



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*

June 26, 2020

To: Hamilton County Drainage Board

Re: Little Eagle Creek Drain; Bear Creek South Section 1B Arm

Attached is a petition filed by Homes by Pulte Homes, Inc., along with a non-enforcement request, plans, calculations, quantity summary and assessment roll for Bear Creek South Section 1B 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.

Upon reviewing these plans, 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	936 ft.	SSD	2636 ft.
15" RCP	327 ft.		
18" RCP	200 ft.		
21" RCP	161 ft.		

The total length of the drain will be 4260 feet.

The retention ponds (Lake #1, Lake #2 and Lake #3) located in Common Areas B, C and D are to be considered part of the regulated drain. The maintenance of the ponds (Lake #1, Lake #2 and Lake #3) such as sediment removal and erosion control along the banks, mowing and aquatic vegetation maintenance and control will be the responsibility of the Homeowners Association. The Board will also retain jurisdiction for ensuring the storage volume for which the pond was designed will be retained, thereby, allowing no fill or easement encroachments.

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

Rear yard lots 94 to 98 from Str. 621 to Str. 613 with 79 linear feet of SSD to the east of Str. 613

Rear yard lots 99 to 101 from Str. 613 to structure 611

Rear yard lots 102 to 105 from Str.628 to 630 with 61 linear feet of SSD to the West of Str. 630

Rear yard lot 106 to Common Area "E" from Str. 630 to Str. 631

Rear yard lots 116 to common area B from north corner of lot 116 to Str. 646.

Rear yard lots 119 to common area A from Str. 659 to Str. 676.

I have reviewed the plans and believe the drain will benefit each lot equally. Therefore, I recommend each lot to be assessed equally. I also believe that no damages will result to landowners by the constructor of this drain. I recommend a maintenance assessment of \$65.00 per lot, \$10.00 per acre for common areas, with \$65.00 minimum, and \$10.00 per acre for roadways. With this assessment the total annual assessment for this drain will be \$2,117.00.

The petitioner has provided the performance bond as follows:

Bonding Company: RLI Insurance Company

Bond Number: CMS335543

Bond Date: May 22<sup>nd</sup>, 2020

Bond Amount: \$591,062

Attached is an easement (Recorder's Office Instrument #2020024165) granted by Peter H. Steiner conveying to the Board of Commissioners of Hamilton County a non-exclusive perpetual 30' drainage easement through, upon, over, along and across parcel 29-09-19-000-045.002-018. The easement is granted for providing overland or subsurface paths and courses for the construction, maintenance and preservation of storm drainage facilities which are part of this proposed regulated drain.

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 designed as an urban drain.

I recommend that upon approval of the above proposed drain that the board also approve the attached non-enforcement requests for section 1B. The request will be for the reduction of the regulated drain easements to those easement widths as shown on the secondary plats for Bear Creek South Section 1B.

I recommend the Board set a hearing for this proposed drain for July 27, 2020.

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 Bear Creek South Sec. 18 Subdivision, Section  
Drain Petition.

Petitioner is the owner of all lots in the land affected by the proposed new regulated drain. The drainage will affect various lots in Bear Creek South, 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

Matthew Lohmeyer, Pulte Homes  
Printed Name

6/28/17  
Date

Signed

Printed Name

Date

Signed

Printed Name

Date

Signed

Printed Name

Date

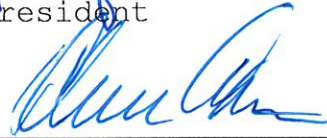
FINDINGS AND ORDER  
CONCERNING THE MAINTENANCE OF THE  
Little Eagle Creek Drain  
Bear Creek South Section 1B Arm

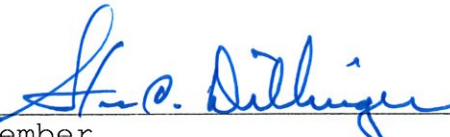
On this 27<sup>th</sup> day of July, 2020, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the *Little Eagle Creek Drain, Bear Creek South Section 1B Arm*.

