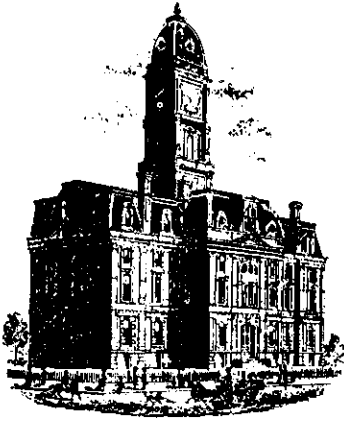


**Drain:** MERRIMAC      **Drain #:** 278  
**Improvement/Arm:** SECTION 5  
**Operator:** JONATHAN DULL      **Date:** 2-11-04  
**Drain Classification:** Urban/Rural      **Year Installed:** 2001

### GIS Drain Input Checklist

- Pull Source Documents for Scanning JOY
- Digitize & Attribute Tile Drains \_\_\_\_\_
- Digitize & Attribute Storm Drains \_\_\_\_\_
- Digitize & Attribute SSD \_\_\_\_\_
- Digitize & Attribute Open Ditch \_\_\_\_\_
- Stamp Plans \_\_\_\_\_
- Sum drain lengths & Validate \_\_\_\_\_
- Enter Improvements into Posse JOY
- Enter Drain Age into Posse JOY 2-1
- Sum drain length for Watershed in Posse JOY 3-1
- Check Database entries for errors \_\_\_\_\_



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

October 29, 1999

Re: Merrimac Drain, Section 5 Arm

Attached is a petition, non-enforcement request, plans, calculations, quantity summary and assessment roll for the Section 5 Arm, Merrimac Drain. 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 – 6,452 Ft.

18" RCP – 386 Ft.

36" RCP – 81 Ft.

12" RCP – 424 Ft.

24" RCP – 404 Ft.

15" RCP – 251 Ft.

30" RCP – 375 Ft.

The total length of the drain will be 8, 373 feet.

The subsurface drains (SSD) to be part of the regulated drain are those located under the curbs. Only the main SSD lines, which are located within the right of way, are to be maintained as regulated drain. Laterals for individual lots will not be considered part of the regulated drain.

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 \$30.00 per lot, \$5.00 per acre for roadways, with a \$30.00 minimum. With this assessment the total annual assessment for this drain/this section will be \$1, 465.50.

Parcels assessed for this drain may be assessed for the Osborn-Collins or Williams Creek Drain 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 that upon approval of the above proposed drain that the Board also approve the attached non-enforcement request. This request is for the reduction of the regulated drain easement to those easement widths as shown on the secondary plat for Merrimac Section 5 as recorded in the office of the Hamilton County Recorder.

I recommend the Board set a hearing for this proposed drain for December 27, 1999.

A handwritten signature in black ink, appearing to read 'Kenton C. Ward', written in a cursive style.

Kenton C. Ward  
Hamilton County Surveyor

KCW/llm



# Fidelity and Deposit Company of Maryland

Home Office: P.O. Box 1227, Baltimore, MD 21203-1227



Bond No. CSB 8102778

## SUBDIVISION BOND

KNOW ALL MEN BY THESE PRESENTS, that we, Merrimac Corporation as Principal, and Fidelity and Deposit Company of Maryland, of Baltimore, Maryland, as Surety, are held and firmly bound unto the Hamilton County Commissioners in the sum of **One Hundred Fifteen Thousand Eighty Six and XX/100** (\$ 115,086.00 ) Dollars for the payment of which, well and truly to be made, we jointly and severally bind ourselves, our heirs, legatees, executors, administrators, personal representatives, successors and assigns firmly by these presents.

Sealed with our seals and dated this 26th. day of October, 1999.

THE CONDITIONS OF THE ABOVE OBLIGATION ARE SUCH THAT:

Whereas, the Hamilton County Commissioners has granted Merrimac Corporation a permit to construct Storm Sewers and Sub-Surface Drains

Now, if said Merrimac Corporation shall improve said Merrimac Section 5 in accordance with specifications and regulations of the Hamilton County Commissioners and comply with all of the provisions of said permit then this obligation to be void, otherwise to be and remain in full force and effect.

MERRIMAC CORPORATION

Principal

By:

FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By:

Jo Hellingsworth

Attorney-in-fact



# Fidelity and Deposit Company of Maryland

Home Office: P.O. Box 1227, Baltimore, MD 21203-1227



Bond No. CSB 8102779

## SUBDIVISION BOND

KNOW ALL MEN BY THESE PRESENTS, that we, Merrimac Corporation as Principal, and Fidelity and Deposit Company of Maryland, of Baltimore, Maryland, as Surety, are held and firmly bound unto the Hamilton County Commissioners in the sum of **Twenty Eight Thousand Three Hundred Forty and XX/100** (\$ 28,340.00 ) Dollars for the payment of which, well and truly to be made, we jointly and severally bind ourselves, our heirs, legatees, executors, administrators, personal representatives, successors and assigns firmly by these presents.

Sealed with our seals and dated this 26th, day of October, 1999.

THE CONDITIONS OF THE ABOVE OBLIGATION ARE SUCH THAT:

Whereas, the Hamilton County Commissioners has granted Merrimac Corporation a permit to construct Erosion Control

Now, if said Merrimac Corporation shall improve said Merrimac Section 5 in accordance with specifications and regulations of the Hamilton County Commissioners and comply with all of the provisions of said permit then this obligation to be void, otherwise to be and remain in full force and effect.

MERRIMAC CORPORATION

Principal

By: *Lutella M. Quincy Stewart*

FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: *Jo Hollingsworth*  
Jo Hollingsworth Attorney-in-fact

**Power of Attorney**  
**FIDELITY AND DEPOSIT COMPANY OF MARYLAND**  
**HOME OFFICE: P.O. BOX 1227, BALTIMORE, MD 21203-1227**

Know ALL MEN BY THESE PRESENTS: That the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, a corporation of the State of Maryland, by W. B. WALBRECHER, Vice-President, and T. E. SMITH, Assistant Secretary, in pursuance of authority granted by Article VI, Section 2, of the By-Laws of said Company, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, does hereby nominate, constitute and appoint William E. Frick, Jr., Steven E. Wolf, Anthony E. Ortman, Andrew M. Hatheway, Eric A. Schieferstein, Jo Hollingsworth and Kevin D. Bowman, all of Indianapolis, Indiana, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: any and all bonds and undertakings and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Company, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its office in Baltimore, Md., in their own proper persons. This power of attorney revokes that issued on behalf of William E. Frick, Jr., Steven E. Wolf, Anthony E. Ortman, Andrew M. Hatheway, Eric A. Schieferstein and Jo Hollingsworth, dated September 23, 1998.

The said Assistant Secretary does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article VI, Section 2, of the By-Laws of said Company, and is now in force.

IN WITNESS WHEREOF, the said Vice-President and Assistant Secretary have hereunto subscribed their names and affixed the Corporate Seal of the said FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 4th day of November, A.D. 1998.

ATTEST: **FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



T. E. Smith  
*T. E. Smith*  
Assistant Secretary

By: W. B. Walbrecher  
*W. B. Walbrecher*  
Vice-President

State of Maryland } ss:  
County of Baltimore }

On this 4th day of November, A.D. 1998, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, came W. B. Walbrecher, Vice-President and T. E. Smith, Assistant Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and they each acknowledged the execution of the same, and being by me duly sworn, severally and each for himself depose and saith, that they are the said officers of the Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of said Company, and that the said Corporate Seal and their signatures as such officers were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.



Carol J. Fader  
*Carol J. Fader*  
Notary Public  
My Commission Expires: August 1, 2000

**EXTRACT FROM BY-LAWS OF FIDELITY AND DEPOSIT COMPANY OF MARYLAND**

"Article VI, Section 2. The Chairman of the Board, or the President, or any Executive Vice-President, or any of the Senior Vice-Presidents or Vice-Presidents specially authorized so to do by the Board of Directors or by the Executive Committee, shall have power, by and with the concurrence of the Secretary or any one of the Assistant Secretaries, to appoint Resident Vice-Presidents, Assistant Vice-Presidents and Attorneys-in-Fact as the business of the Company may require, or to authorize any person or persons to execute on behalf of the Company any bonds, undertakings, recognizances, stipulations, policies, contracts, agreements, deeds, and releases and assignments of judgements, decrees, mortgages and instruments in the nature of mortgages,....and to affix the seal of the Company thereto."

**CERTIFICATE**

I, the undersigned, Assistant Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the original Power of Attorney of which the foregoing is a full, true and correct copy, is in full force and effect on the date of this certificate; and I do further certify that the Vice-President who executed the said Power of Attorney was one of the additional Vice-Presidents specially authorized by the Board of Directors to appoint any Attorney-in-Fact as provided in Article VI, Section 2, of the By-Laws of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed."

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the said Company, this

26th. day of October, 1999.

*S. D. Watts*

Assistant Secretary

**FILED**

OCT 2 9

OFFICE OF HAMILTON COUNTY SURVEYOR



Kenton C. Ward, CFM  
 Surveyor of Hamilton County  
 Phone (317) 776-8495  
 Fax (317) 776-9628

Suite 188  
 One Hamilton County Square  
 Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

August 21, 2009

Re: Williams Creek: Merrimac Section 5

Attached are as-builts, certificate of completion & compliance, and other information for Merrimac Section 5. 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 October 29, 1999. The report was approved by the Board at the hearing held December 27, 1999. (See Drainage Board Minutes Book 5, Pages 301-303) The changes are as follows:

Structure:	Length:	Size	Material:	Up Invert:	Dn Invert	Grade:
617-616	144	18	RCP	894.43	893.83	0.41
616-611	164	18	RCP	893.83	892.79	0.66
611-608	215	24	RCP	892.71	891.64	0.5
608-606	176	30	RCP	891.03	890.53	0.28
606-605	44	30	RCP	890.45	890.25	0.45
605-601	157	30	RCP	890.25	889.72	0.34
601-617	81	36	RCP	889.67	889.52	0.18
603-602	50	12	RCP	895.2	894.64	0.9
604-602	28	12	RCP	891.57	891.19	1.33
602-601	178	12	RCP	894.64	890.17	0.51
607-606	30	12	RCP	891.72	891.34	1.25
610-609	49	15	RCP	892.96	892.65	0.62
609-608	205	15	RCP	892.65	891.16	0.72
612-611	187	12	RCP	893.53	892.71	0.44
615-614	78	18	RCP	894.59	893.66	1.2
614-613	162	24	RCP	893.36	892.94	0.26
613-611	28	36	RCP	892.89	892.79	0.35

RCP Pipe Totals:

12	473
15	254
18	386

SSD Totals:

Princeton	2697
Hampton	2327
Wariner	654



24	377
30	377
36	109
<b>Total:</b>	<u>1976</u>

**Total:** 5678

The length of the drain due to the changes described above is now **7654 feet**.

The non-enforcement was approved by the Board at its meeting on December 27, 1999 and recorded under instrument #200000030459.

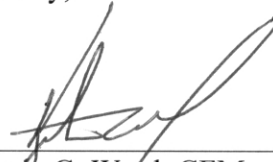
The following sureties were guaranteed by Fidelity and Deposit Company and have expired.

**Bond-LC No:** CSB8102778  
**Insured For:** Storm Sewers  
**Amount:** \$115,086.00  
**Issue Date:** October 26, 1999

**Bond-LC No:** CSB8102779  
**Insured For:** Erosion Control  
**Amount:** \$28,340  
**Issue Date:** October 26, 1999

I recommend the Board approve the drain's construction as complete and acceptable.

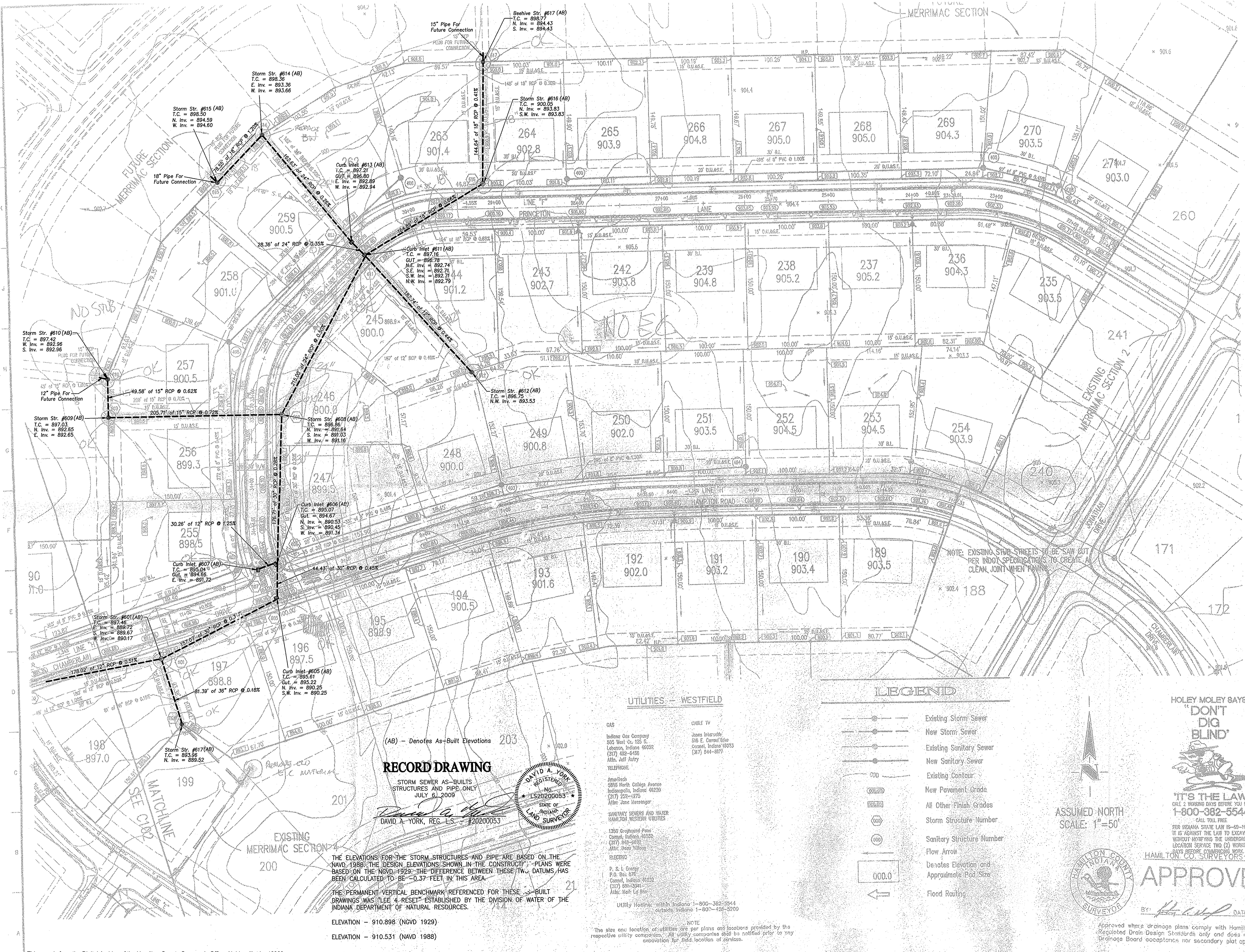
Sincerely,




---

Kenton C. Ward, CFM  
Hamilton County Surveyor

KCW/slm



1. ALL GRADES AT BOUNDARY SHALL MEET EXISTING GRADES.
2. IT SHALL BE THE RESPONSIBILITY OF EACH SUBCONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF WORK. IT SHALL ALSO BE THE SUBCONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES FOR PROPER STAKE LOCATION OF EACH UTILITY BEFORE WORK IS STARTED. THE SUBCONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IF FIELD WORK IS STARTED OR RESUMED.
3. STANDARD SPECIFICATIONS FOR THE HAMILTON WESTERN UTILITIES SHALL APPLY FOR ALL SANITARY SEWERS.
4. ANY PART OF THE SANITARY OR STORM SEWER REMAINS RUNNING UNDER PAVED AREAS TO BE BACKFILLED WITH GRANULAR MATERIAL.
5. THE SIZE AND LOCATION OF EXISTING UTILITIES SHOWN ARE PER INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES. ALL UTILITY COMPANIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION FOR FIELD LOCATION OF SERVICES.
6. SERVICE WALKS SHALL BE NON-REINFORCED CONCRETE 1" THICK AND 4" IN WIDTH.
7. 4" CONCRETE SERVICE WALK ACROSS FRONTAGE OF EACH LOT TO BE CONSTRUCTED BY OTHERS.
8. EXPANSION JOINTS ARE TO BE PLACED AT ALL WALK INTERSECTION AND BETWEEN WALKS AND PLATFORMS. SIDEWALK SCORES ARE TO BE EQUALLY SPACED BETWEEN EXPANSION JOINTS. CONTRACTION JOINTS AND PERPENDICULAR SIDEWALKS AT 5' INTERVALS OR LESS WITH A CONTRACTION JOINT EVERY 25' OR LESS.
9. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
10. ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.A. STANDARDS FOR WORKER SAFETY.
11. CONTRACTOR SHALL MINIMIZE DAMAGE TO EXISTING TREES.
12. NO LANDSCAPING, FENCING, SPRINKLER SYSTEMS OR OTHER SIMILAR OBJECTS ARE TO BE PLACED WITHIN THE RIGHT OF WAY.

**BENCHMARK**  
 U.S.G.S. 93 HYP (1091)  
 BRONZE TABLET SET IN CONCRETE POST, LOCATED ON THE SOUTH SIDE OF 146th STREET, APPROX. 20' WEST OF THE CENTERLINE OF DITCH ROAD.  
 (ELEVATION = 903.373)

Revisions  
 1. 05/07/98 ADDED STREET NOTES: RENOVATED CURBS, GEN. NOTES & WALKS

This information was gathered for:  
 Hamilton County Geographic Info. System (GIS). This document is controlled by the GIS.  
 Entry Date: 9-2009  
 Entered by: SLM

**DAVID A. YORK**  
 REGISTERED PROFESSIONAL SURVEYOR  
 No. 90081  
 STATE OF INDIANA

CERTIFIED BY: *[Signature]*  
 DATE: 11/28/98

THIS DRAWING AND THE IDEAS, DESIGNS AND CONCEPTS CONTAINED HEREIN ARE THE EXCLUSIVE INTELLECTUAL PROPERTY OF THE ENGINEER. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.

1998, The Schneider Corporation

**The Schneider Corporation**  
 8020 North Post Road  
 Indianapolis, Indiana 46228-1510  
 317-990-6282  
 317-990-6016 Fax

Engineering  
 Surveying  
 Landscape Architecture  
 GIS + LIS  
 Geology

Formerly Schneider Engineering Corp. / Sothen, Meyer, Gibson & Assoc.

MERRIMAC CORPORATION  
 MERRIMAC SECTION 5  
 Westfield, Indiana

DEVELOPMENT PLAN  
 OFFICE OF HAMILTON COUNTY SURVEYOR

Date	Project No.	Drawn	Appr.
11/11/98	1045.002	DRP	

Register Files  
 2 V:\GIS\GIS\PROJECTS\1045\1045.DWG  
 3 V:\GIS\GIS\PROJECTS\1045\1045.DWG  
 4 V:\GIS\GIS\PROJECTS\1045\1045.DWG  
 5 V:\GIS\GIS\PROJECTS\1045\1045.DWG  
 6 V:\GIS\GIS\PROJECTS\1045\1045.DWG

**C101**

**RECORD DRAWING**

STORM SEWER AS-BUILTS  
 STRUCTURES AND PIPE ONLY  
 JULY 6, 2009

*[Signature]*  
 DAVID A. YORK, REG. L.S. #20200053

(AB) - Denotes As-Built Elevations

THE ELEVATIONS FOR THE STORM STRUCTURES AND PIPE ARE BASED ON THE NAVD 1988. THE DESIGN ELEVATIONS SHOWN IN THE CONSTRUCTION PLANS WERE BASED ON THE NGVD 1929. THE DIFFERENCE BETWEEN THESE TWO DATUMS HAS BEEN CALCULATED TO BE -0.37 FEET IN THIS AREA.

THE PERMANENT VERTICAL BENCHMARK REFERENCED FOR THESE AS-BUILT DRAWINGS WAS "LEE 4 RESET" ESTABLISHED BY THE DIVISION OF WATER OF THE INDIANA DEPARTMENT OF NATURAL RESOURCES.

ELEVATION - 910.898 (NGVD 1929)  
 ELEVATION - 910.531 (NAVD 1988)

**UTILITIES - WESTFIELD**

- GAS
- Indiana Gas Company  
505 West Cr. 125 S.  
Lebanon, Indiana 46032  
(317) 439-6456  
Attn: Jeff Fahry
- TELEPHONE
- Ameritech  
5090 North College Avenue  
Indianapolis, Indiana 46220  
(317) 252-0275  
Attn: Jane Messenger
- SANITARY SEWERS AND WATER  
HAMILTON WESTERN UTILITIES
- ELECTRIC  
P. S. I. Energy  
P.O. Box 576  
Carmel, Indiana 46032  
(317) 581-5041  
Attn: Mark LeBar
- Utility Hotline: within Indiana 1-800-382-5544  
Outside Indiana 1-800-428-5700
- NOTE  
The size and location of utilities are per plans and locations provided by the respective utility companies. All utility companies shall be notified prior to any excavation for field location of services.

**LEGEND**

- Existing Storm Sewer
- New Storm Sewer
- Existing Sanitary Sewer
- New Sanitary Sewer
- Existing Contour
- New Pavement Grade
- All Other Finish Grades
- Storm Structure Number
- Sanitary Structure Number
- Flow Arrow
- Denotes Elevation and Approximate Pad Size
- Flood Routing

ASSUMED NORTH  
 SCALE: 1"=50'



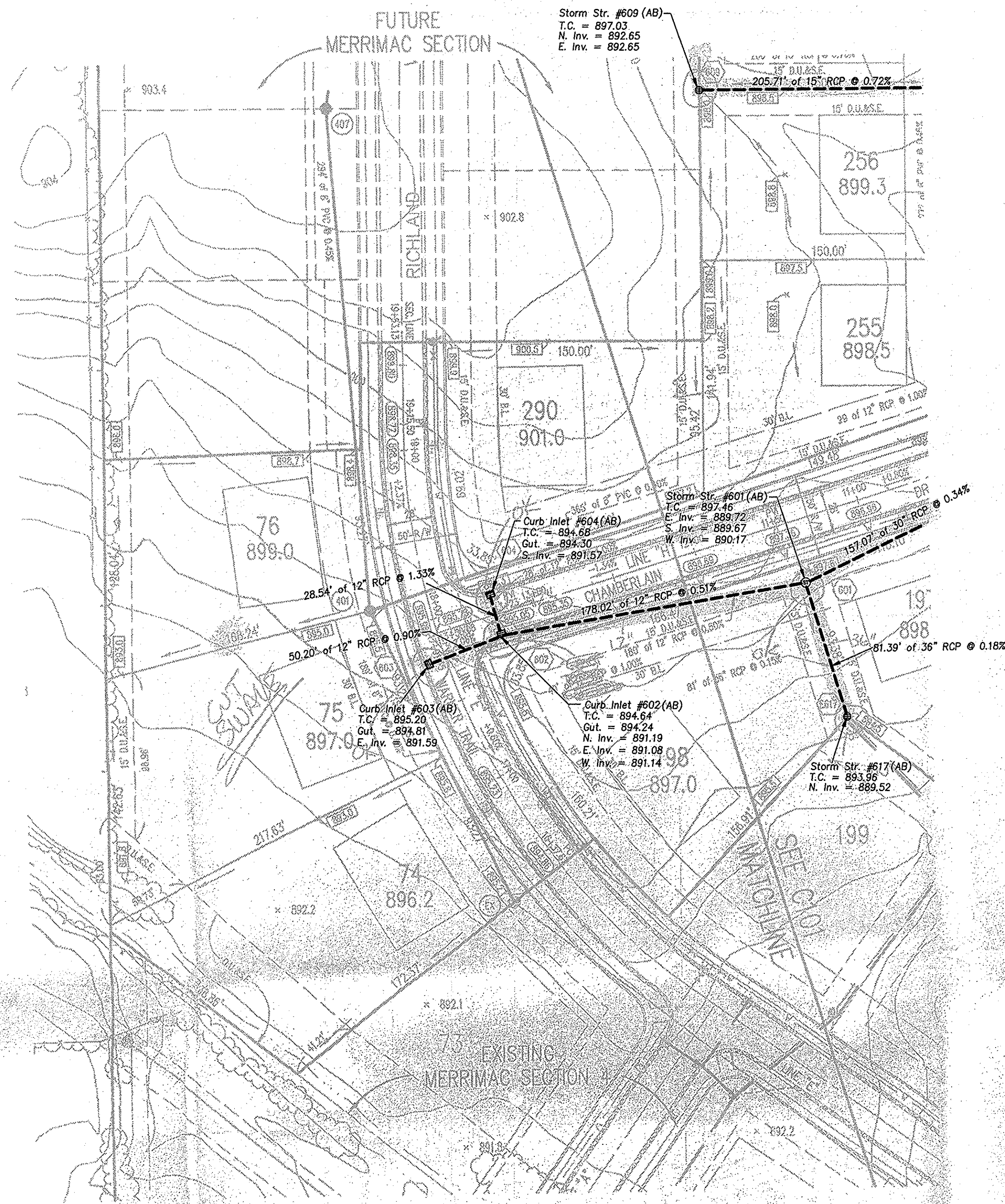
HOLEY MOLEY SAYS  
 "DON'T DIG BLIND"

IT'S THE LAW!  
 CALL 2 WORKING DAYS BEFORE YOU DIG  
 1-800-382-5544  
 CALL TOLL FREE

PER INDIANA STATE LAW IS-60-1091,  
 IT IS AGAINST THE LAW TO EXCAVATE  
 WITHOUT NOTIFYING THE UNDERGROUND  
 LOCATION SERVICE TWO (2) WORKING  
 DAYS BEFORE COMMENCING WORK.

HAMILTON CO. SURVEYOR'S OFFICE  
**APPROVED**

BY: *[Signature]* DATE: SEP 24 2009



(AB) - Denotes As-Built Elevations

**RECORD DRAWING**

STORM SEWER AS-BUILTS  
STRUCTURES AND PIPE ONLY  
JULY 6, 2009

DAVID A. YORK, REG. L.S. #20200053



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ELEVATION - 910.898 (NGVD 1929)

ELEVATION - 910.531 (NAVD 1988)

**UTILITIES - WESTFIELD**

- GAS**
  - Indiana Gas Company
  - 505 West Co. 125 S.
  - Lebanon, Indiana 46052
  - (317) 882-6158
  - Attn: Jerry Robinson
  - TELEPHONE
- CABLE TV**
  - Sears Inflatables
  - 516 E. Cornell Drive
  - Connet, Indiana 46023
  - (317) 844-2877
  - Attn: Tim Gibson - Dennis Custer
- Amortech**
  - 2808 North College Avenue
  - Indianapolis, Indiana 46201
  - (317) 252-4275
  - Attn: John Mosinger
- SANITARY SEWERS AND WATER**
- HAMILTON WESTERN UTILITIES**
  - 1350 Greyhound Pass
  - Danm, Indiana 46032
  - (317) 849-6852
  - Attn: Brian Wilgong
  - ELECTRIC
- P. S. I Energy**
  - P.O. Box 876
  - Connet, Indiana 46032
  - (317) 581-5041
  - Attn: Mark Le Bar

Utility Hotline: within Indiana 1-800-382-5544  
outside Indiana 1-800-426-9200

**NOTE**

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HOLEY MOLEY SAYS  
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**"IT'S THE LAW"**  
CALL 2 WORKING DAYS BEFORE YOU DIG  
**1-800-382-5544**  
CALL TOLL FREE  
PER INDIANA STATE LAW 15-69-1981,  
IT IS AGAINST THE LAW TO EXCAVATE  
WITHOUT NOTIFYING THE UNDERGROUND  
LOCATION SERVICE TWO (2) WORKING  
DAYS BEFORE COMMENCING WORK.

ASSUMED NORTH  
SCALE: 1"=50'

**LEGEND**

- Existing Storm Sewer
- New Storm Sewer
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- New Sanitary Sewer
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- New Pavement Grade
- All Other Finish Grades
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- Denotes Elevation and Approximate Pad Size
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**BENCHMARK**

U.S.G.S. 93 RHP (1981)  
BRONZE TABLE SET IN CONCRETE POST, LOCATED ON THE SOUTH SIDE OF 148th STREET, APPROX. 25' WEST OF THE CENTERLINE OF DITCH ROAD.  
(ELEVATION = 903.373)

Revisions  
1. 8/6/09 REVISED STORM TABLE, GEN. NOTES, WALKS & ESMT AT LOT 74

This information was gathered for input into the Hamilton County Geographic Information System (GIS). This document is considered an official record of the GIS.

Entry Date: 8-20-09  
Entered By: SLM

Richard A. Henderson  
No. 000081  
STATE OF INDIANA  
PROFESSIONAL ENGINEER

CERTIFIED BY: [Signature]  
DATE: 1/23/98

1998, The Schneider Corporation

**The Schneider Corporation**

3020 North Post Road  
Indianapolis, Indiana 46228-0518  
317-808-8288  
317-899-8010 Fax

Engineering  
Surveying  
Landscape Architecture  
GIS - IAS  
Geology

Formerly Schneider Engineering Corp. / Bolton, Meyer, Gibson & Assoc.

MERRIMAC SECTION  
MERRIMAC SECTION 51 LED  
Westfield, Indiana  
DEVELOPMENT PLAN

**STORM SEWER TABLE**

STR. #	STA.	BASE LINE	OFFSET	LT/RT	TYPE	T.C.	INVERTS
601	11+245.85	H	36.53	LT	MANHOLE	897.80	890.29 S; 890.67 W; 890.34 E
602	13+233.00	H	14.01	LT	CURB INLET	895.85	891.77 NW; 891.77 W
603	17+763.18	L	14.00	LT	CURB INLET	895.70	892.26
604	13+233.00	H	14.01	RT	CURB INLET	895.05	892.05
605	3+182.10	H	14.00	LT	CURB INLET	896.10	890.88 NW
606	35+00	F	14.72	LT	CURB INLET	895.50	891.50 W; 892.21 W; 891.01 SW
607	35+00	F	14.72	RT	CURB INLET	895.50	892.50
608	33+172.70	F	31.00	LT	MANHOLE	897.20	892.67 N; 891.98 S&W
609	33+172.70	F	31.00	RT	BEEHIVE INLET	898.00	894.00 N; 893.30 E
610	32+91.61	F	378.88	RT	BEEHIVE INLET	898.20	892.25
611	30+76.29	F	14.00	LT	CURB INLET	897.01	894.51 SE; 893.61 NE; 893.61 NW&SW
612	29+338.05	F	194.27	LT	BEEHIVE INLET	895.00	895.25
613	30+178.38	F	14.00	RT	CURB INLET	897.01	893.67 NW&SE
614	30+67.47	F	175.31	RT	BEEHIVE INLET	899.00	894.45 SW; 893.59 SE
615	31+34.31	F	173.72	RT	BEEHIVE INLET	899.00	895.14 NW; 895.14 NE
616	29+12.85	F	30.00	RT	MANHOLE	900.00	894.73 NW&SW
618	29+08.60	F	174.85	RT	BEEHIVE INLET	900.00	895.41 N; 895.16 S

**SANITARY SEWER TABLE**

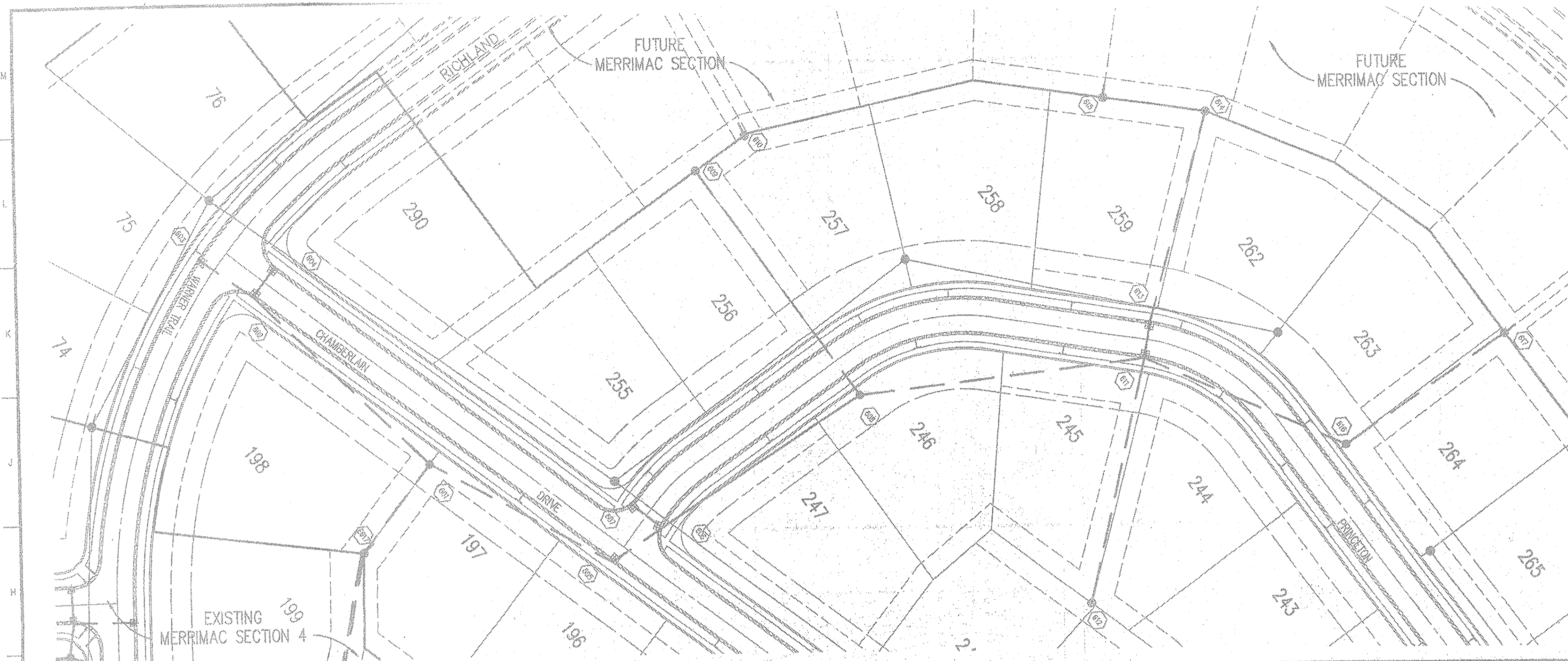
STR. #	STA.	BASE LINE	OFFSET	LT/RT	TYPE	T.C.	INVERTS
EX					MANHOLE	895.20	887.96 N; 887.87 S
401	18+138.80	E	344.00	LT	MANHOLE	896.70	888.35 NW; 888.35 S
402	10+261.00	H	35.00	RT	MANHOLE	896.20	893.91 N; 895.01 W
403	6+92.17	H	38.00	RT	MANHOLE	898.90	891.50 E; 891.40 W
404	34+08.94	H	35.00	RT	MANHOLE	902.80	893.93
405	32+47.00	F	46.00	RT	MANHOLE	898.00	891.23 NE; 891.13 S
406	29+98.61	F	46.00	RT	MANHOLE	899.50	892.10 N
407	20+59.72	E	43.00	LT	MANHOLE	902.00	898.65 S; 897.85 W
408	23+17.41	F	36.84	RT	MANHOLE	902.00	897.84 NW; 898.03 E
409	28+10.25	F	32.90	RT	MANHOLE	902.00	895.08 S
EXB					MANHOLE	902.00	898.37 NW; 898.47 E

**APPROVED**

DATE: SEP

Date: 11/11/98 Project No.: 1045.002 Drawn: DRP

Computer Files: [List of files]  
Sheet No.: C102



**HOLEY MULEY SAYS**  
**"DON'T DIG BLIND"**  
  
**1-800-382-5544**  
 CALL TOLL FREE  
**1-800-428-5200**  
 FOR CALLS OUTSIDE OF INDIANA  
 PER INDIANA STATE LAW IS-59-1991, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE THRU (2) WORKING DAYS BEFORE COMMENCING WORK.

**LEGEND/DETAILS**

Sheet	Detail Number	Description
C801	15	Bedding Detail - Reinforced Concrete Pipe (RCP)
C801	12	Roll Curb Inlet
C801	13	Beehive Inlet Detail
C801	14	Storm Manhole Detail
C801	11	Precast Concrete End Section

**NOTE**

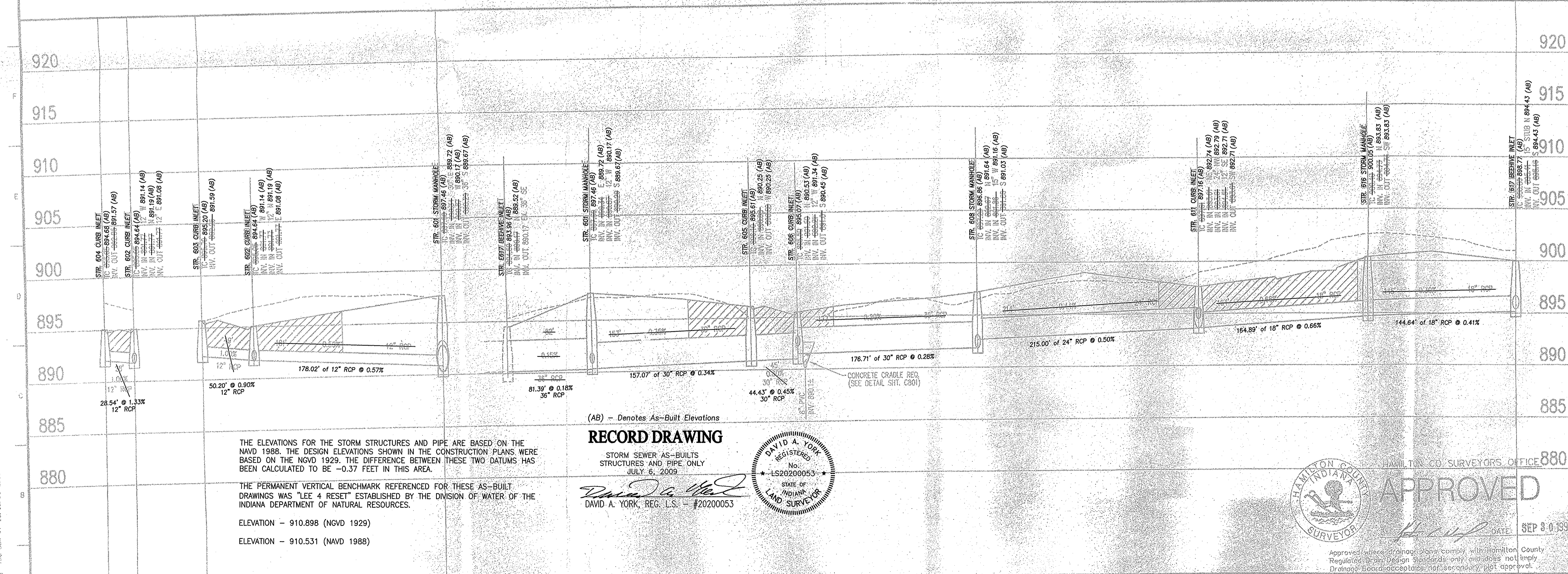
**BENCHMARK**

U.S.G.S. 93 RHP (1951)  
 BRONZE TABLET SET IN CONCRETE POST, LOCATED ON THE SOUTH SIDE OF 146th STREET, APPROX. 25' WEST OF THE CENTERLINE OF DIXIE ROAD.  
 (ELEVATION = 903.373)

Revisions  
 1. BCG 01/07/99 REVISED STORM SEWER PROFILE

**STORM SEWER PLAN**

SCALE: 1"=50'



THE ELEVATIONS FOR THE STORM STRUCTURES AND PIPE ARE BASED ON THE NAVD 1988. THE DESIGN ELEVATIONS SHOWN IN THE CONSTRUCTION PLANS WERE BASED ON THE NGVD 1929. THE DIFFERENCE BETWEEN THESE TWO DATUMS HAS BEEN CALCULATED TO BE -0.37 FEET IN THIS AREA.

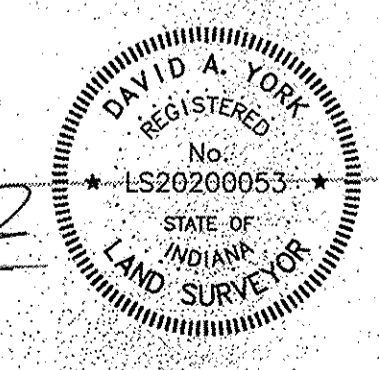
THE PERMANENT VERTICAL BENCHMARK REFERENCED FOR THESE AS-BUILT DRAWINGS WAS "LEE 4 RESET" ESTABLISHED BY THE DIVISION OF WATER OF THE INDIANA DEPARTMENT OF NATURAL RESOURCES.

