

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 17, 2007

TO: Hamilton County Drainage Board

RE: Little Eagle Creek Drain, Longridge Estates Section 3 Arm

Attached is a petition filed by Platinum Properties, LLC along with a non-enforcement request, plans, calculations, quantity summary and assessment roll for the Longridge Estates Section 3 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:

6" SSD	7,357 ft.	24" RCP	355 ft.	36" RCP	94 ft.
12" RCP	1,805 ft.	27" RCP	462 ft.	36" CMP	32 ft.
15" RCP	993 ft.	30" RCP	292 ft.	Open Ditch	7,357 ft.

The total length of the drain will be 12,514 feet.

The 36" CMP listed above is the existing culvert under 141<sup>st</sup> Street. The open ditch is 3 segments. Segment #1 is approximately 465 feet from the east boundary of the project to Structure 224. Segment #2 is approximately 601 feet from Structure 228 to Structure 233. The third segment is approximately 58 feet from Structures 231 and 235 to the west right of way line of West Road.

The Retention Pond # 2, #5, and # 1 located in Common Area # 8 and # 10 are to be considered part of the regulated drain. Pond maintenance shall include the inlet, outlet, sediment removal and erosion control along the banks and the bio-swales as part of the regulated drain. The maintenance of the ponds such as mowing, aquatic vegetation control will be the responsibility of the Homeowners Association. The Board will also retain jurisdiction for ensuring the storage volume for which the ponds were designed will be retained, thereby, allowing no fill or easement encroachments.

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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, \$10.00 per acre for roadways, with a \$65.00 minimum. With this assessment the total annual assessment for this drain/this section will be \$3,649.40.

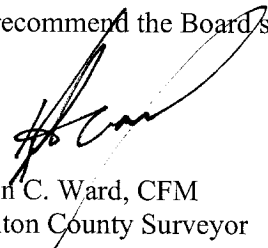
The petitioner has submitted surety for the proposed drain at this time. The sureties which are in the form of a Performance Bond are as follows:

Agent: Bond Safeguard Insurance Company  
Date: June 22, 2007  
Number: 5027109  
For: Storm Sewers  
Amount: \$322,848.00

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 is for the reduction of the regulated drain easement to those easement widths as shown on the secondary plat for Longridge Estates Section 3 as recorded in the office of the Hamilton County Recorder.

I recommend the Board set a hearing for this proposed drain for November 26, 2007.



Kenton C. Ward, CFM  
Hamilton County Surveyor

KCW/pll

STATE OF INDIANA        )  
                                  )  
COUNTY OF HAMILTON )

TO: HAMILTON COUNTY DRAINAGE BOARD

% Hamilton County Surveyor  
One Hamilton County Square, Suite 188  
Noblesville, IN. 46060-2230

In the matter of LongRidge Estates Subdivision, Section  
Three 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 LongRidge Estates, Section 3, 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

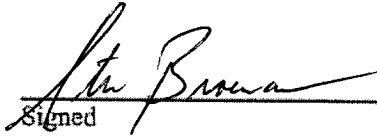
Petitioner agrees to pay the cost of construction of the drainage system and requests periodic maintenance assessments by the Board thereafter.

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**

  
Signed

**Steve Broermann**  
Printed Name

**April 3, 2006**  
Date

Signed

Printed Name

Date

Signed

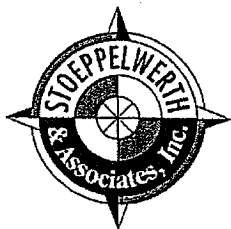
Printed Name

Date

Signed

Printed Name

Date



# STOEPPELWERTH & ASSOCIATES, INC.

CONSULTING ENGINEERS • LAND SURVEYORS

David J. Stoepfelwerth  
President, CEO  
Professional Engineer  
Professional Land Surveyor

Curtis C. Huff  
Vice President, COO  
Professional Land Surveyor

R.M. Stoepfelwerth  
Founder  
Professional Engineer  
Professional Land Surveyor

June 20, 2007

Hamilton County Surveyor  
One Hamilton County Square  
Suite 188  
Noblesville, Indiana 46060

FILED

JUN 27 2007

OFFICE OF HAMILTON COUNTY SURVEYOR

Attention: Greg Hoyes

Re: Longridge Estates, Section 3

Dear Mr. Hoyes:

On behalf of the developer, Platinum Properties, I wish to submit the following Engineer's Estimates for Long Ridge Estates, Section 3. The estimate is as follows:

### Longridge Estates, Section 3

DESCRIPTION	QUANTITY	UNIT TYPE	UNIT PRICE	EXTENSION
<b>STORM DRAINAGE</b>				
12" Pipe	1736	L.F.	\$15.12	\$26,248
12" End Section	6	EA	\$800	\$4,800
12" Trash Guard	2	EA	\$375	\$750
15" Pipe	900	L.F.	\$16.67	\$15,003
15" End Section	3	EA	\$850	\$2,550
18" Pipe	615	L.F.	\$21.50	\$13,223
18" Trash Guard	2	EA	\$450	\$900
24" Pipe	328	EA	\$27.00	\$8,856
24" End Section	2	EA	\$1,050	\$2,100
27" Pipe	498	L.F.	\$30.48	\$15,179
27" End Section	1	EA	\$1,100	\$1,100
30" Pipe	210	L.F.	\$38.00	\$7,980
36" Pipe	273	L.F.	\$40.14	\$10,958
36" End Section	2	EA	\$1,600	\$3,200
Standard Storm Manholes	17	EA	\$1,650	\$28,050


7965 East 106th Street  
Fishers, Indiana  
46038-2505

317 849 5935  
Fax: 317 849 5942  
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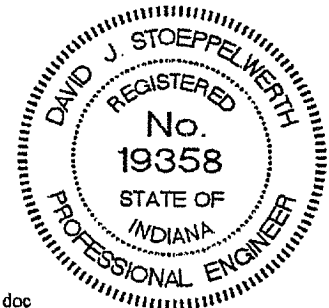
Hamilton County Surveyor  
 Greg Hoyes  
 June 20, 2007  
 Page 2 of 2

<b>Large Storm Manholes and Double Inlets</b>	6	EA	\$2,200	\$13,200
<b>Storm Inlets</b>	4	EA	\$1,500	\$6,000
<b>Double Inlet</b>	5	EA	\$2,250	\$11,250
<b>Miscellaneous Connections</b>		LS		\$12,292
<b>Sand Backfill and Bedding</b>	2412	TON	\$12.61	\$30,415
<b>SUB-TOTAL</b>				\$214,040
<b>Sub-surface Drains - Under Curb</b>	10,381	L.F.	\$4.95	\$51,386
<b>Sub-surface Drains - Sump Laterals</b>	48	EA	\$75.00	\$3,600
<b>TOTAL</b>				\$269,040
<b>Monuments and Markers</b>				
<b>Perimeter Monuments</b>	6	LS	\$200	\$1200
<b>Street Centerline Monuments</b>	16	EA	\$16.00	\$2400
<b>TOTAL</b>				\$3600
<b>GRAND TOTAL</b>				\$272,640

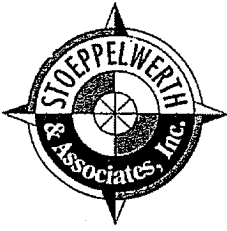
Witness my signature this 20<sup>th</sup> day of June, 2007.

  
 David J. Stoepelwerth  
 Professional Engineer  
 No. 19358

Cc: Steve Broermann



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# STOEPPELWERTH & ASSOCIATES, INC.

CONSULTING ENGINEERS • LAND SURVEYORS

David J. Stoepfelwerth  
 President, CEO  
 Professional Engineer  
 Professional Land Surveyor

Curtis C. Huff  
 Vice President, COO  
 Professional Land Surveyor

R.M. Stoepfelwerth  
 Founder  
 Professional Engineer  
 Professional Land Surveyor

June 20, 2007

Carmel City Engineer  
 One Civic Square  
 Carmel, Indiana 46032

Attention: Dick Hill

Re: Longridge Estates, Section 3

Dear Mr. Hill:

On behalf of the developer, Platinum Properties, I wish to submit the following Engineer's Estimates for Long Ridge Estates, Section 3. The estimate is as follows:

### Longridge Estates, Section 3

DESCRIPTION	QUANTITY	UNIT TYPE	UNIT PRICE	EXTENSION
<u>Streets</u>				
Stone Base	4,833.89	TON	\$13.64	\$65,934
Asphalt Base	32,819.92	SYS*in	\$2.40	\$78,768
Asphalt Binder	21,879.95	SYS*in	\$2.75	\$60,170
Asphalt Surface Coat	16,409.96	SF	\$3.45	\$56,614
DOT Entries - Accel/Decel Lanes				\$8,506
Special Paving - Offsite Improvements				\$38,202
<b>TOTAL</b>				<b>\$308,200</b>
<u>Curbs and Gutter</u>				
Rollcurb and Gutter	7,300	L.F.	\$6.60	\$48,180
<b>TOTAL</b>				<b>\$48,180</b>
<u>WATER MAINS</u>				
6" Main	320	L.F.	\$20.19	\$6,461
6" Gate Valve	1	EA	\$975	\$975

7965 East 106th Street  
 Fishers, Indiana  
 46038-2505


317.849.5935  
 Fax: 317.849.5942  
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<b>8" Main</b>	<b>3197</b>	<b>L.F.</b>	<b>\$23.01</b>	<b>\$73,563</b>
<b>8" Gate Valve</b>	<b>8</b>	<b>EA</b>	<b>\$1,250</b>	<b>\$10,000</b>
<b>Fire Hydrants</b>	<b>9</b>	<b>EA</b>	<b>\$3,290</b>	<b>\$29,610</b>
<b>Backfill and Bedding</b>	<b>1718</b>	<b>TON</b>	<b>\$8.50</b>	<b>\$14,603</b>
<b>Sub-total</b>				<b>\$135,214</b>
<b>Water Service Lines</b>	<b>49</b>	<b>EA</b>	<b>\$609.00</b>	<b>\$29,841</b>
<b>TOTAL</b>				<b>\$165,060</b>
<b>STREET SIGNS</b>				
<b>Street Name Blades</b>	<b>8</b>	<b>EA</b>	<b>\$250.00</b>	<b>\$2,000</b>
<b>TOTAL</b>				<b>\$2,000</b>
<b>EROSION CONTROL</b>				
<b>Inlet Protection</b>	<b>29</b>	<b>EA</b>	<b>\$35.00</b>	<b>\$1,015</b>
<b>Erosion Control Blankets</b>	<b>87,010</b>	<b>S.F.</b>	<b>\$0.15</b>	<b>\$13,052</b>
<b>Temporary Seeding</b>	<b>275,740</b>	<b>S.F.</b>	<b>\$0.05</b>	<b>\$13,787</b>
<b>Permanent Seeding</b>	<b>267,183</b>	<b>S.F.</b>	<b>\$0.06</b>	<b>\$16,031</b>
<b>Temporary Construction Drive</b>	<b>1</b>	<b>EA</b>	<b>\$2,000</b>	<b>\$2,000</b>
<b>TOTAL</b>				<b>\$45,890</b>
<b>SIDEWALKS</b>				
<b>C.A. Sidewalk</b>	<b>5675</b>	<b>S.F.</b>	<b>\$3.15</b>	<b>\$17,880</b>
<b>Sidewalk on Lots (By Builder)</b>	<b>31000</b>	<b>EA</b>	<b>\$3.15</b>	<b>\$97,650</b>
<b>TOTAL</b>				<b>\$115,530</b>
<b>ASPHALT PATHS</b>				
<b>Walking Trails - 10' on Collector Road</b>	<b>29933</b>	<b>S.F.</b>	<b>\$2.40</b>	<b>\$71,840</b>
<b>Walking Trails 6'</b>	<b>8942</b>	<b>EA</b>	<b>\$2.40</b>	<b>\$21,460</b>
<b>TOTAL</b>				<b>\$93,300</b>
<b>GRAND TOTAL</b>				<b>\$778,160</b>



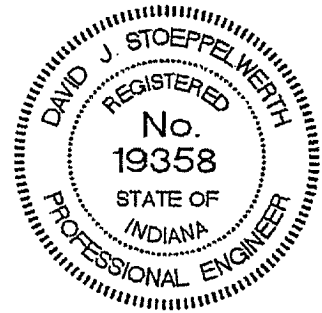
Carmel City Engineer  
Dick Hill  
June 20, 2007  
Page 3 of 3

Witness my signature this 20<sup>th</sup> day of June, 2007.

  
\_\_\_\_\_  
David J. Stoeppelwerth  
Professional Engineer  
No. 19358

Cc: Steve Broermann

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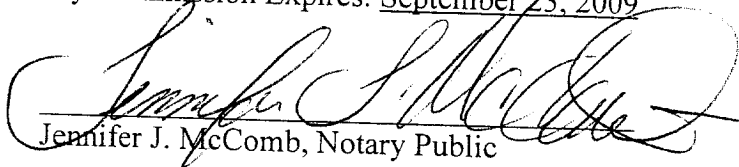


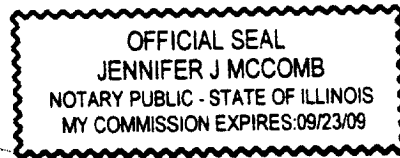
State of: ILLINOIS  
County of: Dupage

On June 22, 2007, before me, Jennifer J. McComb, a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared Heather A. Beck, known to me to be Attorney-in-Fact for Bond Safeguard Insurance Company the corporation described in and that executed the within and foregoing instrument, and known to me to be the person who executed the said instrument on behalf of the said corporation, and he duly acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year stated in this certificate above.

My Commission Expires: September 23, 2009

  
Jennifer J. McComb, Notary Public



FINDINGS AND ORDER

CONCERNING THE MAINTENANCE OF THE

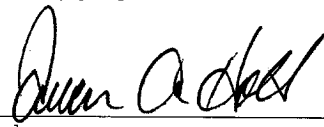
Little Eagle Creek Drain, Longridge Estates Section 3 Arm

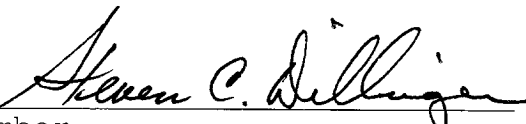
On this **26th day of November, 2007**, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the **Little Eagle Creek Drain, Longridge Estates Section 3 Arm**.


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: 

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD  
IN THE MATTER OF

*Little Eagle Creek Drain, Longridge Estates Section 3 Arm*

NOTICE

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

Notice is hereby given of the hearing of the Hamilton County Drainage Board on the **Little Eagle Creek Drain, Longridge Estates Section 3 Arm** on **November 26, 2007** at **9:20 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

*Little Eagle Creek Drain, Longridge Estates Section 3 Arm*

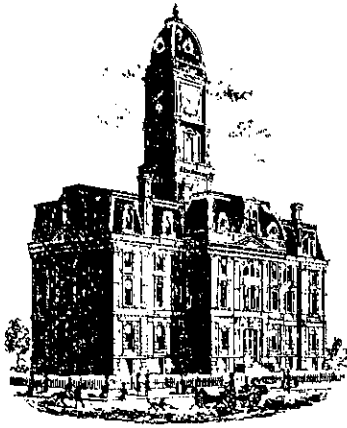
NOTICE

Notice is hereby given pursuant to Section 405 of the 1965 Indiana Drainage Code that this Board, prior to final adjournment on **November 26, 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



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

**To: Hamilton County Drainage Board**

**July 14, 2010**

**Re: Little Eagle Creek: Longridge Estates Sec. 3A**

Attached are as-builts, certificate of completion & compliance, and other information for Longridge Estates Section 3A. 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 17, 2007. The report was approved by the Board at the hearing held November 26, 2007. (See Drainage Board Minutes Book 10, Pages 516-517) The changes are as follows: \*It should be noted that the original report covered all of Section 3. Due the slowing of development only the first half is built. Therefore, we will address the drain will have two final reports. This one being for the first portion of drain built.

Structure:	Length:	Size	Material:	Up Invert:	Dn Invert	Grade:	Changes:
218-217	130	12	RCP	894.85	893.62	0.95	-3
217-216	30	12	RCP	893.38	893.33	0.97	
216-215	91	15	RCP	893.33	890.4	3.21	3
215-214	173	15	RCP	888.95	883.9	2.92	-2
213-212	212	12	RCP	882.9	880.7	1.04	2
212-211	31	12	RCP	880.7	880.32	1.23	1
211-210	179	12	RCP	879.52	873.44	3.4	-1
219-220	30	12	RCP	886.29	885.95	1.13	
220-221	129	12	RCP	885.95	880.94	3.88	-1
221-222	31	15	RCP	880.94	880.73	0.68	
222-225	100	15	RCP	879.9	877.18	2.72	-1
226-225	35	12	RCP	874.94	874.73	0.6	
225-227	140	18	RCP	874.73	873.55	0.84	-1
192-193	109	12	RCP	889.2	887.81	1.27	-1
193-194	159	12	RCP	887.81	887.04	0.48	
194-195	36	15	RCP	887.04	886.76	0.78	
195-196	185	15	RCP	886.76	883.43	1.8	-1
EX-228	39	36	RCP	872.63	872.5	0.33	9
230-231	92	24	RCP	871.59	869.79	1.96	-4
235-233	47	12	RCP	871.78	809.77	4.28	-2

**RCP Pipe Totals:**

12	1091
15	616
18	140
24	92
36	39

**Total:** 1978

**SSD:**

Wilmuth	2333
Liston	462
Nina	1236

**Total:** 4031

**Other Drain:**

36" CMP	32
BRIDGE	100
OPEN	1505

**Total:** 1637

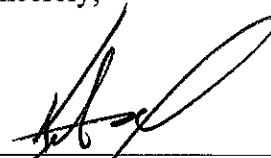
The length of the drain due to the changes described above is now **7,646 feet\***.

The non-enforcement was approved by the Board at its meeting on November 26, 2007 and recorded under instrument #2008028388.

The sureties were guaranteed by Bond Safeguard Insurance Co. and will released by the Board upon the completion of Longridge Estates Section 3B.