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:   
Executive Secretary

PERFORMANCE BOND - ENGINEERS ESTIMATE					
	ITEM NAME:	UNIT	QUANTITY	UNIT COST	AMOUNT
STORM SEWER	12" RCP	LF	1098	\$ 30.00	\$ 32,940.00
	15" RCP	LF	673	\$ 35.00	\$ 23,555.00
	18" RCP	LF	593	\$ 40.00	\$ 23,720.00
	21" RCP	LF	508	\$ 45.00	\$ 22,860.00
	24" RCP	LF	1474	\$ 50.00	\$ 73,700.00
	27" RCP	LF	155	\$ 55.00	\$ 8,525.00
	30" RCP	LF	440	\$ 60.00	\$ 26,400.00
	12" END SECTION	EA	2	\$ 950.00	\$ 1,900.00
	18" END SECTION	EA	2	\$ 1,150.00	\$ 2,300.00
	24" END SECTION	EA	2	\$ 1,350.00	\$ 2,700.00
	27" END SECTION	EA	1	\$ 1,550.00	\$ 1,550.00
	30" END SECTION	EA	1	\$ 1,750.00	\$ 1,750.00
	12" TRASH GUARD	EA	2	\$ 600.00	\$ 1,200.00
	18" TRASH GUARD	EA	2	\$ 650.00	\$ 1,300.00
	24" TRASH GUARD	EA	2	\$ 750.00	\$ 1,500.00
	27" TRASH GUARD	EA	1	\$ 775.00	\$ 775.00
	30" TRASH GUARD	EA	1	\$ 800.00	\$ 800.00
	MANHOLE, STANDARD	EA	21	\$ 3,000.00	\$ 63,000.00
	MANHOLE, LARGE	EA	5	\$ 4,000.00	\$ 20,000.00
	STANDARD INLET	EA	10	\$ 2,000.00	\$ 20,000.00
	DOUBLE INLET	EA	11	\$ 4,000.00	\$ 44,000.00
	CURB SSD	LF	6231	\$ 10.00	\$ 62,310.00
	SWALE SSD	LF	3273	\$ 10.00	\$ 32,730.00
SSD LATERALS	EA	32	\$ 100.00	\$ 3,200.00	
GRANULAR BACKFILL	TON	992	\$ 20.00	\$ 19,836.67	
<b>STORM SEWER SUBTOTAL:</b>					<b>\$ 492,551.67</b>
<b>STORM SEWER PERFORMANCE BOND (120%):</b>					<b>\$ 591,062.00</b>
MONUMENTATION	LOT CORNERS	EA	136	\$ 25.00	\$ 3,400.00
	CENTERLINE	EA	21	\$ 100.00	\$ 2,100.00
	CONCRETE 4X4 PROPERTY CORNERS	EA	4	\$ 300.00	\$ 1,200.00
	<b>MONUMENTATION SUBTOTAL:</b>				
<b>MONUMENTATION PERFORMANCE BOND (120%):</b>					<b>\$ 8,040.00</b>

This Engineer's Estimate is an opinion of probable construction cost made on the basis of Engineer's experience and represent Engineer's judgement as a qualified professional generally familiar with the industry. However, since Engineer has no control over the cost of materials, equipment, labor or market conditions, Engineer cannot guarantee that actual construction cost will not vary from this Engineer's Estimate.

*Brandon T. Burke*

Brandon T. Burke, P.E.  
 HWC Engineering



FILED

JUN 05 2020

Copy

Bond No. CMS335543

OFFICE OF HAMILTON COUNTY SURVEYOR

**PERFORMANCE BOND**

HCD B-2020-0002

KNOW ALL MEN BY THESE PRESENTS, that Pulte Homes of Indiana, LLC of 11590 N. Meridian, Suite 530, Carmel IN 46032, as Principal, and RLI Insurance Company, a corporation organized and existing under the laws of the State of Illinois, and authorized to transact business in the state of Indiana, as Surety, are held and firmly bound unto the Hamilton County Board of Commissioners, One Hamilton County Square, Noblesville IN 46060 as Obligee, in the penal sum of Five Hundred Ninety One Thousand Sixty Two and 00/100 (\$591,062.00) for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has agreed to construct storm sewer improvements in the Bear Creek South subdivision. *Sec. 1A & 1B*

NOW, THEREFORE, the condition of this obligation is such that if said Principal shall well and truly perform said work in accordance with said standards, then this obligation shall be void, otherwise to remain in full force and effect.

