IN



**MSE Engineering**

THE VILLAGES AT PEBBLE BROOK  
SECTION ONE

**FILED**

JUL 31 1992

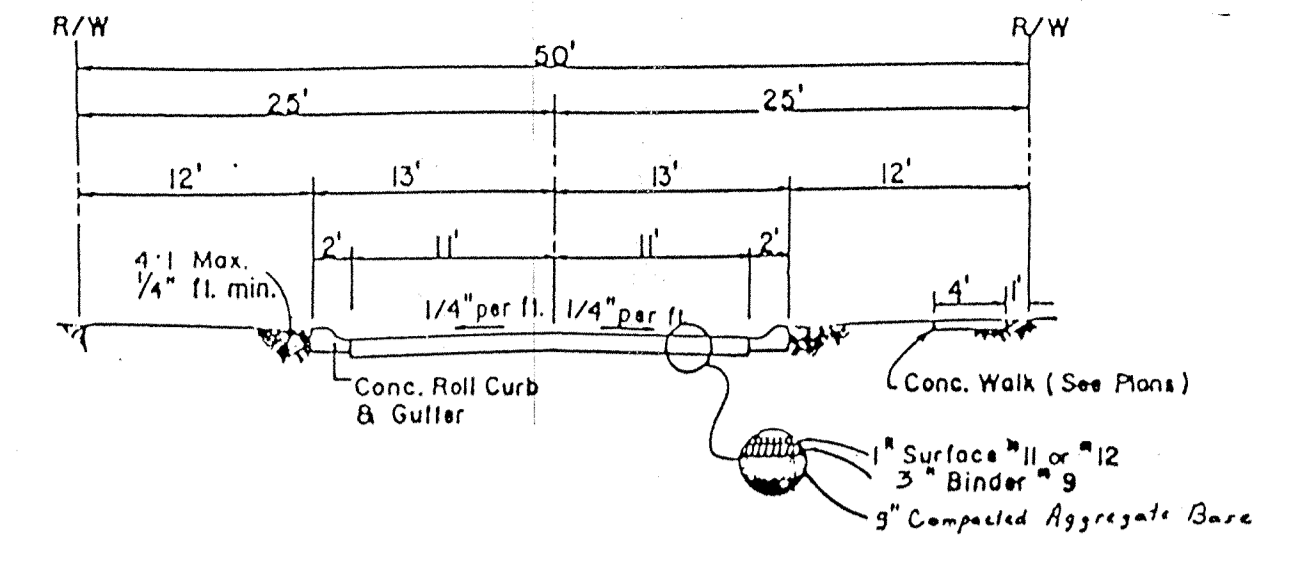
OFFICE OF HAMILTON COUNTY SURVEYOR

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	DGN	PRF
M-0548		7		5485PK	5485PR

MARCH 5, 1992  
REVISED MARCH 16, 1992  
REVISED APRIL 10, 1992  
REVISED SEPT. 22, 1992 PER ALL LOCATION.

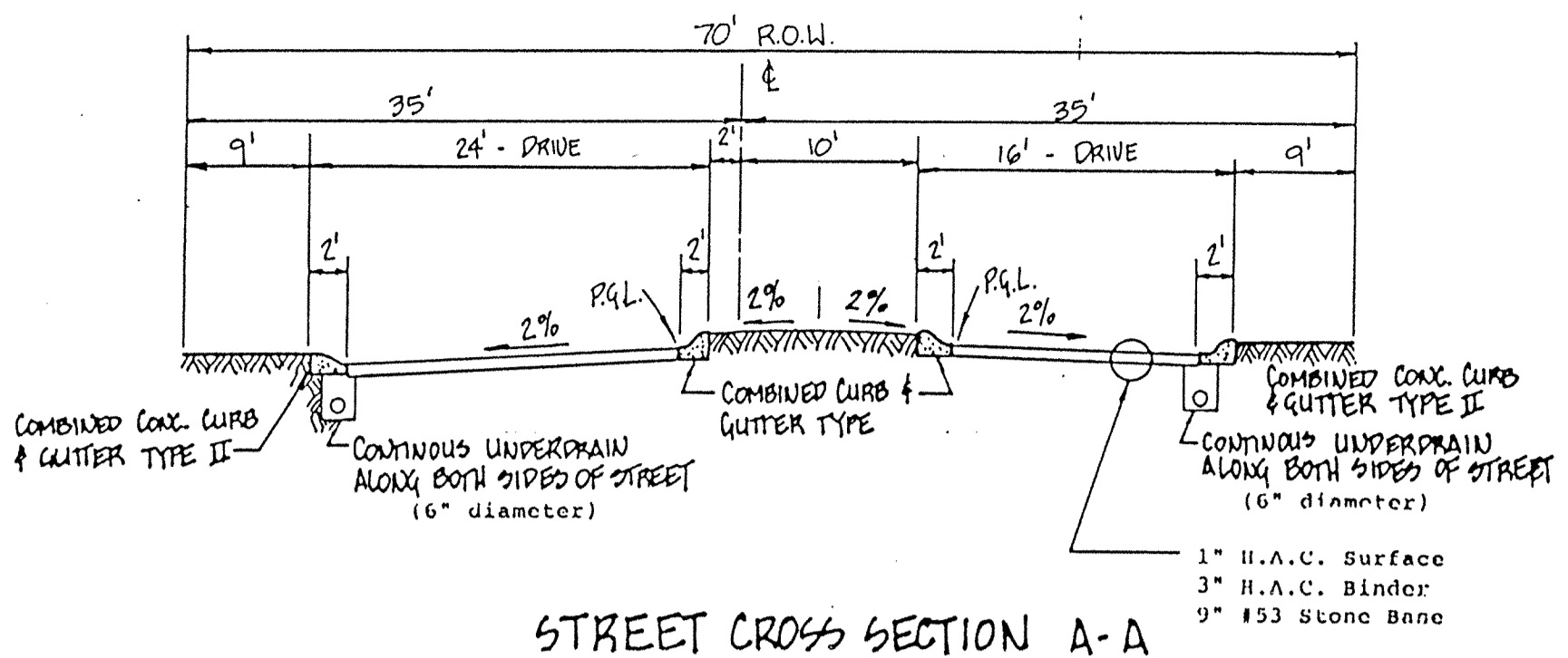
**120 of 14**

**STORM SEWER PLAN & PROFILE**

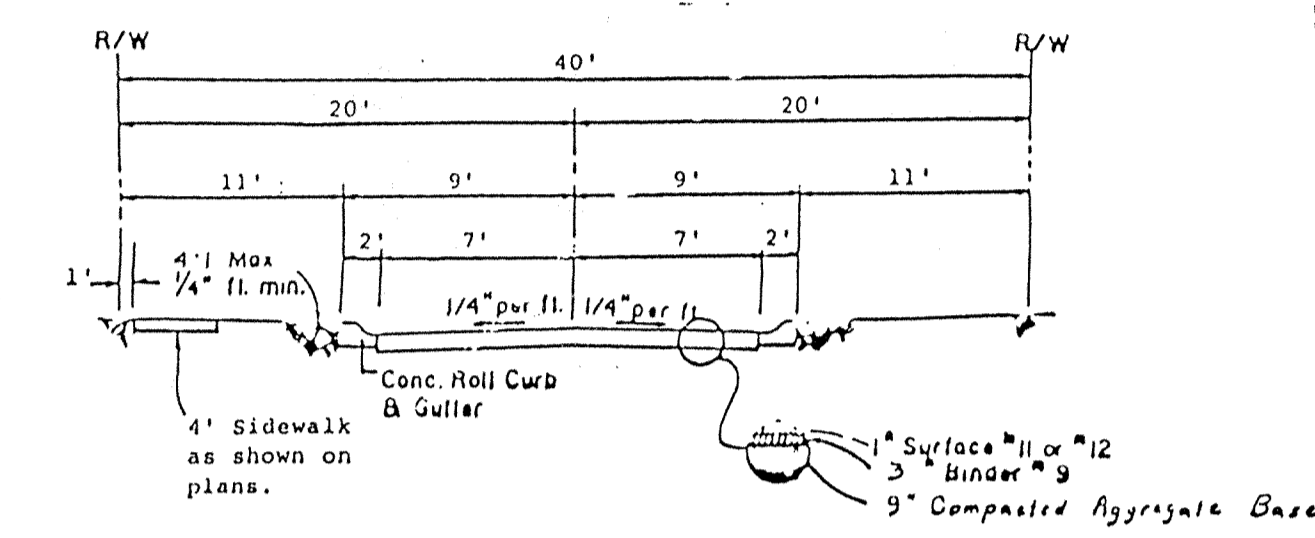


Note: Tack coat is req'd. between each layer of bituminous material. (Material B methods of construction in accordance with section 409 of the Standard Specs.)  
Alternate pavement material shall be 6" plain concrete cement on prepared subgrade.

