

SURVEYOR'S OFFICE

# Hamilton County

*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*

October 3, 2013

To: Hamilton County Drainage Board

Re: Long Branch Drain, Hadley Grove Arm

Attached is a petition filed by MI Homes of Indiana, LP, along with a non-enforcement request, plans, calculations, quantity summary and assessment roll for the Hadley Grove Arm, Long Branch Drain to be located in Clay Township. 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:

12" RCP	1687 ft.	27" RCP	122 ft.
15" RCP	466 ft.	6" N-12	10 ft.
18" RCP	955 ft.	6" SSD	7,570 ft.
21" RCP	651 ft.		

The total length of the drain will be 11,461 feet.

With this development, Sta 0+00 to 3+40 of the J.W. Brendle Drain per the 1909 legal description will be vacated.

The retention ponds (lakes) located in Common Area A and Common Area C are to be considered part of the regulated drain. Pond maintenance shall include inlet, outlet, and erosion control along the banks as part of the regulated drain. The maintenance of the pond such as mowing, aquatic vegetation control and sediment removal will be the responsibility of the Homeowners Association. The Board will also retain jurisdiction for ensuring the storage volume for which the pond was designed will be retained, thereby, allowing no fill or easement encroachments.

The existing pond (lake) located in Common Area B is not to be considered part of the regulated drain. Only the outlet, which is Str. 210 and the 6" ADS pipe, will be maintained as part of the regulated drain. The maintenance of the pond (Lake) will be the responsibility of the Homeowners Association. The Board will retain jurisdiction for ensuring the storage volume for which the pond was designed will be retained, thereby, allowing no fill or easement encroachments.

The subsurface drains (SSD) to be part of the regulated drain are those located under the curbs and those main lines in rear yards. Only the main SSD lines which are located within the easement or right of way are to be maintained as regulated drain. Laterals for individual lots will not be considered part of the regulated drain. The portion of the SSD which will be regulated other than those under curbs are as follows:

Rear yard lots 1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, and 34.

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 \$65.00 per platted lot, \$10.00 per acre for common areas, with a \$65.00 minimum, and \$10.00 per acre for roadways. With this assessment the total annual assessment for this drain/this section will be \$2,910.90.

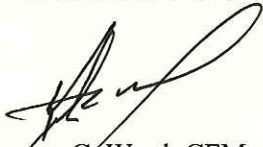
The petitioner has submitted surety for the proposed drain at this time. The sureties which are in the form of a Performance Bond are as follows:

Agent: The Handover Insurance Company  
Date: September 3, 2013  
Number: 1024400  
For: Storm Sewers & Sub-Surface Drains  
Amount: \$243,150.00

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. The request will be for the reduction of the regulated drain easement to those easement widths as shown on the secondary plat for Hadley Grove as recorded in the office of the Hamilton County Recorder.

I recommend the Board set a hearing for this proposed drain for November 25, 2013.



Kenton C. Ward, CFM  
Hamilton County Surveyor

KCW/pll

STATE OF INDIANA )  
 )  
COUNTY OF HAMILTON )

**FILED**  
**MAY 17 2013**

OFFICE OF HAMILTON COUNTY SURVEYOR

TO: HAMILTON COUNTY DRAINAGE BOARD  
% Hamilton County Surveyor  
One Hamilton County Square, Suite 188  
Noblesville, IN. 46060-2230

In the matter of Hadley Grove Subdivision, ~~Section~~  
Drain Petition.

Petitioner is the owner of all lots in the land affected by the proposed new regulated drain. The drainage will affect various lots in Hadley Grove, a subdivision in Hamilton County, Indiana. The general route of such drainage shall be in existing easements and along public roads as shown in the plans on file in the Surveyor's Office.

Petitioner believes that the cost, damages and expenses of the proposed improvement will be less than the benefits which will result to the owners of the land likely to be benefited thereby. Petitioner believes the proposed improvements will:

- (a) improve public health
- (b) benefit a public street
- (c) be of public utility

Petitioner agrees to pay the cost of construction of the drainage system and requests periodic maintenance assessments by the Board thereafter.

The Petitioner also agrees to the following:

1. To provide the Drainage Board a Performance Bond or Non-Revocable Letter of Credit for the portion of the drainage system which will be made a regulated drain. The bond will be in the amount of 120% of the Engineer's estimate. The bond will be in effect until construction of 100% of the system is completed and so certified by the Engineer.
2. The Petitioner shall retain an Engineer throughout the construction phase. At completion of the project the Petitioner's Engineer shall certify that the drainage system which is to be maintained as a regulated drain has been constructed as per construction plans.
3. The Petitioner agrees to request in writing to the County Surveyor any changes from the approved plan and must receive written authorization from the County Surveyor prior to implementation of the change. All changes shall be documented and given to the Surveyor to be placed in the Drain file.
4. The Petitioner shall instruct his Engineer to provide a reproducible print on a 24" x 36" Mylar of the final design of the Drainage System. This shall be submitted to the County Surveyor prior to the release of the Performance Bond.
5. The Petitioner shall comply with the Erosion Control Plan as specified on the construction plans. Failure to comply with the Erosion Control Plan shall be determined by the Board as being an obstruction to the drainage system. The County Surveyor shall immediately install or repair the needed measures at Petitioners cost as per IC 36-9-27-46.

The Petitioner further requests that the Drain be classified as an Urban Drain as per IC 36-9-27-69(d).

**RECORDED OWNER(S) OF LAND INVOLVED**

Cliff White  
Signed

(M/I Homes of Indiana, LP)

Cliff White  
Printed Name

5/13/13  
Date

Signed

Printed Name

Date

Signed

Signed

Printed Name

Printed Name

Date

Date

FINDINGS AND ORDER

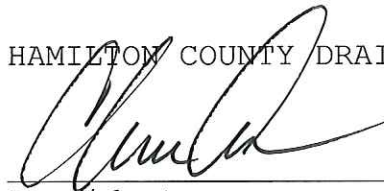
CONCERNING THE MAINTENANCE OF THE

Long Branch Drain, Hadley Grove Arm

On this 9<sup>th</sup> day of December, 2013, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the **Long Branch Drain, Hadley Grove Arm.**

Evidence has been heard. Objections were presented and considered. The Board then adopted the original/amended Schedule of Assessments. The Board now finds that the annual maintenance assessment will be less than the benefits to the landowners and issues this order declaring that this Maintenance Fund be established.

HAMILTON COUNTY DRAINAGE BOARD



\_\_\_\_\_  
President



\_\_\_\_\_  
Member

\_\_\_\_\_  
Member

Attest:



FINDINGS AND ORDER  
CONCERNING THE PARTIAL VACATION OF THE  
**Long Branch Drain, Hadley Grove Arm**

**Station 0+00 to Station 3+40 (J. W. Brendel Drain)**

On this **9<sup>th</sup> day of December, 2013**, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the **Long Branch Drain, Hadley Grove Arm from Station 0+00 to Station 3+40 (J. W. Brendel Drain)**.

Evidence has been heard. Objections were presented and considered. The Board then adopted an order of action. The Board now finds that the costs of continued maintenance to the portion of the above drain exceed the benefits to the real estate benefited by the portion of the drain to be abandoned and issues this order vacating the above section of the **Long Branch Drain, Hadley Grove Arm from Station 0+00 to Station 3+40 (J. W. Brendel Drain)**.

HAMILTON COUNTY DRAINAGE BOARD



\_\_\_\_\_  
President



\_\_\_\_\_  
Member

\_\_\_\_\_  
Member

Attest: 



Land Surveying | Civil Engineering  
Landscape Architecture

*Build with confidence.*

August 8, 2013

City of Carmel -Engineering Department  
Carmel City Hall, 1st Floor, 1 Civic Square  
Carmel, Indiana 46032  
Attention: Mike McBride

RE: Hadley Grove

Dear Mr. McBride:

On behalf of our client, M.I Homes, please accept the following Engineer's Cost Estimate for Hadley Grove. The estimate is as follows:

<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
<b><u>Storm Sewer</u></b>				
Tap. Ex. Str. by conn. stub (dep=0-10ft)	1	LS	\$1,000.00	\$1,000
12 RCP	1401	LF	\$15.65	\$21,926
15 RCP	872	LF	\$19.15	\$16,699
18 RCP	955	LF	\$22.25	\$21,249
21 RCP	651		\$25.75	\$16,763
27 RCP	122		\$35.15	\$4,288
12" End section w/trash guards	2		\$975.00	\$1,950
21" End section w/trash guards	3		\$1,175.00	\$3,525
27" End section w/trash guards	1		\$1,375.00	\$1,375
Small Manholes	3	EA	\$1,395.00	\$4,185
Small Beehive inlets	9	EA	\$1,125.00	\$10,125
Large Beehive inlets	1	EA	\$1,420.00	\$1,420
Small single curb inlet	8	EA	\$1,345.00	\$10,760
Double curb inlet	8	EA	\$2,400.00	\$19,200
Outlet control structure	2	EA	\$1,255.00	\$2,510
Re-set inlets on 131st Street	2	EA	\$700.00	\$1,400
No 8 Stone bedding	780	TN	\$15.25	\$11,895
Sand backfill	210	TN	\$11.00	\$2,310
Riprap	40	TN	\$35.00	\$1,400
				<b>\$153,980</b>
				<b>\$ 153,980</b>
<b><u>Subsurface Drain</u></b>				
Curb – 6" Sub-Drain	5035	LF	\$6.75	\$33,986
Swale – 6" Sub-Drain	1545	LF	\$6.75	\$10,429
SSD Risers	4	EA	\$250.00	\$1,000
4" Lot Leads	38	LS	\$85.00	\$3,230
				<b>\$48,645</b>
				<b>\$ 48,645</b>

**Curb**

Concrete Roll Curb	5047	FT	\$6.55	\$33,058	
Concrete Chairback Curb	826	FT	\$12.70	\$10,490	
				<b>\$43,548</b>	<b>\$ 43,548</b>

**Paving**

7" #53 stone	7743	SY	\$5.56	\$43,051	
7" #53 stone:under curb and gutter	1397	SY	\$4.95	\$6,915	
3" HMA 15mm Base type B	7743	SY	\$8.53	\$66,048	
3" HMA 19mm Intermediate type B	7743	SY	\$6.04	\$46,768	
1.5" HMA 9.5mm Surface type B	7743	SY	\$5.73	\$44,367	
				<b>\$207,149</b>	<b>\$ 207,149</b>

**ROW Paving**

3" HMA 25mm Base type C R/W	924	SY	\$11.77	\$10,875	
2.5" HMA 19mm Intermediate type C R/W	924	SY	\$9.63	\$8,898	
2.5" HMA 19mm Intermediate type C R/W	924	SY	\$9.63	\$8,898	
3.5" HMA 25mm Base tpe C R/W	924	SY	\$13.22	\$12,215	
1.5" HMA 9.5mm Surface type C R/W	924	SY	\$8.37	\$7,734	
Thermo Plastics	1	LS	\$1,974.00	\$1,974	
				<b>\$50,594</b>	<b>\$ 50,594</b>

**10' Walking Path**

5" #53 stone Walk Path	375	SY	\$6.53	\$2,449	
3" HMA 19mm Intermediate type B:Walk Path	375	SY	\$13.47	\$5,051	
1" HMA 9.5mm Surface type B:Walk Path	375	SY	\$7.06	\$2,648	
				<b>\$10,148</b>	<b>\$ 10,148</b>

**Sidewalks (Builder)**

Concrete Sidewalk	2860	SFT	\$3.45	\$9,867	<b>\$ 9,867</b>
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**Street Signs**

Street Name Sign	4	EA	\$200.00	\$800	
Stop Sign	4	EA	\$200.00	\$800	
Speed Limit Sign	4	EA	\$400.00	\$1,600	
No Outlet Sign	1	EA	\$240.00	\$240	
				<b>\$3,200</b>	<b>\$ 3,200</b>


**Centerline Monuments**

	11	EA	\$175.00	\$1,925	<b>\$ 1,925</b>
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**Project Total**

**\$ 529,056**

Witness my signature this 8 day of August, 2013.

  
James E. Shields, Jr.  
Professional Engineer  
No. PE10201333





SUBDIVISION BOND

Bond No.: 1024400

Principal Amount: \$243,150.00

KNOW ALL MEN BY THESE PRESENTS, that we M/I Homes of Indiana, LP, as Principal, and The Hanover Insurance Company, an NH Corporation, as Surety, are held and firmly bound onto Hamilton County Board of Commissioners, One Hamilton County Square, Noblesville, IN. 46060, as Oblige, in the penal sum of Two Hundred Forty Three Thousand One Hundred Fifty and No/100 (\$243,150.00), lawful money of the United States of America, for the payment of which will and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, M/I Homes of Indiana, LP has agreed to construct in Hadley Grove Subdivision, in Hamilton County, IN the following improvements: Storm water

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall construct, or have constructed, the improvement herein described, and shall save the Oblige harmless from any loss, cost or damage by reason of its failure to complete said work, then this obligation shall be null and void, otherwise to remain in full force and effect until released by the Oblige, and the Surety, upon receipt of a resolution of the Oblige indicating that the improvements have not been installed or completed per the requirement of the Oblige, will complete the improvements or pay to the Oblige such amount up to the Principal amount of this bond which will allow the Oblige to complete the improvements.

Upon approval by the Oblige, this instrument may be proportionately reduced as the public improvements are completed, but only by doing a rider to this original bond.

Signed, sealed and dated, this 3rd day of Sept., 2013.

M/I Homes of Indiana, L.P.

The Hanover Insurance Company

Principal

Surety

By: [Signature]

By: [Signature]

Name and Title: \_\_\_\_\_

Name and Title: Kimberly G. Sherrod, Attorney-in-Fact

Mark Kirkendall  
VP, Housing & Land Controller

THE HANOVER INSURANCE COMPANY  
MASSACHUSETTS BAY INSURANCE COMPANY  
CITIZENS INSURANCE COMPANY OF AMERICA

FILE COPY

POWERS OF ATTORNEY  
CERTIFIED COPY

KNOW ALL MEN BY THESE PRESENTS: That THE HANOVER INSURANCE COMPANY and MASSACHUSETTS BAY INSURANCE COMPANY, both being corporations organized and existing under the laws of the State of New Hampshire, and CITIZENS INSURANCE COMPANY OF AMERICA, a corporation organized and existing under the laws of the State of Michigan, do hereby constitute and appoint

Kimberly G. Sherrod

of Columbus, OH and each is a true and lawful Attorney(s)-in-fact to sign, execute, seal, acknowledge and deliver for, and on its behalf, and as its act and deed any place within the United States, or, if the following line be filled in, only within the area therein designated any and all bonds, recognizances, undertakings, contracts of indemnity or other writings obligatory in the nature thereof, as follows:

Any such obligations in the United States, not to exceed Twenty Five Million and No/100 (\$25,000,000) in any single instance

and said companies hereby ratify and confirm all and whatsoever said Attorney(s)-in-fact may lawfully do in the premises by virtue of these presents. These appointments are made under and by authority of the following Resolution passed by the Board of Directors of said Companies which resolutions are still in effect:

"RESOLVED, That the President or any Vice President, in conjunction with any Vice President, be and they are hereby authorized and empowered to appoint Attorneys-in-fact of the Company, in its name and as its acts, to execute and acknowledge for and on its behalf as Surety any and all bonds, recognizances, contracts of indemnity, waivers of citation and all other writings obligatory in the nature thereof, with power to attach thereto the seal of the Company. Any such writings so executed by such Attorneys-in-fact shall be as binding upon the Company as if they had been duly executed and acknowledged by the regularly elected officers of the Company in their own proper persons." (Adopted October 7, 1981 - The Hanover Insurance Company; Adopted April 14, 1982 - Massachusetts Bay Insurance Company; Adopted September 7, 2001 - Citizens Insurance Company of America)

IN WITNESS WHEREOF, THE HANOVER INSURANCE COMPANY, MASSACHUSETTS BAY INSURANCE COMPANY and CITIZENS INSURANCE COMPANY OF AMERICA have caused these presents to be sealed with their respective corporate seals, duly attested by two Vice Presidents, this 26th day of April 2012.



THE HANOVER INSURANCE COMPANY  
MASSACHUSETTS BAY INSURANCE COMPANY  
CITIZENS INSURANCE COMPANY OF AMERICA

*Robert Thomas*

Robert Thomas, Vice President

*Joe Brenstrom*

Joe Brenstrom, Vice President

THE COMMONWEALTH OF MASSACHUSETTS )  
COUNTY OF WORCESTER ) ss.

On this 26th day of April 2012 before me came the above named Vice Presidents of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, to me personally known to be the individuals and officers described herein, and acknowledged that the seals affixed to the preceding instrument are the corporate seals of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, respectively, and that the said corporate seals and their signatures as officers were duly affixed and subscribed to said instrument by the authority and direction of said Corporations.



BARBARA A. GARLICK  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires Sept. 21, 2018

*Barbara A. Garlick*

Barbara A. Garlick, Notary Public  
My Commission Expires September 21, 2018

I, the undersigned Vice President of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, hereby certify that the above and foregoing is a full, true and correct copy of the Original Power of Attorney issued by said Companies, and do hereby further certify that the said Powers of Attorney are still in force and effect.

This Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America.

"RESOLVED, That any and all Powers of Attorney and Certified Copies of such Powers of Attorney and certification in respect thereto, granted and executed by the President or any Vice President in conjunction with any Vice President of the Company, shall be binding on the Company to the same extent as if all signatures therein were manually affixed, even though one or more of any such signatures thereon may be facsimile." (Adopted October 7, 1981 - The Hanover Insurance Company; Adopted April 14, 1982 - Massachusetts Bay Insurance Company; Adopted September 7, 2001 - Citizens Insurance Company of America)

GIVEN under my hand and the seals of said Companies, at Worcester, Massachusetts, this 3rd day of Sept 2013.

THE HANOVER INSURANCE COMPANY  
MASSACHUSETTS BAY INSURANCE COMPANY  
CITIZENS INSURANCE COMPANY OF AMERICA

*John Margosian*

John Margosian, Vice President

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD  
IN THE MATTER OF

***Long Branch Drain, Hadley Grove Arm***

NOTICE

To Whom It May Concern and: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Notice is hereby given of the hearing of the Hamilton County Drainage Board on the **Long Branch Drain, Hadley Grove Arm** on **November 25, 2013** at **9:15 A.M.** in Commissioners Court, Hamilton County Judicial Center, One Hamilton County Square, Noblesville, Indiana, and which construction and maintenance reports of the Surveyor and the Schedule of Assessments made by the Drainage Board have been filed and are available for public inspection in the office of the Hamilton County Surveyor.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD  
IN THE MATTER OF THE

**Long Branch Drain, Hadley Grove Arm**

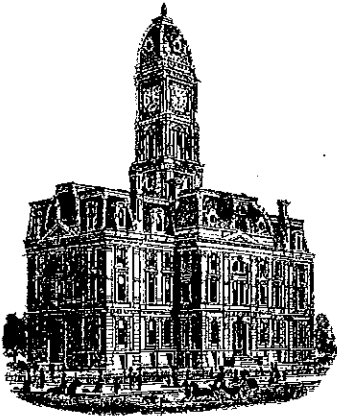
NOTICE

Notice is hereby given pursuant to Section 405 of the 1965 Indiana Drainage Code that this Board, prior to final adjournment on **December 9, 2013** has issued an order adopting the Schedule of Assessments, filed the same and made public announcement thereof at the hearing and ordered publication. If judicial review of the findings and order of the Board is not requested pursuant to Article Eight of this code within twenty (20) days from the date of this publication, the order shall be conclusive.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY



*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**

**September 29, 2012**

**Re: Long Branch Drain – Hadley Grove Arm**

Attached are as-builts, certificate of completion & compliance, and other information for Long Branch Drain – Hadley Grove Arm. 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 3, 2013. The report was approved by the Board at the hearing held December 9, 2013. (See Drainage Board Minutes Book 15, Pages 289-290)

The changes are as follows:

The 12" RCP was lengthened from 1687 feet to 1701 feet. The 18" RCP was shortened from 955 feet to 953 feet. The 21" RCP was shortened from 651 feet to 650 feet. The 27" RCP was lengthened from 122 feet to 127 feet. The 6" SSD was shortened from 7,570 feet to 7,461 feet. The length of the drain due to the changes described above is now **11,368 feet**.