Signed, sealed and dated this 22<sup>nd</sup> of May, 2020.

Pulte Homes of Indiana, LLC

*see attached*  
D. Bryce Langen, VP & Treasurer

RLI Insurance Company

*[Signature]*  
Jeremy Polk, Attorney-in-Fact



executed this 22<sup>nd</sup> day of May, 2020.

Pulte Homes of Indiana LLC  
PRINCIPAL



BY: D. Bryce Langen, VP & Treasurer

Notary Attached



# POWER OF ATTORNEY

## RLI Insurance Company Contractors Bonding and Insurance Company

9025 N. Lindbergh Dr. Peoria, IL 61615  
Phone: 800-645-2402

### Know All Men by These Presents:

That this Power of Attorney is not valid or in effect unless attached to the bond which it authorizes executed, but may be detached by the approving officer if desired.

That **RLI Insurance Company and/or Contractors Bonding and Insurance Company**, each an Illinois corporation, (separately and together, the "Company") do hereby make, constitute and appoint:

Jeremy Polk, Matthew Erra, jointly or severally

in the City of Phoenix, State of Arizona its true and lawful Agent(s) and Attorney(s) in Fact, with full power and authority hereby conferred, to sign, execute, acknowledge and deliver for and on its behalf as Surety, in general, any and all bonds and undertakings in an amount not to exceed Twenty Five Million Dollars (\$25,000,000.00) for any single obligation.

The acknowledgment and execution of such bond by the said Attorney in Fact shall be as binding upon the Company as if such bond had been executed and acknowledged by the regularly elected officers of the Company.

**RLI Insurance Company and/or Contractors Bonding and Insurance Company**, as applicable, have each further certified that the following is a true and exact copy of a Resolution adopted by the Board of Directors of each such corporation, and is now in force, to-wit:

"All bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or Agents who shall have authority to issue bonds, policies or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile."

IN WITNESS WHEREOF, the **RLI Insurance Company and/or Contractors Bonding and Insurance Company**, as applicable, have caused these presents to be executed by its respective Vice President with its corporate seal affixed this 15th day of May, 2020.



**RLI Insurance Company  
Contractors Bonding and Insurance Company**

By: B. W. Davis  
Barton W. Davis Vice President

State of Illinois }  
County of Peoria } SS

### CERTIFICATE

On this 15th day of May, 2020, before me, a Notary Public, personally appeared Barton W. Davis, who being by me duly sworn, acknowledged that he signed the above Power of Attorney as the aforesaid officer of the **RLI Insurance Company and/or Contractors Bonding and Insurance Company** and acknowledged said instrument to be the voluntary act and deed of said corporation.

I, the undersigned officer of **RLI Insurance Company and/or Contractors Bonding and Insurance Company**, do hereby certify that the attached Power of Attorney is in full force and effect and is irrevocable; and furthermore, that the Resolution of the Company as set forth in the Power of Attorney, is now in force. In testimony whereof, I have hereunto set my hand and the seal of the **RLI Insurance Company and/or Contractors Bonding and Insurance Company** this 22nd day of May, 2020.

By: Catherine D. Glover  
Catherine D. Glover Notary Public

**RLI Insurance Company  
Contractors Bonding and Insurance Company**  
By: Jeffrey D. Fick  
Jeffrey D. Fick Corporate Secretary



**ACKNOWLEDGEMENT BY PRINCIPAL**

**STATE OF GEORGIA)**

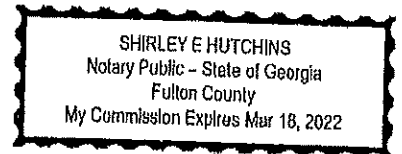
**) ss.**

**COUNTY OF FULTON)**

This record was acknowledged before me on May 22, 2020, appeared D. Bryce Langen, VP & Treasurer of Pulte Homes of Indiana, LLC, provided to me on the basis of satisfactory evidence to be the person who appeared before me and is personally known to me.