ELEVATION - 910.898 (NGVD 1929)  
 ELEVATION - 910.531 (NAVD 1988)

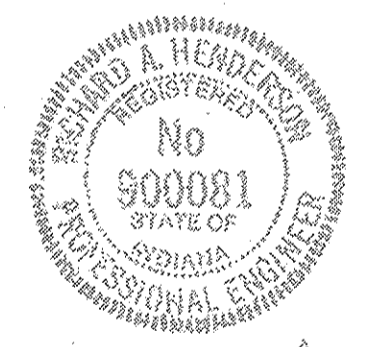
(AB) - Denotes As-Built Elevations

**RECORD DRAWING**  
 STORM SEWER AS-BUILTS  
 STRUCTURES AND PIPE ONLY  
 JULY 6, 2009

DAVID A. YORK, REG. L.S. - #20200053

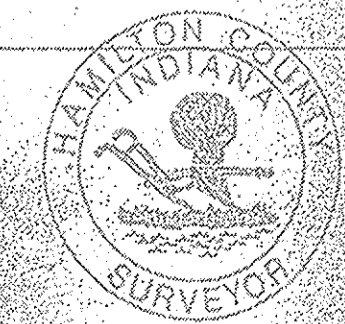


This information was gathered to Hamilton County Geographic Information System (GIS). This document is an official record of the GIS.  
 Entry Date: 8-2009  
 Entered By: SLM



CERTIFIED BY: [Signature]  
 DATE: 11/23/98

**The Schneider Corporation**  
 5020 North Post Road  
 Indianapolis, Indiana 46226-0818  
 317-808-8282  
 317-808-8910 Fax  
 Engineering  
 Surveying  
 Landscape Architecture  
 GIS & LIS  
 Geology



HAMILTON CO. SURVEYORS OFFICE 880

**APPROVED**

Approved when changed, does not comply with Hamilton County Regulations. Design standards only do not imply Drainage Board acceptance, nor secondary plot approval.

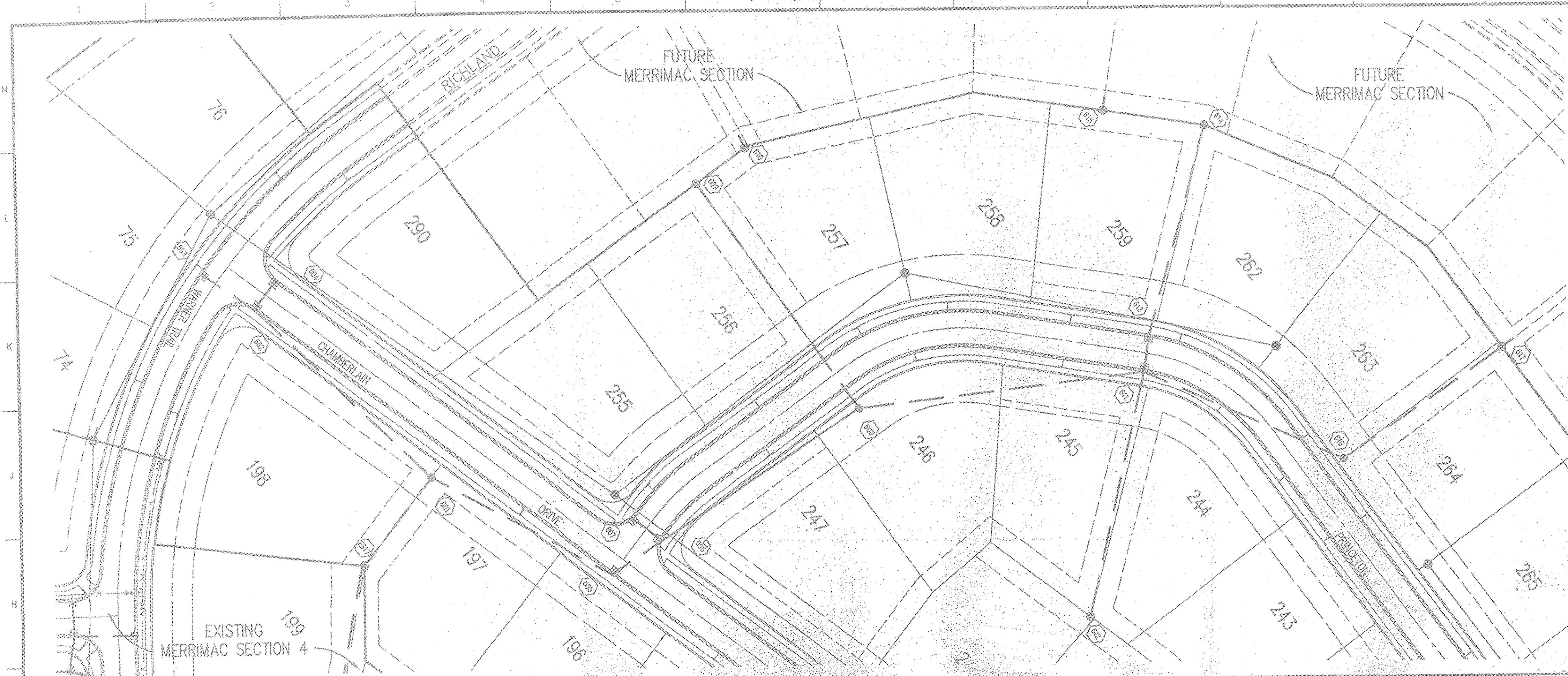
**LEGEND**

	Existing Grade
	New Grade
	Granular Backfill

SCALE: HORZ.: 1"=50'  
 VERT.: 1"=5'

**STORM SEWER PLAN**

Date	Project No.	Drawn	Apprv.
11/11/98	1045.002	DRP	
Computer Files	Sheet No.		
J:\045\002\DRG\C601 J:\045\002\DRG\C601 J:\045\002\DRG\C601 J:\045\002\DRG\C601 J:\045\002\DRG\C601	C601		



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**1-800-382-5544**  
 CALL TOLL FREE  
**1-800-428-5200**  
 FOR CALLS OUTSIDE OF INDIANA  
 PER INDIANA STATE LAW IS-89-1991, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

**LEGEND/DETAILS**

Sheet	Detail Number	Description
C801	15	Bedding Detail - Reinforced Concrete Pipe (RCP)
C801	12	Roll Curb Inlet
C801	13	Beehive Inlet Detail
C801	14	Storm Manhole Detail
C801	11	Precast Concrete End Section

**NOTE**

**GENERAL NOTES**

- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
- ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL UTILITY LOCATIONS BEFORE CONSTRUCTION BEGINS.
- CONTRACTORS SHALL MINIMIZE DAMAGE TO EXISTING TREES.

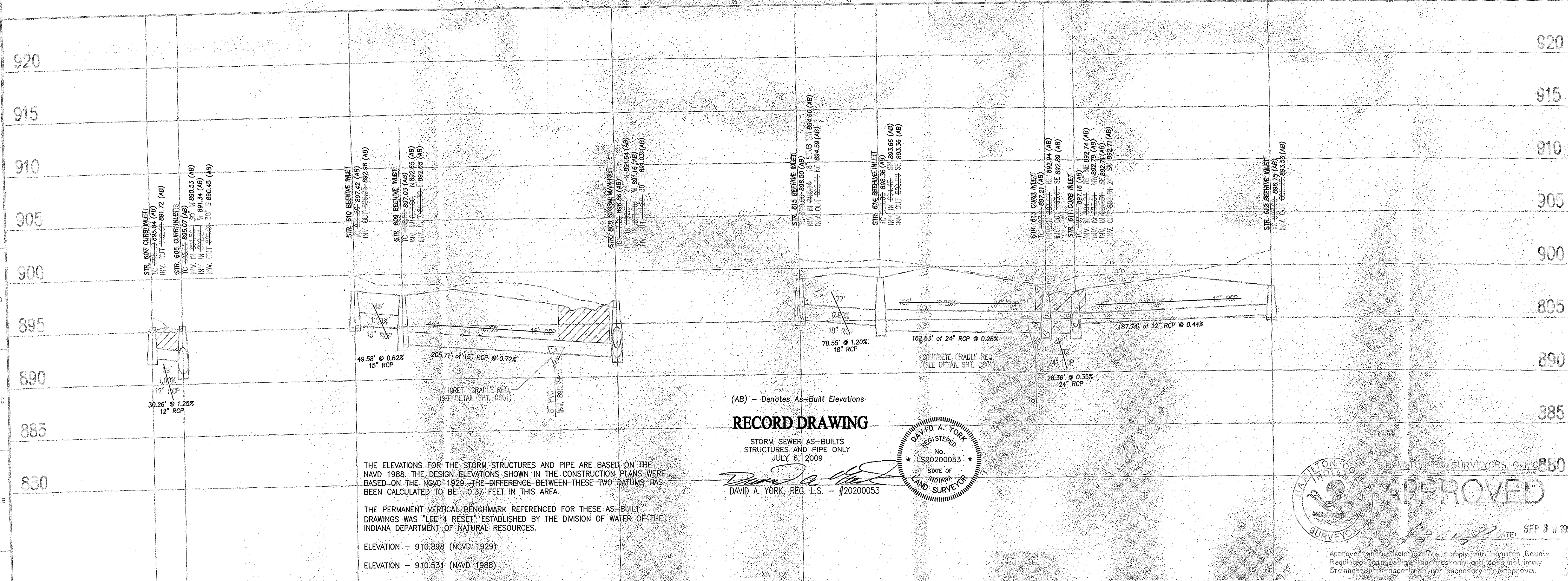
**BENCHMARK**

U.S.G.S. 93 RHP (1991)  
 BRONZE TABLE SET IN CONCRETE POST, LOCATED ON THE SOUTH SIDE OF 148th STREET, APPROX. 25' WEST OF THE CENTERLINE OF DITCH ROAD.  
 (ELEVATION = 903.373)

Revisions  
 1. 8/6/98 01/07/99 REVISED STORM SEWER PROFILE

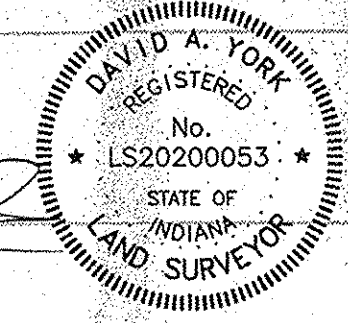
**STORM SEWER PLAN**

SCALE: 1"=50'



**RECORD DRAWING**

STORM SEWER AS-BUILTS  
 STRUCTURES AND PIPE ONLY  
 JULY 6, 2009  
 DAVID A. YORK, REG. L.S. - #20200053



THE ELEVATIONS FOR THE STORM STRUCTURES AND PIPE ARE BASED ON THE NAVD 1988. THE DESIGN ELEVATIONS SHOWN IN THE CONSTRUCTION PLANS WERE BASED ON THE NGVD 1929. THE DIFFERENCE BETWEEN THESE TWO DATUMS HAS BEEN CALCULATED TO BE -0.37 FEET IN THIS AREA.

THE PERMANENT VERTICAL BENCHMARK REFERENCED FOR THESE AS-BUILT DRAWINGS WAS "LEE 4 RESET" ESTABLISHED BY THE DIVISION OF WATER OF THE INDIANA DEPARTMENT OF NATURAL RESOURCES.

ELEVATION - 910.898 (NGVD 1929)  
 ELEVATION - 910.531 (NAVD 1988)

This information was gathered from Hamilton County Geographic Information System (GIS). This document is an official record of the County.  
 Entry Date: 8-2009  
 Entered By: SLM

Professional seal for Richard A. Henderson, Registered Professional Engineer, No. 300081, State of Indiana.  
 CERTIFIED BY: [Signature]  
 DATE: 11/23/98

**The Schneider Corporation**  
 3020 North Post Road  
 Indianapolis, Indiana 46228-0518  
 317-600-8922  
 317-600-8010 Fax  
 Engineering  
 Surveying  
 Landscape Architecture  
 GIS - LIS  
 Geology

HAMILTON COUNTY SURVEYORS OFFICE  
**APPROVED**  
 DATE: SEP 3 0 1998

Approved where drainage follows comply with Hamilton County Regulated Drainage Design Standards only and does not imply Drainage Board acceptance nor secondary plot approval.

Formerly Schneider Engineering Corp. / Bolden, Meyer, Gibson & Assoc.  
**MERRIMAC CORPORATION**  
 MERRIMAC SECTION 4  
 Westfield, Indiana SEP 24 1999  
**STORM SEWER PLAN**

Date	Project No.	Drawn	Approved
11/11/98	1045.002	DRP	

Computer Files  
 A:\1045\002\DWG\C602  
 A:\1045\002\DWG\C602  
 A:\1045\002\DWG\C602  
 A:\1045\002\DWG\C602  
 A:\1045\002\DWG\C602

Sheet No. **C602**

**STORM SEWER PROFILE**

**LEGEND**

	Existing Grade
	New Grade
	Chamberlain

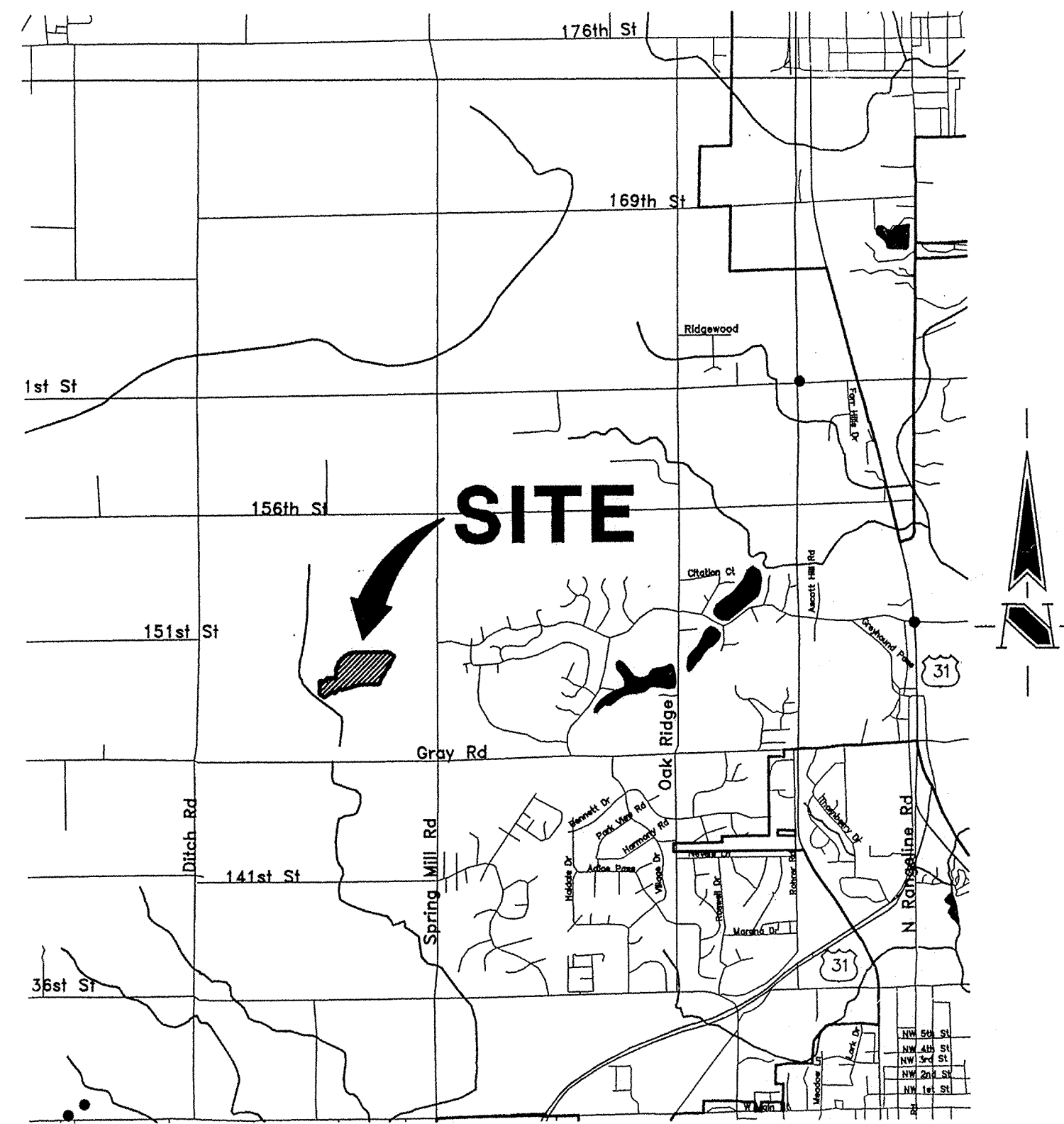
SCALE: HORIZ.: 1"=50'  
 VERT.: 1"=5'

2/15/2009 07:15:26 43 1035

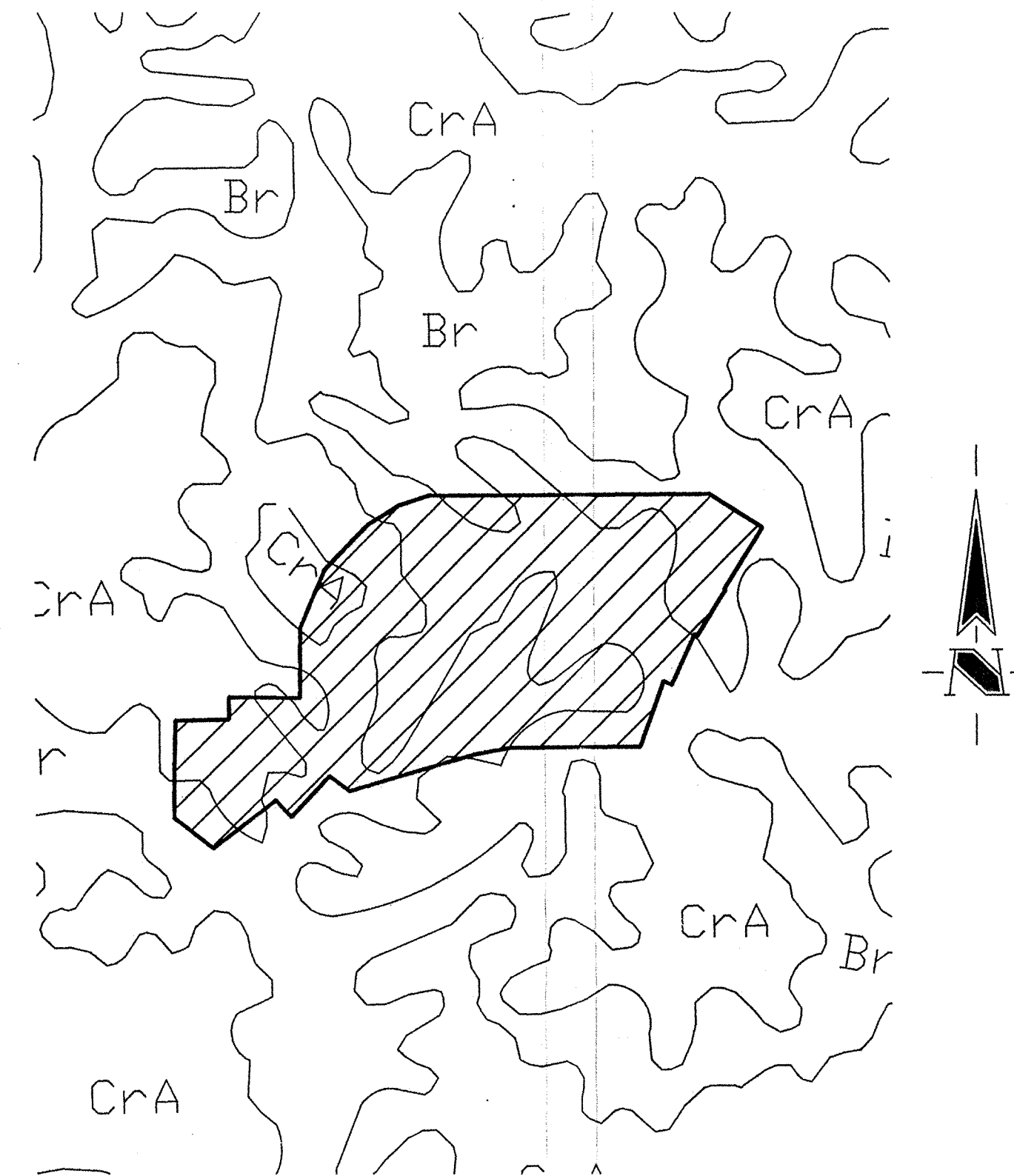
- SEC. 15-T18N-R3E -

# MERRIMAC SECTION 5 (CONSTRUCTION PLANS) HAMILTON COUNTY WESTFIELD, INDIANA

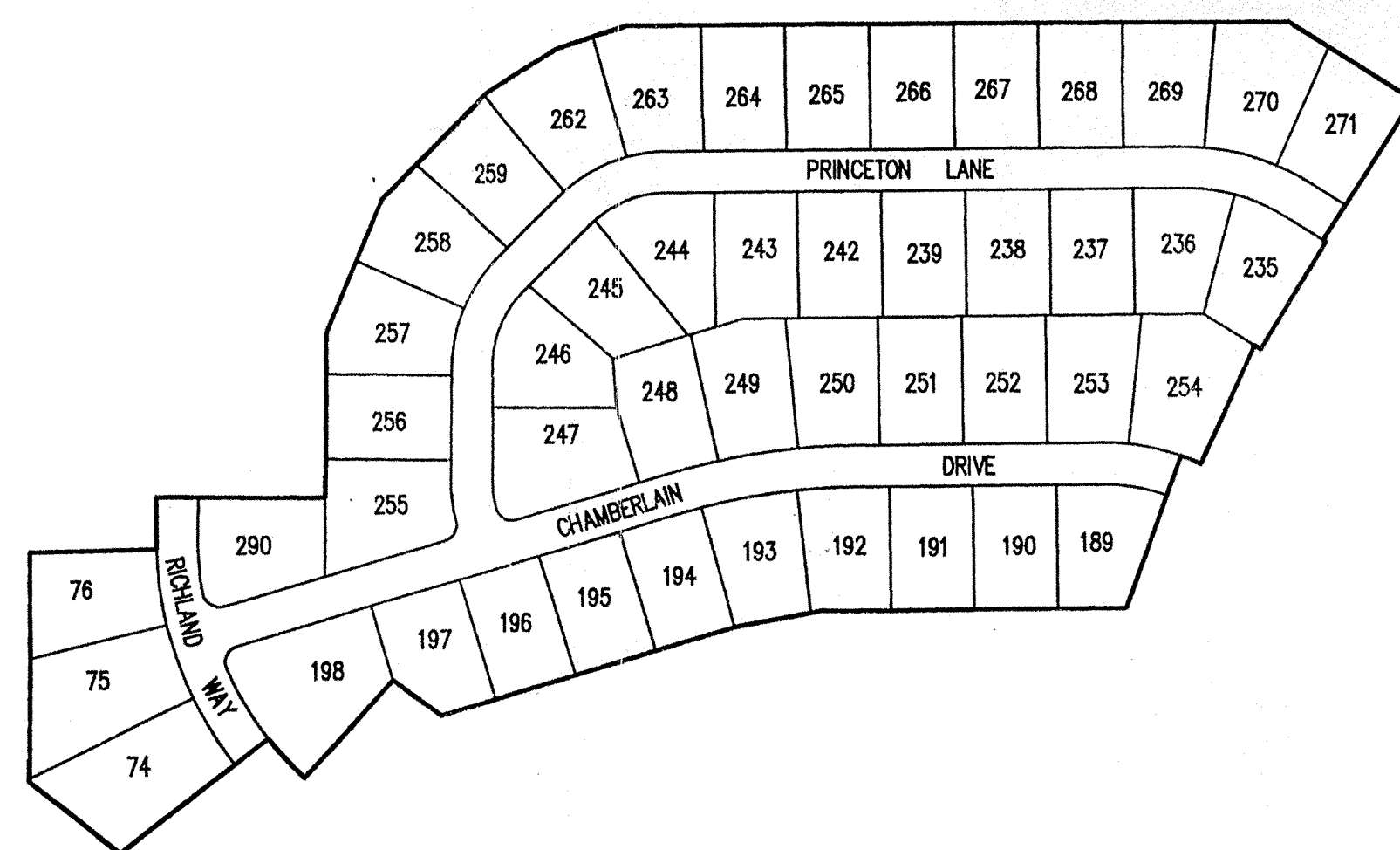
**DEVELOPER:**  
**MERRIMAC CORP.**  
582 SOUTH RANGELINE ROAD  
CARMEL, INDIANA 46032  
13171 844-5111



**AREA MAP**  
SCALE: 1"=3000'



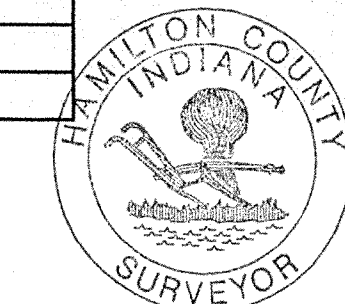
**SOILS MAP**  
SCALE: 1"=400'



NOTE: DESIGN SPEED 25 M.P.H.

**SITE MAP**  
SCALE: 1"=200'

INDEX	
SHEET No.	DESCRIPTION
C100	COVER SHEET
C101, C102	DEVELOPMENT PLAN
C103	EROSION CONTROL PLAN
C104	EROSION CONTROL DETAILS
C201-C203	STREET PLAN
C301	TRAFFIC CONTROL PLAN INTERSECTION DETAILS
C401, C402	SANITARY SEWER PLAN
C601, C602	STORM SEWER PLAN
C701	WATER DISTRIBUTION PLAN
C702	WATER DETAILS & SPECIFICATIONS
C801, C802	GENERAL DETAILS
C901	SPECIFICATIONS



HAMILTON CO. SURVEYORS OFFICE  
**APPROVED**  
BY: *[Signature]* DATE: SEP 30 1999

Approved where drainage plans comply with Hamilton County Regulated Drain Design Standards only and does not imply Drainage Board acceptance nor secondary plot approval.



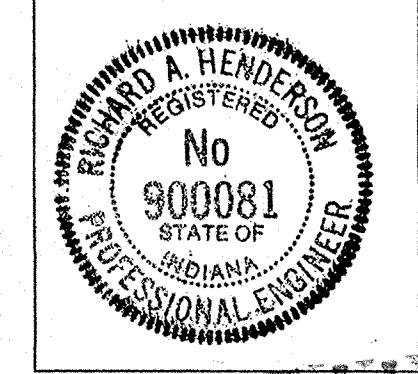
3020 North Post Road  
Indianapolis, Indiana  
46226-6518  
317-898-8282  
317-899-8010 Fax

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Landscape Architecture  
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HAMILTON COUNTY HIGHWAY DEPARTMENT  
**APPROVED FOR CONSTRUCTION**  
By: *Matt Marish for LKL* Date: *SEP 24 1999*

These plans are approved as meeting Hamilton County construction and engineering standards only and is not an approval of the secondary plan.

THESE DOCUMENTS ARE SUBJECT TO PERIODIC REVISIONS BY THE SCHNEIDER CORPORATION. THE HOLDER IS RESPONSIBLE FOR VERIFYING THAT THESE DOCUMENTS ARE THE MOST CURRENT PRIOR TO USE.



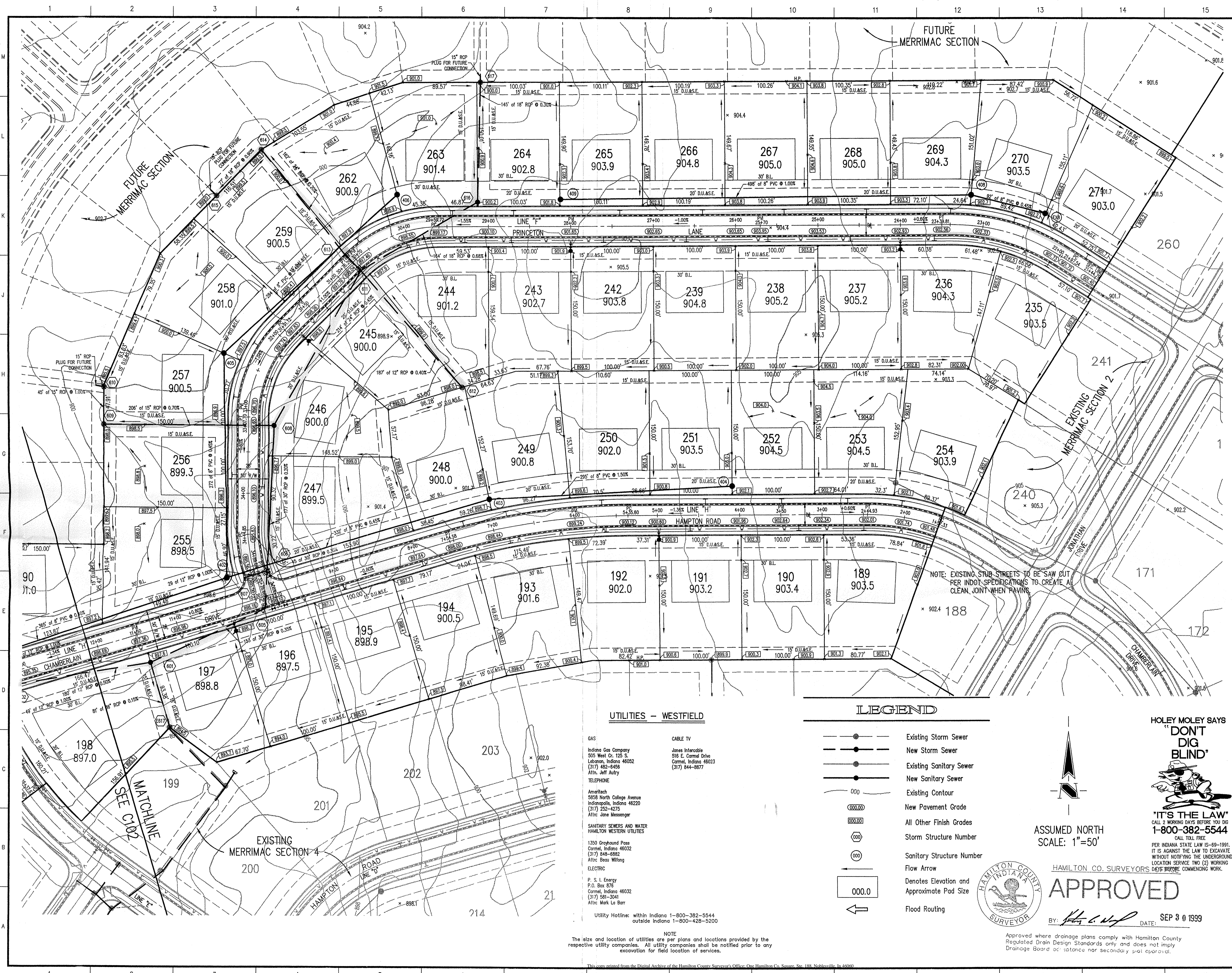
DATE: 11/23/98  
FILED SHEET  
SEP 24 1999  
C100  
OFFICE OF HAMILTON COUNTY SURVEYOR 18

REVISIONS:		
DATE:	BY:	DESCRIPTION:

Formerly Schneider Engineering Corp. / Bohlen, Meyer, Gibson & Assoc.

*[Signature]*  
CERTIFIED BY: RICHARD HENDERSON  
E-MAIL ADDRESS: rhenderson@theschneidercorp.com

PROJECT ENGINEER: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_ DATE CHECKED: \_\_\_\_\_



**GENERAL NOTES**

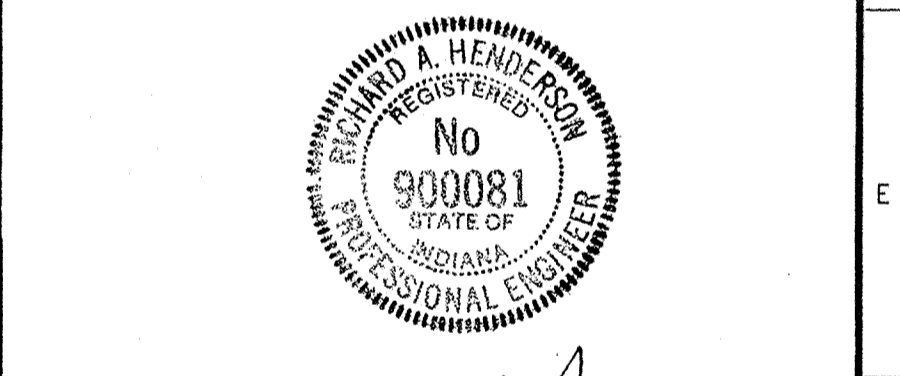
1. ALL GRADES AT BOUNDARY SHALL MEET EXISTING GRADES.
2. IT SHALL BE THE RESPONSIBILITY OF EACH SUBCONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF WORK. IT SHALL ALSO BE THE SUBCONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES FOR PROPER STAKE LOCATION OF EACH UTILITY BEFORE WORK IS STARTED. THE SUBCONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN FIELD BEFORE WORK IS STARTED OR RESUMED.
3. STANDARD SPECIFICATIONS FOR THE HAMILTON WESTERN, UTILITIES SHALL APPLY FOR ALL SANITARY SEWERS.
4. ANY PART OF THE SANITARY OR STORM SEWER TRENCHES RUNNING UNDER PAVED AREAS TO BE BACKFILLED WITH GRANULAR MATERIAL.
5. THE SIZE AND LOCATION OF EXISTING UTILITIES SHOWN ARE PER INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES. ALL UTILITY COMPANIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION FOR FIELD LOCATION OF SERVICES.
6. SERVICE WALKS SHALL BE NON-REINFORCED CONCRETE 4" THICK AND 4' IN WIDTH.
7. 4" CONCRETE SERVICE WALK ACROSS FRONTAGE OF EACH LOT TO BE CONSTRUCTED BY OTHERS.
8. EXPANSION JOINTS ARE TO BE PLACED AT ALL WALK INTERSECTION AND BETWEEN WALKS AND PLATFORMS. SIDEWALK SCORES ARE TO BE EQUALLY SPACED BETWEEN EXPANSION JOINTS. CONTRACTION JOINTS AND PERPENDICULAR SIDEWALKS AT 5' INTERVALS OR LESS WITH A CONTRACTION JOINT EVERY 20' OR LESS.
9. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
10. ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
11. CONTRACTOR SHALL MINIMIZE DAMAGE TO EXISTING TREES.
12. NO LANDSCAPING, FENCING, SPRINKLER SYSTEMS OR OTHER SIMILAR OBJECTS ARE TO BE PLACED WITHIN THE RIGHT OF WAY.

**BENCHMARK**

U.S.G.S. 93 RHP (1951)  
BRONZE TABLET SET IN CONCRETE POST, LOCATED ON THE SOUTH SIDE OF 146TH STREET, APPROX. 25' WEST OF THE CENTERLINE OF DITCH ROAD.  
(ELEVATION = 903.373)

**Revisions**

1. BGG 01/07/99 ADDED STREET NOTE; REVISED CALLOUTS, GEN. NOTES & WALKS



CERTIFIED BY: *R. Henderson*  
DATE: 11/23/98  
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1998, The Schneider Corporation

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317-899-8010 Fax  
Engineering  
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**FILED**  
SEP 24 1999  
OFFICE OF HAMILTON COUNTY SURVEYOR  
MERRIMAC SECTION 5  
Westfield, Indiana  
DEVELOPMENT PLAN

Date	Project No.	Drawn	Apprv.
11/11/98	1045.002	DRP	

Computer Files  
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Sheet No. **C101**

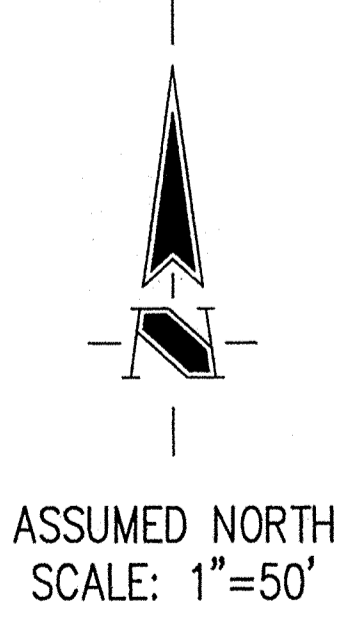
**UTILITIES - WESTFIELD**

- GAS**  
Indiana Gas Company  
505 West Cr. 125 S.  
Lebanon, Indiana 46052  
(317) 482-8456  
Attn: Jeff Autry  
TELEPHONE
- CABLE TV**  
Jones Intercoable  
516 E. Carmel Drive  
Carmel, Indiana 46023  
(317) 844-8877
- AMARITECH**  
5858 North College Avenue  
Indianapolis, Indiana 46220  
(317) 252-4275  
Attn: Jane Messenger
- SANITARY SEWERS AND WATER**  
HAMILTON WESTERN UTILITIES  
1350 Grayhound Pass  
Carmel, Indiana 46032  
(317) 846-8882  
Attn: Beau Wilfang  
ELECTRIC  
P. S. I. Energy  
P.O. Box 878  
Carmel, Indiana 46032  
(317) 581-3041  
Attn: Mark La Barr
- Utility Hotline: within Indiana 1-800-382-5544  
outside Indiana 1-800-428-5200

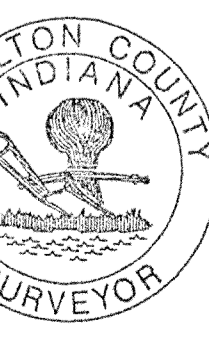
NOTE  
The size and location of utilities are per plans and locations provided by the respective utility companies. All utility companies shall be notified prior to any excavation for field location of services.

**LEGEND**

- Existing Storm Sewer
- New Storm Sewer
- Existing Sanitary Sewer
- New Sanitary Sewer
- Existing Contour
- New Pavement Grade
- All Other Finish Grades
- Storm Structure Number
- Sanitary Structure Number
- Flow Arrow
- Denotes Elevation and Approximate Pad Size
- Flood Routing



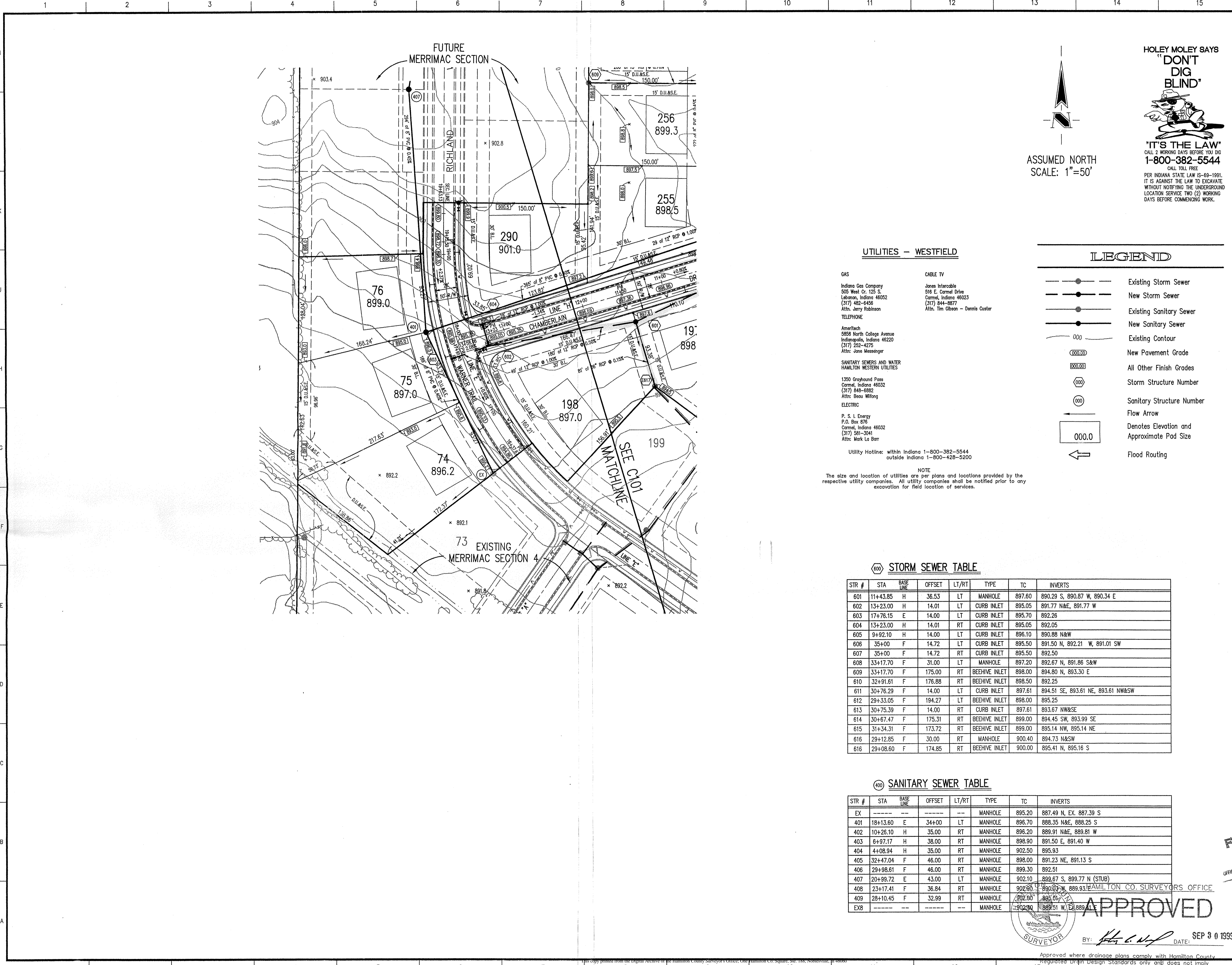
HAMILTON COUNTY SURVEYOR  
**APPROVED**  
DATE: SEP 30 1999



Approved where drainage plans comply with Hamilton County Regulated Drain Design Standards only and does not imply Drainage Board acceptance nor secondary plan approval.