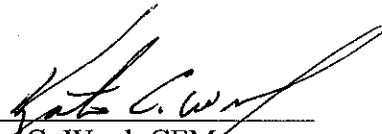
The non-enforcement was approved by the Board at its meeting on December 9, 2013 and recorded under instrument #2014037282.

The following sureties were guaranteed by Hanover Insurance Company and released by the Board on its October 13, 2014 meeting.

**Bond-LC No:** 1024400  
**Insured For:** Storm Sewers  
**Amount:** \$243,150.00  
**Issue Date:** September 3, 2013

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

Sincerely,



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Kenton C. Ward, CFM  
Hamilton County Surveyor

KCW/slm

CERTIFICATE OF COMPLETION AND COMPLIANCE

FILED

AUG 21 2014

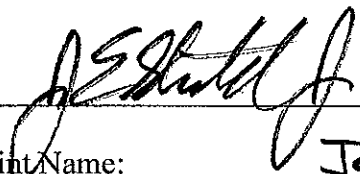
To: Hamilton County Surveyor

OFFICE OF HAMILTON COUNTY SURVEYOR

Re: Hadley Grove

I hereby certify that:

1. I am a Registered Land Surveyor or Engineer in the State of Indiana.
2. I am familiar with the plans and specifications for the above referenced subdivision.
3. I have personally observed and supervised the completion of the drainage facilities for the above referenced subdivision.
4. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been installed and completed in conformity with all plans and specifications.
5. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been correctly represented on the Record Drawings, Digital Record Drawings and the Structure Data Spreadsheet.

Signature:  Date: 8-18-14

Type or Print Name: James E. Shields, Jr.

Business Address: 10505 North College Avenue  
Indianapolis, Indiana 46280

Telephone Number: 317-846-6611



INDIANA REGISTRATION NUMBER  
PE 10201333

**CITY OF CARMEL COVER AND BACKFILL POLICY; 9-8-06**

WATER AND SEWER UNDER PAVEMENT, SIDEWALK, PAVED AREAS AND WITHIN RIGHT-OF-WAY

**BEDDING, HAUNCHING, INITIAL BACKFILL**

BEDDING, HAUNCHING AND INITIAL BACKFILL REQUIREMENTS AND COMPACTION FOR WATER MAINS, WATER SERVICE LATERALS, SANITARY MAINS AND SANITARY SERVICE LATERALS SHALL BE IN ACCORDANCE WITH THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION.

**FINAL BACKFILL**

FINAL BACKFILL FOR WATER MAINS, WATER SERVICE LATERALS, SANITARY MAINS AND SANITARY SERVICE LATERALS UNDER AND WITHIN 5'-FEET OF PAVEMENT OR SIDEWALK OR OTHER PAVED AREAS AND FOR ALL INSTALLATIONS WITHIN CITY RIGHT-OF-WAY SHALL BE 8"-BORROW FOR STRUCTURE BACKFILL MEETING THE MATERIAL REQUIREMENTS OF THE INDOT. THE MATERIAL SHALL BE APPROVED BY THE CITY OF CARMEL DEPARTMENT OF ENGINEERING AT TIME OF INSTALLATION. FINAL BACKFILL SHALL BE COMPACTED IN 6"-INCH MAXIMUM LIFTS TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL FOR THE TOP 6"-INCHES OF THE EXCAVATION BELOW THE START OF THE AGGREGATE SUB-BASE OF THE PAVEMENT SHALL BE NO. 55 STONE MEETING THE MATERIAL REQUIREMENT OF THE INDOT AND SHALL BE COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY. IF THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION HAS A MORE STRINGENT BACKFILL REQUIREMENT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

**MINIMUM COVER FOR PIPE CROSSINGS WITHIN CITY RIGHT-OF-WAY**

FOR INSTALLATION OF STORM MAINS, WATER MAINS, SANITARY MAINS, WATER SERVICE LATERALS, SANITARY SERVICE LATERALS UNDER CITY STREETS, REGARDLESS OF JURISDICTION OF THE UTILITY, THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1'-0", BUT UNDER NO CIRCUMSTANCES SHALL THE COVER ALONG ANY PART OF THE PIPE FROM THE FINAL PAVEMENT ELEVATION TO THE TOP OF THE PIPE BE LESS THAN 2.5'-FEET. IF THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION HAS A MORE STRINGENT COVER REQUIREMENT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN. COVER HEIGHTS FOR REINFORCED CONCRETE PIPE STORM SEWER THAT ARE LESS THAN THOSE REQUIRED WILL BE EVALUATED ON A CASE BY CASE CONDITION AND APPROVED ONLY WITH WRITTEN PERMISSION BY THE CITY ENGINEER.

**MINIMUM COVER FOR PIPE CROSSINGS WITHIN CITY RIGHT-OF-WAY**

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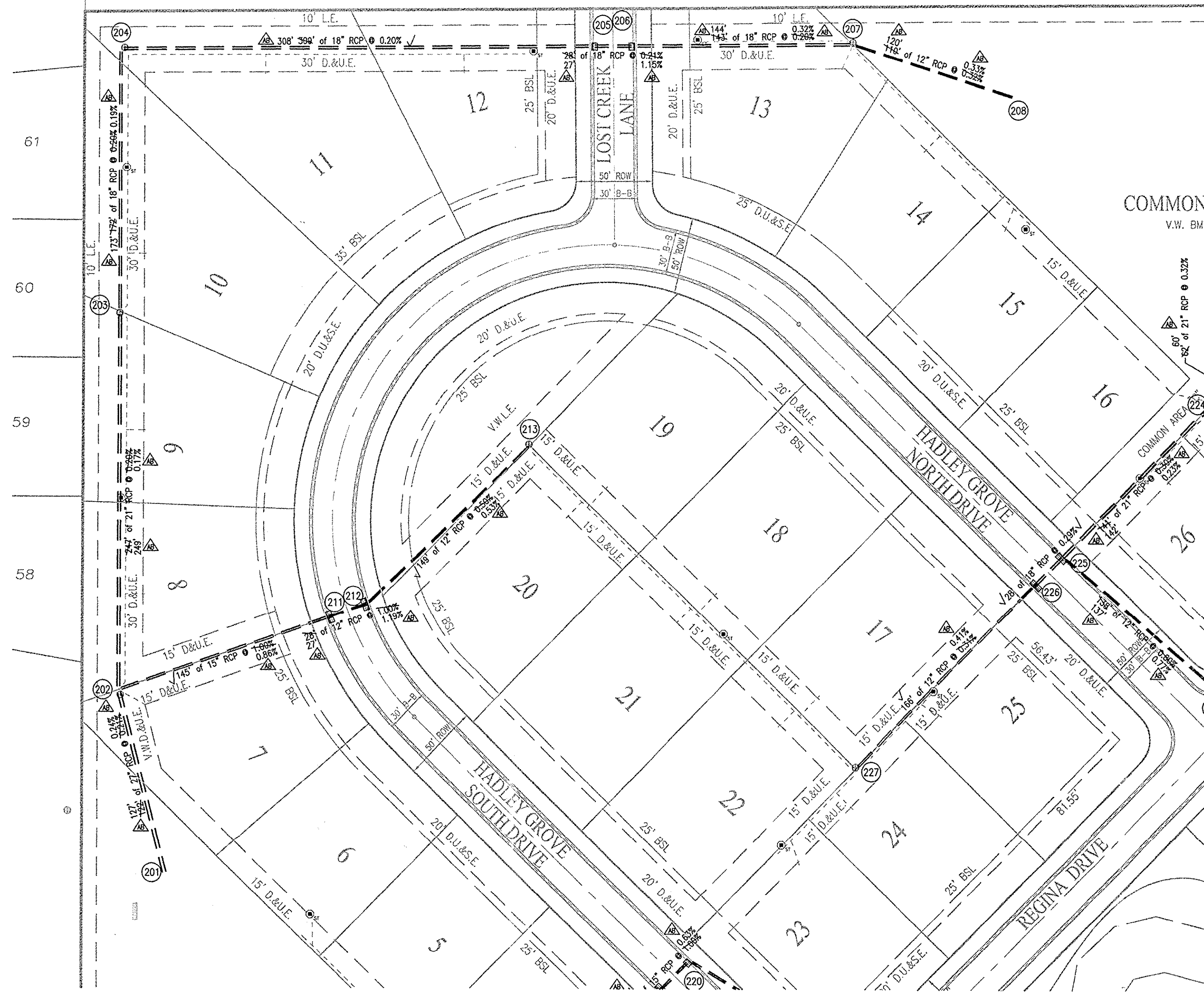
**STORM SEWER PLAN AND PROFILE NOTES:**

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Entry Date: Sept 2014

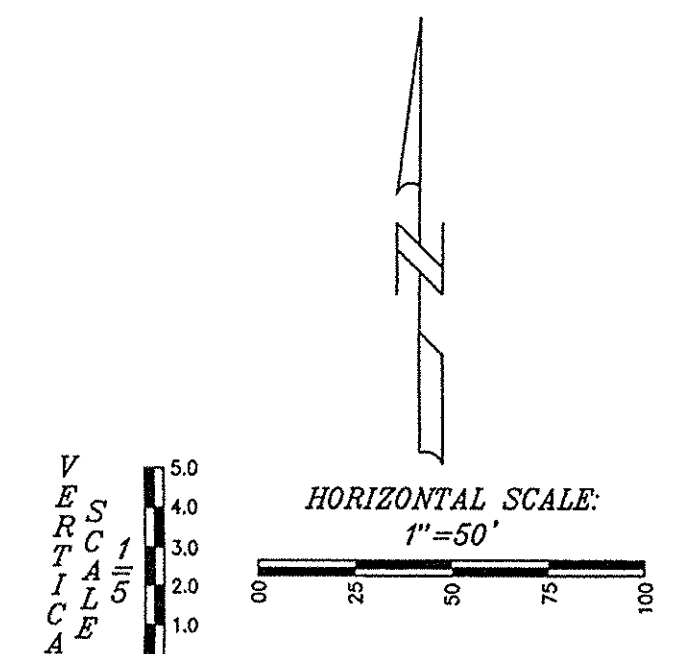
Entered By: SLM



**RECORD DRAWING**  
STORM SEWER AS-BUILTS  
STORM SEWER STRUCTURES ONLY  
6/26/14

BRADY KUHN, L.S. 20500007

AB = ASBUILT INFORMATION

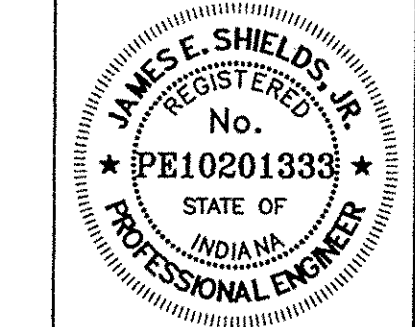


10505 N. College Avenue  
Indianapolis, Indiana 46280  
weithe.net  
317 | 846 - 6611  
800 | 452 - 6408  
317 | 843 - 0546/fax  
ALLAN H. WEIHE, P.E., L.S. - FOUNDER

**WEIHE ENGINEERS**  
Land Surveying | Civil Engineering  
Landscape Architecture

PROJECT NO.:	W12.0366
DWG NAME:	AS BUILT STORM PIPE
DESIGNER:	EF
DRAWN BY:	RHE
CHECKED BY:	JES
DATE:	02.15.2013

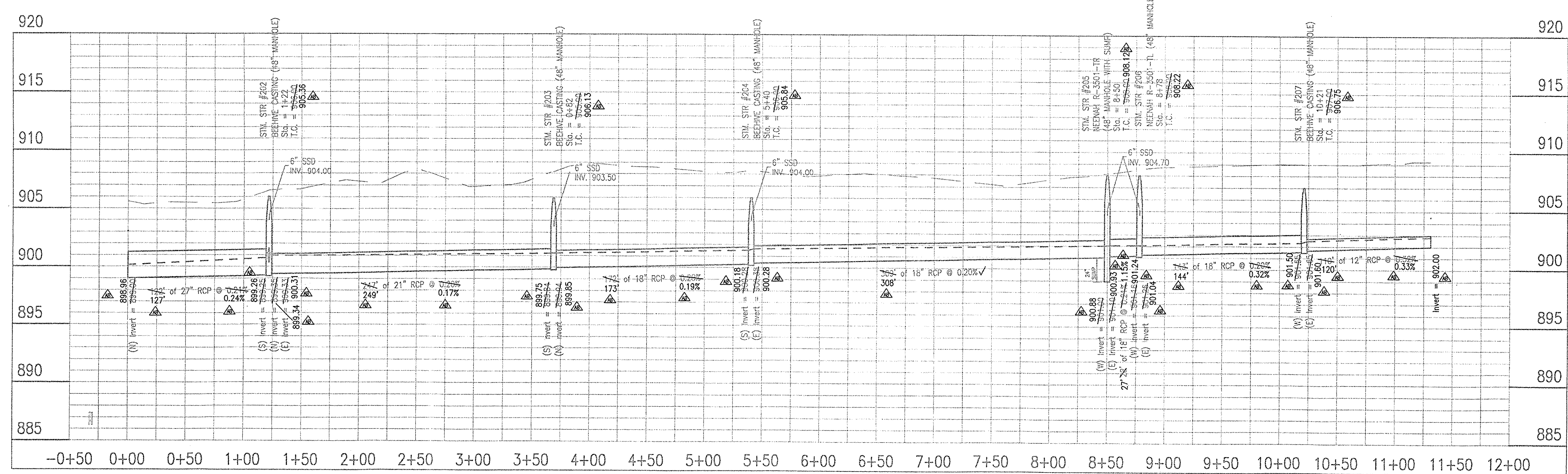
REVISIONS AND ISSUES:  
REVISIONS FOR REVIEWER COMMENTS  
REVISIONS FOR ASBUILT COMMENTS  
REVISIONS FOR FIELD COMMENTS  
PLEASE USE BASH TO NOT POOD  
ASBUILT



JAMES E. SHIELDS, JR. P.E. 10201333

PREPARED FOR:  
**HADLEY GROVE**  
MI HOMES OF INDIANA, LP  
STORM SEWER PLAN AND PROFILE SHEET  
Part of the 28 1/4 of Section 28, Township 4 North, Range 42 East, City Township, Hamilton County, Indiana

SHEET NO.  
**C600**  
PROJECT NO.  
W12.0366



**FILED**  
AUG 21 2014  
OFFICE OF HAMILTON COUNTY SURVEYOR

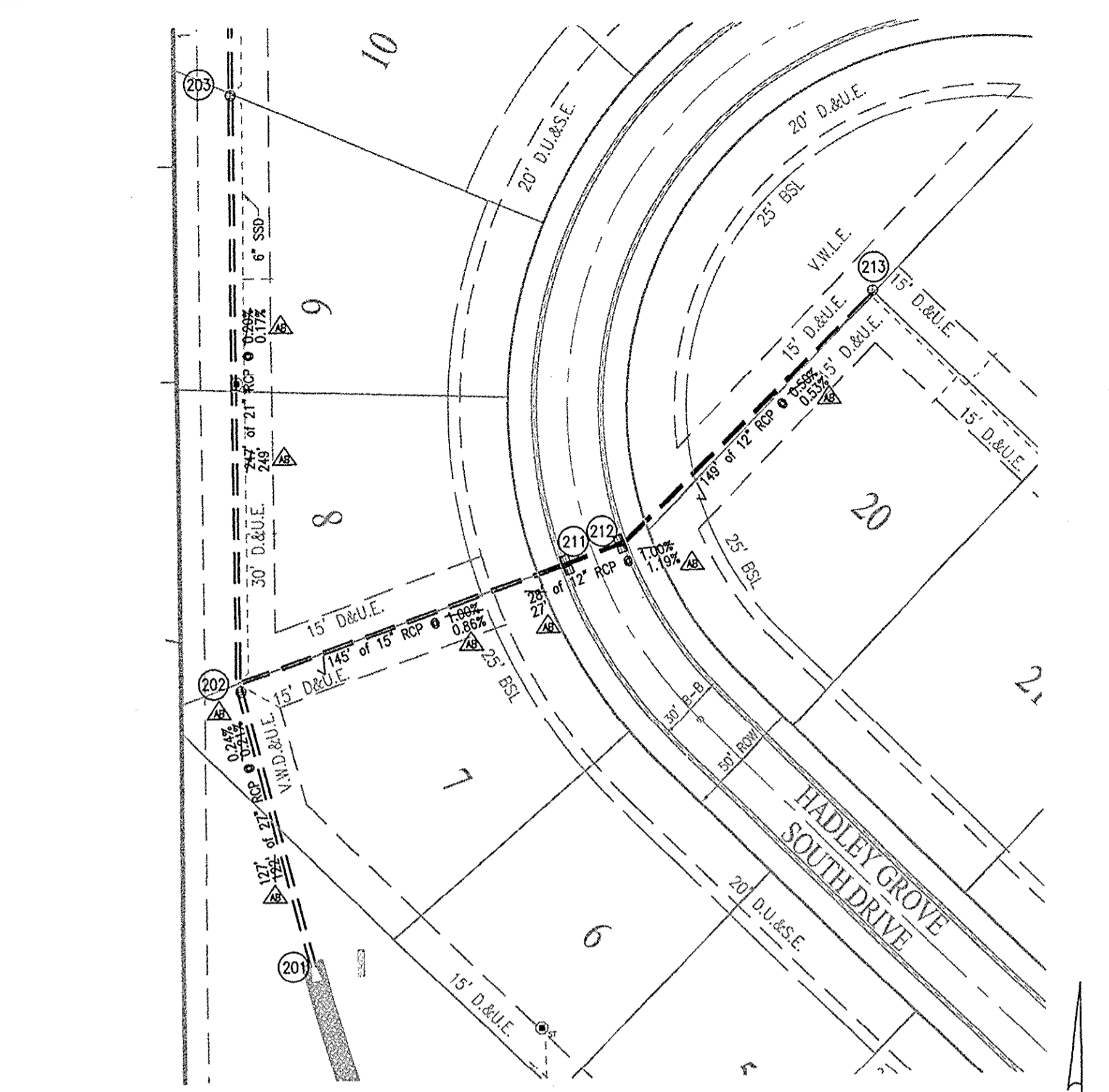
**LEGEND**

- EXISTING GRADE
- FINISHED GRADE
- - - HYDRAULIC GRADE LINE
- GRANULAR BACKFILL

RECORD DRAWINGS - DATED 6/26/2014

LOCATION: W12.0366 Storm Sewer Plan and Profile  
 DATE: 06/26/2014  
 DRAWN BY: EF  
 CHECKED BY: RHE  
 DATE: 02/15/2013





**MINIMUM COVER FOR PIPE CROSSINGS WITHIN CITY RIGHT-OF-WAY**

FOR INSTALLATION OF STORM MAINS, WATER MAINS, SANITARY MAINS, WATER SERVICE LATERALS, SANITARY SERVICE LATERALS UNDER CITY STREETS, REGARDLESS OF JURISDICTION OF THE UTILITY, THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1'-0" BUT UNDER NO CIRCUMSTANCES SHALL THE COVER ALONG ANY PART OF THE PIPE FROM THE FINAL PAVEMENT ELEVATION TO THE TOP OF THE PIPE BE LESS THAN 2.5 FEET. IF THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION HAS A MORE STRINGENT COVER REQUIREMENT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