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

Sincerely,




---

Kenton C. Ward, CFM  
Hamilton County Surveyor

KCW/slm

CERTIFICATE OF COMPLETION AND COMPLIANCE

To: Hamilton County Surveyor

Re: Longridge Estates, Section 3A

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: November 12, 2008

Type or Print Name: Dennis D. Olmstead

Business Address: 7965 East 106th Street

Fishers, Indiana 46038

Telephone Number: (317) 849-5935

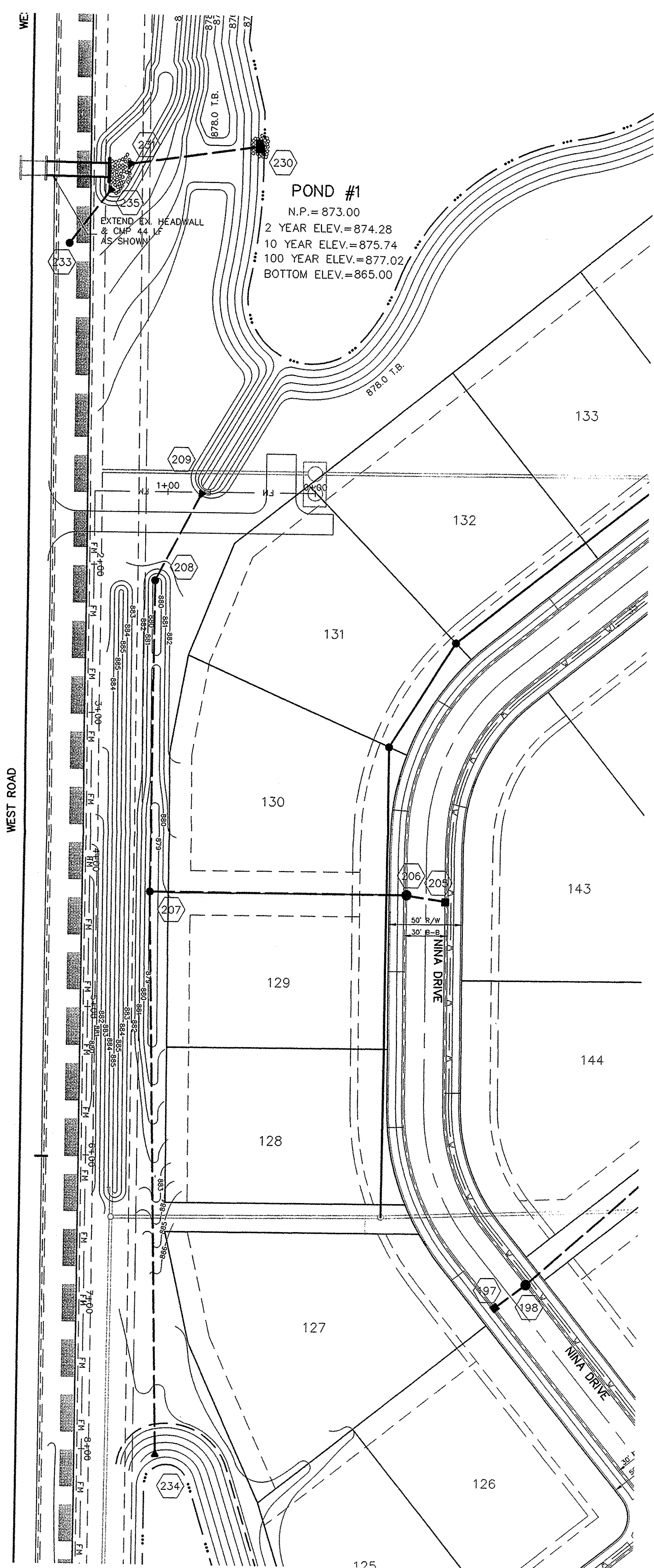
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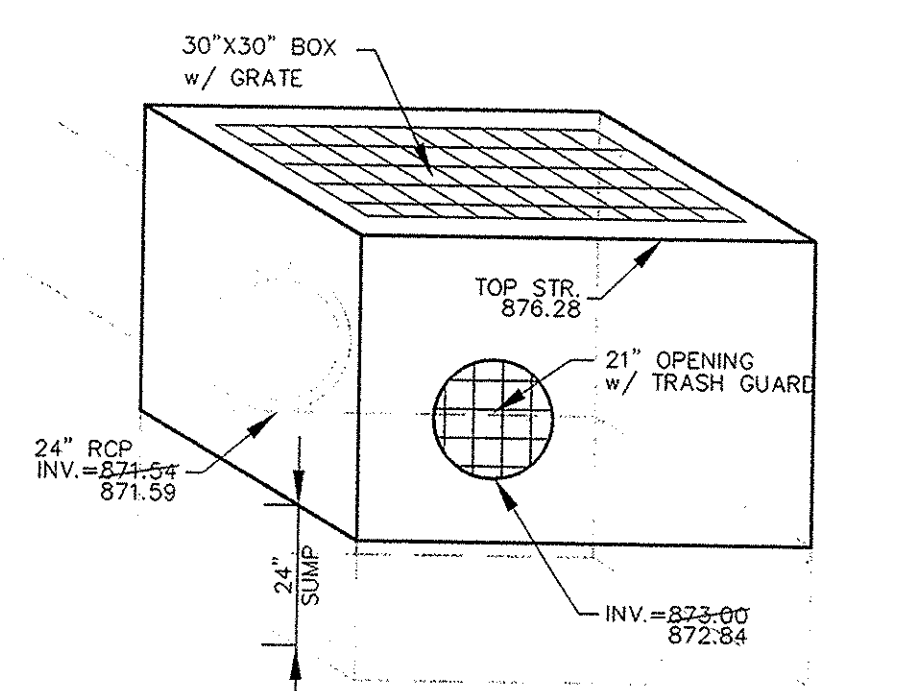
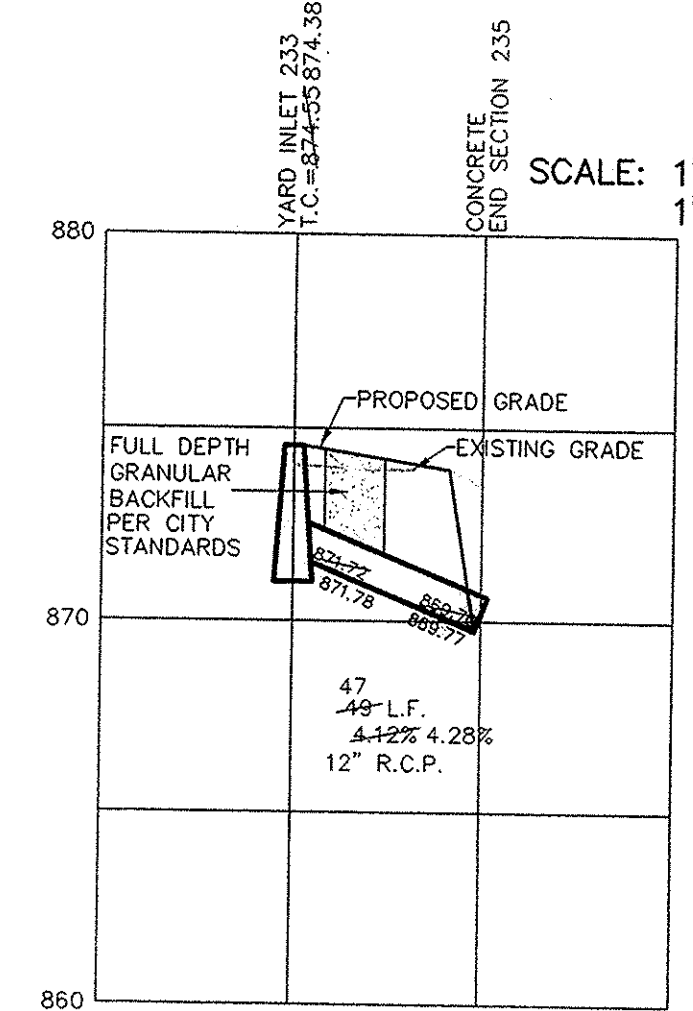
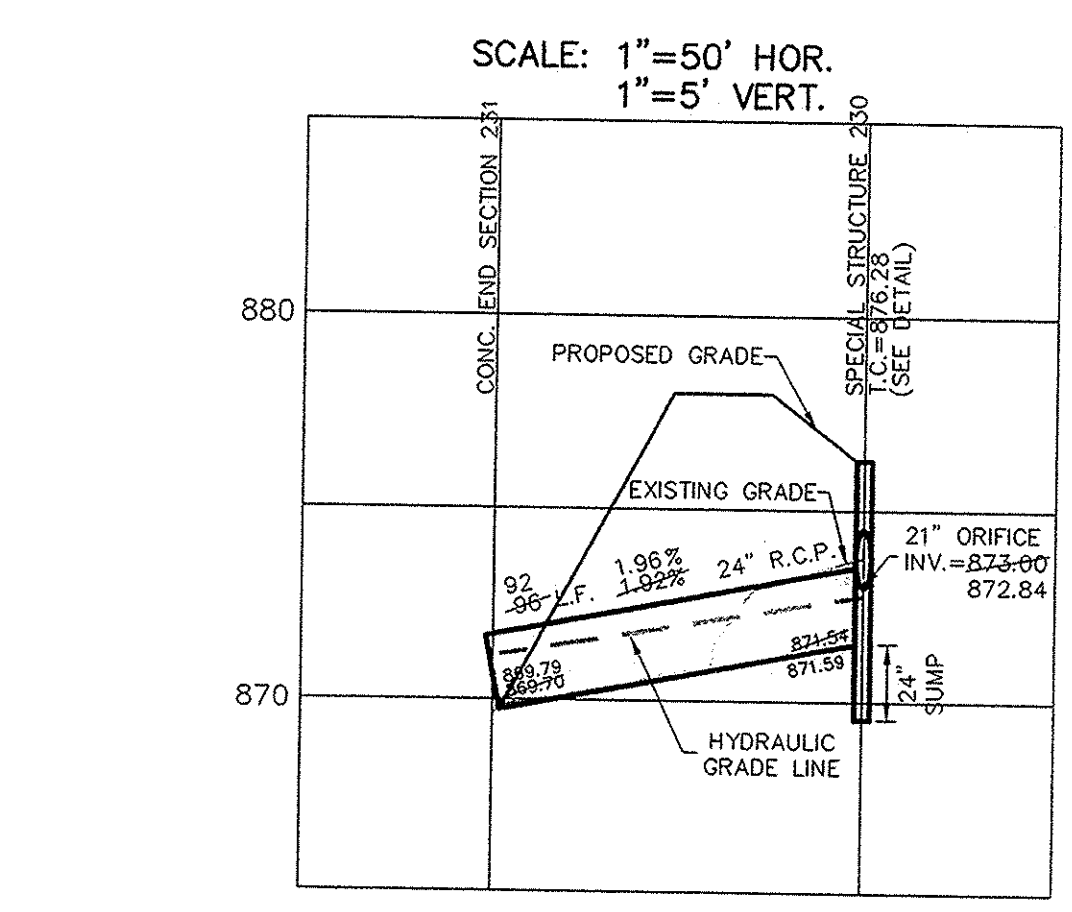
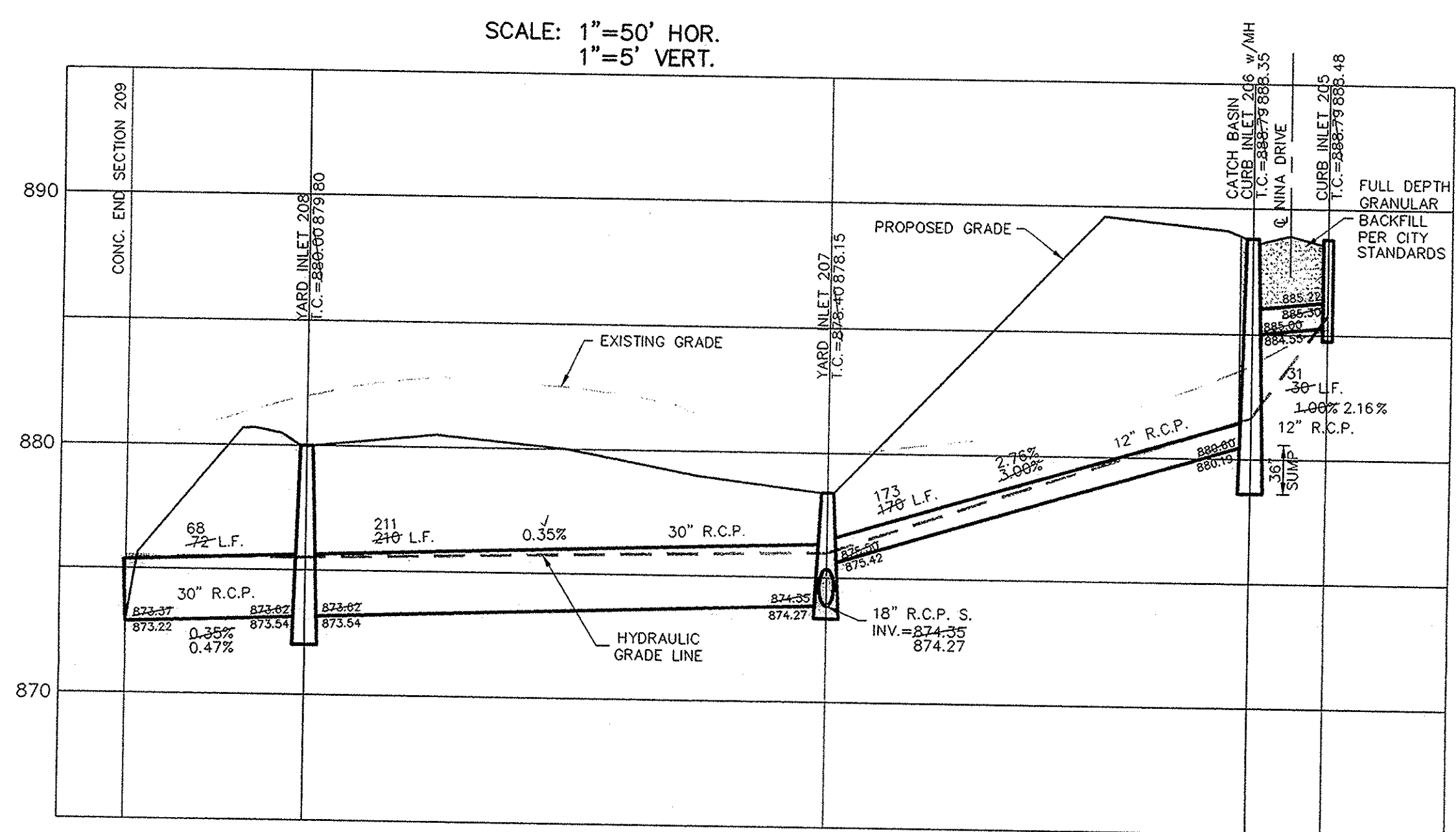
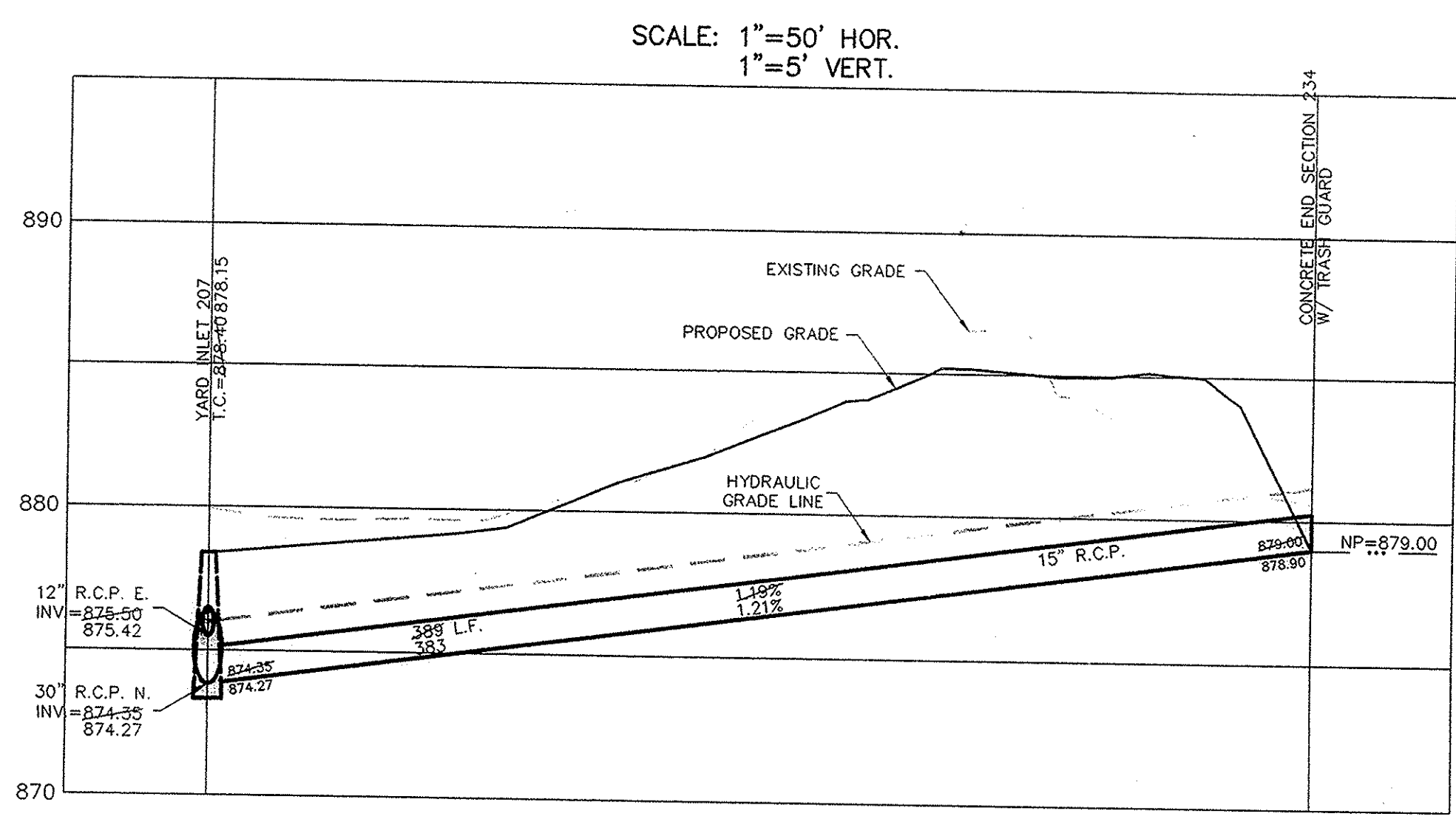
INDIANA REGISTRATION NUMBER

900012





**POND #1**  
 N.P. = 873.00  
 2 YEAR ELEV. = 874.28  
 10 YEAR ELEV. = 875.74  
 100 YEAR ELEV. = 877.02  
 BOTTOM ELEV. = 865.00



LAKE OUTFALL SPECIAL STRUCTURE STR. 230  
NOT TO SCALE

### CURB INLET TABLE

PIPE SIZE	STRUCTURES LESS THAN 48" FROM T/C TO INVERT	STRUCTURES GREATER THAN 48" FROM T/C TO INVERT	ANGLE AND QUALITY OF PIPES WILL REQUIRE SPECIAL DESIGN	STEPS REQUIRED	CURB CASTING *R-3501 N	CASTING *3501 TL & TR
12" to 18"	2'x2'		DESIGN APPROVAL	No	Yes	Yes
18" or 21"		MH/BOX	DESIGN APPROVAL	Yes	Yes	Yes
21" or 27"	2'x3'		DESIGN APPROVAL	No	No	Yes
24" or LARGER	DESIGN APPROVAL		DESIGN APPROVAL	No	No	Yes
24" or LARGER		MH/BOX	DESIGN APPROVAL	Yes**	Yes	Yes

\* PIPES NO LARGER THAN 18" CAN BE USED IN THE 2' SIDE OF THIS BOX  
 \*\* INCOMING AND OUT GOING PIPES EFFECT STEPS IN THIS STRUCTURE

**SPECIAL NOTE:**  
STRUCTURES DEEPER THAN 48" FROM T/C TO INVERT WILL BE A M.H. OR A BOX WITH STEPS UNLESS SPECIAL DESIGN IS APPROVED.

**SPECIAL NOTE:**  
STRUCTURES WILL BE DESIGNED FOR MAXIMUM FLOW IN PIPES

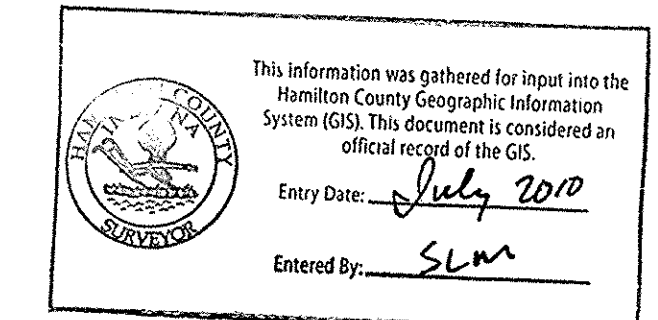
**SPECIAL NOTE:**  
COUNTY MAY REQUIRE STEPS TO BE INSTALLED AFTER STRUCTURE IS SET, TO IMPROVE ACCESS.

**NOTE:**  
CONSTRUCTION TOLERANCE FOR YARD INLETS WILL BE +0.0' TO -0.20'

**NOTE:**  
"EXCEPT FOR FORCE MAINS, CONTRACTOR TO INSTALL CONCRETE CRADLES WHEN THE VERTICAL SEPARATION (AS MEASURED FROM THE EXTERIOR OF THE PIPES) BETWEEN SANITARY SEWER FACILITIES AND STORM SEWERS IS 18" OR LESS."

SCALE: 1" = 50'  
 ALL MANHOLES TO BE CONSTRUCTED WITH ONE 4" RISER RING (NO MORE, NO LESS) TO ESTABLISH PLAN CASTING GRADE.

THERE SHALL BE NO MANHOLES OR WATER VALVES WITHIN THE STREET PAVEMENT, CURBS, SIDEWALKS, OR ASPHALT PATHS



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: July 2010  
 Entered by: SLW

- NOTES:**
- BEFORE AND DURING FOR ALL RCP INSTALLATIONS SHALL BE AS SHOWN WITHIN THE MATERIAL REQUIREMENTS OF THE ROOT. BODIES SHALL BE PLACED IN THE TRENCH BOTTOM SOON AFTER THE PIPE IS INSTALLED TO GRADE AND LINE. THESE BODIES SHALL BE A MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BODIES AND A MINIMUM OF 3" BELOW THE SOIL FOR PIPE SIZES 48" AND LARGER. THE MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BODIES SHALL BE 4" BODIES SHALL BE PLACED TO BE UNIFORM AS POSSIBLE, BUT SHALL BE LOOSELY PLACED UNIFORM LOADS THE MIDDLE THIRD OF THE PIPE PRIOR TO PLACEMENT OF THE PIPE. IF THE UNDERLIES SOILS OF THE TRENCH BOTTOM ARE SOFT OR UNIFORM, THE SOIL SHALL BE UNIFORM TO SUCH A DEPTH THAT WHEN REPAIRED WITH AS STONE IT WILL PROVIDE A UNIFORM AND STABLE FOUNDATION ALONG THE ENTIRE LENGTH OF THE PIPE. MANHOLES AND BODIES SHALL BE COMPLETED IN 12" MANHOLE LIFTS TO NOT LESS THAN SIX 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. MANHOLES SHALL EXTEND TO THE SURFACE OF THE PIPE. MANHOLE TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 18".
  - FINAL BACKFILL FOR ALL RCP INSTALLATIONS SHALL BE 12" OR 18" OR LESS SHALL BE 8-OR-10" FOR STRUCTURE BACKFILL. THE STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL FOR THE TOP 4" OF THE EXCAVATION BELOW THE SURFACE OF THE ADJACENT SURFACE OF THE PAVEMENT SHALL BE 8-OR-10" MATERIAL. MATERIAL REQUIREMENTS OF THE ROOT AND SHALL BE COMPLETED TO NOT LESS THAN SIX STANDARD PROCTOR DENSITY. FINAL BACKFILL FOR ALL RCP INSTALLATIONS SHALL BE 12" OR GREATER THAN 18" OR GREATER THAN 18" MATERIAL. ALL RCP SHALL BE 12" OR GREATER THAN 18" IN DIAMETER. FROZEN LUMPS OF SOIL, WOOD OR OTHER EXTRANEOUS MATERIAL, COMPLETED IN 12" MANHOLE LIFTS TO NOT LESS THAN SIX STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE EXCAVATION. THE FINAL 6" OF THE EXCAVATION SHALL CONSIST OF TOPSOIL.
  - THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THROUGHOUT (ALL MANHOLES AND AGGREGATE MATERIAL ABOVE THE SUBGRADE PLUS 1-0" BUT THESE STANDARDS SHALL APPLY FOR STORM SEWERS INSTALLED WHEN CITY EXISTING AND PROPOSED R/W REGARDLESS OF JUNCTION OVER STORM PIPES.
  - IF EXISTING SURFACE HAS BEEN LIME STABILIZED, BLENDED WITH 8-OR-10" OR TO BOTTOM OF UNLIME STABILIZED EXISTING SURFACE, AND FILL TO TOP OF INSTALLED SURFACE WITH LIME STABILIZED SOIL.
  - ALL STORM PIPES WITHIN EXISTING OR PROPOSED CITY R/W SHALL BE REINFORCED CONCRETE PIPE REGARDLESS OF JUNCTION OVER STORM PIPES.

NO EARTH DISTURBING ACTIVITY MAY TAKE PLACE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.