TYPICAL STREET CROSS SECTION

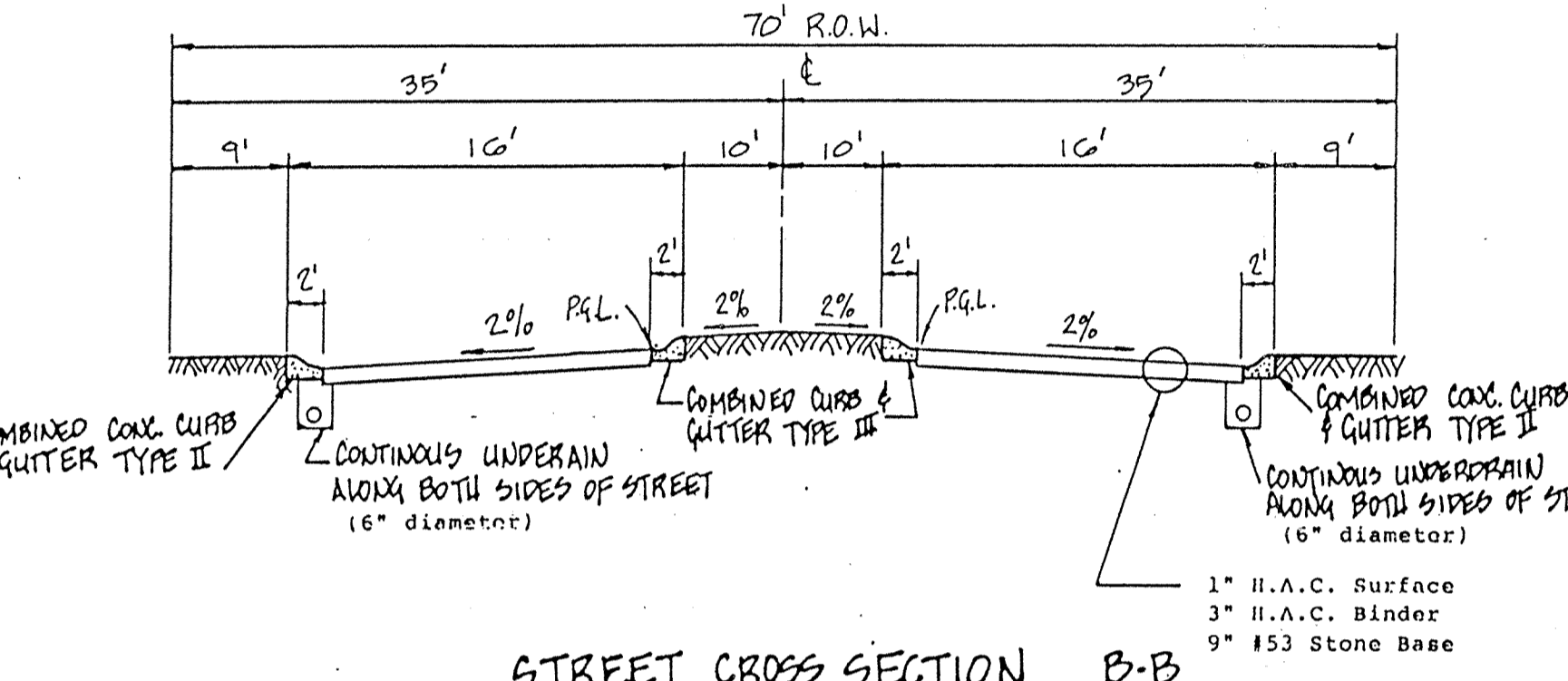


STREET CROSS SECTION A-A  
NO SCALE

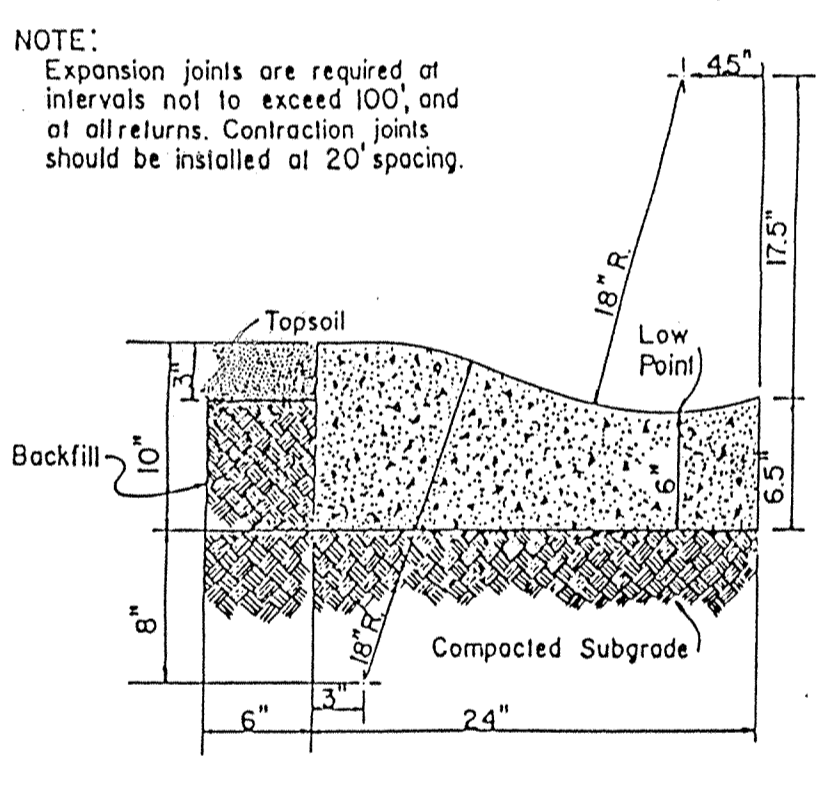


Note: Tack coat is req'd. between each layer of bituminous material. (Material B methods of construction in accordance with section 409 of the Standard Specs.)  
Alternate pavement material shall be 6" plain concrete cement on prepared subgrade.