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**STORM SEWER PLAN AND PROFILE NOTES:**

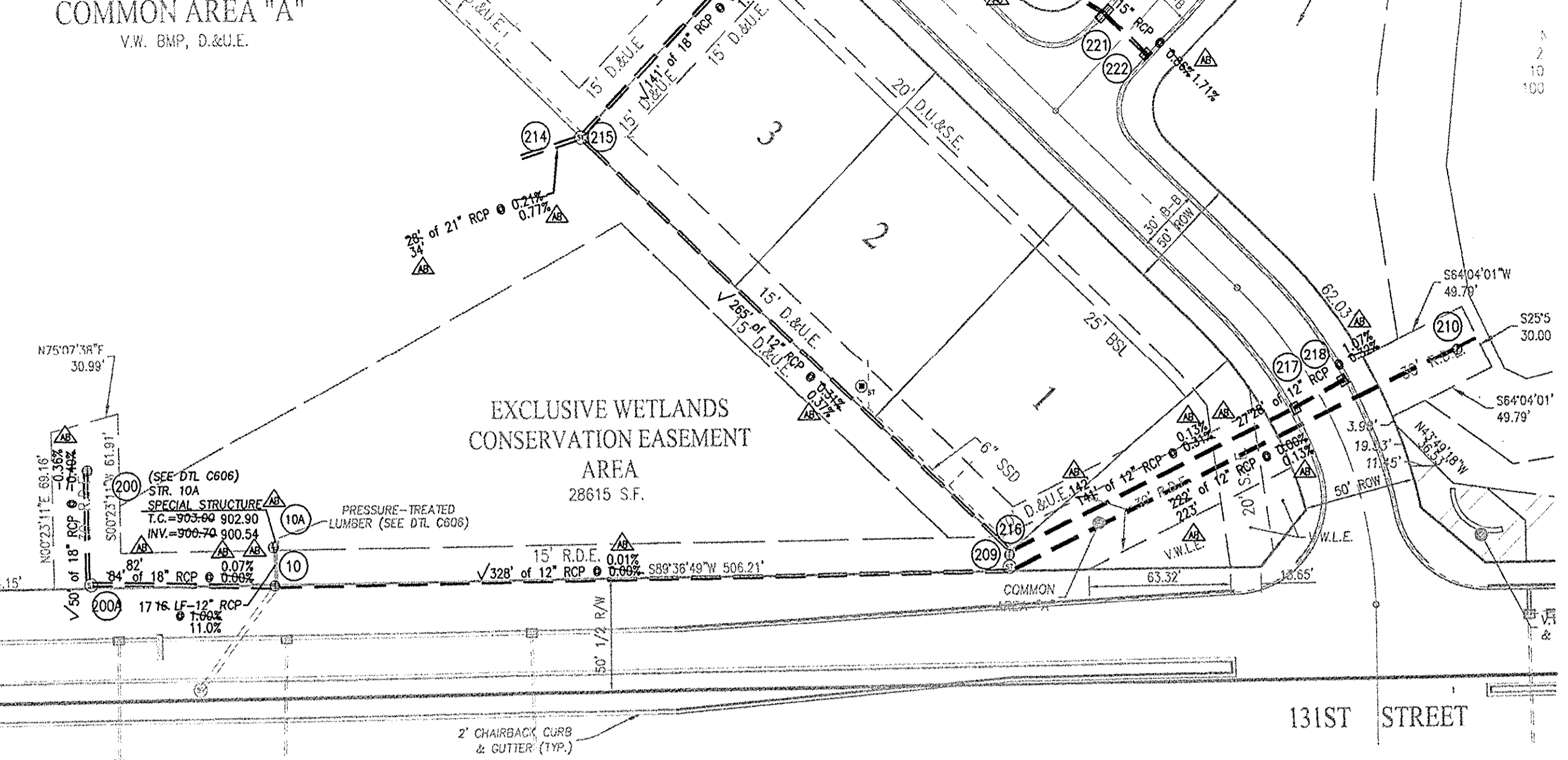
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**CITY OF CARMEL COVER AND BACKFILL POLICY: 9-8-06**

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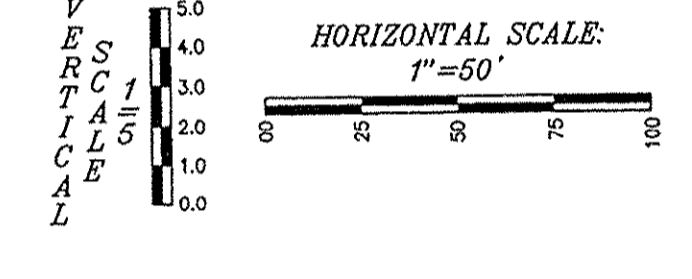
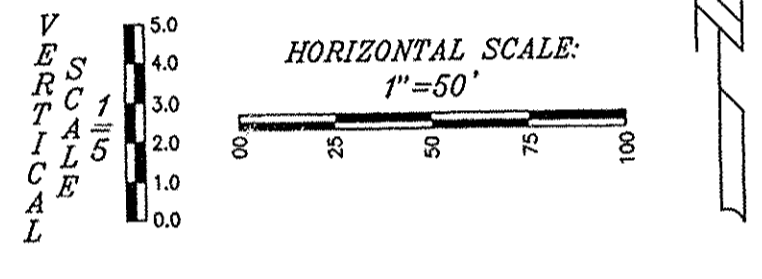
**COMMON AREA "A"**

FOR INSTALLATION OF STORM MAINS, WATER MAINS, SANITARY MAINS, WATER SERVICE LATERALS, SANITARY SERVICE LATERALS UNDER CITY STREETS, REGARDLESS OF JURISDICTION OF THE UTILITY, THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1'-0" BUT UNDER NO CIRCUMSTANCES SHALL THE COVER ALONG ANY PART OF THE PIPE FROM THE FINAL PAVEMENT ELEVATION TO THE TOP OF THE PIPE BE LESS THAN 2.5 FEET. IF THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION HAS A MORE STRINGENT COVER REQUIREMENT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

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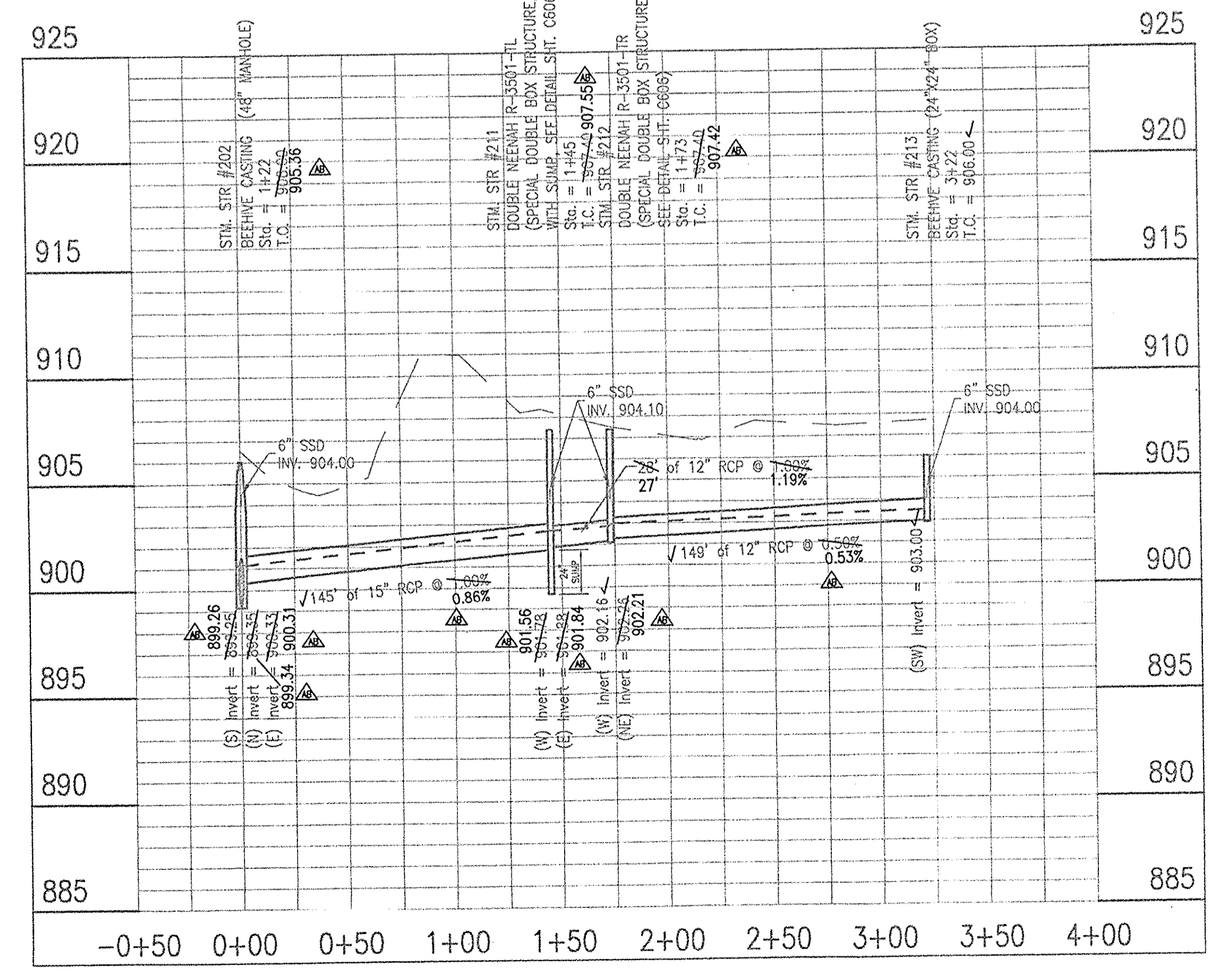
Entry Date: **5/21/2014**

Entered By: **GLM**



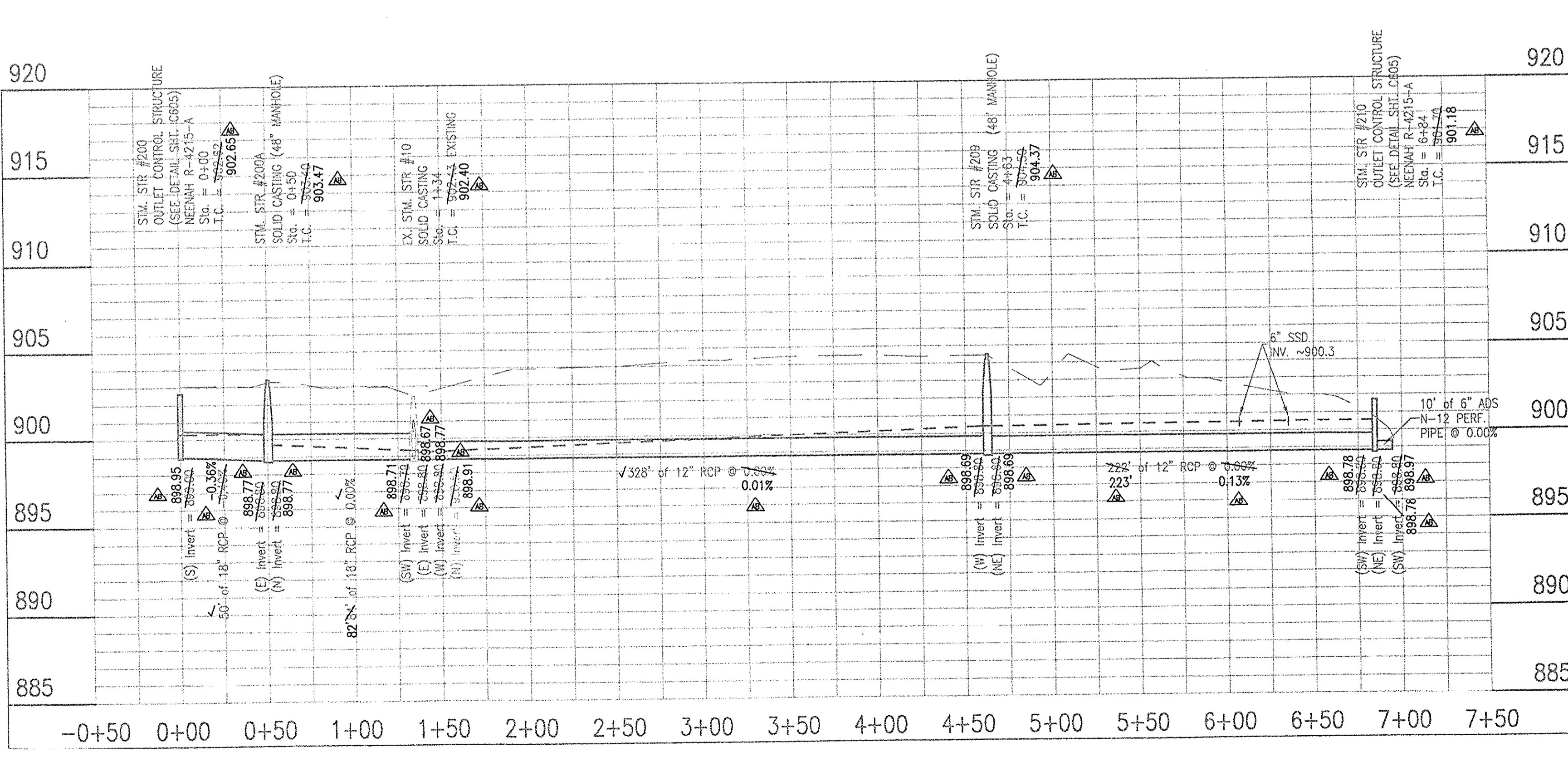
**RECORD DRAWING**  
STORM SEWER AS-BUILTS  
STORM SEWER STRUCTURES ONLY  
6/26/14

BRADY KUHN, L.S. 20500007



**LEGEND**

- EXISTING GRADE
- FINISHED GRADE
- - - HYDRAULIC GRADE LINE
- GRANULAR BACKFILL



**FILED**  
AUG 21 2014

**LEGEND**

- EXISTING GRADE
- FINISHED GRADE
- - - HYDRAULIC GRADE LINE
- GRANULAR BACKFILL

**RECORD DRAWINGS - DATED 6/26/2014**

10505 N. College Avenue  
Indianapolis, Indiana 46280  
weihe.net  
317 | 846 - 6611  
800 | 452 - 6408  
317 | 843 - 0546/fax  
ALLAN H. WEIHE, P.E., L.S. - FOUNDER

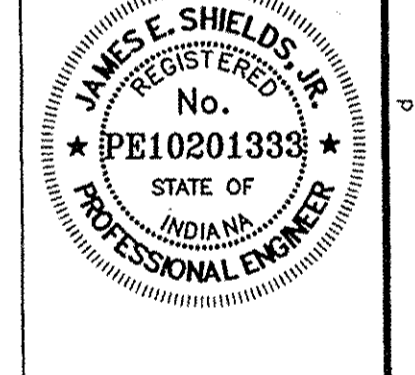
**WEIHE ENGINEERS**  
Land Surveying | Civil Engineering  
Landscape Architecture

PROJECT NO.:	W12.0366
DATE:	4/19/2014
BY:	EF
CHECKED BY:	EF
DATE:	7/29/2013
DESIGNED BY:	EF
DRAWN BY:	EF
CHECKED BY:	EF
DATE:	6/19/2011

**REVISIONS AND ISSUES:**

REVISIONS PER REVIEW COMMENTS  
REVISIONS PER ASBUILT COMMENTS  
REVISIONS PER FIELD DATA  
REVISIONS PER BUREAU TO NET POOD

ASBUILT



JAMES E. SHIELDS, JR. P.E. 10201333

PREPARED FOR:  
**HADLEY GROVE**  
MI HOMES OF INDIANA, LP

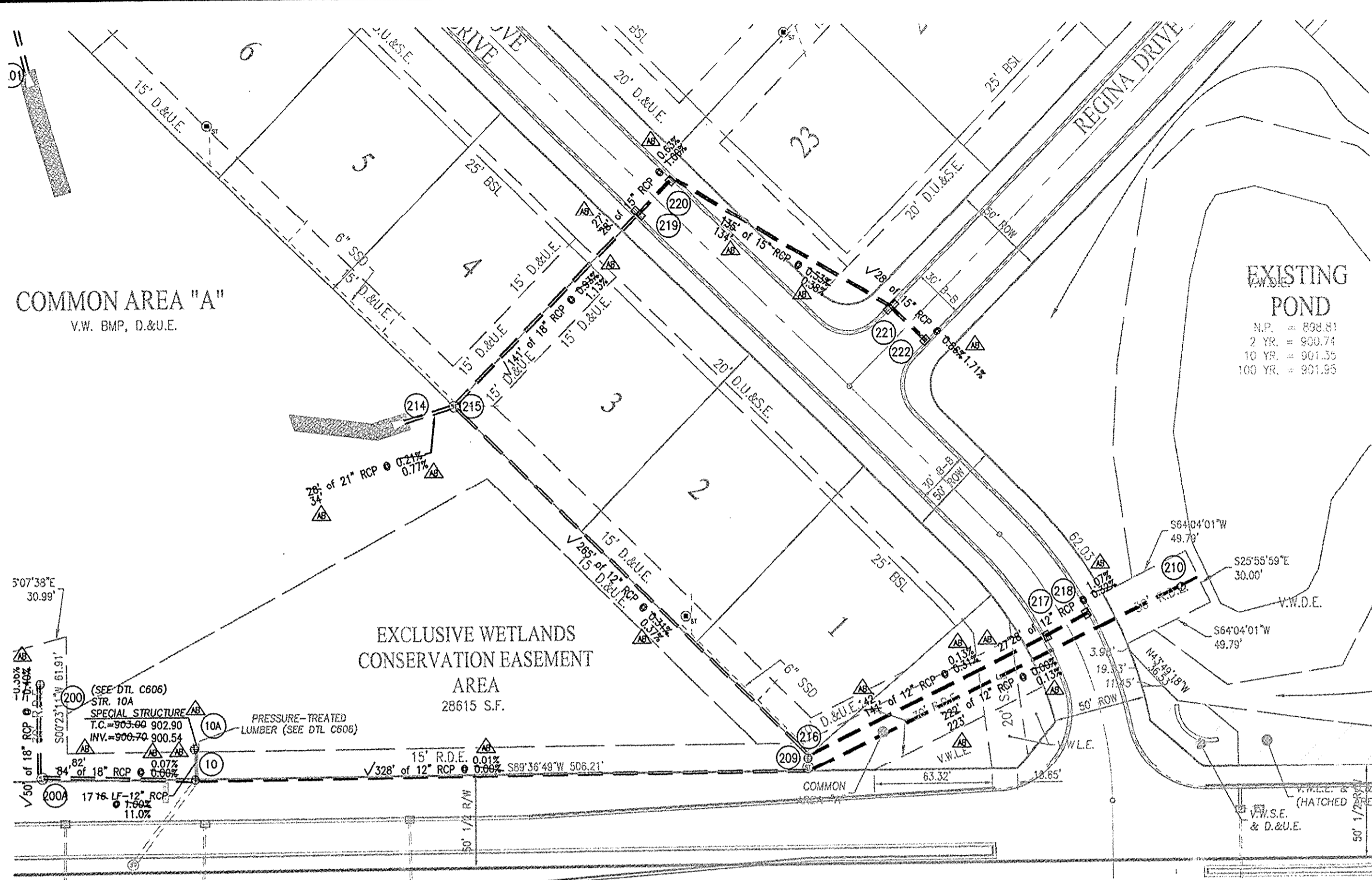
**STORM SEWER PLAN AND PROFILE SHEET**

Part of the 58 1/4" of Station 83, Township 18 North, Range 48 East, Clay Township, Hamilton County, Indiana.

