



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 26, 2006

To: Hamilton County Drainage Board

Re: Little Eagle Creek Drain, Overbrook Farms Section 1 Arm

Attached is a petition filed by WTFOT, LLC. along with a non-enforcement request, plans, calculations, quantity summary and assessment roll for the Overbrook Farms Section 1 Arm, Little Eagle Creek 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	1,667 feet	15"	RCP	1,369 feet	18"	RCP	1,142 feet
21"	RCP	29 feet	24"	RCP	1,617 feet	27"	<b>RCP</b>	505 feet
30"	RCP	290 feet	36"	RCP	1.014 feet	6"	SSD	9.633 feet

Reno Mattress Lined Open Channel 95 feet Open Ditch 3,015 feet

The total length of the drain will be 20,376 feet.

The Reno Mattress Lined Open Channel listed above is that open channel from Str. 718 to Bear Creek and Str. 727 to Bear Creek as shown on Sheet 4 of the construction plans by Weihe Engineers, Inc., dated July 6, 2005 and having job number W04-0826.

The open ditch listed above is that open ditch known as Bear Creek thru the future Section 2 of Overbrook Farms and across parcel 17-09-19-00-002.000, owned by Thomas P. Murphy, and parcel 08-09-18-00-00-033.004, owned by Jerry and Jill Wright.

The retention pond (Pond #2) located in Common Area 1 and retention pond (Pond #3) located in future section 2 are to be considered part of the regulated drain. Pond maintenance shall include the inlet, outlet, sediment removal, and erosion control along the banks as part of the regulated drain. The maintenance of the ponds such as mowing and aquatic vegetation control will be the responsibility of the Homeowners Association. The Board will however retain jurisdiction for ensuring the storage volume for which the lake 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. 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 \$10.00 per acre for common areas and platted lots, 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 \$4,483.20.

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: Bond Safeguard Insurance Company

Date: November 30, 2005

Number: 5018425

For: Storm Sewers, Erosion Control, Sub-Surface Drains

Amount: \$756,592.80

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 is for the reduction of the regulated drain easement to those easement widths as shown on the secondary plat for Overbrook Farms Section 1 as recorded in the office of the Hamilton County Recorder.

I recommend the Board set a hearing for this proposed drain for January 22, 2007.

Kenton C. Ward, CFM Hamilton County Surveyor

KCW/llm

		(Revised 06/08/04)
STATE OF INDIANA )		,
)		
COUNTY OF HAMILTON )		
TO: HAMILTON COUNTY DE	RAINAGE BOARD	
% Hamilton County Survey		
One Hamilton County Sq	uare, Suite 188	
Noblesville, IN. 46060-22	230	
In the matter of	Overbrook Farms	Subdivision, Section
In One	Drain Petition.	
Petitioner is the owner of all drainage will affect various lots i		ne proposed new regulated drain. The ns , 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.
- 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	Reffahen (Member
Signed	Signed
Printed Name	Printed Name (Mombon)
rined Name	OCT. 06-05
Date Date	Date Date
I fille	
Signed	Signed
DAVID MORTON	
Printed Name	Printed Name
10-6-05	
Date	Date

# **WEIHE ENGINEERS INC**

CIVIL ENGINEERS LAND SURVEYORS LANDSCAPE ARCHITECTS

1960 • 2005

October 10, 2005

Hamilton County Surveyor's Office ATTN: Mr. Greg Hoyes Suite 188 One Hamilton County Square Noblesville, Indiana 46060

RE: OVERBROOK FARMS ENGINEERS ESTIMATE

Dear Greg:

The following totals are Hamilton County Surveyor's portion for the engineer's estimate of Overbrook Farms, Section One:

#### STORM SEWER AND SUBSURFACE DRAINS

12 Inch RCP	1808 If	\$32,580.00
15 Inch RCP	1210 If	\$25543.00
18 Inch RCP	1133 If	\$25651.00
21 Inch RCP	29 If	\$ 782.00
24 Inch RCP	1547 If	\$48158.00
27 Inch RCP	507 If	\$17998.00
27 Inch RCP 36 Inch RCP	507 lf 1214 lf	

6 Inch SSD (Curb & Lateral) \$64801.00

#### **STRUCTURES**

Small concrete end sections	2	\$ 950.00
Large concrete end sections	7	\$ 8015.00
Small inlet structures	34	\$43537.00
Large inlet structures	23	\$43309.00

Monuments & markers (materials/field labor including iron pins @ lot corners: \$4000.00

Erosion Control (per Hamilton County Soil & Water Requirements) \$60958.00

Please call should you have any questions. Thank you.

Sincerely,

Dave Barnes, Weihe Engineers, Inc.

#### **CERTIFICATION:**

I certify that this cost breakdown represents an estimate of cost for materials and labor to make the improvements shown on the construction plans and is based on standard methods of estimating such costs effective at the time of the estimate was prepared.

Allan H. Weihe, President, Weihe Engineers, Inc., P.E. Indiana 8827

No. 10398

NO. 8827 BTATE OF

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

# Gasb 34 Asset Price & Drain Length Log

		Diaili Le	ingui Log			
Drain-Improvement:_	Over b	rack FARM	Sec. 1			
					If App	licable
Drain Type:	Size:	Length	Length (DB Query)	Length Reconcile	Price:	Cost:
open		3015			4/955 If	58,943
				·		
		<u> </u>				
	Sum:	3015			#	58,943.2
Final Report:						
Comments:						
		·				

# BEFORE THE HAMILTON COUNTY DRAINAGE BOARD IN THE MATTER OF

#### Little Eagle Creek Drain, Overbrook Farms Section 1 Arm

NOTICE

То	Whom	Ιt	Мау	Concern	and:	.,,	 	 	 	_
							 	 	 	_

Notice is hereby given of the hearing of the Hamilton County Drainage Board concerning the reconstruction of the Little Eagle Creek Drain, Overbrook Farms Section 1 Arm on January 22, 2007, at 9:05 A.M. in Commissioners Court, Hamilton County Judicial Center, One Hamilton County Square, Noblesville, Indiana. Construction and maintenance reports of the Surveyor and the Schedule of Assessments proposed 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

#### Little Eagle Creek Drain, Overbrook Farms Section 1 Arm

NOTICE

Notice is hereby given pursuant to Section 405 of the 1965 Indiana Drainage Code that this Board, prior to final adjournment on **January 22**, **2007** 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

#### FINDINGS AND ORDER

#### CONCERNING THE MAINTENANCE OF THE

#### Little Eagle Creek Drain, Overbrook Farms Section 1 Arm

On this **22nd** day of January 2007, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the Little Eagle Creek Drain, Overbrook Farms Section 1 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

#### CERTIFICATE OF COMPLETETION AND COMPLIANCE

To: Hamilton County Surveyor

Re: Overbrook Farms, Section One

#### 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 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: Man H. Wei	ke Date: <u>3/19/07</u>
Type or Print Name: Allan H. Weihe	;
Business Address: 10505 N. College	Avenue
Indianapolis, IN	46280
Telephone Number: 317-846-6611	
SEAL  No.  8827  STATE OF  WOJANA  WOJ	INDIANA REGISTRATION NUMBER 8827
STATE OF WORLD	





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 2, 2007

Re: Little Eagle Creek Drain: Overbrook Farms Section 1

Attached are as-builts, certificate of completion & compliance, and other information for Little Eagle Creek Drain. 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 26, 2006. The report was approved by the Board at the hearing held January 22, 2007. (See Drainage Board Minutes Book 10, Pages 42-43) The changes are as follows:

Structure:	Length:	Size	Material:	Up Invert:	Dn_Invert	Grade:	Changes:
762-761	165	15	RCP	905.14	904.25	0.54	1
761-758	71	18	RCP	904.25	903.76	0.69	
760-759	83	18	RCP	906.79	906.24	0.66	1
759-758	159	18	RCP	906.24	903.76	1.56	1
758-757	164	24	RCP	903.76	902.89	0.53	
757-757A	160	15	RCP	905.97	902.89	1.93	1
757-756	199	24	RCP	902.89	901.89	0.46	•
763-755	39	12	RCP	903.12	901.78	3.44	
756-755	38	24	RCP	901.98	901.78	0.53	
755-754	354	27	RCP	901.78	900.05	0.49	
754-753	152	27	RCP	900.05	899.29	0.5	1
767-753	179	15	RCP	904.83	.899.29	3.09	
753-752	290	30	RCP	899.29	898.02	0.44	2
766-765	42	12	RCP	903.75	901.92	4.36	
765-764	41	12	RCP	901.92	900.38	3.76	
764-754	14	12	RCP	900.28	900.05	1.64	1
775-774	170	12	RCP	900.35	899.27	0.64	1
774-773A	28	15	RCP	899.27	899.05	0.79	
773A-773	87	15	RCP	899.05	898.59	0.53	2
773-752	151	15	RCP	898.59	898.02	0.38	1
772-771	186	15	RCP	904.21	903.37	0.45	1
771-770	163	18	RCP	903.37	902.46	0.56	2

Overbrook Dr Dunellen Cir	2327.5 417					Channel Open Ditch	95 3015
6" SSD Streets:					<u>,                                      </u>	Other Drain: Reno Lined	
728-727	148	24	RCP	885.7	883.41	1.55	
729-728	81	24	RCP	886.74	885.7	1.28	2
730-729	171	24_	RCP	889.52	886.74	1.63	1
731-730	35	21	RCP	890.02	889.52	1.43	6
719-718	71	36	RCP	875.79	875.18	1.09	7
780-779	60	24	RCP	876.31	875.8	0.85	6
780A-780	71	18	RCP	877.63	.876.31	1.86	1
781-780A	37	18	RCP	878.81	878.36	1.97	1
782-781	28	18	RCP	878.81	878.36	2.25	<u>.·</u>
783-782	31	18	RCP	879.14	878.81	1.91	-1
783B-783A ′	161	12	RCP	889.87	881.79	5.02	·
783C-783B	28	12	RCP	893.96	893.47	28	
783A-783	237	18	RCP	881.79	879.47	0.98	1
784-783A	217	12	RCP	884.4	881.79	1.2	-3
784A-784	353	12	RCP	887.49	884.4	1	1
737-736	47	18	RCP	890.4	890.11	0.62	-2
738-737	191	18	RCP	891.19	890.4	0.41	
739-738	28	18	RCP	891.42	891.19	0.82	· · · · · · · · · · · · · · · · · · ·
739A-739	39	12	RCP	891.92	891.42	1.28	-1
739B-739A	132	12	RCP	893.26	891.92	1.02	· · · · · · · · · · · · · · · · · · ·
741-740	67	24	RCP	891.25	890.14	1.66	
742-741	176	24	RCP	893.87	892.15	0.98	1
742A-742	15	24	RCP	895.47	894.77	4.67	-1
742B-742A	28	24	RCP	895.64	895.47	0.61	
743-742B	166	24	RCP	896.82	895.64	0.71	2
744-742	176	12	RCP	898.96	896.07	1.64	3
746-744	39	12	RCP	899.67	898.96	1.82	
745-744	40	12	RCP	899.42	898.96	1.15	<del>-</del>
734-733	218	15	RCP	895.47	894.31	0.53	
735-734	28	12	RCP	895.7	895.47	0.82	
733-732	206	15	RCP	894.31	890.06	2.06	6
733A-733	16	12	RCP	894.75	894.31	2.75	
733B-733A	28	12	RCP	897.33	895.8	5.46	
776-748	24	12	RCP	895.02	893.93	4.96	2
777-776	40	12	RCP	896.85	895.27	3.95	-2
778-776	43	12	RCP	897.04	895.27	4.12	2
748-747	210	36	RCP	891.5	890.01	0.72	10
749-748	195	36	RCP	894.77	893.93	0.43	-2
750-749	100	36	RCP	895.62	894.77	0.85	
751-750	288	36	RCP	897.18	895.62	0.54	3
752-751	168	36	RCP	898.02	897.18	0.49	
768-752	255	24	RCP	901.88	898.02	1.51	-2
769-768	51	24	RCP	902.27	901.88	0.76	2
770-769	28	24	RCP	902.46	902.27	0.68	
70.760	1 00 1	0.4	DOD	000 10		1	