HOLEY MOLEY SAYS  
**"DON'T DIG BLIND"**  
IT'S THE LAW!  
CALL 2 WORKING DAYS BEFORE YOU DIG  
**1-800-382-5544**  
CALL TOLL FREE  
PER INDIANA STATE LAW IS-69-1991.  
IT IS AGAINST THE LAW TO EXCAVATE  
WITHOUT NOTIFYING THE UNDERGROUND  
LOCATION SERVICE TWO (2) WORKING  
DAYS BEFORE COMMENCING WORK.

DATE: 11/23/98



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 WITHOUT NOTIFYING THE UNDERGROUND  
 LOCATION SERVICE TWO (2) WORKING  
 DAYS BEFORE COMMENCING WORK.

ASSUMED NORTH  
 SCALE: 1"=50'

**UTILITIES - WESTFIELD**

- GAS**  
 Indiana Gas Company  
 505 West Cr. 125 S.  
 Lebanon, Indiana 46052  
 (317) 462-6466  
 Attn: Jerry Robinson  
 TELEPHONE  
 Ameritech  
 5858 North College Avenue  
 Indianapolis, Indiana 46220  
 (317) 252-4275  
 Attn: Jane Messenger  
 SANITARY SEWERS AND WATER  
 HAMILTON WESTERN UTILITIES  
 1350 Grayhound Pass  
 Carmel, Indiana 46032  
 (317) 848-8882  
 Attn: Steve Wilfong  
 ELECTRIC  
 P. S. I. Energy  
 P.O. Box 876  
 Carmel, Indiana 46032  
 (317) 581-3041  
 Attn: Mark La Barr  
 Utility Hotline: within Indiana 1-800-382-5544  
 outside Indiana 1-800-428-5200
- CABLE TV**  
 Jones Interconnect  
 516 E. Carmel Drive  
 Carmel, Indiana 46023  
 (317) 844-8877  
 Attn: Tim Olson - Dennis Custer

**LEGEND**

- Existing Storm Sewer
- New Storm Sewer
- Existing Sanitary Sewer
- New Sanitary Sewer
- Existing Contour
- New Pavement Grade
- All Other Finish Grades
- Storm Structure Number
- Sanitary Structure Number
- Flow Arrow
- Denotes Elevation and Approximate Pad Size
- Flood Routing

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 The size and location of utilities are per plans and locations provided by the respective utility companies. All utility companies shall be notified prior to any excavation for field location of services.

**600 STORM SEWER TABLE**

STR #	STA	BASE LINE	OFFSET	LT/RT	TYPE	TC	INVERTS
601	11+43.85	H	36.53	LT	MANHOLE	897.60	890.29 S, 890.87 W, 890.34 E
602	13+23.00	H	14.01	LT	CURB INLET	895.05	891.77 N&E, 891.77 W
603	17+76.15	E	14.00	LT	CURB INLET	895.70	892.26
604	13+23.00	H	14.01	RT	CURB INLET	895.05	892.05
605	9+92.10	H	14.00	LT	CURB INLET	896.10	890.88 N&W
606	35+00	F	14.72	LT	CURB INLET	895.50	891.50 N, 892.21 W, 891.01 SW
607	35+00	F	14.72	RT	CURB INLET	895.50	892.50
608	33+17.70	F	31.00	LT	MANHOLE	897.20	892.67 N, 891.86 S&W
609	33+17.70	F	175.00	RT	BEEHIVE INLET	898.00	894.80 N, 893.30 E
610	32+91.61	F	176.88	RT	BEEHIVE INLET	898.50	892.25
611	30+76.29	F	14.00	LT	CURB INLET	897.61	894.51 SE, 893.61 NE, 893.61 NW&SW
612	29+33.05	F	194.27	LT	BEEHIVE INLET	898.00	895.25
613	30+75.39	F	14.00	RT	CURB INLET	897.61	893.67 NW&SE
614	30+67.47	F	175.31	RT	BEEHIVE INLET	899.00	894.45 SW, 893.99 SE
615	31+34.31	F	173.72	RT	BEEHIVE INLET	899.00	895.14 NW, 895.14 NE
616	29+12.85	F	30.00	RT	MANHOLE	900.40	894.73 N&SW
616	29+08.60	F	174.85	RT	BEEHIVE INLET	900.00	895.41 N, 895.16 S

**600 SANITARY SEWER TABLE**

STR #	STA	BASE LINE	OFFSET	LT/RT	TYPE	TC	INVERTS
EX	-----	-----	-----	---	MANHOLE	895.20	887.49 N, EX, 887.39 S
401	18+13.60	E	34+00	LT	MANHOLE	896.70	888.35 N&E, 888.25 S
402	10+26.10	H	35.00	RT	MANHOLE	896.20	889.91 N&E, 889.81 W
403	6+97.17	H	38.00	RT	MANHOLE	898.90	891.50 E, 891.40 W
404	4+08.94	H	35.00	RT	MANHOLE	902.50	895.93
405	32+47.04	F	46.00	RT	MANHOLE	898.00	891.23 NE, 891.13 S
406	29+98.61	F	46.00	RT	MANHOLE	899.30	892.51
407	20+99.72	E	43.00	LT	MANHOLE	902.10	899.67 S, 899.77 N (STUB)
408	23+17.41	F	36.84	RT	MANHOLE	902.80	890.07 W, 899.93 E
409	28+10.45	F	32.99	RT	MANHOLE	902.80	895.01 W, EX, 889.41 E
EX8	-----	-----	-----	---	MANHOLE	890.20	889.51 W, EX, 889.41 E

**GENERAL NOTES**

- ALL GRADES AT BOUNDARY SHALL MEET EXISTING GRADES.
- IT SHALL BE THE RESPONSIBILITY OF EACH SUBCONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF WORK. IT SHALL ALSO BE THE SUBCONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES FOR PROPER STAKE LOCATION OF EACH UTILITY BEFORE WORK IS STARTED. THE SUBCONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN FIELD BEFORE WORK IS STARTED OR RESUMED.
- STANDARD SPECIFICATIONS FOR THE HAMILTON WESTERN UTILITIES SHALL APPLY FOR ALL SANITARY SEWERS.
- ANY PART OF THE SANITARY OR STORM SEWER TRENCHES RUNNING UNDER PAVED AREAS TO BE BACKFILLED WITH GRANULAR MATERIAL.
- THE SIZE AND LOCATION OF EXISTING UTILITIES SHOWN ARE PER INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES. ALL UTILITY COMPANIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION FOR FIELD LOCATION OF SERVICES.
- SERVICE WALKS SHALL BE NON-REINFORCED CONCRETE 4" THICK AND 4' IN WIDTH.
- CONCRETE SERVICE WALK ACROSS FRONTAGE OF EACH LOT TO BE CONSTRUCTED BY OTHERS.
- EXPANSION JOINTS ARE TO BE PLACED AT ALL WALK INTERSECTION AND BETWEEN WALKS AND PLATFORMS. SIDEWALK SCORES ARE TO BE EQUALLY SPACED BETWEEN EXPANSION JOINTS. CONTRACTION JOINTS AND PERPENDICULAR SIDEWALKS AT 5' INTERVALS OR LESS WITH A CONTRACTION JOINT EVERY 20' OR LESS.
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
- ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
- CONTRACTOR SHALL MINIMIZE DAMAGE TO EXISTING TREES.
- NO LANDSCAPING, FENCING, SPRINKLER SYSTEMS OR OTHER SIMILAR OBJECTS ARE TO BE PLACED WITHIN THE RIGHT OF WAY.

**BENCHMARK**

U.S.G.S. 93 RHP (1951)  
 BRONZE TABLE SET IN CONCRETE POST, LOCATED ON THE SOUTH SIDE OF 146th STREET, APPROX. 25' WEST OF THE CENTERLINE OF DITCH ROAD.  
 (ELEVATION = 903.373)

Revisions  
 1. BGS 01/07/99 REVISED STORM TABLE, GEN. NOTES, WALKS & ESMT AT LOT 74



CERTIFIED BY: *[Signature]*  
 DATE: 11/23/98

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 317-899-8010 Fax

Engineering  
 Surveying  
 Landscape Architecture  
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**FILED**  
 SEP 24 1999  
 OFFICE OF HAMILTON COUNTY SURVEYOR

MERRIMAC CORPORATION  
**MERRIMAC SECTION 5**  
 Westfield, Indiana

**DEVELOPMENT PLAN**

Date	Project No.	Drawn	Apprv.
11/11/98	1045.002	DRP	

Computer Files	Sheet No.
J:\1045\002\DWGS\C201 XREF: J:\1045\002\DWGS\OSB5 XREF: J:\1045\001\DWGS\O4B5 XREF: J:\1045\002\DWGS\OSB5 XREF: J:\1045\002\DWGS\OSB5 XREF: J:\1045\002\DWGS\O2TPO	<b>C102</b>

HAMILTON CO. SURVEYORS OFFICE

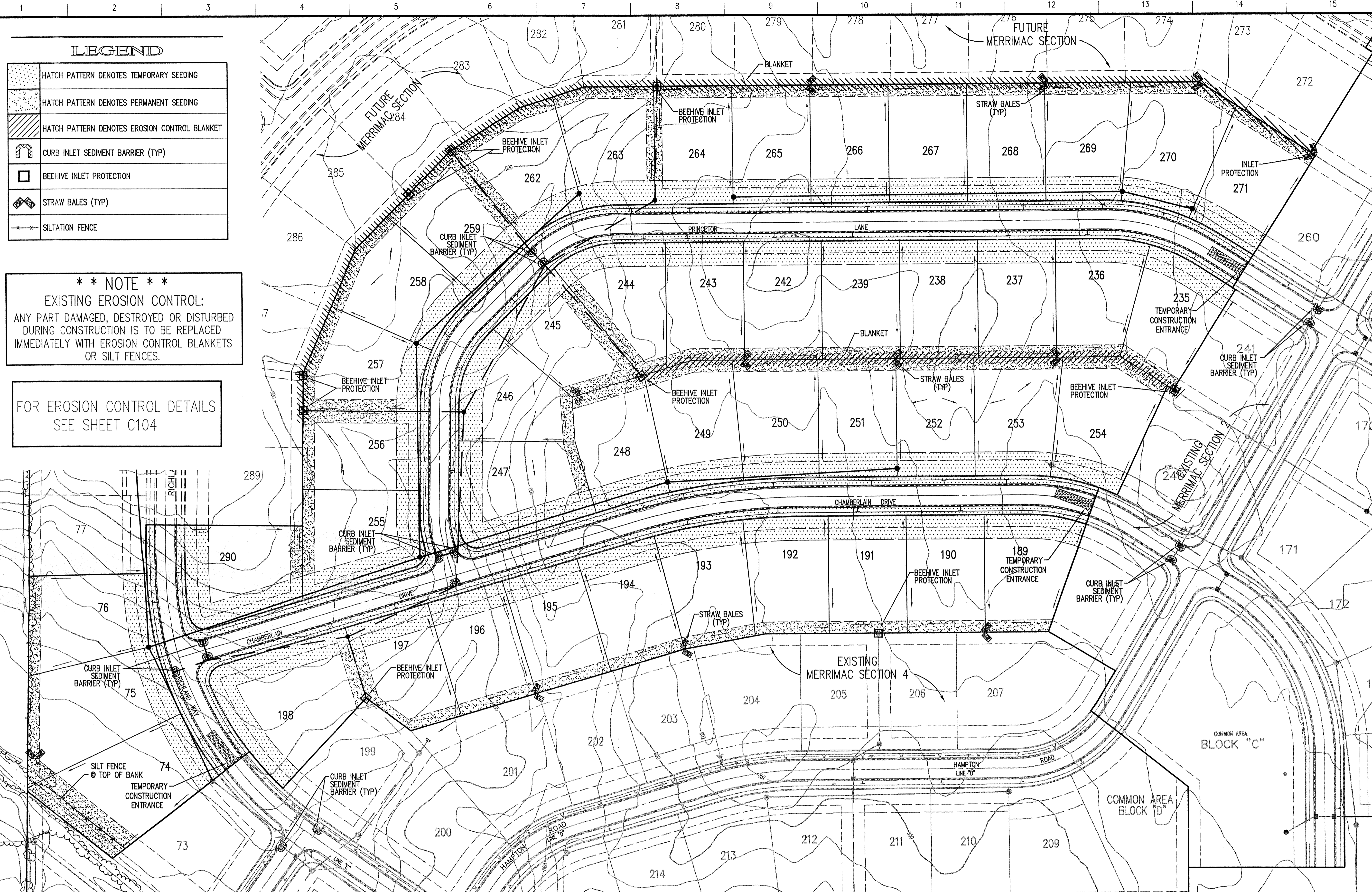
**APPROVED**

By: *[Signature]* DATE: SEP 30 1999

Approved where drainage plans comply with Hamilton County  
 regulated Drain Design Standards only and does not imply  
 13 Drainage Board acceptance for secondary plot approval

J:\1045\002\dwgs\C102.dwg F:\1 Jan 08 11:07:02 1999





**LEGEND**

	HATCH PATTERN DENOTES TEMPORARY SEEDING
	HATCH PATTERN DENOTES PERMANENT SEEDING
	HATCH PATTERN DENOTES EROSION CONTROL BLANKET
	CURB INLET SEDIMENT BARRIER (TYP)
	BEEHIVE INLET PROTECTION
	STRAW BALES (TYP)
	SILTATION FENCE

**\*\* NOTE \*\***  
 EXISTING EROSION CONTROL:  
 ANY PART DAMAGED, DESTROYED OR DISTURBED  
 DURING CONSTRUCTION IS TO BE REPLACED  
 IMMEDIATELY WITH EROSION CONTROL BLANKETS  
 OR SILT FENCES.

FOR EROSION CONTROL DETAILS  
 SEE SHEET C104

**\*\* SOIL TYPE \*\***  
 Soil maps from the United States Department of Agriculture, Soil Conservation Service, identify Brookston and Crosby soils on the subject property. Brookston, (Br) is associated with deep, very poorly drained soil with moderate permeability, Crosby (CrA) is associated with deep, somewhat poorly drained soil with slow permeability.

**\*\* LANDUSE \*\***  
 EXISTING SITE AND ADJOINING  
 PROPERTY AREA TO THE WEST  
 IS CULTIVATED FARM LAND  
 WITH RESIDENTIAL TO THE EAST  
 AND NORTH AND AGRICULTURAL  
 TO THE SOUTH.

**-WARNING-**  
 THIS SHEET TO BE USED FOR EROSION CONTROL  
 PURPOSES ONLY. FOR ANY OTHER INFORMATION SEE  
 DEVELOPMENT PLAN.

**GENERAL NOTES**

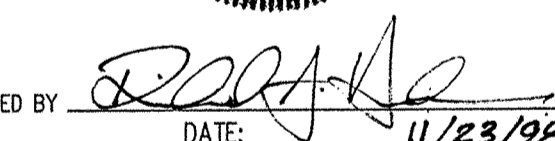
- EROSION CONTROL AND SEQUENCING**
- CONTRACTOR SHALL INSTALL ALL REQUIRED SILT FENCES, SILT TRAPS, TREE PROTECTION AND INLET PROTECTION FOR EXISTING INLETS PRIOR TO THE START OF ANY EARTH MOVING OR STRIPPING.
  - CONTRACTOR SHALL INSTALL A STONE CONSTRUCTION ENTRANCE OR SOME OTHER DEVICE PRIOR TO THE START OF EARTHWORK AS NECESSARY TO PREVENT SOIL FROM BEING TRACKED OR WASHED INTO EXISTING ROADWAYS.
  - LAND ALTERATIONS WHICH STRIP THE LAND OF VEGETATION, INCLUDING REGRADING, SHALL BE DONE IN A WAY THAT WILL MINIMIZE EROSION. WHENEVER FEASIBLE NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED. AS GRADING IS DONE, INSTALL SILT TRAPS, SILT FENCES, SLOPE, DRAINS, TEMPORARY DIVERSIONS AND OTHER RUNOFF CONTROL MEASURES AT APPROPRIATE LOCATIONS TO KEEP SEDIMENT CONTAINED ON SITE.
  - ALL DISTURBED AREAS SHALL BE SEEDING AND STRAW MULCHED AS SHOWN ON THE PLANS IMMEDIATELY AFTER COMPLETION OF GROUND ACTIVITY. FOR LARGE PROJECTS, THIS SEEDING SHOULD BE COMPLETED IN PHASES AS THE DIFFERENT AREAS OF THE SITE ARE COMPLETED.
  - PERMANENT AND FINAL VEGETATION OR STRUCTURAL EROSION CONTROL DEVICES SHALL BE INSTALLED AS SOON AS PRACTICAL UNDER THE CIRCUMSTANCES.
  - THE DURATION OF TIME WHICH AN AREA REMAINS EXPOSED SHALL BE KEPT TO A PRACTICAL MINIMUM DEPENDING UPON THE WEATHER. IF CONSTRUCTION ACTIVITY IS TO CEASE FOR MORE THAN TWO WEEKS, THE DISTURBED AREAS SHALL BE TEMPORARILY SEEDING.
  - ALL STORM SEWER INLET PROTECTION DEVICES SHALL BE PUT IN PLACE AT THE TIME EACH INLET IS CONSTRUCTED.
  - THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL MEASURES AND DEVICES DURING CONSTRUCTION AND UNTIL SILTATION OF THE STREETS AND STORM SEWERS WILL NO LONGER OCCUR.
  - ONCE ON-SITE EROSION AND SILTATION OF THE STREETS AND STORM SEWERS WILL NO LONGER OCCUR, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE TEMPORARY EROSION CONTROL DEVICES.
  - THESE GENERAL PROCEDURES MAY NOT COVER ALL SITUATIONS. REFER TO EROSION CONTROL PLANS FOR SPECIFIC NOTES AND ADDITIONAL DETAILS.
  - EROSION CONTROL TO COMPLY WITH INDIANA 327 IAC, RULE #5, AND INDIANA HANDBOOK FOR EROSION CONTROL IN DEVELOPING AREAS.
  - THE INSPECTOR HAS THE AUTHORITY TO REQUEST ADDITIONAL EROSION CONTROL MEASURES OR AMEND EROSION CONTROL PLANS SUBJECT TO ACTUAL SITE CONDITIONS.
  - "PROTECTION OF TREES" PROTECTIVE FENCING SHOULD BE INSTALLED OUTSIDE THE DRIP LINE OF THE TREE TO PREVENT CONSTRUCTION EQUIPMENT AND STOCK PILES FROM THIS AREA.

**BENCHMARK**

U.S.G.S. 93 RHP (1951)  
 BRONZE TABLE SET IN CONCRETE POST, LOCATED ON THE  
 SOUTH SIDE OF 146th STREET, APPROX. 25' WEST OF THE  
 CENTERLINE OF DITCH ROAD.  
 (ELEVATION = 903.373)

**Revisions**

No.	Description

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**FILED**  
 SEP 24 1999  
 HAMILTON COUNTY SURVEYOR

MERRIMAC CORPORATION  
 MERRIMAC SECTION 5  
 Westfield, Indiana

**EROSION CONTROL PLAN**

HAMILTON CO. SURVEYORS OFFICE  
**APPROVED** "DON'T DIG BLIND"  
 BY:  DATE: SEP 30 1999

ASSUMED NORTH  
 SCALE: 1"=60'

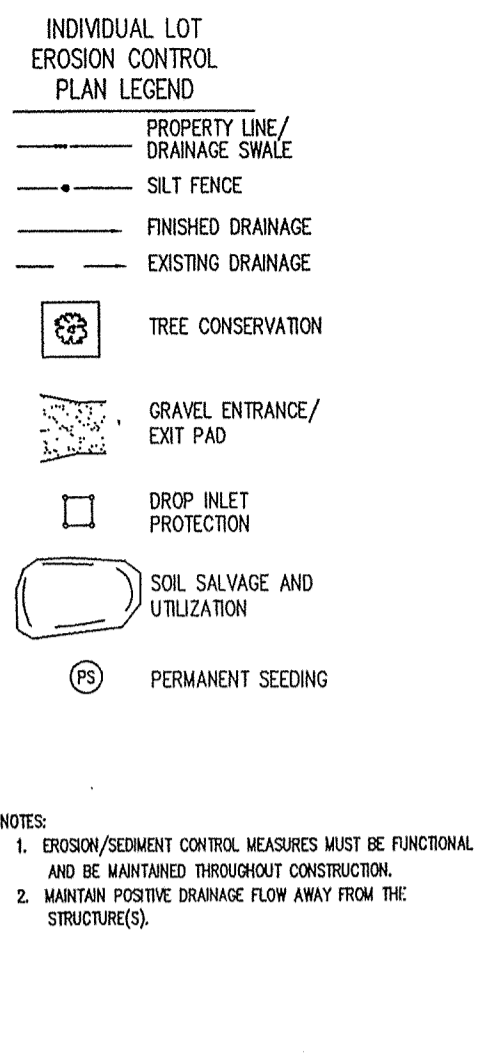
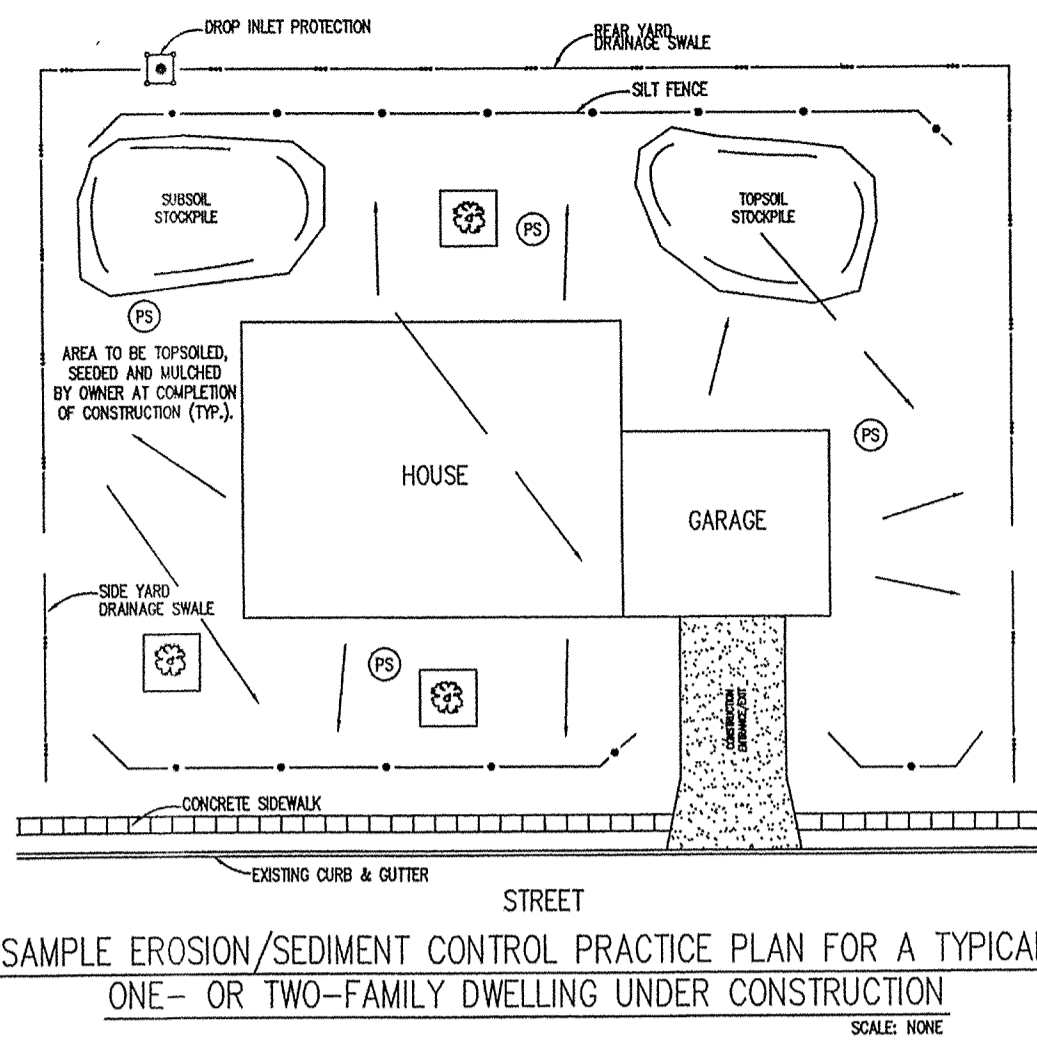
**"IT'S THE LAW"**  
 CALL 2 WORKING DAYS BEFORE YOU DIG  
 1-800-382-5544  
 CALL TOLL FREE  
 PER INDIANA STATE LAW IS-69-1991.  
 IT IS AGAINST THE LAW TO EXCAVATE  
 WITHOUT NOTIFYING THE UNDERGROUND  
 LOCATION SERVICE TWO (2) WORKING  
 DAYS BEFORE COMMENCING WORK.

**EROSION CONTROL SCHEDULE**

EROSION CONTROL MEASURE	* MAINTENANCE	INSTALLATION SEQUENCE
STONE ENTRANCE	AS NEEDED	PRIOR TO CLEARING AND GRADING
SILT FENCE	WEEKLY AFTER STORM EVENTS AND AS NEEDED	PRIOR TO CLEARING AND GRADING
EXISTING INLET PROTECTION	WEEKLY AFTER STORM EVENTS AND AS NEEDED	PRIOR TO CLEARING AND GRADING
TREE PROTECTION	WEEKLY AFTER STORM EVENTS AND AS NEEDED	PRIOR TO CLEARING AND GRADING
TEMPORARY DIVERSIONS	WEEKLY AFTER STORM EVENTS AND AS NEEDED	ALONG WITH ROUGH GRADING
TEMPORARY SEEDING	WATER AS NEEDED	AFTER ROUGH GRADING
PERMANENT SEEDING	WATER AS NEEDED	AFTER FINISH GRADING
EROSION CONTROL MATTING	WEEKLY AFTER STORM EVENTS AND AS NEEDED	AFTER FINISH GRADING
STRAW BALES	WEEKLY AFTER STORM EVENTS AND AS NEEDED	AFTER FINISH GRADING
INLET PROTECTION	WEEKLY AFTER STORM EVENTS AND AS NEEDED	AFTER EACH INLET IS PLACED
SEED, SOIL & LANDSCAPE AROUND UNITS	WATER AS NEEDED	AFTER FINISH GRADING AROUND FINISHED UNITS
REMOVAL OF STRAW BALES	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED
REMOVAL OF INLET PROTECTION	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED
REMOVAL OF SILT FENCE	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED

\* - SEE CHART FOR MAINTENANCE REQUIREMENTS

\\sec\_andy\betaeta\0051\045\002\dwg\c103.dwg Thu Nov 12 16:12:45 1998



SOIL CONDITION	Wet			Normal			Dry			Stake Spacing to 2-3 1/2 inches	Facility Needs	Water Hardness	Flushing Tolerance (days)	Mature Height (inches)	Emergence Time (days)	Salt Tolerance		
	1	2	3	1	2	3	1	2	3							Gen.	Soil	Spray
Creeping Red Fescue Festuca rubra	2	1	2	1	1	1	1	1	1	Med.	1	20-25	12-18	7-21				S
Kentucky Bluegrass Poa pratensis	2	1	2	1	1	1	1	1	1	Med.	1	25-35	12-18	10-20				MT
Tall Fescue Festuca L. arundinacea	2	1	1	1	1	1	1	1	1	Low	1	24-35	24-36	5-14				T
Perennial ryegrass Lolium perenne	2	1	2	-	-	-	1	2		Med-High	2	15-20	12-18	5-10				MT
Crownvetch Coronilla varia	-	1	1	2	-	-	-	-	-	Low	1	5-10	24	14-21				T
Red Clover Trifolium pratense	-	1	-	-	-	-	-	-	-	Med.	1	7-10	18	5-10			S	S

Ranking:  
1 Good  
2 Medium  
- Not tolerant

Salt Tolerance (to both soil salts & spray):  
T Tolerance  
MT Medium Tolerance  
S Slight Tolerance

FIGURE 5-4

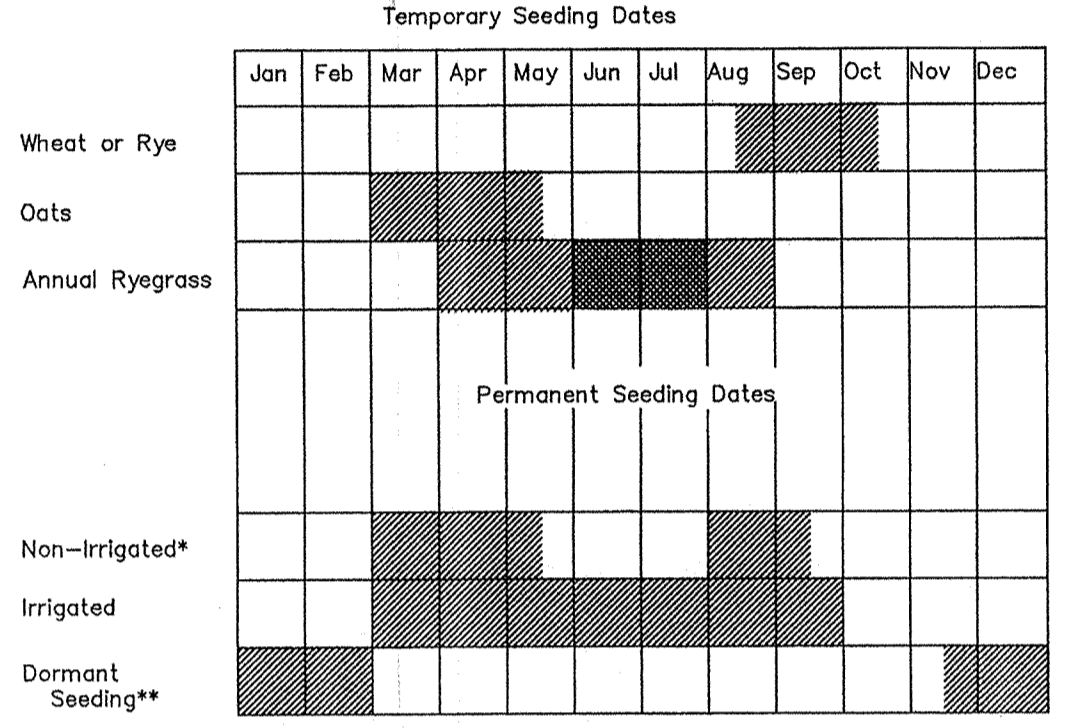


FIGURE 5-3

Kind of Seed	1000 Sq. Ft.	Acre	Remarks
Wheat or Rye	3.5 lbs.	2 bu.	Cover seed 1" to 1 1/2" deep
Spring Oats	2.3 lbs.	3 bu.	Cover seed 1" deep
Annual ryegrass	1 lb.	40 lbs.	Cover seed 1/4" deep*

\* Not necessary where mulch is applied.

### SEEDBED PREPARATION REQUIREMENTS

**Seedbed Preparation**  
Apply lime to raise the pH to the level needed for species being seeded. Apply 23 pounds of 12-12-12 analysis fertilizer (or equivalent) per 1000 sq. ft. (approximately 1000 pounds per acre) or fertilizer according to test. Application of 150 lbs. of ammonium nitrate on areas low in organic matter and fertility will greatly enhance vegetative growth.

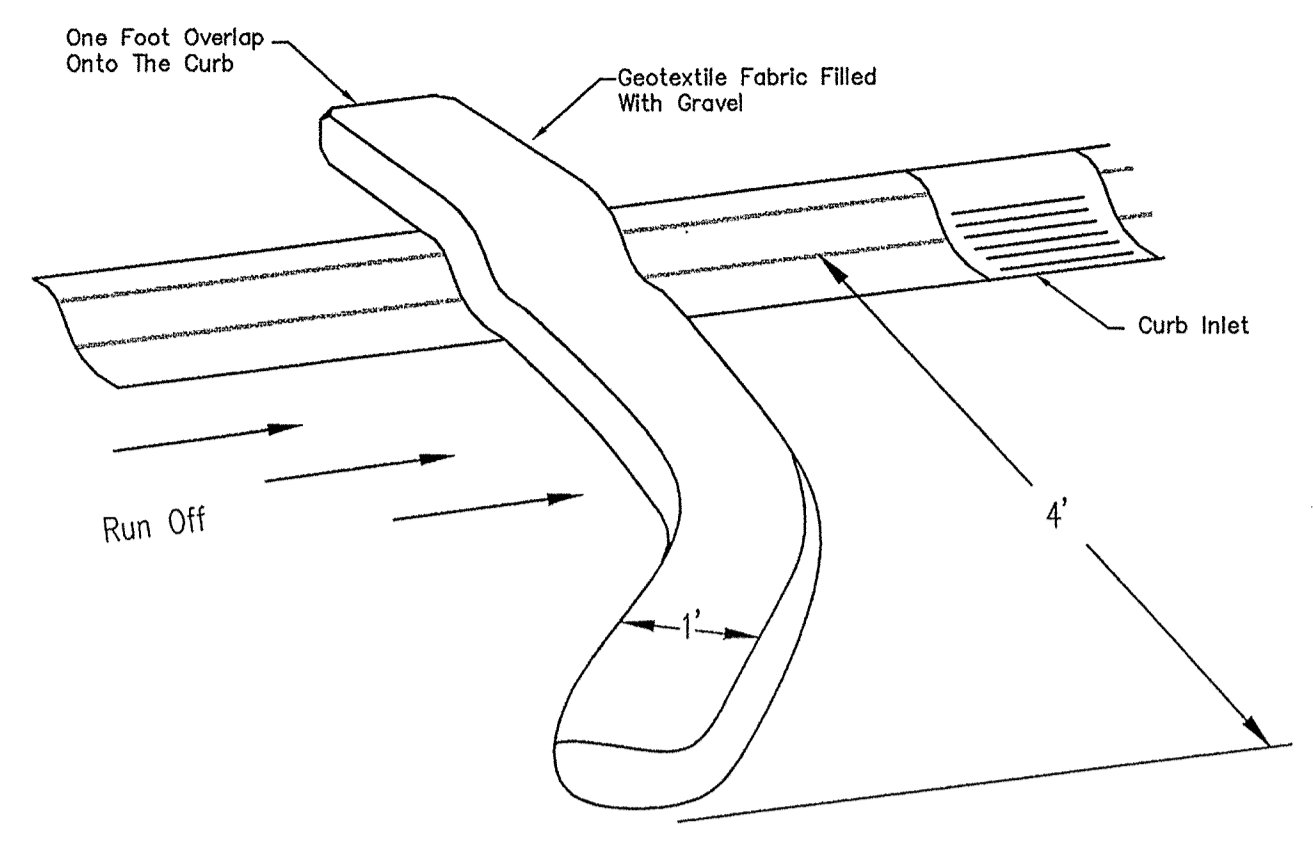
Work the fertilizer and lime into the soil to a depth of 2-3 inches with a harrow, disk or rake operated across the slope as much as possible.

**Seeding**  
Select a seed mixture based on projected use of the area (Figure 5-2), while considering best seeding dates. See Figure 5-3 this sheet. If tolerances are a problem, such as salt tolerance of seedings adjacent to streets and highways, see Figure 5-4 this sheet before final selection.

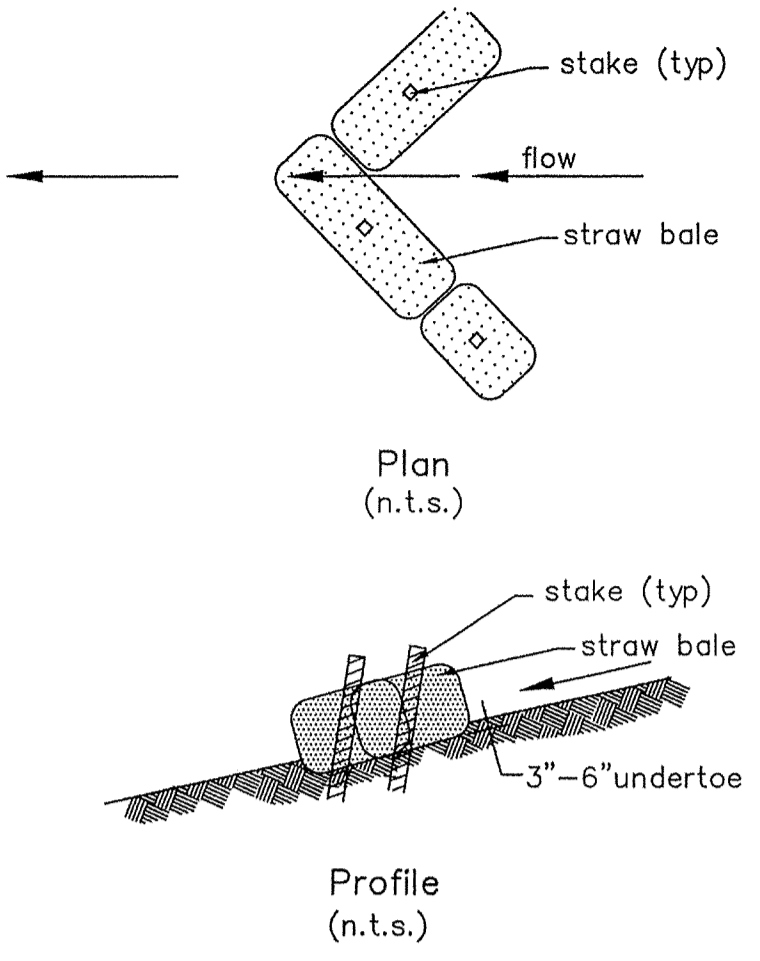
Figure 5-2: Permanent Seed Mixtures

Species	Seeding Rate lbs./acre	Suitable pH lbs./1000 sq. ft.	Site Suitability*	
			Draughtly	Drained Wet
<b>Level and Sloping, Open Areas</b>				
1. Tall Fescue	35	.8	5.5-8.3	2 1 2
2. Tall Fescue Red Clover**	25	.6	5.5-8.3	1
3. Kentucky Bluegrass Creeping Red Fescue	15	.4	5.5-7.5	2 1
<b>Steep Banks and Cuts</b>				
4. Tall Fescue	15	.4	5.8-7.5	2 1 2
5. Tall Fescue Emerald Crownvetch**	35	.8	5.5-8.3	2 1
<b>Lawns and High Maintenance Areas</b>				
6. Kentucky Bluegrass Creeping Red Fescue	40	.9	5.8-7.5	2 1
7. Perennial Ryegrass (Turf Type)	170	4.0	5.0-7.5	1
8. Tall Fescue	170	4.0	5.5-8.3	2 1 2

\* 1 - Preferred 2 - Will Tolerate \*\* Inoculate with specific inoculant.