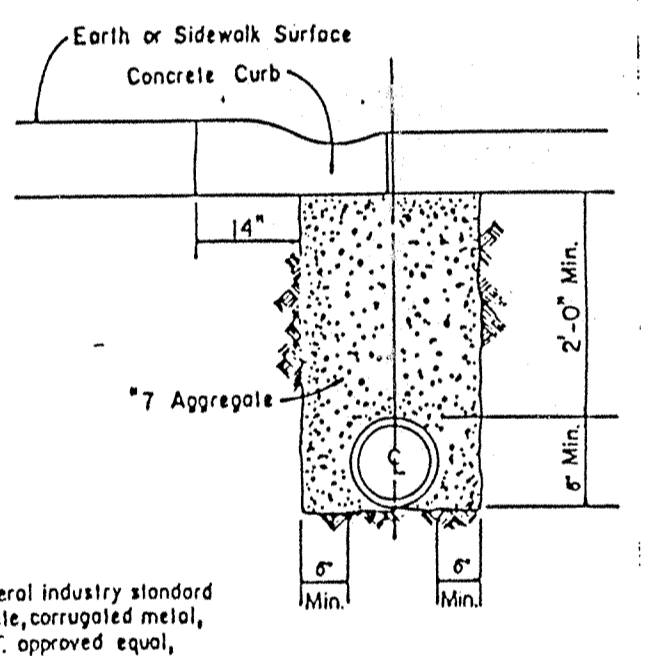
18' B-B STREET SECTION



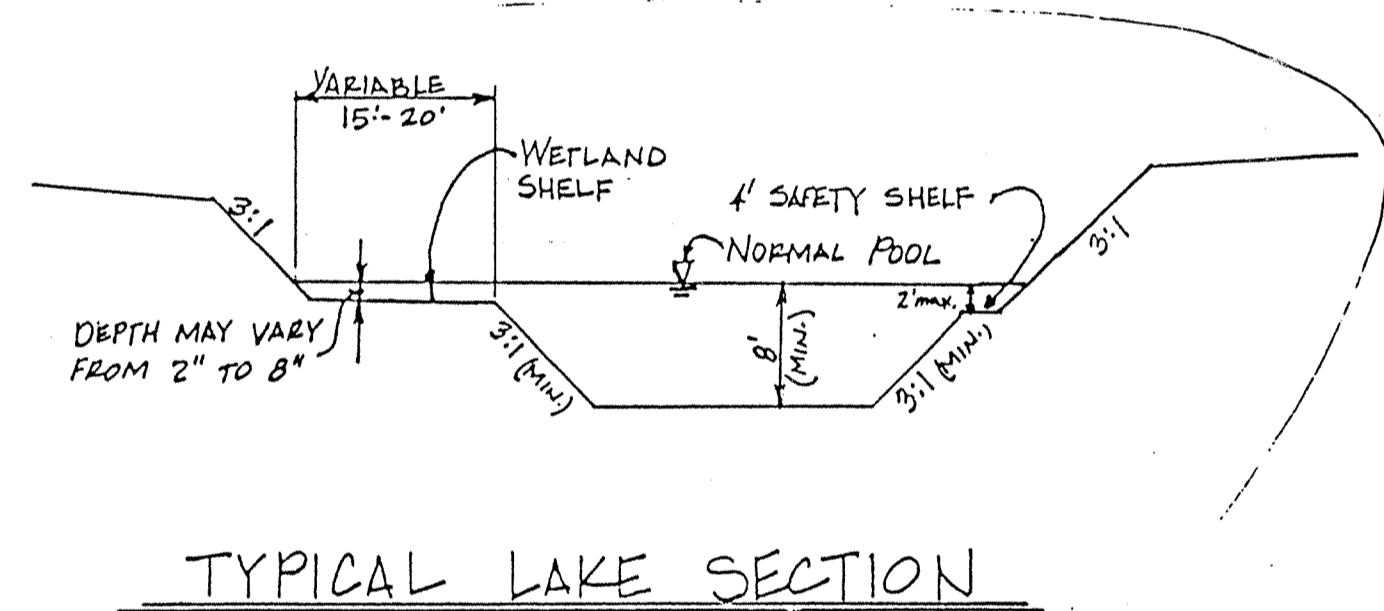
STREET CROSS SECTION B-B  
NO SCALE



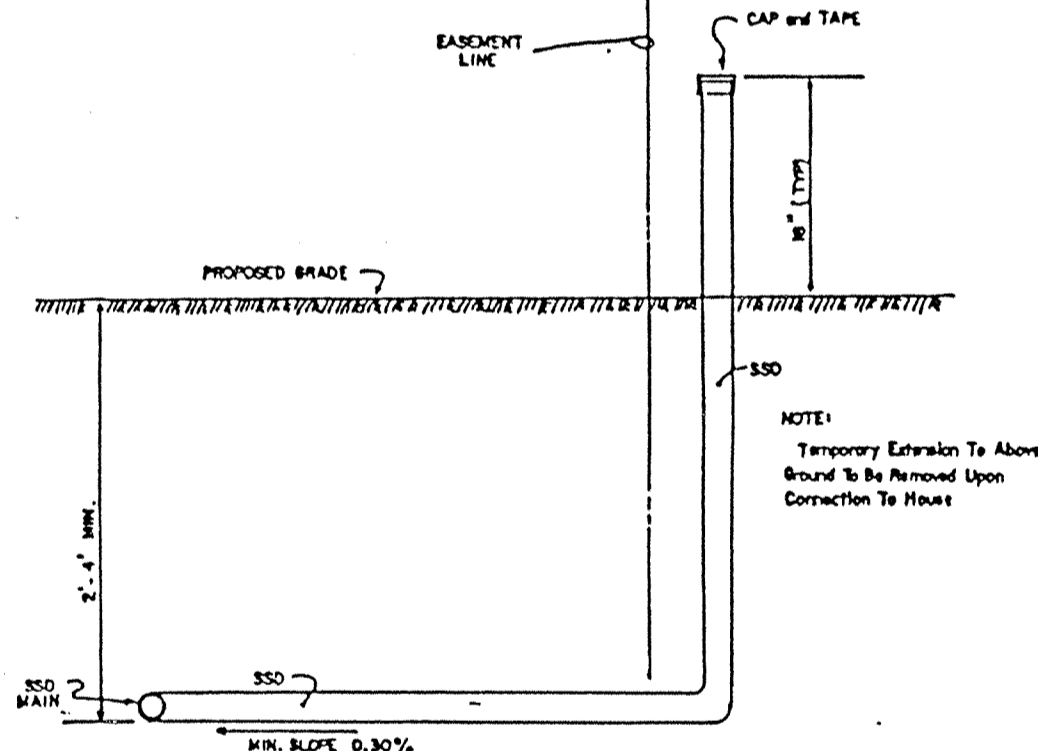
CONCRETE ROLL CURB & GUTTER



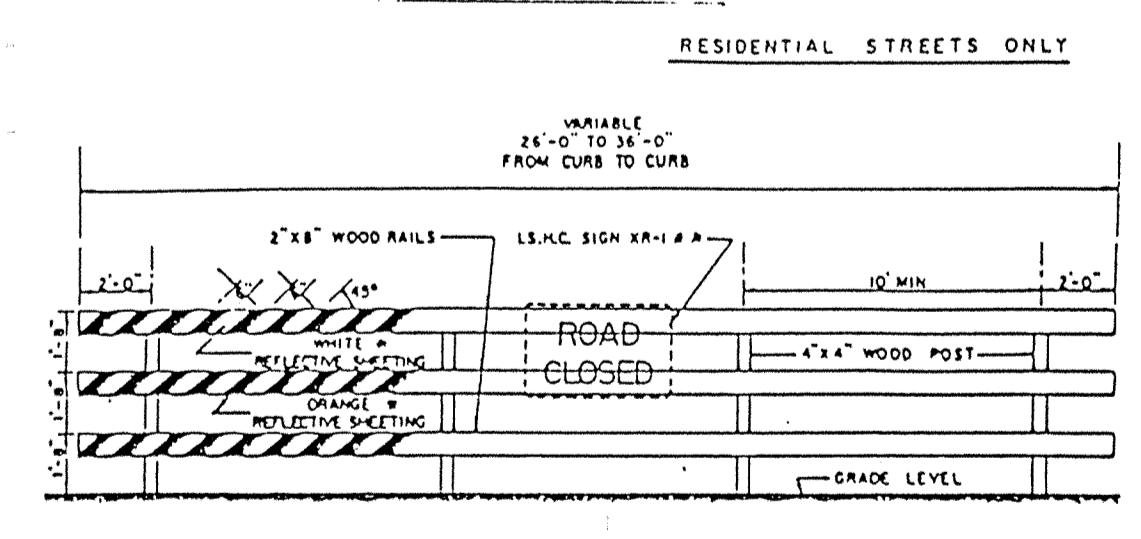
PIPE UNDERDRAIN



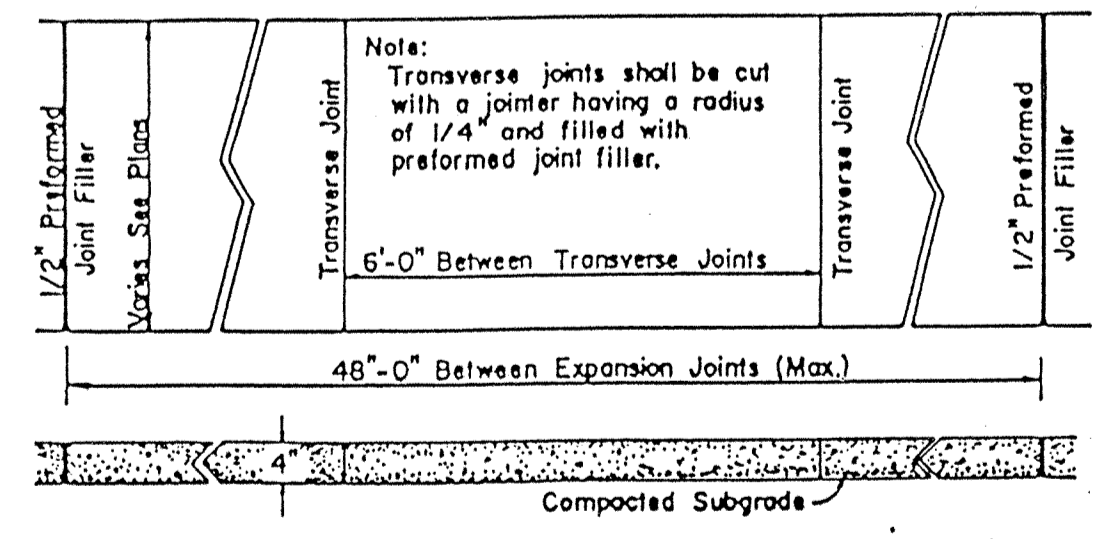
TYPICAL LAKE SECTION  
NOT TO SCALE



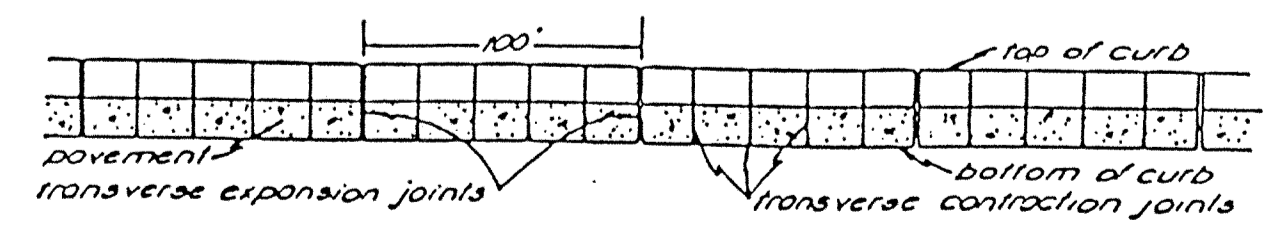
TYPICAL SSD CONNECTION TO INDIVIDUAL LOTS  
NO SCALE



STANDARD BARRICADE TYPE I



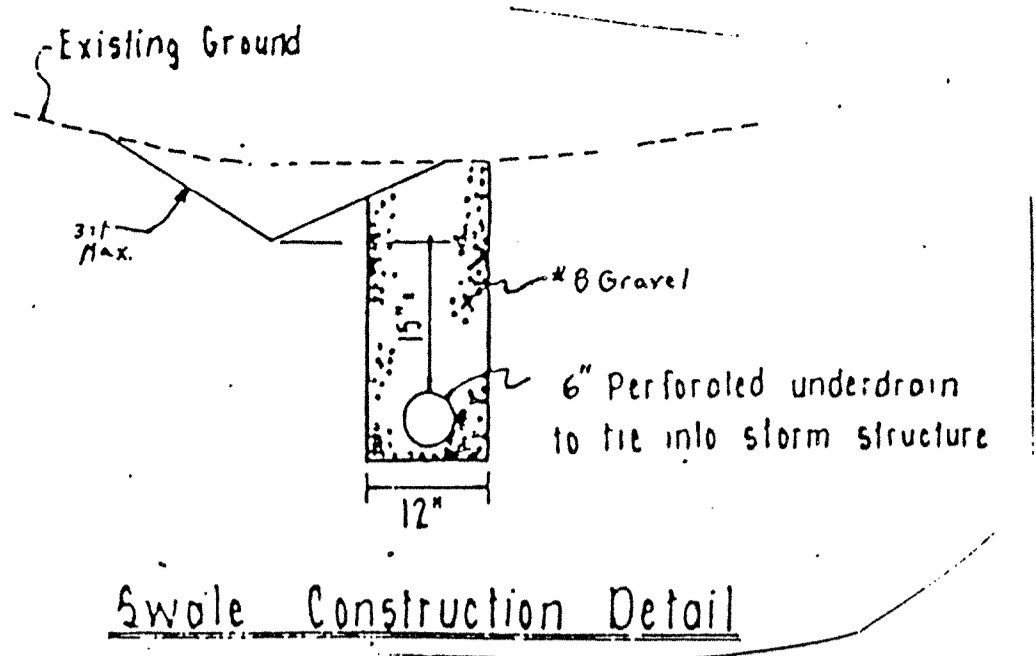
CONCRETE WALK SECTION



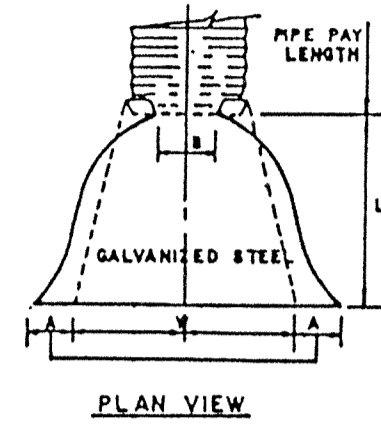
CURB JOINT DETAIL

GENERAL NOTES:  
1. ALL WOOD POST AND SUPPORT MEMBERS SHALL BE PAINTED WITH TWO (2) COATS OF WHITE PINE.  
2. LOCATION OF BARRICADE AS PER PLANS.  
3. REFLECTIVE SHEETING TO BE IN ACCORDANCE WITH I.S.H.C. STANDARD SPECIFICATION 912.0.  
4. PAVE I.S.H.C. STANDARD DETOUR SIGNS SH-2.

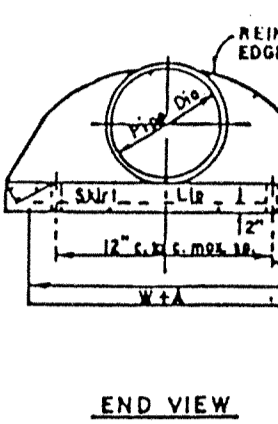
NOTE: When built in conjunction with concrete pavement, expansion and contraction joints should be placed at the same location as in the pavement slab. The curb and gutter should be tied to the pavement by 1/2" round deformed bars at about 3 foot intervals. If no concrete pavement is being built at the time, the curb is constructed. Expansion joints should be placed at the ends of all returns and at intervals not to exceed 100 feet. Contraction joints should be installed at 20 foot spacing.