Pelham Rd	1305.5
Pemberton	649

Total: 3110

Total:

9398

#### **RCP Pipe Totals:**

Ttor i ipe rotais.					
12	1670				
15	1380				
18	1146				
21	35				
24	1647				
27	506				
	290				
36	1032				

Total:

7706

The length of the drain due to the changes described above is now 20,214 feet.

The non-enforcement was approved by the Board at its meeting on January 22, 2007 and recorded under instrument #2007012843.

The following sureties were guaranteed by Bond Safeguard Insurance Company and released by the Board on its November 24, 2008 meeting.

**Bond-LC No:** 5018425 **Insured For:** Storm Sewers

**Amount:** \$756,592.80

Issue Date: November 30, 2005

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

Sincerely,

Kenton C. Ward, CFM

Hamilton County Surveyor

KCW/slm

CLAY TOWNSHIP REGIONAL WASTE DISTRICT 1. Standard specifications of the District and Indiana Department of Transportation shall apply for all work and materials. Pipe shall be installed in accordance with Section 715.

2. Sanitary sewer pipe shall be PVC in accordance with ASTM D-3034 (S.D.R. 35) and ASTM 2321. PVC pipe shall have grooved bell and gasket. The pipe shall be made of PVC plastic having a cell classification of 12454B.

3. PVC sewer fittings shall conform to the requirements of ASTM D-3034-89 specification.

Fittings in sizes through 8" shall be molded in one piece with elastomeric joints and minimum socket depths as specified in sections 6.2 and 7.3.2. Fittings 10" and larger shall be molded or fobricated in accordance with section 7.11 with manufacturers standard pipe bells and gaskets. Wall thickness of fittings shall be SDR 26 as defined in section 7.4.1 of pecifications. Gaskets for elastomeric joints shall be molded with a minimum cross-sectional area of 0.20 square inches and conform to ASTM F-477 specification. Fittings

shall be manufactured by Harco or equal. 4. All sanitary manholes shall be precast concrete manholes in accordance with ASTM C-478 and Section 720. O-rings shall conform to C-443. Kent Seal or equivalent shall also be applied to all joints and between riser rings and castings. Manhole step spacing shall be no more than 16-inches. Manholes shall be air tested for leakage in accordance with ASTM C1244-93, Standard Test Method for Concrete Sewer Manholes by the Negative Air

A. Installation and operation of vacuum equipment and indicating devices must be i accordance with manufacturers recommendations and performance specifications which have been provided by the manufacturer and accepted by the Engineer. The vacuum equipment must be capable of testing the entire manhole, including the

B. With the vacuum tester set in place:

1. Connect the vacuum pump to the outlet port with the valve open.

2. Drow a vacuum of ten (10) inches of Hg. and close the valve. . Accepted standards for leakage will be established from the clapsed time for a negative pressure change from ten (10) inches to nine (9) inches of mercury. The maximum allowable leakage rate for a four (4) foot diameter manhole must be in

accordance with the following: Minimum Elapsed Time for a Manhole Depth Pressure Change of 1 Inch H 10 feet or less 60 seconds >10 feet but <15 feet 75 seconds

>15 feet but <25 feet 90 seconds For manholes five (5) feet in diameter, add an additional fifteen (15) seconds and for manholes six (6) feet in diameter, add an additional thirty (30) seconds to the time requirements for four (4) foot diameter manholes. For all manholes deeper than twenty-five (25) feet, the Engineer will determine the applicable minimum elapsed

D. If the manhole fails the test, necessary repairs must be made and the vacuum test and repairs must be repeated until the manhole passes the test. E. If manhole joint sealants are pulled out during the vacuum test, the manhole must be Manholes will be subject to visual inspection with all visual leaks being repaired.

5. Butyl rubber coating shall be applied around each manhole joint from 6-inches above to 6inches below each joint. The appropriate primer shall be applied prior to applying the rubber coating. Inside joints to be filled with precoat plug material. 6. The manhole chimneys, including all riser rings shall be sealed using Infi-Shield Uniband or approved equal. Prior to placement, the top 4-inches of the manhole cone and casting rame shall be cleaned and primed. The Uniband shall extend from 3-inches below the top of the cone section to 2-inches over the flange of the manhole casting frame. . The casting elevations are set by plan. However, the castings are to be adjusted in the field by the Engineers representative should a discrepancy occur between plan grade and existing grade. New manhole ring and cover shall be installed to establish grade. Maximum height adjusting rings shall be 12-inches.

. Backfill around all structures and all cuts under paved areas with granular material. renches opening within 5-feet of paved roadways shall be backfilled with granular material in accordance with Section 211. Backfill under sidewalks shall be granular, unless the walks are constructed a minimum of 6 months after backfill has been in place. . The Contractor shall be responsible for verifying that all state highways, city, and county permits have been obtained by the developer prior to start of construction. 10. The Contractor shall be required to furnish the developer 's Engineer with a set of prints, marked in red pencil, showing actual sewer location and invert, to include lateral location, depth and length. Such asbuilt prints must be received by the Engineer before the final contract payment can be authorized. The sanitary sewer laterals and stubs termination shall e indicated on the surface with a metal fence post set immediately above the said

11. All sanitary sewer lines upon completion will be required to pass a low pressure air test. Said test shall be conducted according to ASTM 1417-92, and shall be witnessed by an Engineer and a representative of the District. The testing shall be in accordance with Table . Add 0.5 psig for each foot of water above the sewer line being tested. 12. Deflection tests shall be performed on all flexible\* pipe after the final backfill has been i place at least 30 days. No pipe shall exceed a vertical deflection of 5% deflection test results. (\*The following are considered non-flexible pipes: concrete pipe, ductile iron pipe and cast iron pipe). The deflection test shall be performed with a nine-c

Proving rings shall be available. 13. All mandrel testing shall be observed by a professional engineer representative for ertification and a representative of the District. 14. The ends of laterals are to be plugged tight with a braced plastic disc or cap capable of withstanding a low pressure air test without leakage. 15. Bedding for flexible pipe shall be No. 8 crushed stone from 6-inches below the pipe to 12inches above the pipe. Bedding for rigid pipe shall be No. 8 crushed stone from 6-inches below the pipe to the spring line of the pipe and from this point to 12-inches above shall be

fill sand or equivalent. Manholes shall be placed on no less than 6-inches of No. 8 crushed 16. Water and sewer line crossings and separations shall be in accordance with 327 IAC 3-6-9. 17. Trench shall be opened sufficiently ahead of pipe laying to reveal obstruction, and shall be properly protected and/or barricaded when left unattended.

8. No water shall be permitted to flow into the sanitary sewer system during construction Contractor shall utilize a pump to keep the water level below the pipe. Pump discharge shall e directed to a storm outlet in accordance with state and federal laws and regulations (327 IAC 3-6-20). Any pipe entering existing sewers shall be plugged with screw type mechanical, braced plug until such time as all tests on the sewers have been completed and

19. All sewer laterals installed by the mainline Contractor shall be bedded the same as the main 20. Forty-eight (48) hours notice shall be given to the District prior to the start of sewer construction. Also, 48 hours notice shall be given prior to doing any testing on the sewer. 21. Manhole castings shall be stamped SANTARY SEWER (Neenah Casting R 1642A or equal) and be self-sealing type. The casting flange shall be 34 inches and the clear opening

shall be 24 inches. Waterproof castings shall be Neenah R-1916-F1 and stamped 22. The minimum slope for sewer acceptance by the Clay Township Regional Waste District are: Size of Pipe Minimum Constructed Slope

10-inch 0.28% 12-inch 0.22% 15-inch 0.15%

CITY OF CARMEL

ONE CIVIC SQUARE

23. The Contractor shall provide measurements of the slope of the sewer for each manhole section as construction progresses. Such measurements shall be certified by a Registered Land Surveyor or Engineer and be available on-site for observation by the District's Inspector. No more than three manhole sections can be constructed in advance of such

24. In the event the Contractor does not meet the minimum slopes, the sewer section and any ther affected sewer sections shall be reconstructed to meet such minimum slopes. 5. Laterals are to be traced with a minimum size of 14 gauge wire from the wye to the terminus e contractor for the building or home will extend the wire from this terminus to the building cleanout adjacent to the building.

All work shall be in the best practices of the water utility industry and the American Water Works Association, and in accordance with all applicable Federal, State, and local codes and regulations.

Any damage done to the City of Carmel Utility's system by the Contractor/Developer of his offiliates shall immediately be repaired, to the satisfaction and direction of the City of Carmel Utility by the Contractor/Developer at his own expense.

2) Should the Contractor/Developer propose to depart from the specifications contained herein, he shall submit samples and/or specifications such alternatives to the City of Carmel Utility before proceeding.

No work shall be performed under conditions which in the opinion of the City of Carmel Utilities would adversely affect the quality of the finished job.

4) The Contractor/Developer shall conduct his work so as not to interfere with the present operation of the existing City of Carmel Utility's water/sanitary sewer system. If any work interference is encountered between the City of Carmel Utility and the Contractor/Developer, the City of Carmel Utility will receive priority in scheduling.