**NOTE:**  
ALL 36" SUMP CATCH BASIN TO BE 48" MANHOLES, UNLESS DOUBLE CURB INLETS PER H.C.S.O.

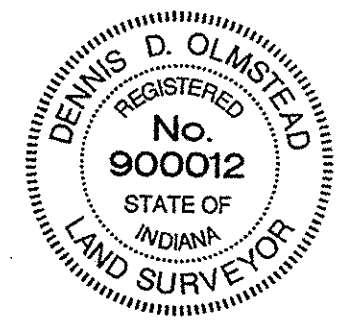
ALL EXISTING OFF-SITE DRAIN TILES THAT ARE ENCOUNTERED SHALL BE TIED INTO THE PROPOSED STORM SEWER SYSTEM WITH A POSITIVE OUTFLOW

**NOTE:**  
ALL STORM SEWER CASTINGS SHALL BE LABELED "DUMP NO WASTE-DRAINS TO WATERWAY".

**NOTE:**  
FOR INSTALLATION OF STORM MAINS, WATER MAINS, SANITARY MAINS, WATER SERVICE LATERALS, SANITARY SERVICE 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 THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1-0". IF THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION HAS MORE STRINGENT COVER REQUIREMENT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

## RECORD DRAWING

*D.D. Olmstead* 11/12/08  
 DENNIS D. OLMSTEAD Registered Land Surveyor No. 900012 DATE



CRM  
BAH  
EEF  
BAH  
BAH  
BAH  
BAH  
BAH

REVISED PER DITCH REALIGNMENT  
REVISED PER AGENCY COMMENTS  
REVISED PER CITY COMMENTS  
REVISED PER CITY SUGGESTIONS  
REVISED PER COMMENTS  
REV. DETAIL FOR STR. 234  
REVISED LAYOUT AND PLANS PER DEVELOPER

10/27/08  
10/28/07  
9/18/07  
8/19/07  
5/17/07  
4/12/07  
2/21/07  
1/19/07  
12/12/06

DATE

MARK

REGISTERED PROFESSIONAL ENGINEER  
 No. 19358  
 STATE OF INDIANA  
 David J. Stoppewerth

CERTIFIED: 9/28/06

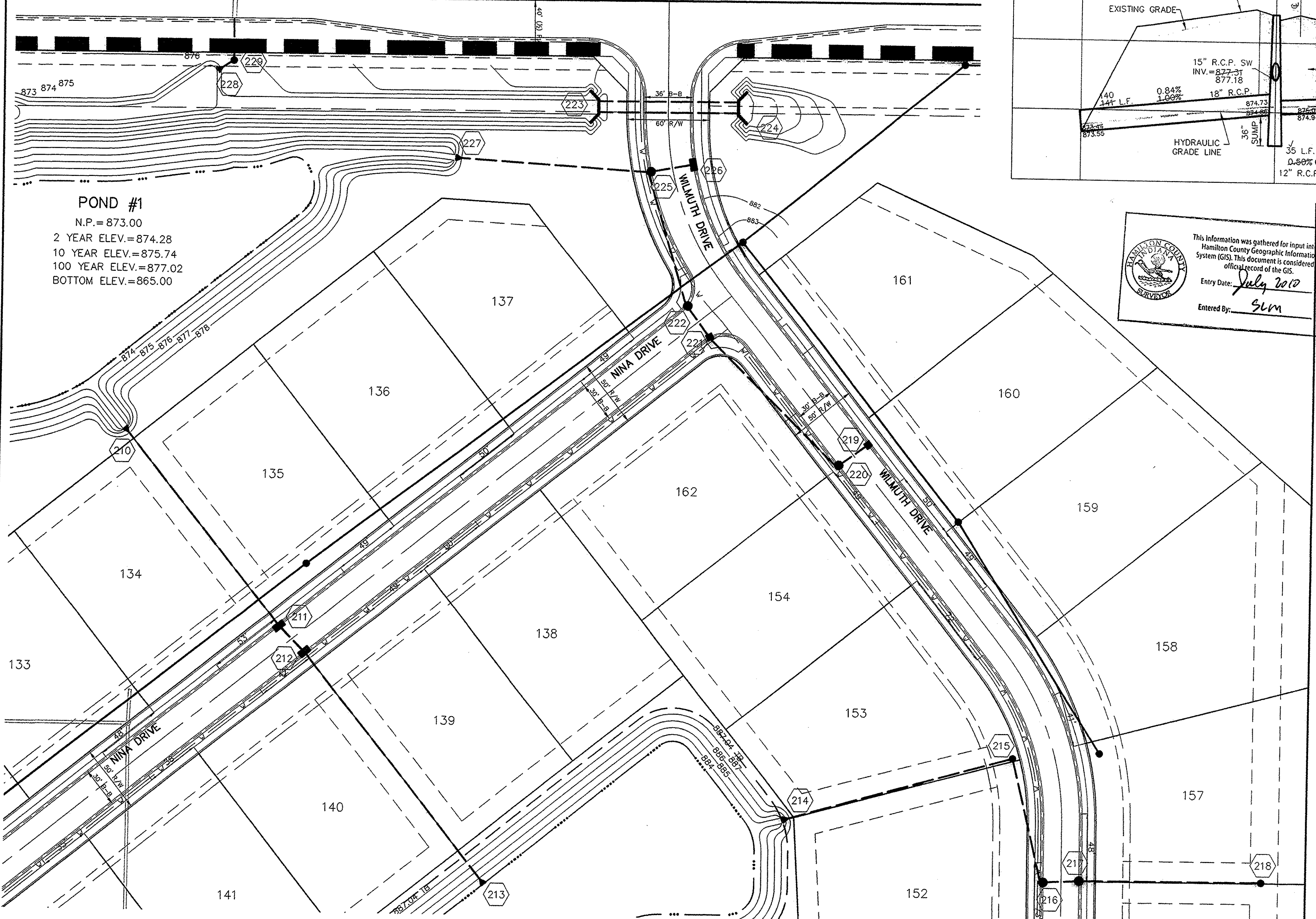
STOEPPELWERTH & ASSOCIATES, INC.  
 CONSULTING ENGINEERS & LAND SURVEYORS  
 9940 Allisonville Rd., Fishers, IN 46038-2005  
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 Toll Free: (800) 726-8917

INDIANA  
 STORM SEWER PLAN & PROFILE  
 LONGRIDGE ESTATES  
 SECTION THREE  
 CARMEL

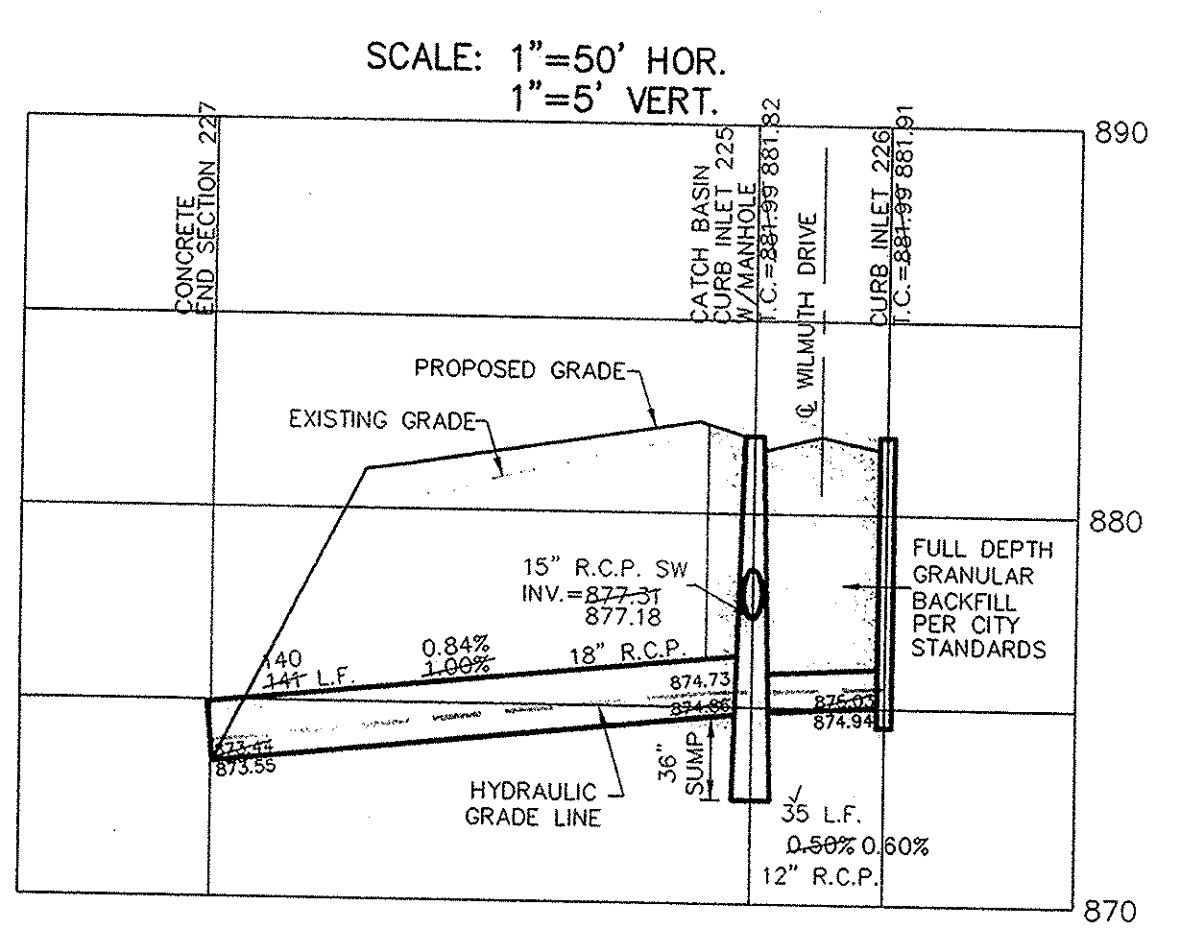
DRAWN BY: BAH CHECKED BY: EEF  
 SHEET NO. C601  
 3 & 4 JOB NO. 4742553

# RECORD DRAWING

Dennis D. Olmstead  
 DENNIS D. OLMSTEAD  
 Registered Land Surveyor  
 No. 900012  
 DATE: 11/12/08



**POND #1**  
 N.P.=873.00  
 2 YEAR ELEV.=874.28  
 10 YEAR ELEV.=875.74  
 100 YEAR ELEV.=877.02  
 BOTTOM ELEV.=865.00



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: July 2010  
 Entered By: SLM

### CURB INLET TABLE

PIPE SIZE	STRUCTURES LESS THAN 48" FROM T/C TO INVERT	STRUCTURES GREATER THAN 48" FROM T/C TO INVERT	ANGL AND QUALITY OF PIPES WILL REQUIRE SPECIAL DESIGN	STEPS REQUIRED	CURB CASTING *R-3501 N	CASTING *3501 TL & TR
12" to 18"	2'x2'		DESIGN APPROVAL	No	Yes	Yes
18" or 21"		MH/BOX	DESIGN APPROVAL	Yes	Yes	Yes
21" or 27"	2'x3'*		DESIGN APPROVAL	No	No	Yes
24" or LARGER	DESIGN APPROVAL		DESIGN APPROVAL	No	No	Yes
24" or LARGER		MH/BOX	DESIGN APPROVAL	Yes**	Yes	Yes

\* PIPES NO LARGER THAN 18" CAN BE USED IN THE 2' SIDE OF THIS BOX  
 \*\* INCOMING AND OUT GOING PIPES EFFECT STEPS IN THIS STRUCTURE

**NOTES:**  
 1. BEFORE AND HANDLING FOR ALL TOP INSTALLATIONS SHALL BE AS STROKE MARKING THE MATERIAL REQUIREMENTS OF THE BODY SHOULD BE PLACED IN THE PROPER POSITION SUCH THAT AFTER THE PIPE IS INSTALLED TO GRADE...  
 2. FINAL BACKFILL FOR ALL TOP INSTALLATIONS WHERE 1' IS 5' OR LESS SHALL BE 3-INCHES FOR STRUCTURE BACKFILL...  
 3. THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PIPE TO THE TOP OF THE INSTALLED PIPE SHALL BE THE MINIMUM COVER...  
 4. IF EXISTING SUBGRADE HAS BEEN LAME, STABILIZED, BACKFILL WITH 8-INCHES UP TO BOTTOM OF UNTREATED EXISTING...  
 5. SUBGRADE AND FILL TO TOP OF TREATED SUBGRADE WITH LINE STABILIZED 5%...  
 6. ALL STORM PIPE WITH EXISTING OR PROPOSED CITY R/W SHALL BE REINFORCED CONCRETE PIPE REGARDLESS OF JURISDICTION OVER STORM PIPES.

**SPECIAL NOTE:**  
 STRUCTURES DEEPER THAN 48" FROM T/C TO INVERT WILL BE A M.H. OR A BOX WITH STEPS UNLESS SPECIAL DESIGN IS APPROVED.

**SPECIAL NOTE:**  
 STRUCTURES WILL BE DESIGNED FOR MAXIMUM FLOW IN PIPES

**SPECIAL NOTE:**  
 COUNTY MAY REQUIRE STEPS TO BE INSTALLED AFTER STRUCTURE IS SET, TO IMPROVE ACCESS.

**NOTE:**  
 CONSTRUCTION TOLERANCE FOR YARD INLETS WILL BE +0.0' TO -0.2'

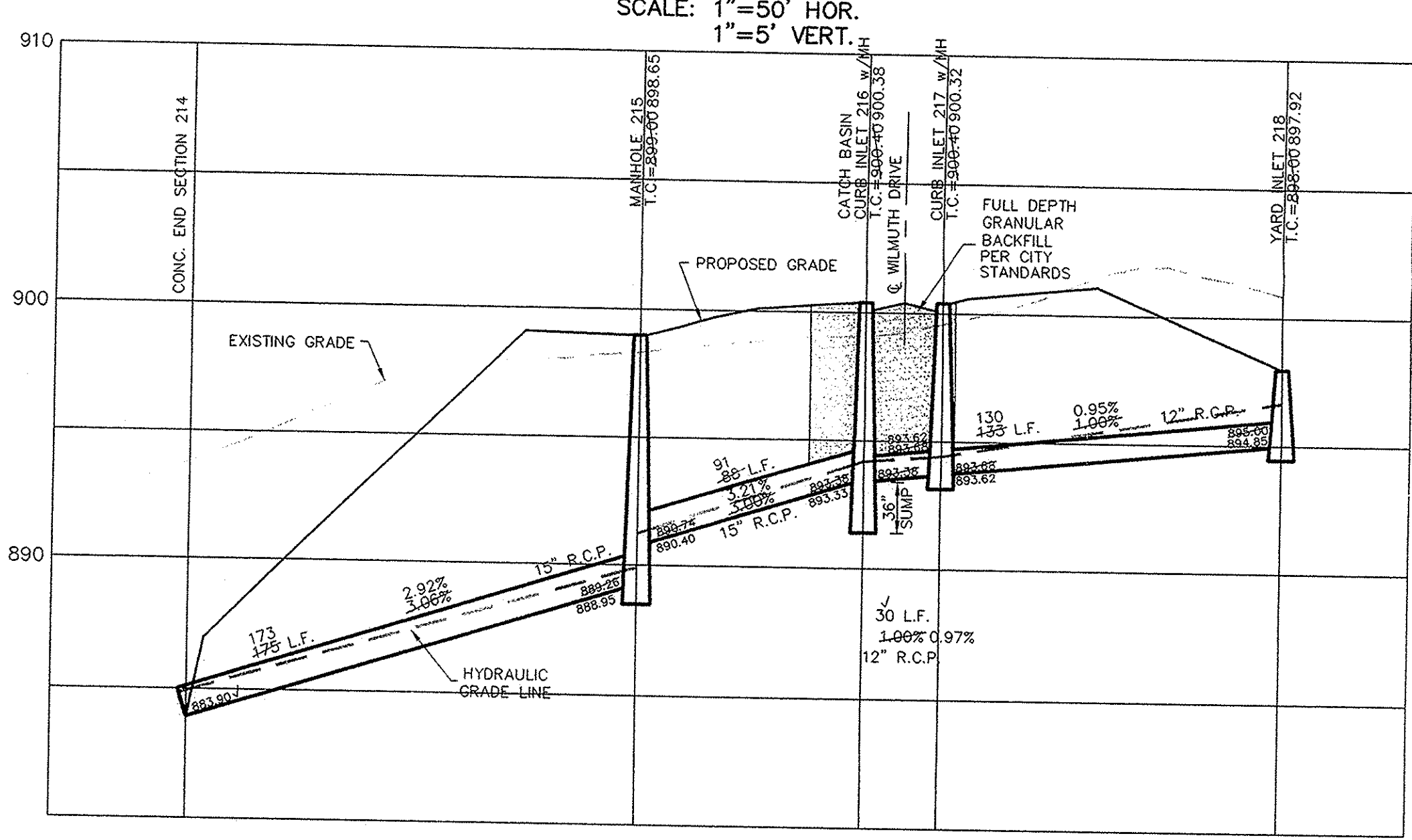
**NOTE:**  
 "EXCEPT FOR FORCE MAINS, CONTRACTOR TO INSTALL CONCRETE CRADLES WHEN THE VERTICAL SEPARATION (AS MEASURED FROM THE EXTERIOR OF THE PIPES) BETWEEN SANITARY SEWER FACILITIES AND STORM SEWERS IS 18" OR LESS."

ALL MANHOLES TO BE CONSTRUCTED WITH ONE 4" RISER RING (NO MORE, NO LESS) TO ESTABLISH PLAN CASTING GRADE.

THERE SHALL BE NO MANHOLES OR WATER VALVES WITHIN THE STREET PAVEMENT, CURBS, SIDEWALKS, OR ASPHALT PATHS.

SCALE: 1"=50'

NO EARTH DISTURBING ACTIVITY MAY TAKE PLACE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.



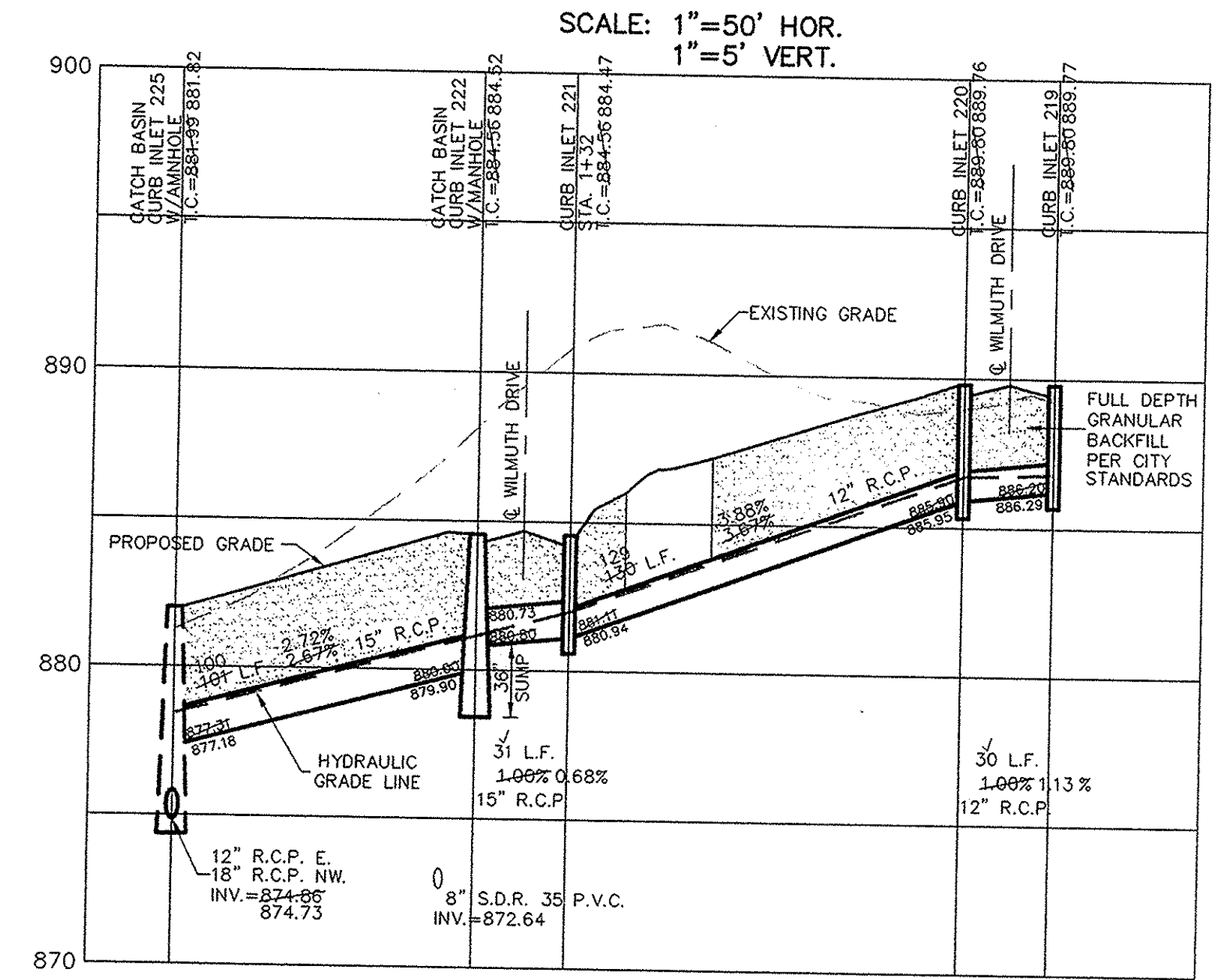
SCALE: 1"=50' HOR.  
 1"=5' VERT.

**NOTE:**  
 ALL 36" SUMP CATCH BASIN TO BE 48" MANHOLES, UNLESS DOUBLE CURB INLETS PER H.C.S.O.

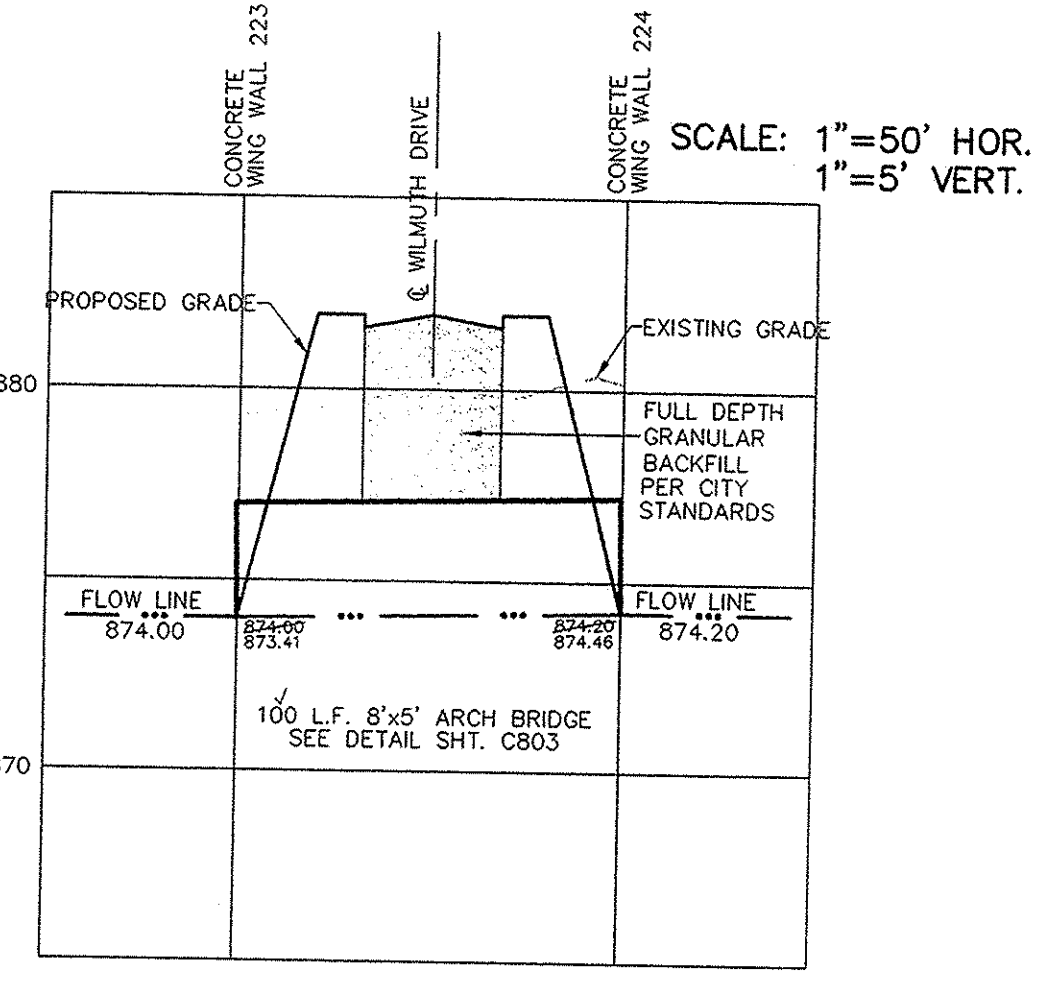
**NOTE:**  
 ALL EXISTING OFF-SITE DRAIN TILES THAT ARE ENCOUNTERED SHALL BE TIED INTO THE PROPOSED STORM SEWER SYSTEM WITH A POSITIVE OUTFLOW