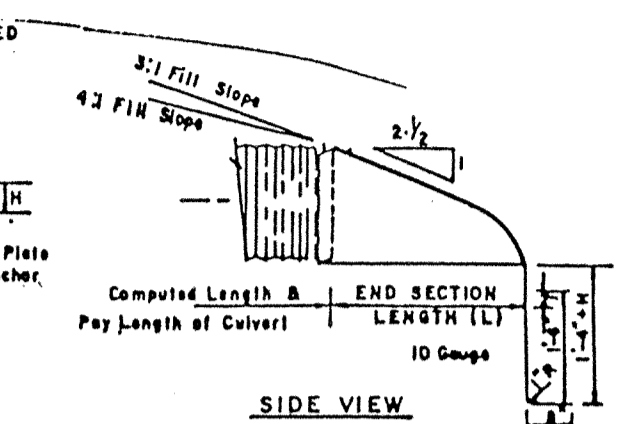
Swale Construction Detail



PLAN VIEW



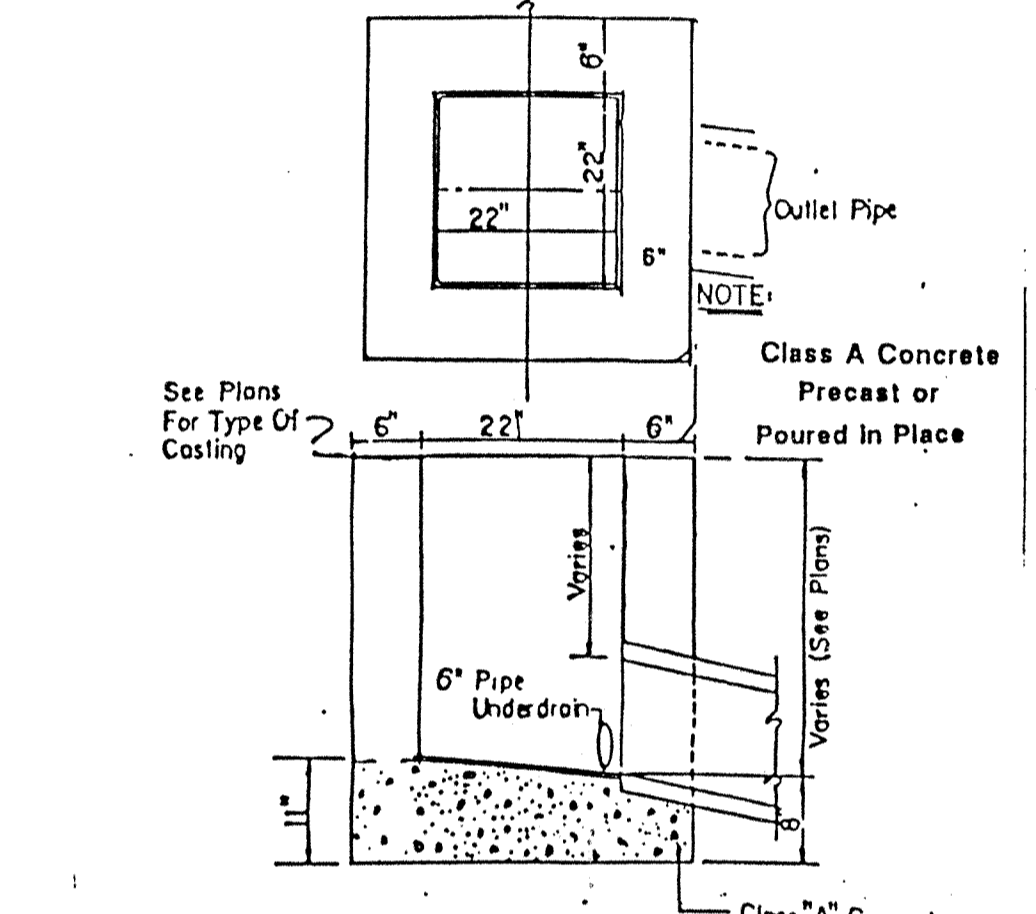
END VIEW



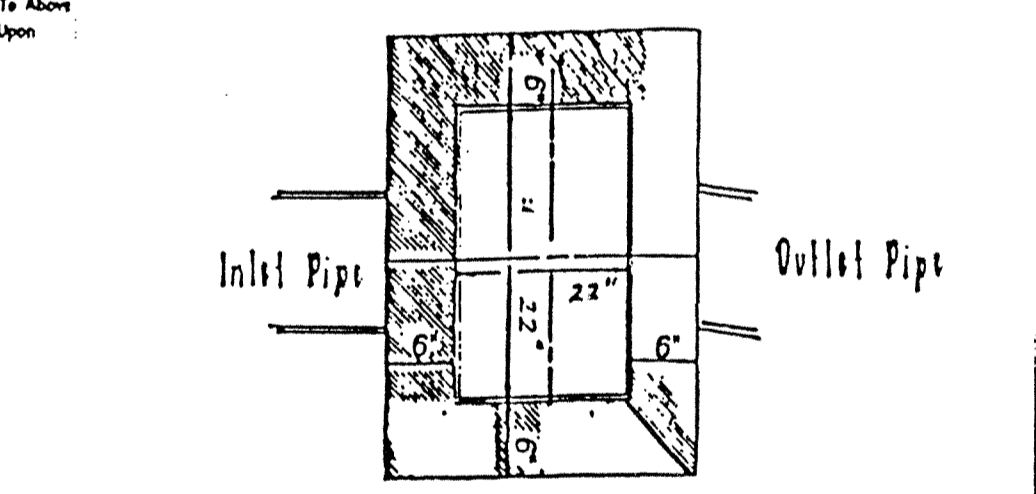
SIDE VIEW

DETAIL- METAL END SECTION  
NOT TO SCALE

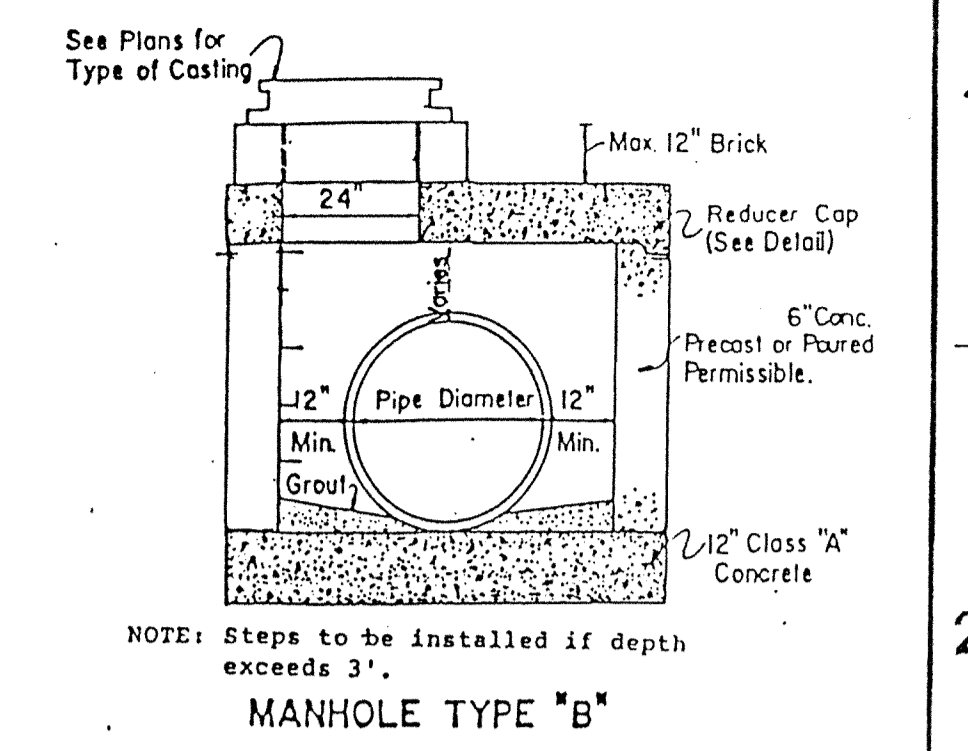
PIPE DIA.	O.A. 1" ±	DIMENSIONS			
		24" (MAX)	18" ±	1 1/2" ±	2" ±
12"	12"	6"	6"	2 1/2"	2 1/2"
18"	18"	6"	6"	2 1/2"	2 1/2"
24"	24"	6"	6"	2 1/2"	2 1/2"
30"	30"	6"	6"	2 1/2"	2 1/2"
36"	36"	6"	6"	2 1/2"	2 1/2"
42"	42"	6"	6"	2 1/2"	2 1/2"



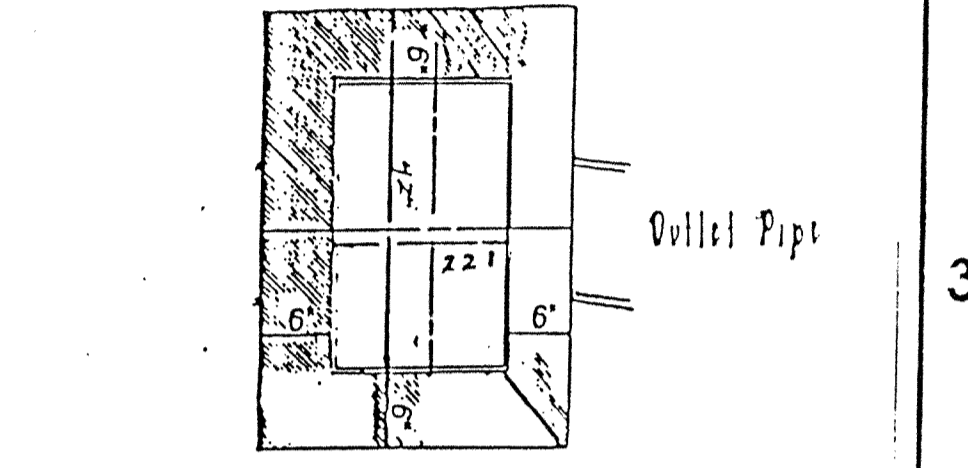
INLET TYPE "A"



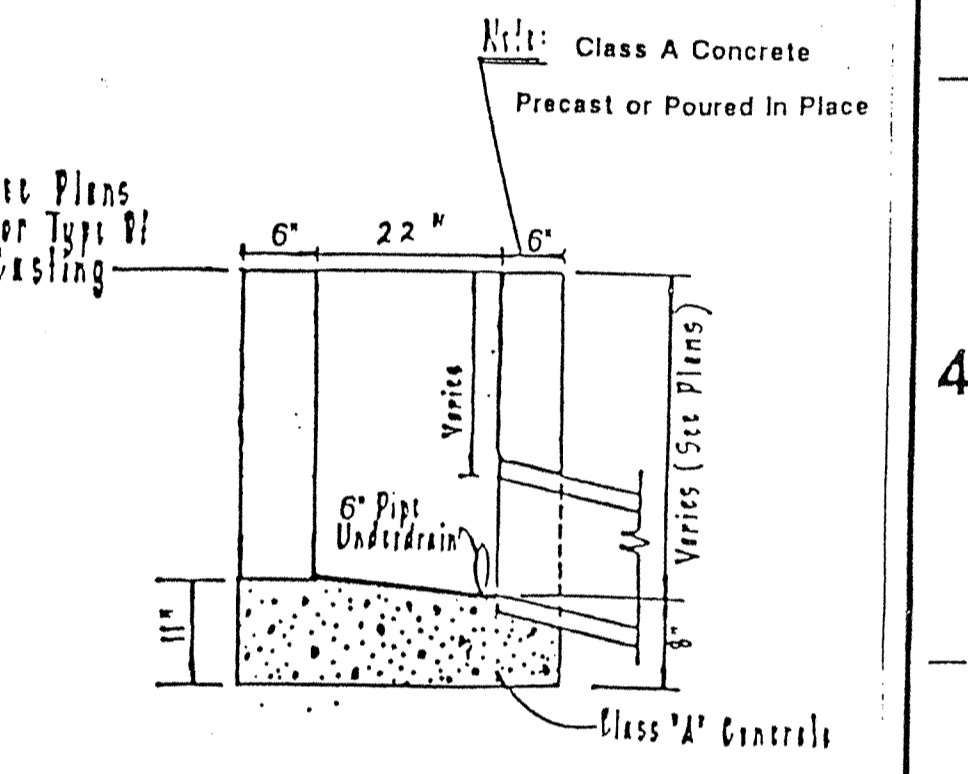
Inlet Type "B"



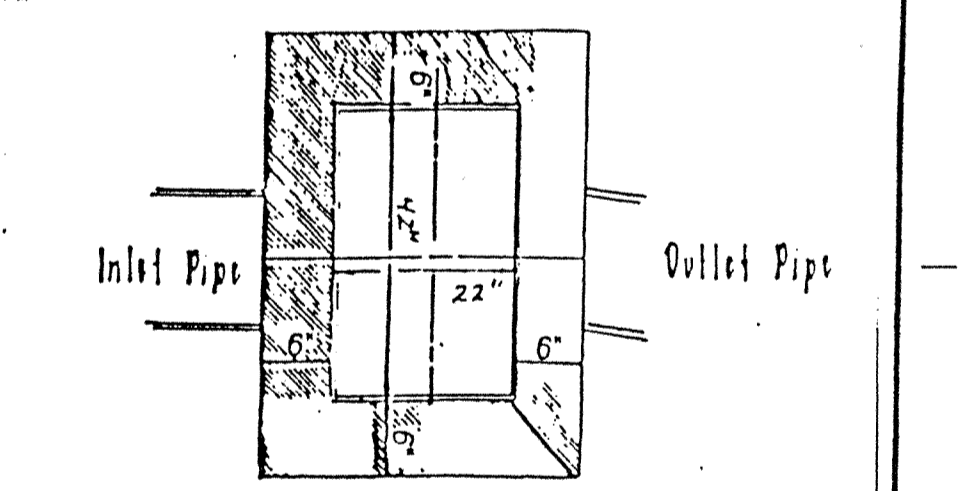
MANHOLE TYPE "B"