#### CITY OF CARMEL WATER UTILITY Developer Installed Water Mains

1) Contractors shall call City of Carmel Utility for an on-site pre-construction meeting before work begins. Contractor must have approved plans on-site and all materials to be used must be approved by a

2) Contractor will allow inspection by City of Carmel Utility inspectors during the construction of the water main extension and will honor the City of Carmel Utility's request for field changes in main extensions related to location, workmanship and materials as they relate to City of Carmel Utility standards and specifications.

3) The Contractor will have water main extensions pressure tested per City of Carmel Utility specifications and witnessed by City of Carmel Utility's

4) The Contractor will conduct the disinfection of water main extension, with direct supervision by a City of Carmel Utility Operator.

5) Only after the water main extension passes the City of Carmel Utility's laboratory testing, and two (2) sets of AS-BUILT plans have been turned in to the City of Carmel Utility, will the water be turned on by the City of

#### CITY OF CARMEL UTILITY STANDARDS

- 1) Absolutely no Kennedy Fire Hydrants or Valves are allowed.

CITY OF CARMEL WATER-WASTEWATER UTILITIES WATER OPERATIONS MANAGER: PAUL PACE 317-571-2648 PPACECCLCARMELIN.US NOTE: CONTACT DIRECTLY FOR ALL WATER AND SANITARY SEWER MAIN LOCATIONS.

# BENCHMARK INFORMATION

The station is located about 2.65 miles NE of Eagle Village; about 1500 feet south of the intersection of West 146th Street, along Shelborne Road; set in the top of a concrete post, surrounded by an approximate 2 foot square concrete slab, about flush with the ground. A Department of Natural Resources brass control station tablet, stamped "LEE 4 Reset". ELEVATION - 910.90 feet (NGVD 1929)

1441 SÓUTH GUILFORD

RON BOOHER

317-581-3041

VECTREN ENERGY

CHUCK SHUPPERD

P.O. BOX 1700

317-776-5535

317-265-2727

CARMEL, INDIANA 46032

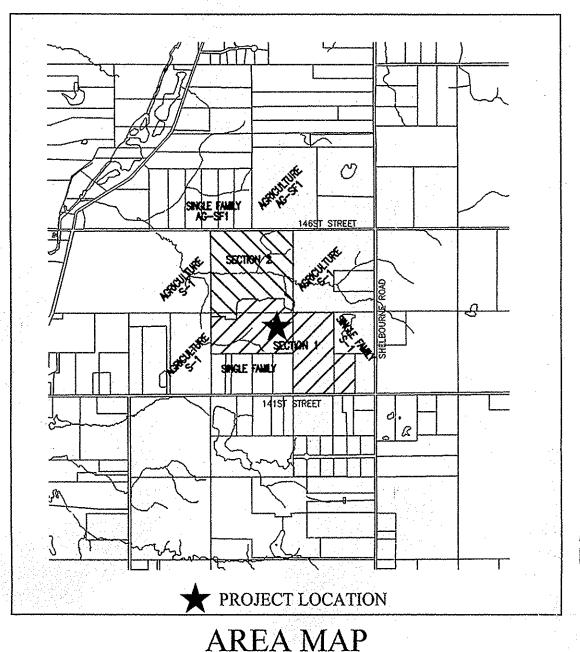
NOBLESVILLE, INDIANA 46061-1700

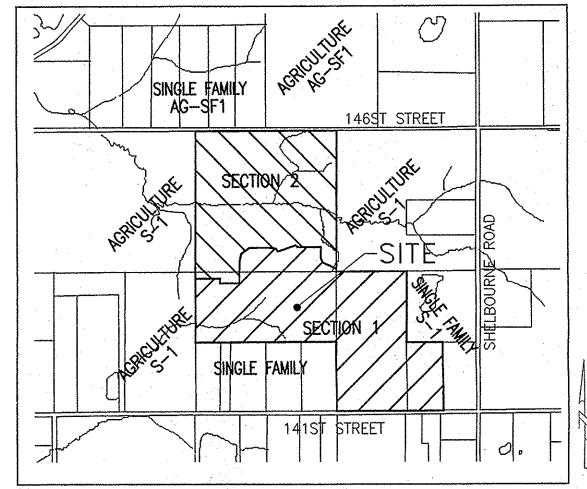
5858 NORTH COLLEGE AVENUE:

INDIANAPOLIS, INDIANA 46220

# SECTION 1

3915 W. 146TH STREET CARMEL, INDIANA 46032





SITE LOCATION MAP

# GENERAL NOTES

1) THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, OR VERIFYING THAT ALL PERMITS AND APPROVALS ARE OBTAINED FROM THE RESPECTIVE CITY, COUNTY, AND STATE AGENCIES

2) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES IN THE VICINITY OF THE CONSTRUCTION AREA PRIOR TO STARTING

3) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY AND COORDINATE CONSTRUCTION WITH ALL RESPECTIVE UTILITIES.

4) ALL QUANTITIES GIVEN ON THESE PRINTS, VERBALLY OR IN THE SCOPE OF WORK SECTION ARE ESTIMATES AND SHALL BE CONFIRMED BY THE BIDDING CONTRACTORS.

5) OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS FOR EXCAVATIONS; FINAL RULE 29 CFR PART 1926, SUBPART "P" APPLIES TO ALL EXCAVATIONS EXCEEDING FIVE

6) IN ADDITION, EXCAVATION EXCEEDING TWENTY (20) FEET IN DEPTH REQUIRE THE DESIGN OF A TRENCH SAFETY SYSTEM BY A REGISTERED PROFESSIONAL ENGINEER.

7) IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND CONTRACTOR TO MAINTAIN QUALITY CONTROL THROUGHOUT THIS PROJECT.

8) TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL STANDARDS.

9) THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

10) ANY FIELD TILES ENCOUNTERED DURING EXCAVATION SHALL BE REPAIRED AND CONNECTED TO NEW STORM SEWERS AND POSITIVE DRAINAGE PRESERVED

11) IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER THAT ALL LANDSCAPE REQUIREMENTS ARE MET AND CONFORM TO APPLICABLE LOCAL STANDARDS.

PLOTTED BY SCALE ON FLOOD INSURANCE RATE MAP #18057C0205F, DATED FEBRUARY 19, 2003. 13) BEARINGS, DIMENSIONS AND EASEMENTS ARE SHOWN FOR REFERENCE ONLY. SEE RECORD SURVEYS & PLAT FOR EXACT INFORMATION.

14) THIS SITE DOES CONTAIN ANY WETLANDS AS SHOWN ON THE U.S. DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE: CARMEL, INDIANA, NATIONAL WETLANDS INVENTORY MAP DATED 1990. THE EXISTING STREAM ON THE SUBJECT REAL ESTATE IS CONSIDERED 4 WETLANDS AREA.

12) THE SITE DOES NOT LIE IN A SPECIAL FLOOD HAZARD AREA AS ESTABLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY - NATIONAL FLOOD INSURANCE PROGRAM, WHEN

# **OPERATING AUTHORITIES:**

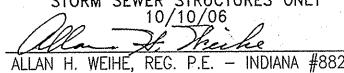
NOBLESVILLE, INDIANA 46060-2229 CARMEL. IN 46032 PLANNING DIRECTOR: MATT GRIFFIN JASON LEMASTER 317-776-8500 317-571-2417 DEPT. OF ENGINEERING: GARY DUNCAN CARMEL CITY UTILITIES 317-571-2441 760 3RD AVENUE S.W. BUILDING COMMISSIONER: JIM BLANCHARD CARMEL, INDIANA 46032 317-571-2444 JOHN DUFFY 317-571-2443

CITY OF CARMEL FIRE DEPARTMENT TWO CIVIC SQUARE HAMILTON COUNTY SURVEYOR'S OFFICE CARMEL, INDIANA 46032 ONE HAMILTON SQUARE, SUITE 18844411 GARY HOYT HAMILTON COUNTY JUDICIAL CENTERN H. WELL 317-571-2600 NOBLESVILLE, INDIANA 4606QS PYS GREG HOYES

CLAY TOWNSHIP REGIONAL WASTE DISTRICT PEO 10701 NORTH COLLEGE AVENUE, SUITENO. INDIANAPOLIS. IN 46280-1098 8827 DREW WILLIAMS STATE OF 317-844-9200

SANITARY SEWER AS-BUILTS

SANITARY SEWER STRUCTURES ONLY



HAMILTON COUNTY HEALTH DEPARTMENT

317-776-8495

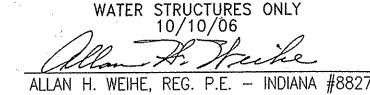
HAMILTON COUNTY JUDICIAL CENTER, SUITE 30

RECORD DRAWING WATER AS-BUILTS STORM SEWER AS-BUILTS STORM SEWER STRUCTURES ONLY

No.

8827

STATE OF



No.

8827

STATE OF

# LAND DESCRIPTION LAMB REAL ESTATE (Now or Formerly) - Instrument No. 2000-15920 Parcel I, Title Commitment The Southeast Quarter of the Northeast Quarter of Section 19,

Township 18 North, Range 3 East located in Clay Township, Hamilton County, Indiana, EXCEPT the following described portion, to—wit: A part of the Northeast Quarter of Section 19, Township 18 North, Range 3 East located in Clay Township, Hamilton County, Indiana, and more specifically described as follows: Beginning at a point on the South line of the Northeast Quarter of Section 19, Township 18 North, Range 3 East, said point being South 89 degrees 39 minutes 46 seconds West (assumed begring) 328.00 feet from the Southeast corner of said Northeast Quarter; thence South 89 degrees 39 minutes 46 seconds West 330.00 feet on and along the South line of said Northeast Quarter; thence North 00 degrees 00 minutes 00 seconds 670.00 feet parallel with the East line of said Northeast Quarter; thence North 89 degrees 39 minutes 46 seconds East 330.00 feet; thence South 00 degrees 00 minutes 00 seconds 670.00 feet to the point of beginning. EXCEPT: Part of the South half of the Northeast Quarter of Section 19, Township 18 North, Range 3 East in Clay Township, Hamilton County, Indiana, described as follows: Beginning on the East line of the Northeast Quarter of Section 19, Township 18 North, Range 3 East 670.00 feet North 00 degrees 00 minutes 03 seconds East (assumed bearing) from the Southeast corner of said Northeast Quarter thence South 89 degrees 40 minutes 00 seconds West parallel with the South line of said Northeast Quarter 658.00 feet; thence North 00 degrees 00 minutes 03 seconds East parallel with said. East line 644.06 feet to the North line of the South half of said Northeast Quarter; thence North 89 degrees 39 minutes 05 seconds East on said North line 658.00 feet to the East line of said Northeast Quarter; thence South 00 degrees 00 minutes 03 seconds West on said East line 644.23 feet to the place of beginning, containing 9.730 acres, more or less, ALSO EXCEPTING THEREFROM: Part of the South half of the Northeast Quarter of Section 19, Township 18 North, Range 3 East in Clay Township, Hamilton County, Indiana, described as follows: Beginning at the Southeast corner of the Northeast Quarter of Section 19, Township 18 North, Range 3 East; thence South 89 degrees 40 minutes 00 seconds West (assumed bearing) on the South line of said Northeast Quarter 328.00 feet; thence North 00 degrees 00 minutes 03 seconds East parallel with the East line of said Northeast Quarter 670.00 feet; thence North 83 degrees 40 minutes 00 seconds East parallel with said South line 328.00 feet to the East line of said Northeast Quarter; thence South 00 degrees 00 minutes 03 seconds West on said East line 670.00 feet to the place of beginning, containing 5.045 acres, more or less. THE ABOVE DESCRIBED REAL ESTATE IS SUBJECT TO AND/OR TOGETHER WITH THE FOLLOWING: Right-of-Way for 141st Street. Terms and provisions as contained in easement in favor of Socony-Vacuum Oil Company, Inc. per Misc. Book 34, Page 272, and last assigned to Marathon Pipeline Company per Misc. Book 97, Page 11, and Partial Release of Pipe Line Easement per Misc. Book 146, Page 663. Terms and provisions as contained in easement in favor of The Buckeye Pipe Line Company per Deed Book 175, Page 210, and Joinder of Pennsylvania Company per Easement Book 4, Page 739. Upper and lower riparian rights of Bear Creek.