**NOTE:**  
 ALL STORM SEWER CASTINGS SHALL BE LABELED "DUMP NO WASTE-DRAINS TO WATERWAY".

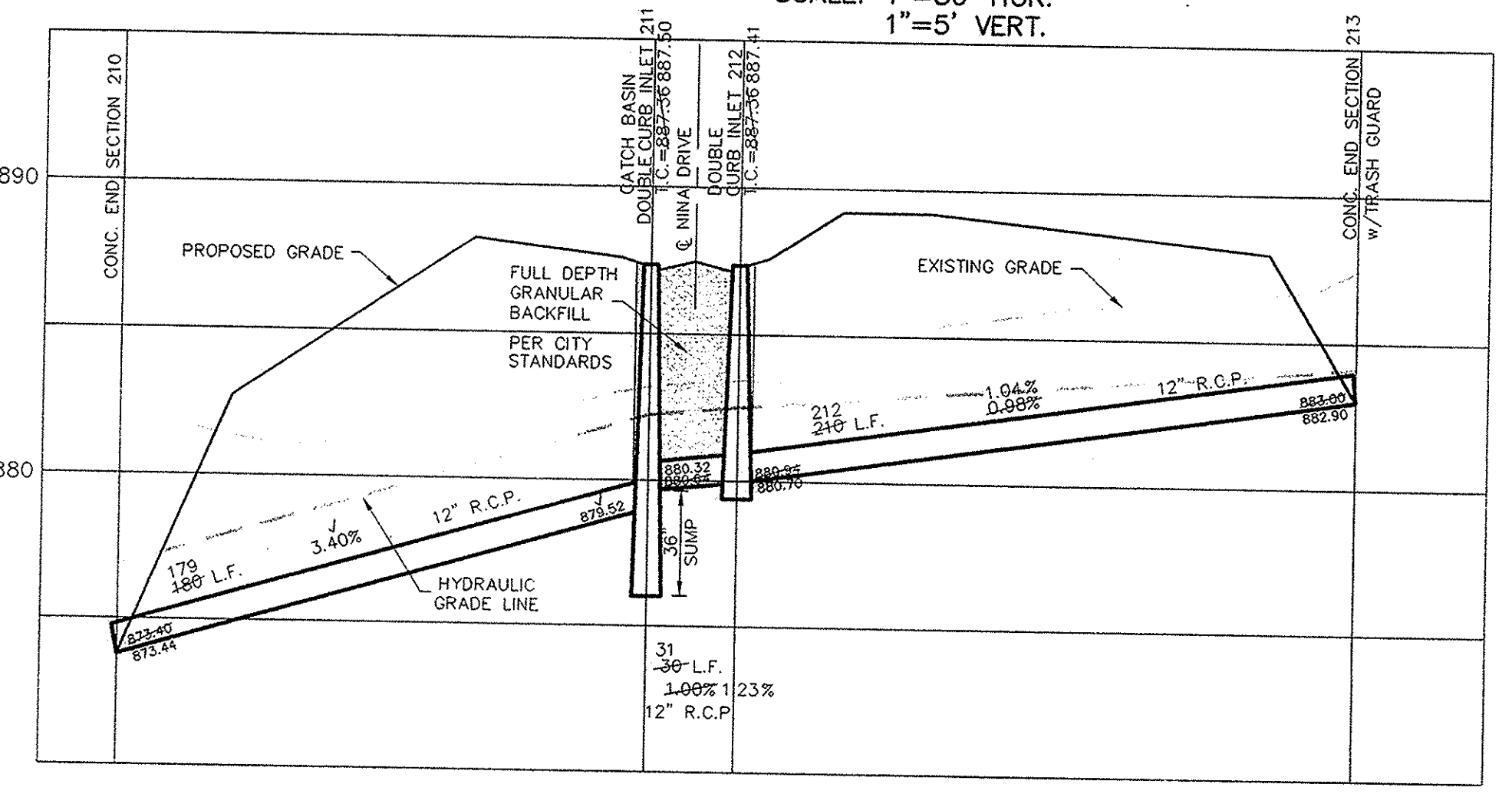
**NOTE:**  
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SCALE: 1"=50' HOR.  
 1"=5' VERT.



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



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

ASBUILTS: 10/23/08  
 REV. STR. #222 & PIPE SIZE DOWNSTREAM: 10/18/07  
 REVISED PER DITCH REQUIREMENT: 10/18/07  
 REVISED PER AGENCY COMMENTS: 07/18/07  
 REVISED PER CITY COMMENTS: 05/12/07  
 REVISED PER CITY SUGGESTIONS: 07/12/06  
 REVISE LAYOUT NEAR ENT. PER DEVELOPER: 07/12/06

DATE: 11/12/08

CERTIFIED: 9/28/06

David J. Stoppelwerth  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 19358  
 STATE OF INDIANA

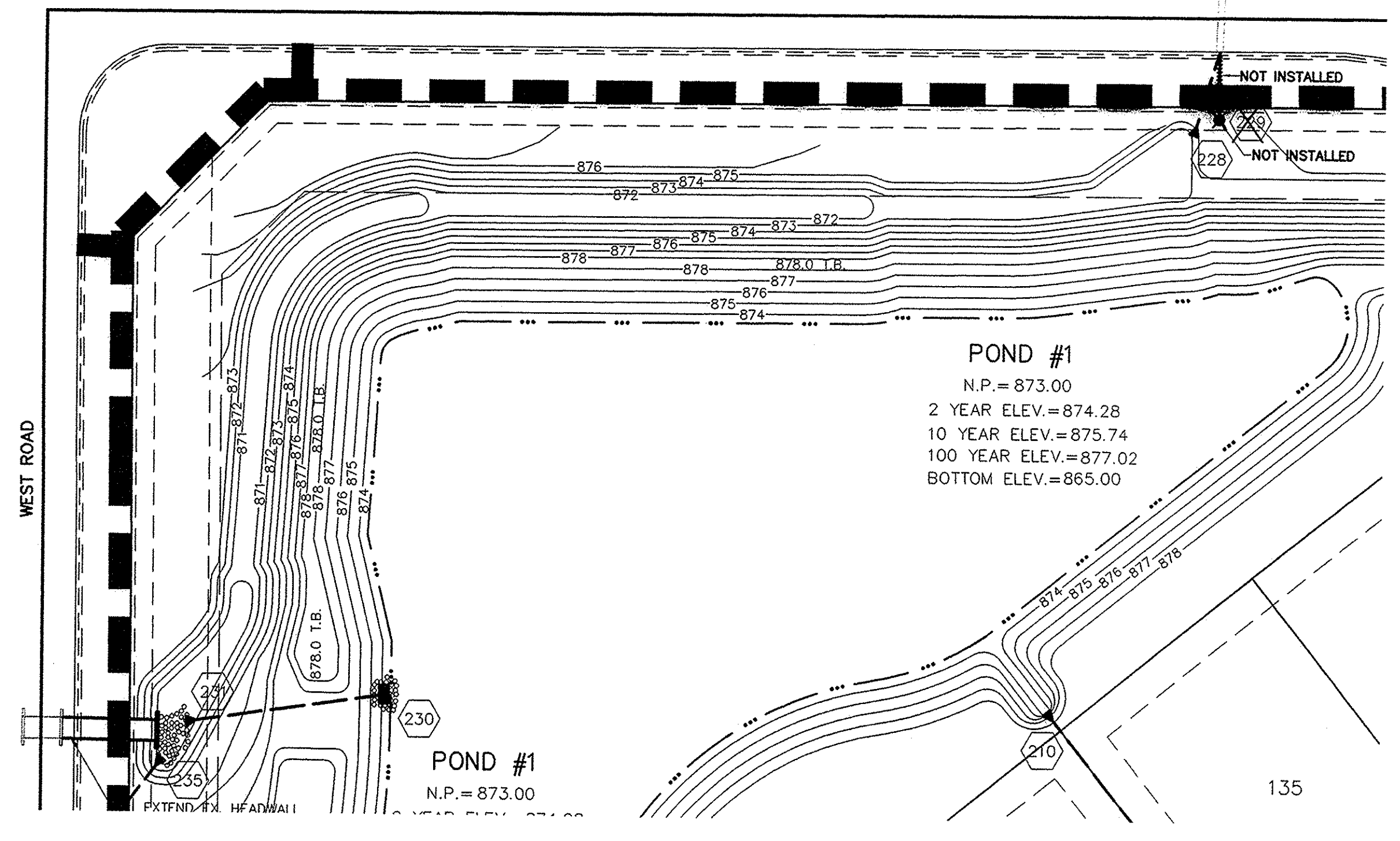
STOEPPELWERTH & ASSOCIATES, INC.  
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 Toll Free: (800) 728-6917

INDIANA

STORM SEWER PLAN & PROFILE  
 LONGRIDGE ESTATES  
 SECTION THREE

CARMEL

DRAWN BY: BAH  
 CHECKED BY: EEF  
 SHEET NO.: C602  
 S & A JOB NO.: 4742553



# RECORD DRAWING

*D.D. Olmstead*  
 DENNIS D. OLMSTEAD  
 Registered Land Surveyor  
 No. 900012

11/12/08 DATE

DENNIS D. OLMSTEAD  
 REGISTERED  
 No. 900012  
 STATE OF INDIANA  
 LAND SURVEYOR

PIPE SIZE	STRUCTURES LESS THAN 48" FROM T/C TO INVERT	STRUCTURES GREATER THAN 48" FROM T/C TO INVERT	ANGLE AND QUALITY OF PIPES WILL REQUIRE SPECIAL DESIGN	STEPS REQUIRED	CURB CASTING *R-3501 N	CASTING *3501 TL & TR
12" to 18"	2'x2'		DESIGN APPROVAL	No	Yes	Yes
18" or 21"		MH/BOX	DESIGN APPROVAL	Yes	Yes	Yes
21" or 27"	2'x3'		DESIGN APPROVAL	No	No	Yes
24" or LARGER	DESIGN APPROVAL		DESIGN APPROVAL	No	No	Yes
24" or LARGER		MH/BOX	DESIGN APPROVAL	Yes**	Yes	Yes

\* PIPES NO LARGER THAN 18" CAN BE USED IN THE 2' SIDE OF THIS BOX  
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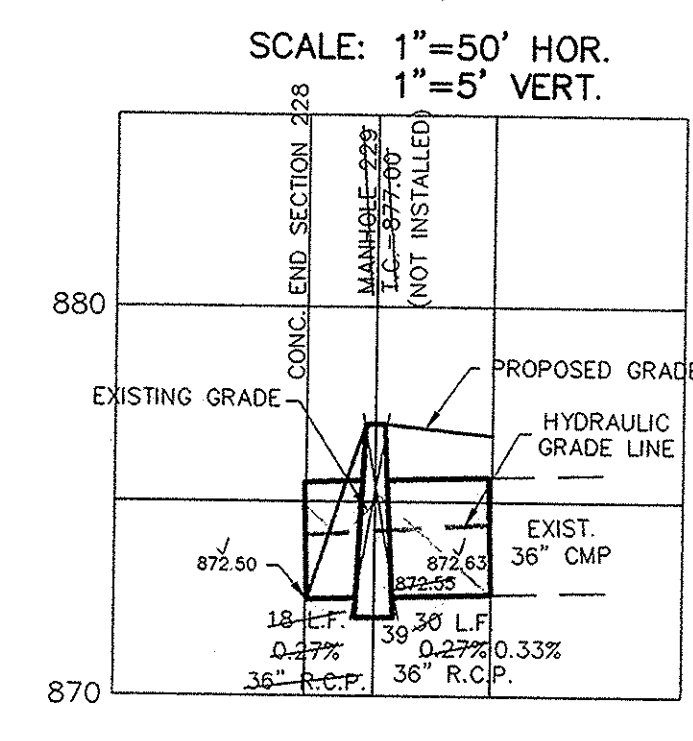
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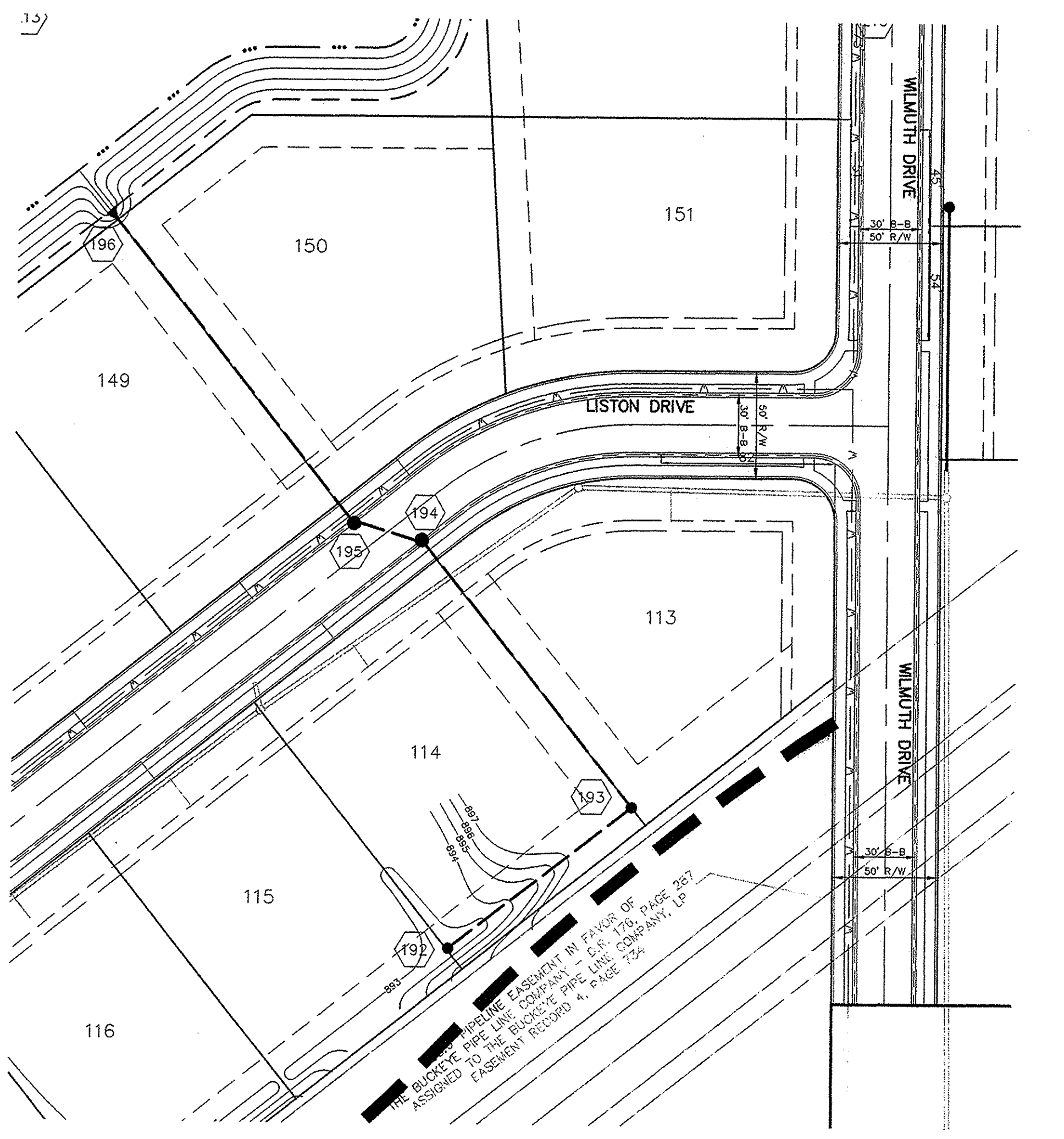
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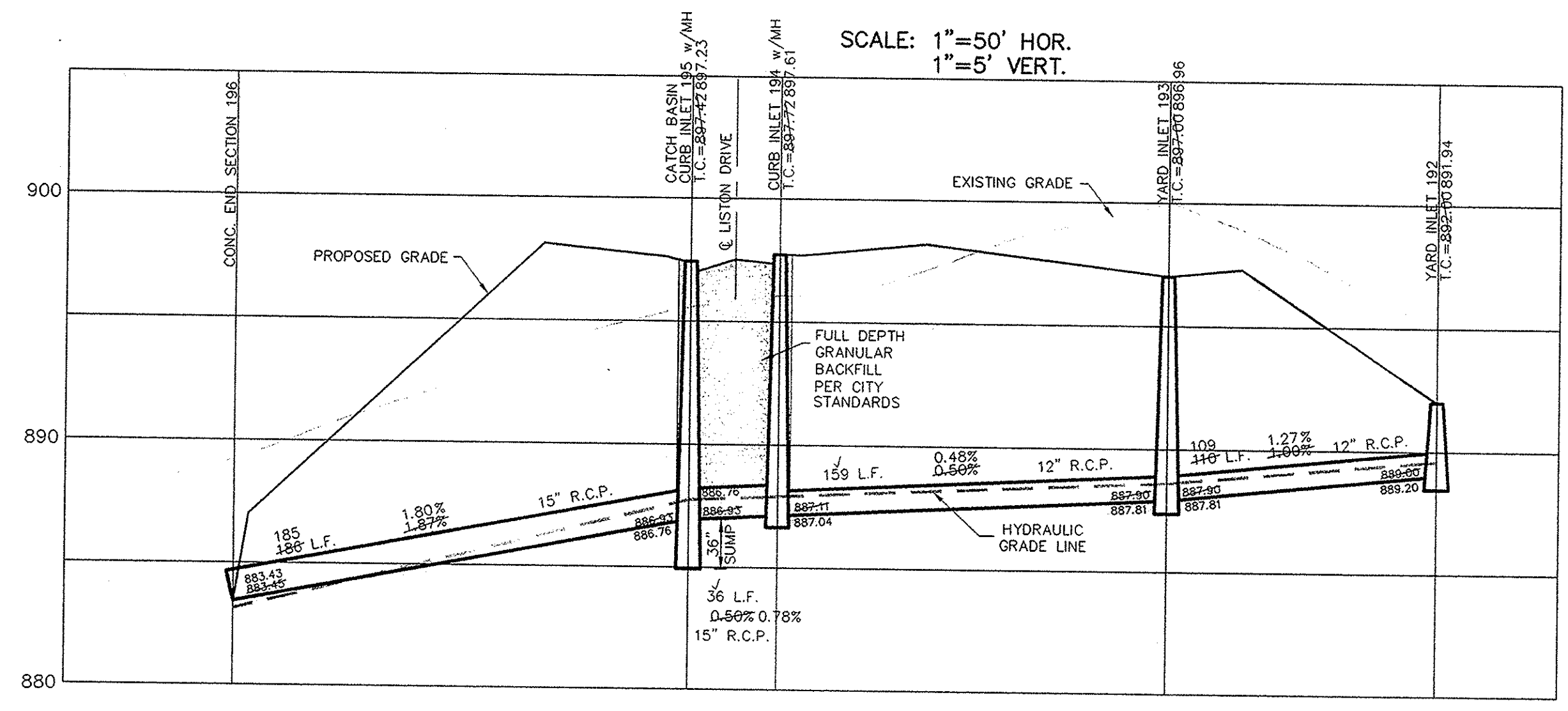
SCALE: 1" = 50'



- NOTES:**
- BEFORE AND THROUGHOUT FOR ALL TOP INSTALLATIONS SHALL BE AS SHOWN MEETING THE MINIMUM REQUIREMENTS OF THE BODY. BEDDING SHALL BE PLACED IN THE TRENCH BOTTOM SUCH THAT AFTER THE PIPE IS INSTALLED TO GRADE AND LINED, THERE REMAINS A 4" MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BASKET AND A MINIMUM OF 2" BELOW THE BELL FOR PIPE SIZES 18" AND LARGER. THE MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BASKET SHALL BE 4" BEYOND THE MIDDLE THIRD OF THE PIPE PRIOR TO PLACEMENT OF THE PIPE. IF THE MINIMUM DEPTH OF THE TRENCH BOTTOM AND THE SOFT OR WEAKENED SOIL SHALL BE IMMEDIATELY TO SUCH A DEPTH THAT WHEN REPAIRED WITH #2 STONE IT WILL PROVIDE A UNIFORM AND STABLE FOUNDATION ALONG THE ENTIRE LENGTH OF THE PIPE. MANHOLES AND INITIAL BACKFILL SHALL BE COMPLETED IN 4" MAXIMUM LIFTS TO NOT LESS THAN 90% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL SHALL BE BROUGHT UP EXACTLY ON BOTH SIDES OF THE PIPE FOR THE FULL OUTSIDE DIAMETER OF THE PIPE PLUS 18"
  - FINAL BACKFILL FOR ALL TOP INSTALLATIONS WHERE "L" IS 5' OR LESS SHALL BE B-DORROW FOR STRUCTURE BACKFILL MEETING THE MATERIAL REQUIREMENTS OF THE BODY AND SHALL BE COMPACTED IN 4" MAXIMUM LIFTS TO NOT LESS THAN 90% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL FOR THE VERTICALLY SEPARATION SHALL BE COMPACTED TO NOT LESS THAN 90% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL SHALL BE BROUGHT UP EXACTLY ON BOTH SIDES OF THE PIPE FOR THE FULL OUTSIDE DIAMETER OF THE PIPE PLUS 18"
  - THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THROUGHOUT FULL BROADWAYS AND ADJACENT 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 EXISTING SUBGRADE HAS BEEN LIME STABILIZED, BACKFILL WITH B-DORROW UP TO BOTTOM OF UNTREATED EXISTING SUBGRADE AND FILL TO TOP OF TREATED SUBGRADE WITH LIME STABILIZED SOIL.
  - THESE STANDARDS SHALL APPLY FOR STORM SEWERS INSTALLED WITHIN CITY EXISTING AND PROPOSED R/W REGARDLESS OF PROTECTION OVER STORM PIPES.
  - ALL STORM PIPES WITHIN EXISTING OR PROPOSED CITY R/W SHALL BE REINFORCED CONCRETE PIPE REGARDLESS OF JURISDICTION OVER STORM PIPES.



NO EARTH DISTURBING ACTIVITY MAY TAKE PLACE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.



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ASBUILTS: 10/3/08  
 REVISED PER AGENCY COMMENTS: 2/18/07  
 REVISED PER CITY COMMENTS: 5/1/07  
 REVISED PER CITY SUGGESTIONS: 4/12/07  
 REVISED LAYOUT AND PLANS PER DEVELOPER: 12/12/08

DATE: 9/28/06  
 MARK: [Signature]

CERTIFIED: 9/28/06  
 David J. Stoppelwerth  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 19368  
 STATE OF INDIANA

STOEPPELWERTH & ASSOCIATES, INC.  
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INDIANA  
 CARMEL

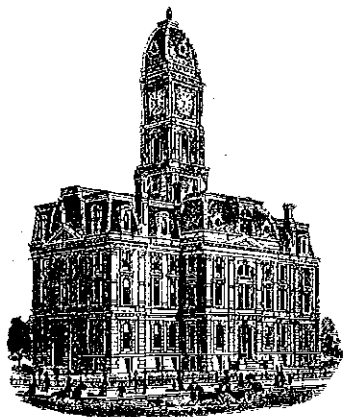
STORM SEWER PLAN & PROFILE  
 LONGRIDGE ESTATES  
 SECTION THREE

DRAWN BY: BAH  
 CHECKED BY: EEF

SHEET NO. 603

3 & A JOB NO. 4742553

K.C.