SHEET NO.  
**C601**

PROJECT NO.  
W12.0366

JN: H:\2013\W120366\Engineering\Drawings\Submittal\AB\_C600\_Storm\_Profile.dwg  
1: 6/20/14 Storm Profile  
D: B:\hamcar\2014 - 5/27/14



**RECORD DRAWING**  
 STORM SEWER AS-BUILTS  
 STORM SEWER STRUCTURES ONLY  
 6/26/14  
 BRADY KUHN, L.S. 20500007  
 AB = ASBUILT INFORMATION

**MINIMUM COVER FOR PIPE CROSSINGS WITHIN CITY RIGHT-OF-WAY**

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**CITY OF CARMEL COVER AND BACKFILL POLICY; 9-8-06**  
 WATER AND SEWER UNDER PAVEMENT, SIDEWALK, PAVED AREAS AND WITHIN RIGHT-OF-WAY

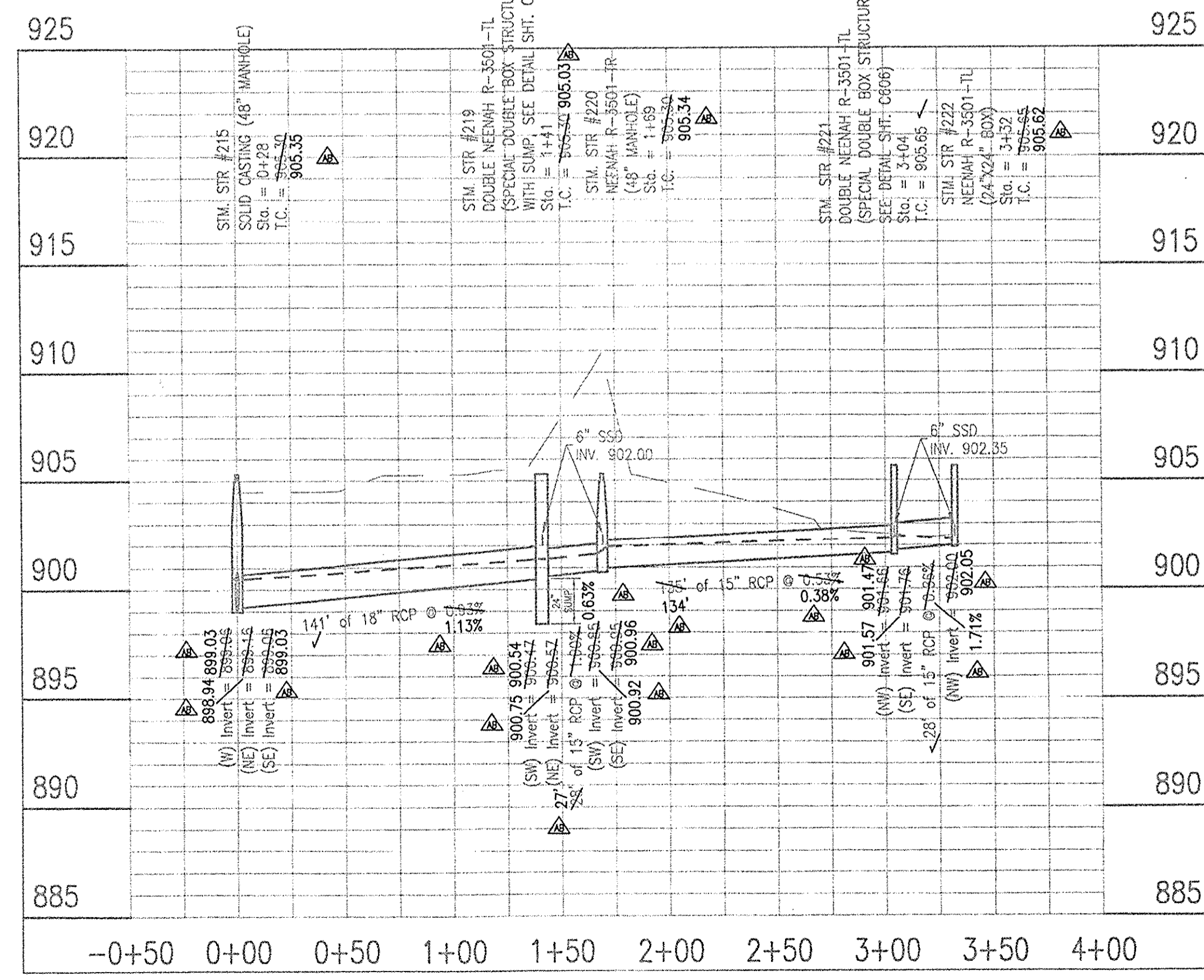
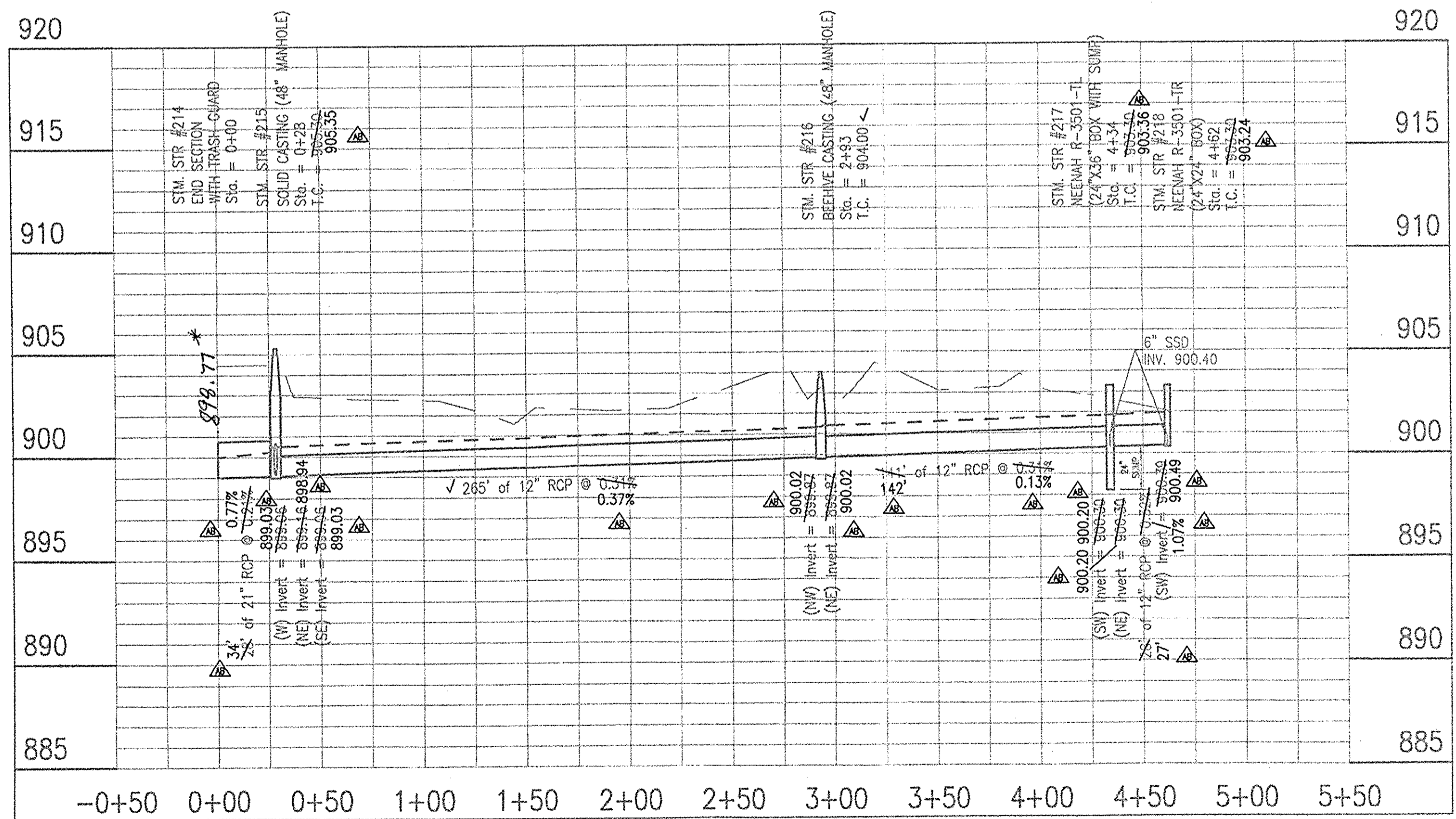
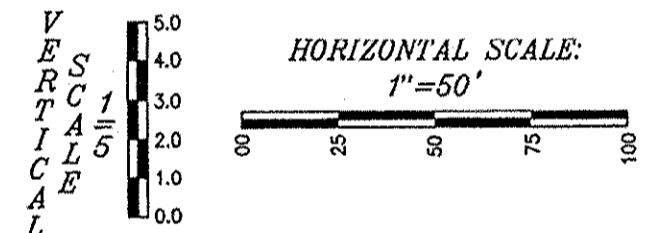
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 Entry Date: Sept 2014  
 Entered By: SLM



**LEGEND**  
 --- EXISTING GRADE  
 --- FINISHED GRADE  
 - - - HYDRAULIC GRADE LINE  
 --- GRANULAR BACKFILL

**LEGEND**  
 --- EXISTING GRADE  
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RECORD DRAWINGS - DATED 6/26/2014

10505 N. College Avenue  
 Indianapolis, Indiana 46280  
 weithe.net  
 317 | 846 - 6611  
 800 | 452 - 6408  
 317 | 843 - 0546/fax  
 ALLAN H. WEIHE, P.E., L.S. - FOUNDER

**WEIHE ENGINEERS**  
 Land Surveying | Civil Engineering  
 Landscape Architecture

PROJECT NO.:	WT2.0366
DWG. NAME:	STORM SEWER AS-BUILTS
DESIGNED BY:	EEF
DRAWN BY:	EEF
CHECKED BY:	EEF
DATE:	02.15.2013

REVISIONS AND ISSUES  
 REVISIONS FOR REVISION COMMENTS  
 REVISIONS FOR ASBUILT COMMENTS  
 REVISIONS FOR BUSH TO NET POND  
 ASBUILTS

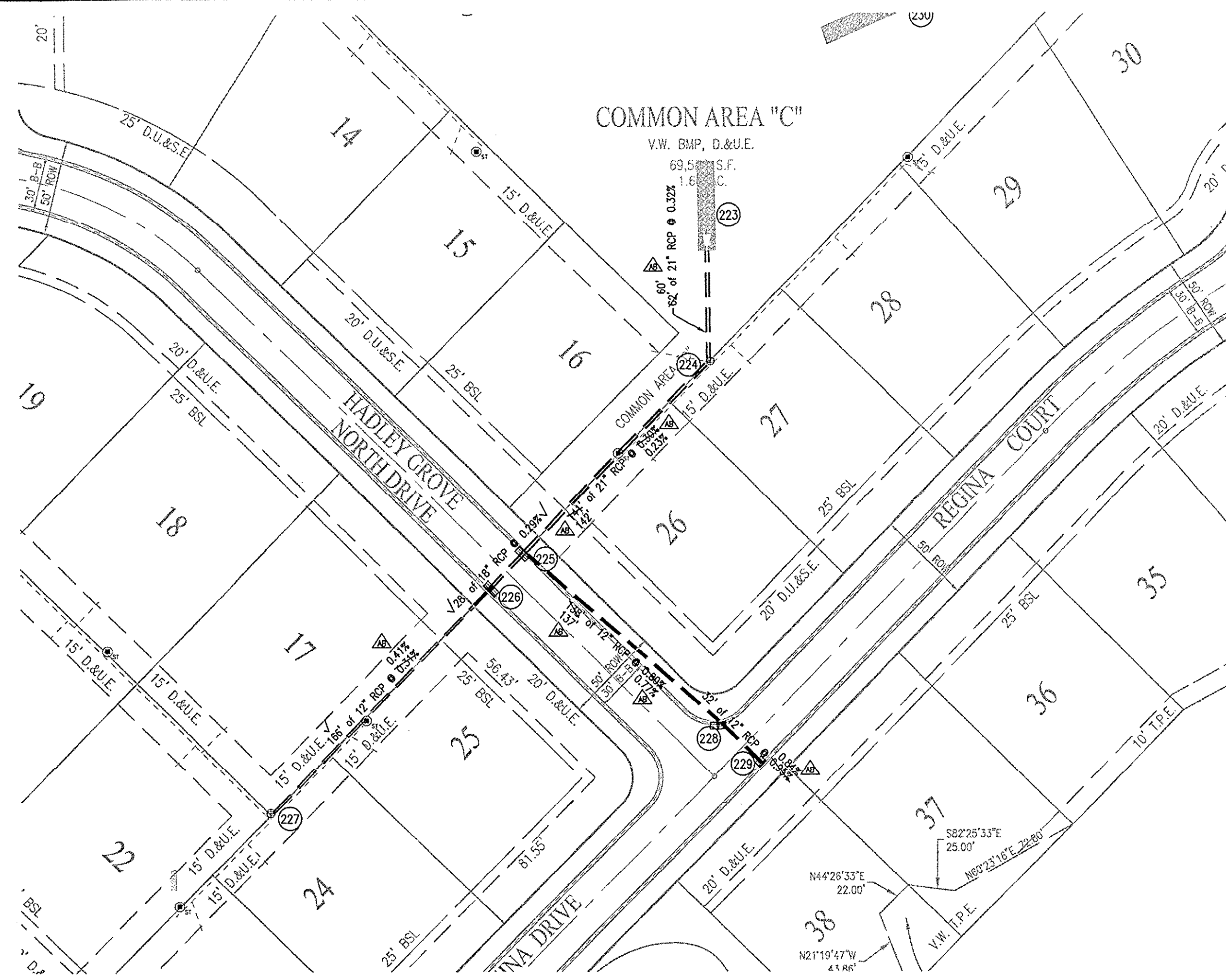
**JAMES E. SHIELDS, JR.**  
 REGISTERED PROFESSIONAL ENGINEER  
 No. PE10201333  
 STATE OF INDIANA

JAMES E. SHIELDS, JR. P.E. 10201333

PREPARED FOR:  
**HADLEY GROVE**  
 MI HOMES OF INDIANA, LP  
 STORM SEWER PLAN AND PROFILE SHEET

SHEET NO.  
**C602**  
 PROJECT NO.  
 W12.0366

ATD:\A\2014\W120366\Engineering\Kings\Subarea\AB\_C600 Storm\_PIP.dwg  
 6/26/14, June 26, 2014 - 5:06pm  
 HED BT, Indiana

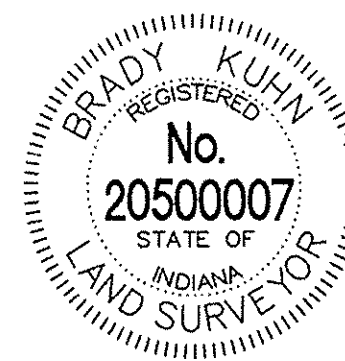


**RECORD DRAWING**

STORM SEWER AS-BUILTS  
STORM SEWER STRUCTURES ONLY  
6/26/14

*Brady Kuhn*  
BRADY KUHN, L.S. 20500007

AS = ASBUILT INFORMATION



**CITY OF CARMEL COVER AND BACKFILL POLICY; 9-8-06**  
WATER AND SEWER UNDER PAVEMENT, SIDEWALK, PAVED AREAS AND WITHIN RIGHT-OF-WAY

**BEDDING, HAUNCHING, INITIAL BACKFILL**  
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FULL DEPTH GRANULAR BACKFILL SHALL BE PER DETAIL 10-28 ON THIS SHEET. REFER TO DETAIL 10-28, THIS SHEET, FOR TRENCHING, BACKFILL AND COVER REQUIREMENTS. PIPES LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND DOES NOT INCLUDE END SECTIONS.

**MINIMUM COVER FOR PIPE CROSSINGS WITHIN CITY RIGHT-OF-WAY**

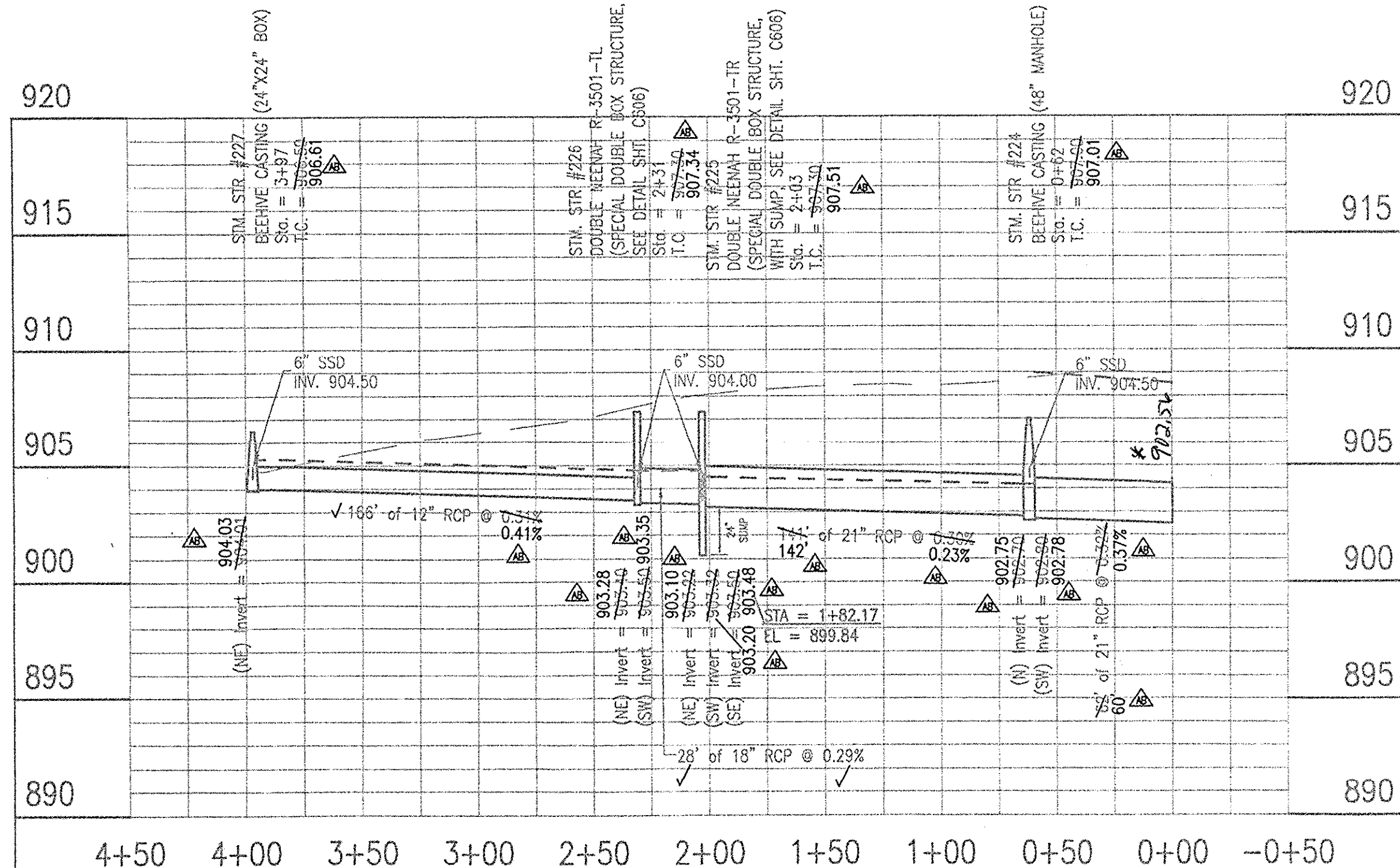
FOR INSTALLATION OF STORM MAINS, WATER MAINS, SANITARY MAINS, WATER SERVICE LATERALS, SANITARY SERVICE LATERALS UNDER CITY STREETS, REGARDLESS OF JURISDICTION OF THE UTILITY, THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1'-0", BUT UNDER NO CIRCUMSTANCES SHALL THE COVER ALONG ANY PART OF THE PIPE FROM THE FINAL PAVEMENT ELEVATION TO THE TOP OF THE PIPE BE LESS THAN 2'-6 FEET. IF THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION HAS A MORE STRINGENT COVER REQUIREMENT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

COVER HEIGHTS FOR REINFORCED CONCRETE PIPE STORM SEWER THAT ARE LESS THAN THOSE REQUIRED WILL BE EVALUATED ON A CASE BY CASE BASIS AND APPROVED ONLY WITH WRITTEN PERMISSION BY THE CITY ENGINEER.