CURB INLET SEDIMENT BARRIER



SEDIMENT FILTER DETAIL

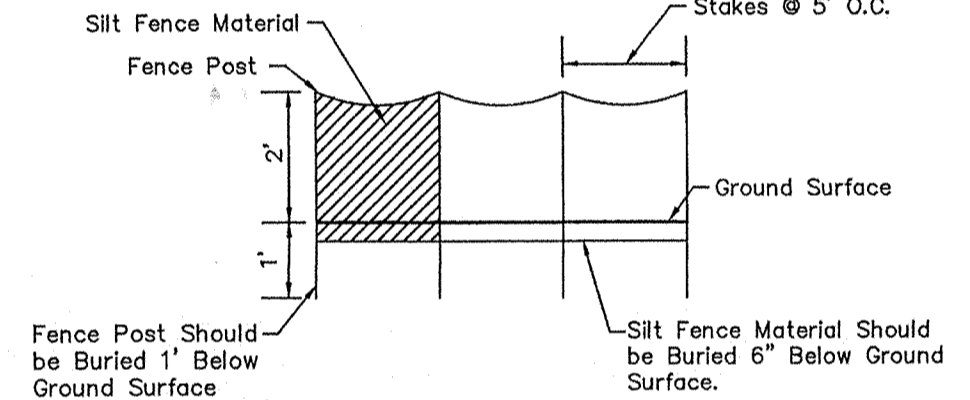
**SILT FENCE** SCALE: NONE

Silt Fence shall be a machine produced, non-woven geotextile of 100% polypropylene meeting the physical properties below.

All stakes shall be 2" x 2" hardwood 36" tall with 24" tall lath stapled to stakes over fabric as reinforcement.

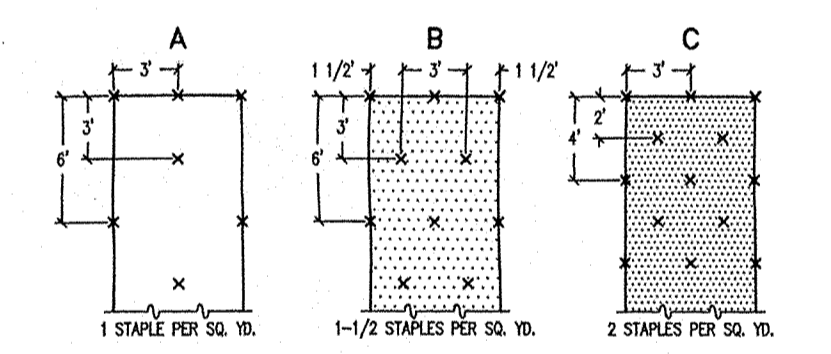
All silt fence shall be prefabricated by the supplier. No field assembly will be accepted.

Fabric Weight.....	4 oz/syd
Grab Strength.....	Warp 125 lbs.
Elongation.....	Warp 50 %
Trapezoidal Tear Strength.....	50 lbs.
Burst Strength.....	200 psi
UV Resistance.....	> 70 %
A.O.S.....	50-80
Slurry Flow Rate.....	225 gpm/sq. ft
Sediment Retention.....	75 %



SILT FENCE DETAIL NTS

INLET PROTECTION - SILT FENCE



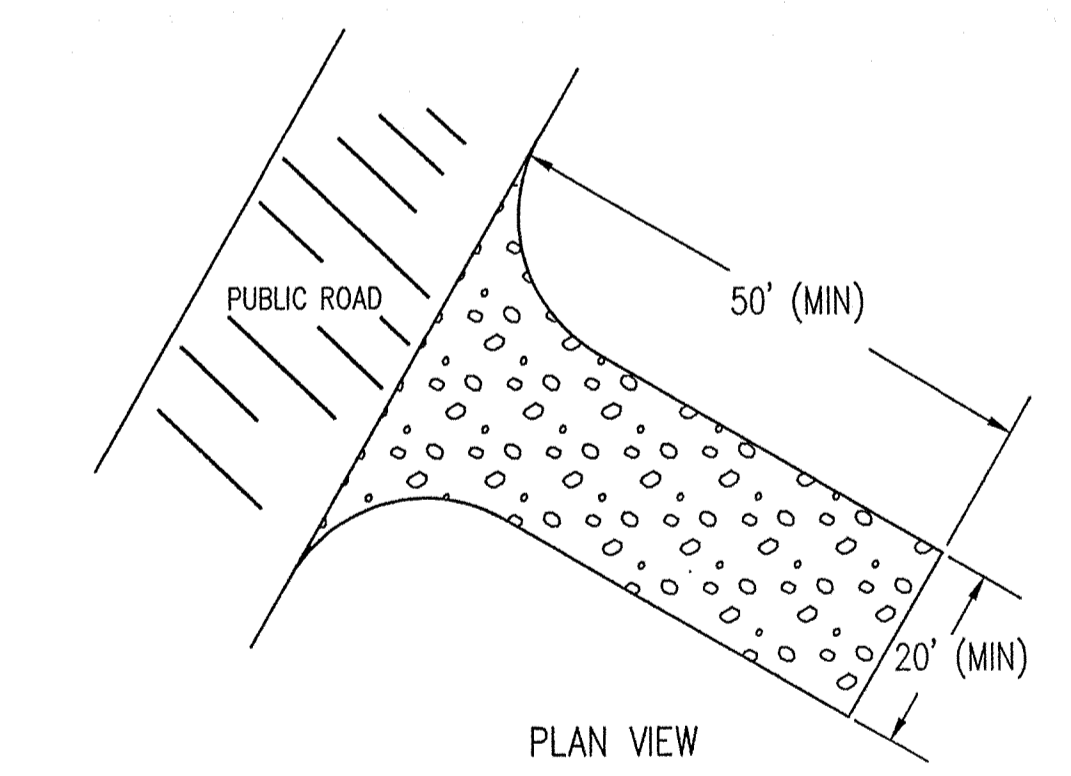
**GENERAL STAPLE RECOMMENDATIONS**

ADDITIONAL STAPLES AS REQUIRED DUE TO REPTH OF FLOW.

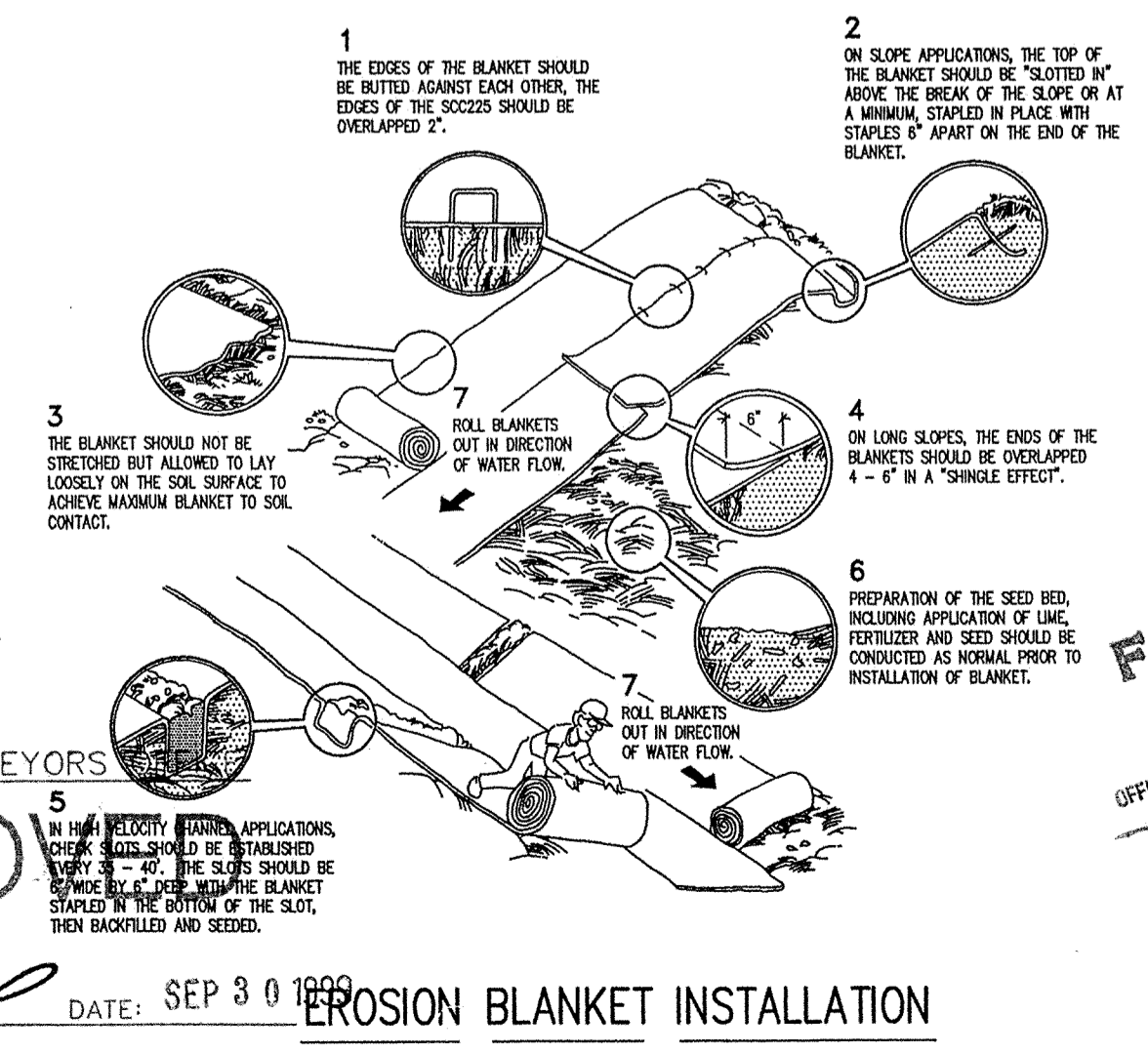
CHANNEL LININGS UTILIZE STAPLE PATTERN "C" WITH ADDITIONAL STAPLES ON SIDE SLOPES AT PROJECTED WATER LINE.

STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VARY DEPENDING UPON SOIL TYPE AND AVERAGE ANNUAL RAINFALL.

AT SLOPE LENGTHS GREATER THAN 300 FEET ON WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED.



TEMPORARY CONSTRUCTION ENTRANCE DETAIL



EROSION BLANKET INSTALLATION

HAMILTON CO. SURVEYORS  
APPROVED  
DATE: SEP 30 1998

Approved where drainage plans comply with Hamilton County Regulated Drain Design Standards only and does not imply Drainage Board acceptance nor secondary plot approval.

Revisions



CERTIFIED BY: [Signature] DATE: 11/23/98

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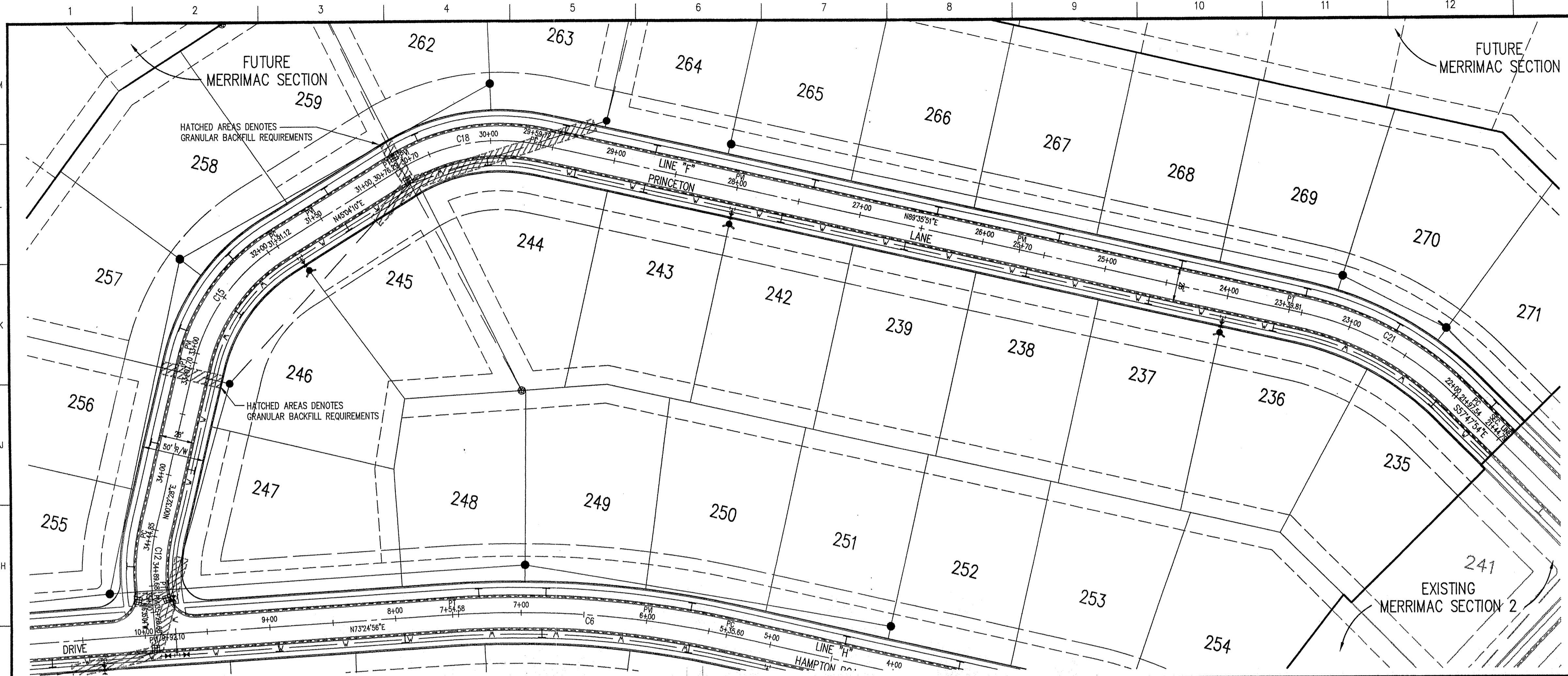
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MERRIMAC CORPORATION  
MERRIMAC SECTION 5  
Westfield, Indiana

EROSION CONTROL DETAILS

Date 11/11/98	Project No. 1045.002	Drawn DRP	Apprv.
Computer Files J:\1045\002\DWG\VC104	Sheet No. C104		



STREET PLAN

SCALE: 1"=50'

**HOLEY MOLEY SAYS**  
**"DON'T DIG BLIND"**  
 CALL TOLL FREE  
**1-800-382-5544**  
**1-800-428-5200**  
 FOR CALLS OUTSIDE OF INDIANA  
 PER INDIANA STATE LAW IS-69-1991, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

**DETAILS**

Sheet	Detail Number	Description
C801	1	Street Cross Section Detail
C801	9	Sidewalk Detail
C801	16	Sidewalk Ramp For Handicapped Detail
C802	C-1	Curb Detail
C802	P-1	Pipe Underdrain Detail
C301		Intersection and Cul-de-sac Details

**NOTE** All Streets to be 28' in width unless noted.  
 All Rights-of-way to be 50' in width unless noted.

**CURVE DATA TABLE**

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C-3	415.00'	277.83'	272.67'	S18°38'15"E	38°21'26"
C-6	775.33'	218.98'	218.25'	S81°30'23"W	16°10'55"
C-9	250.00'	87.60'	87.15'	N80°21'51"W	20°04'36"
C-12	150.00'	44.83'	44.67'	S08°01'18"E	17°07'32"
C-15	150.00'	116.57'	113.66'	S22°48'19"W	44°31'42"
C-18	350.00'	116.57'	113.66'	S67°20'00"E	44°31'42"
C-21	250.00'	142.26'	140.35'	N74°06'01"W	32°38'15"

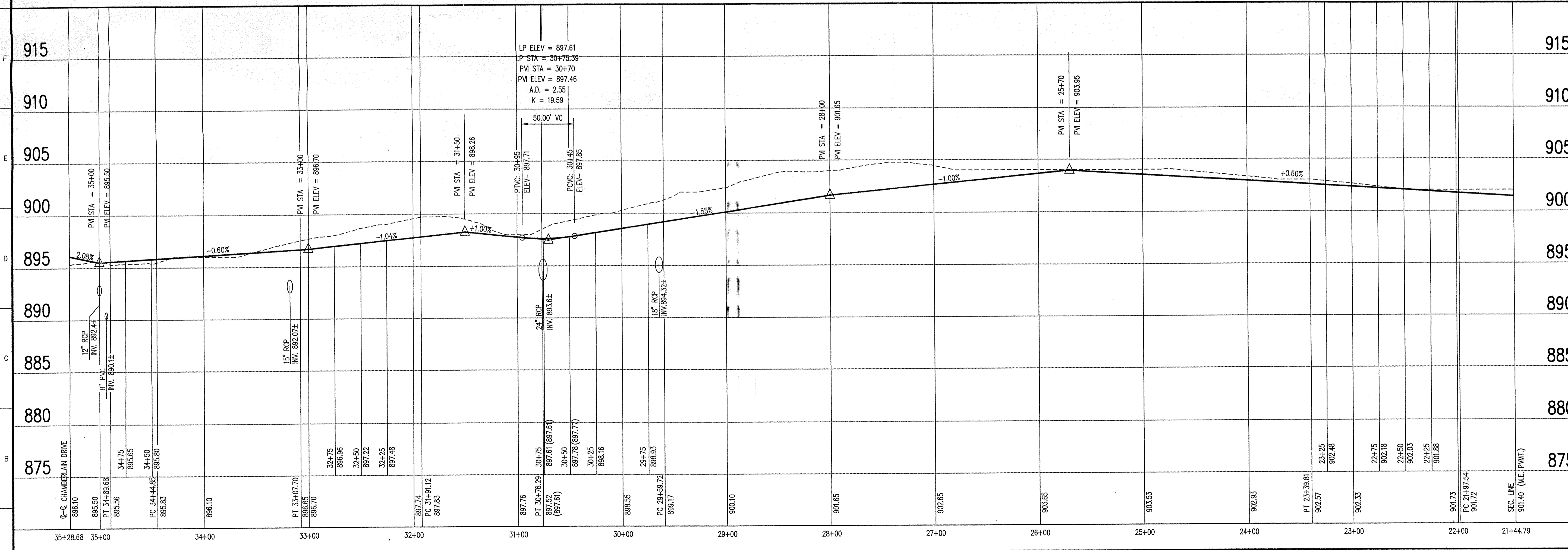
**GENERAL NOTES**

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**BENCHMARK**

U.S.G.S. 93 RHP (1951)  
 BRONZE TABLET SET IN CONCRETE POST, LOCATED ON THE SOUTH SIDE OF 146th STREET, APPROX. 25' WEST OF THE CENTERLINE OF DITCH ROAD.  
 (ELEVATION = 903.373)

**Revisions**  
 1. BGG 01/07/99 ADDED HATCH AREAS FOR GRANULAR BACKFILL AND WATER MAIN



STREET PROFILE

SCALE: HORZ.: 1"=50'  
 VERT.: 1"=5'

**LEGEND**

	Existing Grade
	New Grade



CERTIFIED BY: *[Signature]*  
 DATE: 11/25/98

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 MERRIMAC CORPORATION  
 MERRIMAC SECTION 5  
 Westfield, Indiana

**STREET PLAN**

Date	Project No.	Drawn	Apprv.
11/11/98	1045.002	DRP	

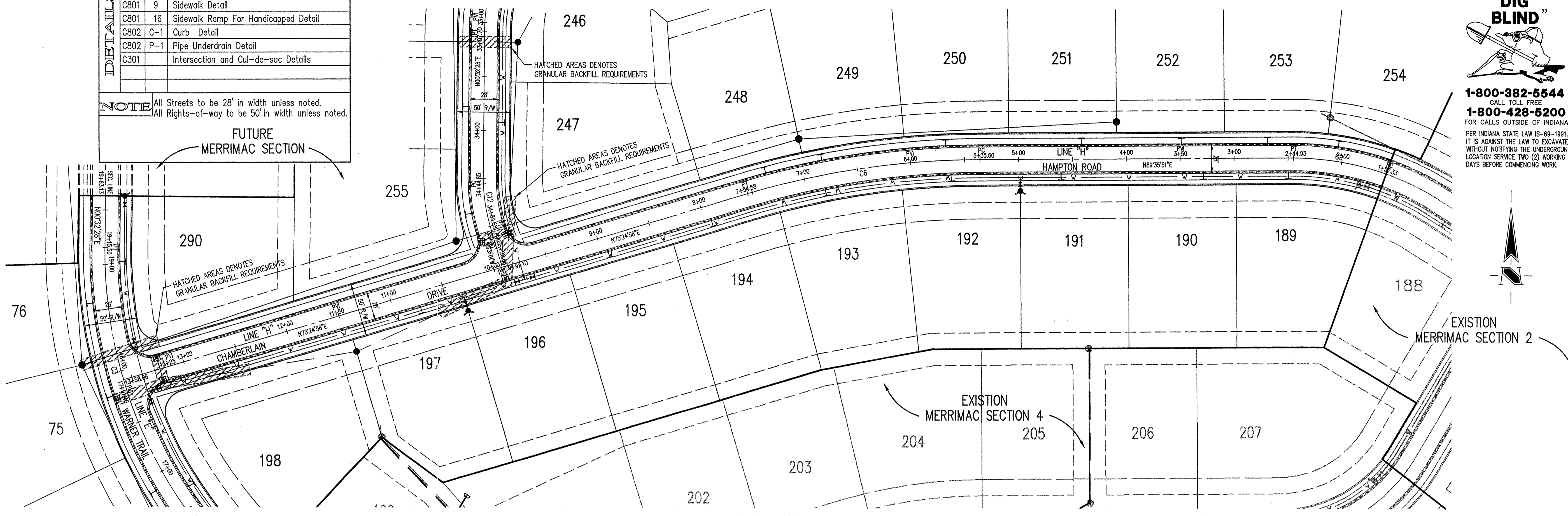
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 XREF: & 1045\002\STREET  
 XREF: & 1045\DWGS\DSBS  
 XREF: & 1045\001\DWGS\104504BS  
 XREF: & 1045\DWGS\02\104502PL

Sheet No.  
**C201**

Sheet	Detail Number	Description
C801	1	Street Cross Section Detail
C801	9	Sidewalk Detail
C801	16	Sidewalk Ramp For Handicapped Detail
C802	C-1	Curb Detail
C802	P-1	Pipe Underdrain Detail
C301		Intersection and Cul-de-sac Details

**NOTE:** All Streets to be 28' in width unless noted.  
All Rights-of-way to be 50' in width unless noted.

FUTURE MERRIMAC SECTION



STREET PLAN

SCALE: 1"=50'

GENERAL NOTES

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**HOLEY MOLEY SAYS**  
**"DON'T DIG BLIND"**  
  
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 CALL TOLL FREE  
**1-800-428-5200**  
 FOR CALLS OUTSIDE OF INDIANA  
PER INDIANA STATE LAW IS-69-1991, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

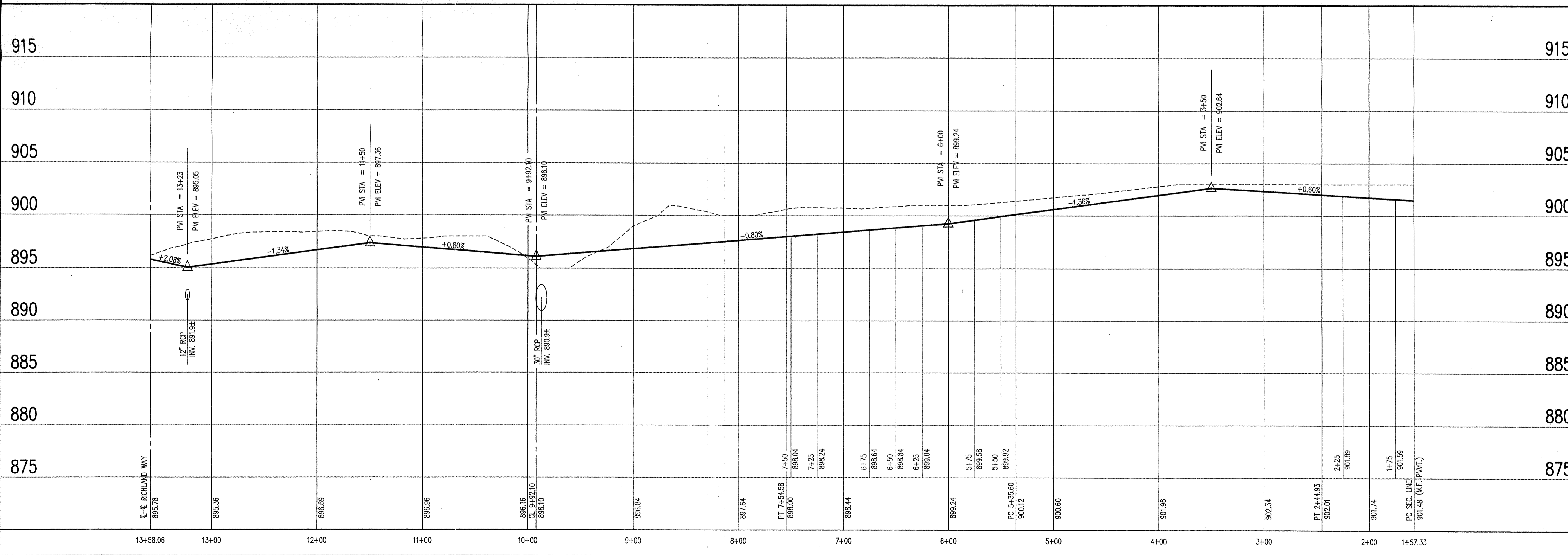
CURVE DATA TABLE

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C-3	415.00'	277.83'	272.67'	S18°36'15"E	38°21'26"
C-6	775.33'	218.88'	218.25'	S81°30'23"W	16°10'55"
C-9	250.00'	67.60'	67.15'	N80°21'51"W	20°04'36"
C-12	150.00'	44.63'	44.67'	S08°01'18"E	17°07'32"
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BENCHMARK

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 (ELEVATION = 903.373)

Revisions  
 1. BGG 01/07/99 ADDED HATCH AREAS FOR GRANULAR BACKFILL AND WATER MAIN



STREET PROFILE

SCALE: HORZ.: 1"=50'  
 VERT.: 1"=5'

**LEGEND**  
  
 Existing Grade  
 New Grade



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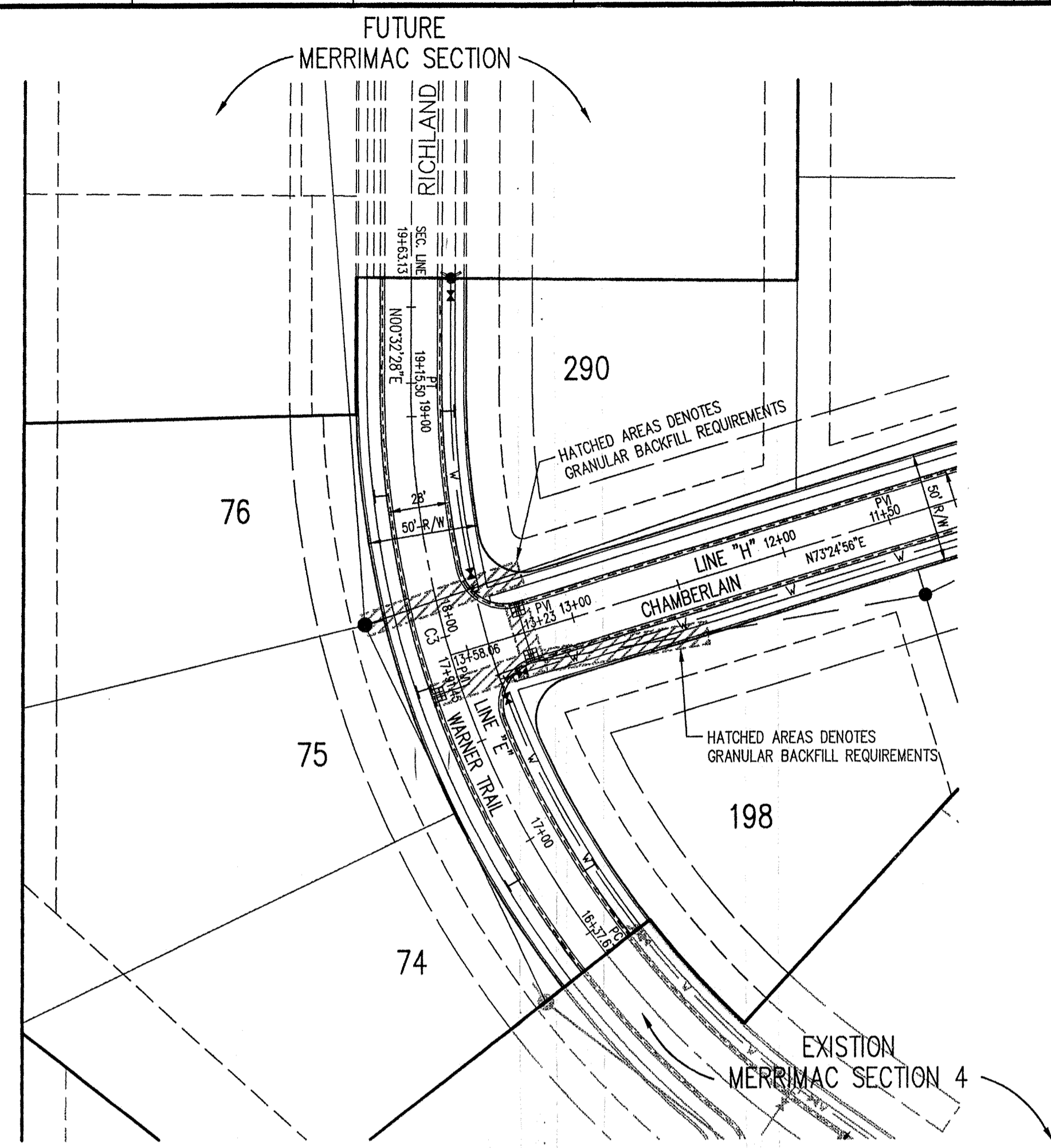
**The Schneider Corporation**  
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Date	Project No.	Drawn	Approv.
11/11/98	1045.002	DRP	

Computer Files  
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 & \1045\002\0885  
 & \1045\002\STREET  
 & \1045\DWG\C801  
 & \1045\DWG\C802  
 & \1045\DWG\C202\104502PL

Sheet No.  
**C202**



Sheet	Detail Number	Description
C801	1	Street Cross Section Detail
C801	9	Sidewalk Detail
C801	16	Sidewalk Ramp For Handicapped Detail
C802	C-1	Curb Detail
C802	P-1	Pipe Underdrain Detail
C301		Intersection and Cul-de-sac Details

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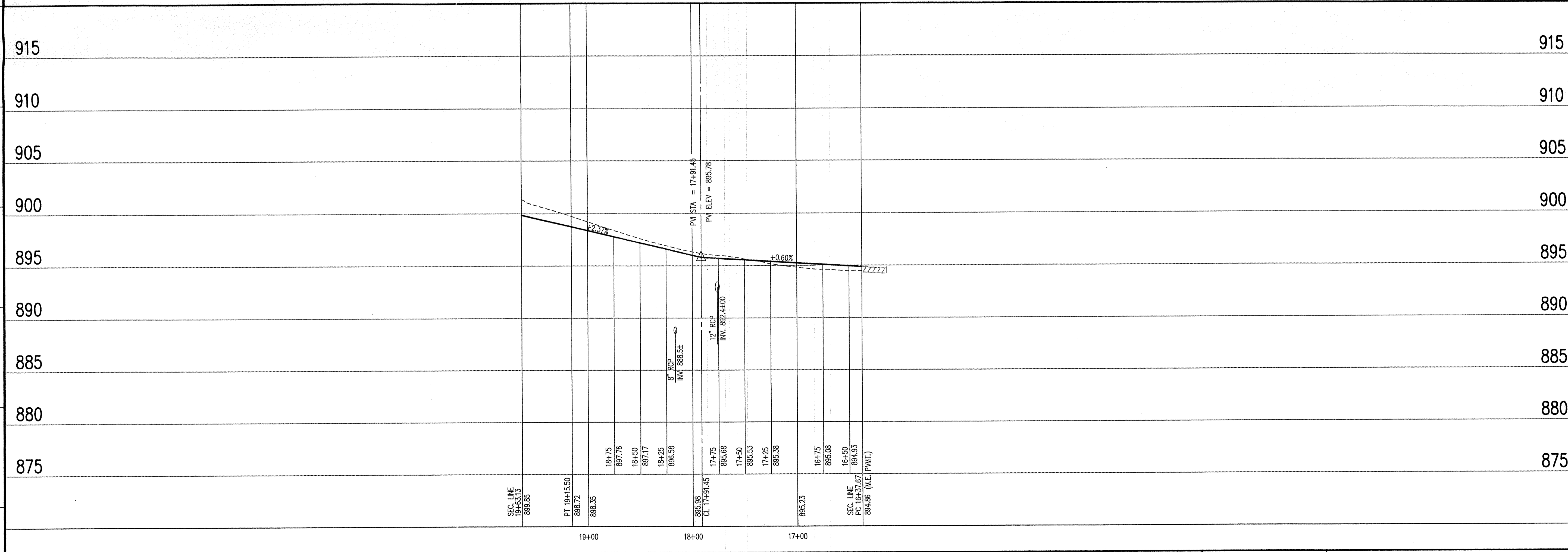
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**STREET PLAN**

SCALE: 1"=50'



**STREET PROFILE**

LEGEND	
	Existing Grade
	New Grade

SCALE: HORZ.: 1"=50'  
VERT.: 1"=5'

**GENERAL NOTES**

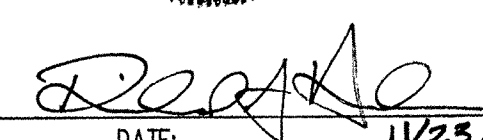
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
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(ELEVATION = 903.373)


**Revisions**  
1. BGG 01/07/99 ADDED HATCH AREAS FOR GRANULAR BACKFILL AND WATER MAIN



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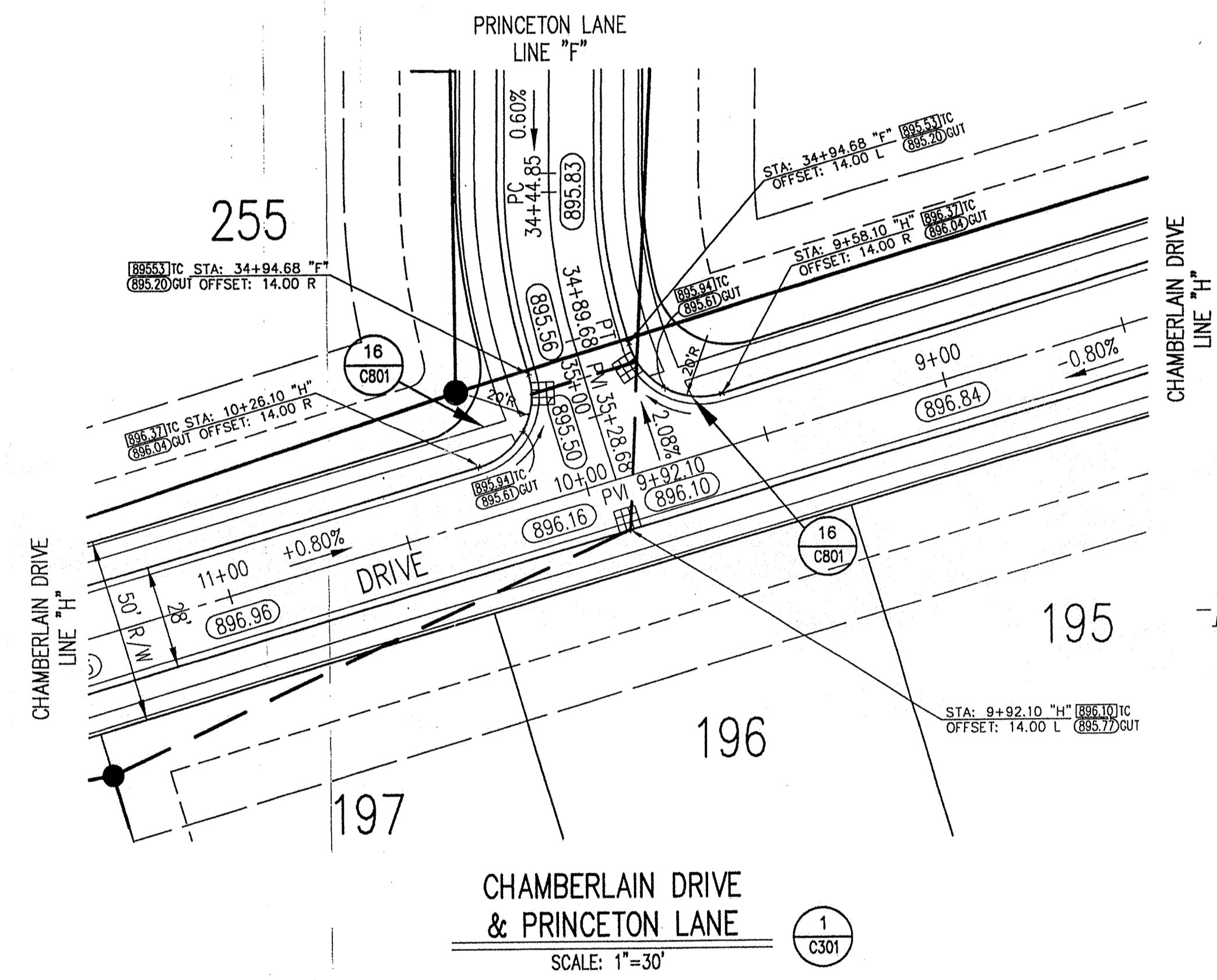
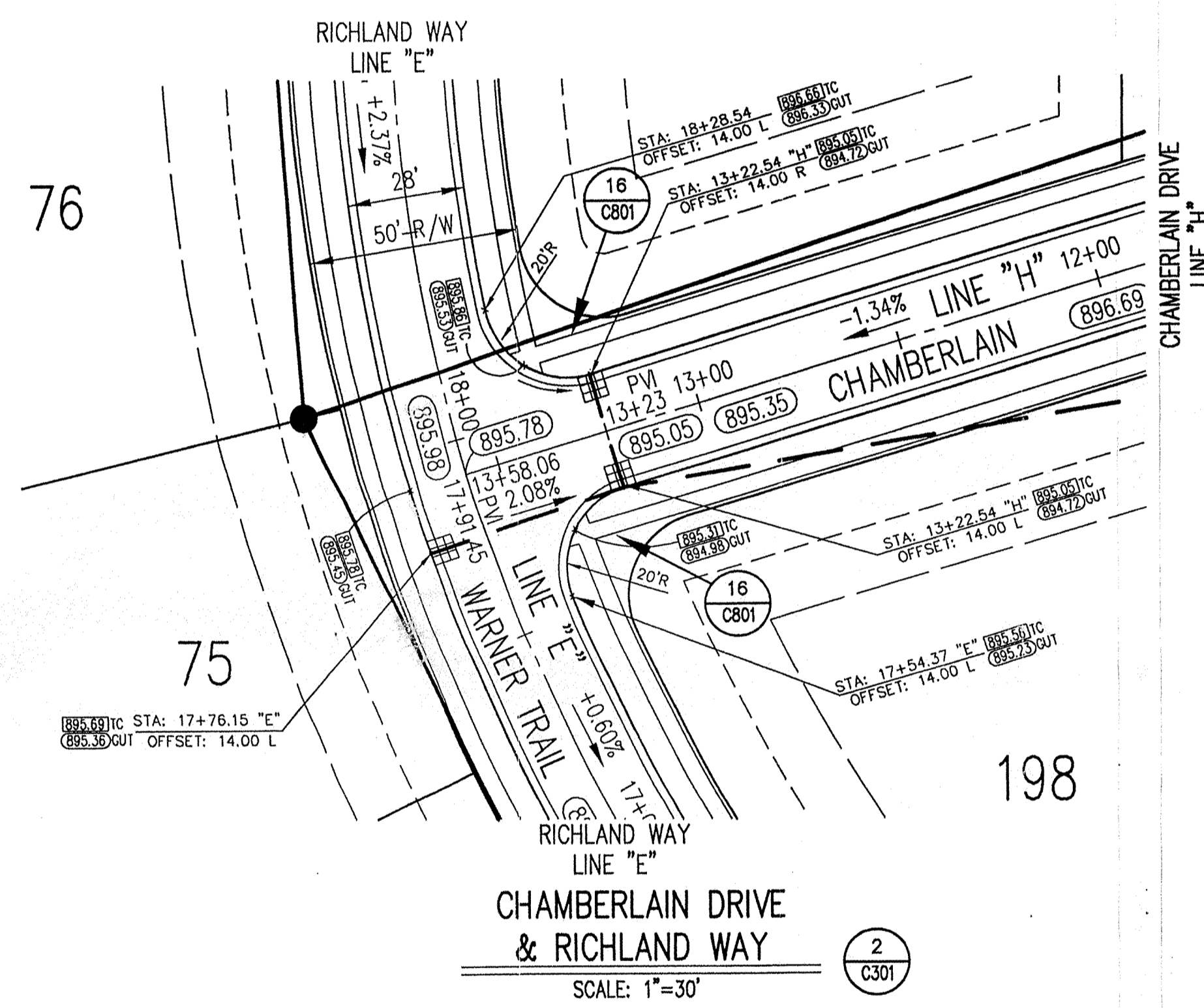
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**STREET PLAN**