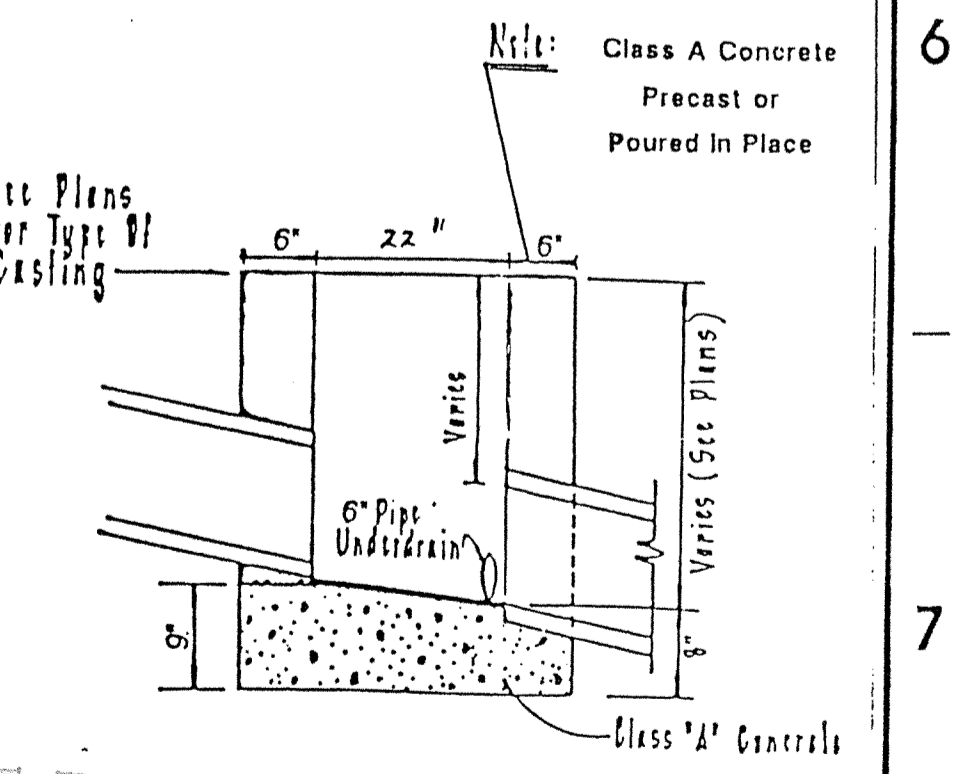
Outlet Pipe



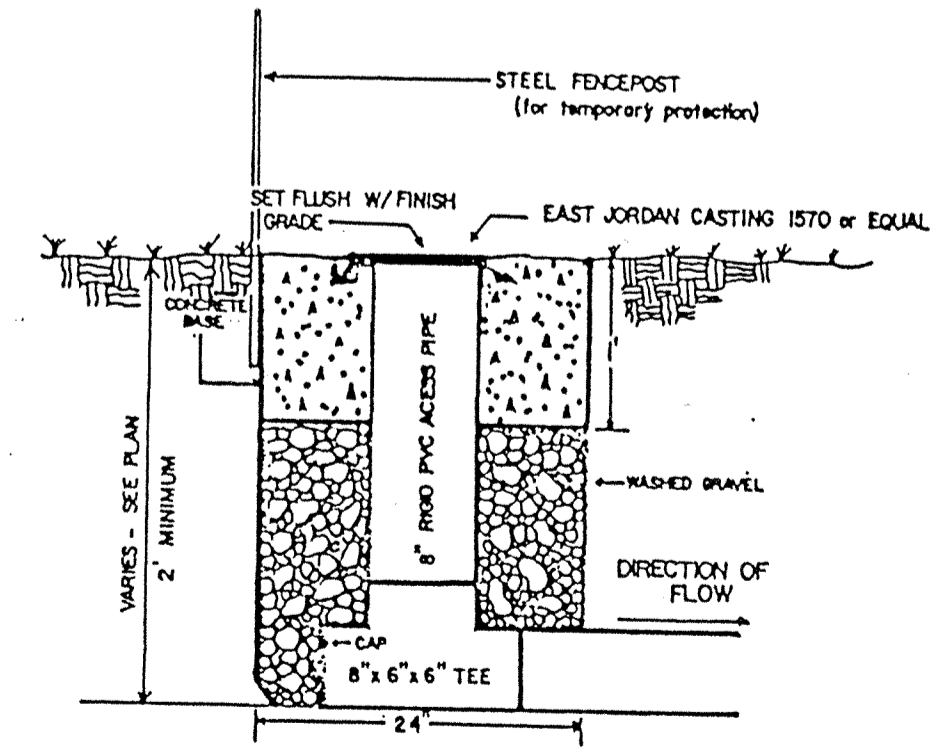
Inlet Type "A" (Modified) (No Side)



Inlet Pipe



Inlet Type "B" (Modified) (No Side)

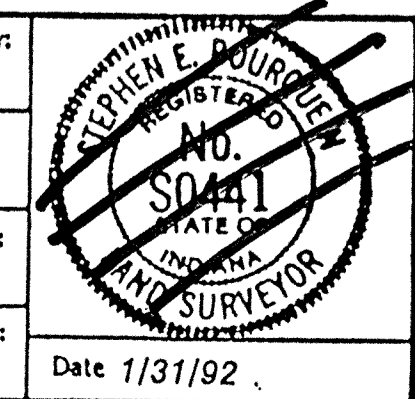


SUBSURFACE DRAIN (SSD) RISER DETAIL  
NO SCALE

# Sanitary and Storm AS-BUILTS

Revisions and Dates:	
MARCH 5, 1992	REV. 3/16/92
REV. 4/10/92	REV. 4/14/92
REV. 4/14/92	RE-ISSUED 4/27/92

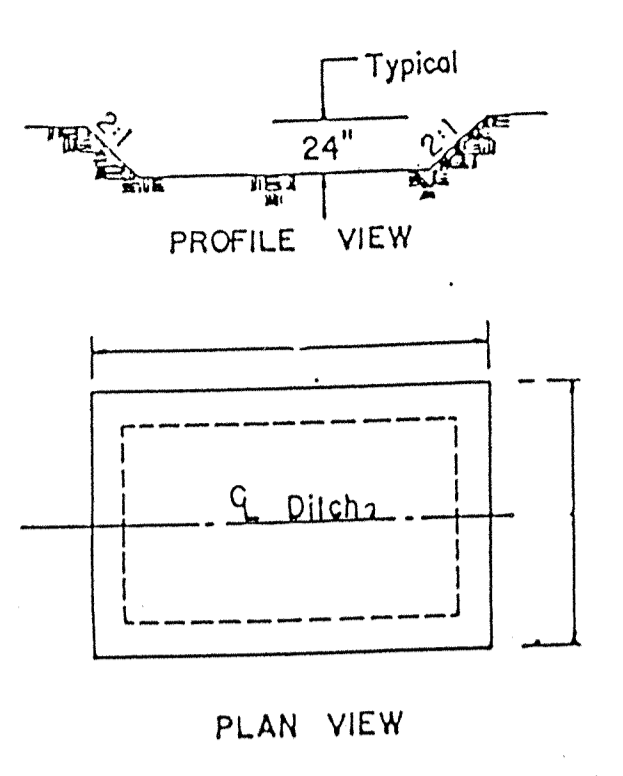
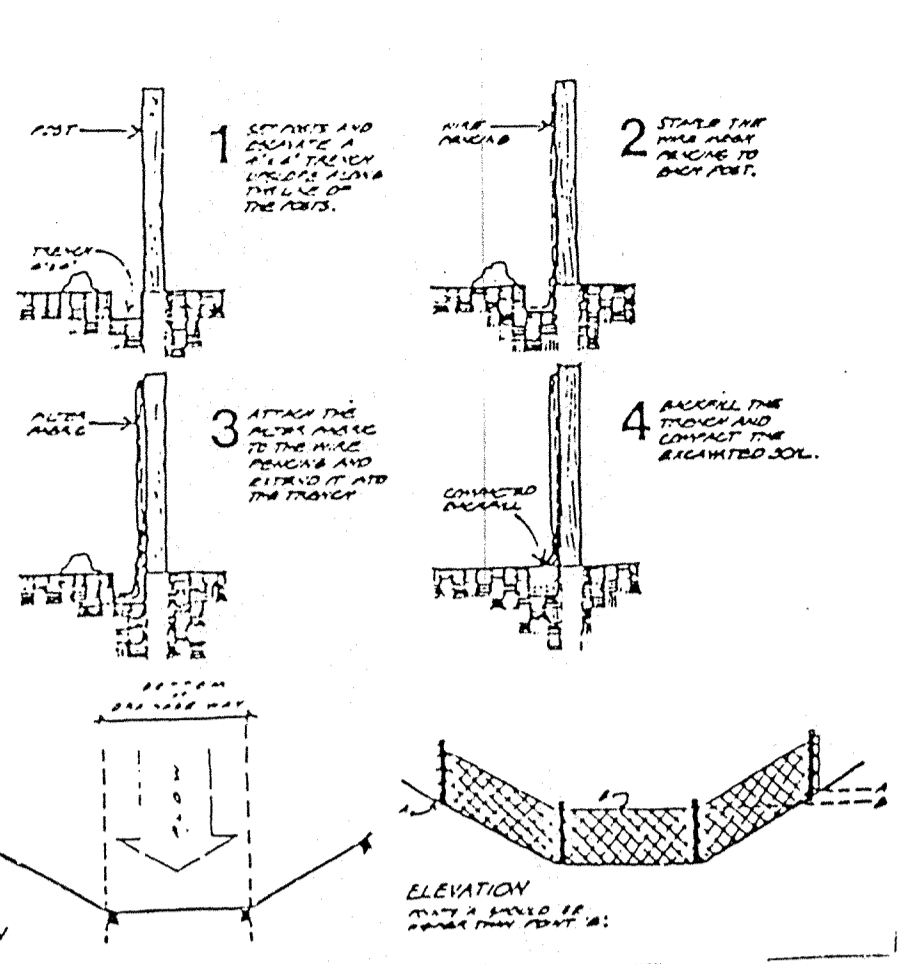
Designed by:  
Drawn by:  
Checked by:  
Approved by:



**MSE Engineering**  
501 Congressional Blvd., Suite 110  
Carmel, IN 46032  
317-843-5080

Title: **CONSTRUCTION DETAILS**  
Scale: N/A Job No.: 114-0548 Tube No.: Sheet No.: 13 of 14

Figure 3-40: Placement And Construction Of A Synthetic Filter Barrier

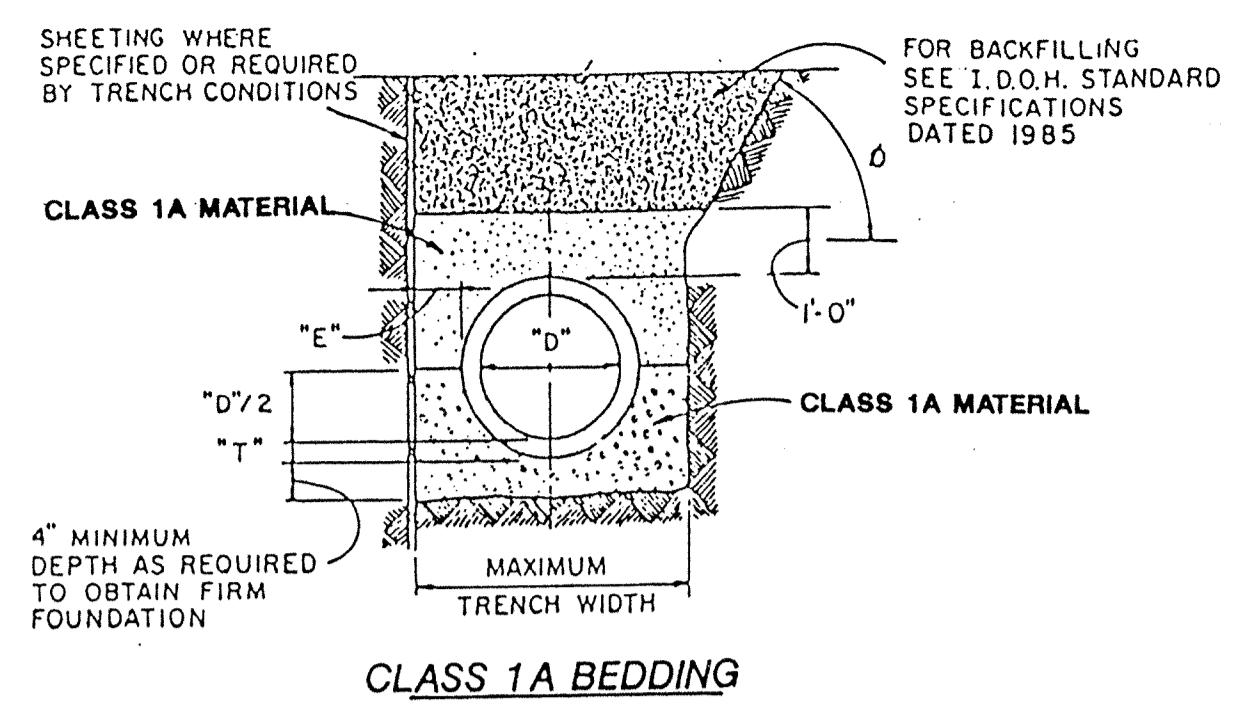


TEMPORARY SILTING PIT (Periodic Clearing Required)