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*

**To: Hamilton County Drainage Board**

**May 21, 2014**

**Re: Little Eagle Creek Drain: Longridge Estates Sec. 3B**

Attached are as-builts, certificate of completion & compliance, and other information for Longridge Estates Section 3B. 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 17, 2007. The report was approved by the Board at the hearing held November 26, 2007. (See Drainage Board Minutes Book 10, Pages 516-517) The changes are as follows:  
The 6" SSD is 3182 feet. The 12" RCP is 655 feet. The 15" RCP is 383 feet. The 27" RCP is 471 feet. The 30" RCP is 279 feet. The length of the drain due to the changes described above is now **4970 feet**.

It should be noted that Longridge Section 3 was written under one report and then developed into two sections. See the final report for Section 3A for the remaining footage.

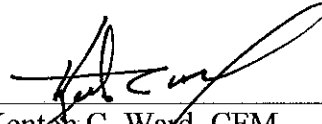
The non-enforcement was approved by the Board at its meeting on November 26, 2007 and recorded under instrument #2014019704.

The following sureties were guaranteed by Bond Safeguard and released by the Board on its April 14, 2014 meeting.

**Bond-LC No:** 5027109  
**Insured For:** Storm Sewers  
**Amount:** \$322,848.00  
**Issue Date:** June 22, 2007

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

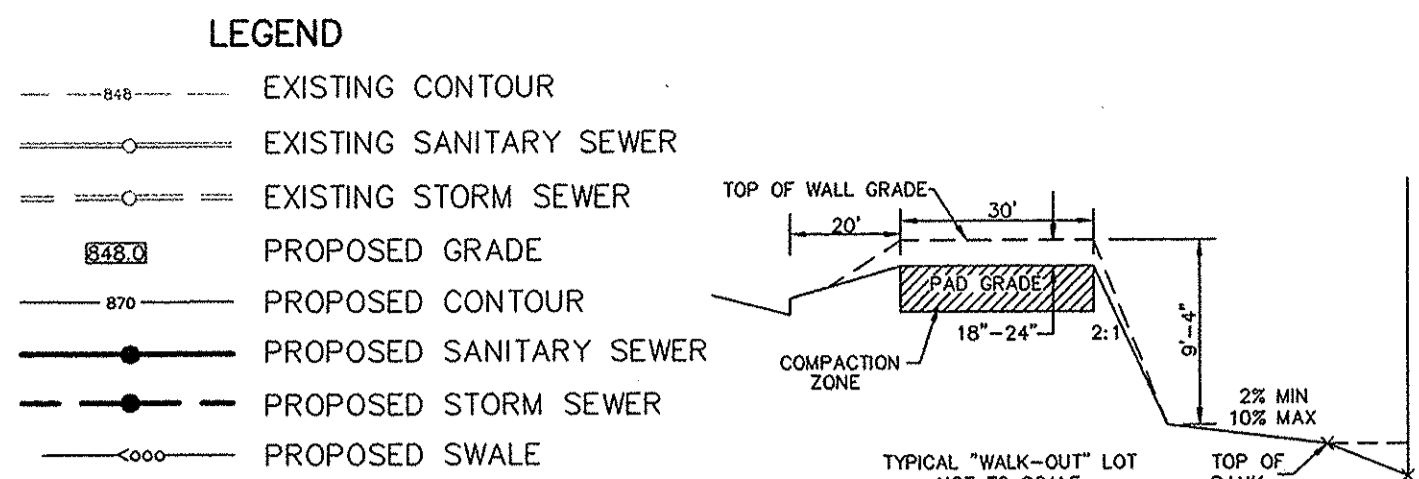
Sincerely,



---

Kenton C. Ward, CFM  
Hamilton County Surveyor

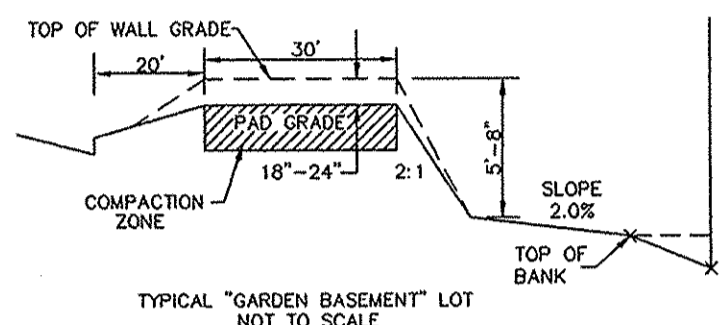
KCW/slm



100  
874.1  
L.O.  
W.O.  
M.F.P.G.=

LOT NUMBER  
PAD ELEVATION  
PAD SIZE 60'x30'  
(UNLESS OTHERWISE NOTED)  
LOOK OUT (GARDEN BASEMENT)  
WALK OUT  
MIN. FLOOD PROTECTION GRADE

M.E. MATCH EXISTING



NOTE:  
CONTRACTOR SHALL REMOVE ALL  
EXISTING SEDIMENT FROM EXISTING  
12" C.M.P.

--- DENOTES 4" SUBSURFACE DRAIN TO LOT  
--- DENOTES 6" SUBSURFACE DRAIN  
--- ROLL CURB

NOTE:  
WIDEN EAST SIDE OF WEST ROAD TO 15'-0" FROM  
THE EXISTING CENTERLINE OF PAVEMENT WITH A  
3'-0" STONE SHOULDER ACROSS ENTIRE FRONTAGE. A  
6" SSD IS TO BE INSTALLED UNDER AND ADJACENT  
TO THE STONE SHOULDER ALONG WEST ROAD.

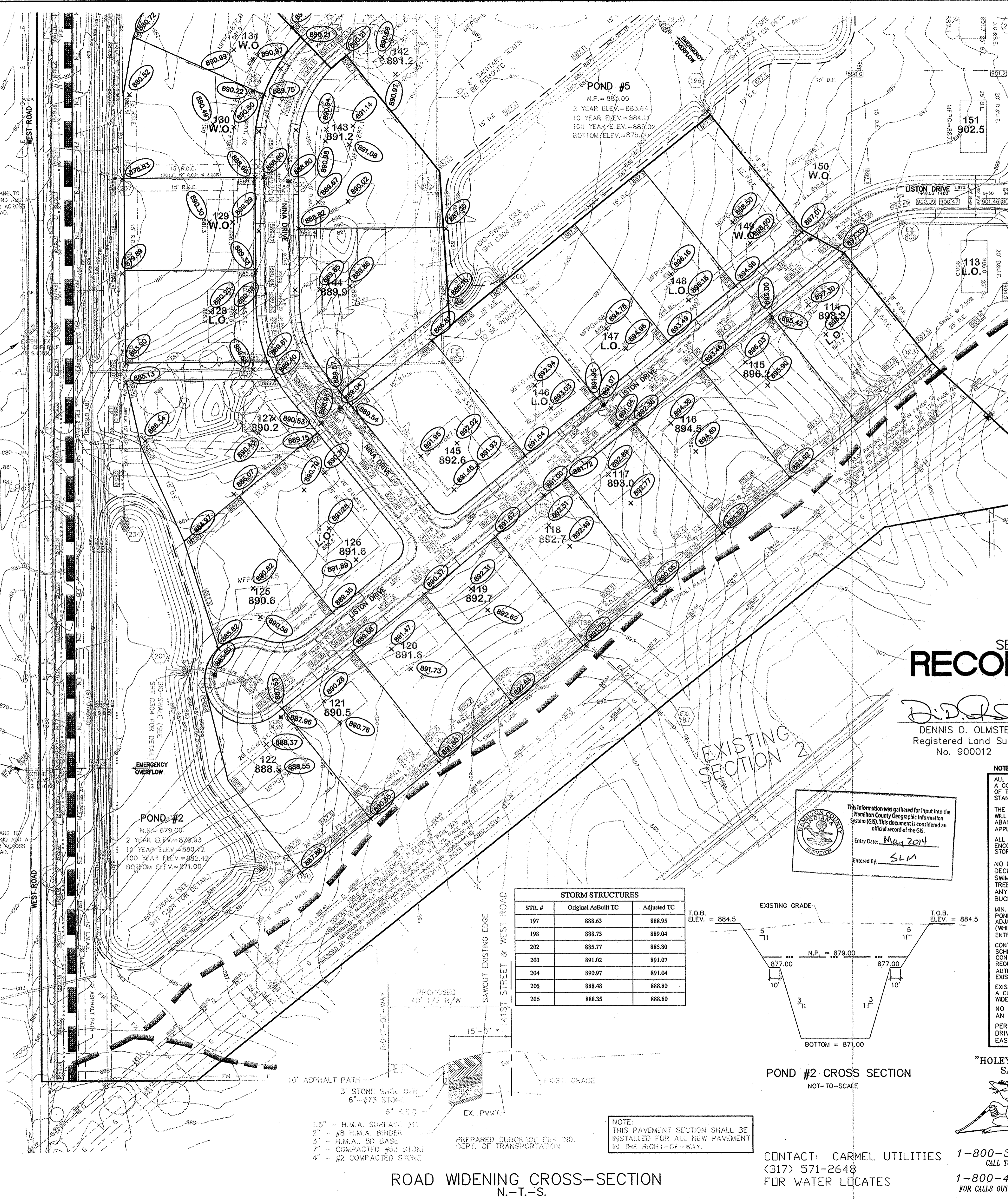
Str. No.	Type	Tc/Rim	Inverts	Dir.
188	CONCRETE END SECTION	889.00	885.54 (SW,SE)	
189	YARD INLET	889.00	883.39 (NE,SW)	
190	YARD INLET	886.50	879.95 (NW,NE)	
191	CONCRETE END SECTION	887.00	879.50 (SE)	
192	YARD INLET	887.00	889.00 (NE)	
193	YARD INLET	887.00	889.00 (NW,SW)	
194	CURB INLET w/MH	887.72	887.11 (NW,SE)	
195	CURB INLET w/MH	887.42	886.93 (NW,SE)	
196	CONCRETE END SECTION	888.45	883.45 (SE)	
197	CURB INLET	888.95	885.23 (NE)	
198	CURB INLET w/MH	888.95	884.93 (NE,SW)	
199	CONCRETE END SECTION	888.39	883.39 (SW)	
200	CONCRETE END SECTION	888.46	883.46 (SE)	
201	CONCRETE END SECTION	879.81	879.81 (SE)	
202	DOUBLE CURB INLET	886.00	880.93 (NW)	
203	DOUBLE CURB INLET	891.24	886.99 (NW,SE)	
204	DOUBLE CURB INLET	891.24	887.29 (NW)	
205	CURB INLET	888.79	885.30 (NW)	
206	CURB INLET w/MH	888.79	885.00 (SE,W)	
207	YARD INLET	878.40	874.36 (E,N,S)	
208	CONCRETE END SECTION	880.00	873.62 (NE,S)	
209	CONCRETE END SECTION	873.37	873.37 (SW)	
210	CONCRETE END SECTION	873.40	873.40 (SE)	
211	DOUBLE CURB INLET	887.36	879.52 (NW,SE)	
212	DOUBLE CURB INLET	880.94	880.94 (NW,SE)	
213	CONC. END SECTION w/TG	889.00	889.00 (NW)	
214	CONCRETE END SECTION	889.00	889.00 (NE)	
215	MANHOLE	899.00	889.74 (SE,SW)	
216	CURB INLET w/MH	900.40	893.38 (E,NW)	
217	CURB INLET w/MH	900.40	893.68 (E,W)	
218	YARD INLET	898.00	895.00 (W)	
219	CURB INLET	889.80	886.20 (SW)	
220	CURB INLET	889.80	885.90 (NW,NE)	
221	CURB INLET	884.56	881.11 (NW,SE)	
222	CURB INLET w/MH	884.56	880.00 (NW,SE)	
223	CONCRETE WING WALL	874.00	874.00 (E)	
224	CONCRETE WING WALL	874.20	874.20 (W)	
225	CURB INLET w/MH	881.99	874.88 (SW,NE)	
226	CURB INLET	881.99	875.03 (SW)	
227	CONCRETE END SECTION	873.44	873.44 (E)	
228	CONCRETE END SECTION	872.50	872.50 (NE)	
229	MANHOLE	877.00	872.55 (SW,N)	
230	SPECIAL STRUCTURE	876.28	871.54 (SW)	
231	CONCRETE END SECTION	869.70	869.70 (NE)	
233	YARD INLET	874.53	874.53 (NE)	
234	CONCRETE END SECTION	873.00	873.00 (N)	
235	CONCRETE END SECTION	869.70	869.70 (SW)	

**DRAINAGE SUMMARY**

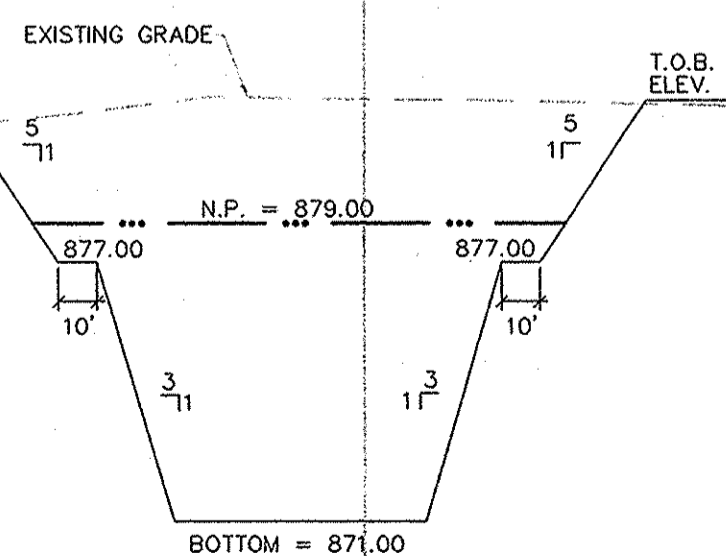
SITE ACREAGE=62.2 AC.  
OFFSITE/UPSTREAM ACREAGE=132.5 AC. OFFSITE  
ALLOWABLE RELEASE RATE 10=89.46cfs 100=162.38cfs  
POST DEV. 10 YR.=43.69cfs 100 YR.=87.15cfs  
VOLUME DETENTION REQUIRED=12 AC.FT.  
PROVIDED=17.6 AC.FT.

**EMERGENCY SPILLWAY POND #2**  
NOT TO SCALE

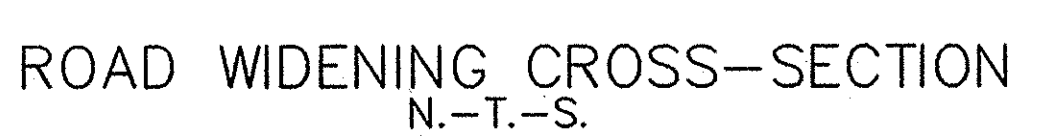
NOTE TO CONTRACTOR:  
CONTRACTOR SHALL VERIFY DEPTHS OF ALL EXISTING ON-SITE UTILITIES PRIOR TO CONSTRUCTION TO CONFIRM THERE IS NOT ANY CONFLICTS WITH OTHER UTILITIES, STORM SEWERS OR STREETS. CONFLICTS AFTER CONSTRUCTION BEGINS ARE SOLELY THE CONTRACTOR'S RESPONSIBILITY.



STR. #	Original AsBuilt TC	Adjusted TC
197	888.63	888.95
198	888.73	889.04
202	885.77	885.80
203	891.02	891.07
204	890.97	891.04
205	888.48	888.80
206	888.35	888.80



**POND #2 CROSS SECTION**  
NOT TO SCALE



**ROAD WIDENING CROSS-SECTION**  
N-T-S.

**SECTION 3B ONLY**  
**RECORD DRAWING**

*D.D.O.*  
DENNIS D. OLMSTEAD  
Registered Land Surveyor  
No. 900012

12/2/2013  
DATE

**NOTES TO CONTRACTOR:**

ALL PADS SHOULD BE TESTED TO ASSURE A COMPACTION OF AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY USING THE STANDARD PROCTOR TEST METHOD.

THE EXISTING WELLS AND SEPTIC SYSTEMS WILL NEED TO BE PROPERLY LOCATED, ABANDONED IN ACCORDANCE WITH ALL APPLICABLE STANDARDS.

ALL EXISTING OFF-SITE DRAIN TILES THAT ARE ENCOUNTERED SHALL BE TIED INTO THE PROPOSED STORM SEWER SYSTEM WITH A POSITIVE OUTFLOW.

NO HOUSE, GARAGE, BUILDING, MOBILE HOME, HOUSE TRAILER, DECKS, SEPTIC TANK, DRAIN PIPES, TREES, SHRUBS, BERM, LAKE, SWIMMING POOL, FENCE OR ANY OTHER STRUCTURE, FACILITY TO TREE LIKE GROWTH SHALL BE PLACED, ERECTED OR PLANTED ANYWHERE WITHIN 50 FT. OF THE MARATHON ASHLAND AND BUCKEYE PIPELINES.

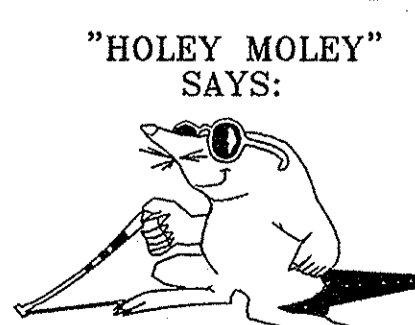
MIN. FLOOD PROTECTION GRADES OF ALL STRUCTURES FRONTING PONDS & CREEKS SHALL BE NO LESS THAN 2 FEET ABOVE ANY ADJACENT 100-YR. LOCAL OR REGIONAL FLOOD ELEVATION (WHICHEVER IS GREATER FOR ALL WINDOWS, DOORS, PIPE ENTRANCES, WINDOW WELLS, ETC.)

CONTRACTOR SHALL CONTACT THE DEPARTMENT OF ENGINEERING TO SCHEDULE A PRE-CONSTRUCTION MEETING TO REVIEW THE DEPARTMENT'S CONSTRUCTION REQUIREMENTS, STAFF NOTIFICATION REQUIREMENTS, REQUIRED INSPECTIONS FOR CERTAIN STAGES OF WORK TO REVIEW THE AUTHORITY OF THE DEPARTMENT AS IT RELATES TO WORK WITHIN THE EXISTING AND PROPOSED CITY R/W.

EXISTING PAVEMENT TO BE SAW CUT TO A CLEAN EDGE ADJACENT TO ANY WIDENING, AUXILIARY LANES, ETC.

NO EARTH DISTURBING ACTIVITY MAY TAKE PLACE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.

PER HCSO, THERE IS TO BE NO DRIVEWAY ENCROACHMENTS INTO EASEMENTS BETWEEN LOTS.



"HOLEY MOLEY" SAYS:

**CAUTION**  
LOCATION OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE, (including, but not limited to, manholes, inlets, valves, & markers made up the ground by others) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

CONTACT: CARMEL UTILITIES  
(317) 571-2648  
FOR WATER LOCATES

1-800-382-5544  
CALL TOLL FREE  
1-800-428-5200  
FOR CALLS OUTSIDE OF INDIANA

ADC	ASBUILT'S (SECTION 3B)	12/21/13	DATE
CRM	REVISED PER DITCH REALIGNMENT	11/05/08	
EEF	REVISED PER AGENCY COMMENTS	07/15/07	
BAH	REVISED PER CITY SUGGESTIONS	12/12/07	
BAH	REVISED PER COMMENTS	12/12/07	
BAH	ADDED TYPICAL DETAIL	07/17/07	
BAH	REV. STORM LAYOUT FOR STARS NEAR ENT.	12/12/06	
BAH	REVISED LAYOUT AND PLANS PER DEVELOPER	12/12/06	
BY	REVISIONS		

REGISTERED PROFESSIONAL ENGINEER  
No. 19058  
STATE OF INDIANA  
*Dennis D. Olmstead*

CERTIFIED: 9/28/06

**STOEPPELWERTH & ASSOCIATES, INC.**  
CONSULTING ENGINEERS & LAND SURVEYORS  
9940 Allisonville Rd., Fishers, IN 46038-2005  
Phone: (317) 849-5835 Fax: (317) 849-8942  
Toll Free: (800) 728-6817

**INDIANA**

**REGISTERED LAND SURVEYOR**  
DENNIS D. OLMSTEAD  
No. 900012  
STATE OF INDIANA

**INDIANA**

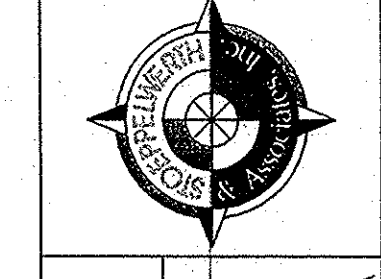
**SITE DEVELOPMENT PLAN**  
**LONGRIDGE ESTATES**  
**SECTION THREE**

DRAWN BY: BAH CHECKED BY: EEF  
SHEET NO. **C200**  
S & A JOB NO. 4742553

DATE	MARK	REVISIONS
11/21/13		ASBUILT (SECTION 3B)
10/25/08		REVISED PIPE SIZE AT STR. #222
07/02/07		REVISED PER DITCH REALIGNMENT
07/16/07		REVISED PER AGENCY COMMENTS
11/12/07		REVISED PER CITY SUGGESTIONS
12/27/06		REVISED STORM NEAR ENTRANCE
12/27/06		REVISED LAYOUT & PLANS PER DEVELOPER