Date	Project No.	Drawn	Approved
11/11/98	1045.002	DRP	

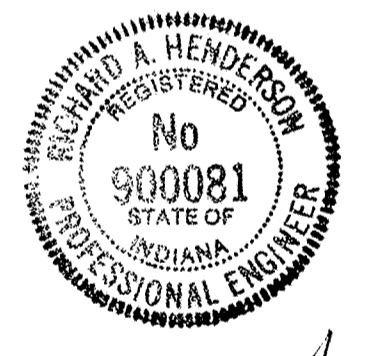
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**BENCHMARK**

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(ELEVATION = 903.373)

**Revisions**



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
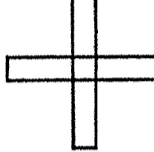
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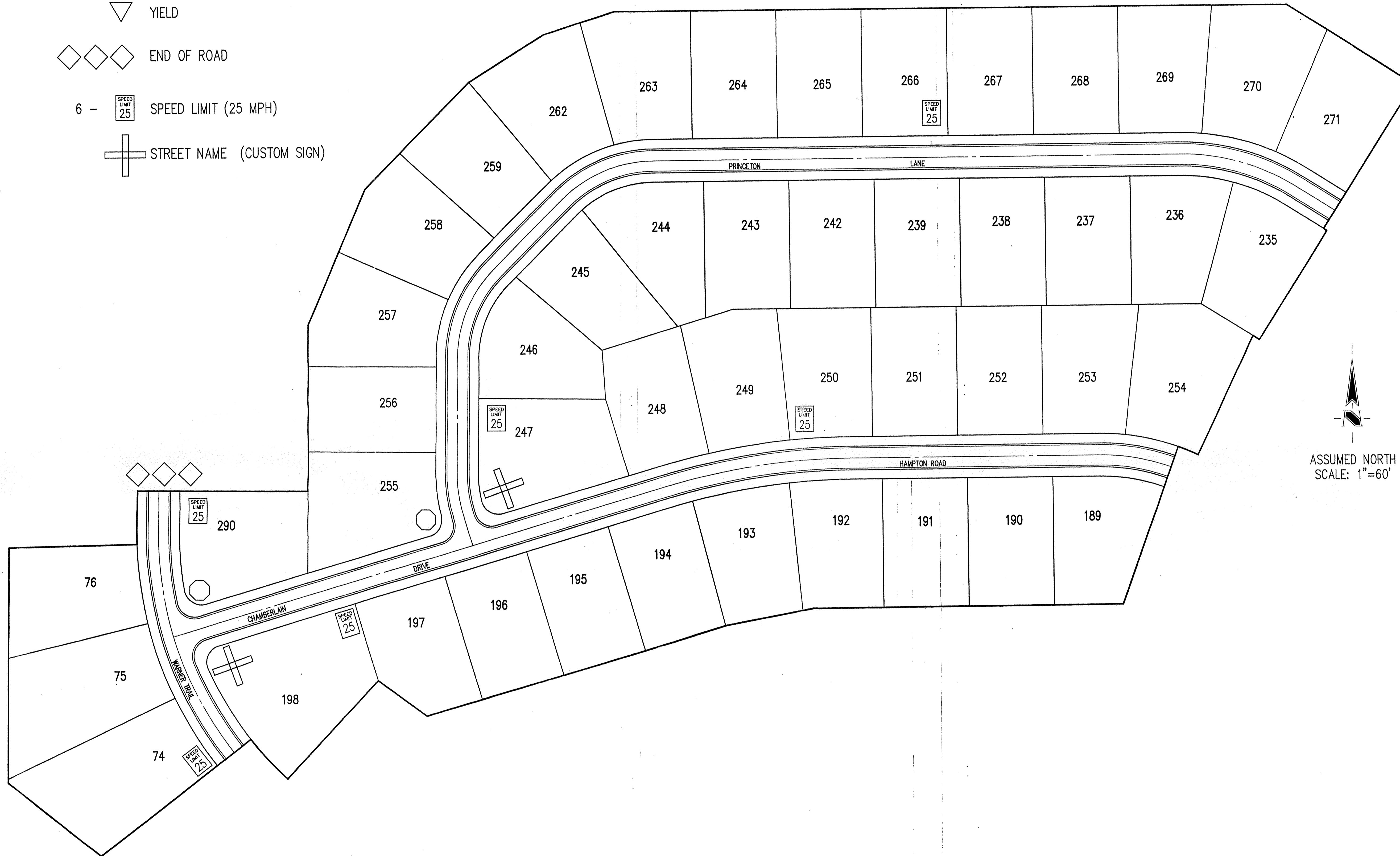
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MERRIMAC SECTION 5  
Westfield, Indiana

**INTERSECTION DETAILS**

Date 11/11/98	Project No. 1045.002	Drawn DRP	Approv.
Computer Files A:\1045\002\DWGS\C301 XREF: 0265 XREF: J:\11045\001\DWGS\0285		Sheet No. <b>C301</b>	

**LEGEND**

- 2 -  STOP R1-1
-  YIELD
-  END OF ROAD
- 6 -  SPEED LIMIT (25 MPH)
-  STREET NAME (CUSTOM SIGN)



**BENCHMARK**

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(ELEVATION = 903.373)

Revisions  
1. BGC 01/07/99 ADDED STREET SYMBOLS TO DWG

ASSUMED NORTH  
SCALE: 1"=60'



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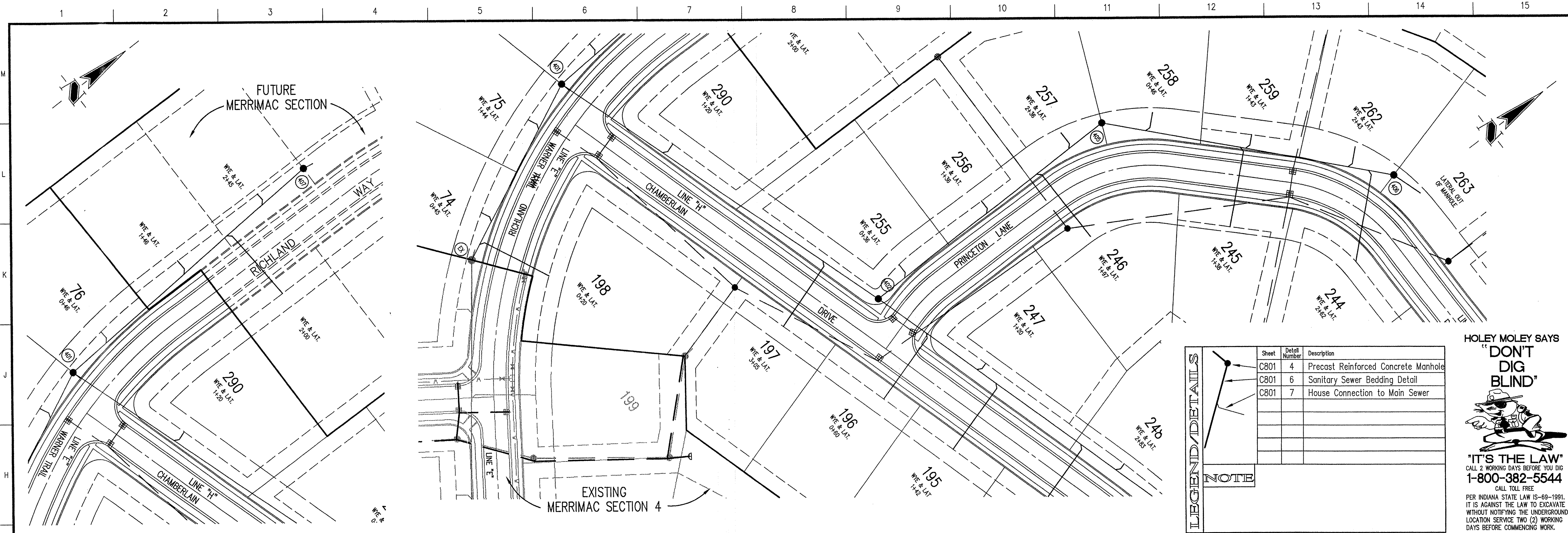
FILED  
SEP 24 1998  
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MERRIMAC SECTION 5  
Westfield, Indiana

**TRAFFIC CONTROL PLAN**

Date	Project No.	Drawn	Approv.
11/11/98	1045.002	DRP	

Computer Files  
A:\1045\002\DWGS\C302  
XREF: 0285  
XREF: A:\1045\001\DWGS\0285

Sheet No.  
**C302**



**GENERAL NOTES**

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- WYES AND LATERALS TO BE 6" PIPE UNLESS OTHERWISE SPECIFIED.
- ALL WYE CONNECTIONS SHALL HAVE A MINIMUM OF FIVE (5) FOOT LATERAL EXTENSION CONNECTED TO THE WYE, OR EXTEND TO THE UTILITY AND DRAINAGE EASEMENT OF THE LOT, WHICHEVER IS GREATER, BUT IN NO CASE SHOULD THE END OF THE LATERALS BE CLOSER THAN FIVE (5) FEET TO THE BUILDING LINE, UNLESS NOTED OTHERWISE. THE END OF THE LATERAL SHALL BE FLAGGED OR CAPPED, UNLESS OTHERWISE NOTED.
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**LEGEND/DETAILS**

Sheet	Detail Number	Description
C801	4	Precast Reinforced Concrete Manhole
C801	6	Sanitary Sewer Bedding Detail
C801	7	House Connection to Main Sewer

**NOTE**

**HOLEY MOLEY SAYS "DON'T DIG BLIND"**

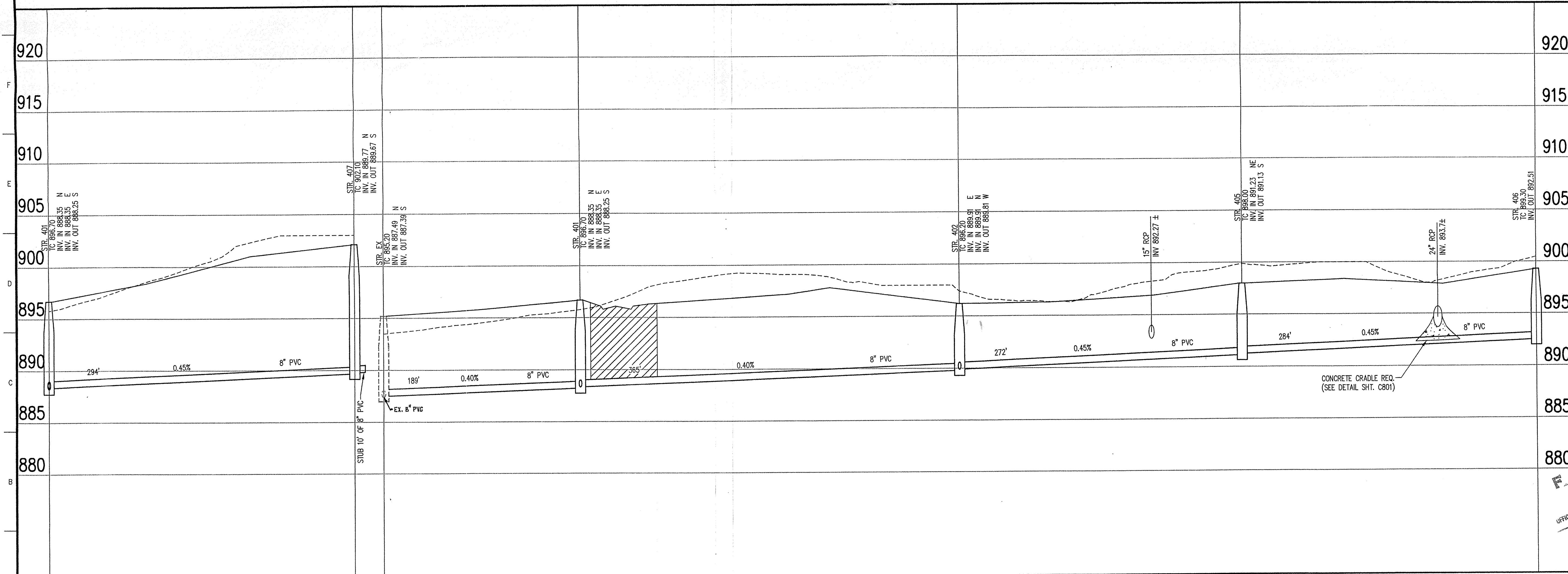
**"IT'S THE LAW"**  
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(ELEVATION = 903.373)

**SANITARY SEWER PLAN**

SCALE: 1"=50'



**Revisions**  
1. 8/66 01/07/99 REVISED STORM CROSSING IN PROFILE

CERTIFIED BY: *[Signature]*  
DATE: 11/23/98

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**SANITARY SEWER PLAN**

Date 11/11/98	Project No. 1045.002	Drawn DRP	Approv.
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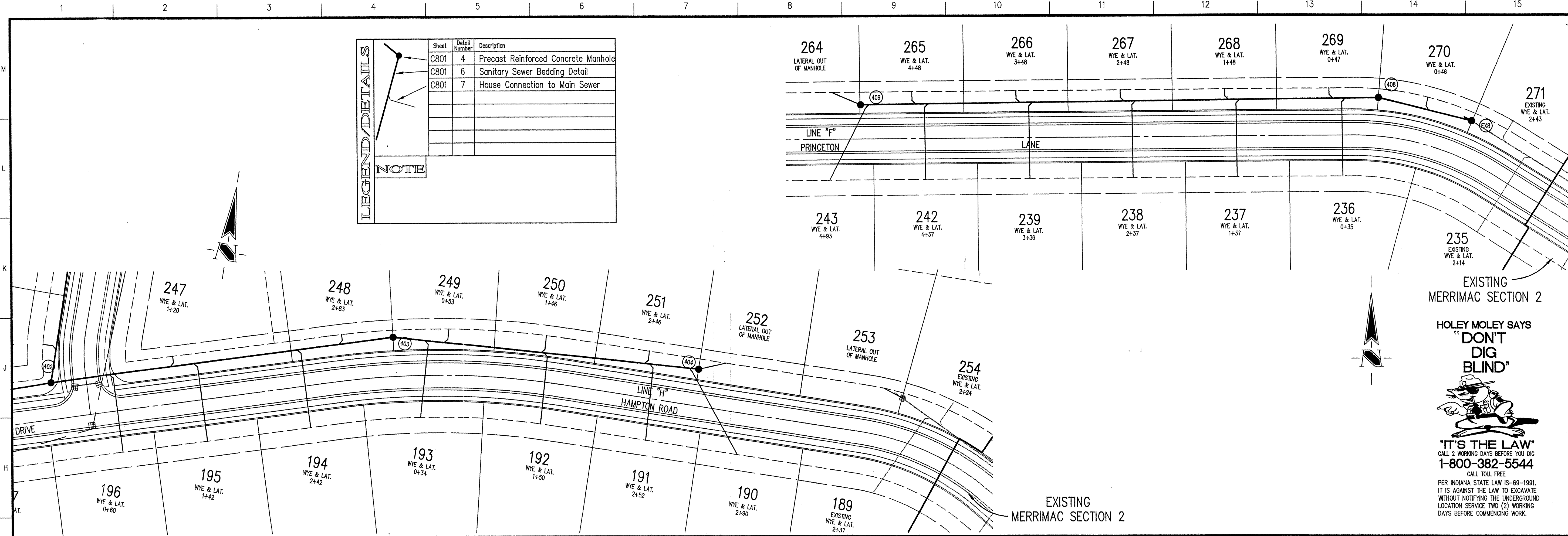
**SANITARY SEWER PROFILE**

**LEGEND**

Existing Grade	New Grade	Granular Backfill
----------------	-----------	-------------------

SCALE: HORZ.: 1"=50'  
VERT.: 1"=5'





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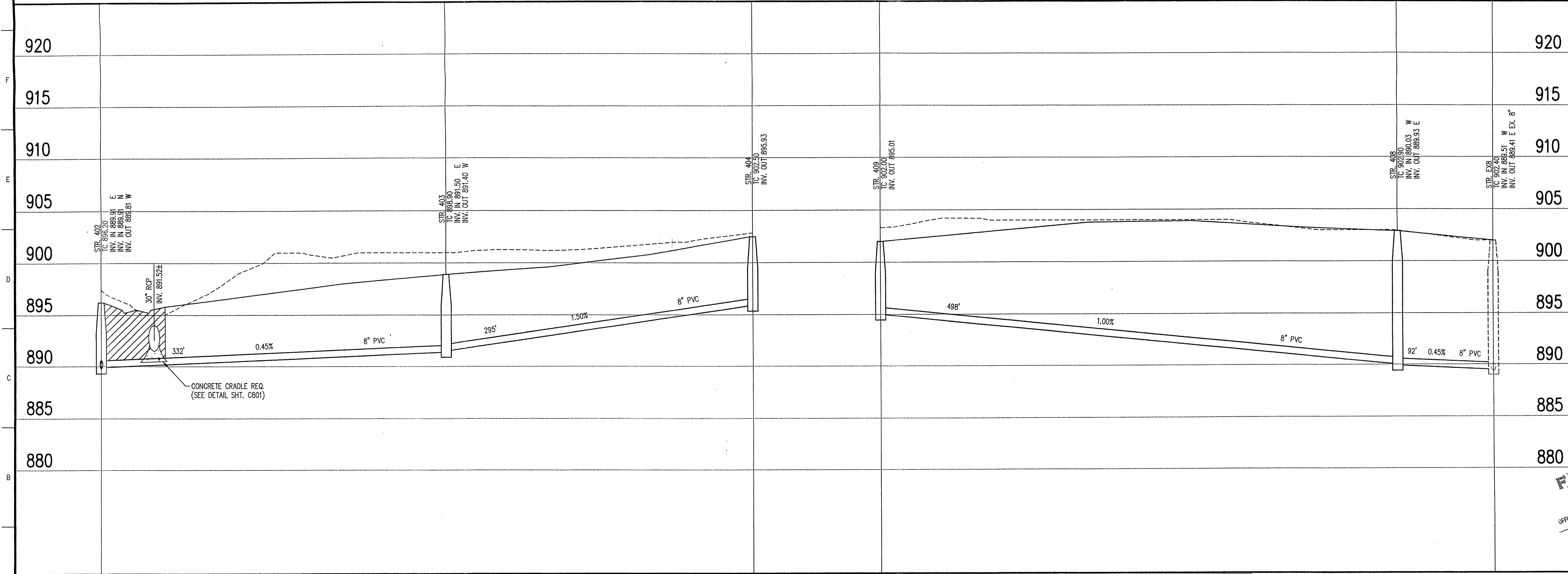


**BENCHMARK**

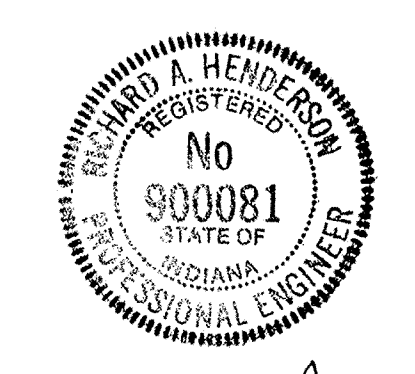
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(ELEVATION = 903.373)

**SANITARY SEWER PLAN**

SCALE: 1"=50'



Revisions  
1. BGG 01/07/99 REVISED STORM CROSSING IN PROFILE



CERTIFIED BY: [Signature] DATE: 11/23/98

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MERRIMAC SECTION 5  
Westfield, Indiana  
**SANITARY SEWER PLAN**

Date 11/11/98	Project No. 1045.002	Drawn DRP	Apprv.
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**LEGEND**

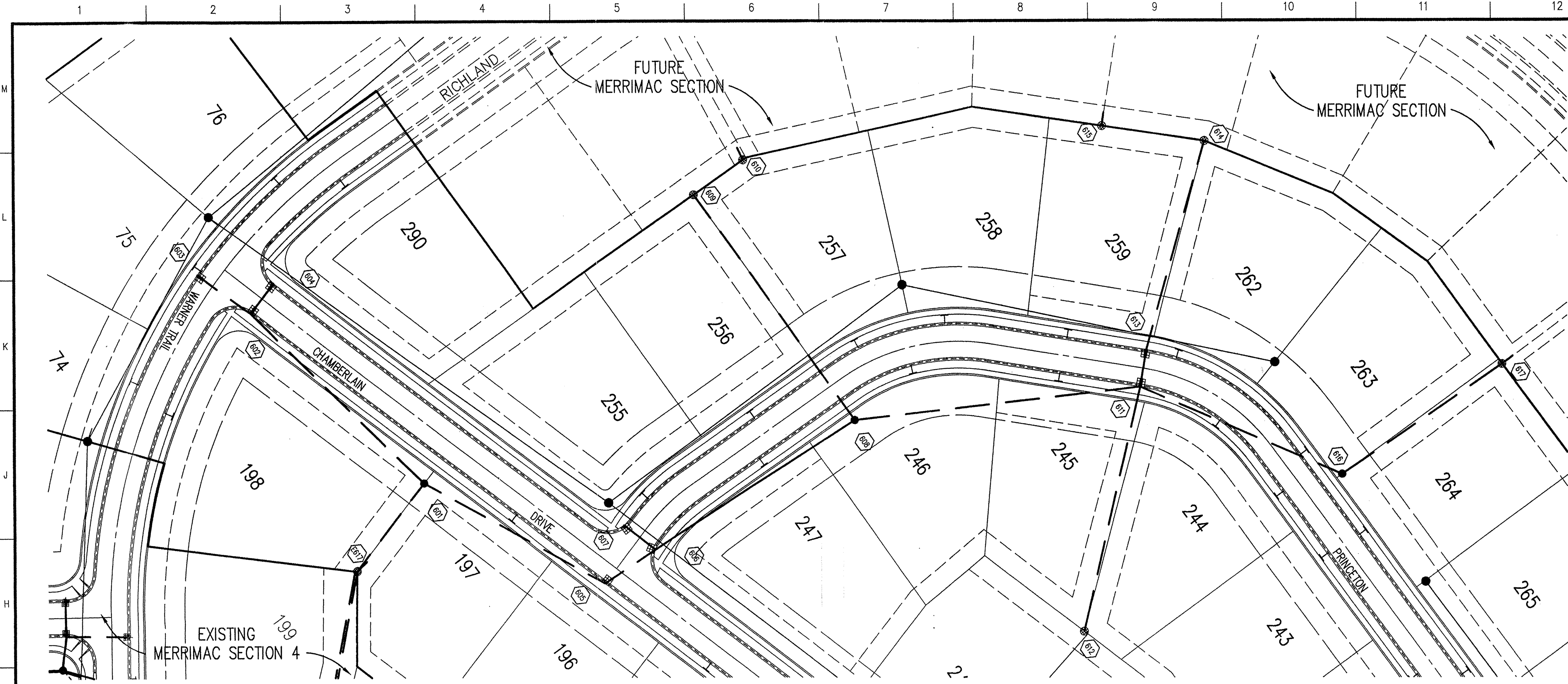
	Existing Grade
	New Grade
	Granular Backfill

SCALE: HORZ.: 1"=50'  
VERT.: 1"=5'

Computer Files  
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XREF: J:\1045\001\DWG\10450485  
XREF: J:\1045\DWG\02\104502PL

Sheet No.  
**C402**

**SANITARY SEWER PROFILE**



**LEGEND/DETAILS**

Sheet	Detail Number	Description
C801	15	Bedding Detail - Reinforced Concrete Pipe (RCP)
C801	12	Roll Curb Inlet
C801	13	Beehive Inlet Detail
C801	14	Storm Manhole Detail
C801	11	Precast Concrete End Section

**NOTE**

**HOLEY MOLEY SAYS**  
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**1-800-382-5544**  
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 FOR CALLS OUTSIDE OF INDIANA  
 PER INDIANA STATE LAW IS-69-1991, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

**GENERAL NOTES**

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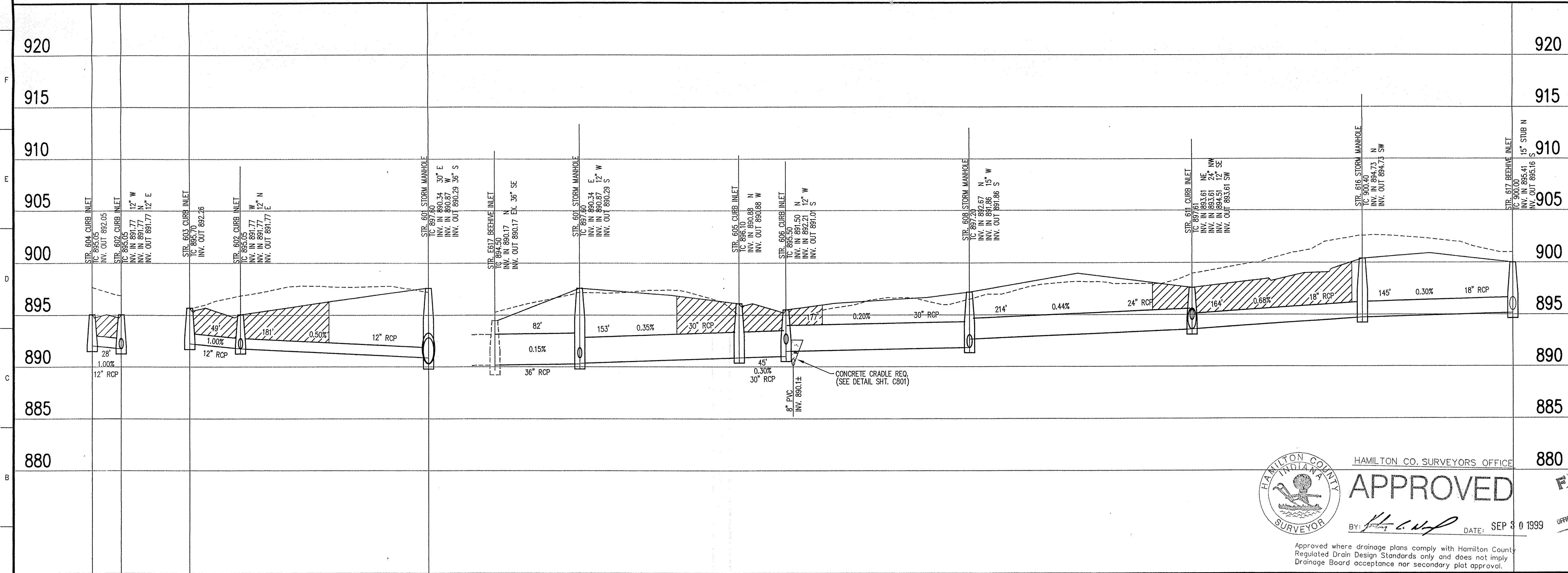
**BENCHMARK**

U.S.G.S. 93 RHP (1951)  
 BRONZE TABLET SET IN CONCRETE POST, LOCATED ON THE SOUTH SIDE OF 146TH STREET, APPROX. 25' WEST OF THE CENTERLINE OF DITCH ROAD.  
 (ELEVATION = 903.373)

Revisions  
 1. BGG 01/07/99 REVISED STORM SEWER PROFILE

**STORM SEWER PLAN**

SCALE: 1"=50'



CERTIFIED BY: *[Signature]*  
 DATE: 11/23/98

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HAMILTON CO. SURVEYORS OFFICE  
**APPROVED**  
 BY: *[Signature]* DATE: SEP 8 1999  
 Approved where drainage plans comply with Hamilton County Regulated Drain Design Standards only and does not imply Drainage Board acceptance nor secondary plot approval.

FILED  
 SEP 24 1999  
 OFFICE OF HAMILTON COUNTY SURVEYOR

FORMERLY SCHNEIDER ENGINEERING CORP. / BOHLEN, MEYER, GIBSON & ASSOC.  
 MERRIMAC CORPORATION  
 MERRIMAC SECTION 5  
 Westfield, Indiana  
**STORM SEWER PLAN**

Date	Project No.	Drawn	Apprv.
11/11/98	1045.002	DRP	

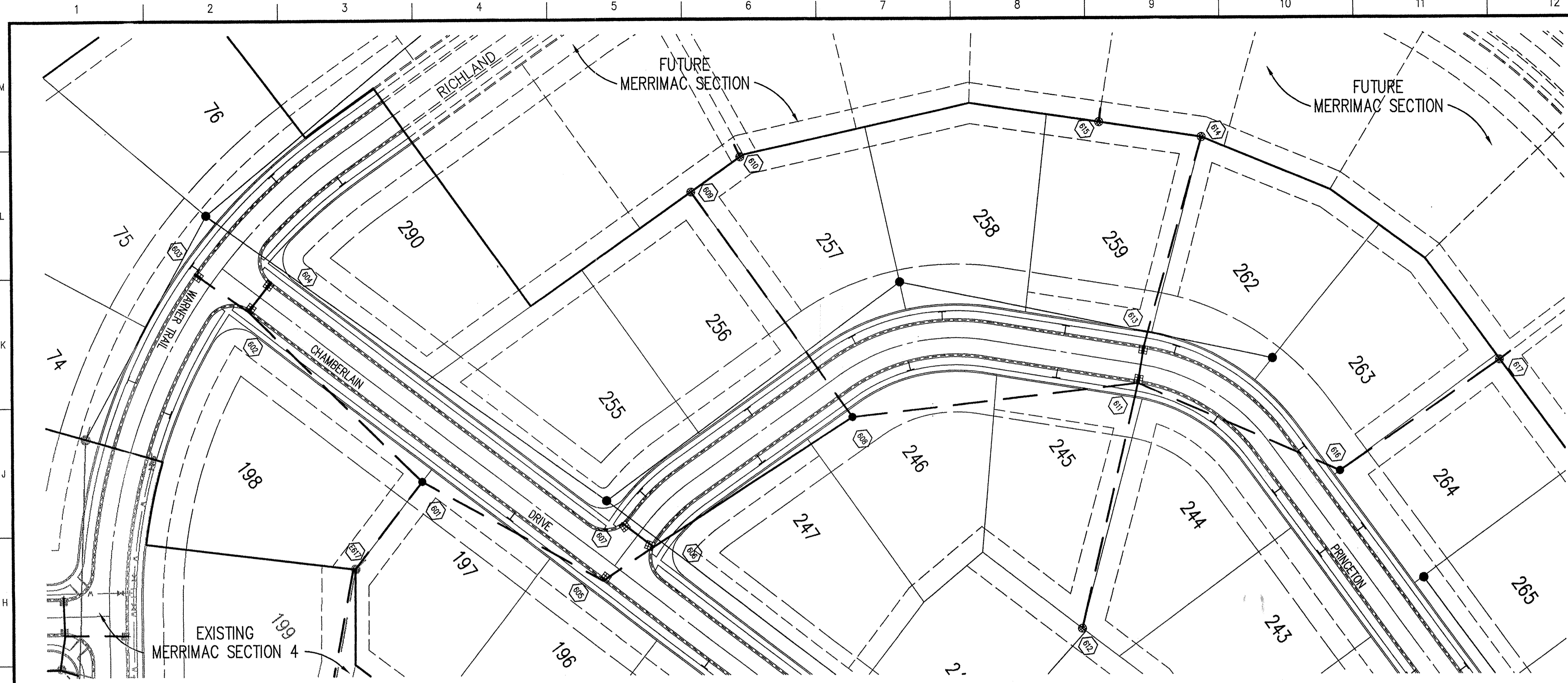
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**STORM SEWER PROFILE**

**LEGEND**

Existing Grade	New Grade	Granular Backfill

SCALE: HORZ.: 1"=50'  
 VERT.: 1"=5'



**LEGEND/DETAILS**

Sheet	Detail Number	Description
C801	15	Bedding Detail - Reinforced Concrete Pipe (RCP)
C801	12	Roll Curb Inlet
C801	13	Beehive Inlet Detail
C801	14	Storm Manhole Detail
C801	11	Precast Concrete End Section

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**GENERAL NOTES**

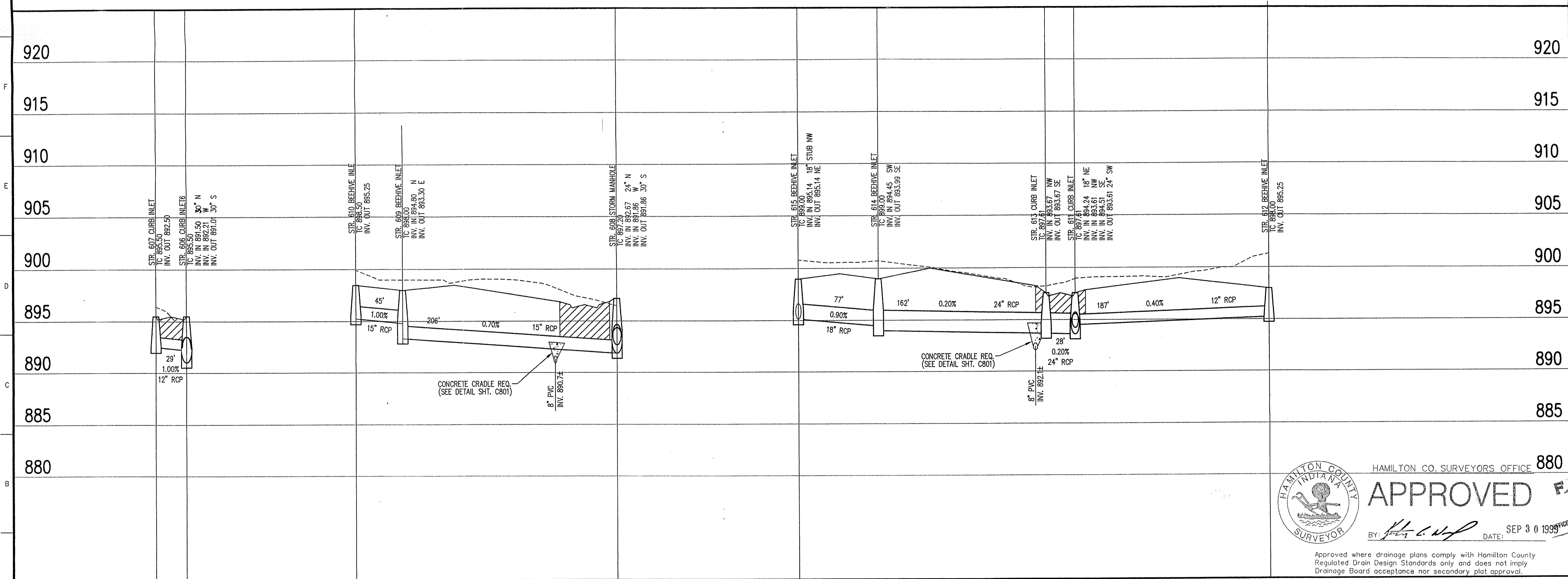
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**STORM SEWER PLAN**

SCALE: 1"=50'



**Revisions**

- BGG 01/07/99 REVISED STORM SEWER PROFILE

**CERTIFIED BY** *[Signature]* **DATE:** 11/25/98

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**APPROVED**

BY: *[Signature]* DATE: SEP 30 1999

Approved where drainage plans comply with Hamilton County Regulated Drain Design Standards only and does not imply Drainage Board acceptance nor secondary plot approval.

**STORM SEWER PROFILE**

**LEGEND**

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SCALE: HORZ.: 1"=50'  
VERT.: 1"=5'

**FILED** SEP 24 1999

MERRIMAC CORPORATION  
MERRIMAC SECTION 5  
Westfield, Indiana

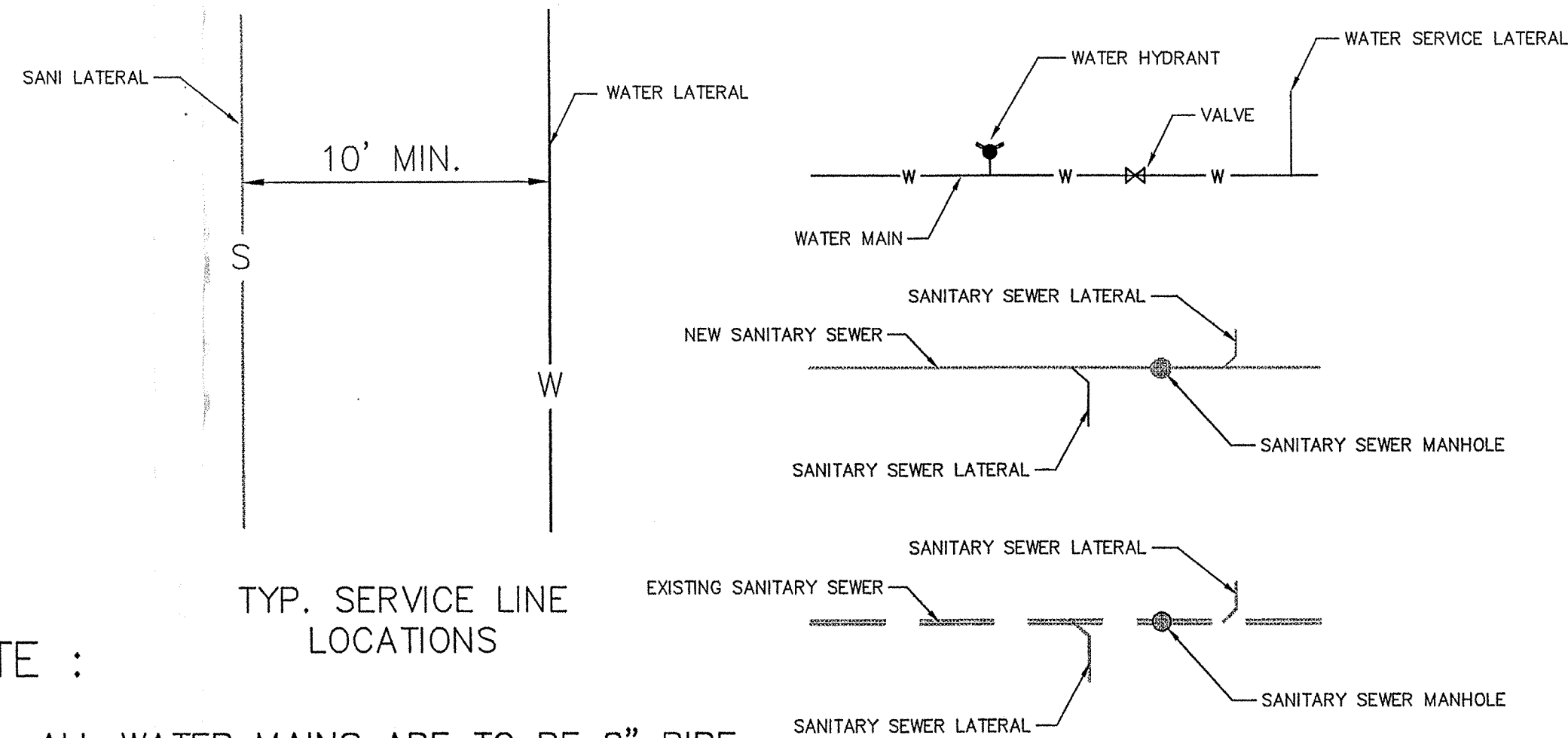
**STORM SEWER PLAN**

Date	Project No.	Drawn	Apprv.
11/11/98	1045.002	DRP	

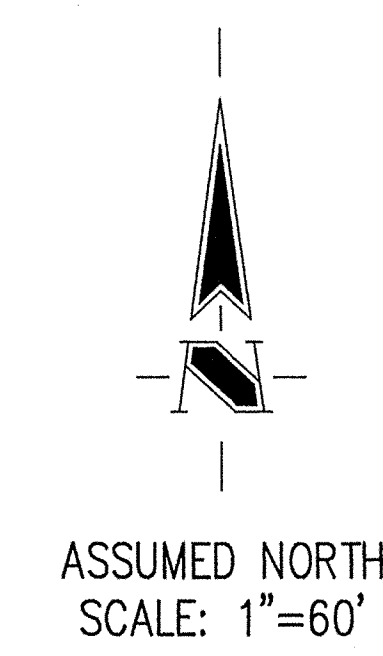
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 XREF: & \1045\002\STORM  
 XREF: & \1045\DWG\0685  
 XREF: & \1045\001\DWG\10450485

Sheet No.  
**C602**

LEGEND



NOTE :  
 1. ALL WATER MAINS ARE TO BE 8" PIPE EXCEPT WHERE OTHERWISE NOTED.



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**"IT'S THE LAW"**  
 CALL 2 WORKING DAYS BEFORE YOU DIG  
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3. FOR EASEMENT LOCATIONS SEE RECORDED PLAT.