Seasonal Soil Protection Chart

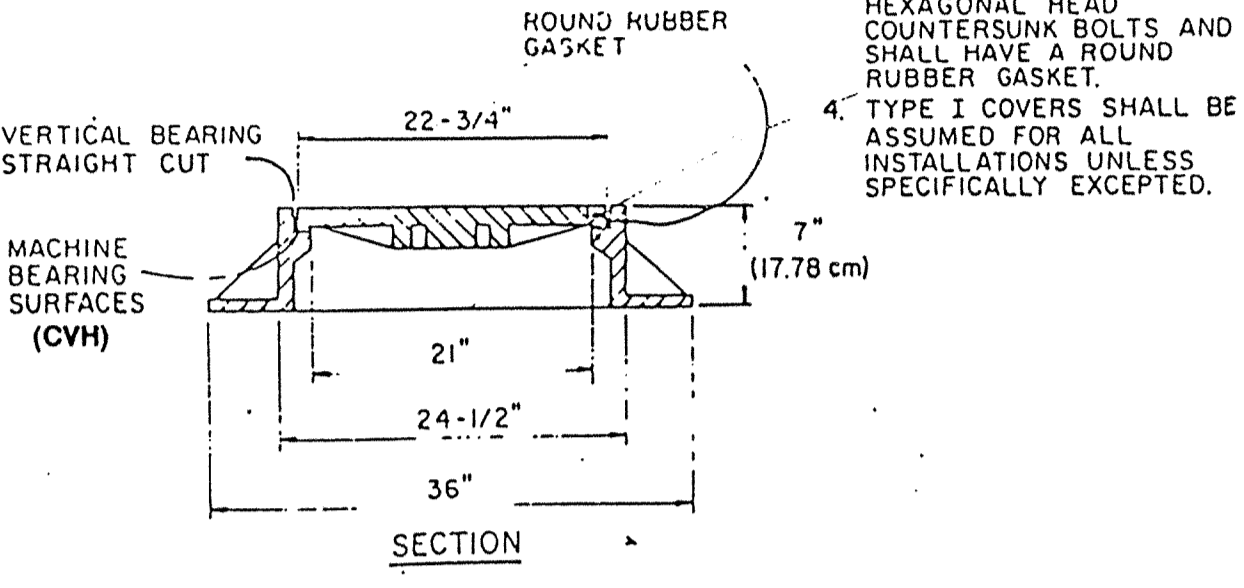
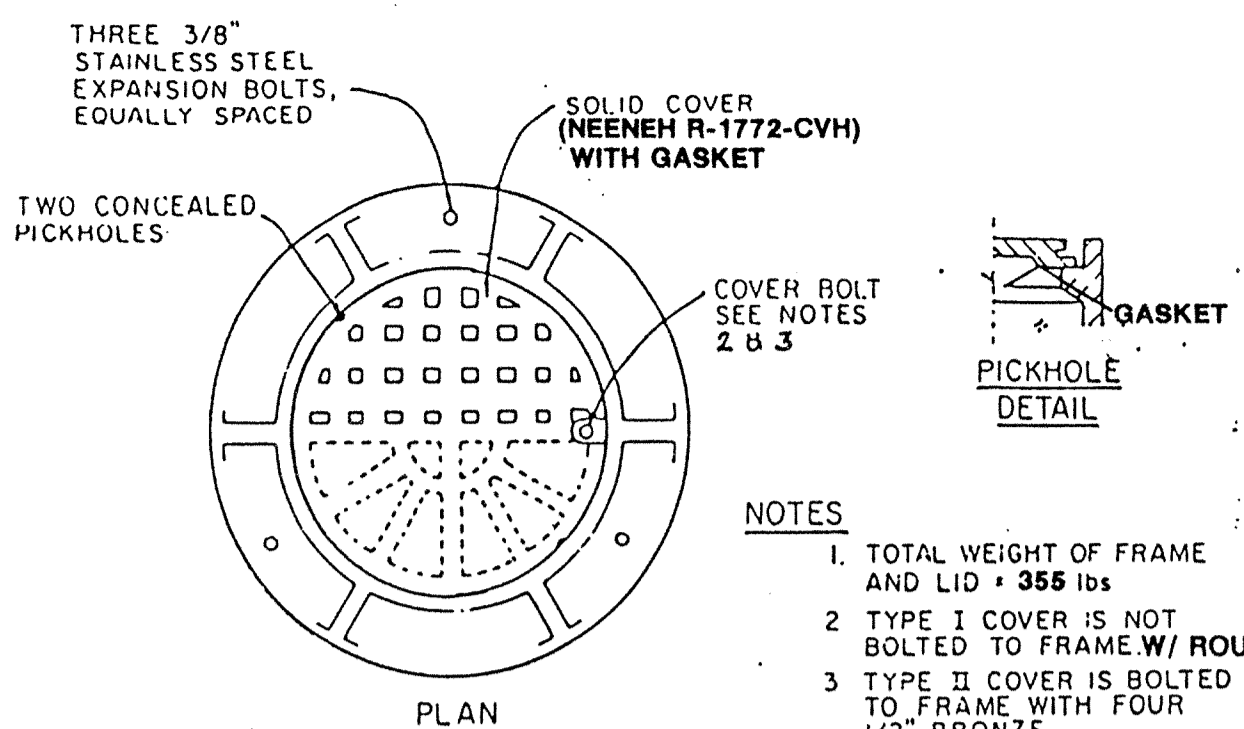
Stabilization Practices:	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Permanent Seeding	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Straw Mulch	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Temporary Seeding	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Seeding	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mulching	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

A = Kentucky Bluegrass 40 lbs/acre, Creeping Red Fescue 40 lbs/acre, plus 2 tons straw mulch/acre, or add Annual Ryegrass 20 lbs/acre.  
 B = Kentucky Bluegrass 60 lbs/acre, Creeping Red Fescue 60 lbs/acre, plus 2 tons straw mulch/acre, or add Annual Ryegrass 30 lbs/acre.  
 C = Spring Oats 3 bushels/acre.  
 D = Wheat or Rye 2 bushels/acre.  
 E = Annual Ryegrass 40 lbs/acre, 11 lbs/1000 sq. ft.  
 F = Sod  
 G = Straw Mulch 2 tons/acre.  
 w/r/s Irrigation needed during June, July, and/or September.  
 a/b Irrigation needed for 2 to 3 weeks after applying sod.

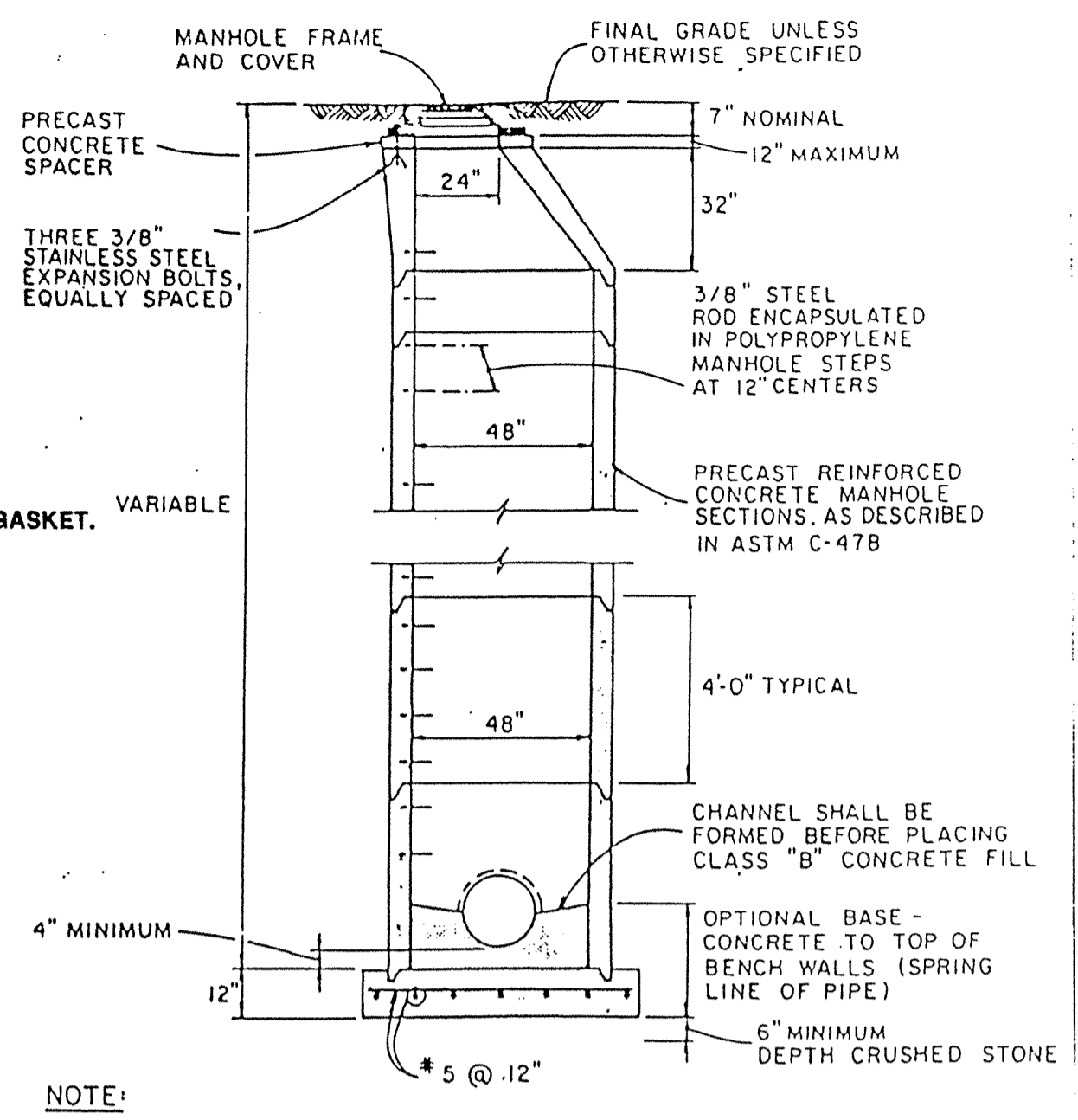


- NOTES:
- SLOPE ANGLE,  $\theta$ , SHALL BE LESS THAN THE FRICTION ANGLE OF THE EXCAVATED MATERIAL.
  - "D" = NOMINAL PIPE SIZE.
  - "T" = PIPE WALL THICKNESS.
  - "E" = 10" MAXIMUM FOR SEWERS UP TO AND INCLUDING 33" DIAMETER; 14" MAXIMUM FOR SEWERS LARGER THAN 33"

SANITARY SEWER PIPE BEDDING DETAIL



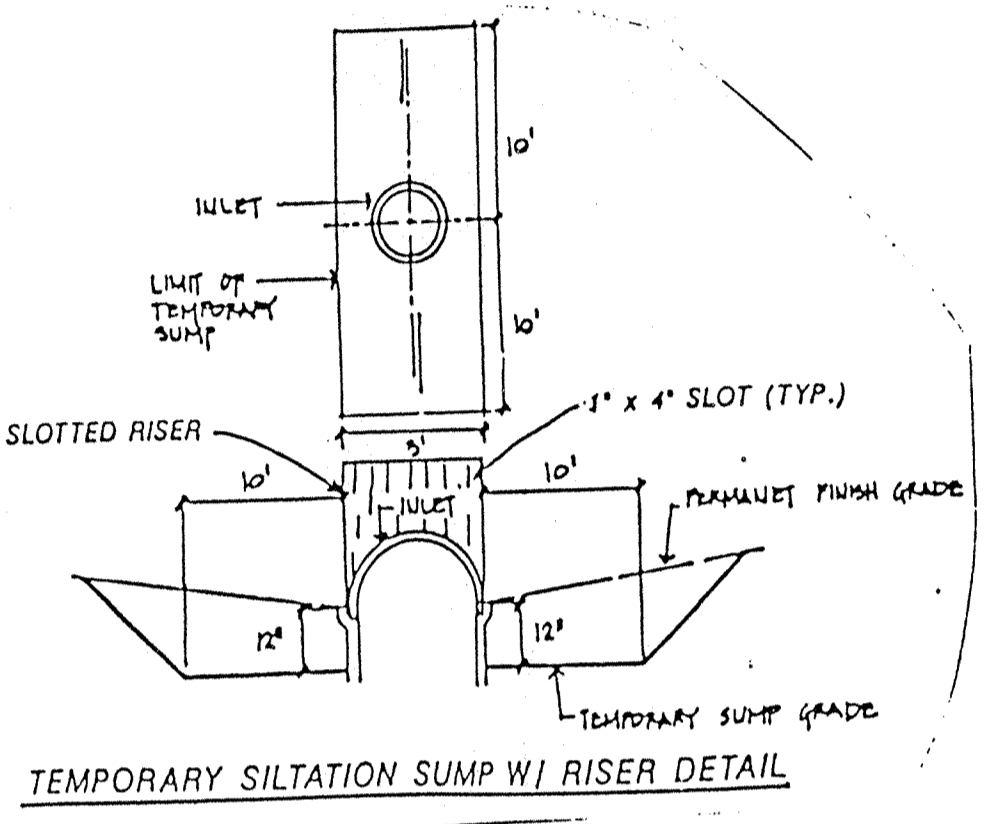
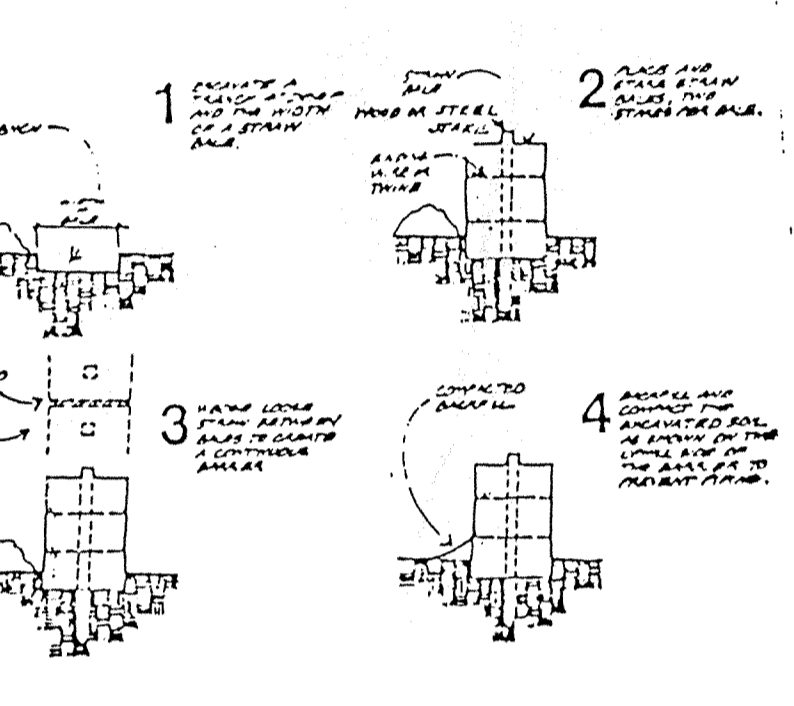
MANHOLE FRAME & COVER DETAIL