THE STORM SEWER SYSTEM SHALL BE CONSTRUCTED PER DESIGN SPECIFIED AND AS APPROVED BY THE CITY OF CARMEL ON THE FINAL APPROVED CONSTRUCTION PLANS. DEVIATIONS FROM THE APPROVED DESIGN SHALL ONLY BE PERMITTED DUE TO SPECIAL CIRCUMSTANCES OR DIFFICULTY DURING CONSTRUCTION AND WILL REQUIRE PRIOR FIELD APPROVAL FROM A DESIGNATED REPRESENTATIVE OF THE CITY OF CARMEL IN ADDITION TO SUPPLEMENTAL APPROVAL BY THE DESIGN ENGINEER. AN EXPLANATION OF ANY SUCH DEVIATION SHALL BE INCLUDED AS A REQUIREMENT ON AS-BUILT/RECORD DRAWINGS SUBMITTED FOR RELEASE OF PERFORMANCE GUARANTEES. APPROVED DESIGN SLOPES IDENTIFIED AS GENERATING VELOCITIES OF 2.5 FPS OR LESS OR 10 FPS OR GREATER (AT FULL FLOW CAPACITY) SHALL REQUIRE AS-BUILT CERTIFICATION AT THE TIME OF CONSTRUCTION, PRIOR TO BACKFILLING THE PIPE. THE CONTRACTOR IS INSTRUCTED TO AS-BUILT EACH SECTION OF STORM PIPE AS IT IS BEING INSTALLED TO ENSURE COMPLIANCE WITH THE DESIGN PLANS AND AS APPROVED BY THE CITY OF CARMEL.

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: Sept 2014  
Entered by: SLM

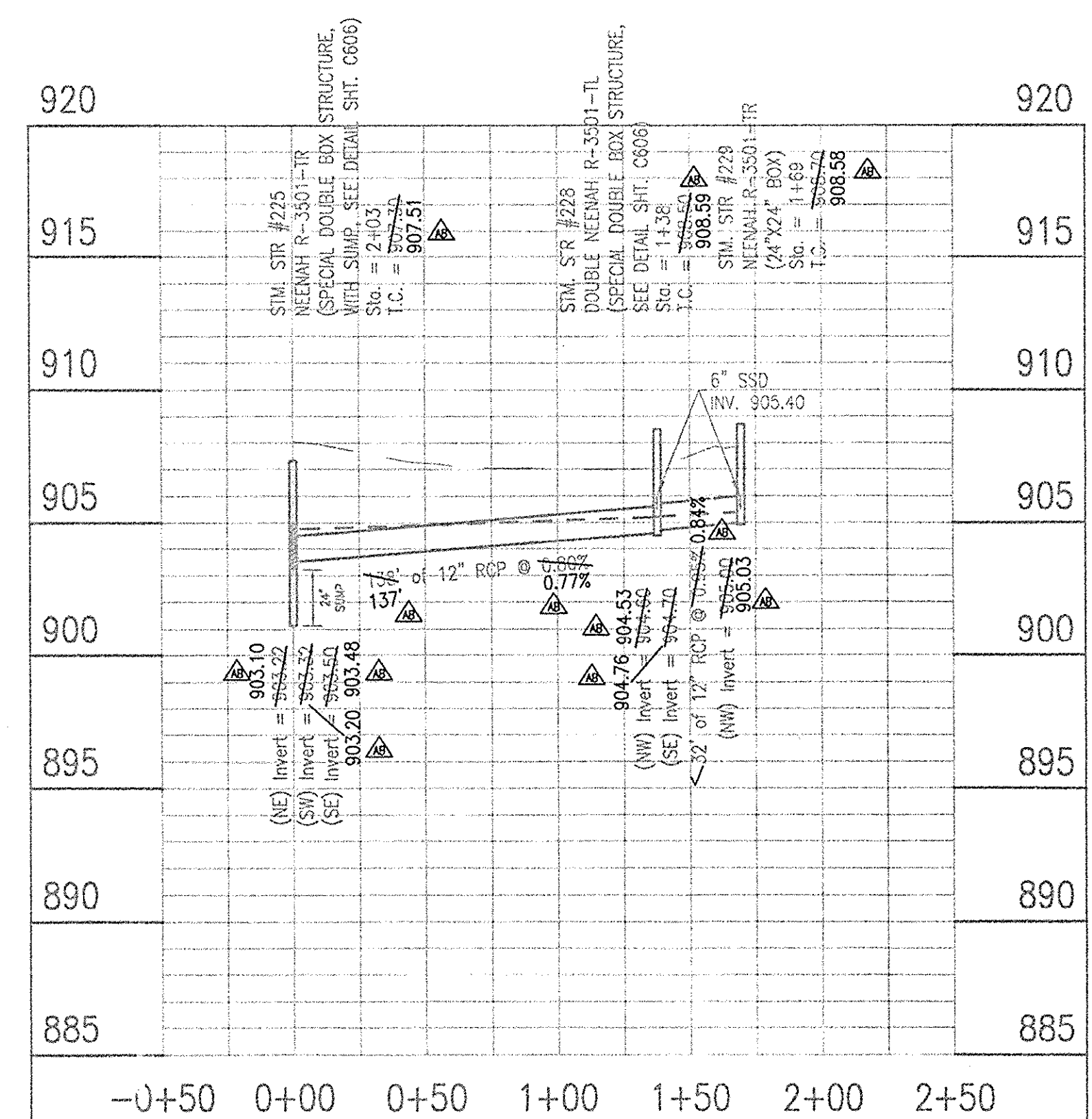
*Dry Det Storm South A*



\* Per Asbuilt Spreadsheet 9/20/14 SLM

**LEGEND**

- EXISTING GRADE
- FINISHED GRADE
- - - HYDRAULIC GRADE LINE
- GRANULAR BACKFILL



**LEGEND**

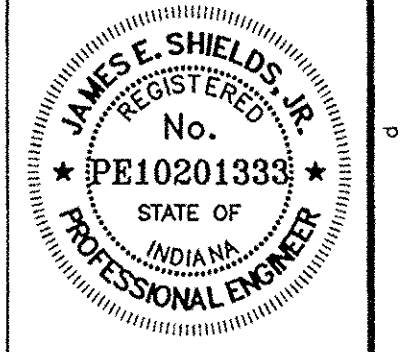
- EXISTING GRADE
- FINISHED GRADE
- - - HYDRAULIC GRADE LINE
- GRANULAR BACKFILL

10505 N. College Avenue  
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weithe.net  
317 | 846 - 6611  
800 | 452 - 6408  
317 | 843 - 0546 / fax  
ALLAN H. WEIHE, P.E., L.S. - FOUNDER

**WEIHE ENGINEERS**  
Land Surveying | Civil Engineering  
Landscape Architecture

PROJECT NO.:	02-15-2013
DATE:	02/15/2013
DESIGNED BY:	JES
DRAWN BY:	JES
CHECKED BY:	JES

REVISIONS AND ISSUES:	ASBUILT INFORMATION
REVISIONS PER AGENCY COMMENTS:	REVISIONS PER AGENCY COMMENTS
REVISIONS PER AGENCY COMMENTS:	REVISIONS PER AGENCY COMMENTS
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REVISIONS PER AGENCY COMMENTS:	REVISIONS PER AGENCY COMMENTS



JAMES E. SHIELDS, JR. P.E. 10201333

PREPARED FOR:  
**HADLEY GROVE**  
MI HOMES OF INDIANA, LP  
**STORM SEWER PLAN AND PROFILE SHEET**  
Part of the 28' 1/4" of Station 28, Township 18 North, Range 02 East, Clay Township, Hamilton County, Indiana

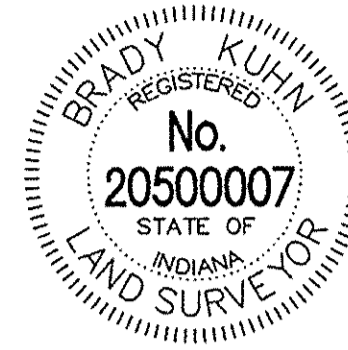
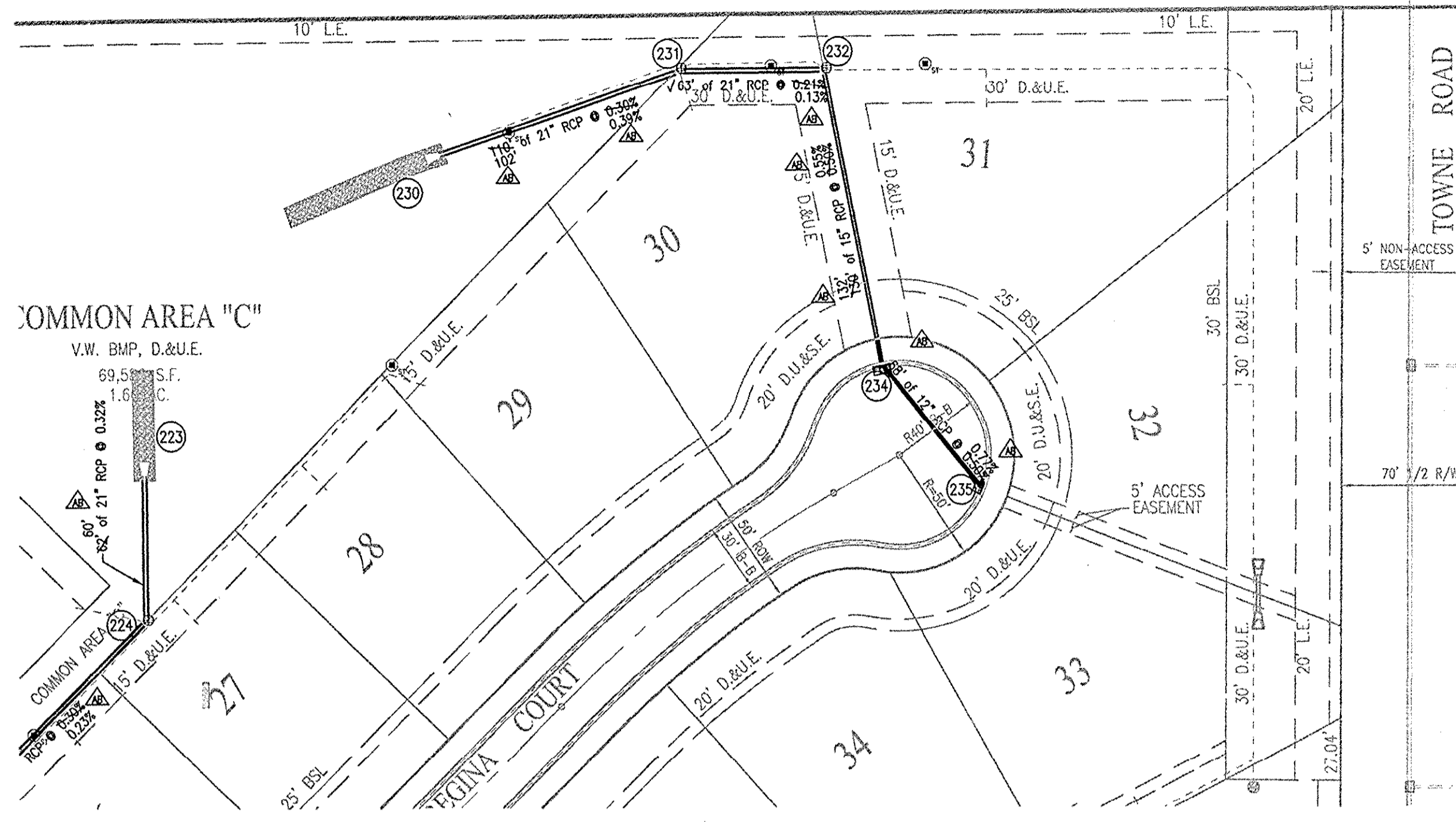
**FILED**  
AUG 21 2014  
OFFICE OF HAMILTON COUNTY SURVEYOR

RECORD DRAWINGS - DATED 6/26/2014

SHEET NO.  
**C603**  
PROJECT NO.  
W12.0366

DATE: 06/26/2014 10:58:59 AM  
PROJECT: C603 Storm Sewer  
DRAWING: 28  
SHEET: 31 of 33  
SCALE: AS SHOWN

This copy printed from Digital Archive of the Hamilton County Surveyor's Office; One Hamilton Co. Square, Ste., Noblesville, IN 46060



**RECORD DRAWING**  
 STORM SEWER AS-BUILTS  
 STORM SEWER STRUCTURES ONLY  
 6/26/14

*Brady Kuhn*  
 BRADY KUHN, L.S. 20500007  
 AB = ASBUILT INFORMATION

**CITY OF CARMEL COVER AND BACKFILL POLICY: 9-8-06**  
 WATER AND SEWER UNDER PAVEMENT, SIDEWALK, PAVED AREAS AND WITHIN RIGHT-OF-WAY

**BEDDING, HAUNCHING, INITIAL BACKFILL**  
 BEDDING, HAUNCHING AND INITIAL BACKFILL REQUIREMENTS AND COMPACT FOR WATER MAINS, WATER SERVICE LATERALS, SANITARY MAINS AND SANITARY SERVICE LATERALS SHALL BE IN ACCORDANCE WITH THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION.

**FINAL BACKFILL**  
 FINAL BACKFILL FOR WATER MAINS, WATER SERVICE LATERALS, SANITARY MAINS AND SANITARY SERVICE LATERALS UNDER AND WITHIN 5'-FEET OF SIDEWALK OR OTHER PAVED AREAS AND FOR ALL INSTALLATIONS WITHIN CITY RIGHT-OF-WAY SHALL BE B-BORROW FOR STRUCTURE BACKFILL MEETING THE MATERIAL REQUIREMENTS OF THE HOOD. THE MATERIAL SHALL BE APPROVED BY THE CITY OF CARMEL DEPARTMENT OF ENGINEERING AT TIME OF INSTALLATION. FINAL BACKFILL SHALL BE COMPACTED IN 6-INCH MAXIMUM LIFTS TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL FOR THE TOP 6-INCHES OF THE EXCAVATION BELOW THE START OF THE AGGREGATE SUB-BASE OF THE PAVEMENT SHALL BE NO. 53 STONE MEETING THE MATERIAL REQUIREMENT OF THE INDOT AND SHALL BE COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY. IF THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION HAS A MORE STRINGENT BACKFILL REQUIREMENT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

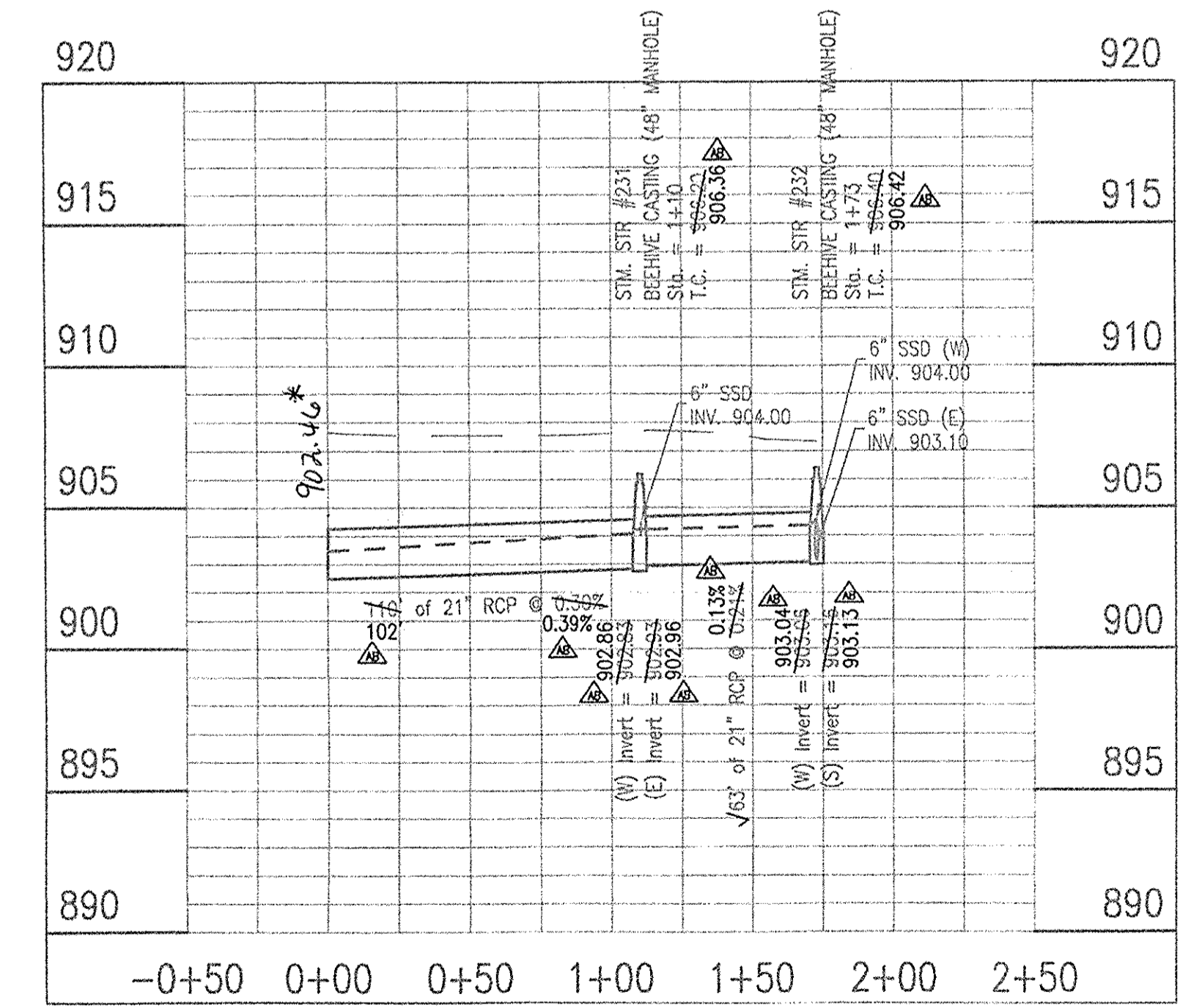
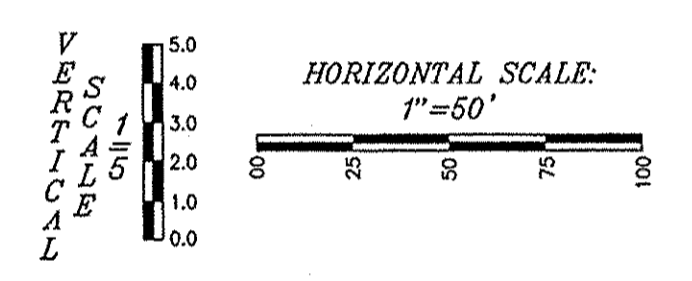
**MINIMUM COVER FOR PIPE CROSSINGS WITHIN CITY RIGHT-OF-WAY**  
 FOR INSTALLATION OF STORM MAINS, WATER MAINS, SANITARY MAINS, WATER SERVICE LATERALS, SANITARY SERVICE LATERALS UNDER CITY STREETS, REGARDLESS OF JURISDICTION OF THE UTILITY, THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1'-0", BUT UNDER NO CIRCUMSTANCES SHALL THE COVER ALONG ANY PART OF THE PIPE FROM THE FINAL PAVEMENT ELEVATION TO THE TOP OF THE PIPE BE LESS THAN 2.5'-FEET. IF THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION HAS A MORE STRINGENT COVER REQUIREMENT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN. COVER HEIGHTS FOR REINFORCED CONCRETE PIPE STORM SEWER THAT ARE LESS THAN THOSE REQUIRED WILL BE EVALUATED ON A CASE BY CASE CONDITION AND APPROVED ONLY WITH WRITTEN PERMISSION BY THE CITY ENGINEER.