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Revisions



CERTIFIED BY: *[Signature]*  
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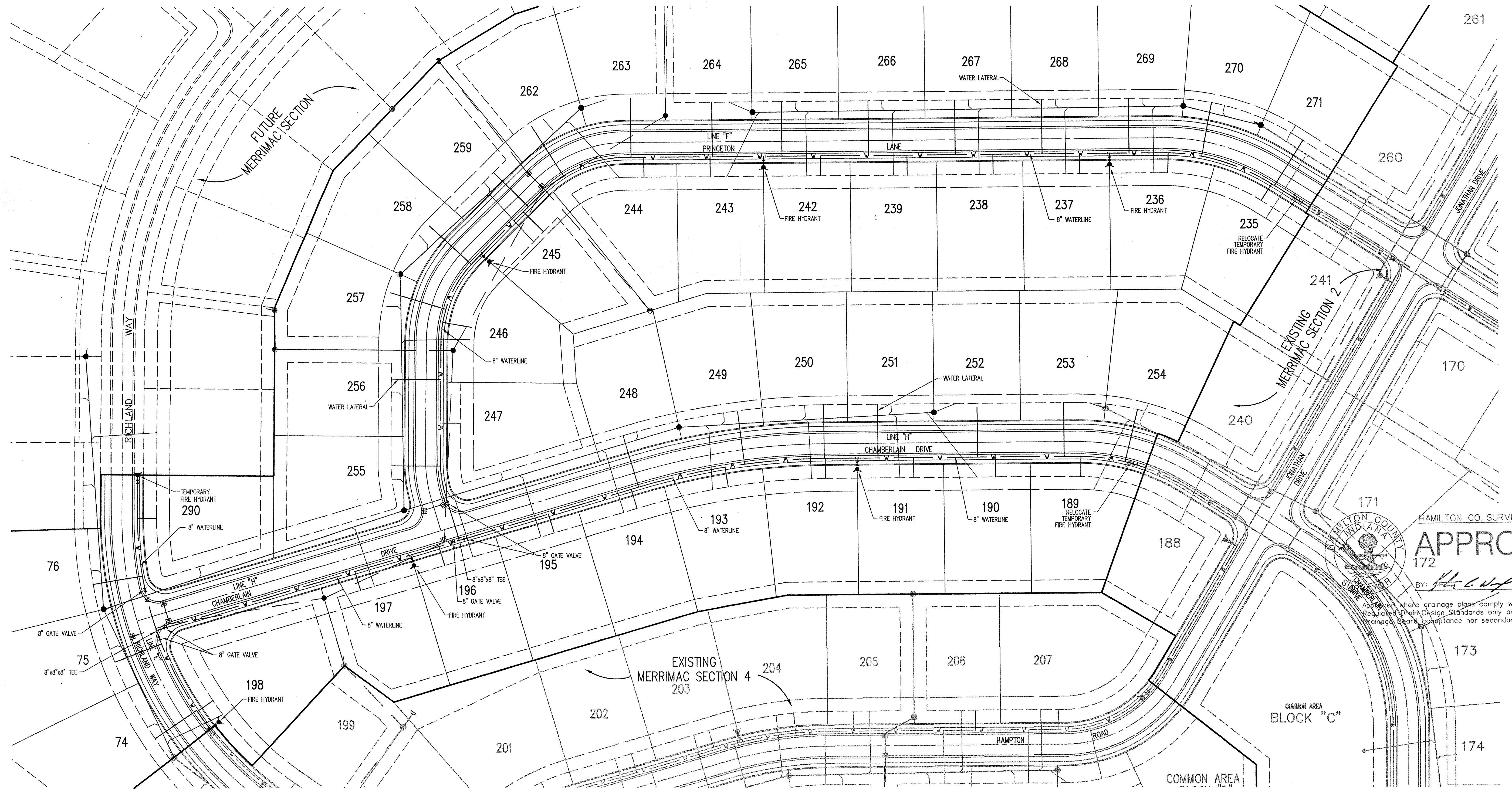
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 BY: *[Signature]* DATE: 11/23/98



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 MERRIMAC SECTION 5  
 Westfield, Indiana  
 SEP 24 1999  
 OFFICE OF HAMILTON COUNTY SURVEYORS

Date	11/11/98	Project No.	1045.002	Drawn	DRP	Approv.	
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**WATER MAINS**

- 1. SCOPE OF WORK:**
- A. The work required under this section includes all cold water distribution lines, valves, hydrants, and related items including excavating and backfilling necessary to complete the work shown on the drawings. The ends of water service lines shall be lightly plugged or capped at the terminal points pending the connecting to all such lines of the building piping as specified in the plumbing specifications and architectural drawings.
- 2. MATERIALS:**
- A. Cast Iron Pipe: Cast iron pipe shall meet AWWA Specification C-106 with push-on joints meeting AWWA Specification C-111. Wall thickness shall be determined from Table 6.4 in AWWA C-106. Ductile iron pipe shall meet AWWA C-150 and C-151 Specifications. Pipe to be cement lined per AWWA C-104.
- B. Copper Tubing: Shall be seamless, annealed copper tubing complying with Federal Specification WW-1-799. Fittings shall be wrought copper or cast bronze with solder joints. Solder shall be of a composition recommended by the manufacturer of the fittings.
- C. Fire Hydrants: Shall comply with AWWA Specification C-502 and shall meet local standards and requirements, particularly as to nozzle diameters and threads, direction of opening and dimensions of operating and cap nuts. Fire hydrants shall have one pump and two hose nozzles. A valve opening not less than 5 inches and a 5 inch inlet connection. The length of the hydrant barrel shall be determined by the specified depth of cover over the pipe.
- D. Valves: All valves and stops shall have ends suited or adapters shall be provided for the proper installation in the lines in which they are located. Valves shall meet local standards or in the absence of such standards, the following requirements:
1. Valves in cast iron pipe shall be iron body, bronze mounted, disc gate valves conforming to AWWA Specification C-500. They shall open in the same direction as those used in the local waterworks system. Valve stems shall terminate in 2 inch wrench nuts. Furnish two (2) keys.
  2. Valves in copper pipe shall be standard brass body, round-way, ground-key stops with T heads. Furnish two (2) keys.
- E. Valve Boxes: Shall meet local standards or in the absence of such, shall comply with the following requirements:
1. For iron body valves, boxes shall be approved standard buffalo-type, cast iron, adjustable shaft boxes, having a minimum shaft diameter of 5-1/4 inches.
  2. For brass body valves (stops) boxes shall be approved standard cast iron extension service boxes, having a minimum diameter of 2-1/2 inches and having lid held in place by a brass or bronze ball. The castings shall be coated with two coats of coal-tar pitch varnish. Furnish two (2) keys for bolt in lids.
- F. Stops: Stop shall be those manufactured by Ford or Mueller Corporation with AWWA taper thread, and with copper compression type fitting on outlet, or equal.
- G. Blow-off Valves: Blow-off valves shall be those manufactured by Muller Corporation (H-10283 or H-10291), or equal.
- H. Angle Valves: Angle valves at the end of water service stub are to be copper compression type fitting also, and are to be protected with plastic bag over the valve.
- I. Taps: 3/4" taps in lines smaller than 4 inches shall be only by tapped tee or tapping saddle. Water service lines should be marked on curbs with a stamped "W", placed white pouring curbs.
- 3. APPLICATION:**
- A. Permits and Codes: The intent of this section is the specifications if that the contractor's bid on the work covered herein shall be based upon the drawings and specifications but that the work shall comply with all applicable codes and regulations. Contractor shall furnish all necessary bonds to get permits for cuts and connections.
- B. Existing Improvements: Maintain in operating condition all active utilities and sewers and other pipe system that may be encountered.
- C. Trenching: Lay all pipe in open trenches, except when local authority gives written permission for tunneling. Provide a separate trench for the water line at least 10 feet horizontally from any sanitary sewer. In locations where separate trenches for sewer and water lines are impracticable, lay the water pipe on a solid shelf at least 18 inches above the top of the sewer.
- D. Width of Trench: Excavate trenches minimum of pipe diameter plus 12".
- E. Shelting and bracing: Sheet and brace trenches as necessary to protect workmen and adjacent structures. All trenching shall comply with the Occupational Safety and Health Administration Standards.
- F. Water Removal: Keep trenches free from water while construction therein is in progress. Under no circumstances lay pipe or appurtenances in standing water. Conduct the discharge from trench dewatering to drains or natural drainage channels.
- G. Trench Bottoms: The bottom quadrant of the pipe shall be fully and uniformly supported. The full load shall rest on the barrel of the pipe. The trench may be excavated to a depth of 4 inches or more below final grade with sand, crushed stone or gravel backfill to bring it back to pipe laying grade. For a depth of at least 12 inches above the top of the pipe backfill with earth or granular material free from large stones, roots or frozen clods. Tamp this backfill thoroughly taking care not to disturb the pipe. Backfill under walks, parking areas, driveways and streets with granular material only and tamp thoroughly, by approved methods. Trenches parallel to and within 10 feet of paved roadways shall be constructed the same.
- H. Tests: Before joints are covered, fill the piping with water, opening hydrants or at least two hours at a pressure of 100 pounds per square inch. Inspect all joints for leakage and remedy any leaks. Upon completion of the water distribution mains, flush out the system until the water runs clear. As soon as the system has been flushed out, it shall be sterilized in accordance with the requirements of Hamilton Western Utilities.
- I. If a horizontal distance of 10 feet cannot be maintained between the water line and a sanitary sewer line, one of the following shall be done:
- a. Water line laid in a separate trench and 18" above sewer.
  - b. Water line laid in same trench on a bench of undisturbed earth and sewer at least 18" below bottom of water line.
- Where water lines and sewers cross and the water line cannot be placed above the sewer with a minimum of 18" vertical clearance, the sewer must be constructed of water works grade cast iron pipe with mechanical joints within 10 feet of the water line.
- J. Utilities: It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners or the engineer of any changes, errors or omissions found on these plans on in the field before work is started or resumed.
- K. New Water Main Construction: Contractor to record dimension of each water stub and valves from nearest fire hydrant measured along water main. The locations of hydrants and water valves, along with any other construction changes are to be incorporated on the original construction drawings and "Record Drawings" prints submitted to Engineer's Office as soon after completion of construction as possible.

Contractor shall submit in his bid the cost of PVC main as well as cost iron.

The following specifications shall apply to the PVC application:

PVC Water Main Pipe

A. All pipe or fitting joints underground shall be push-on joint or mechanical joint type as noted or equal.

B. Pipe for water mains laid in the trenches shall be PVC (Polyvinyl Chloride) plastic pressure pipe which meets the requirements of ASTM D-1784 for PVC compounds and ASTM D-3139 for push-on joints. The pipe barrel and bell shall be DR18 (dimension ratio). The pipe shall be rated for 150 psi water working pressure and meet all the requirements of AWWA Standard C-500. Pipe shall be Cowl Corporation of Oak Brook, Illinois Super Main 500 PVC pipe or equal. Transitions from one pipe material to another shall be made using manufacturer's recommended fittings or gaskets.

C. Each length of pipe shall bear the name or trademark of the manufacturer, the location of the plant, and the date of manufacture. Each length shall likewise be marked to designate the class or strength of the pipe. The marking shall be made on the exterior or interior of the pipe barrel near the bell or groove end and shall be plainly visible.

Fittings and Specs

A. All pipe fittings and specials for trench-lay main using PVC pipe shall be push-on joint ductile cast iron with a pressure rating of 350 psi and conform to ANSI/AWWA-C110/A21.10 and ANSI/AWWA-C111/A21.11 Standards. Fittings shall be Cowl Corporation of Oak Brook, Illinois Super Bell-Tite fittings or equal.

Fitting and Valve Encasement

A. All iron fittings and valves shall be encased with a polyethylene encasement of a minimum eight (8) mil thickness and conform to ANSI/AWWA-C105/A21.5. Polyethylene encasement shall be Cowl Corporation of Oak Brook, Illinois or equal.

Pipe Tracing Tape

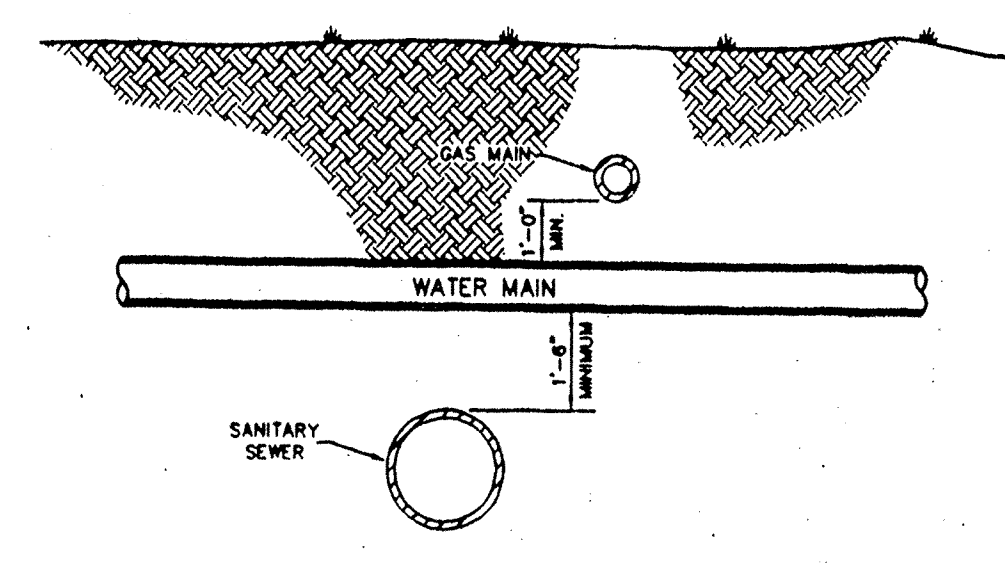
A. All pipe shall be traced with "Terra Tape" by Reef Industries, Inc., P.O. Box 13248, Houston, Texas 77033 or equal. Tape shall be "Detectable" type imprinted with "Caution Buried Water Line Below".

Gate Valves

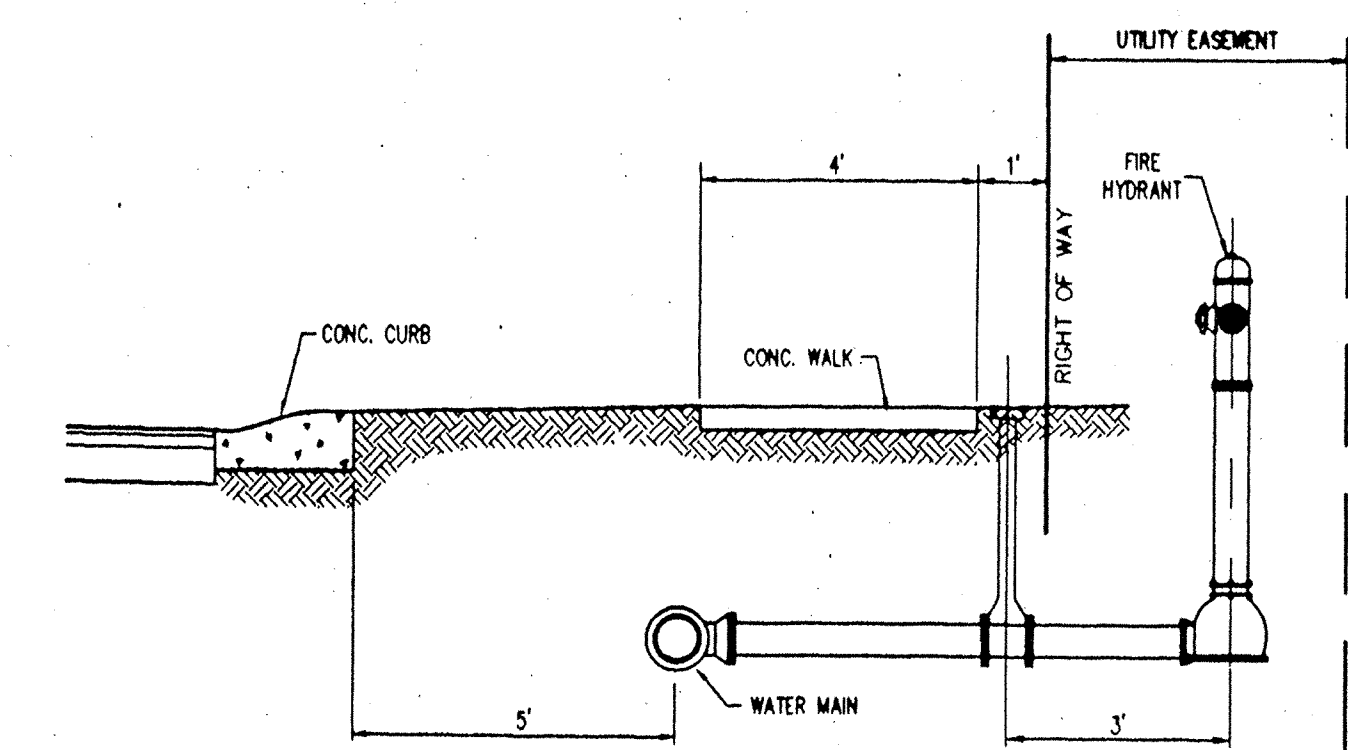
A. All gate valves shall be iron body, bronze mounted, double disc, parallel seat type gate valves, conforming to AWWA Standard Specifications C500. They shall open in a counter clockwise direction. Valves placed in a valve box shall terminate in 2 inch square operating nut and have non-rising stems. One valve wrench shall be supplied to the Owner for this project. Gate valves shall be as made by Kennedy Valve Manufacturing Co., Inc., Elmira, New York, Mueller or equal.

Valve Boxes

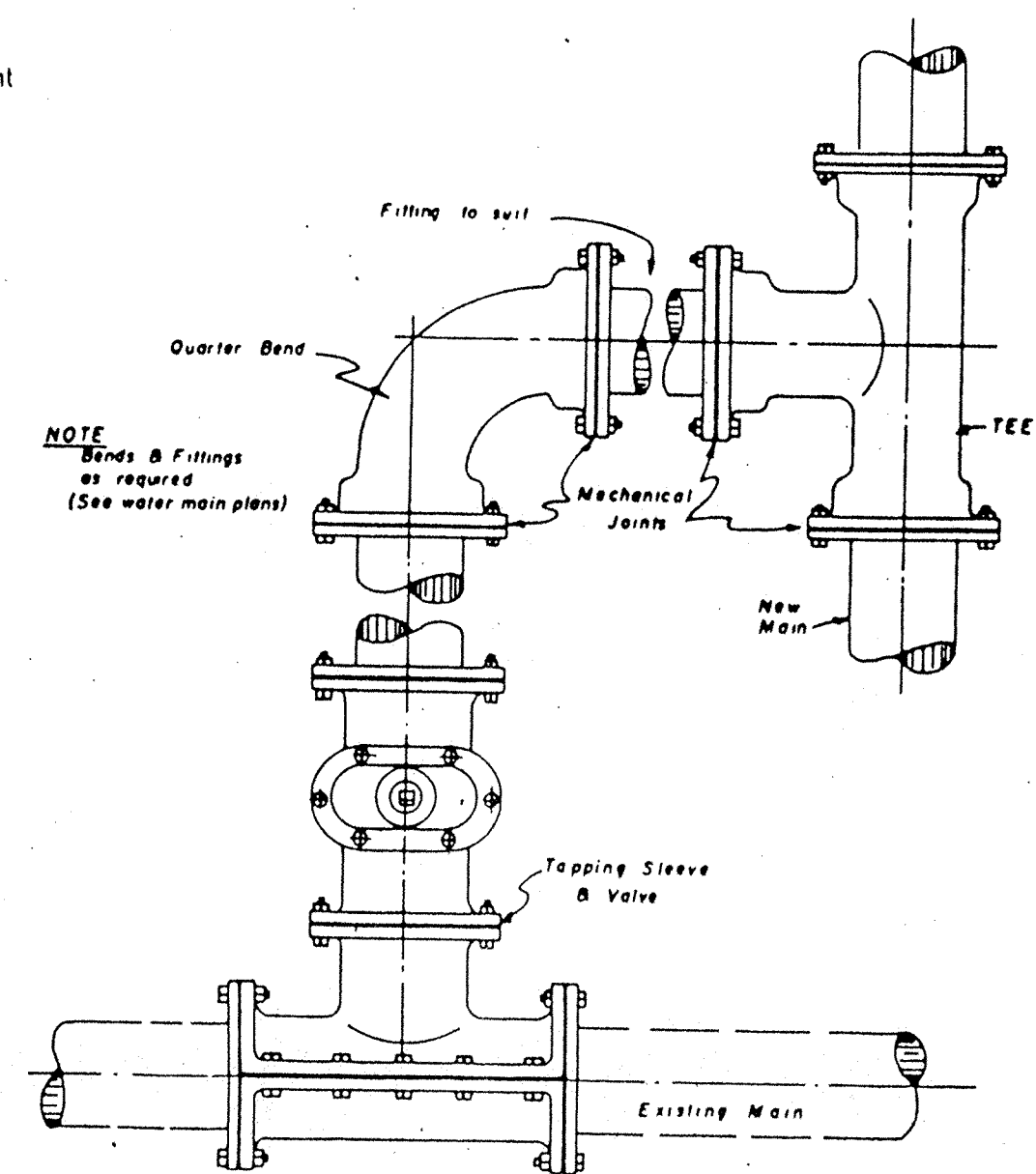
A. Valve boxes shall be a three-piece cast iron type (base, center section, and sliding type adjustable extension) together with a "slay-pull" cover marked "WATER". The base shall be of the size recommended by the manufacturer for the size valve with which it is to be used. Wall thickness of the base and vertical sections shall not be less than 3/16 inch, and each valve box shall have a minimum shaft diameter of 5-1/4 inches.



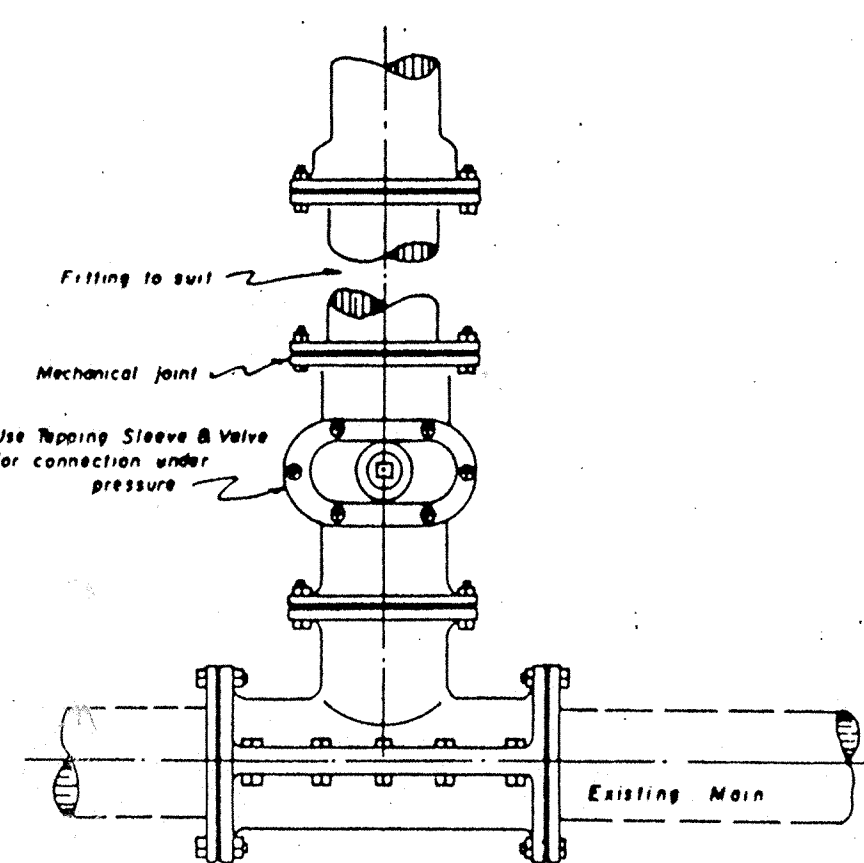
**TYPICAL UTILITY CROSSING**



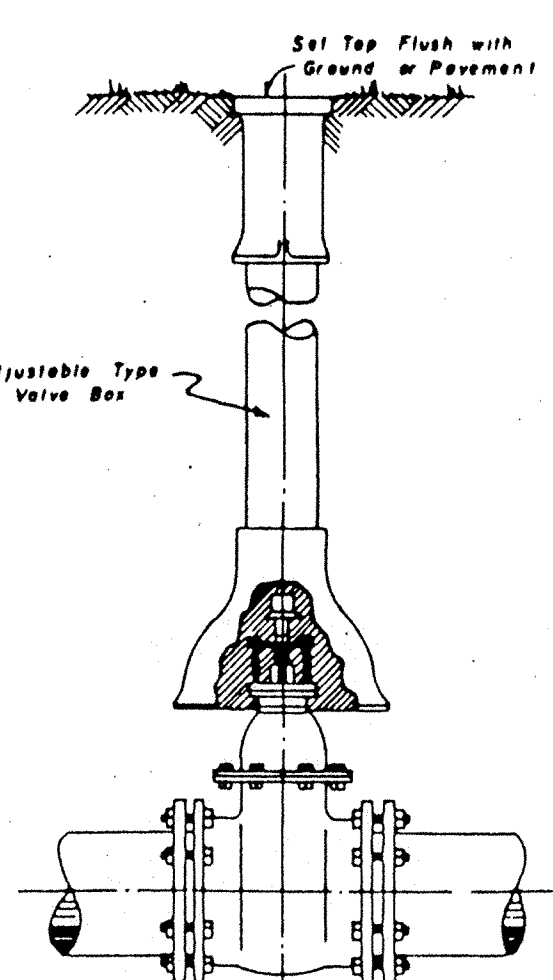
**TYPICAL SECTION - HYDRANT & MAIN LOCATION**



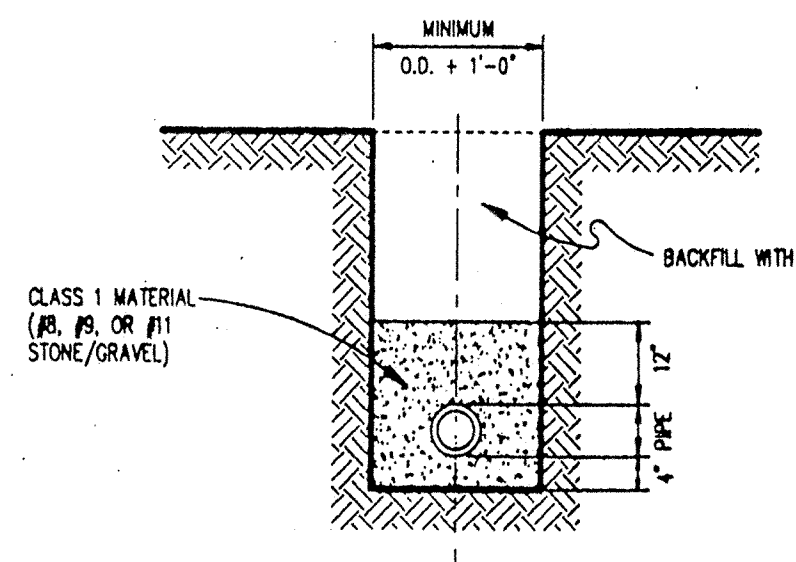
**TYPICAL CONNECTION TYPE "B"**



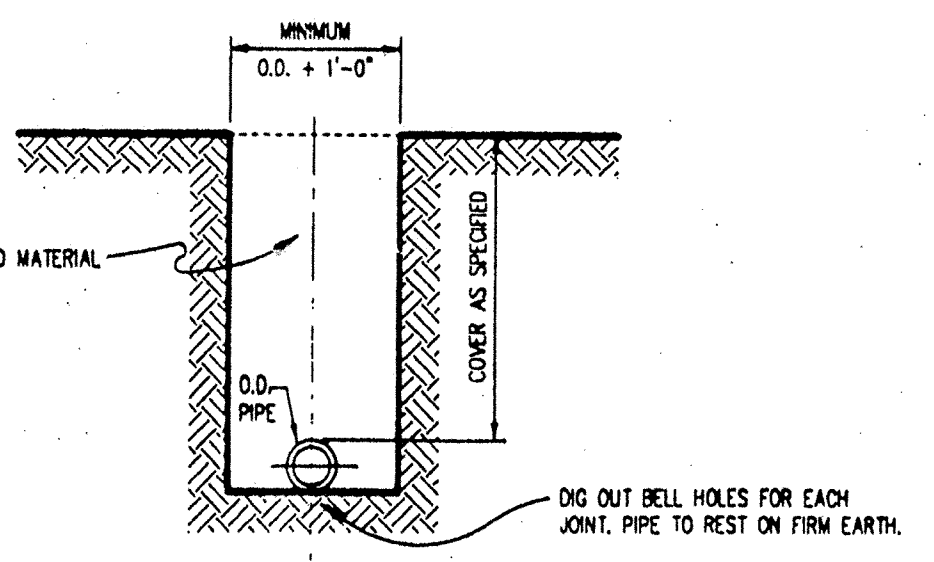
**TYPICAL CONNECTION TYPE "A"**



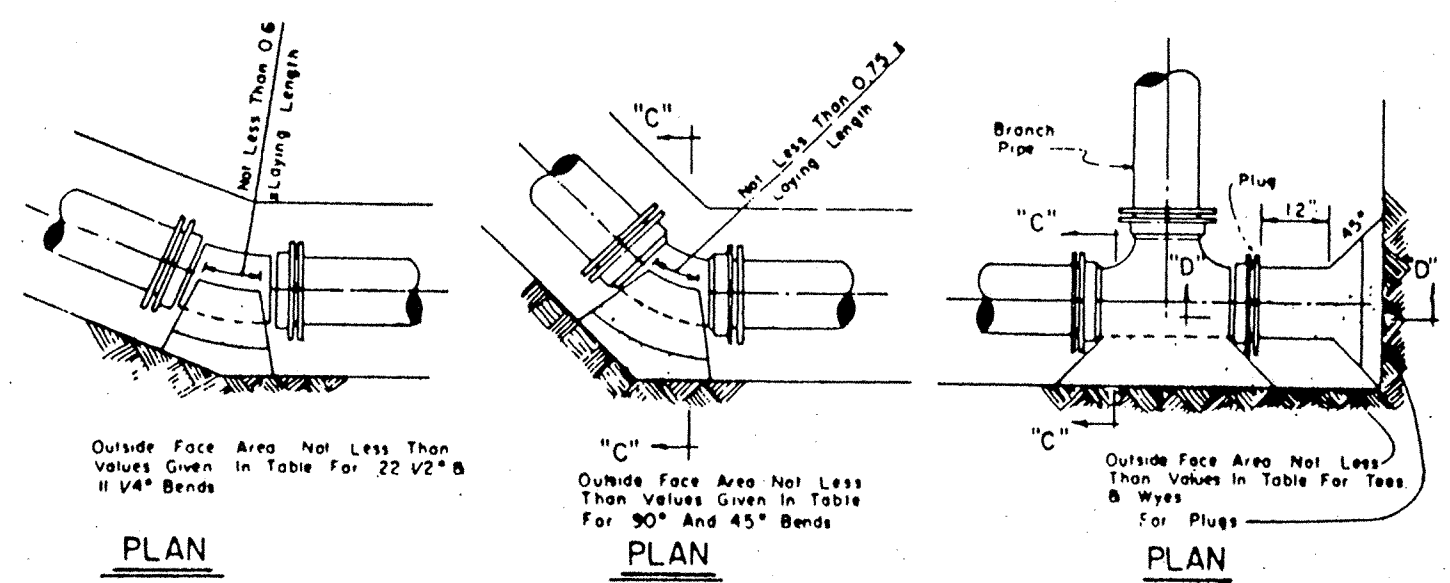
**TYPICAL GATE VALVE & VALVE BOX**



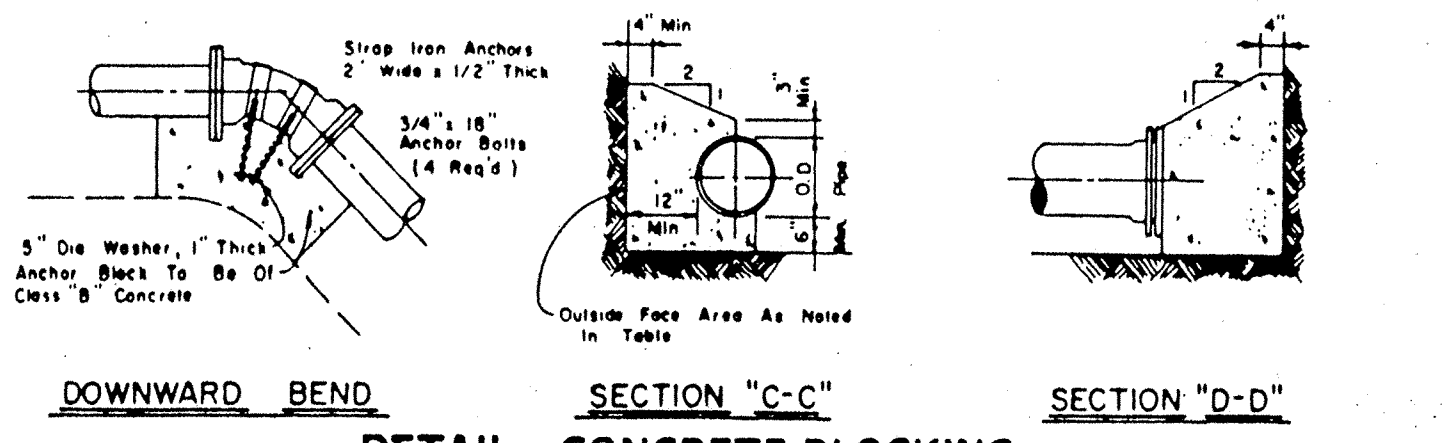
**TYPICAL WATER MAIN INSTALLATION (FOR PVC PIPE)**



**TYPICAL WATER MAIN INSTALLATION (FOR DUCTILE IRON PIPE)**



**DETAIL - CONCRETE BLOCKING**



**DETAIL - CONCRETE BLOCKING**

PIPE SIZE	BLOCKING FOR PLUGS & BENDS				BLOCKING FOR TEES & BYES			
	PLUG	90° BEND	45° BEND	22 1/2°	SIZE OF RUN	SIZE OF BRANCH	AREA (SQ. FT.)	AREA (SQ. FT.)
20"	16	25	14	7	4	12	12	12
16"	12	16	9	5	3	8	8	8
12"	7	9	5	3	2	4	4	4
10"	4	7	4	2	1	2	2	2
8"	3	5	3	2	1	1	1	1
6"	2	3	2	1	1	1	1	1
4"	2	3	2	1	1	1	1	1