Including also 5.1 acres, recorded as Instrument #99-34570 described as follows: Beginning at the Southeast Corner of the Northeast Quarter of Section 19, Township 18 North, Range 3 East; thence South 89 degrees 45 minutes 56 seconds West along the south line of said Northeast Quarter 328.00'; thence continuing on said south line 330.00'; thence North 00 degrees 05 minutes 18 soconds East 670.00'; thence North 89 degrees 39 minutes 46 seconds East 330.00'; thence South 00 degrees 05 minutes 18 seconds West 670.00' to the point of beginning.

Total tract acreage contains 84.26 acres, more or less

Subject to all other easements, restrictions, and rights-of-way of record.

# SHEET INDEX

	SHEET NO.	DESCRIPTION
	1	TITLE SHEET
	2	EXISTING CONDITIONS & DEMOLITION PLAN
	3-4	SITE DEVELOPMENT PLAN
	5-9	STREET PLAN & PROFILE SHEETS
:	10	INTERSECTION & CUL-DE-SAC DETAILS
	11	ENTRANCE PLAN & ENTRANCE TRAFFIC PLAN
	12	TRAFFIC CONTROL PLAN
	13-20	STORM SEWER PLAN & PROFILE SHEETS
-	21-22	OFFSITE SANITARY SEWER PLAN & PROFILE SHEETS
	23-29	SANITARY SEWER PLAN & PROFILE SHEETS
	30-33	EROSION CONTROL PLAN & DETAILS
	34-36	CONSTRUCTION DETAILS
	36A	CARMEL PAVING POLICY
N	37-38	WATER MAIN PLAN, DETAILS & SPECIFICATIONS
	39	BUCKEYE RESTRICTIONS & SPECIFICATIONS
7		

# **REVISIONS**

i	SHEET NO.	DESCRIPTION	DATE
	ALL	REVISIONS PER HYDRAULIC REPORT	7/29/05
	39-41	REVISIONS PER HCSWCD	8/22/05
	ALL	REVISIONS PER T.A.C. & CLIENT	9/02/05
	39-41A	REVISIONS PER HCSWCD	9/13/05
	39-41A	REVISIONS PER HCSWCD	9/16/05
	ALL 11	REVISIONS PER CARMEL & CROSSROAD ENGINEERS	10/06/05
	ALL	REVISIONS PER HAM. CO. SURVEYORS OFFICE	10/11/05
	ALL	REVISIONS PER CLAY TWP. R.W.D., CARMEL & CROSSROAD ENG.	10/31/05
	ALL	REVISIONS PER CARMEL UTILITIES & HAM. CO. SURVEYORS OFFICE	11/07/05
	ALL	REVISIONS PER CARMEL ENGINEERING & BUCKEYE PARTNERS	11/28/05
	1,11,34,35,36A	REVISIONS PER CARMEL ENGINEERING	12/16/05
	ALL	REVISED SANITARY & ADDED MH #OF920A TO PRESERVE EX. TREES	12/29/05
	1,3,6,16,26,34,37,39	REVISIONS PER BUCKEYE PARTNERS	1/17/06
	1,21,22	REVISED OFFSITE SANITARY	2/28/06
	1,3,16	REVISED STORM RUNS 758-759-760	3/28/06
	1,4,38	ADDED TEMPORARY FIRE HYDRANT PER CITY OF CARMEL	4/25/06

# OVERBROOK FARMS

**DESIGN SPEED: 25 MPH** 

CURRENT ZONING: S-1/RESIDENCE ESTATE

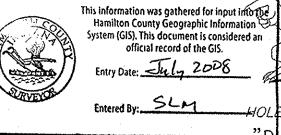
STANDARDS CARMEL/CLAY SUBDIVISION

\*SUBMITTAL UNDER OPEN SPACE

CONTROL ORDINANCE.

# PLANS PREPARED FOR

WTFOT, L.L.C. 1018 HENLEY CIRCLE CARMEL, INDIANA 46032 TELEPHONE: 317-846-3656 CONTACT PERSON: RALPH AKARD



MOLEY SAYS 'DIG SAFELY' CALL TOLL FREE

"IT'S THE LAW' CALL 2 WORKING DAYS BEFORE YOU DIS 1-800-382-5544 PER INDIANA STATE LAW IC 8-1-26 IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUNI LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK