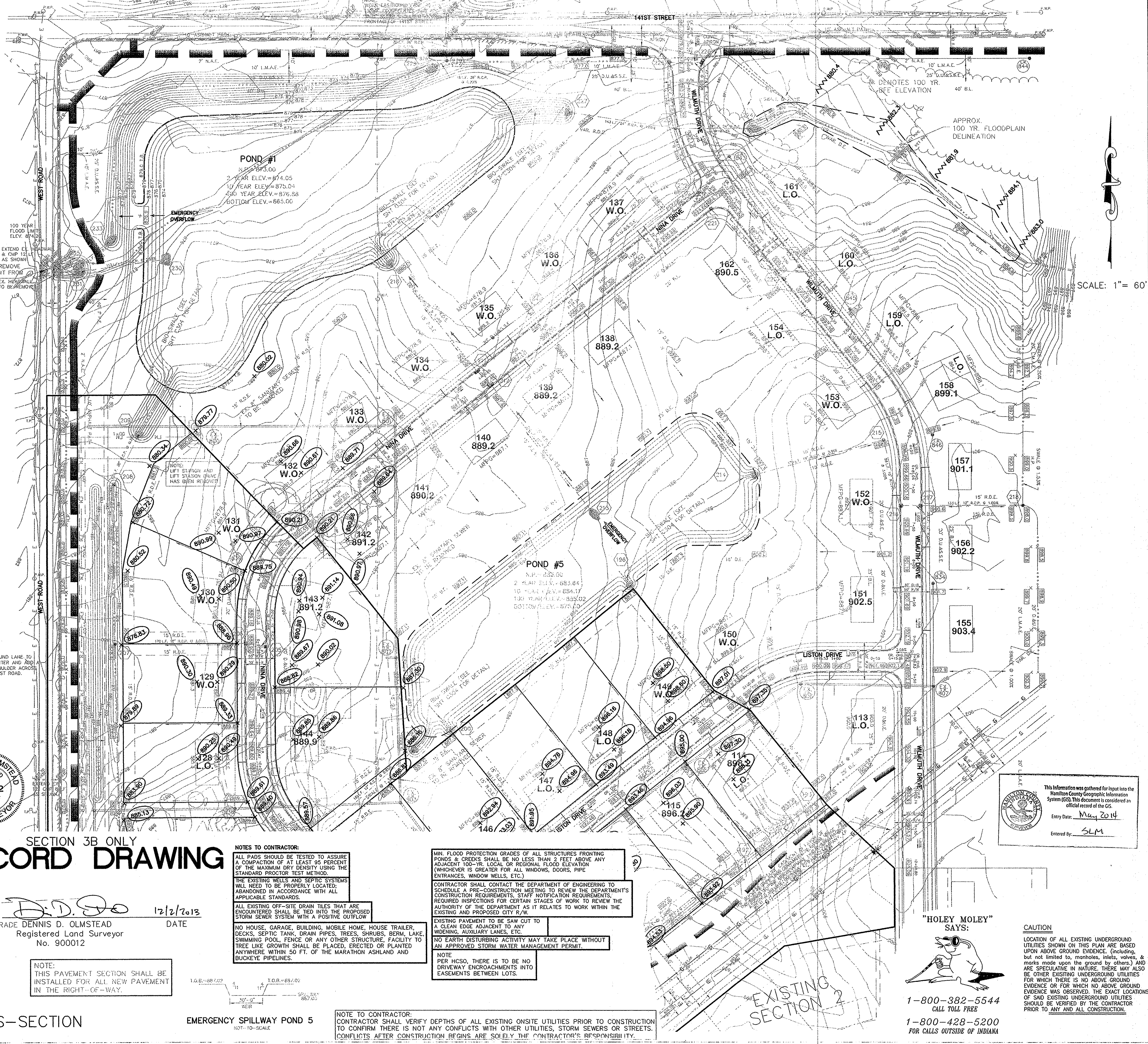
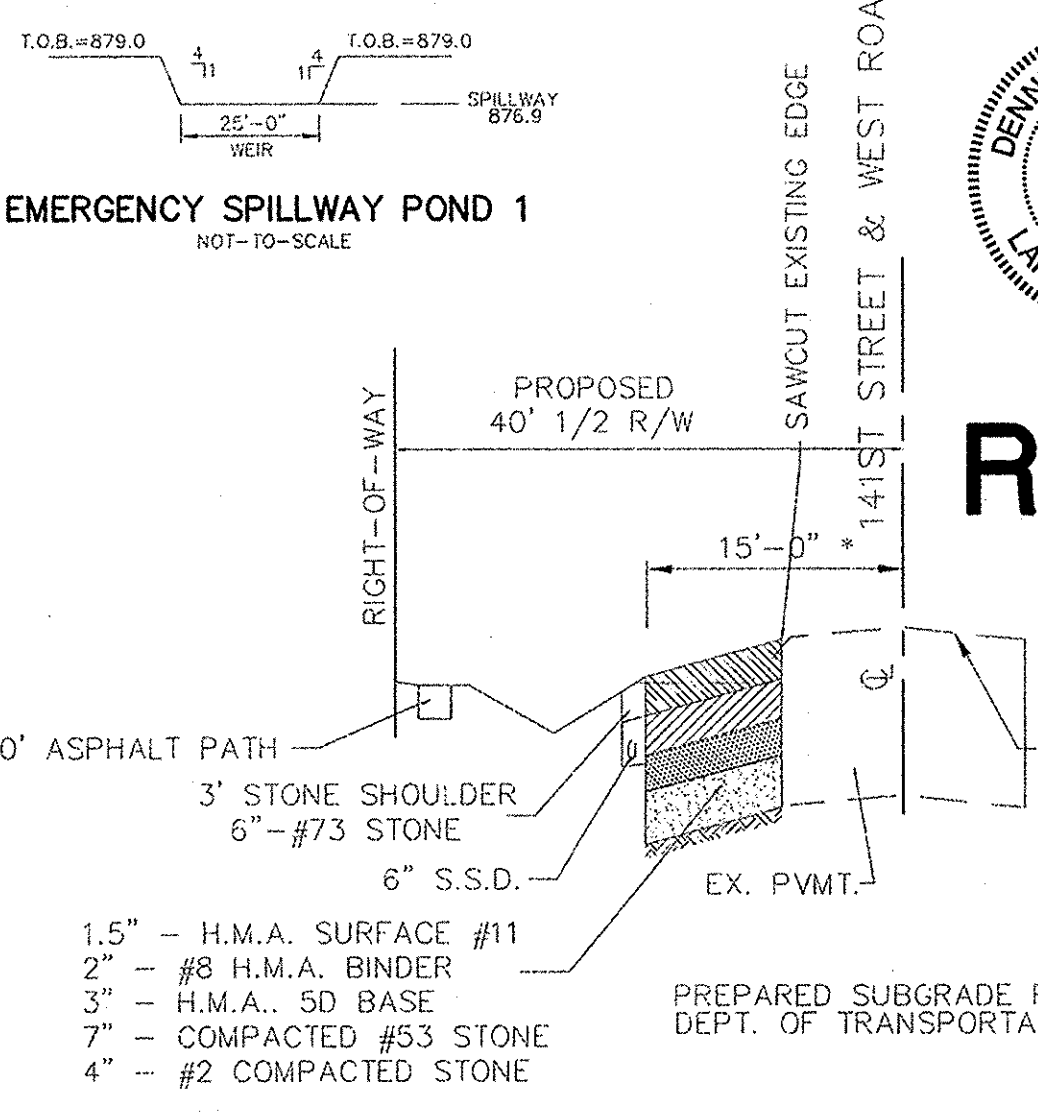
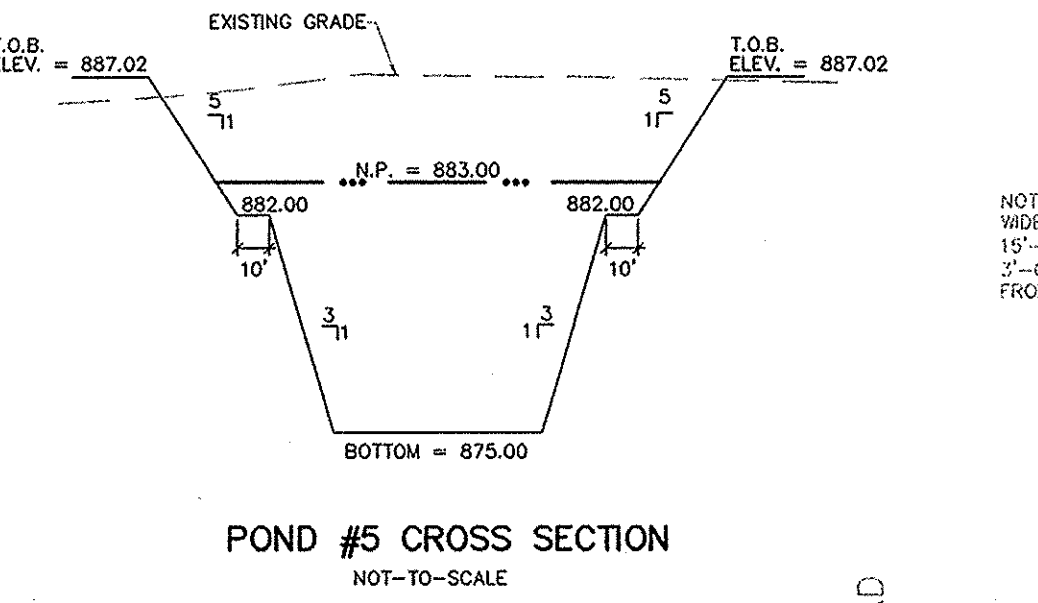
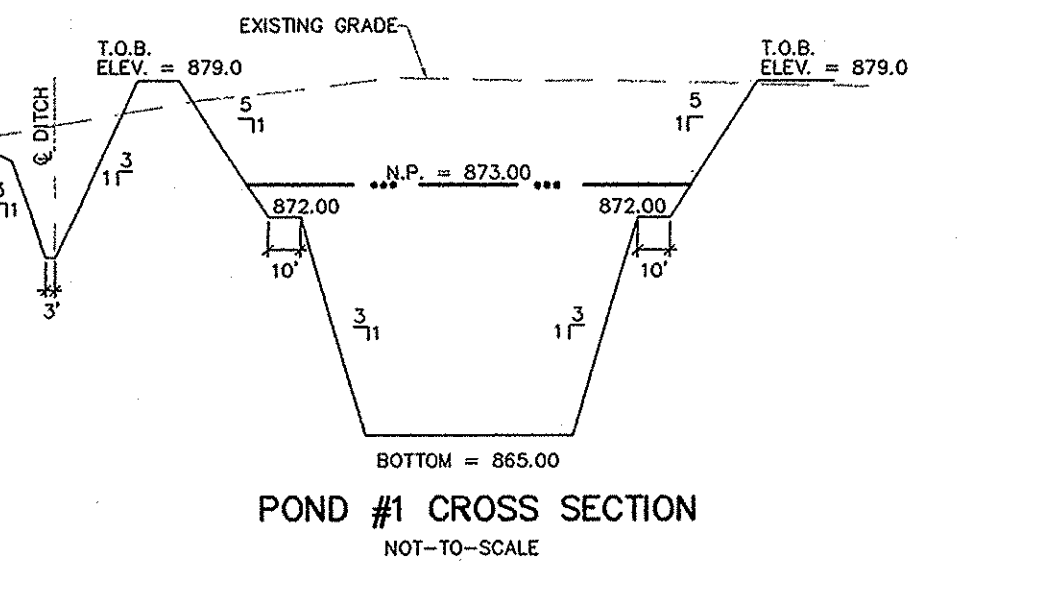
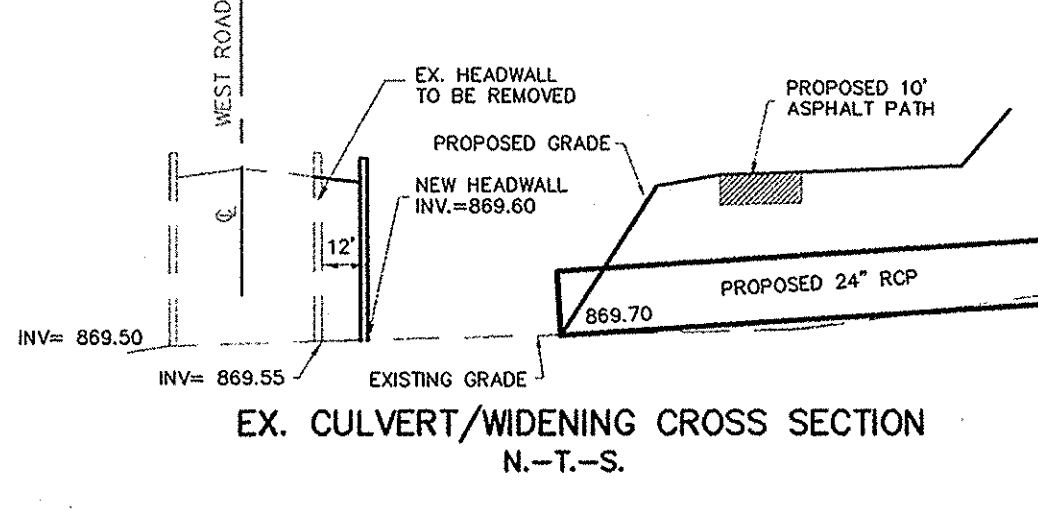
REGISTERED PROFESSIONAL ENGINEER  
 No. 19358  
 STATE OF INDIANA  
 David J. Stoepelwerth

CERTIFIED: 9/28/06  
**STOEPPELWERTH & ASSOCIATES, INC.**  
 CONSULTING ENGINEERS & LAND SURVEYORS  
 9940 Allisonville Rd., Fishers, IN 46038-2005  
 Phone: (317) 849-5635 Fax: (317) 849-5942  
 Toll Free: (800) 726-6917



INDIANA  
**SITE DEVELOPMENT PLAN**  
**LONGRIDGE ESTATES**  
**SECTION THREE**  
 DRAWN BY: BAH CHECKED BY: EEF  
 SHEET NO. **C201**  
 5 & 6 1/2" x 11" 47-1253

- LEGEND**
- EXISTING CONTOUR
  - EXISTING SANITARY SEWER
  - EXISTING STORM SEWER
  - PROPOSED GRADE
  - PROPOSED CONTOUR
  - PROPOSED SANITARY SEWER
  - PROPOSED STORM SEWER
  - PROPOSED SWALE
  - ASBUILT 1 GALLON TREE
  - ASBUILT 2" CALIPER TREE
  - ASBUILT 4" CALIPER TREE
- CONTACT: CARMEL UTILITIES  
 (317) 571-2648  
 FOR WATER & SEWER LOCATES
- 100 874.1 L.O. W.O.**  
 LOT NUMBER  
 PAD ELEVATION  
 PAD SIZE 60'x30'  
 (UNLESS OTHERWISE NOTED)  
 LOOK OUT (GARDEN BASEMENT)  
 WALK OUT  
 MIN. FLOOD PROTECTION GRADE
- M.E. MATCH EXISTING  
 PROPOSED 4" UNDERDRAINS  
 (20' ON EACH SIDE OF CURB INLET)
- DENOTES 4" SUBSURFACE DRAIN TO LOT  
 --- DENOTES 6" SUBSURFACE DRAIN  
 (PER HAMILTON COUNTY SURVEYOR'S OFFICE STANDARDS)
- ROLL CURB



**SECTION 3B ONLY**  
**RECORD DRAWING**

D.D.S. 12/2/2013  
 Registered Land Surveyor  
 No. 900012

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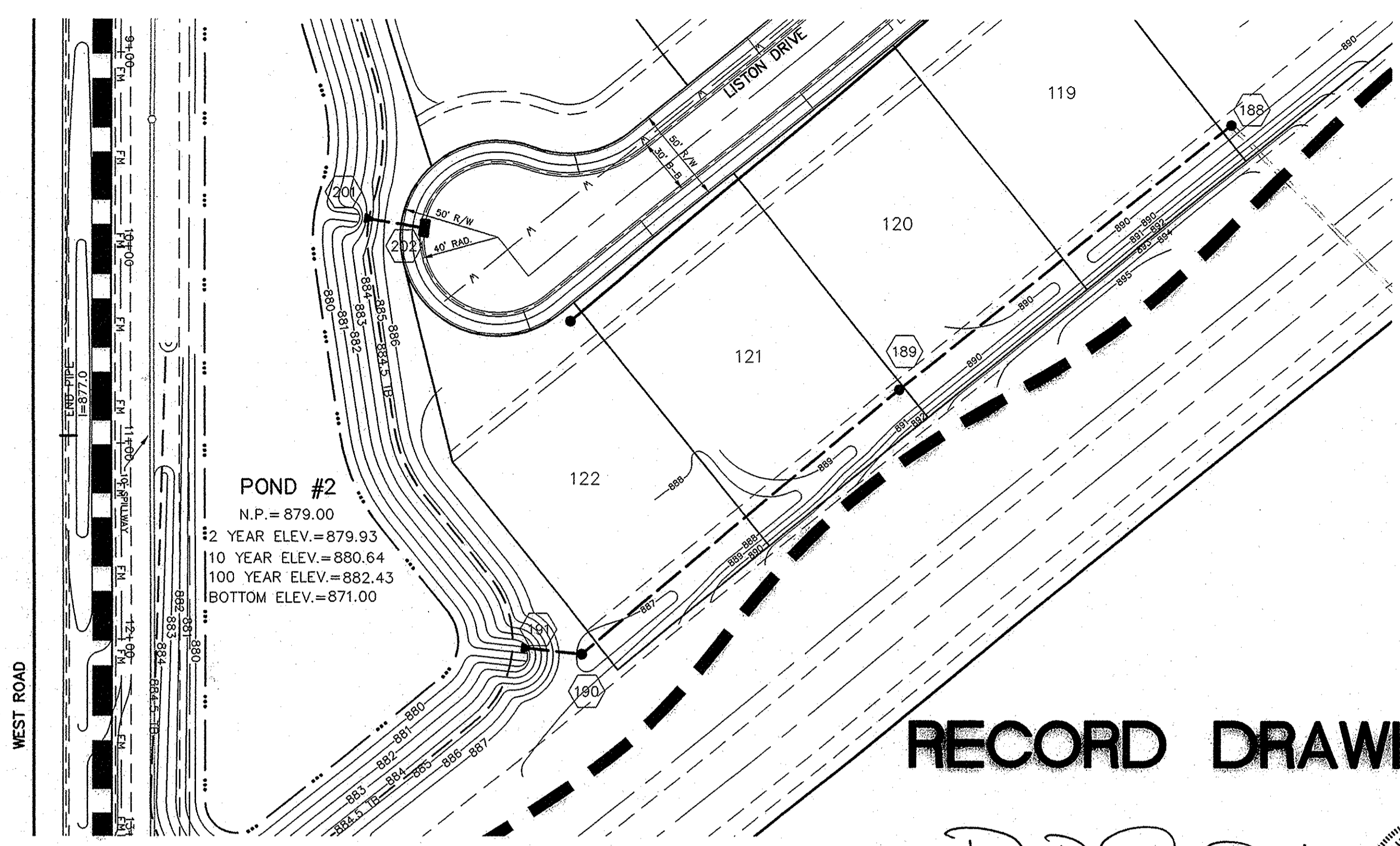
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This information was gathered for input into the Hamilton County Geographic Information System (GIS). This document is considered an official record of the GIS.  
 Entry Date: May 20, 14  
 Entered By: SLM

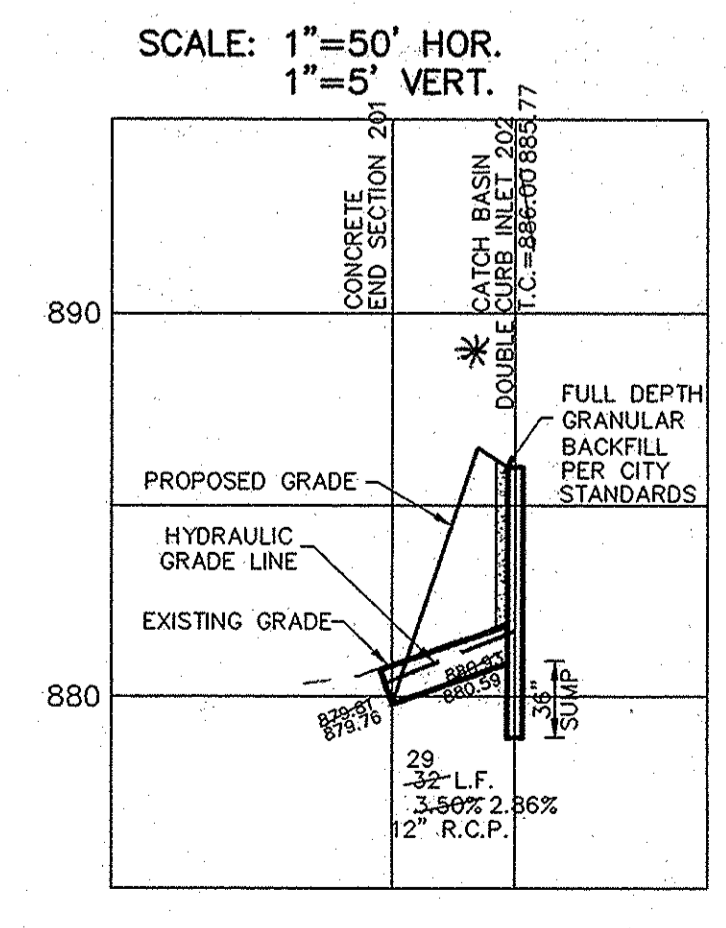
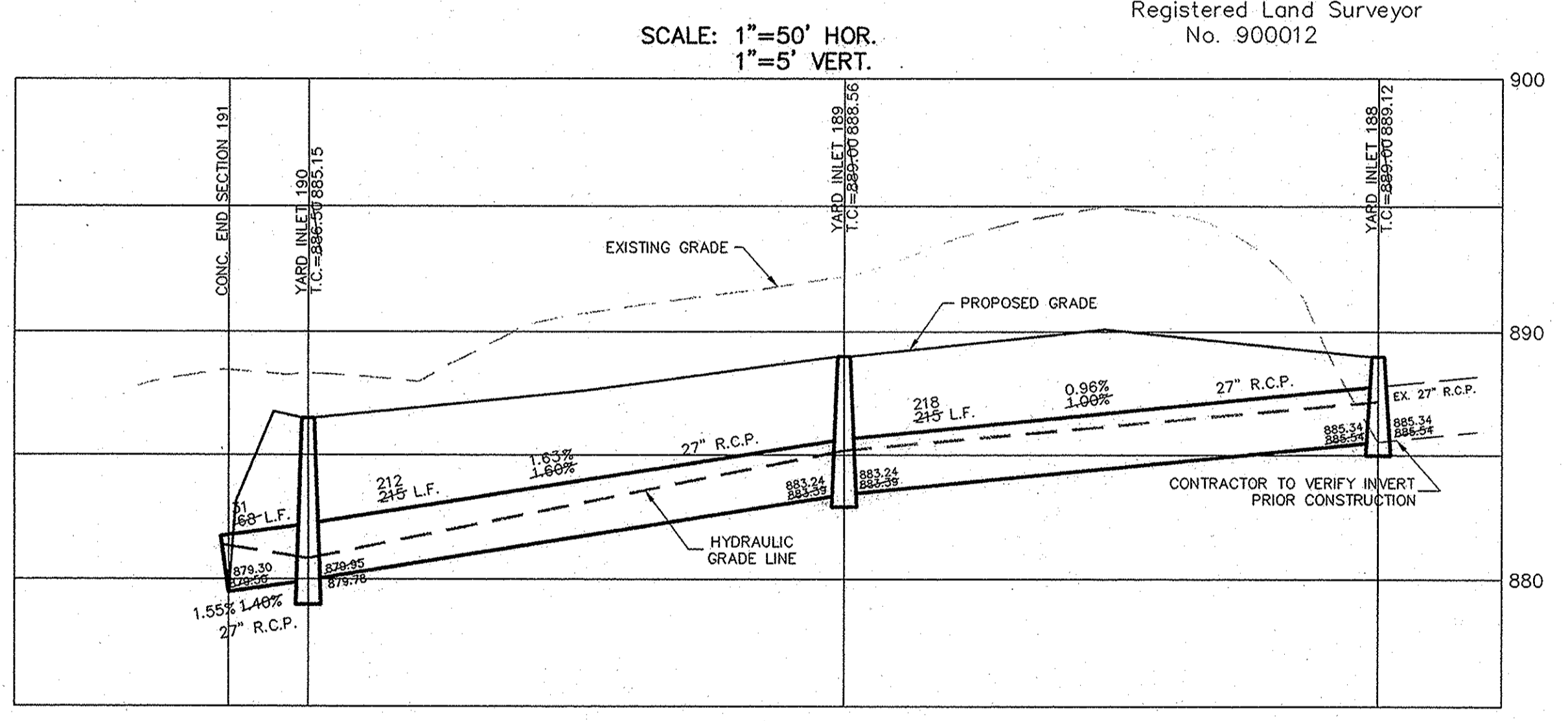
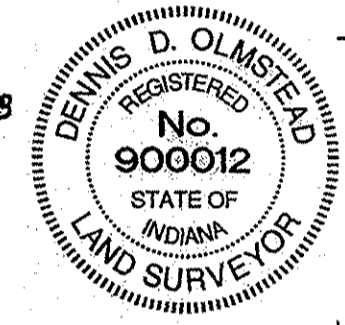
"HOLEY MOLEY" SAYS:  
  