- NOTE:
- PRECAST MANHOLE BASES SHALL BE CONSIDERED AS AN ALTERNATE TO POURED CONCRETE BASE AS SHOWN, BUT ONLY WITH PRIOR WRITTEN APPROVAL OF THE ENGINEER.

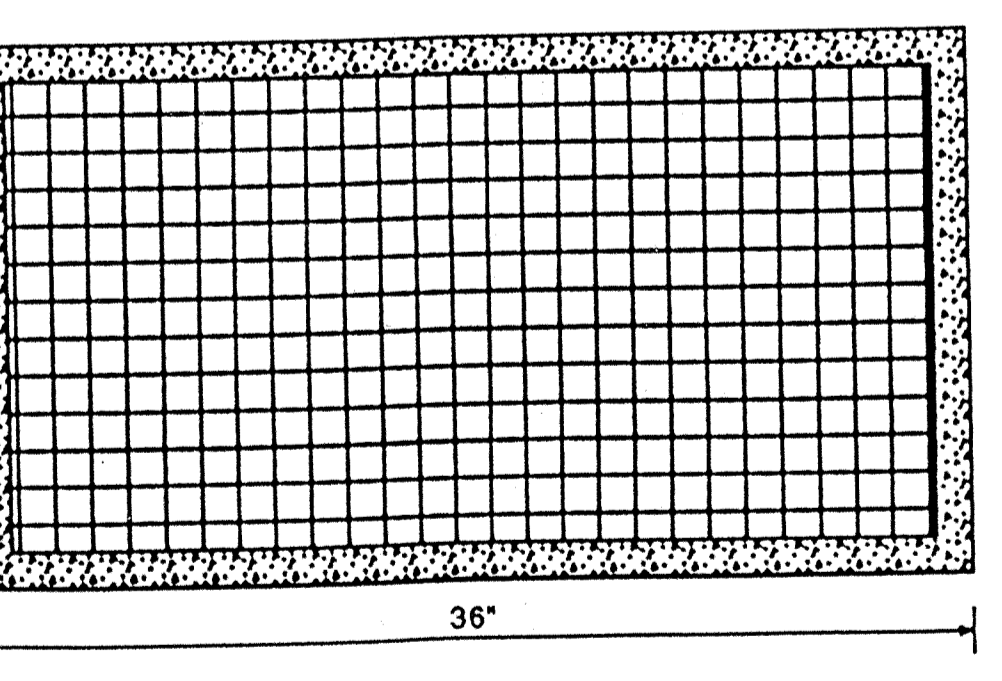
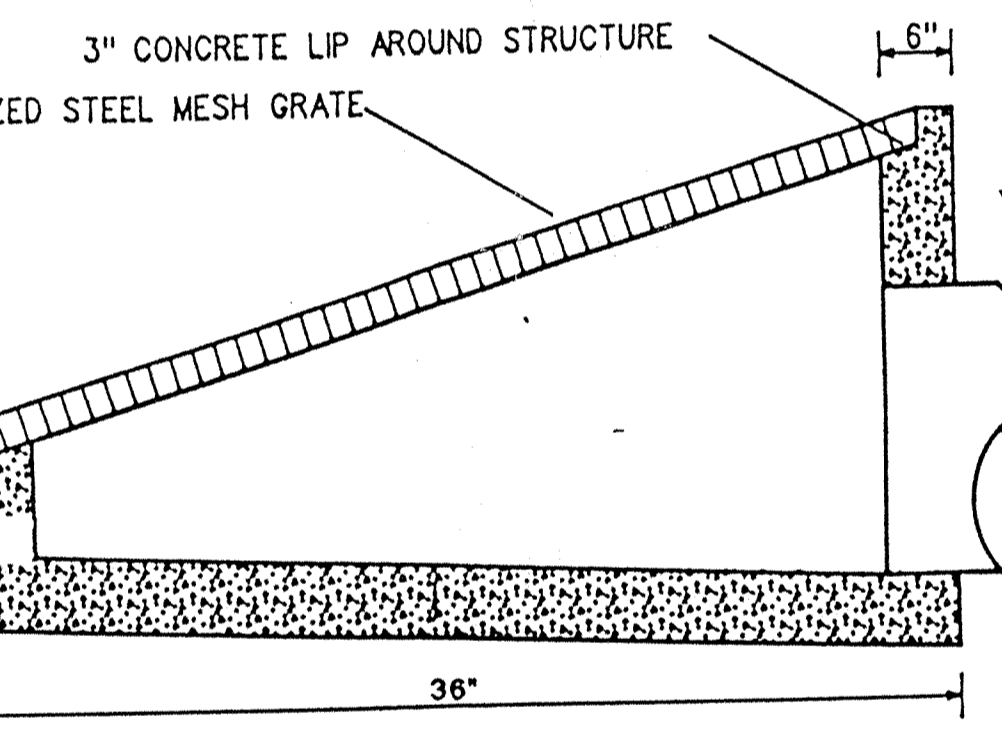
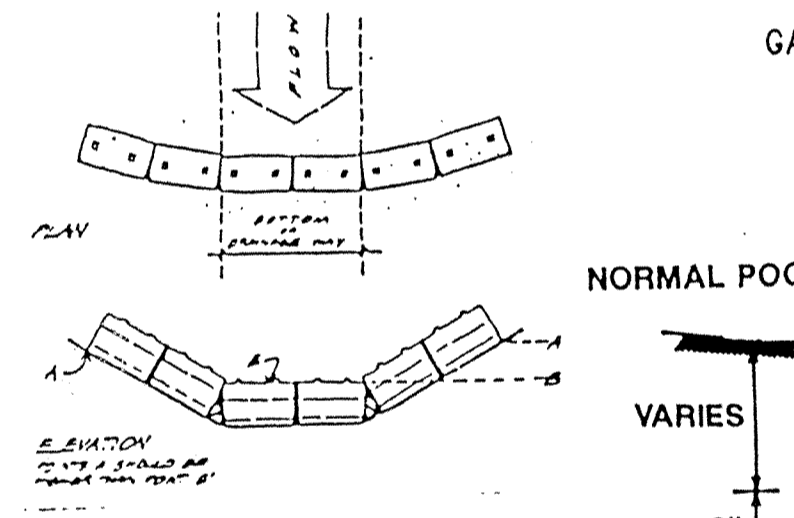
SANITARY MANHOLE DETAIL

Figure 3-37a Construction Of A Straw Bale Barrier

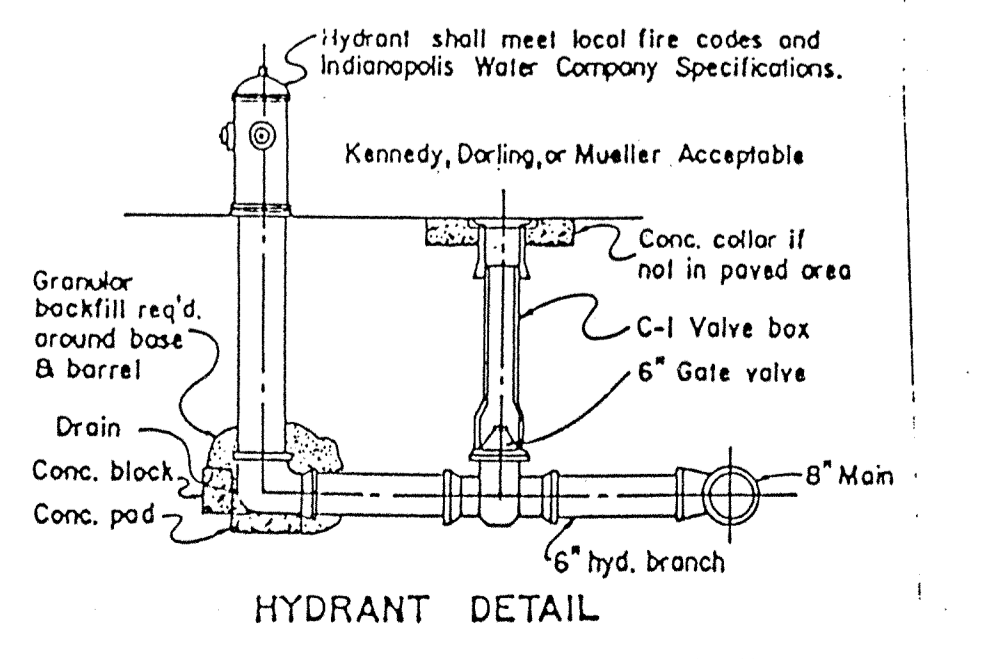


TEMPORARY SILTING SUMP W/ RISER DETAIL

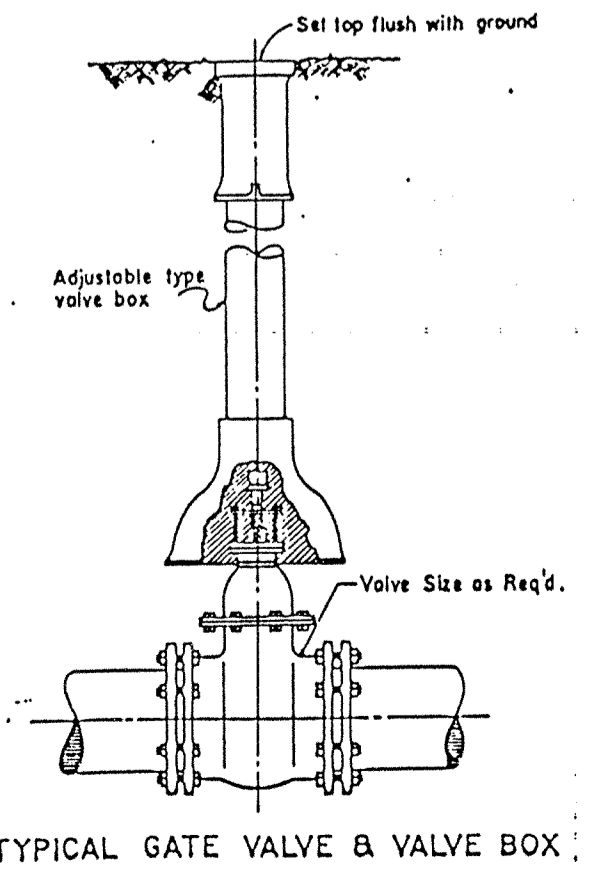
Figure 3-38a Placement Of Straw Bales For Channel Flow