Revisions

CERTIFIED BY: *[Signature]* DATE: 11/23/98

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 MERRIMAC SECTION 5  
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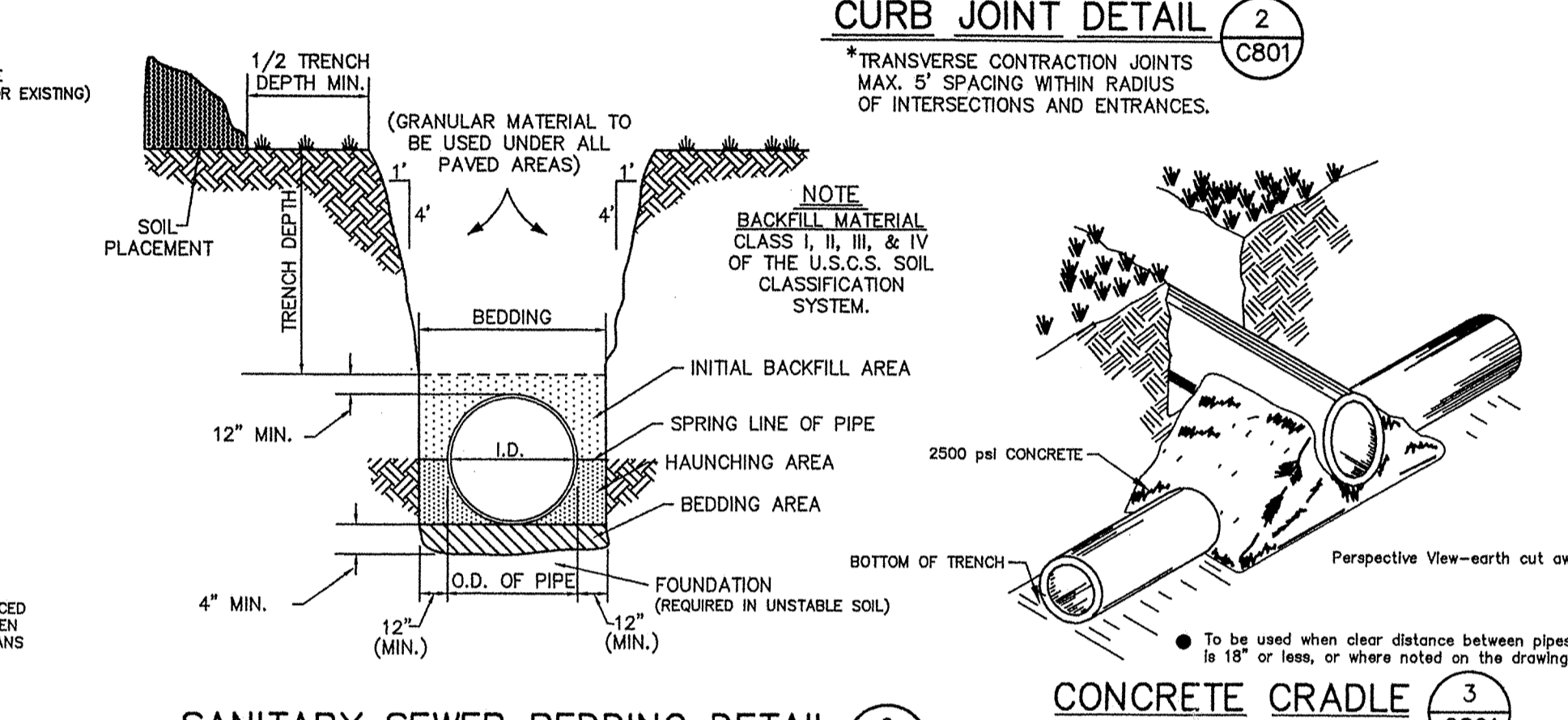
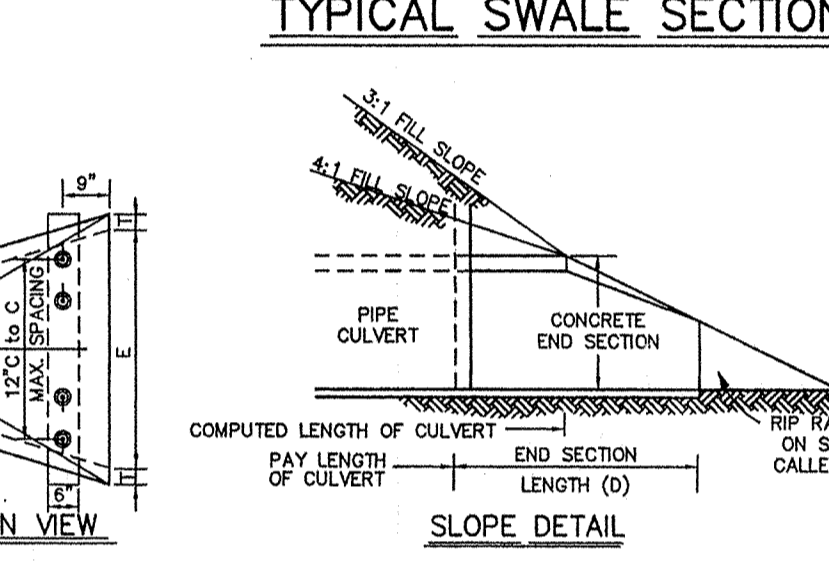
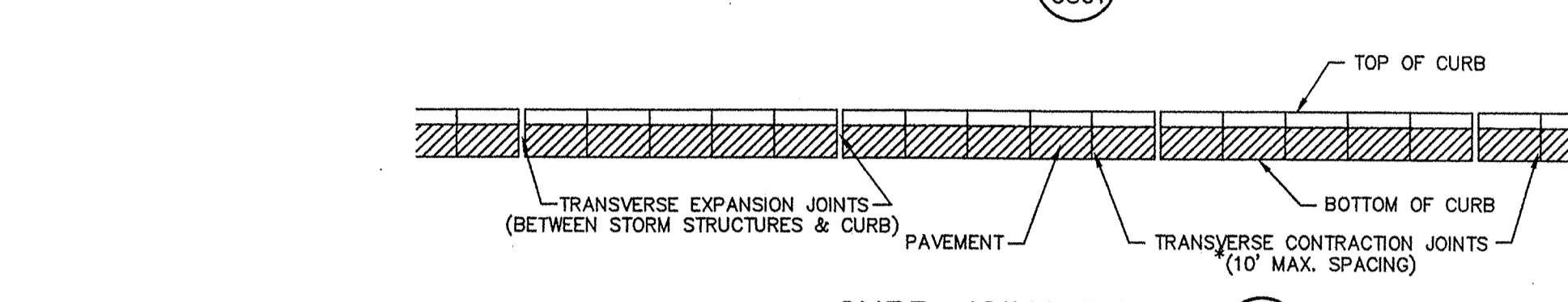
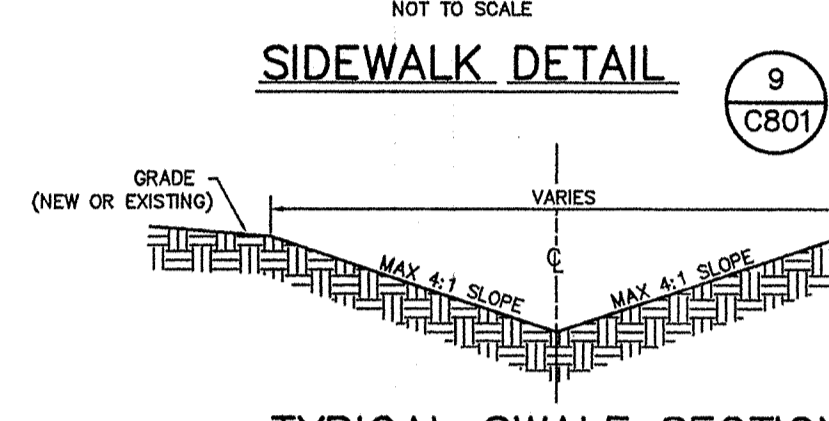
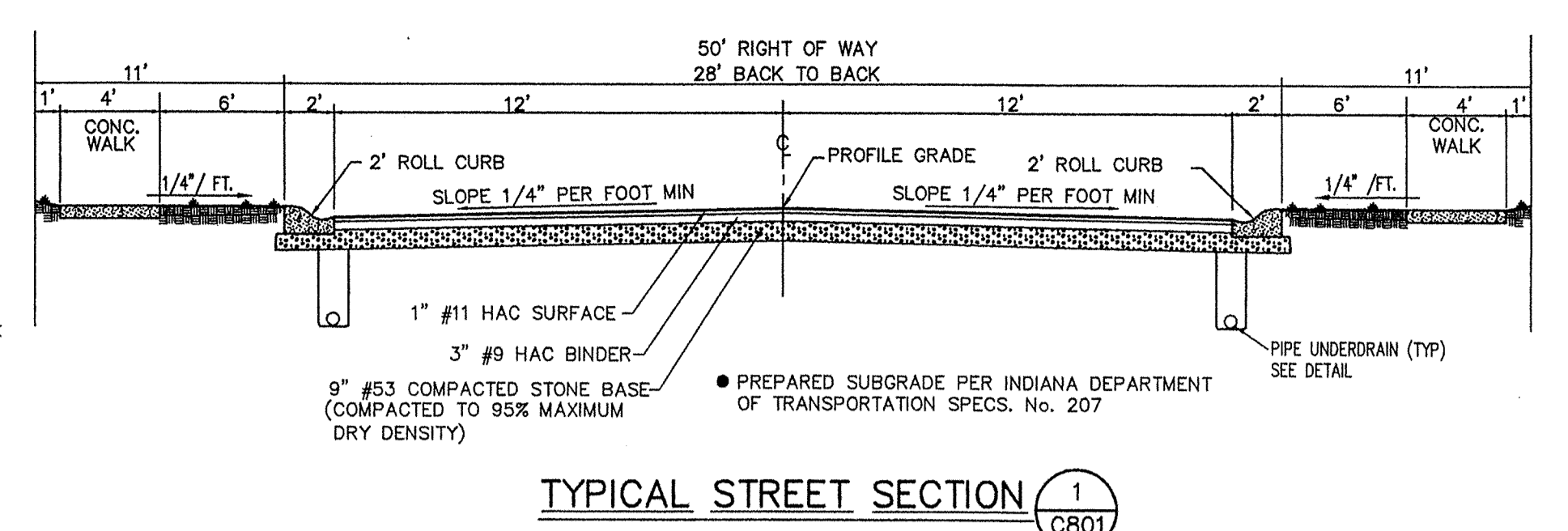
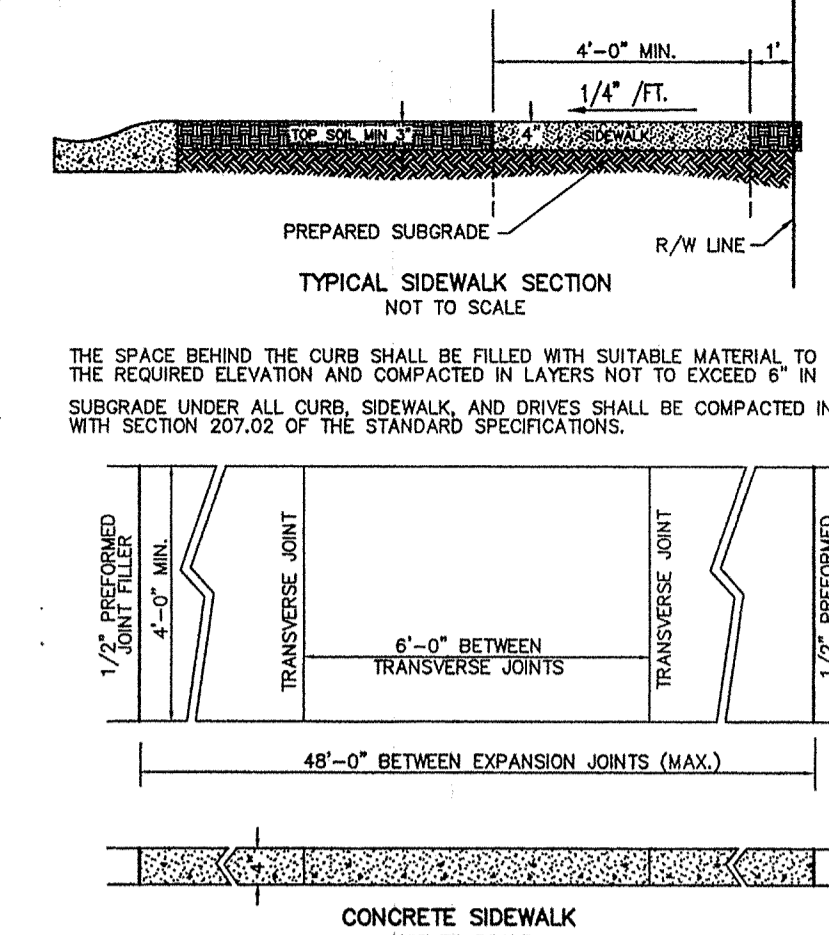
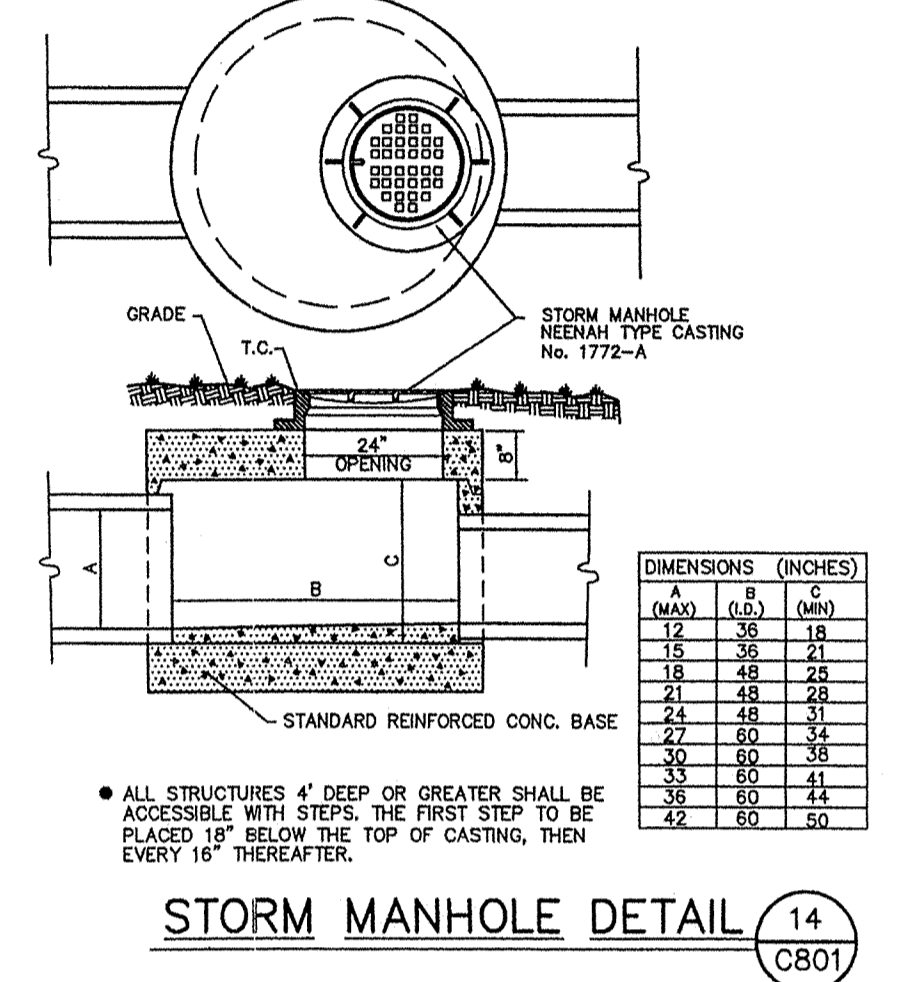
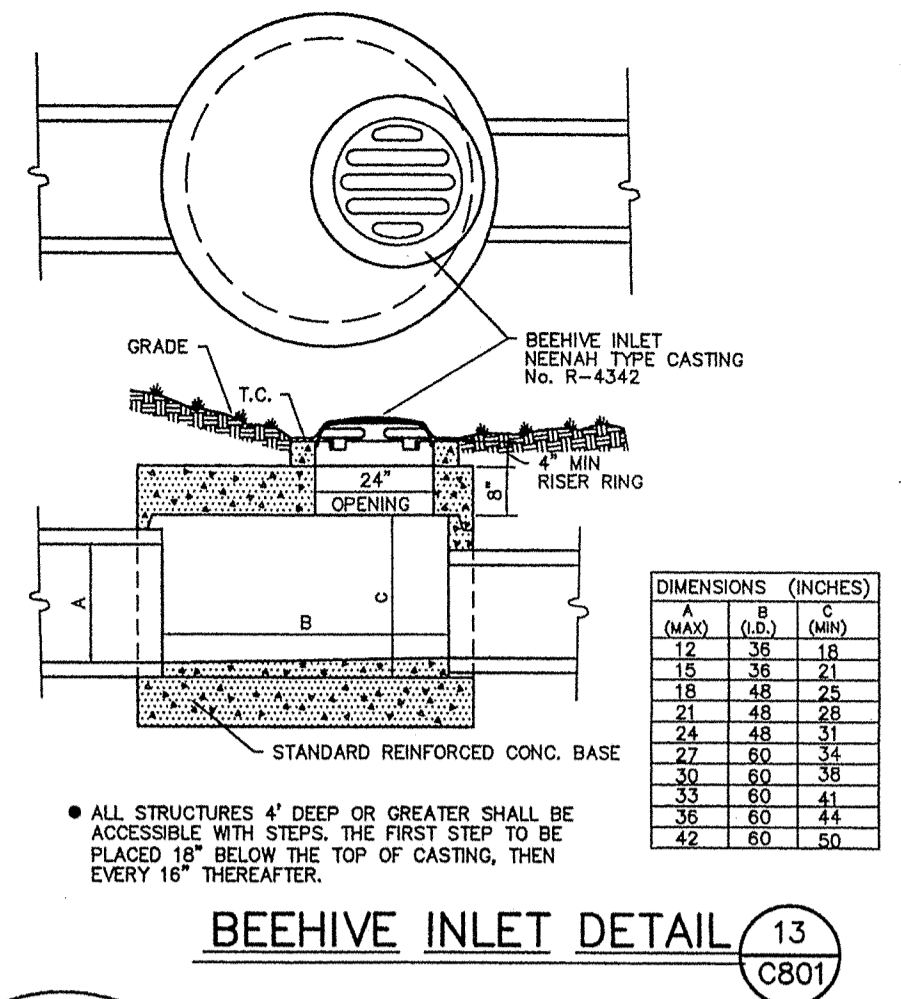
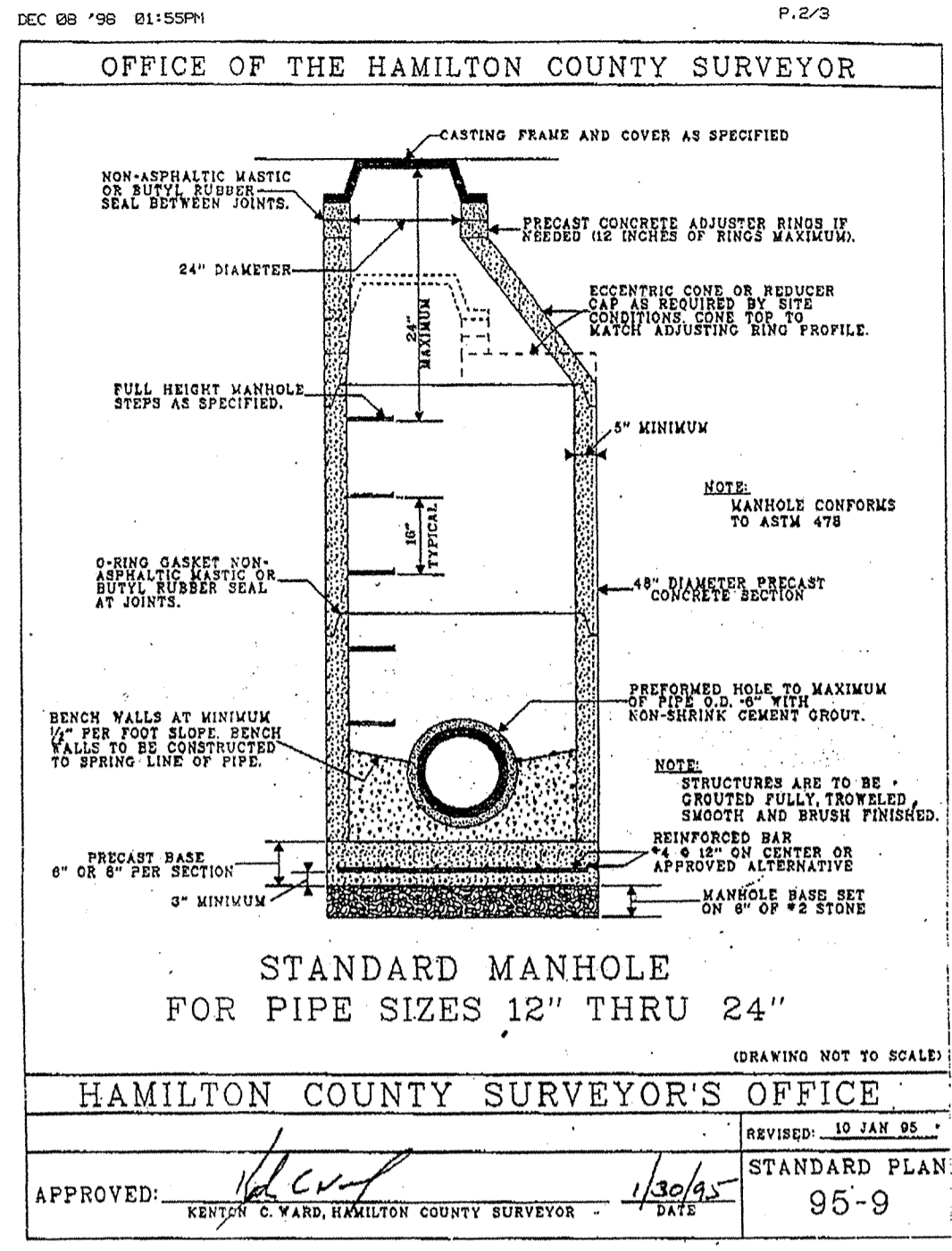
**APPROVED**

DATE: 11/11/98 Project No. 1045.002 Drawn: DRP Approved:

Comp. SEP 23 1998  
 1045.002/0663/C702

Sheet No. **C702**

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CURB INLET (Page 1)

CURB INLET TABLE

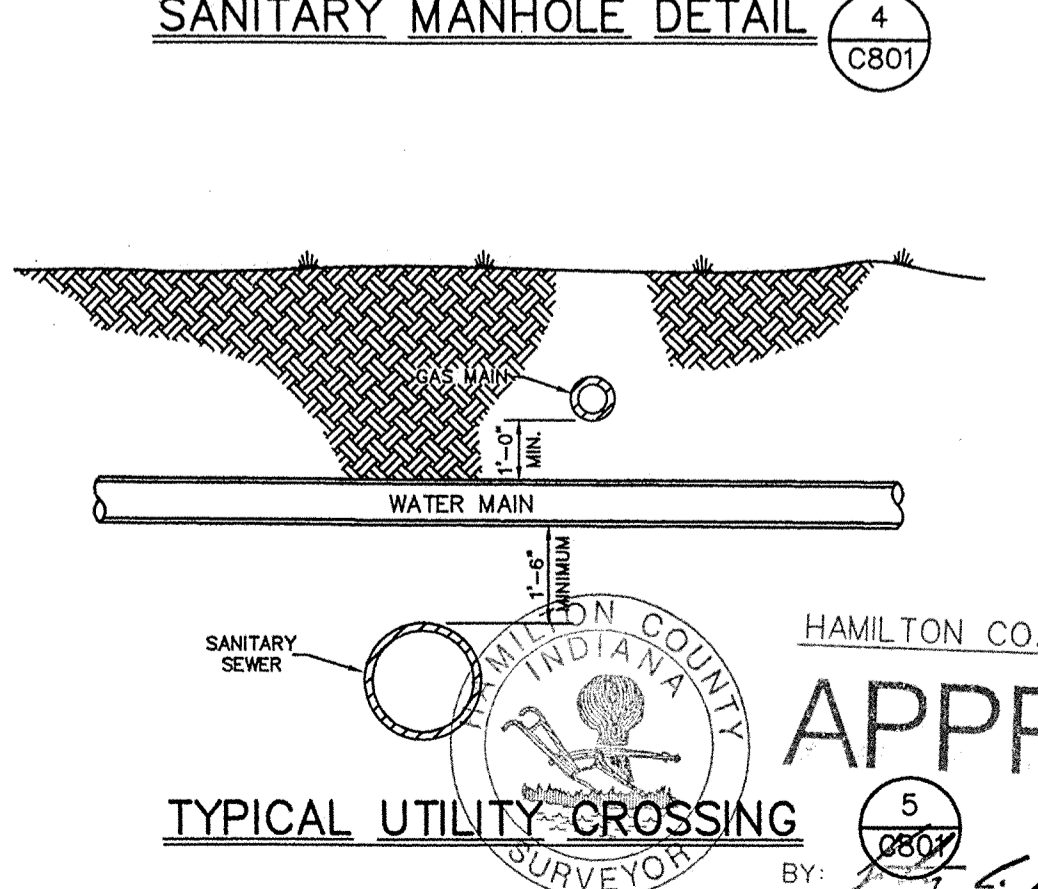
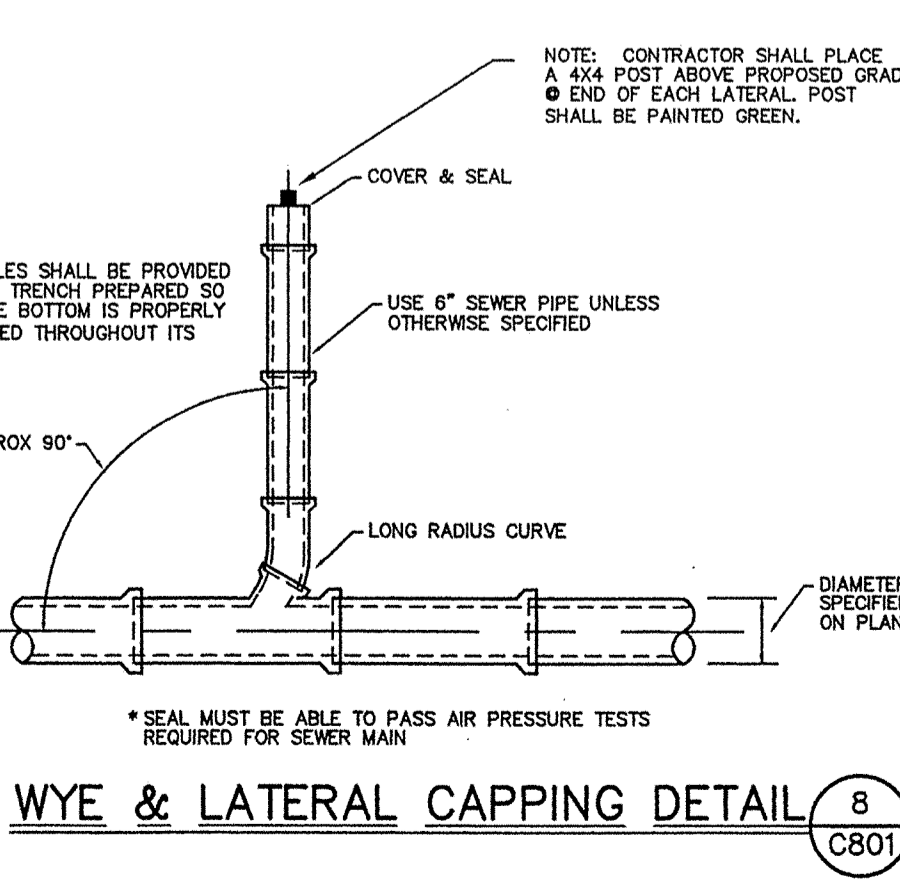
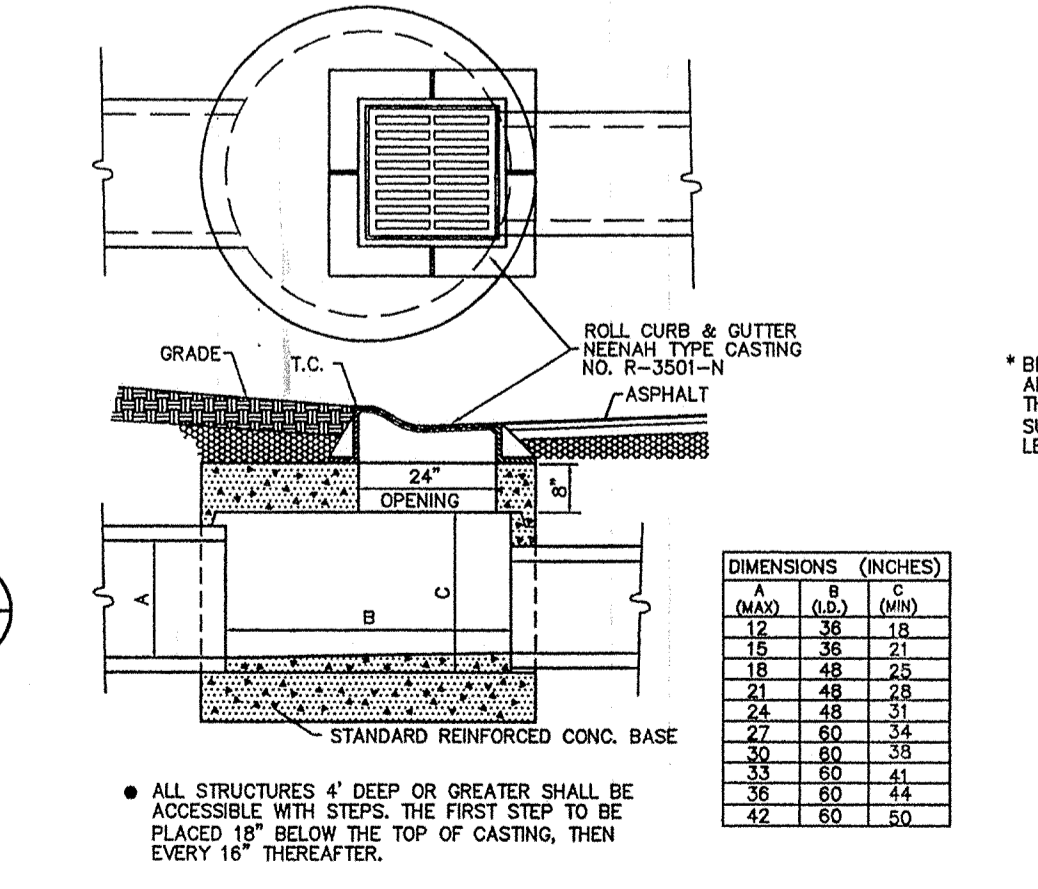
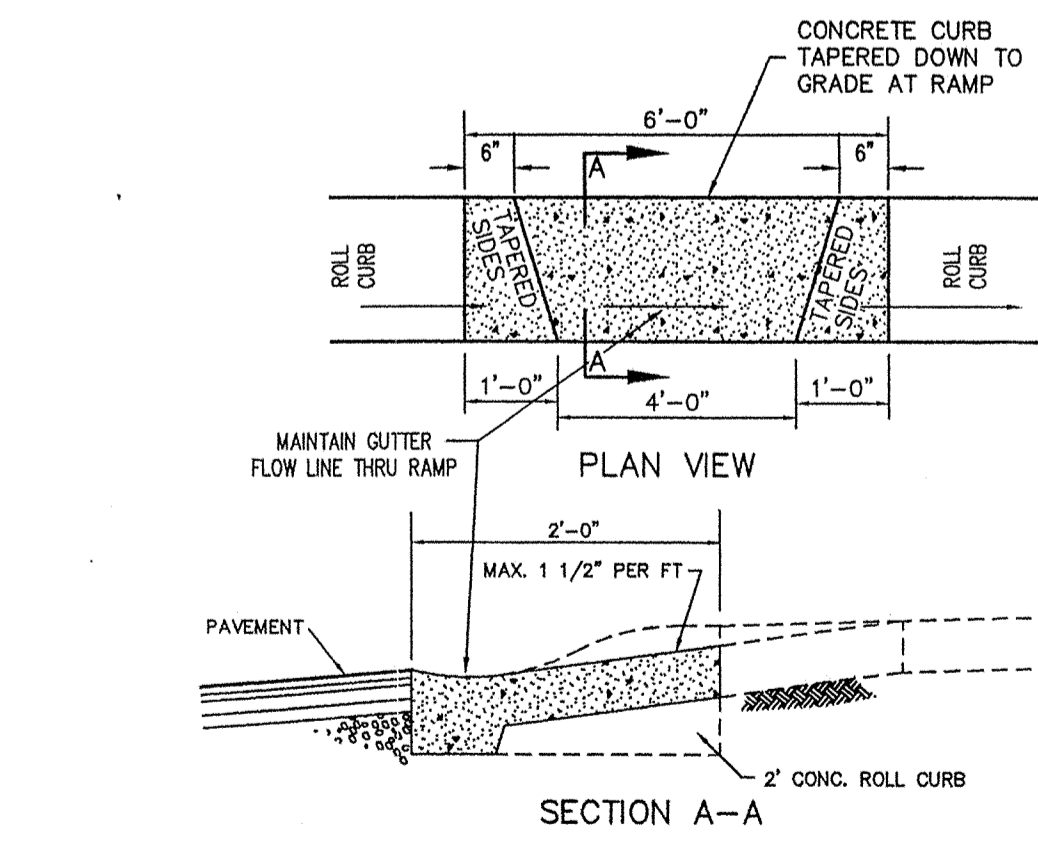
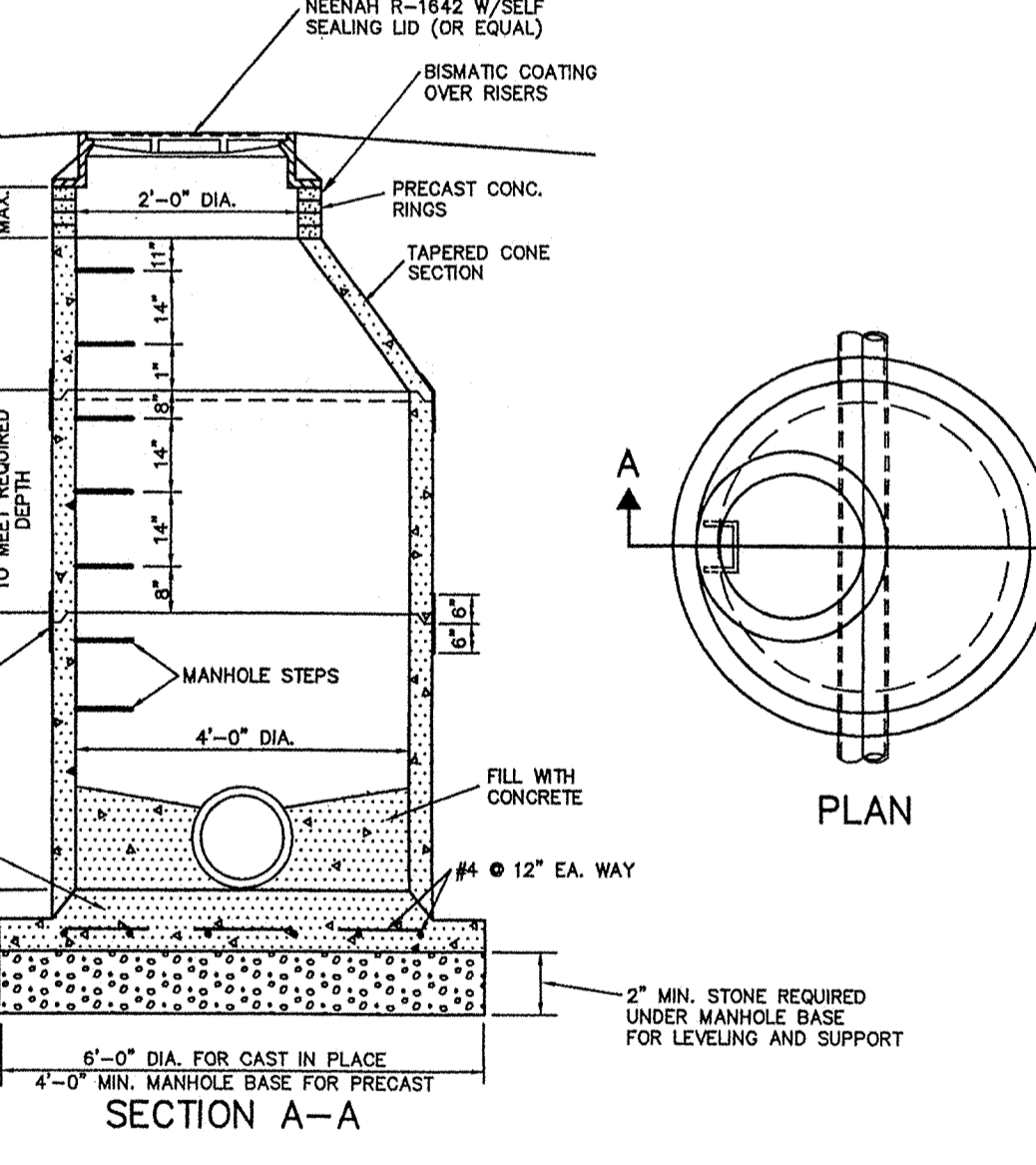
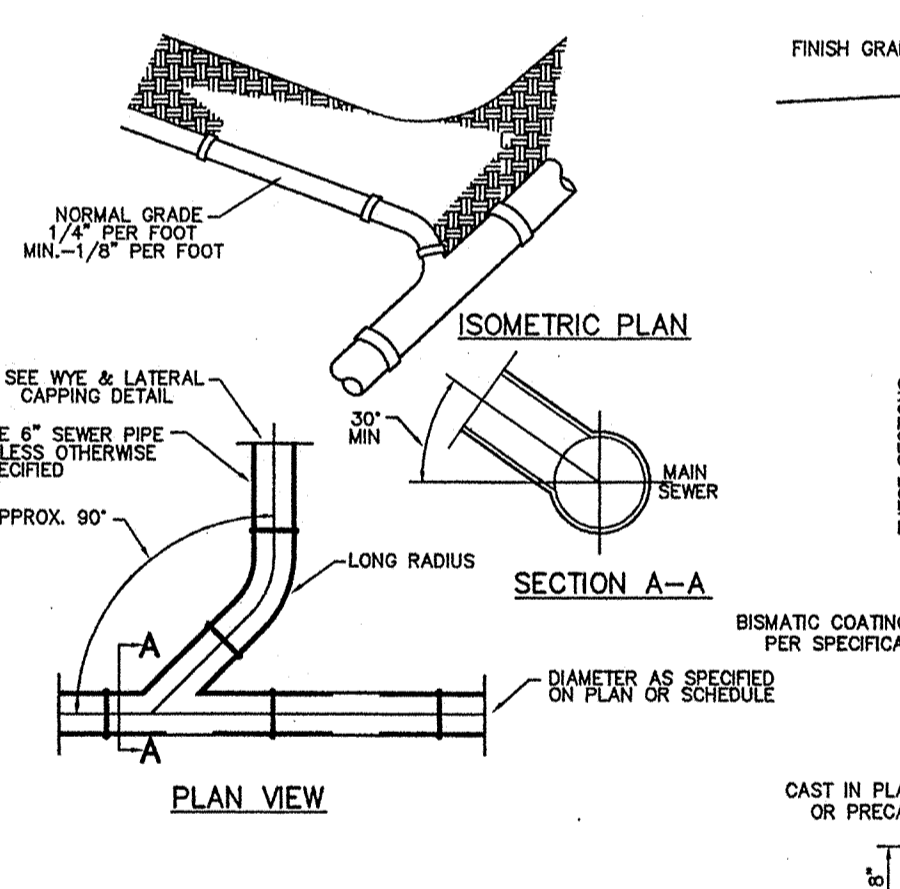
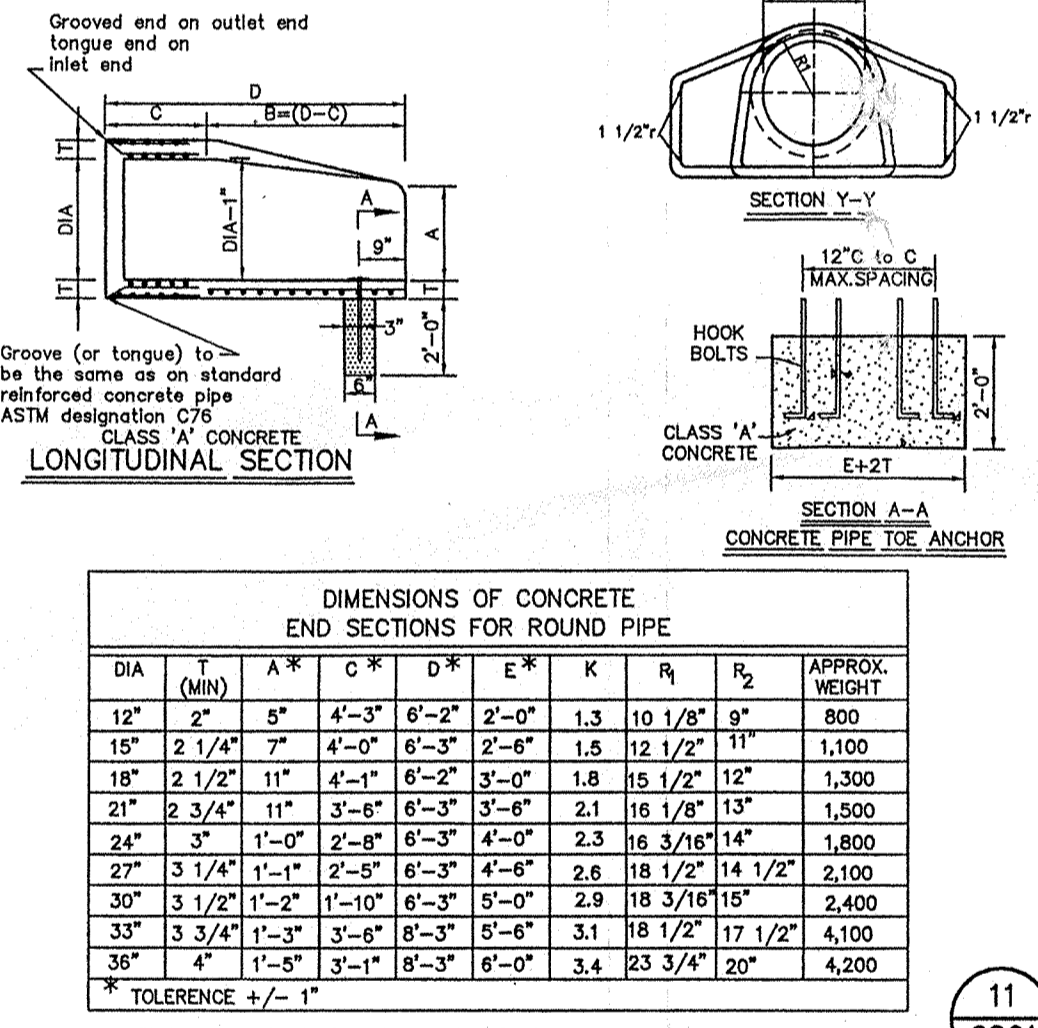
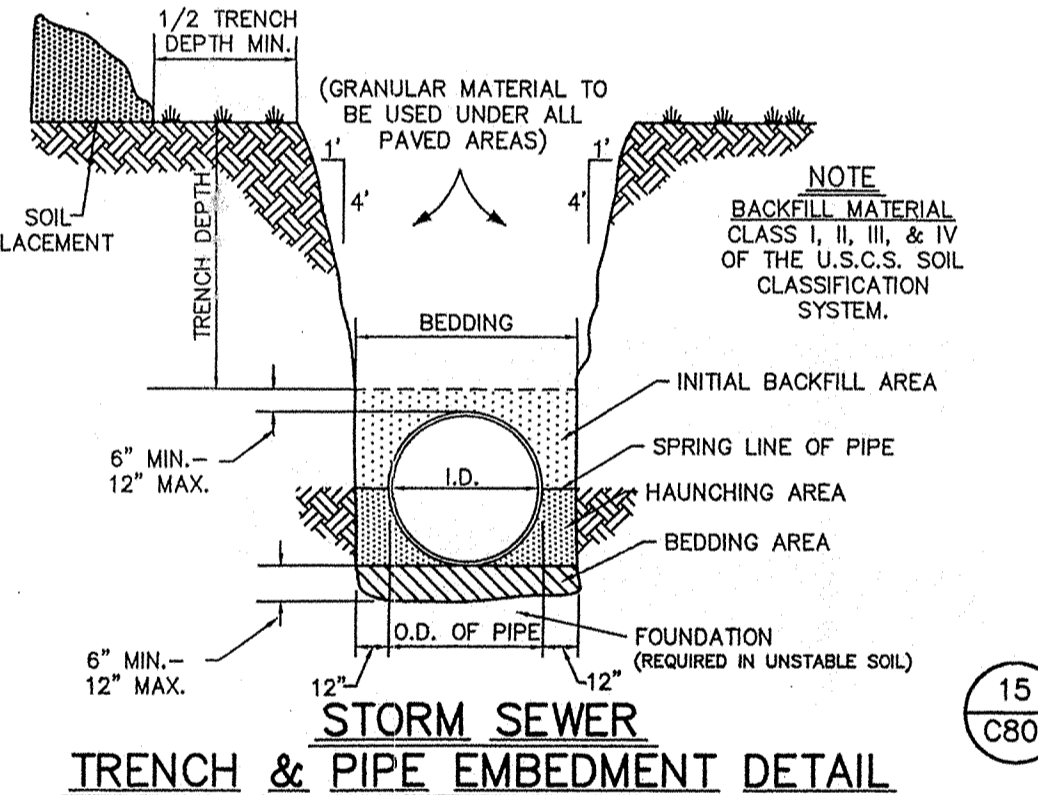
PIPE SIZE (INCHES)	STRUCTURES LESS THAN 48" FROM T/C TO INVERT (INCHES)	STRUCTURES GREATER THAN 48" FROM T/C TO INVERT	ANGLE AND QUALITY OF PIPES WILL REQUIRE SPECIAL DESIGN	STEPS REQUIRED	CURB CASTING *R-550IN	CASTING *550 TL & TR
18 TO 24	24 X 24	***	DESIGN APPROVAL	NO	YES	YES
18 TO 21	30 X 30	***	DESIGN APPROVAL	NO	YES	YES
18 TO 21	MIXBOX	***	DESIGN APPROVAL	YES	YES	YES
21 TO 27	24 X 36	***	DESIGN APPROVAL	NO	NO	YES
18 TO 24	36 X 36	***	DESIGN APPROVAL	NO	NO	YES
24 OR LARGER	DESIGN APPROVAL	***	DESIGN APPROVAL	NO	NO	YES
24 OR LARGER	DESIGN APPROVAL	MIXBOX	DESIGN APPROVAL	YES**	YES	YES

\* PIPES NO LARGER THAN 18" CAN BE USED IN THE 2' SIDE OF THIS BOX.  
 \*\* INCOMING AND OUT GOING PIPES EFFECT STEPS IN THIS STRUCTURE.  
 \*\*\* SPECIAL NOTE: STRUCTURES DEEPER THAN 48" FROM T/C TO INVERT WILL BE A MIX OR A BOX WITH STEPS UNLESS SPECIAL DESIGN IS APPROVED.  
 SPECIAL NOTE: STRUCTURES WILL BE DESIGNED FOR MAXIMUM FLOW IN PIPES.  
 SPECIAL NOTE: COUNTY MAY REQUIRE STEPS TO BE INSTALLED AFTER STRUCTURE IS SET, TO IMPROVE ACCESS.