 1-800-382-5544  
 CALL TOLL FREE  
 1-800-428-5200  
 FOR CALLS OUTSIDE OF INDIANA

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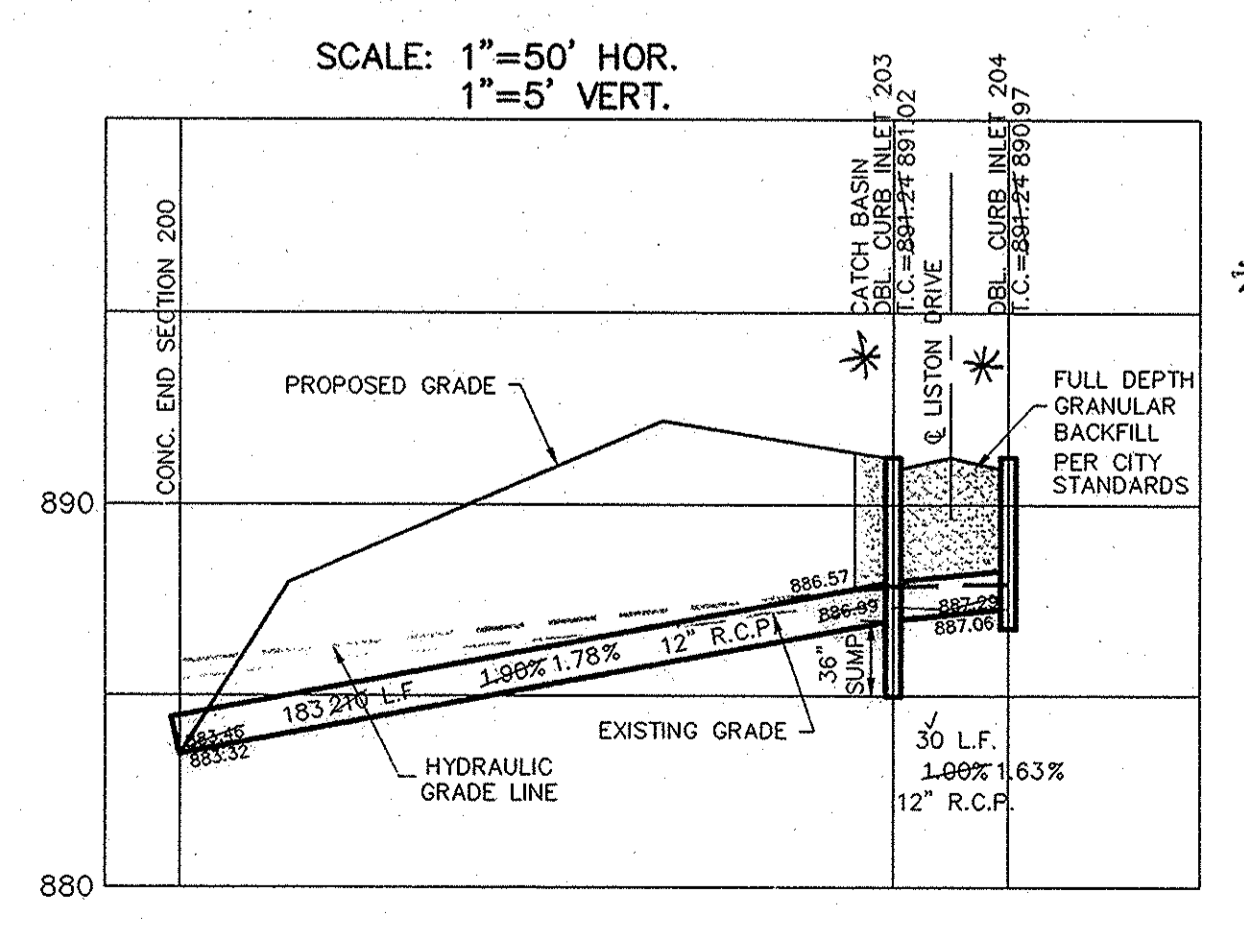
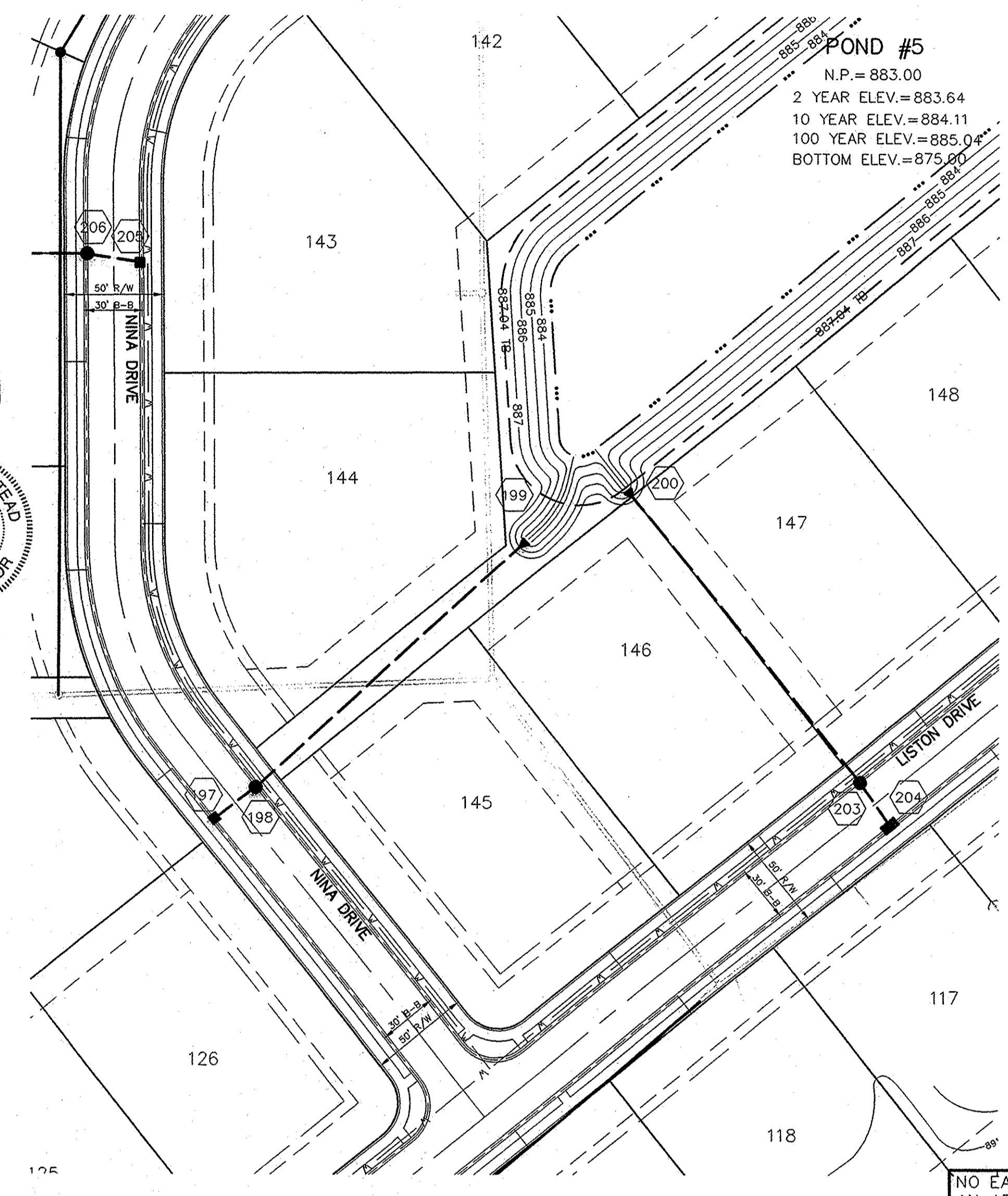
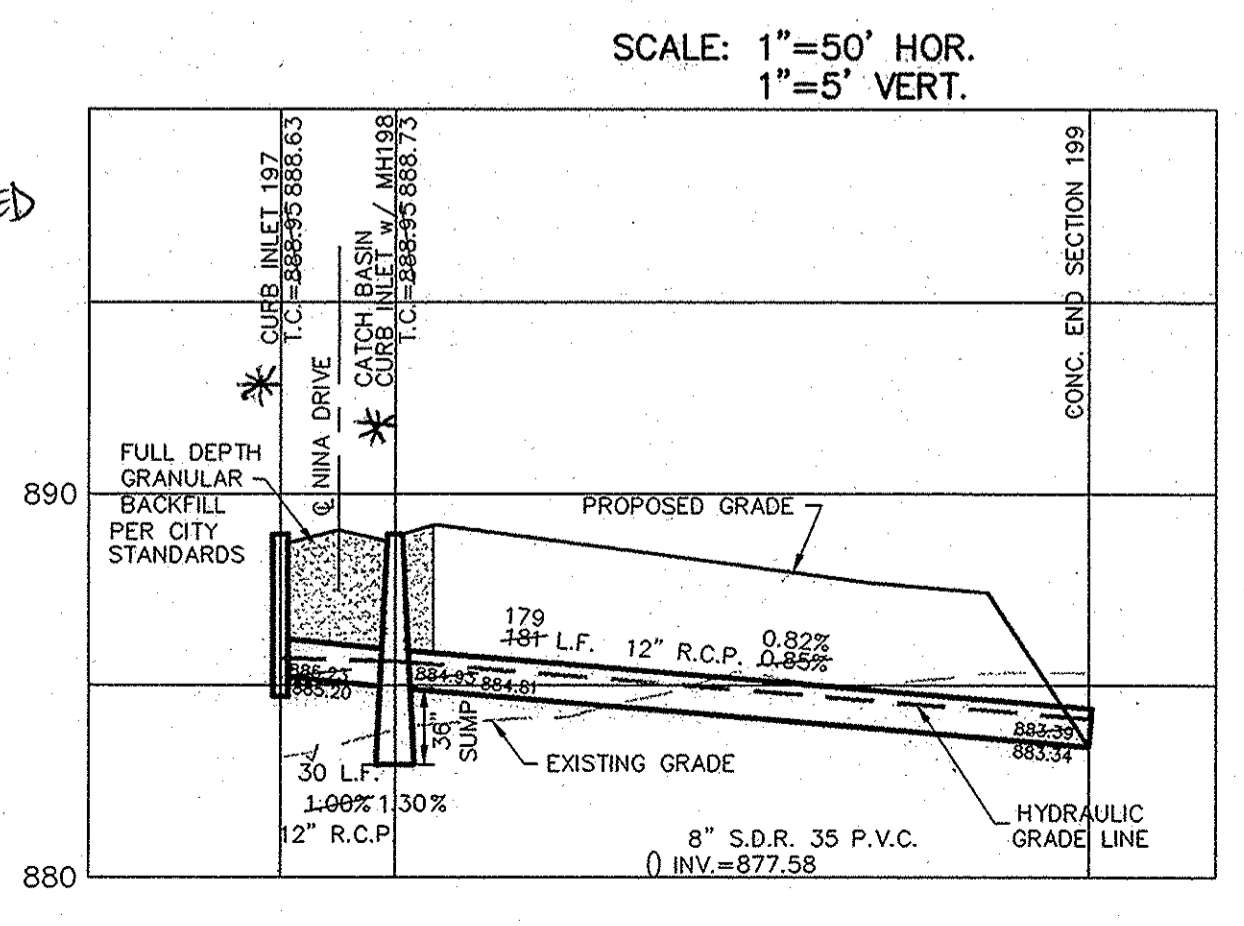


# RECORD DRAWING

*D. D. OLMSTEAD*  
DENNIS D. OLNSTEAD  
Registered Land Surveyor  
No. 900012



\* SEE SHEET 200 FOR ADJUSTED T.C.'S



\* SEE SHEET 200 FOR ADJUSTED T.C.'S

### CURB INLET TABLE

PIPE SIZE	STRUCTURES LESS THAN 48" FROM T/C TO INVERT	STRUCTURES GREATER THAN 48" FROM T/C TO INVERT	ANGLE AND QUALITY OF PIPES WILL REQUIRE SPECIAL DESIGN	STEPS REQUIRED	CURB CASTING *R-3501 N	CASTING *3501 TL & TR
12" to 18"	2'x2'		DESIGN APPROVAL	No	Yes	Yes
18" or 21"		MH/BOX	DESIGN APPROVAL	Yes	Yes	Yes
21" or 27"	2'x3'		DESIGN APPROVAL	No	No	Yes
24" or LARGER	DESIGN APPROVAL		DESIGN APPROVAL	No	No	Yes
24" or LARGER		MH/BOX	DESIGN APPROVAL	Yes**	Yes	Yes

\* PIPES NO LARGER THAN 18" CAN BE USED IN THE 2' SIDE OF THIS BOX  
\*\* INCOMING AND OUT GOING PIPES EFFECT STEPS IN THIS STRUCTURE

**SPECIAL NOTE:**  
STRUCTURES DEEPER THAN 48" FROM T/C TO INVERT WILL BE A M.H. OR A BOX WITH STEPS UNLESS SPECIAL DESIGN IS APPROVED.

**SPECIAL NOTE:**  
STRUCTURES WILL BE DESIGNED FOR MAXIMUM FLOW IN PIPES

**SPECIAL NOTE:**  
COUNTY MAY REQUIRE STEPS TO BE INSTALLED AFTER STRUCTURE IS SET, TO IMPROVE ACCESS.

**NOTE:**  
CONSTRUCTION TOLERANCE FOR YARD INLETS WILL BE +0.0' TO -0.20'

**NOTE:**  
\*EXCEPT FOR FORCE MAINS, CONTRACTOR TO INSTALL CONCRETE CRADLES WHEN THE VERTICAL SEPARATION (AS MEASURED FROM THE EXTERIOR OF THE PIPES) BETWEEN SANITARY SEWER FACILITIES AND STORM SEWERS IS 18" OR LESS.

ALL MANHOLES TO BE CONSTRUCTED WITH ONE 4" RISER RING (NO MORE, NO LESS) TO ESTABLISH PLAN CASTING GRADE.

THERE SHALL BE NO MANHOLES OR WATER VALVES WITHIN THE STREET PAVEMENT, CURBS, SIDEWALKS, OR ASPHALT PATHS

- NOTES:**
1. BEDDING AND HANDING FOR ALL RIP INSTALLATIONS SHALL BE AS SHOWN. THE MATERIAL REQUIREMENTS OF THE BEDDING SHALL BE PLACED IN THE TRENCH BOTTOM SUCH THAT AFTER THE PIPE IS INSTALLED TO GRADE AND LINED, THERE REMAINS A 4" MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BARREL AND A MINIMUM OF 3" BELOW THE BELL FOR PIPE SIZES 48" AND LARGER. THE MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BARREL SHALL BE 6" BEYOND THE BELL TO BE UNIFORM TO THE LENGTH OF THE PIPE. THE UNIFORMITY OF THE MATERIAL UNDER THE MIDDLE THIRD OF THE PIPE FROM TO PLACEMENT OF THE PIPE. IF THE UNIFORMITY OF THE TRENCH BOTTOM ARE NOT TO BE MAINTAINED, THE SOIL SHALL BE UNDISTURBED TO SUCH A DEPTH THAT WHEN UNCOVERED WITH A STAKE IT WILL PRODUCE A UNIFORM AND STABLE FLOORING ALONG THE ENTIRE LENGTH OF THE PIPE. HANDING AND INITIAL BACKFILL SHALL BE COMPLETED IN 4" MAXIMUM LIFTS TO NOT LESS THAN BOX STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE BEDDING. THE SOIL SHALL BE UNDISTURBED TO SUCH A DEPTH THAT WHEN UNCOVERED WITH A STAKE IT WILL PRODUCE A UNIFORM AND STABLE FLOORING ALONG THE ENTIRE LENGTH OF THE PIPE. HANDING AND INITIAL BACKFILL SHALL BE COMPLETED IN 4" MAXIMUM LIFTS TO NOT LESS THAN BOX STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE BEDDING. THE FINISH GRADE OF THE EXCAVATION SHALL CONSIST OF TOPSOIL.
  2. FINAL BACKFILL FOR ALL RIP INSTALLATIONS WHERE "1" IS 5" OR LESS SHALL BE B-BORROW FOR STRUCTURE BACKFILL. THE MATERIAL REQUIREMENTS OF THE BEDDING AND SHALL BE COMPLETED IN 4" MAXIMUM LIFTS TO NOT LESS THAN BOX STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL FOR THE TOP OF THE EXCAVATION BELOW THE START OF THE ADJACENT SLOPE OF THE PAVEMENT SHALL BE 6% STRONG MEETING THE MATERIAL REQUIREMENTS OF THE BEDDING AND SHALL BE COMPLETED TO NOT LESS THAN BOX STANDARD PROCTOR DENSITY. FINAL BACKFILL FOR ALL RIP INSTALLATIONS WHERE "1" IS GREATER THAN 5" SHALL BE CLEAN FILL MATERIAL. FREE OF ROCKS LARGER THAN 2" IN DIAMETER, FRESH LIPS OF SOIL, WOOD OR OTHER EXTRANEUS MATERIAL. COMPACTED IN 4" MAXIMUM LIFTS TO NOT LESS THAN BOX STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE EXCAVATION. THE FINISH GRADE OF THE EXCAVATION SHALL CONSIST OF TOPSOIL.
  3. 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.
  4. IF EXISTING SUBGRADE HAS BEEN LIME STABILIZED, BACKFILL WITH B-BORROW UP TO BOTTOM OF UNSTABILIZED EXISTING SUBGRADE AND FILL TO TOP OF TREATED SUBGRADE WITH LIME STABILIZED SOIL.
  5. THESE STANDARDS SHALL APPLY FOR STORM SEWERS INSTALLED WITHIN CITY EXISTING AND PROPOSED R/W REGARDLESS OF JURISDICTION OVER STORM PIPES.
  6. ALL STORM PIPE WITH EXISTING OR PROPOSED CITY R/W SHALL BE REINFORCED CONCRETE PIPE REGARDLESS OF JURISDICTION OVER STORM PIPES.

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: May 2014  
Entered By: SM

- NO EARTH DISTURBING ACTIVITY MAY TAKE PLACE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.
- NOTE:**  
ALL 36" SUMP CATCH BASIN TO BE 48" MANHOLES, UNLESS DOUBLE CURB INLETS PER H.C.S.O.
- ALL EXISTING OFF-SITE DRAIN TILES THAT ARE ENCOUNTERED SHALL BE TIED INTO THE PROPOSED STORM SEWER SYSTEM WITH A POSITIVE OUTFLOW
- NOTE:**  
ALL STORM SEWER CASTINGS SHALL BE LABELED "DUMP NO WASTE-DRAINS TO WATERWAY".
- NOTE:**  
FOR INSTALLATION OF STORM MAINS, WATER MAINS, SANITARY MAINS, WATER SERVICE LATERALS, SANITARY SERVICE 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 THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1'-0". IF THE STANDARD PRACTICE OF THE UTILITY THAT HAS JURISDICTION OVER THE INSTALLATION HAS MORE STRINGENT COVER REQUIREMENT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

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REGISTERED PROFESSIONAL ENGINEER  
No. 19358  
STATE OF INDIANA  
David J. Stoppelwerth

CERTIFIED: 9/28/06

STORM SEWER PLAN & PROFILE  
LONGRIDGE ESTATES  
SECTION THREE

INDIANA  
CARMEL

DRAWN BY: BAH CHECKED BY: EEF  
SHEET NO. C600  
S & A JOB NO. 4742553



CURB INLET TABLE

PIPE SIZE	STRUCTURES LESS THAN 48" FROM T/C TO INVERT	STRUCTURES GREATER THAN 48" FROM T/C TO INVERT	ANGLE AND QUALITY OF PIPES WILL REQUIRE SPECIAL DESIGN	STEPS REQUIRED	CURB CASTING *R-3501 N	CASTING *3501 TL & TR
12" to 18"	2'x2'		DESIGN APPROVAL	No	Yes	Yes
18" or 21"		MH/BOX	DESIGN APPROVAL	Yes	Yes	Yes
21" or 27"	2'x3'		DESIGN APPROVAL	No	No	Yes
24" or LARGER	DESIGN APPROVAL		DESIGN APPROVAL	No	No	Yes
24" or LARGER		MH/BOX	DESIGN APPROVAL	Yes**	Yes	Yes

\* PIPES NO LARGER THAN 18" CAN BE USED IN THE 2' SIDE OF THIS BOX  
 \*\* INCOMING AND OUT GOING PIPES EFFECT STEPS IN THIS STRUCTURE

SPECIAL NOTE:  
 STRUCTURES DEEPER THAN 48" FROM T/C TO INVERT WILL BE A M.H. OR A BOX WITH STEPS UNLESS SPECIAL DESIGN IS APPROVED.

SPECIAL NOTE:  
 STRUCTURES WILL BE DESIGNED FOR MAXIMUM FLOW IN PIPES

SPECIAL NOTE:  
 COUNTY MAY REQUIRE STEPS TO BE INSTALLED AFTER STRUCTURE IS SET, TO IMPROVE ACCESS.