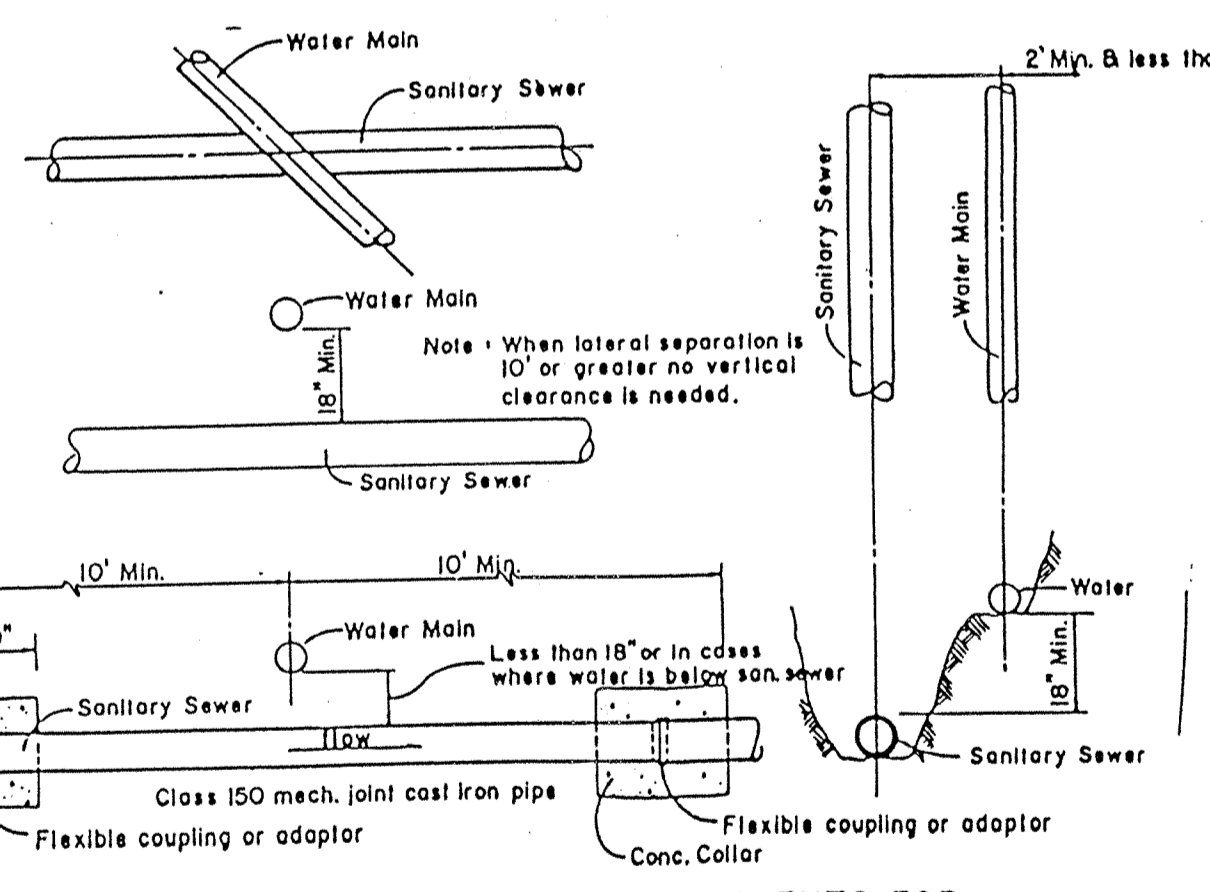
SPECIAL "K" NO SCALE



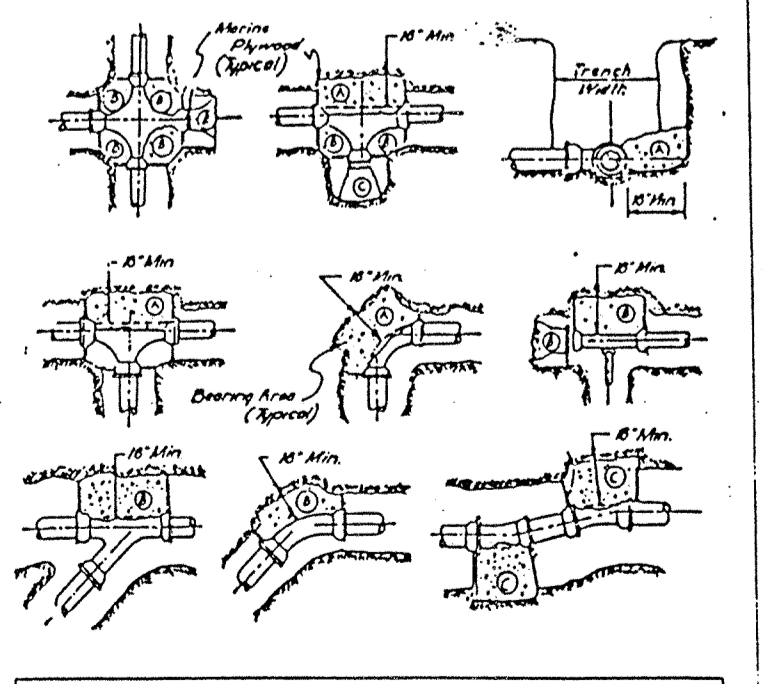
HYDRANT DETAIL



TYPICAL GATE VALVE & VALVE BOX

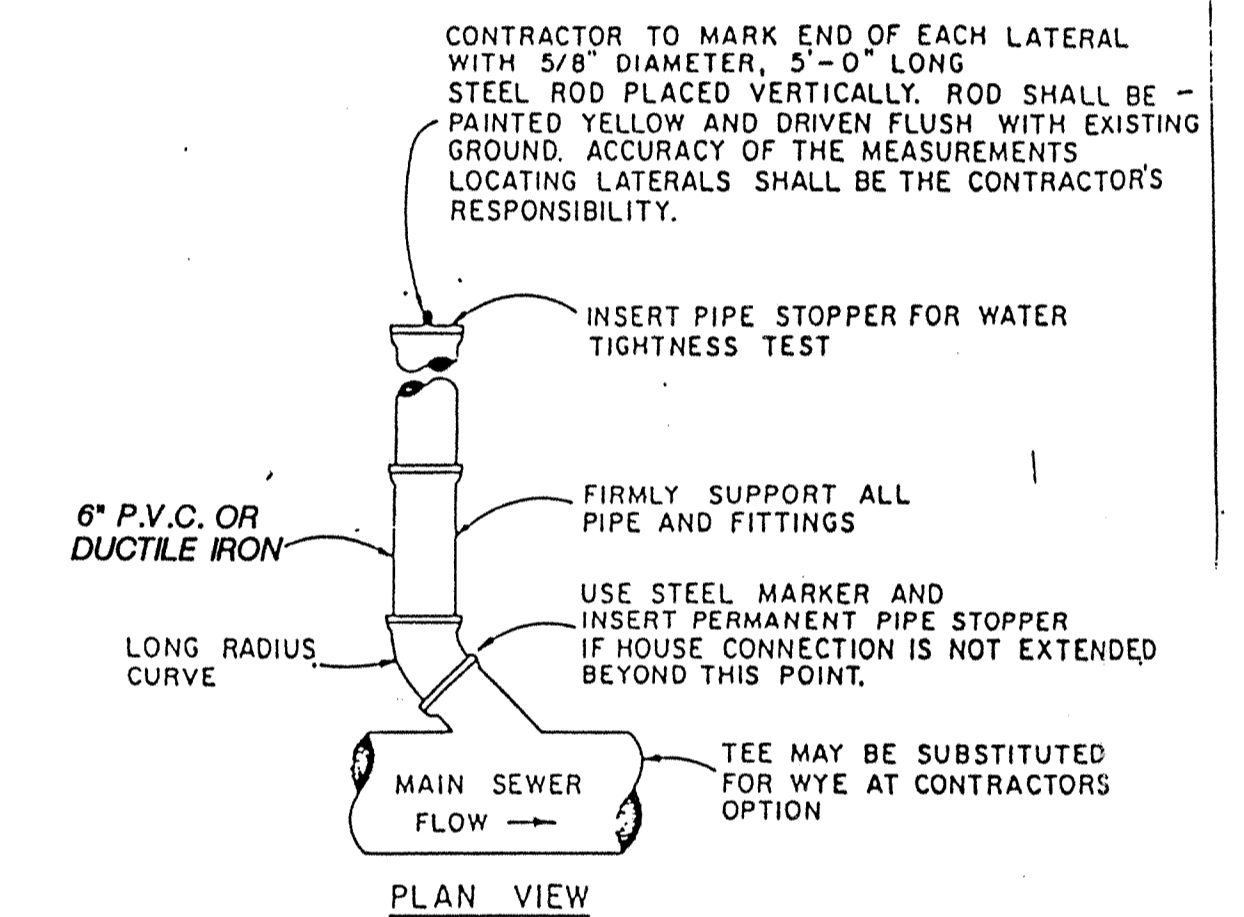


MIN. CROSSOVER & SEPARATION REQUIREMENTS FOR WATER MAINS & SANITARY SEWERS



Block	1"	1 1/2"	2"	3"	4"	6"	8"	10"	12"
A (PVC)	1.1	1.6	2.2	3.3	4.4	6.6	8.8	11.0	13.2
B (PVC)	0.7	1.1	1.5	2.2	3.3	4.4	6.6	8.8	11.0
C (PVC)	0.5	0.7	1.0	1.5	2.2	3.3	4.4	6.6	8.8

1 Above block weights are for 12" diameter pipe with a soil pressure of 1000 lbs./sq. ft.  
 2 Place pipe on plastic between fitting & concrete.



- NOTES:
- WYE BRANCHES OR TEES SHALL BE INSTALLED WHERE INDICATED. THEY SHALL BE EXTENDED TO PROPERTY LINE OF STREET OR ALLEYS OR TO DISTANCES AS SHOWN ON THE DESIGN DRAWINGS AND SHALL BE OF 6".
  - DEPTH AT PROPERTY LINE SHALL BE APPROXIMATELY 6'-0" UNLESS SEWER DEPTH IS LESS, IN WHICH EVENT A MINIMUM SLOPE OF 1/8" PER 1'-0" SHALL BE USED.
  - JOINTS AND JOINTING MATERIAL SHALL CONFORM TO ASTM C-425 FOR VITRIFIED CLAY PIPE; ASTM C-443 FOR CONCRETE PIPE; ASTM D-3212 FOR PVC PIPE; AWWA C-151 FOR DUCTILE IRON PIPE AND AWWA C-301 FOR STEEL CYLINDER TYPE PRESTRESSED CONCRETE PIPE.

LATERAL CONNECTION

Sanitary and Storm AS-BUILTS

Revisions and Dates:	Designed by:
MARCH 5, 1992	STEPHEN E. BOUR
REV. 3/16/92	NO. 10
REV. 4/10/92	DATE OF
REV. 4/14/92	NO. SURVEYOR
RE-ISSUED 4/27/92	

MSE Engineering  
501 Congressional Blvd., Suite 110  
Carmel, IN 46032  
317-843-5080

Title: CONSTRUCTION DETAILS  
Scale: N/A Job No.: 14-0548 Tube No.: Sheet No.: Of: 7

FILED  
JUL 31 1996  
OFFICE OF HAMILTON COUNTY SURVEYOR