ERBRO

W04-0826

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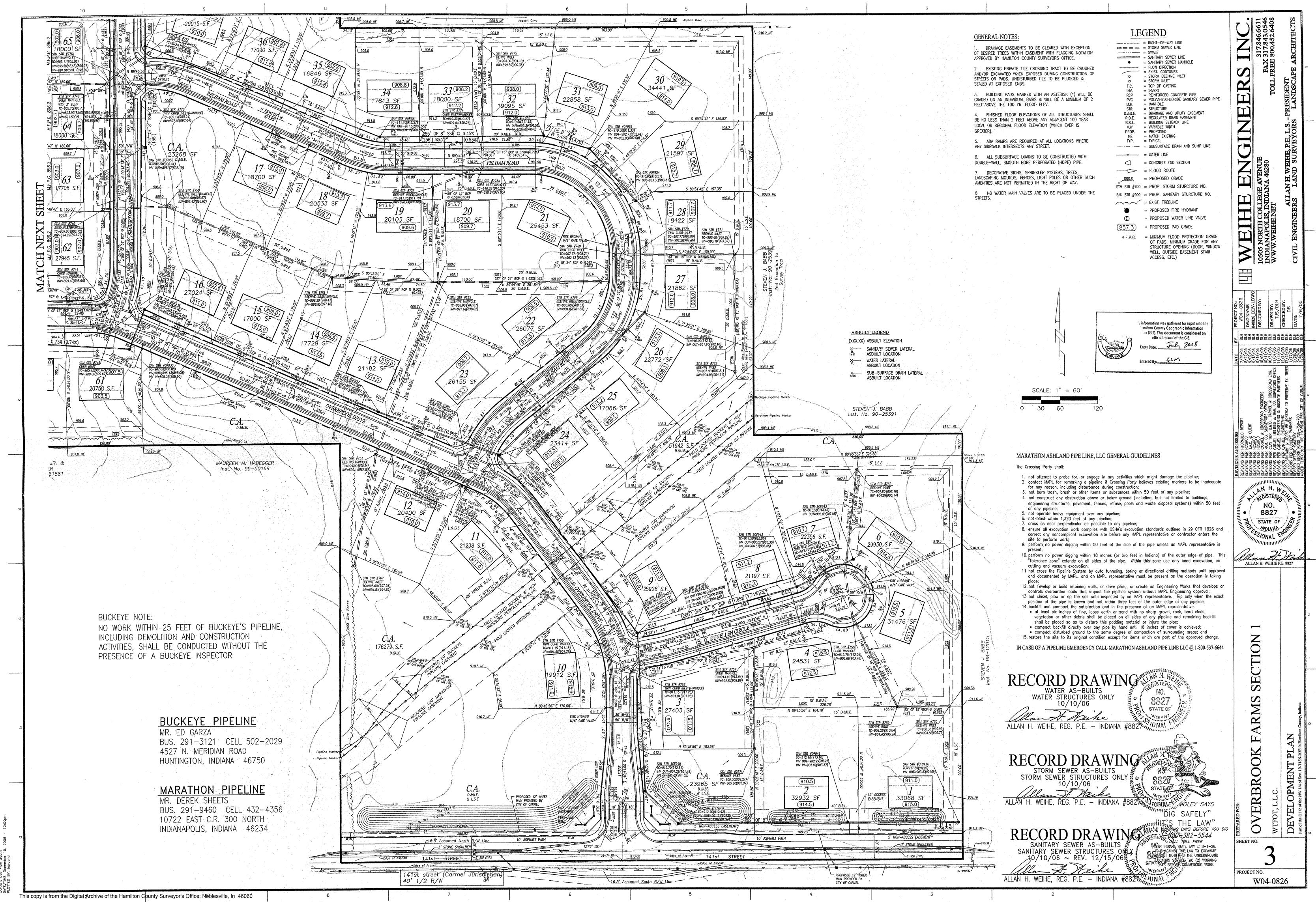
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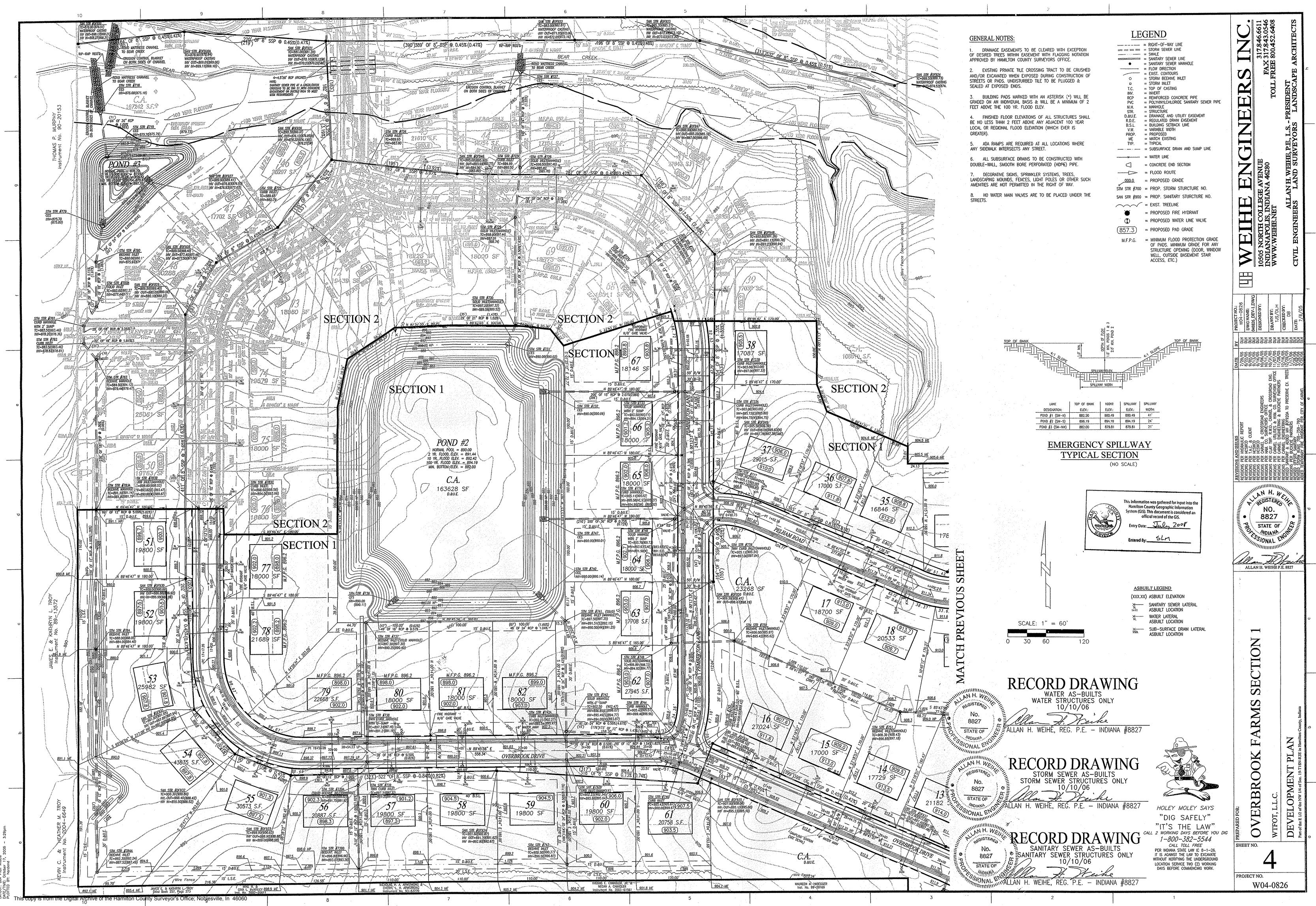
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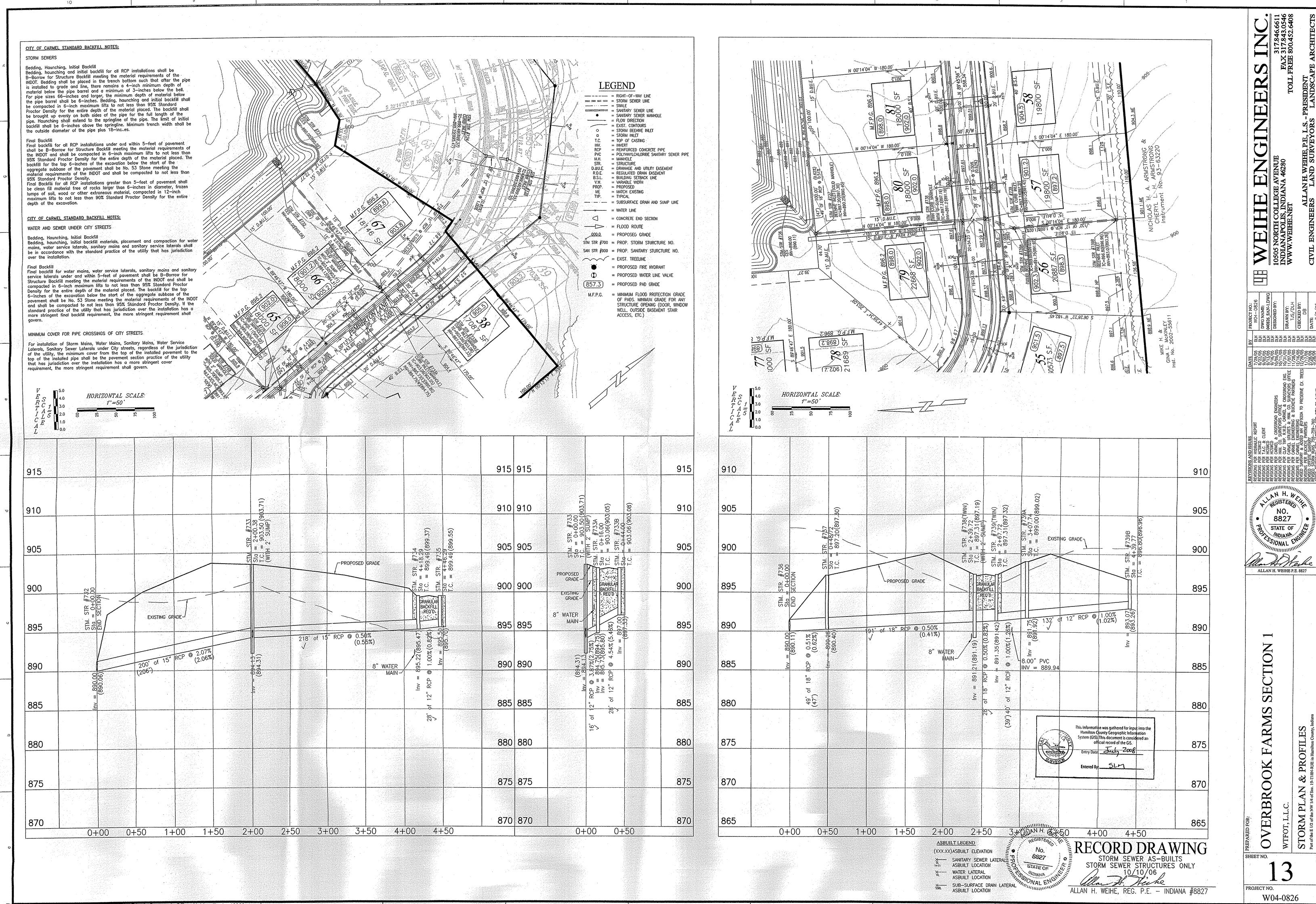
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PROJECT NO.

STORM ]



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# **LEGEND**

---- = RIGHT-OF-WAY LINE ===== = STORM SEWER LINE = SWALE = SANITARY SEWER LINE = SANITARY SEWER MANHOLE = FLOW DIRECTION = EXIST. CONTOURS STORM BEEHIVE INLET = STORM INLET T.C. = TOP OF CASTING = INVERT RCP = REINFORCED CONCRETE PIPE PVC = POLYVINYLCHLORIDE SANITARY SEWER PIPE ■ MANHOLE = STRUCTURE D.&U.E. = DRAINAGE AND UTILITY EASEMENT = REGULATED DRAIN EASEMENT = BUILDING SETBACK LINE = VARIABLE WIDTH = PROPOSED = MATCH EXISTING = TYPICAL = SUBSURFACE DRAIN AND SUMP LINE ----- = WATER LINE

= FLOOD ROUTE 000.0 = PROPOSED GRADE STM STR #700 = PROP. STORM STURCTURE NO. SAN STR #900 = PROP. SANITARY STURCTURE NO. = EXIST. TREELINE

= CONCRETE END SECTION

= PROPOSED FIRE HYDRANT = PROPOSED WATER LINE VALVE (857.3) = PROPOSED PAD GRADE

M.F.P.G. = MINIMUM FLOOD PROTECTION GRADE OF PADS. MINIMUM GRADE FOR ANY STRUCTURE OPENING (DOOR, WINDOW WELL, OUTSIDE BASEMENT STAIR ACCESS, ETC.)

7,75 9,99,99 9,22,96 10,71,69 10,71,76 11,72 12,72 12,72 12,72 12,72 12,73 12,73 12,73 12,73 12,73 13,73 14,73 15,73 16,73 17,

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**FARMS** 

OVERBROOK

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# CITY OF CARMEL STANDARD BACKFILL NOTES:

STORM SEWERS

Bedding, Haunching, Initial Backfill Bedding, haunching and initial backfill for all RCP installations shall be B—Borrow for Structure Backfill meeting the material requirements of the INDOT. Bedding shall be placed in the trench bottom such that after the pipe is installed to grade and line, there remains a 4-inch minimum depth of material below the pipe barrel and a minimum of 3-inches below the bell. For pipe sizes 66-inches and larger, the minimum depth of material below the pipe barrel shall be 6-inches. Bedding, haunching and initial 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 shall be brought up evenly on both sides of the pipe for the full length of the pipe. Haunching shall extend to the springline of the pipe. The limit of initial backfill shall be 6—inches above the springline. Minimum trench width shall be the outside diameter of the pipe plus

Final backfill for all RCP installations under and within 5—feet of pavement shall be B—Borrow for Structure Backfill meeting the material requirements of the INDOT and 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 subbase of the pavement shall be No. 53 Stone meeting the material requirements of the INDOT and shall be compacted to not less than 95% Standard Proctor Density.

Final Backfill for all RCP installations greater than 5—feet of pavement shall be clean fill material free of rocks larger than 6—inches in diameter, frozen lumps of soil, wood or other extraneous material compacted in 12—inch maximum lifes to set less than 90% Standard Proctor Density. material, compacted in 12-inch maximum lifts to not less than 90% Standard Proctor Density for the entire depth of the excavation.

# CITY OF CARMEL STANDARD BACKFILL NOTES:

WATER AND SEWER UNDER CITY STREETS

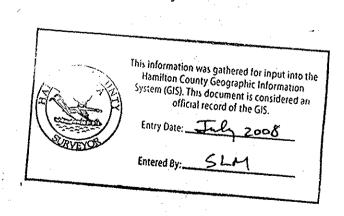
Bedding, Haunching, Initial Backfill Bedding, haunching, initial backfill materials, placement and compaction for water mains, water

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 shall be B—Borrow for Structure Backfill meeting the material requirements of the INDOT and shall be compacted in 6—inch maximum lifts to not less than DEX Stoodard Proctor Descript for the entire death of the material placed. The backfill for 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 subbase of the pavement shall be No. 53 Stone meeting the material requirements 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 final backfill requirement, the more stringent requirement shall govern.