NOTE:  
 CONSTRUCTION TOLERANCE FOR YARD INLETS WILL BE +0.0' TO -0.20'

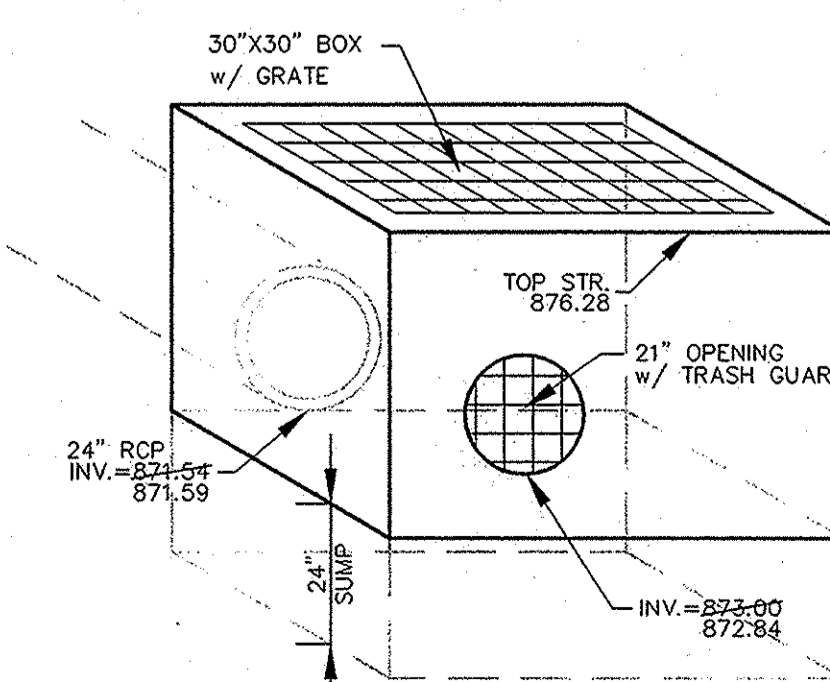
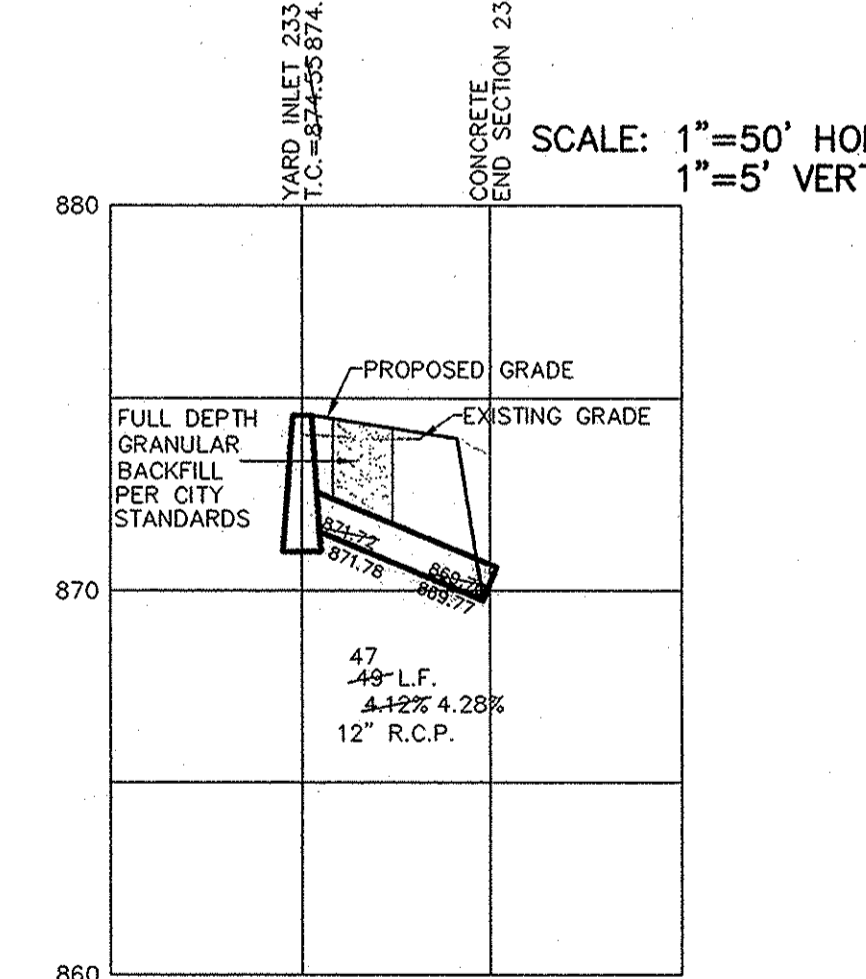
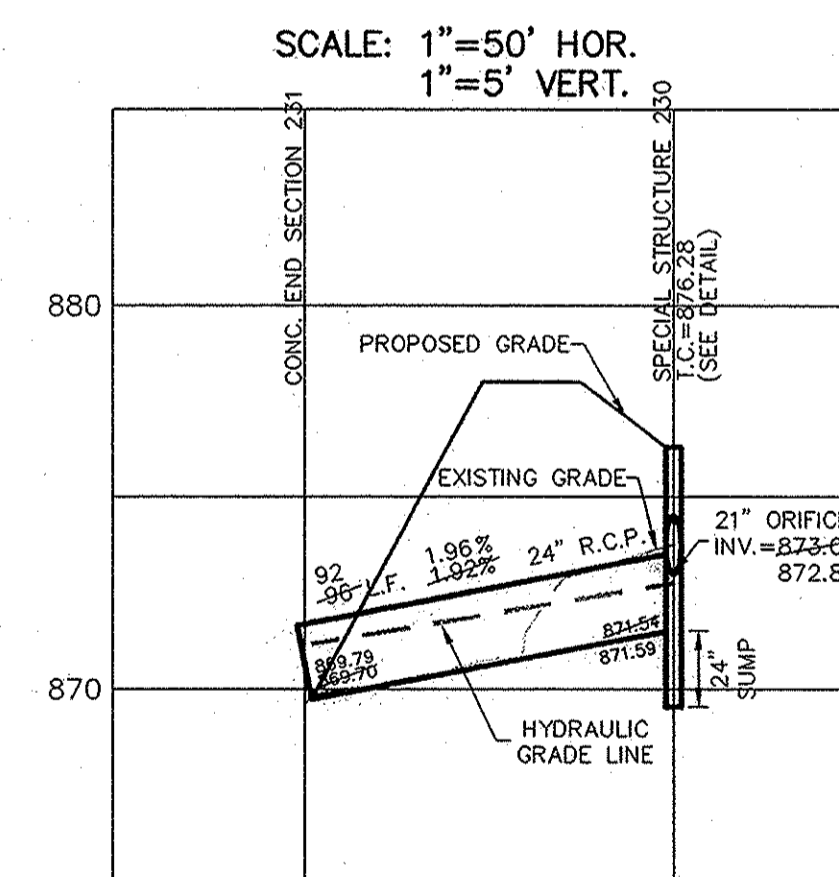
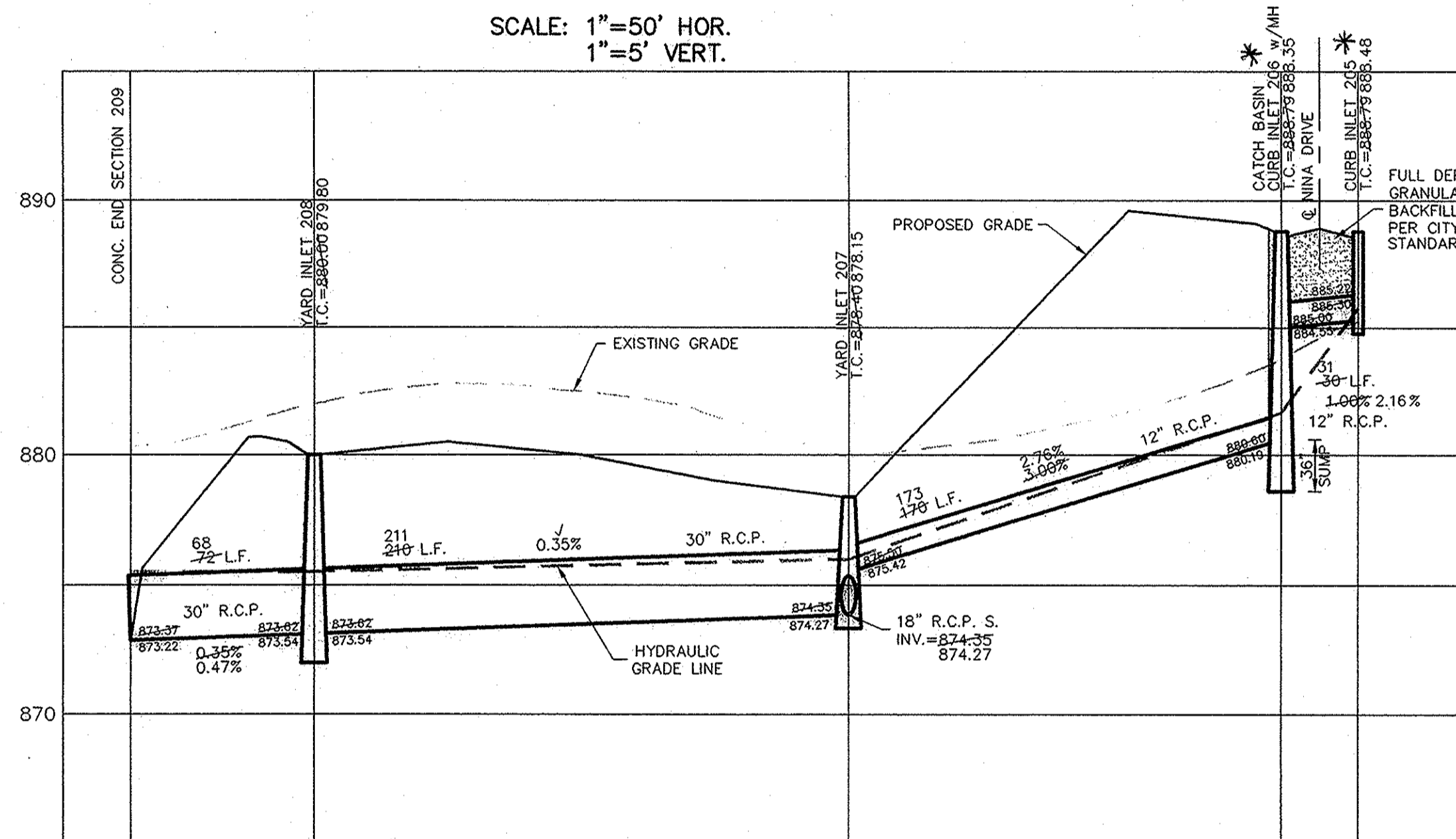
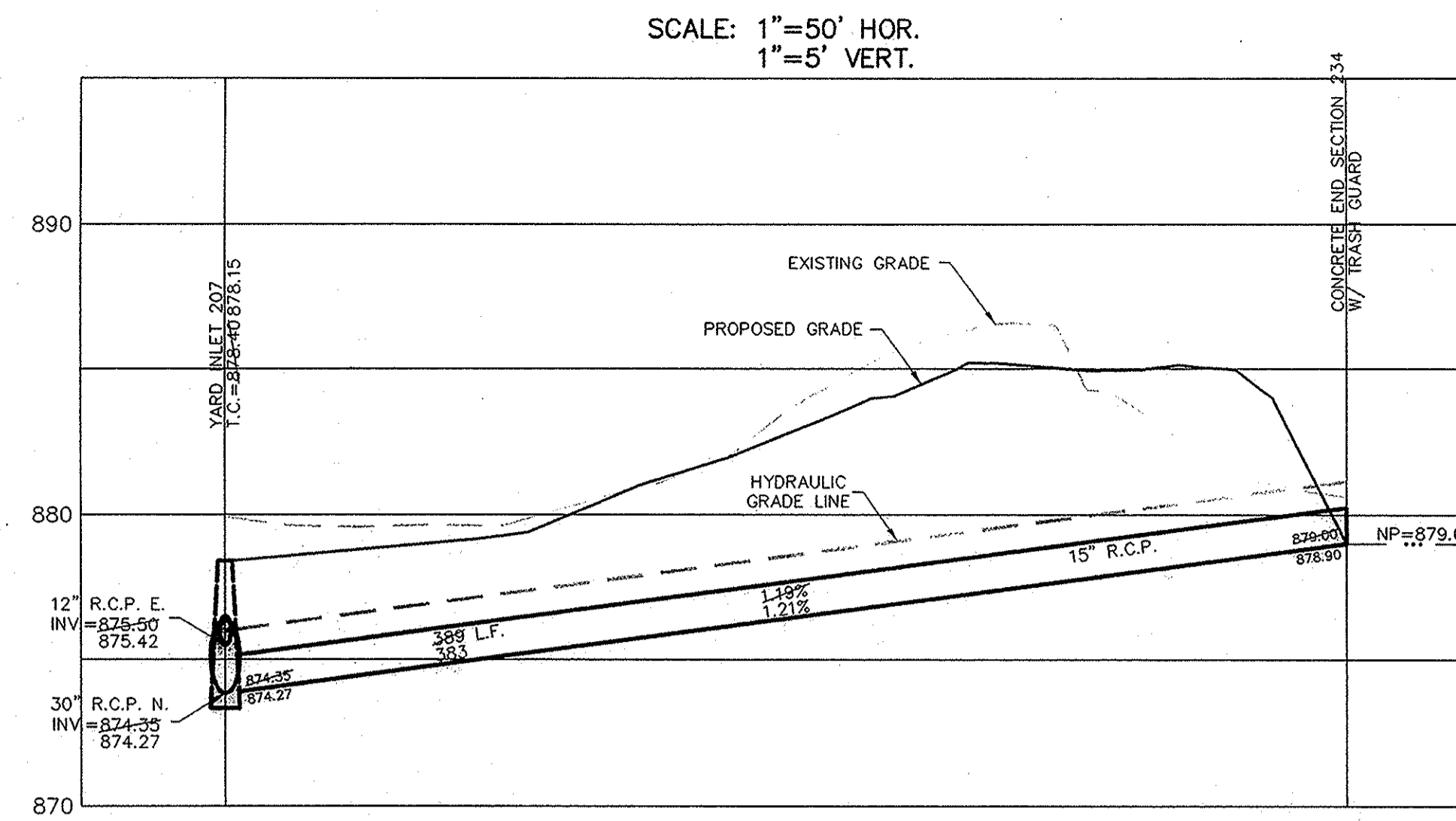
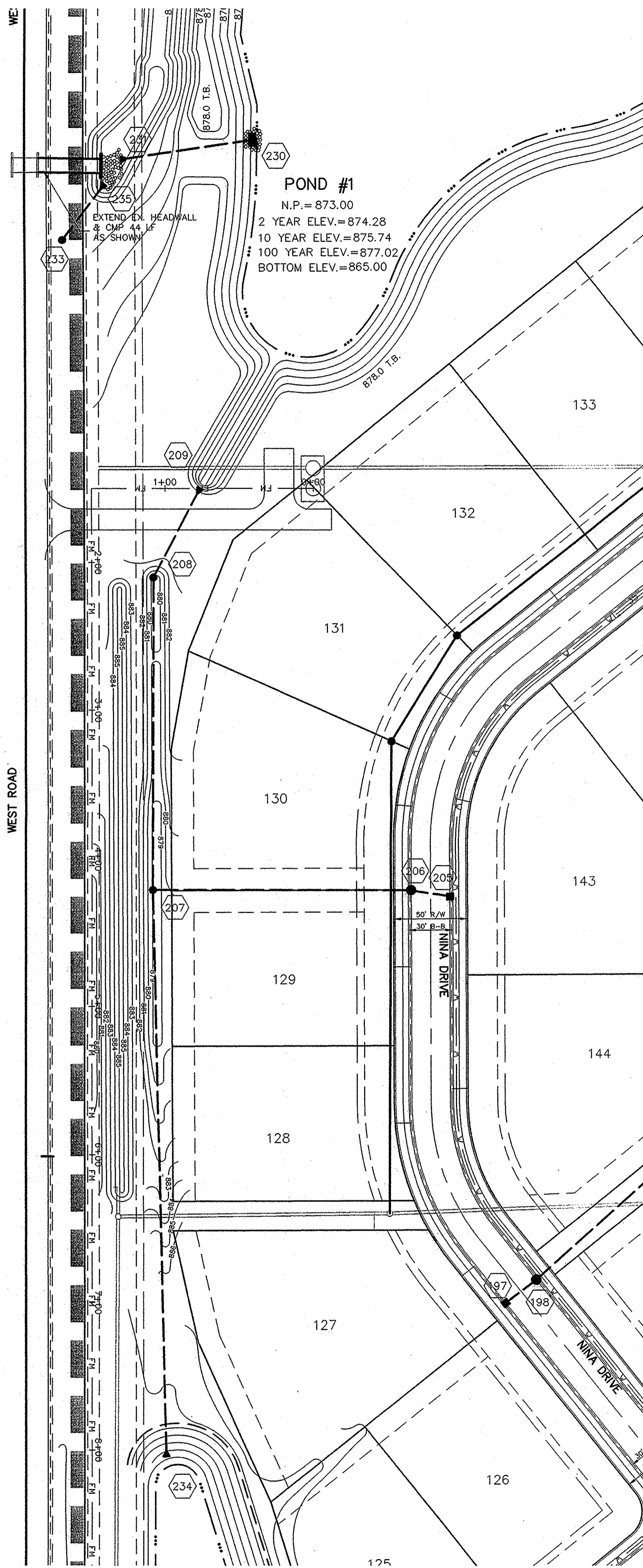
NOTE:  
 EXCEPT FOR FORCE MAINS, CONTRACTOR TO INSTALL CONCRETE CRADLES WHEN THE VERTICAL SEPARATION (AS MEASURED FROM THE EXTERIOR OF THE PIPES) BETWEEN SANITARY SEWER FACILITIES AND STORM SEWERS IS 18" OR LESS.

ALL MANHOLES TO BE CONSTRUCTED WITH ONE 4" RISER RING (NO MORE, NO LESS) TO ESTABLISH PLAN CASTING GRADE.

THERE SHALL BE NO MANHOLES OR WATER VALVES WITHIN THE STREET PAVEMENT, CURBS, SIDEWALKS, OR ASPHALT PATHS

SCALE: 1"=50'

\* SEE SHEET C200 FOR ADJUSTED T.C.'S



LAKE OUTFALL SPECIAL STRUCTURE STR. 230  
 NOT TO SCALE

RECORD DRAWING

D.D. Olmstead 11/12/08  
 DENNIS D. OLMSTEAD  
 Registered Land Surveyor  
 No. 900012



- NOTES:
1. BEDDING AND MANHOLES FOR ALL RCP INSTALLATIONS SHALL BE AS STONE MEETING THE MATERIAL REQUIREMENTS OF THE SOFT BEDDING SHALL BE PLACED IN THE TRENCH BOTTOM SUCH THAT AFTER THE PIPE IS INSTALLED TO GRADE AND LINED, THERE REMAINS A 4" MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BARREL AND A MINIMUM OF 2" BELOW THE SOIL FOR PIPE SIZES 6" AND LARGER. THE MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BARREL SHALL BE 4". BEDDING SHALL BE PLACED TO BE UNIFORM AS POSSIBLE TO SHALL BE LOOSELY PLACED UNCOMPACTED MATERIAL UNDER THE MIDDLE THIRD OF THE PIPE PRIOR TO PLACEMENT OF THE PIPE. IF THE UNDERLINO SOALS OF THE TRENCH BOTTOM ARE SOFT OR UNIFORM, THE SOIL SHALL BE UNIFORM TO SUCH A DEPTH THAT WHEN DEFORMED WITH 25 STONE IT WILL PRODUCE A UNIFORM AND STABLE FOUNDATION ALONG THE ENTIRE LENGTH OF THE PIPE. MANHOLES AND BRICK BACKFILL SHALL BE COMPACTED IN 4" MANHOLE LIFTS TO NOT LESS THAN ONE 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. MANHOLES SHALL EXTEND TO THE SPRINGLINE OF THE PIPE. MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 18".
  2. FINAL BACKFILL FOR ALL RCP INSTALLATIONS WHERE 1' IS 6" OR LESS SHALL BE B-SBORROW FOR STRUCTURE BACKFILL MEETING THE MATERIAL REQUIREMENTS OF THE SOFT BEDDING AND SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL FOR THE TOP 4" OF THE EXCAVATION BELOW THE START OF THE AGGREGATE SUBGRADE OF THE PAVEMENT SHALL BE 95% STONE MEETING THE MATERIAL REQUIREMENTS OF THE SOFT BEDDING AND SHALL BE COMPACTED TO NOT LESS THAN ONE STANDARD PROCTOR DENSITY. FINAL BACKFILL FOR ALL RCP INSTALLATIONS WHERE 1' IS GREATER THAN 6" SHALL BE CLEAN FILL MATERIAL FREE OF ROOTS LARGER THAN 6" IN DIAMETER, FROZEN LUMPS OF SOIL, WOOD OR OTHER EXTRANEIOUS MATERIAL. COMPACTED IN 12" MANHOLE LIFTS TO NOT LESS THAN ONE STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE EXCAVATION. THE FINAL 6" HIGHER OF THE EXCAVATION SHALL CONSIST OF TOPSOIL.
  3. THE MINOR COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PREVIOUS SECTION THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1"-C, 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.
  4. IF EXISTING SUBGRADE HAS BEEN LIME STABILIZED, BACKFILL WITH B-SBORROW UP TO BOTTOM OF UNTREATED EXISTING SUBGRADE AND FILL TO TOP OF TREATED SUBGRADE WITH LIME STABILIZED SOIL.
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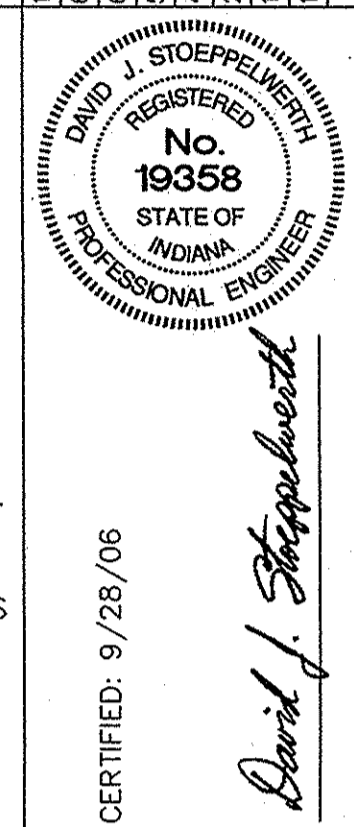
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DATE	MARK	REVISIONS
10/29/08		ASBULTS
10/29/08		REVISED PER DITCH REAGUMENT
6/18/07		REVISE PER AGENCY COMMENTS
6/18/07		REVISE PER AGENCY COMMENTS
5/17/07		REVISED PER CITY COMMENTS
4/17/07		REVISED PER CITY COMMENTS
12/21/07		REVISED PER COMMENTS
11/19/07		REV. DETAIL FOR STR. 234
12/12/06		REVISED LAYOUT AND PLANS PER DEVELOPER
		BAH
		BAH
		BAH
		BY



CERTIFIED: 9/28/06  
 David J. Stoepelwerth  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 19358  
 STATE OF INDIANA

STORM SEWER PLAN & PROFILE  
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INDIANA  
 CARMEL

DRAMA BY: BAH  
 CHECKED BY: EEF  
 SHEET NO. C601  
 S & A JOB NO. 4742553