**MINIMUM COVER FOR PIPE CROSSINGS WITHIN CITY RIGHT-OF-WAY**

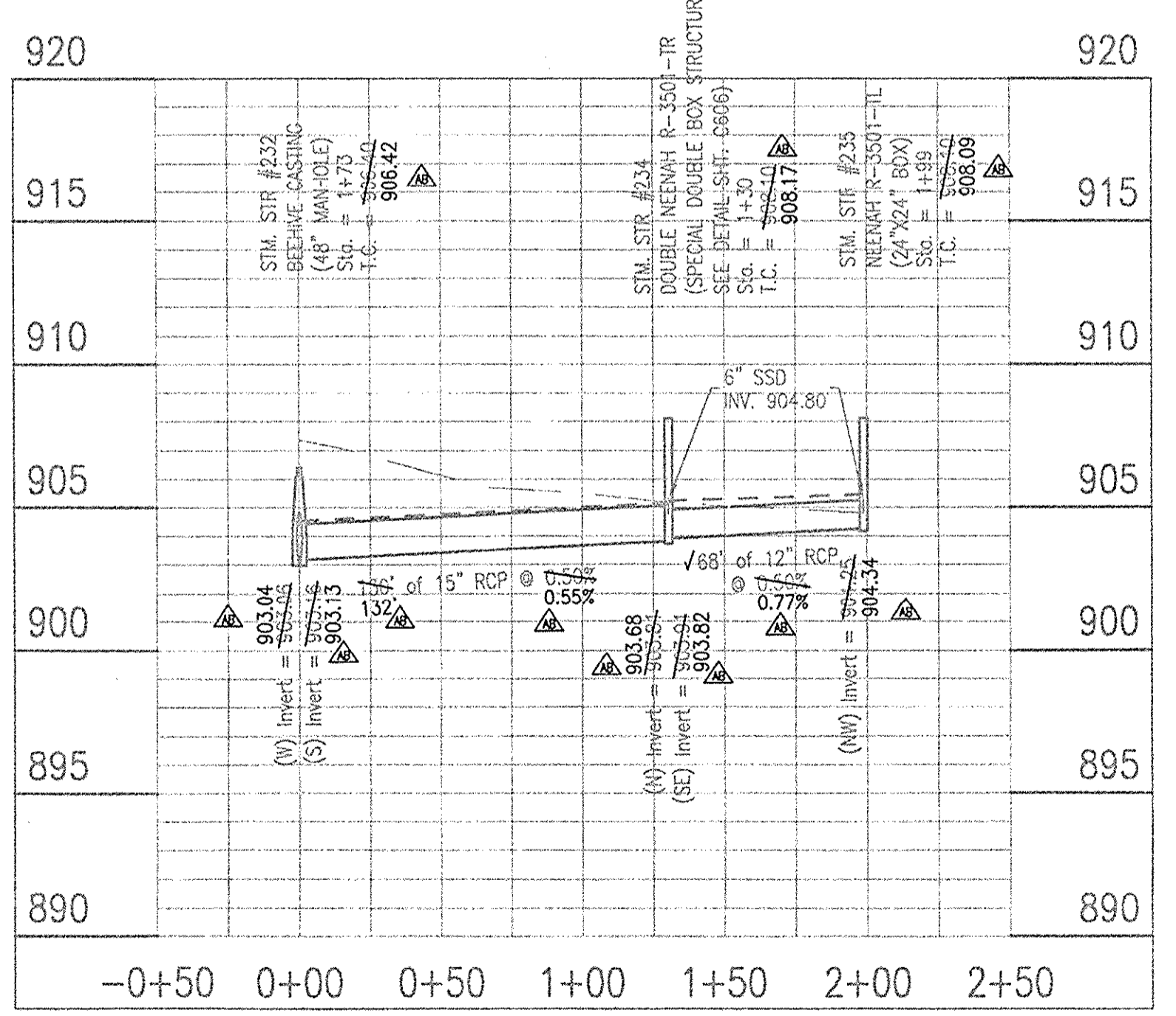
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**STORM SEWER PLAN AND PROFILE NOTES:**  
 FULL DEPTH GRANULAR BACKFILL SHALL BE PER DETAIL 10-28 ON THIS SHEET. REFER TO DETAIL 10-28, THIS SHEET, FOR TRENCHING, BACKFILL AND COVER REQUIREMENTS. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND DOES NOT INCLUDE END SECTIONS.  
 THERE SHALL BE NO FRAMES, CASTINGS, OR VALVE BOX EXTENSIONS IN THE STREET PAVEMENT, CURBS, SIDEWALKS, OR ASPHALT PATH FOR ANY UTILITY INSTALLATIONS IN THE RIGHT-OF-WAY WITH THE EXCEPTION OF CURB INLET CASTINGS.

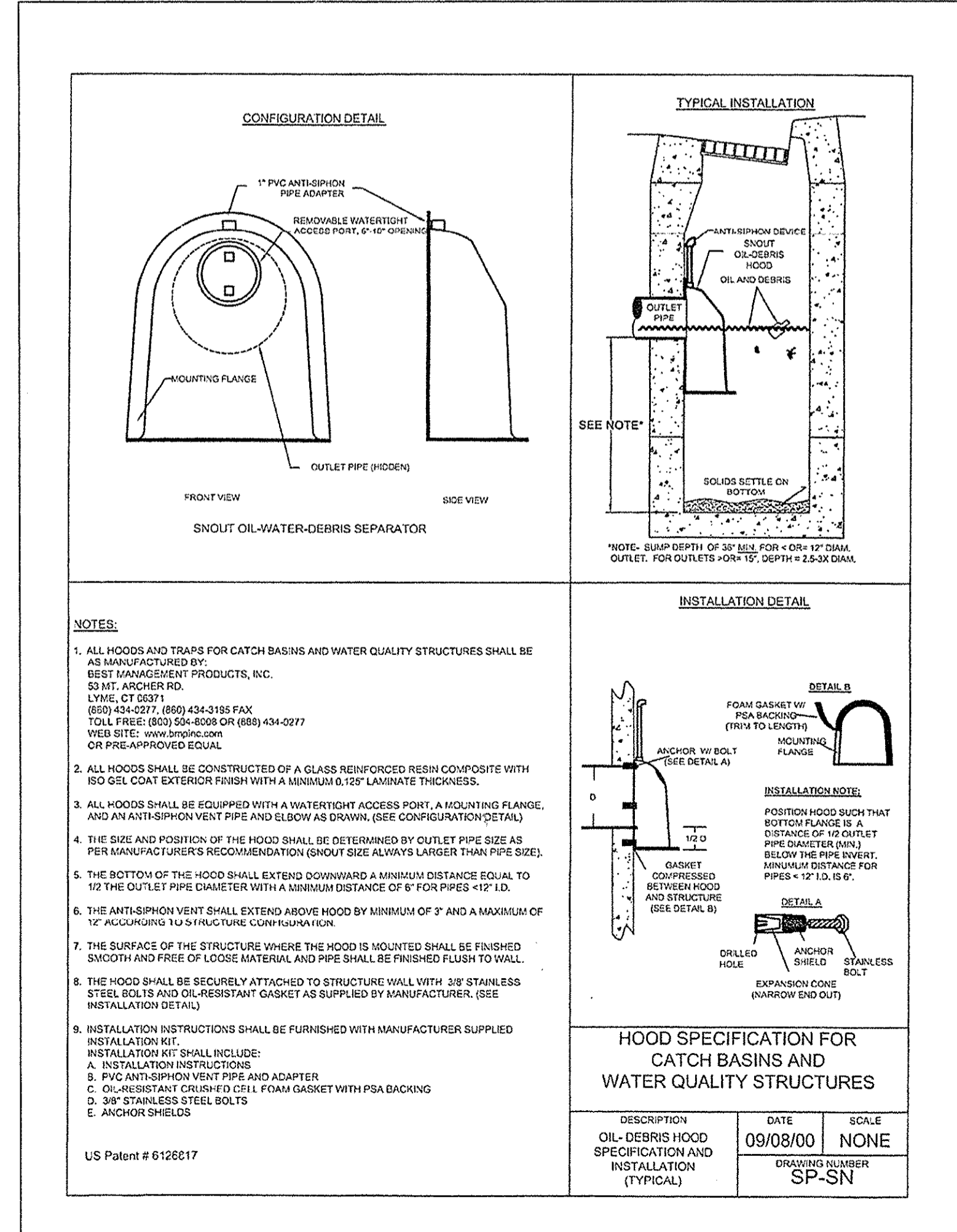
This information was gathered for input into the Hamilton County Geographic Information System (GIS). This document is considered an official record of the GIS.  
 Entry Date: Sept 2014  
 Entered By: SLM



**LEGEND**  
 --- EXISTING GRADE  
 - - - FINISHED GRADE  
 - - - HYDRAULIC GRADE LINE  
 --- GRANULAR BACKFILL



**LEGEND**  
 --- EXISTING GRADE  
 - - - FINISHED GRADE  
 - - - HYDRAULIC GRADE LINE  
 --- GRANULAR BACKFILL



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 317.843.0546 (ax)  
 ALLAN H. WEIHE, P.E., L.S. - FOUNDER