## MINIMUM COVER FOR PIPE CROSSINGS OF CITY STREETS

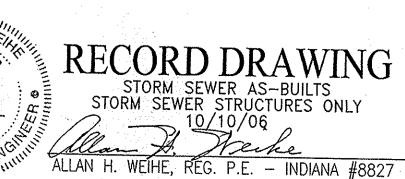
For installation of Storm Mains, Water Mains, Sanitary Mains, Water Service Laterals, Sanitary Sewer Laterals under City streets, regardless of the jurisdiction of the utility, the minimum cover from the top of the installed pavement to the top of the installed pipe shall be the pavement section practice of the utility that has jurisdiction over the installation has a more stringent cover requirement, the more stringent requirement shall govern.



## ASBUILT LEGEND

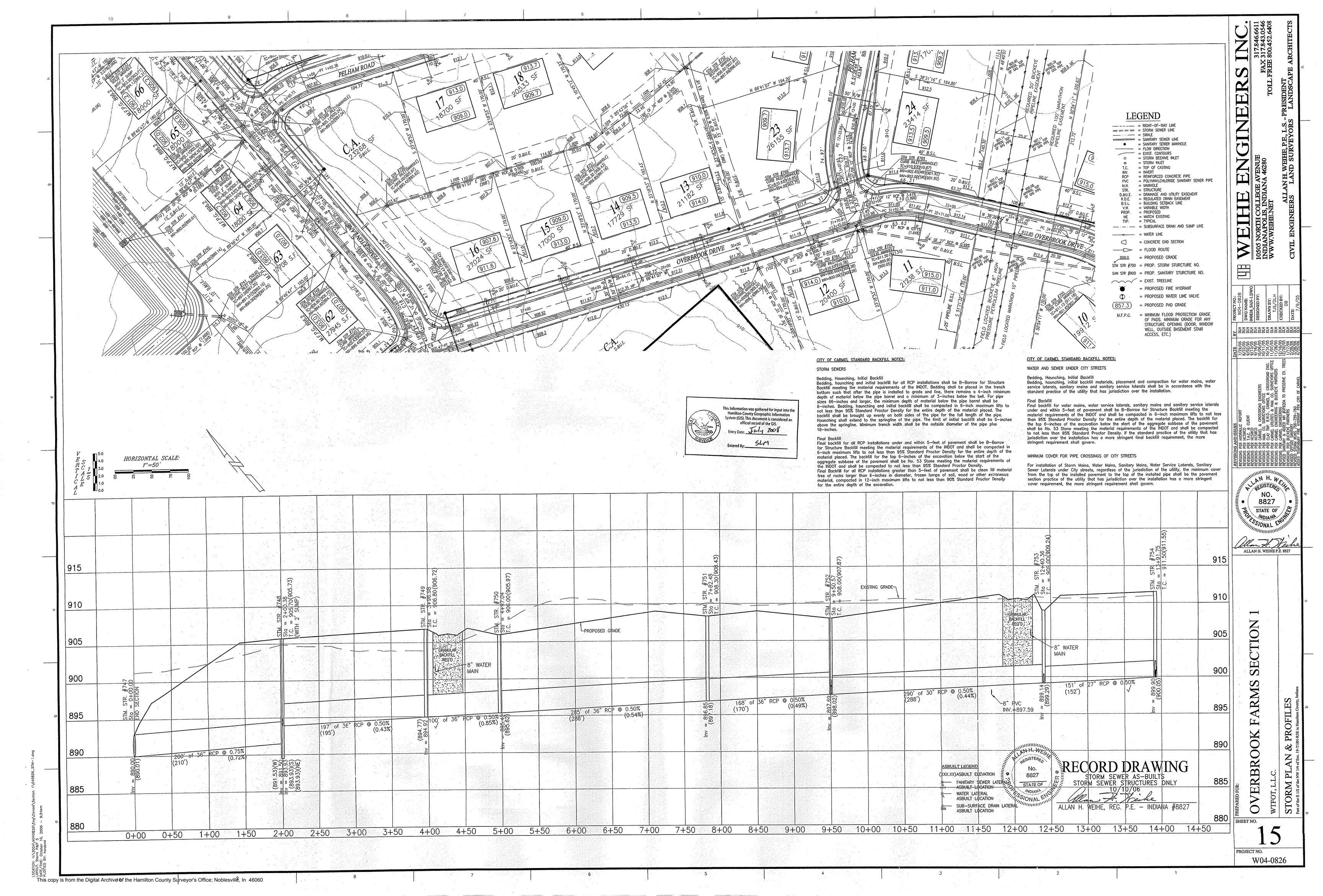
(XXX.XX)ASBUILT ELEVATION SANITARY SEWER LATERAL ASBUILT LOCATION

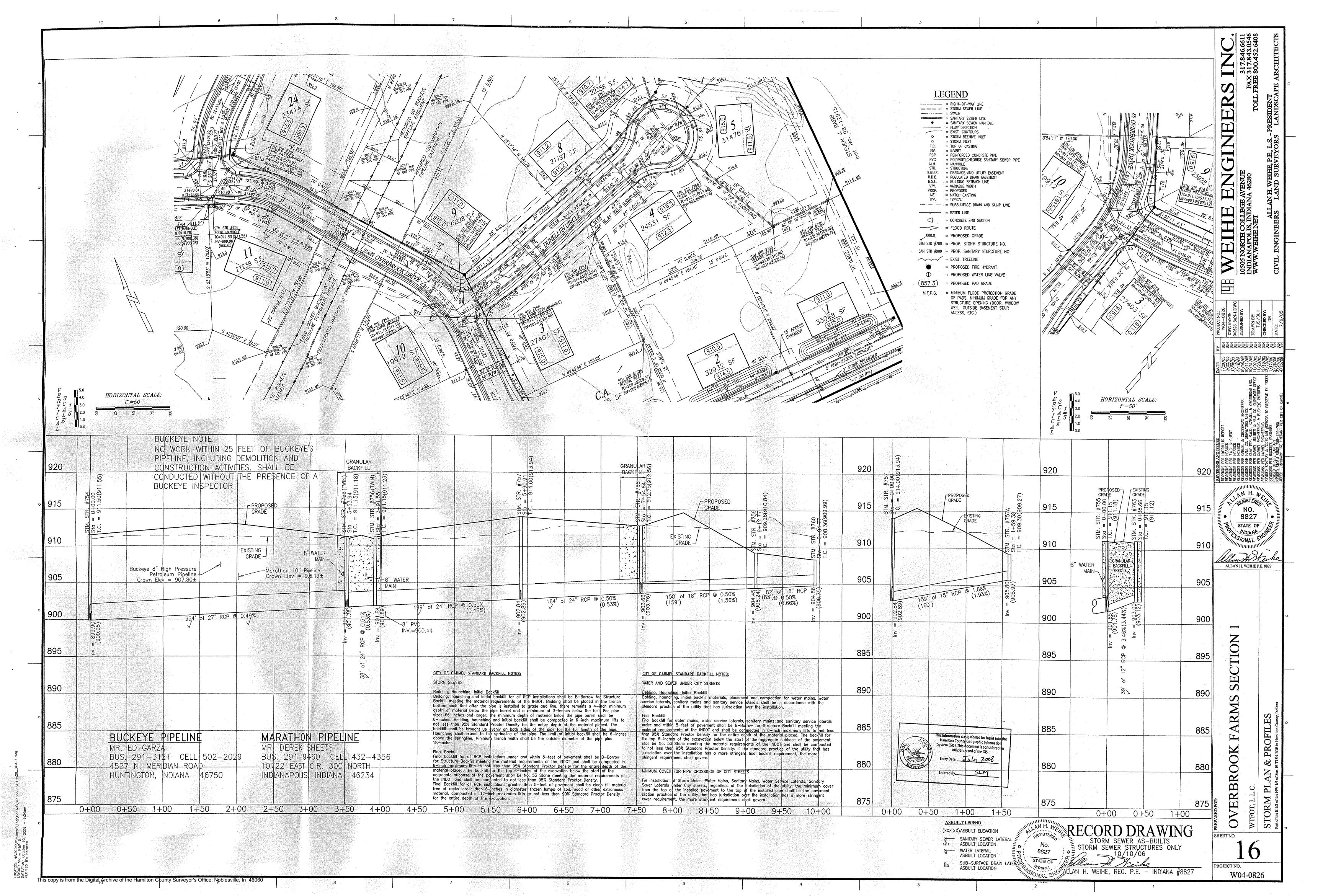
WATER LATERAL ASBUILT LOCATION SUB-SURFACE DRAIN LATERAL ASBUILT LOCATION

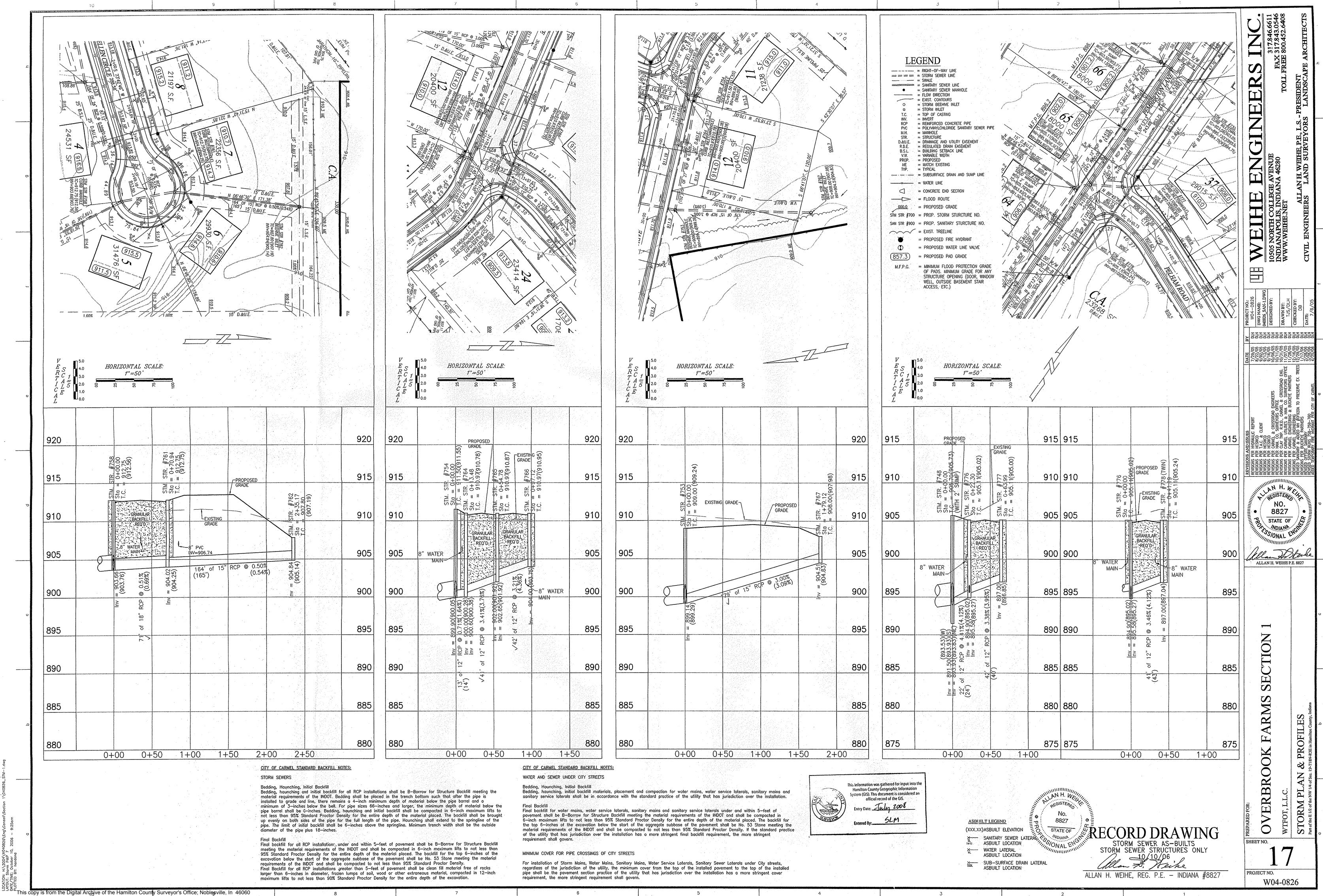


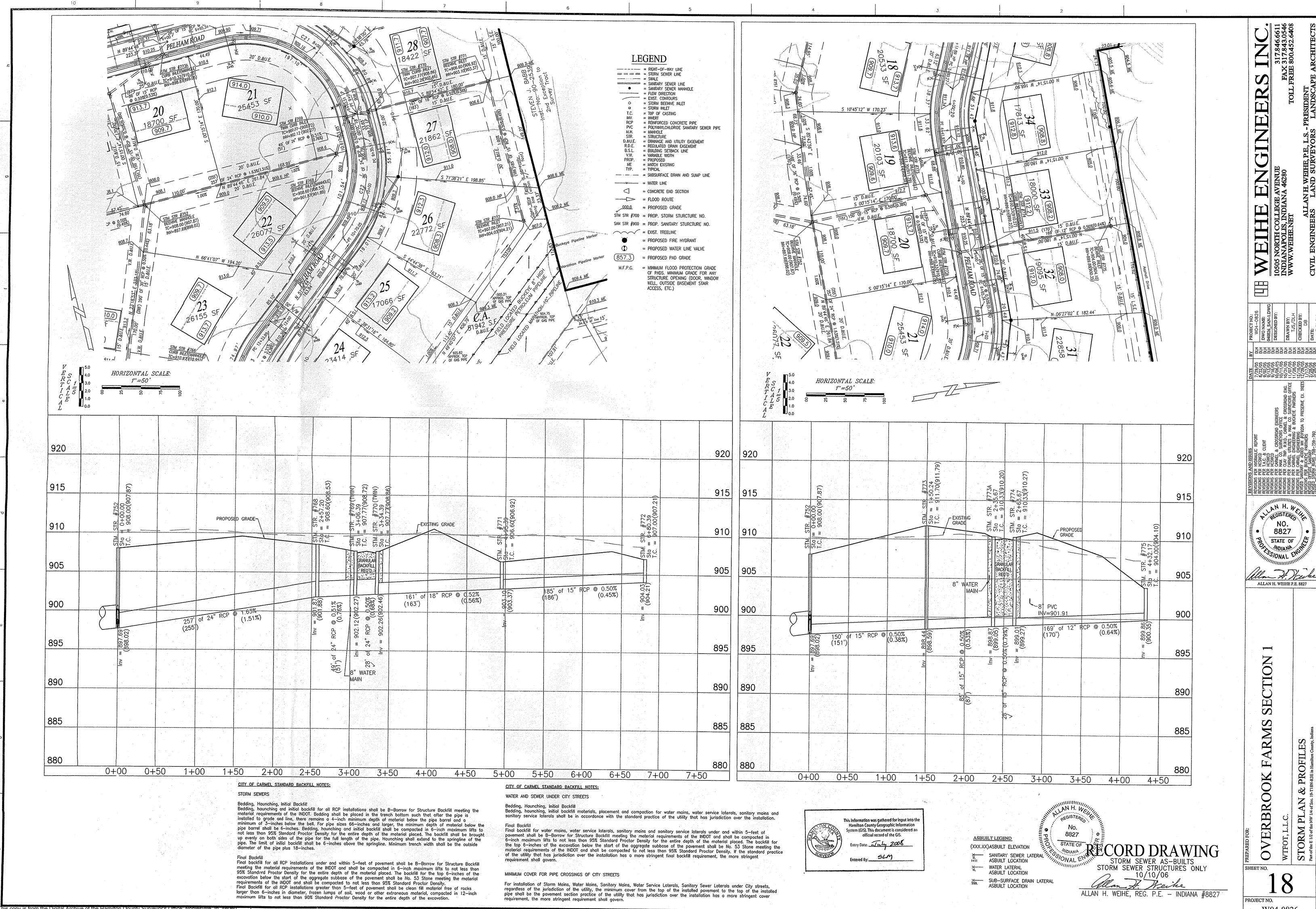
WTFOT, L.I.
STORM SHEET NO.