HAMILTON COUNTY SURVEYOR'S OFFICE

APPROVED: *[Signature]* DATE: 2/27/97

STANDARD PLAN



Revisions  
 1. 05/07/99 ADDED DETAILS #17 & 18; REV #12 THRU 14

CERTIFIED BY: *[Signature]* DATE: 11/23/98

NO 900081  
 STATE OF INDIANA  
 PROFESSIONAL ENGINEER

1998, The Schneider Corporation

The Schneider Corporation

3020 North Post Road  
 Indianapolis, Indiana  
 48226-6518  
 317-898-8282  
 317-898-8010 Fax

Engineering  
 Surveying  
 Landscape Architecture  
 GIS • LIS  
 Geology

Formerly Schneider Engineering Corp. / Bohlen, Meyer, Gibson & Assoc.

FILED

SEP 24 1999

MERRIMAC CORPORATION

MERRIMAC SECTION 5

WESTFIELD, INDIANA

GENERAL DETAILS

Date: 11/11/98

Project No. 1045.002

Drawn DRP

Approved

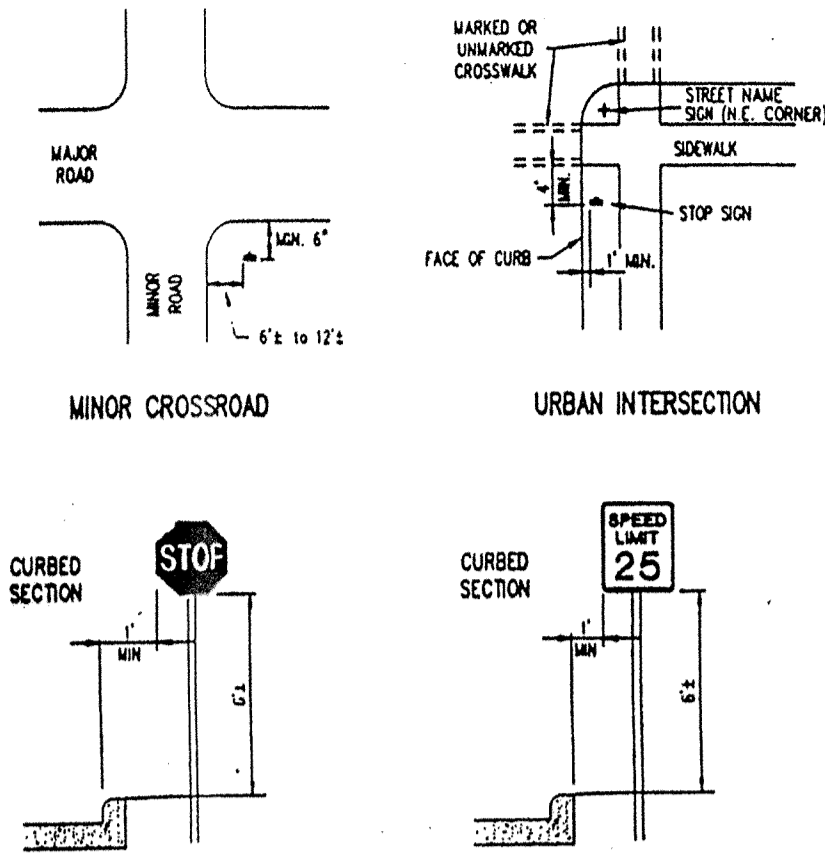
Computer Files

1045002.DWG(S)C801

BY: *[Signature]* DATE: 11/23/98

Approved where drainage plans comply with Hamilton County Regulated Drain Design Standards only and does not imply Drainage Board acceptance nor secondary plat approval.

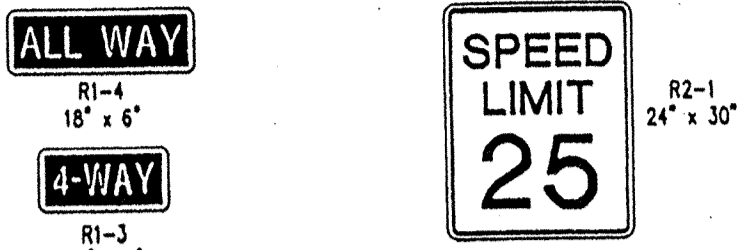
C801



SUBDIVISION SIGN PLACEMENT  
NO SCALE

HAMILTON COUNTY HIGHWAY DEPARTMENT

RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN S-3

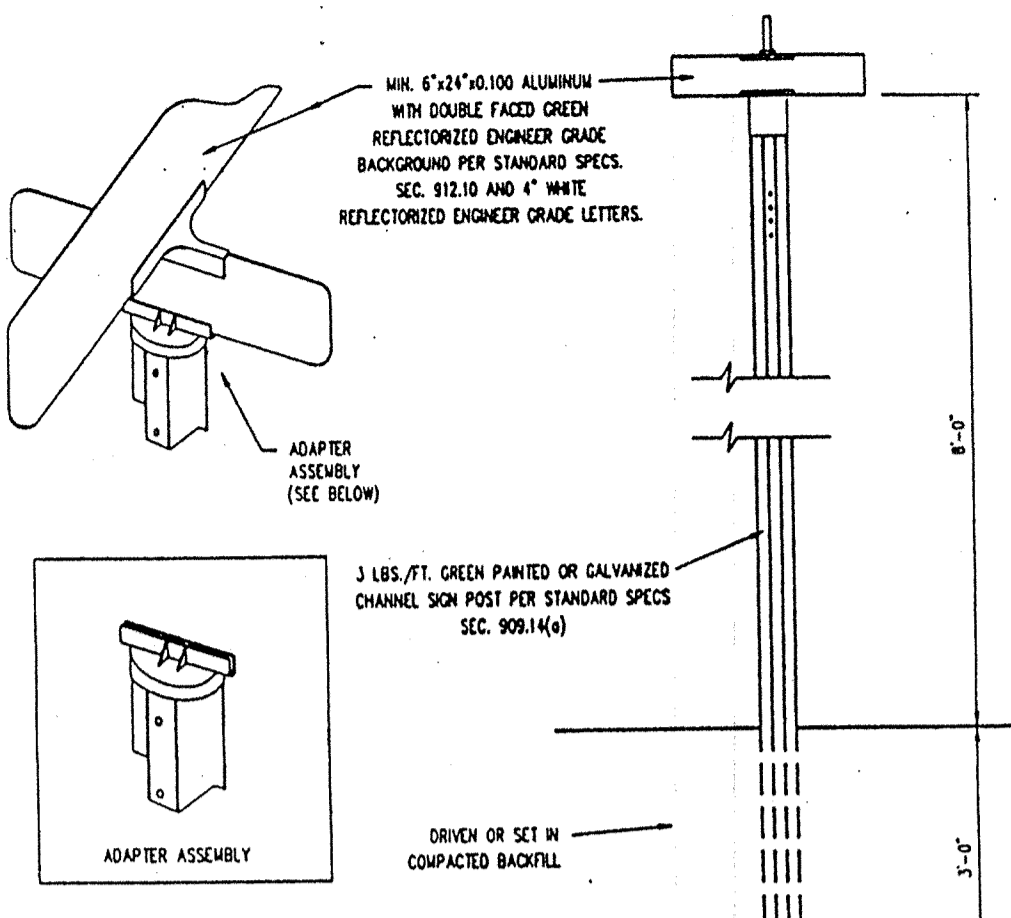


NOTES:  
 1) Signs shall be single faced with Engineering Grade reflective sheeting on 0.060" thick aluminum sheet material per MDOT Standard Specifications 912.10.  
 2) Posts shall be 1 1/2" dia. 3 1/2" galv. green painted or galvanized channel sign post per MDOT Standard Specifications 900.1A.  
 3) All sign sizes, shapes, colors and material shall meet the Indiana Manual on Uniform Traffic Control Devices.

TYPICAL SUBDIVISION REGULATORY SIGNS  
NO SCALE

HAMILTON COUNTY HIGHWAY DEPARTMENT

RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN S-1

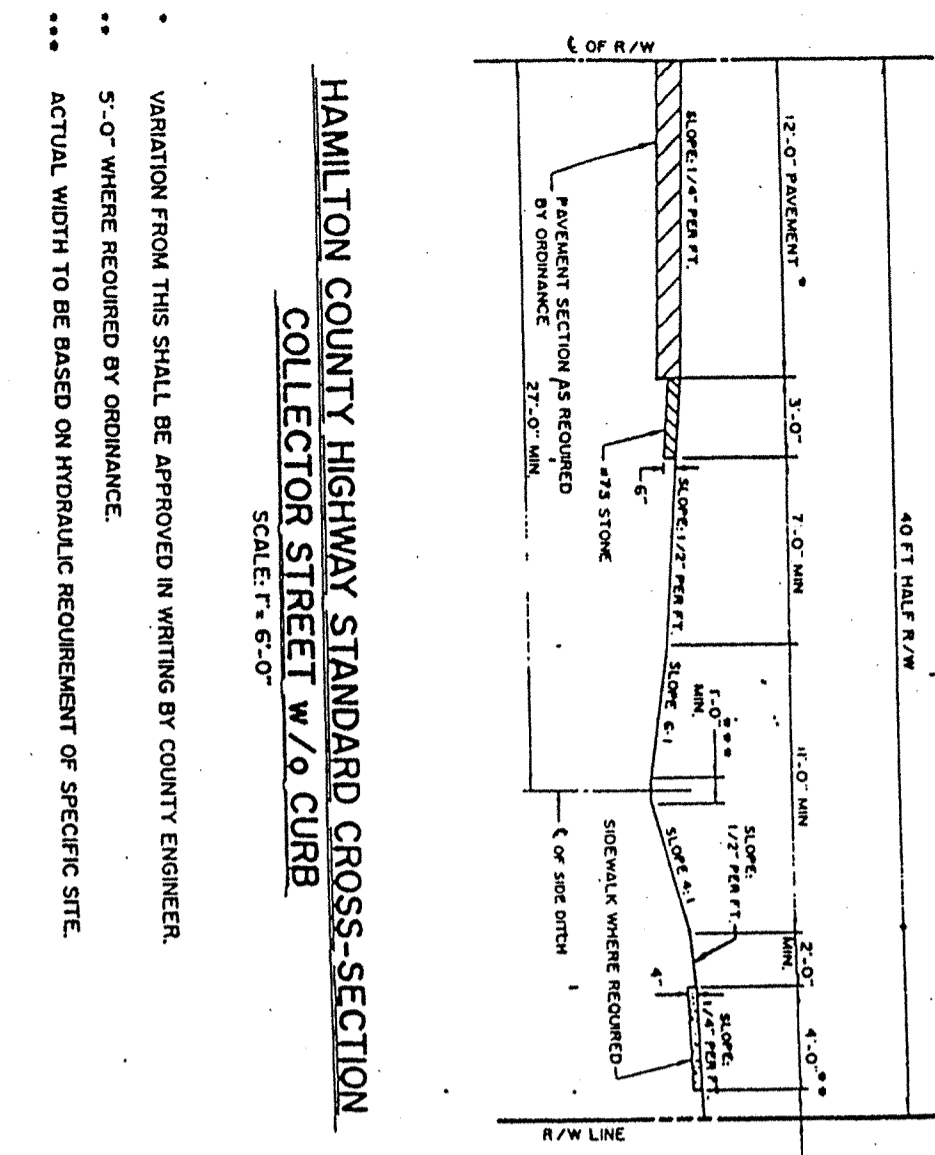


NOTES:  
 1) Private Streets shall be so indicated on the left hand side of the sign with dual line 1 1/2" black letters on yellow reflective background preceding the street name.  
 2) One sign assembly shall be located at each intersection on the northeast corner when possible.  
 3) Stop signs shall not be installed on the street name sign posts.

SUBDIVISION STREET NAME SIGNS  
NO SCALE

HAMILTON COUNTY HIGHWAY DEPARTMENT

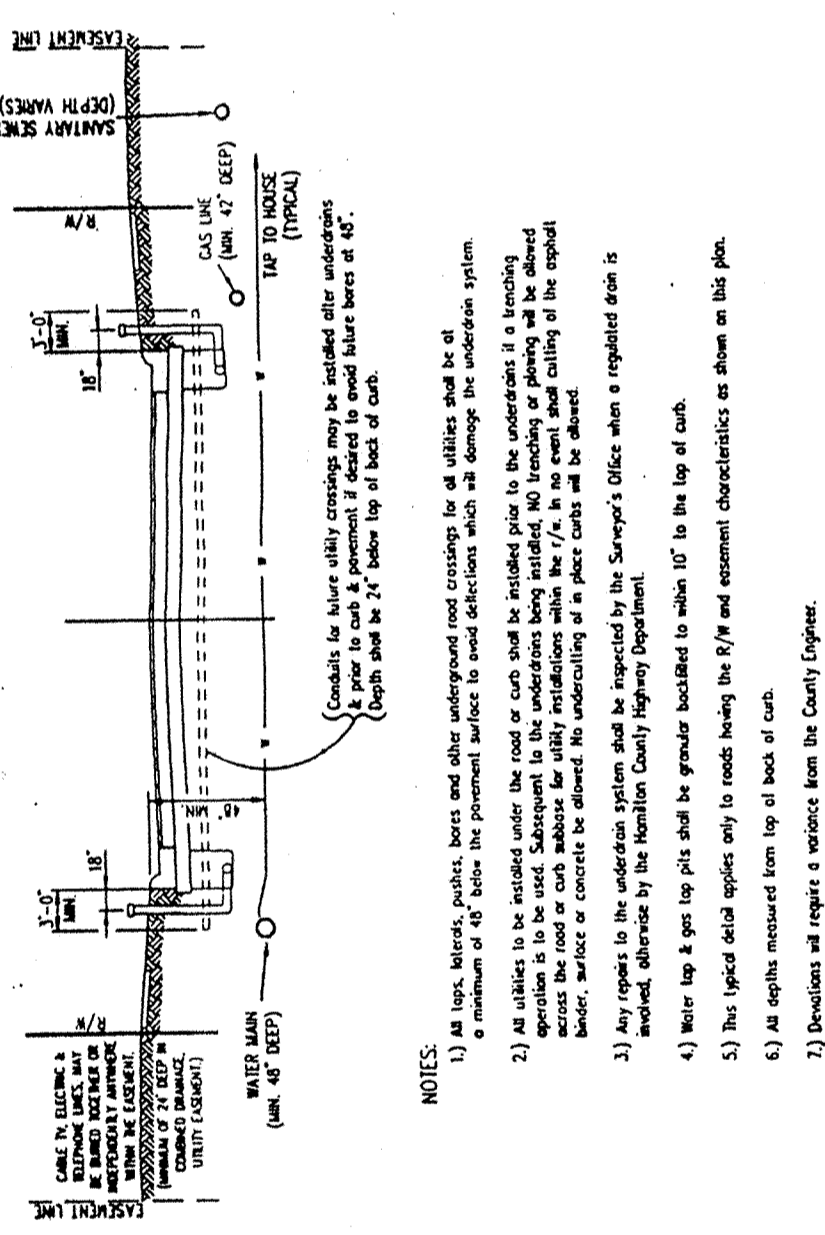
RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN S-2



VARIATION FROM THIS SHALL BE APPROVED IN WRITING BY COUNTY ENGINEER.  
 5'-0" WHERE REQUIRED BY ORDINANCE.  
 ACTUAL WIDTH TO BE BASED ON HYDRAULIC REQUIREMENT OR SPECIFIC SITE.

HAMILTON COUNTY HIGHWAY DEPARTMENT

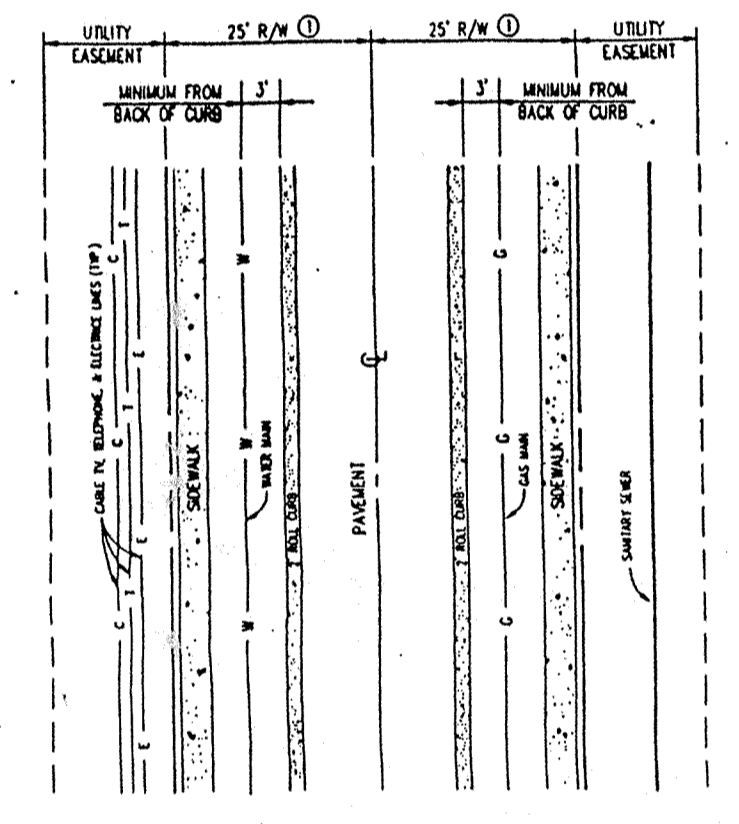
RECOMMENDED: [Signature] DATE: 2-22-91  
 APPROVED: [Signature] DATE: 2-22-91  
 STANDARD PLAN CS-1



TYPICAL UTILITY LOCATIONS AND LOCAL ROAD CROSSING DETAIL  
NO SCALE

HAMILTON COUNTY HIGHWAY DEPARTMENT

RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN U-4

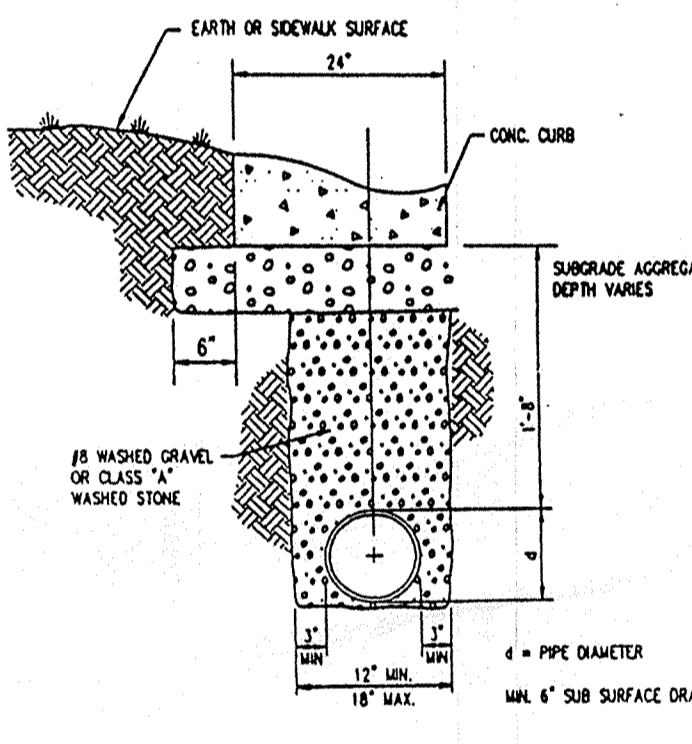


NOTES:  
 1) R/W shall be increased when road width (D-R curbs) exceeds 30'-0".  
 2) Only gas & water utilities are allowed to be located in R/W. All others shall be located in the utility easements, except to cross road.  
 3) Deviations will require a variance during the permit process.

TYPICAL UTILITY LOCATIONS ON A LOCAL ROAD  
NO SCALE

HAMILTON COUNTY HIGHWAY DEPARTMENT

RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN U-2

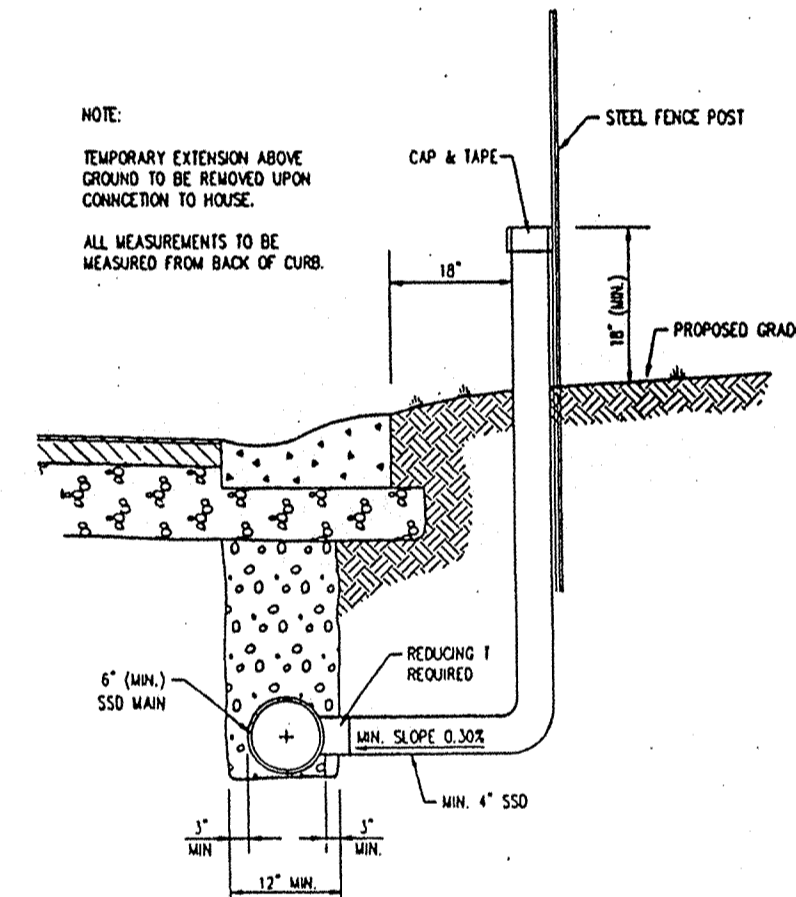


NOTES:  
 Installation of underdrain shall conform to section 718 of the Indiana Department of Transportation Standard Specifications.  
 Underdrains shall not be installed until final grading and compaction is completed on subgrade. Any continuation of underdrain shall be removed prior to installation of aggregate base.  
 Underdrains shall not be installed until utilities located beneath the underdrains are in place. (i.e. -watermain, storm sewers, sanitary sewers, etc.)

PIPE UNDERDRAIN  
NO SCALE

HAMILTON COUNTY HIGHWAY DEPARTMENT

RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN P-1

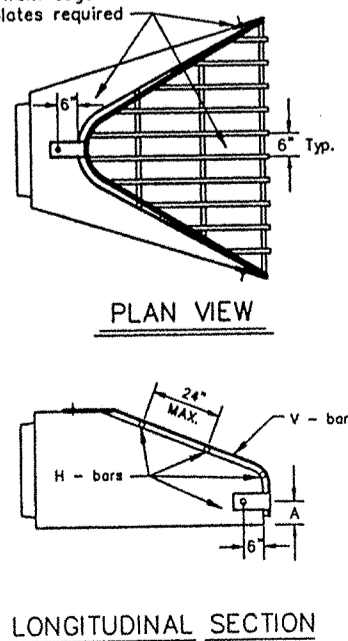


TYPICAL SSD LATERAL TO INDIVIDUAL LOTS ALONG STREETS  
NO SCALE

HAMILTON COUNTY SURVEYORS OFFICE

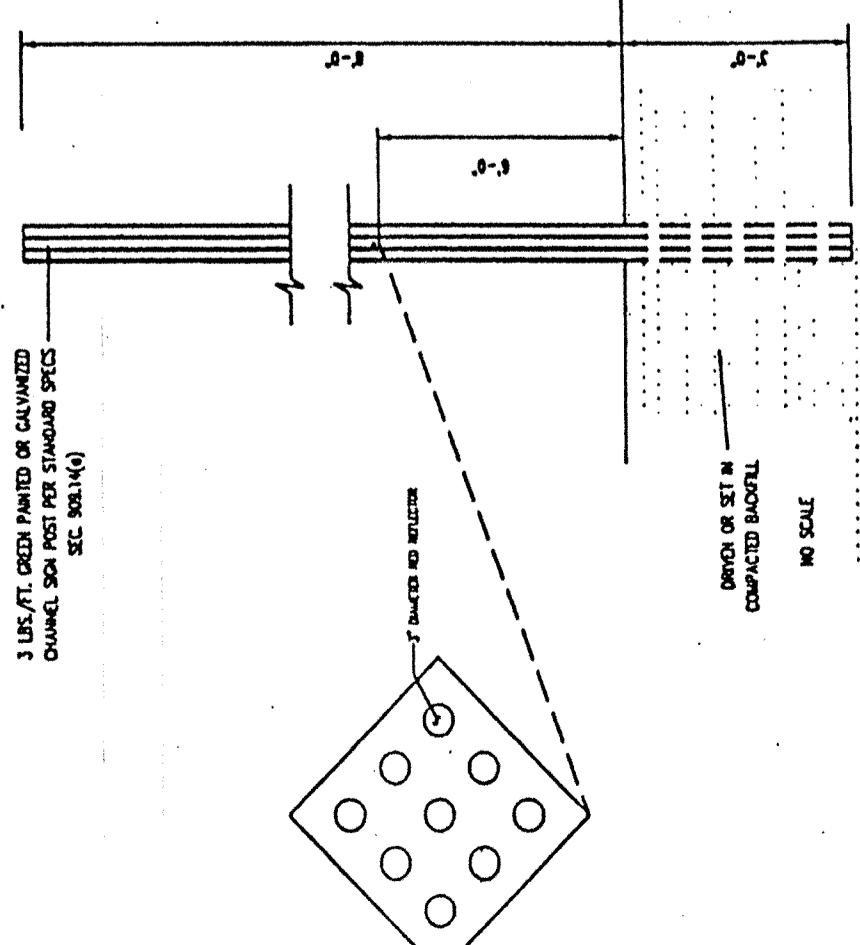
RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN

NOTES:  
 1. BARS & PLATES ARE HOT-ROLLED STEEL.  
 2. BARS, PLATES & PIPE ARE FINISHED WITH 2 COATS OF ALUMINUM PAINT.  
 3. BOLTS ARE GALVANIZED.  
 4. SEE STD. PLATES A-10 & A-11 FOR APRON DIMENSIONS.  
 5. TRASH GUARDS WITH DIFFERENT DIAMETER BARS ARE AVAILABLE SPECIAL ORDER.



TRASH GUARDS FOR CONC. APRONS

Apron Size	H-bar Size	H-bar Size	No. of H-bars Req'd	Bolt Dia.	"A" Dim.
18	1 1/2"	5/8"	3	1/2"	5
24	5/8"	3/4"	4	1/2"	7
30	5/8"	3/4"	4	1/2"	7 1/2
36	3/4"	1"	4	1/2"	10 1/2
42	3/4"	1"	4	3/4"	11
48	3/4"	1 1/2"	4	3/4"	12
54	3/4"	1 1/2"	4	3/4"	12
60	3/4"	1 1/2"	5	3/4"	14
72	3/4"	1 1/2"	5	3/4"	14
84	3/4"	1 1/2"	6	3/4"	15
12	1 1/2"	5/8"	3	1/2"	4
15	1 1/2"	5/8"	3	1/2"	4 1/2
18	1 1/2"	5/8"	4	1/2"	4 1/2
21	1 1/2"	5/8"	4	1/2"	5
24	5/8"	3/4"	4	1/2"	5
27	5/8"	3/4"	4	1/2"	5 1/2
30	5/8"	3/4"	4	1/2"	5 1/2
36	3/4"	1"	4	3/4"	8
42	3/4"	1"	4	3/4"	8
48	3/4"	1"	4	3/4"	8
54	3/4"	1 1/2"	5	3/4"	8
60	3/4"	1 1/2"	5	3/4"	8
66	3/4"	1 1/2"	6	3/4"	8
72	3/4"	1 1/2"	6	3/4"	8
84	3/4"	1 1/2"	7	3/4"	10
90	3/4"	1 1/2"	7	3/4"	14



NOTES:  
 1. Red (R) red deflectors are to be mounted symmetrically on an 18-inch diameter red post.  
 2. There (S) End-of-Road markers are to be placed at each location. Markers are to be set evenly across the width of the road.

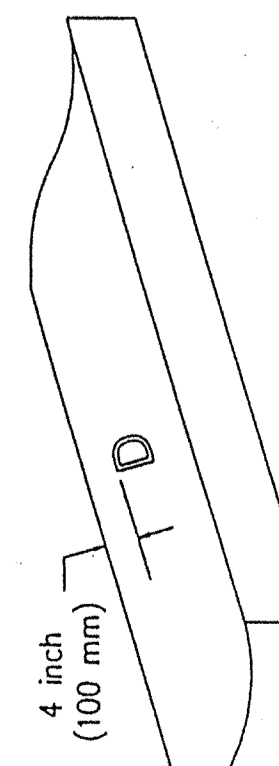
END OF ROAD MARKERS

HAMILTON COUNTY HIGHWAY DEPARTMENT

RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN S-4

3' to 4' (75mm to 100mm) HIGH LETTER TO BE STAMPED AS FOLLOWS:

- S is for Storm Sewer
- SS is for Sanitary Sewer
- D is for Subsurface or Base Drain
- C is for Conduit
- G is for Gas
- W is for Water



NOTES:  
 1. Curb to be stamped at all locations where any of the above cross under a curb.  
 2. Letter to be stamped prior to concrete setting up, whenever possible.  
 3. Stamp to be a minimum of 1/2 inch (12mm) deep.

CURB STAMP

HAMILTON COUNTY HIGHWAY DEPARTMENT

RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN C-6

Revisions

HAMILTON CO. SURVEYORS OFFICE

APPROVED

DATE: SEP 8 1998

CERTIFIED BY: [Signature]

APPROVED where drainage plans comply with Hamilton County Regulated Drain Design Standards and does not imply Board acceptance nor secondary plot approval.

DATE: 11/23/98

HAMILTON COUNTY HIGHWAY DEPARTMENT

RECOMMENDED: [Signature] DATE: 4-5-93  
 APPROVED: [Signature] DATE: 4-5-93  
 STANDARD PLAN C-1

1998, The Schneider Corporation

The Schneider Corporation

3020 North Post Road  
 Indianapolis, Indiana 46228-6518  
 317-898-8282  
 317-899-8010 Fax

Formerly Schneider Engineering Corp. / Bohlen, Meyer, Gibson & Assoc.

MERRIMAC CORPORATION  
 MERRIMAC SECTION 5  
 Westfield, Indiana

GENERAL DETAILS

Date: 11/11/98 Project No: 1045.002 Drawn: DRP Approved: [Signature]  
 Computer Files: J:\1045\002\DWG\C802 Sheet No: C802

EARTHWORK

1. SCOPE OF WORK

A. Extent: The work required under this section consists of all excavating, filling, rough grading and related items necessary to complete the work indicated on the drawings and described in the specifications. The Contractor shall notify in writing the owner and the Engineer of any changes, errors, or omissions found on the plans or in the field, before work is started or resumed.

1. In general, the items of work to be performed under this section shall include: clearing and grubbing, removal of trees and stumps (where required), protection of trees to remain, stripping and storage of topsoil, fill compaction and rough grading of entire site.

2. Excavated material that is suitable may be used for fills. All unsuitable material and all surplus excavated material not required shall be removed from the site. The location of dump and length of haul shall be the Contractor's responsibility.

3. Provide and place any additional fill material from off the site as may be necessary to produce the grades required. Fill obtained from off site shall be of kind and quality as specified for fills herein and the source approved by the Owner.

4. The Contractor shall accept the site as he finds it and shall remove all trash, rubbish and debris from the site prior to starting excavation.

B. Work not included: The following items of related work are specified and included in other sections of these specifications:

- 1. Excavation, grading and backfilling for utility lines
2. Storm drainage systems
3. Sanitary sewer systems
4. Streets and paving
5. Water supply system

2. BENCH MARKS
Maintain carefully all bench marks, monuments and other reference points; if disturbed or destroyed, contractor shall contact engineer.

3. REMOVAL OF TREES
A. Remove all trees and stumps from area to be occupied by road and surface areas. Removal of trees outside these areas shall only be done as noted on drawings or approved by the Owner.

4. PROTECTION OF TREES
A. General Protection: The Contractor shall be responsible for the protection of tops, trunks and roots of existing trees on the project site that are to remain.

5. HANDLING OF TOPSOIL
A. Remove all organic material from the areas to be occupied by buildings, roads, walks and parking areas. File and store topsoil at a location where it will not interfere with construction operations.

6. DISPOSITION OF UTILITIES:
A. Rules and regulations governing the respective utilities shall be observed in executing all work under this section.

7. SITE GRADING:
A. Grades: Contractor shall perform all cutting, filling, compacting of fills and rough grading required to bring entire project area to grades as shown on the drawings.

8. Earth Work Balance

The Contractor shall confirm all earthwork quantities prior to start of construction. If an excess or shortage of earth is encountered, the Contractor shall confirm with the Owner and Engineer the requirements for stockpiling, removal or importing of earth.

SANITARY SEWER SYSTEMS

1. SCOPE OF WORK

The work under this section includes all sanitary sewers, manholes, cleanouts and related items including excavating and backfilling, necessary to complete the work shown in the drawings, starting five feet outside the building walls. The ends of sewers shall be tightly plugged or capped at the terminal pits, adjacent to buildings, pending the connecting of all such lines to the building drain as specified in the plumbing specifications and architectural drawings.

2. MATERIALS

A. Sanitary Sewers
1. All gravity plastic sewer pipe and fittings shall conform to ASTM D3214, SDR-35 and meet a cell classification of 12454 B in accordance with ASTM 1784.

B. Manholes
1. Precast reinforced concrete manhole sections and steps shall conform to ASTM C-478 latest revision.
2. Castings shall be of uniform quality, free from blow holes, porosity, hard spots, shrinkage distortion or other defects.

3. APPLICATION
A. Permits and Codes - The intent of this section of the specifications is that the contractor's bid on the work covered herein shall be based upon the drawings and specifications but that the work shall comply with all applicable codes and regulations as amended by any waivers.

B. Local Standards - The term "local standards" as used herein means the standards of design and construction of the respective municipal department of utility company.

C. Existing Improvements - Maintain in operating condition all active utilities, sewers and other drains encountered in the sewer installation.

D. Workmanship - To conform to all local, state and national codes and to be approved by all local and state agencies having jurisdiction.

E. Trenching - Lay all pipe in open trenches, except when the local authority gives written permission for tunneling. Open the trench sufficiently ahead of pipe-laying to reveal any obstructions.

F. Special Supports - Whenever, in the opinion of the Engineer, the soil at or below the pipe grade is unsuitable for supporting sewers and appurtenances specified in this section, such special support, in addition to those shown or specified, shall be provided as the Engineer may direct, and the contract will be adjusted.

J. Flushing Sewers - Flush all sanitary sewers except building sewers with water to obtain free flow through each line. Remove all silt and trash from appurtenances just prior to acceptance of work.

K. Plastic Sewer Pipe Installation - Plastic sewer pipe shall be installed in accordance with ASTM D2321 per latest revision and no plastic pipe shall exceed a deflection of 5%.

L. Storm Water Connections - No roof drains, footing drains and/or surface water drains may be connected to the sanitary sewer systems, including temporary connections during construction.

M. Waterline Crossing - Where water lines and sanitary sewers cross and water lines cannot be placed above the sewer with a minimum of 18 inches vertical clearance, the sewer must be constructed of water works grade ductile iron pipe with mechanical joints within 10 feet of the water line.

N. Utilities - It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started.

O. Service Laterals - Individual lot service lines shall be 6" in diameter and of material equal to that specified in 2A of this section. Service lines shall be connected to the main sewer by a 4" at locations generated or shown within these plans.

P. New Sanitary Sewer Main Construction - Contractor shall record dimensions of each service line stub from nearest downstream manhole measured along the sanitary sewer main.

1. SCOPE OF WORK
The work under this section includes all storm sewers, storm water inlets, and related items, including excavating and backfilling, necessary to complete the work shown on the drawings.

2. MATERIALS
A. Storm Sewers
1. Reinforced concrete sewer pipe shall conform to ASTM C-76 latest revision, with joints conforming to ASTM C-443 latest revision.

B. Manholes
1. Precast reinforced concrete manhole sections and steps shall conform to ASTM C-478 latest revision.
2. Casting shall be of uniform quality, free from blow holes, porosity, hard spots, shrinkage distortion or other defects.

C. SUBDRAINS
1. Perforated plastic pipe subdrains shall conform to ASTM F-405.

3. APPLICATION
A. Permits and Codes - The intent of this section of the specifications is that the contractor's bid on the work covered herein shall be based upon the drawings and specifications but that the work shall comply with all applicable codes and regulations as amended by any waivers.

B. Local Standards - The term "Local Standards" as used herein means the standards of design and construction of the respective municipal department or utility company.

G. Backfilling - for a depth of at least 12 inches above the top of the pipe, backfill with earth or granular material free from large stones, rock fragments, roots or sod.

H. Manhole Inverts - Construct manhole flow channels of concrete sewer pipe or brick, smoothly finished and of semi-circular section conforming to the inside diameter of the connecting sewers.

I. Subdrains - All subdrains shall be of the size shown on the plans and shall be constructed to the grades shown. All drains constructed off-site as part of the outlet drain will be located as shown.

J. Utilities - It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started.

K. Streets
1. SCOPE OF WORK
The work required under this section includes all concrete and bituminous paving and related items necessary to complete the work indicated on drawings and described in the specifications, including but not limited to:

2. MATERIALS
A. Concrete - Concrete shall be ready-mixed concrete and shall be a mix of proportioned fine and coarse aggregates with Portland cement and water.

1. Portland cement - conforming to ASTM C-150, Type IA or Type IIIA.
2. Aggregates: Conforming to ASTM C-33

B. Welded Steel Wire Fabric - Where required for concrete reinforcement shall conform to ASTM A185.
C. Premolded Joint Filler - Shall be of non-extruding type meeting ASTM D-544 except that premolded joint filler used in concrete walk construction may be either non-extruding or resilient.

D. Bituminous Pavement Materials - All materials proposed for the construction of bituminous pavements shall comply with the Indiana Department of Transportation specifications, per latest revision.

E. Compacted Aggregate Subbase: Shall be crushed stone or gravel. Crushed gravel shall be a minimum of 35% crushed material. Chert shall be limited to a maximum of 8% of the total.

F. Placing Concrete
1. Subgrade - Place concrete only on a moist, compacted subgrade or base free from loose material.

2. Forms - All forms shall be free from warp, tight enough to prevent leakage and substantial enough to maintain their shape and position without springing or settling, when concrete is placed.

Revisions

1. The thickness shown on the drawings is the minimum thickness of the fully compacted subbase. Compaction shall be accomplished by rolling with a smooth wheeled roller weighing 8 to 10 tons.

Professional Engineer Seal for Richard A. Henderson, No. 900081, State of Indiana. Includes 'APPROVED' stamp from Hamilton Co. Surveyors Office and project details for 'MERRIMAC SECTION 5'.