**WEIHE ENGINEERS**  
 Land Surveying | Civil Engineering  
 Landscape Architecture

PROJECT NO.:	W12.0366
DWG. NAME:	AS BUILT Storm Sewer
DESIGNED BY:	SLM
CHECKED BY:	SLM
DATE:	02/15/2013

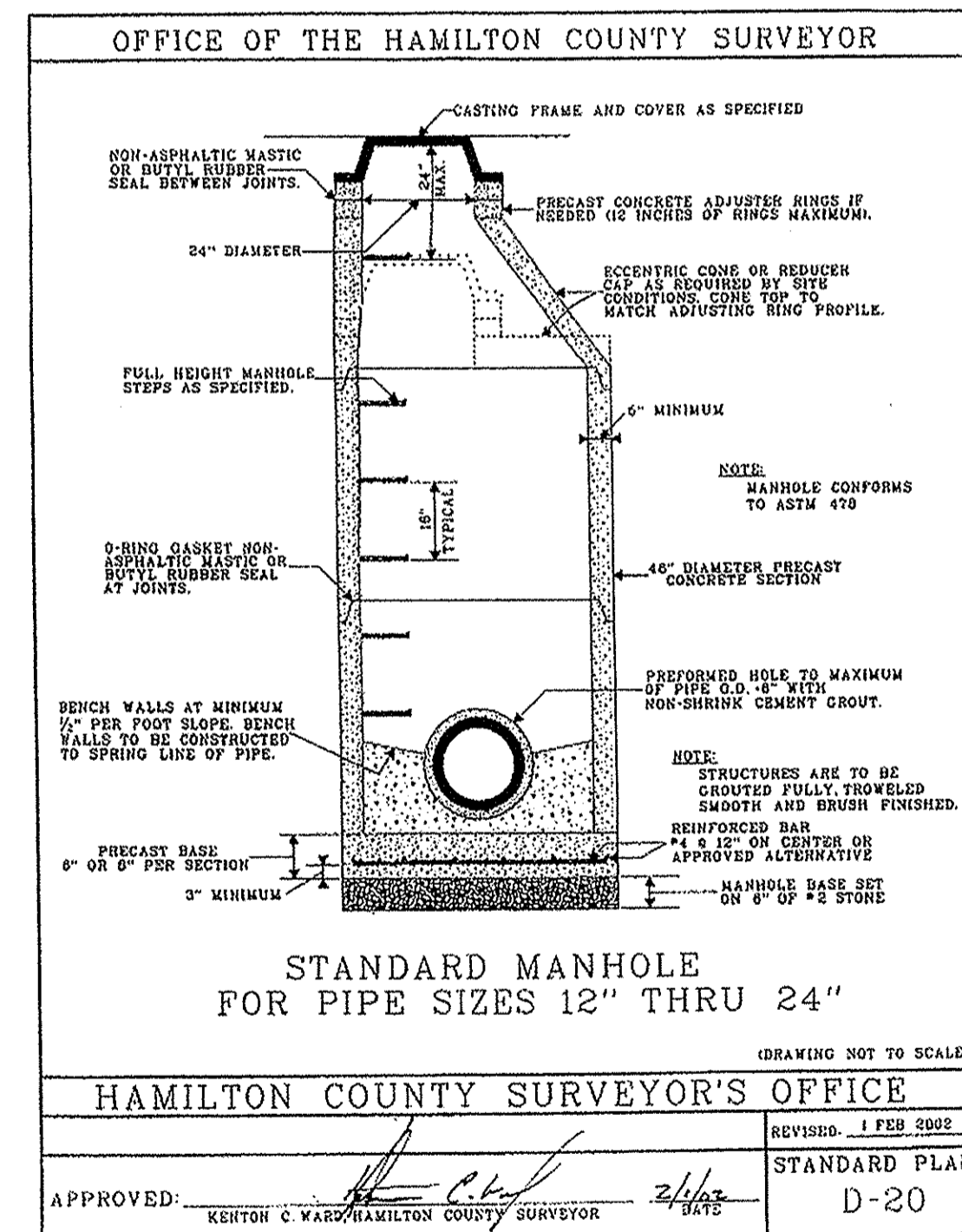
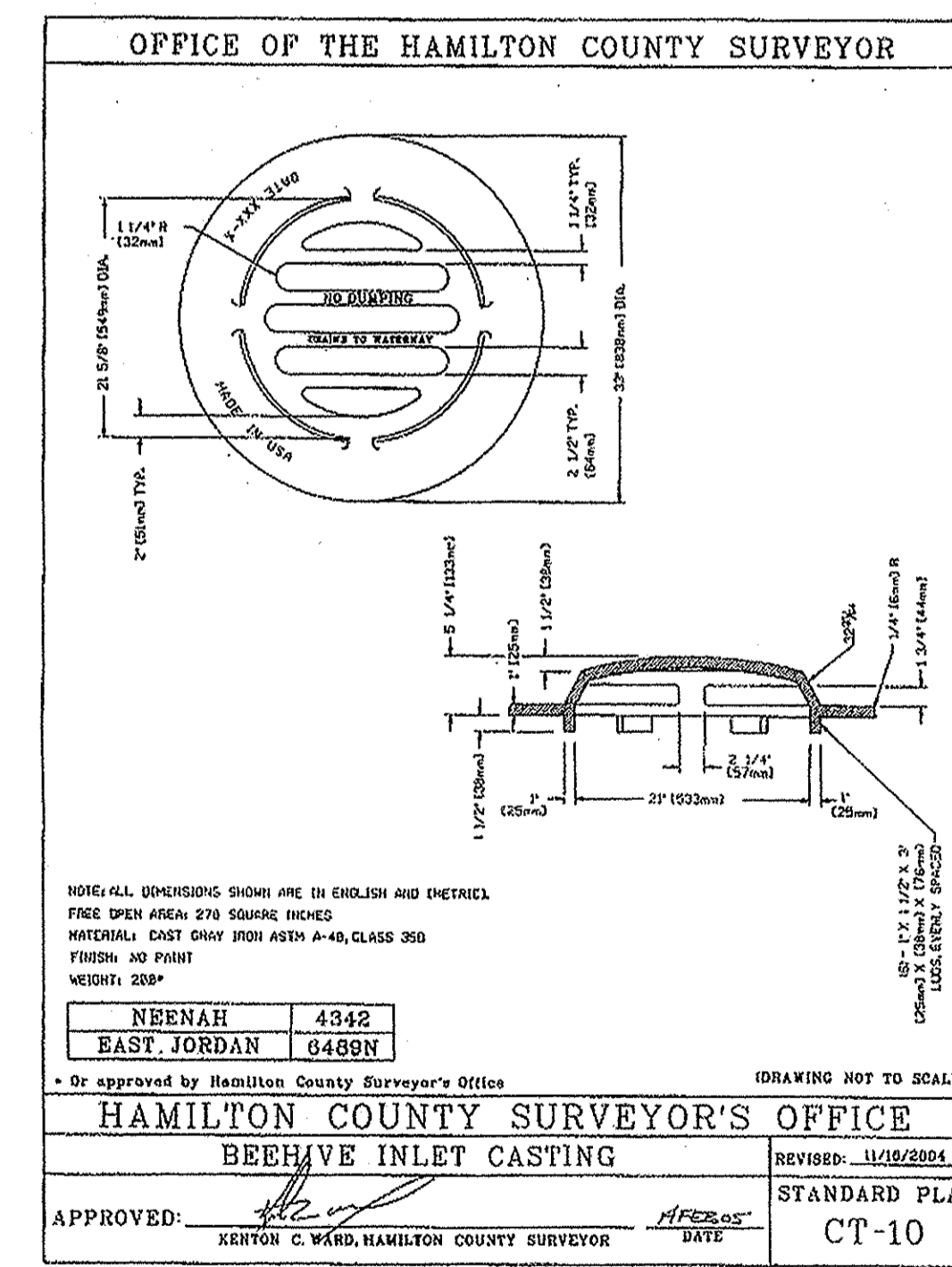
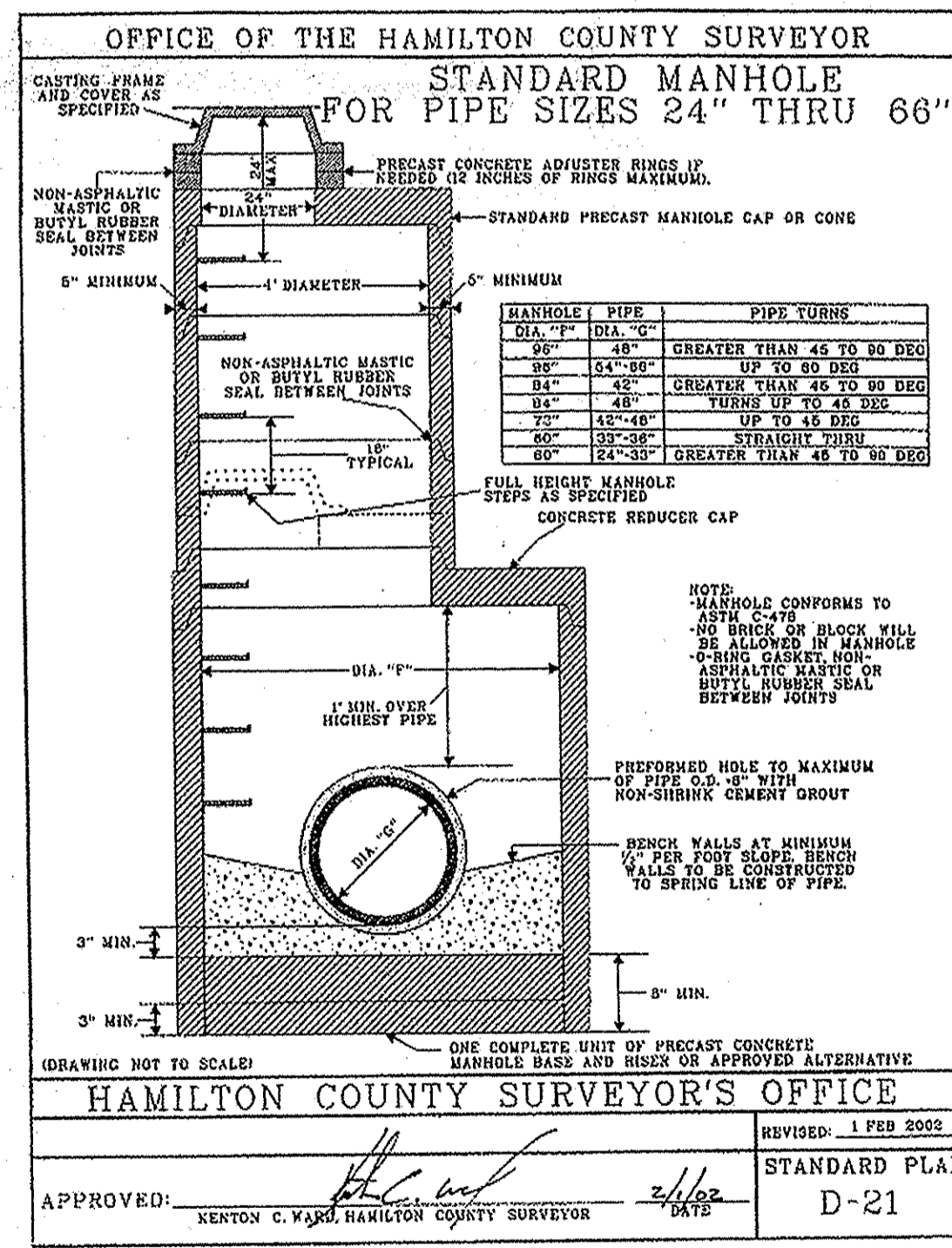
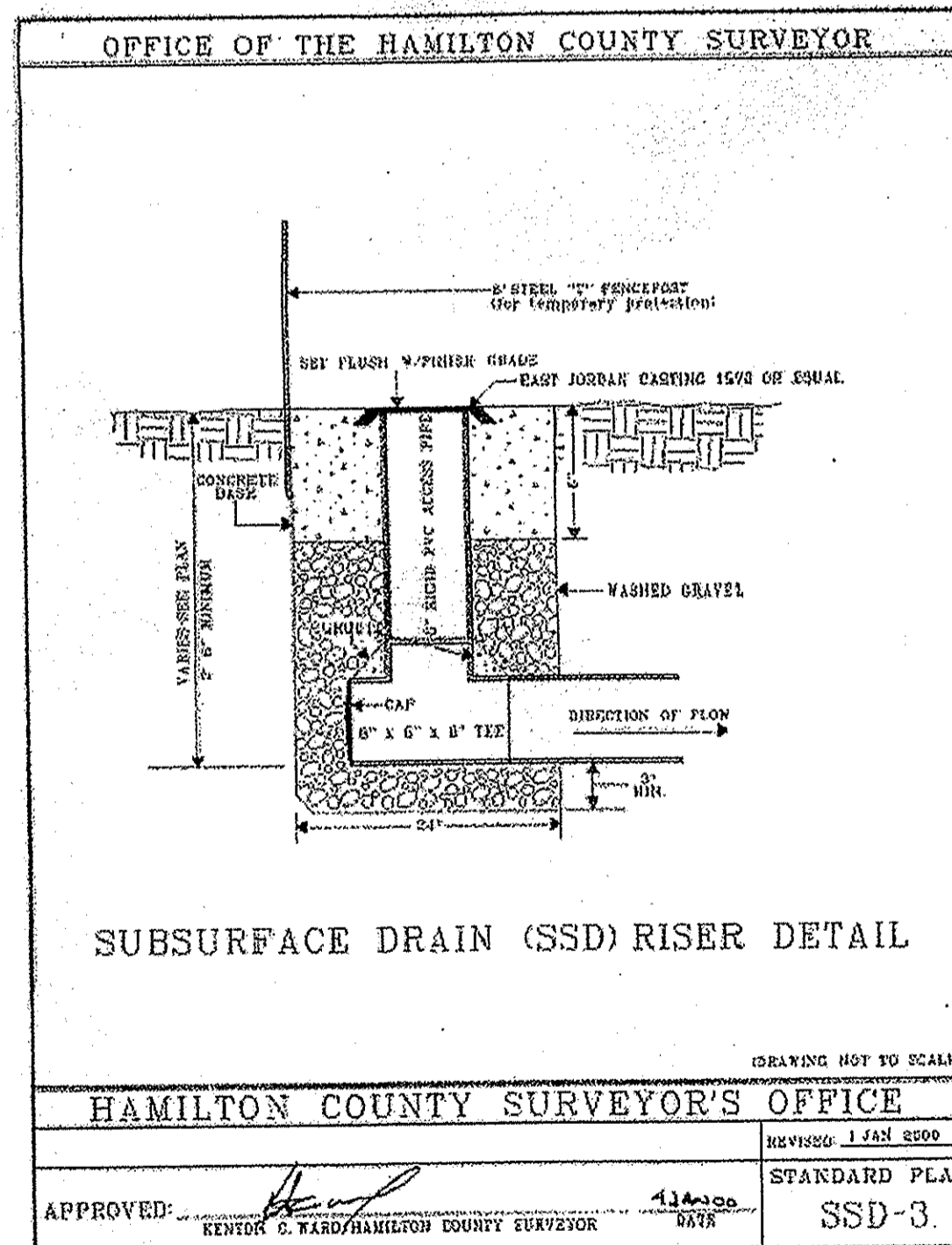
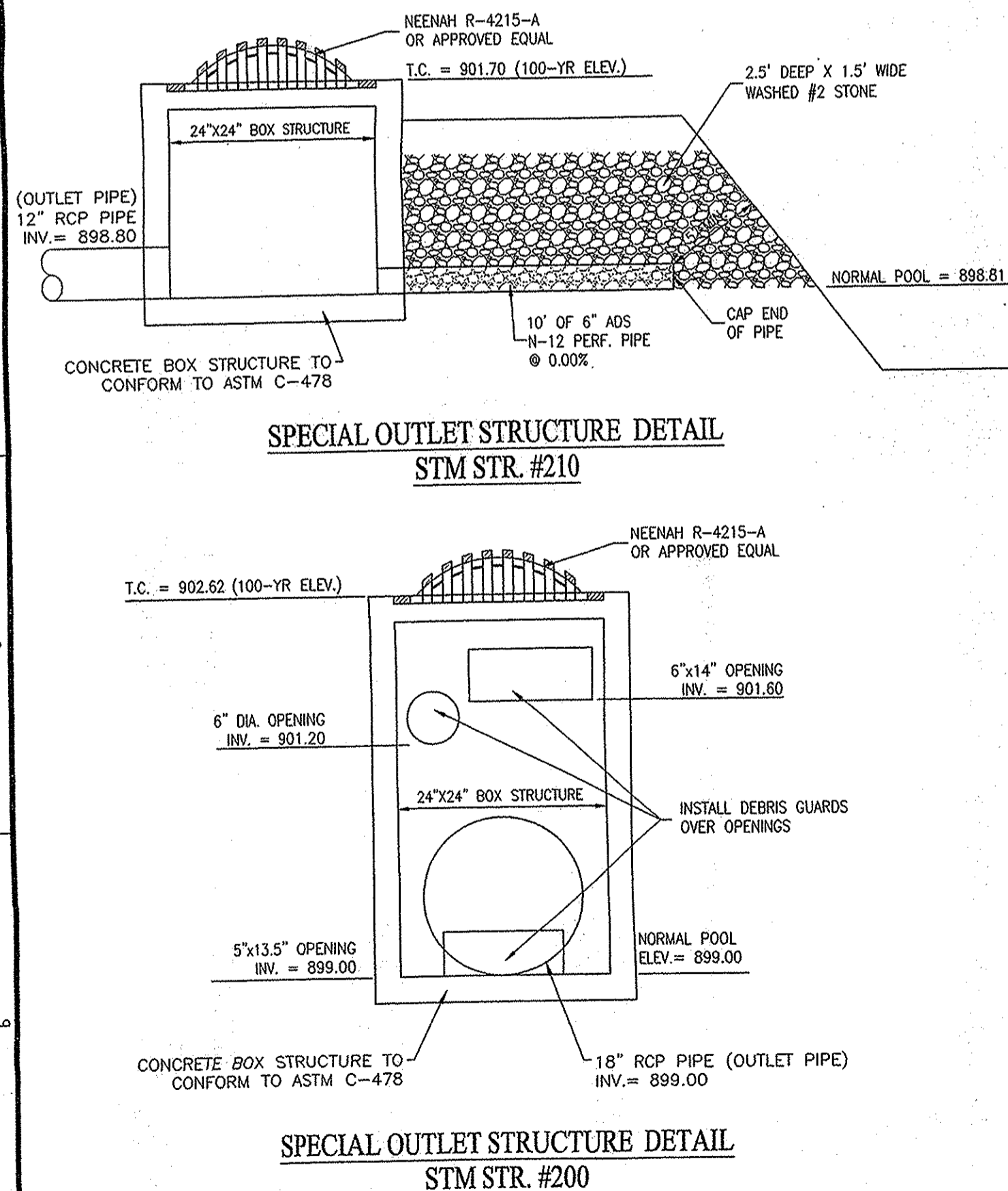
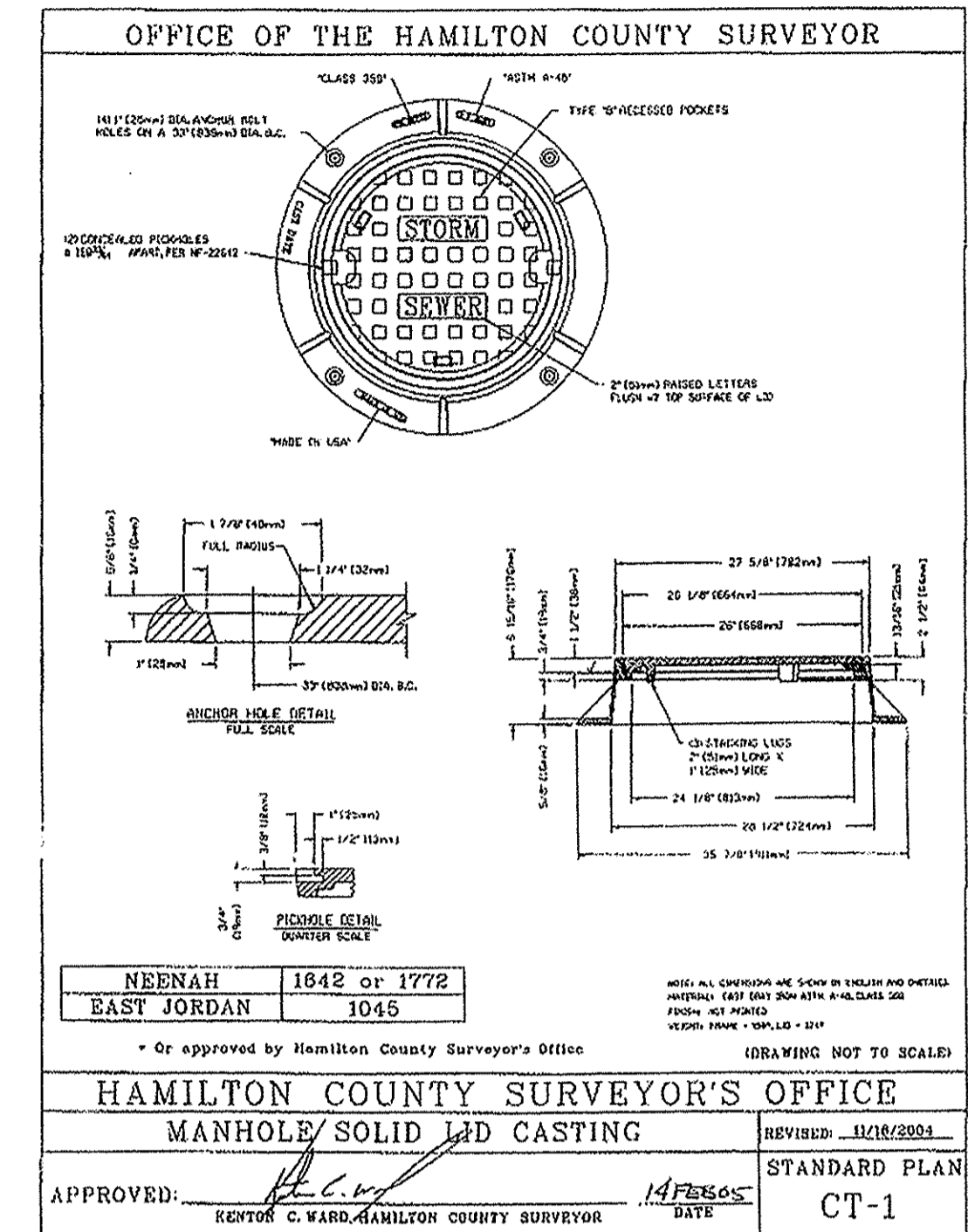
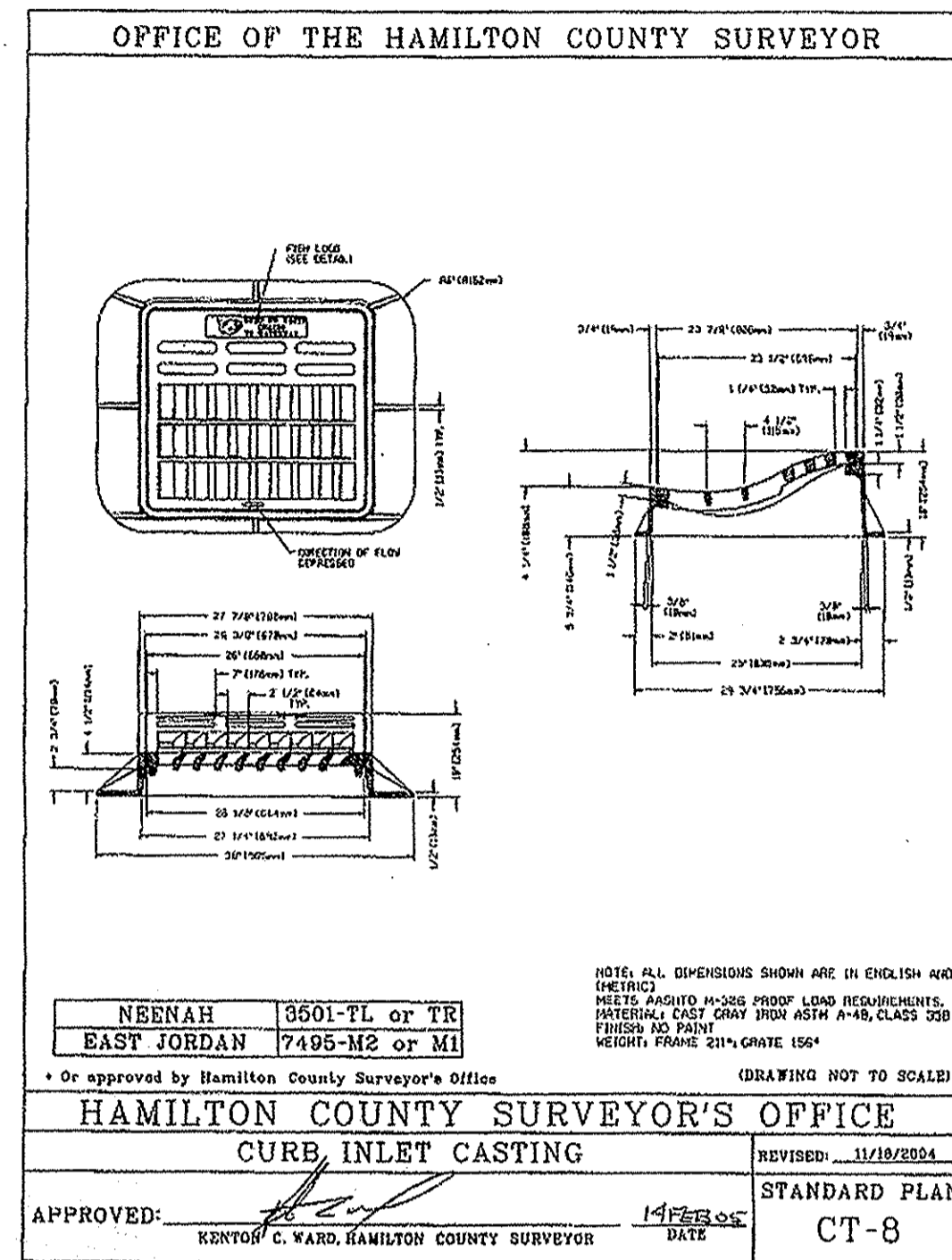
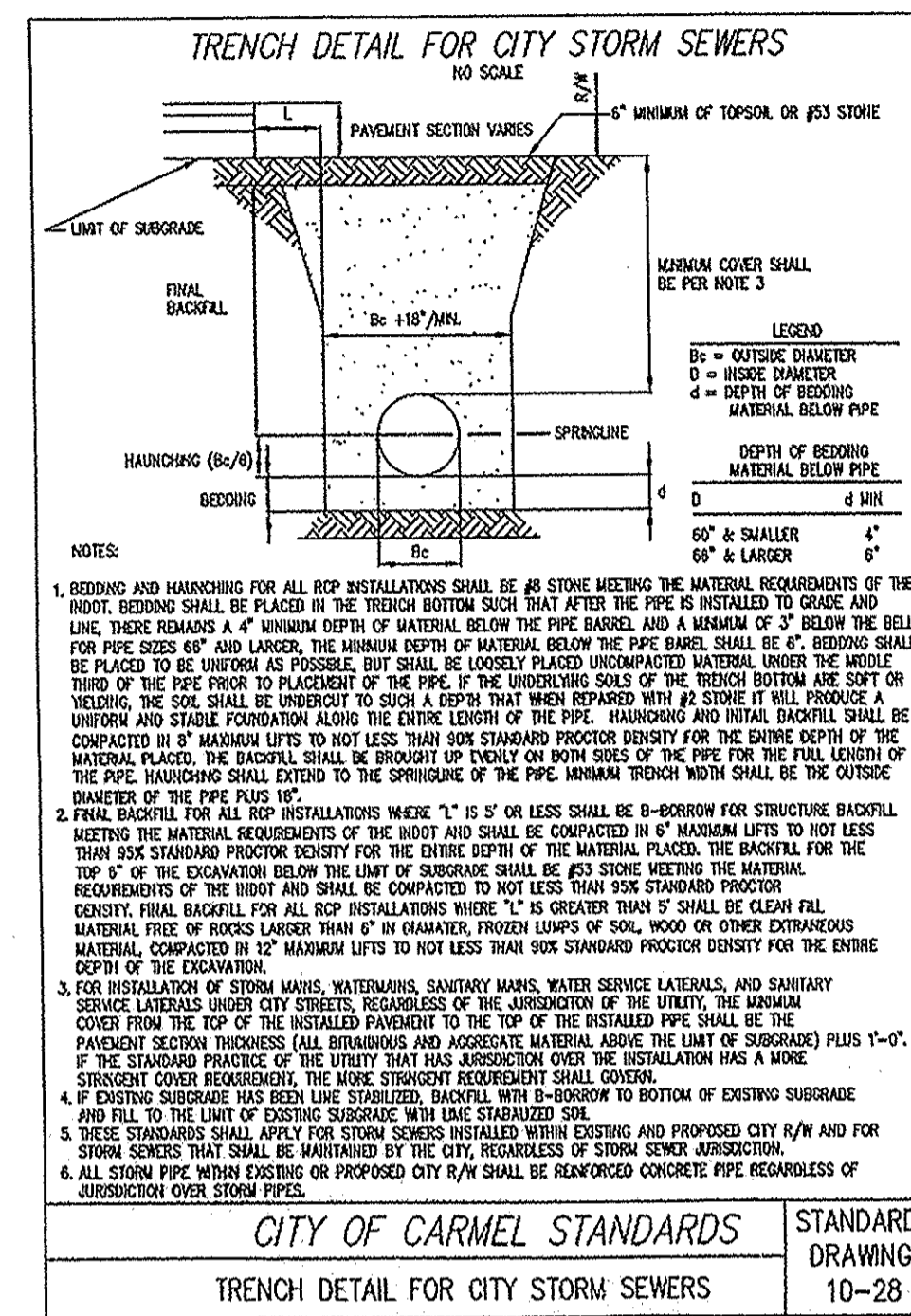
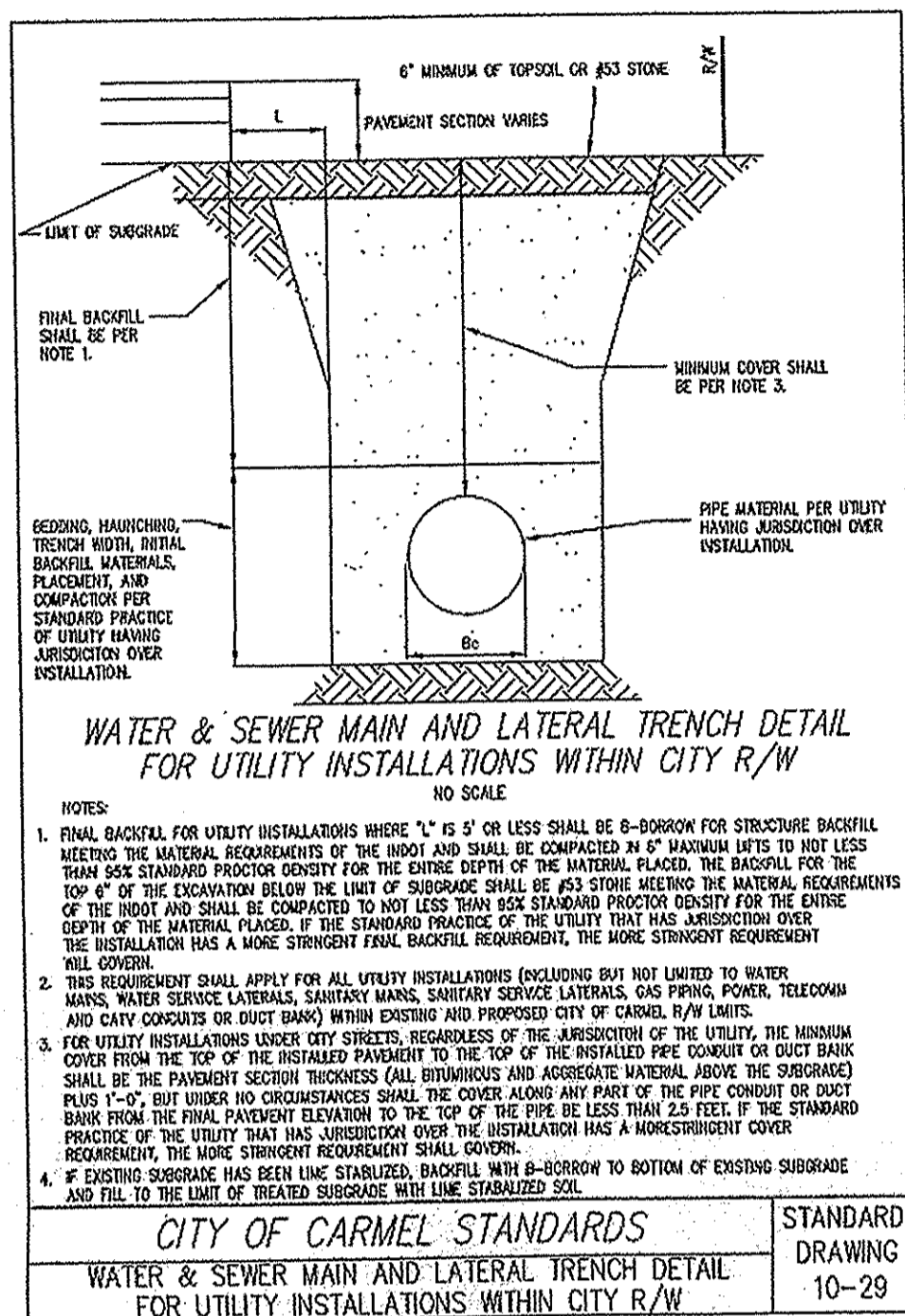
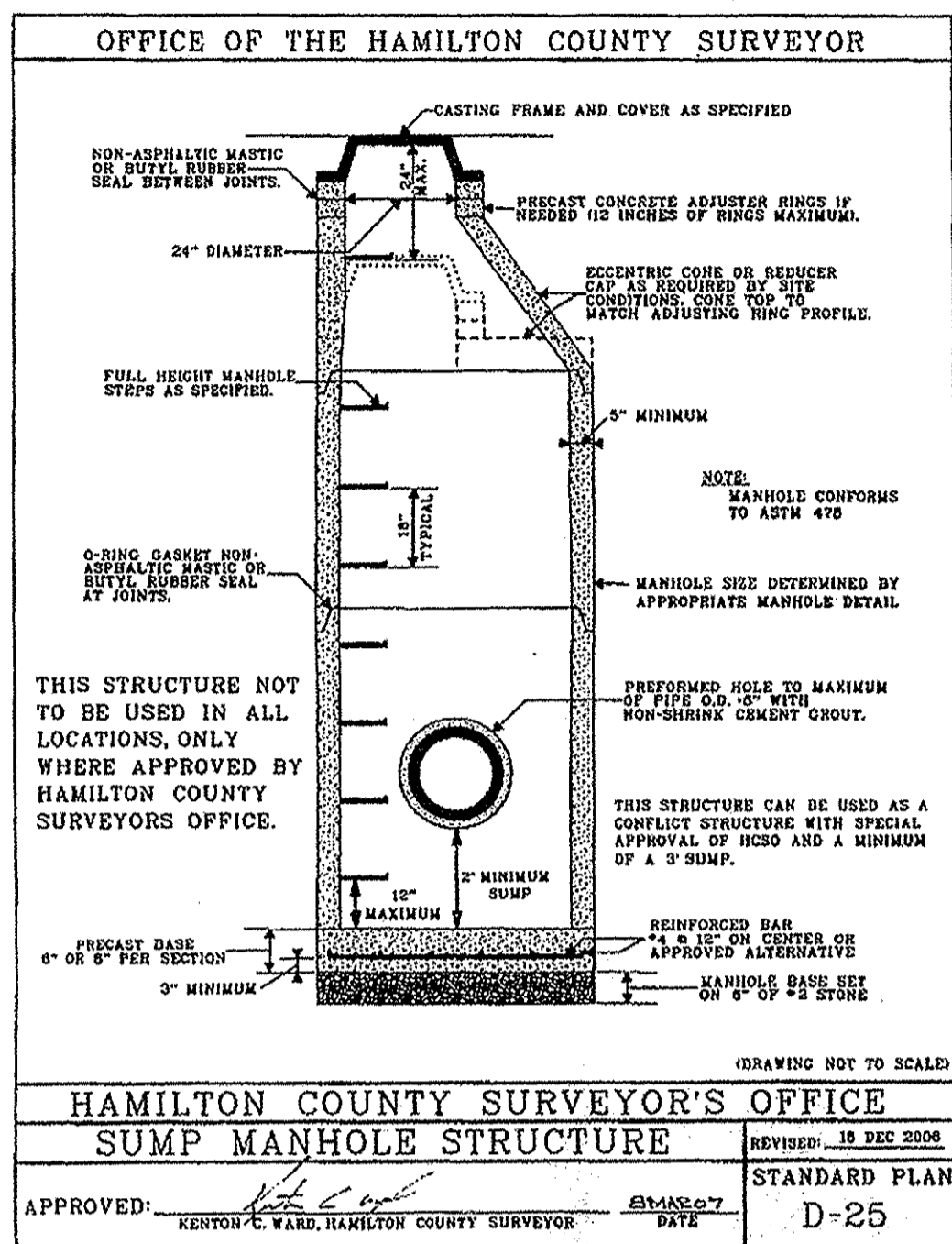