PROJECT NO. W04-0826

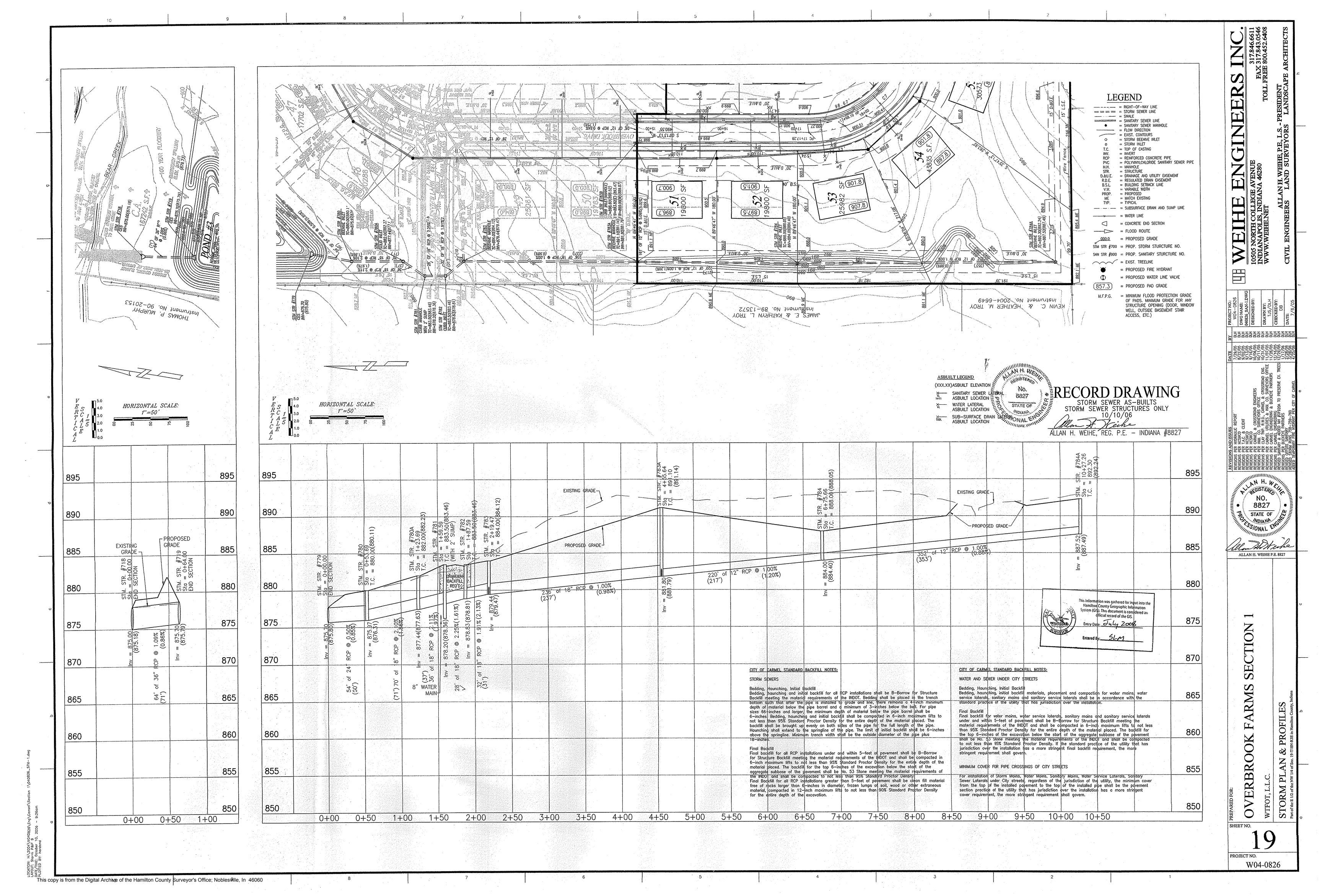


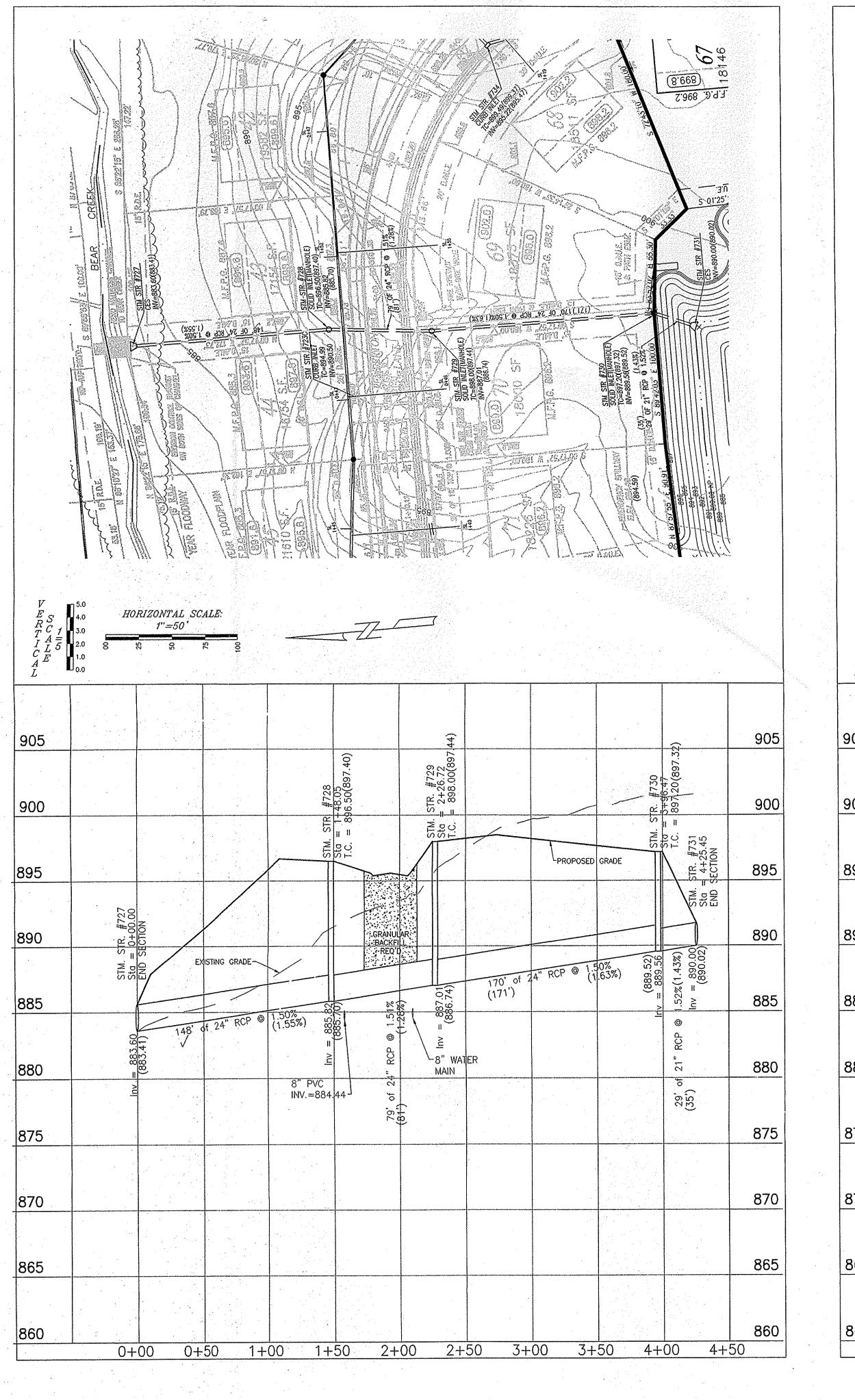






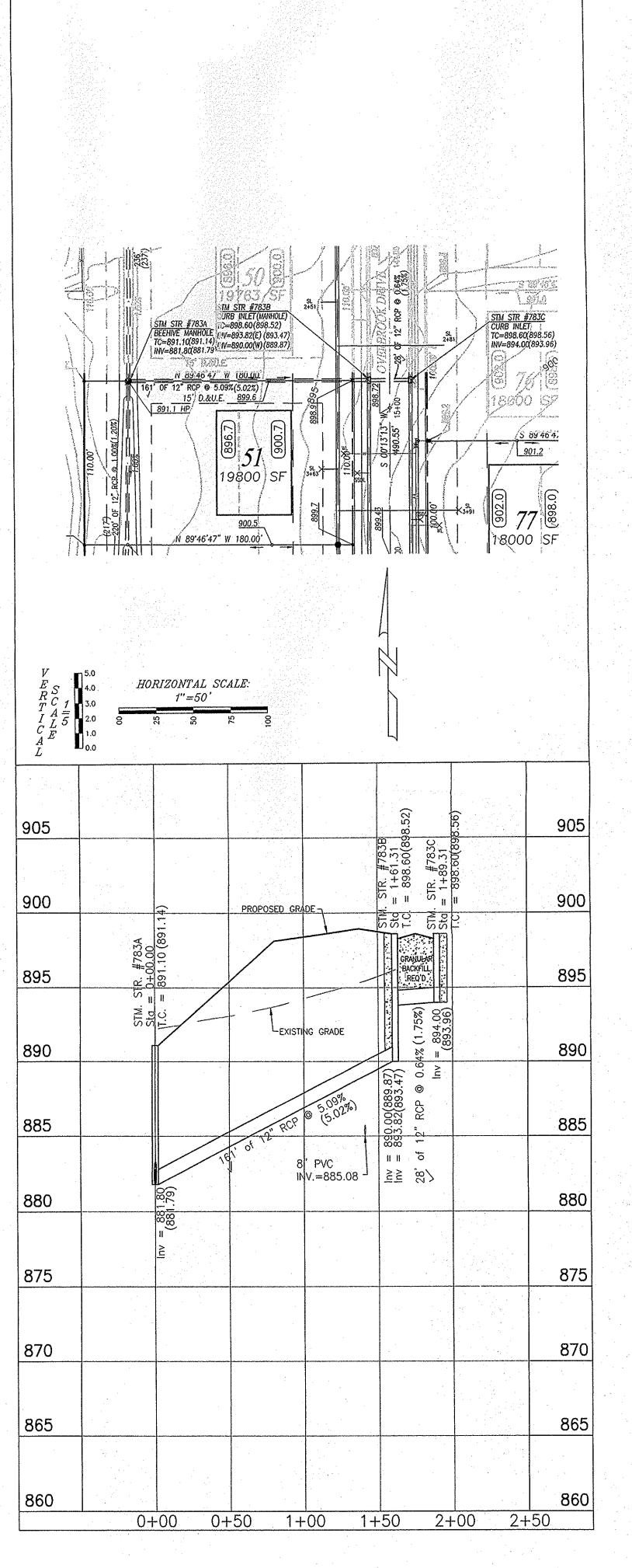
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# LEGEND

= RIGHT-OF-WAY LINE ==== = STORM SEWER LINE \_\_\_\_ = SWALE

= SANITARY SEWER LINE = SANITARY SEWER MANHOLE = FLOW DIRECTION = EXIST. CONTOURS O = STORM BEEHIVE INLET

= STORM INLET

T.C. = TOP OF CASTING INV. = INVERT

RCP = REINFORCED CONCRETE PIPE

PVC = POLYVINYLCHLORIDE SANITARY SEWER PIPE M.H. = MANHOLF = STRUCTURE

ENGINEER

DATE 7/29/05 8/22/05 9/02/05 9/13/05 10/11/05 11/07/05 11/07/05 11/07/05 11/05/05 11/05/05 12/16/16/05 12/16/05

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D.&U.E. = DRAINAGE AND UTILITY EASEMENT = REGULATED DRAIN EASEMENT = BUILDING SETBACK LINE = VARIABLE WIDTH = PROPOSED = MATCH EXISTING

= SUBSURFACE DRAIN AND SUMP LINE = WATER LINE = CONCRETE END SECTION = FLOOD ROUTE 000.0 = PROPOSED GRADE

STM STR #700 = PROP. STORM STURCTURE NO. SAN STR #900 = PROP. SANITARY STURCTURE NO. = EXIST. TREELINE

= PROPOSED FIRE HYDRANT = PROPOSED WATER LINE VALVE (857.3) = PROPOSED PAD GRADE

M.F.P.G. = MINIMUM FLOOD PROTECTION GRADE OF PADS. MINIMUM GRADE FOR ANY STRUCTURE OPENING (DOOR, WINDOW WELL, OUTSIDE BASEMENT STAIR ACCESS, ETC.)

## CITY OF CARMEL STANDARD BACKFILL NOTES:

Bedding, Haunching, Initial Backfill
Bedding, haunching and initial backfill for all RCP installations shall be B-Borrow for Structure
Backfill meeting the material requirements of the INDOT. Bedding shall be placed in the trench bottom such that after the pipe is installed to grade and line, there remains a 4-inch minimum depth of material below the pipe barrel and a minimum of 3-inches below the bell. For pipe sizes 66-inches and larger, the minimum depth of material below the pipe barrel shall be 6-inches. Bedding, haunching and initial 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 shall be brought up evenly on both sides of the pipe for the full length of the pipe. Hounching shall extend to the springline of the pipe. The limit of initial backfill shall be 6—inches above the springline. Minimum trench width shall be the outside diameter of the pipe plus 18-inches.

Final backfill for all RCP installations under and within 5—feet of pavement shall be B—Borrow for Structure Backfill meeting the material requirements of the INDOT and 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 subbase of the pavement shall be No. 53 Stone meeting the material requirements of the INDOT and shall be compacted to not less than 95% Standard Proctor Density. Final Backfill for all RCP installations greater than 5—feet of pavement shall be clean fill material free of rocks larger than 6—inches in diameter, frozen lumps of soil, wood or other extraneous material, compacted in 12-inch maximum lifts to not less than 90% Standard Proctor Density for the entire depth of the excavation.

## CITY OF CARMEL STANDARD BACKFILL NOTES:

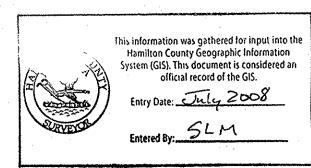
## WATER AND SEWER UNDER CITY STREETS

Bedding, Haunching, Initial Backfill
Bedding, haunching, initial backfill materials, placement 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 for water mains, water service laterals, sanitary mains and sanitary service laterals under and within 5-feet of povement shall be B-Borrow for Structure Backfill meeting the moterial requirements of the INDOT and 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 gagregate subbase of the pavement shall be No. 53 Stone meeting the material requirements 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 final backfill requirement, the more stringent requirement shall govern.

## MINIMUM COVER FOR PIPE CROSSINGS OF CITY STREETS

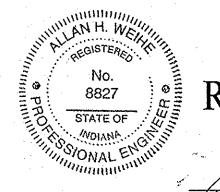
For installation of Storm Mains, Water Mains, Sanitary Mains, Water Service Laterals, Sanitary Sewer Laterals under City streets, regardless of the jurisdiction of the utility, the minimum cover from the top of the installed pavement to the top of the installed pipe shall be the pavement section practice of the utility that has jurisdiction over the installation has a more stringent cover requirement, the more stringent requirement shall govern.



#### ASBUILT LEGEND (XXX.XX)ASBUILT ELEVATION

SANITARY SEWER LATERAL
1+11 ASBUILT LOCATION WATER LATERAL ASBUILT LOCATION

SUB-SURFACE DRAIN LATERAL ASBUILT LOCATION



STORM SEWER AS-BUILTS
STORM SEWER STRUCTURES ONLY 10/10/06

ALLAN H. WEIHE, REG. P.E. - INDIANA #8827

SHEET NO.

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PROJECT NO. W04-0826

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