JAMES E. SHIELDS, JR. P.E. 10201333

PREPARED FOR:  
**HADLEY GROVE**  
 MI HOMES OF INDIANA, LP  
 STORM SEWER PLAN AND PROFILE SHEET

DATE: 09/08/00  
 SCALE: NONE  
 DRAWING NUMBER: SP-SN

SHEET NO. **C604**  
 PROJECT NO. W12.0366

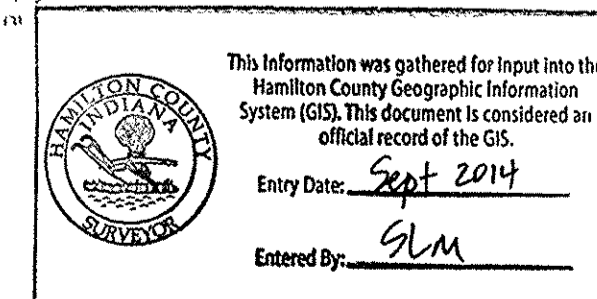


HAMILTON CO. SURVEYORS OFFICE

**APPROVED**

BY: *[Signature]* DATE: AUG 2 8 2013

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



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: Sept 2014

Entered By: GLM

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800 | 452 - 6408  
317 | 843 - 0546 fax  
ALLAN H. WEIHE, P.E., L.S., FOUNDER

**WEIHE ENGINEERS**  
Land Surveying / Civil Engineering  
Landscape Architecture

DATE: 02/15/2013  
BY: JES  
CHECKED BY: JES  
DRAWN BY: RHE  
DESIGNED BY: RHE  
DATE: 02/15/2013

**HAMILTON COUNTY SURVEYOR'S OFFICE**

PROJECT NO. W12.0366  
DATE: 7/29/2013  
BY: JES  
CHECKED BY: JES  
DRAWN BY: RHE  
DESIGNED BY: RHE  
DATE: 7/29/2013

REVISIONS AND ISSUES:  
REVISIONS PER REVIEWER COMMENTS  
REVISIONS PER AGENCY COMMENTS  
REVISIONS PER AGENCY COMMENTS  
REVISIONS PER AGENCY COMMENTS  
REVISIONS PER AGENCY COMMENTS  
REVISIONS PER AGENCY COMMENTS  
REVISIONS PER AGENCY COMMENTS

9-23-13

**JAMES E. SHIELDS, JR.**  
No. PE10201333  
STATE OF INDIANA  
PROFESSIONAL ENGINEER

*[Signature]*  
JAMES E. SHIELDS, JR. 160001333

**HAMILTON COUNTY SURVEYOR'S OFFICE**

PROJECT NO. W12.0366  
DATE: 7/29/2013  
BY: JES  
CHECKED BY: JES  
DRAWN BY: RHE  
DESIGNED BY: RHE  
DATE: 7/29/2013

PREPARED FOR:  
**HADLEY GROVE**  
MI HOMES OF INDIANA, LP  
**STORM SEWER DETAILS**

SHEET NO. **C605**  
PROJECT NO. W12.0366

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## DEBRIS GUARD

Approx. Size (Inches)	V-bar Size (Inches)	No. of V-bars	H-bar Size (Inches)	H-bar Dia. (Inches)	H-bar Spacing (Inches)	H-bar No.	H-bar Dia. (Inches)	H-bar Spacing (Inches)	H-bar No.
12	1/2	3	3/4	1/2	12	6	1/2	12	6
24	3/8	4	3/4	1/2	12	8	1/2	12	8
36	3/8	4	3/4	1/2	12	10	1/2	12	10
48	3/8	4	3/4	1/2	12	12	1/2	12	12
60	3/8	4	3/4	1/2	12	14	1/2	12	14
72	3/8	4	3/4	1/2	12	16	1/2	12	16
84	3/8	4	3/4	1/2	12	18	1/2	12	18
96	3/8	4	3/4	1/2	12	20	1/2	12	20
108	3/8	4	3/4	1/2	12	22	1/2	12	22
120	3/8	4	3/4	1/2	12	24	1/2	12	24
132	3/8	4	3/4	1/2	12	26	1/2	12	26
144	3/8	4	3/4	1/2	12	28	1/2	12	28
156	3/8	4	3/4	1/2	12	30	1/2	12	30
168	3/8	4	3/4	1/2	12	32	1/2	12	32
180	3/8	4	3/4	1/2	12	34	1/2	12	34
192	3/8	4	3/4	1/2	12	36	1/2	12	36
204	3/8	4	3/4	1/2	12	38	1/2	12	38
216	3/8	4	3/4	1/2	12	40	1/2	12	40
228	3/8	4	3/4	1/2	12	42	1/2	12	42
240	3/8	4	3/4	1/2	12	44	1/2	12	44
252	3/8	4	3/4	1/2	12	46	1/2	12	46
264	3/8	4	3/4	1/2	12	48	1/2	12	48
276	3/8	4	3/4	1/2	12	50	1/2	12	50
288	3/8	4	3/4	1/2	12	52	1/2	12	52
300	3/8	4	3/4	1/2	12	54	1/2	12	54
312	3/8	4	3/4	1/2	12	56	1/2	12	56
324	3/8	4	3/4	1/2	12	58	1/2	12	58
336	3/8	4	3/4	1/2	12	60	1/2	12	60
348	3/8	4	3/4	1/2	12	62	1/2	12	62
360	3/8	4	3/4	1/2	12	64	1/2	12	64
372	3/8	4	3/4	1/2	12	66	1/2	12	66
384	3/8	4	3/4	1/2	12	68	1/2	12	68
396	3/8	4	3/4	1/2	12	70	1/2	12	70
408	3/8	4	3/4	1/2	12	72	1/2	12	72
420	3/8	4	3/4	1/2	12	74	1/2	12	74
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456	3/8	4	3/4	1/2	12	80	1/2	12	80
468	3/8	4	3/4	1/2	12	82	1/2	12	82
480	3/8	4	3/4	1/2	12	84	1/2	12	84
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528	3/8	4	3/4	1/2	12	92	1/2	12	92
540	3/8	4	3/4	1/2	12	94	1/2	12	94
552	3/8	4	3/4	1/2	12	96	1/2	12	96
564	3/8	4	3/4	1/2	12	98	1/2	12	98
576	3/8	4	3/4	1/2	12	100	1/2	12	100

NOTES:  
 1. BARS & PLATES ARE HOT-ROLLED STEEL.  
 2. BASE PLATE & V-BARS ARE FINISHED WITH 2 COATS OF ALUMINUM PAINT.  
 3. BOLTS ARE GALVANIZED.  
 4. NO REBAR THROUGH PIPES XEL BE ALLOWED.  
 5. DEBRIS GUARD SHALL BE REMOVABLE.

DRAWING NOT TO SCALE

HAMILTON COUNTY SURVEYOR'S OFFICE

APPROVED: *[Signature]* KENTON Z. WARD, HAMILTON COUNTY SURVEYOR

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## STRAIGHT CURB INLET CASTING TYPE 1

APPROXIMATE TOTAL WEIGHT: 650 lbs. (386 kg)

MANUFACTURER: CATALOG NO.  
 NEENAH R-3287, 10V  
 R-3287, SB10

CITY OF CARMEL STANDARDS

STANDARD DRAWING 10-26

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## SSD LATERAL TO INDIVIDUAL LOTS IN REAR YARD

NOTES:  
 PIPE SHALL CONFORM TO SPEC REQUIREMENTS OF SECTION 907 OF STANDARD SPECIFICATION  
 TEMPORARY EXTENSION ABOVE GROUND TO BE REMOVED UPON CONNECTION TO HOUSE

CITY OF CARMEL STANDARDS

STANDARD DRAWING 10-26

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## SPECIAL OUTLET STRUCTURE DETAIL

CONCRETE BOX STRUCTURE TO CONFORM TO ASTM C-478

CITY OF CARMEL STANDARDS

STANDARD DRAWING 10-26

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## EMERGENCY SPILLWAY TYPICAL SECTION

LAKE DESIGNATION:	TOP OF BANK ELEV.:	100YR ELEV.:	SPILLWAY ELEV.:	SPILLWAY WIDTH:
WET POND (WEST)	905.2	903.18	903.20	20'
WET POND (NORTH)	908.0	905.64	906.70	20'

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## LAKE OUTLET DETAIL FOR LAKE CROSS-SECTION OPTION 3

HAMILTON COUNTY SURVEYOR'S OFFICE

APPROVED: *[Signature]* KENTON Z. WARD, HAMILTON COUNTY SURVEYOR

CITY OF CARMEL STANDARDS

STANDARD DRAWING 10-11

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## TYPICAL SWALE DETAILS

CITY OF CARMEL STANDARDS

STANDARD DRAWING 10-27

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## TYPICAL CURB INLET - TYPE J

CITY OF CARMEL STANDARDS

STANDARD DRAWING 10-34

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## DOUBLE INLET STRUCTURE

CITY OF CARMEL STANDARDS

STANDARD DRAWING 10-27

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## APPROVED

AUG 28 2013

HAMILTON COUNTY SURVEYOR

APPROVED WHERE DRAINAGE PLANS COMPLY WITH HAMILTON COUNTY REGULATED DRAIN DESIGN STANDARDS AND ARE NOT IN CONFLICT WITH DRAINAGE BOARD ACCEPTANCE FOR SECONDARY PLAN APPROVAL

CITY OF CARMEL STANDARDS

STANDARD DRAWING 10-34

10505 N. College Avenue  
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 317 843 - 0546/jax

ALLAN H. WEIHE, P.E., L.S. - FOUNDER

**WEIHE ENGINEERS**  
 Land Surveying | Civil Engineering  
 Landscape Architecture

PROJECT NO. W12.0366  
 DATE: 02.15.2013

DESIGNED BY: EEF  
 CHECKED BY: JES  
 DATE: 02.15.2013

REVISIONS AND ISSUES:  
 REVISIONS PER AGENCY COMMENTS  
 REVISIONS PER AGENCY COMMENTS  
 REVISIONS PER AGENCY COMMENTS  
 REVISIONS PER AGENCY COMMENTS

8-23-13

JAMES E. SHIELDS, JR.  
 REGISTERED PROFESSIONAL ENGINEER  
 No. PE102013333  
 STATE OF INDIANA

HADLEY GROVE  
 MI HOMES OF INDIANA, LP  
 STORM SEWER DETAILS

Part of the SE 1/4 of Section 28, Township 18 North, Range 40 East, Clay Township, Hamilton County, Indiana

PREPARED FOR: HADLEY GROVE  
 MI HOMES OF INDIANA, LP

ENTRY DATE: Sept 2014  
 Entered By: SLM

SHEET NO. C606  
 PROJECT NO. W12.0366