WITNESS my hand official seal.

  
\_\_\_\_\_  
Signature of Notary Public



*Shirley E. Hutchins*  
Notary Public State of Georgia  
My Commission Expires: March 18, 2022

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD  
IN THE MATTER OF

*Little Eagle Creek Drain,  
Bear Creek South Sections 1A & 1B*

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, Bear Creek South Sections 1A & 1B** on **July 27, 2020** at **9:00 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,  
Bear Creek South Sections 1A & 1B**

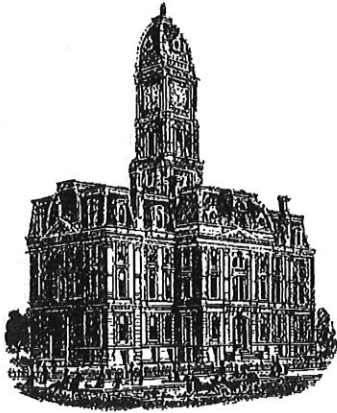
NOTICE

Notice is hereby given pursuant to Section 405 of the 1965 Indiana Drainage Code that this Board, prior to final adjournment on **July 27, 2020** has issued an order adopting the Schedule of Assessments, filed the same and made public announcement thereof at the hearing and ordered publication. If judicial review of the findings and order of the Board is not requested pursuant to Article Eight of this code within twenty (20) days from the date of this publication, the order shall be conclusive.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY



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

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

**To: Hamilton County Drainage Board**

**February 18, 2021**

**Re: Little Eagle Creek Drain: Bear Creek South Section 1B**

Attached are as-built, certificate of completion & compliance, and other information for Bear Creek South Section 1B. 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 June 26, 2020. The report was approved by the Board at the hearing held July 27<sup>th</sup>, 2020. (See Drainage Board Minutes Book 19, Pages 274-275) The changes are as follows: the 12" RCP was shortened from 936 feet to 862 feet. The 18" RCP was lengthened from 200 feet to 202 feet. The 21" RCP was shortened from 161 feet to 157 feet. The 6" SSD was lengthened from 2636 feet to 2674 feet. The length of the drain due to the changes described above is now **4,222 feet**.

The non-enforcement was approved by the Board at its meeting on July 27<sup>th</sup>, 2020 and recorded under instrument #2020094435.

The following sureties were guaranteed by RLI Insurance Company and released by the Board on its December 21, 2020 meeting.

Bond-LC No: CMS335543  
Amount: \$591,062.00  
For: Storm Sewers & SSD  
Issue Date: May 22, 2020

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

Sincerely,

---

Kenton C. Ward, CFM  
Hamilton County Surveyor

CERTIFICATE OF COMPLETION AND COMPLIANCE

To: Hamilton County Surveyor

Bear Creek South Section 1A/1B

Re: 141st Street and Little Eagle Creek Ave

Carmel, IN 46074

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: Brandon T. Burke Date: 12/16/20

Type or Print Name: Brandon T. Burke, PE

Business Address: 135 N. Pennsylvania Street, Suite 2800

Indianapolis, IN 46204

Telephone Number: 317-981-1256

SEAL



INDIANA REGISTRATION NUMBER

10000075

**BENCHMARK INFORMATION:**

ORIGINATING BENCHMARK:  
DEPARTMENT OF NATURAL RESOURCES (DNR) DISK, "HAM38",  
LOCATED ON THE NW CORNER OF BRIDGE OVER EAGLE CREEK  
ON 146TH ST.  
ELEVATION: 869.76 (NAVD 88)

TBM #1:  
SE BONNET BOLT OF FIRE HYDRANT LOCATED ON THE SOUTH  
SIDE OF THE ENTRANCE TO BEAR CREEK SUBDIVISION ON LITTLE  
EAGLE CREEK AVE  
ELEVATION: 888.04 (NAVD 88)

TBM #2:  
NORTH RIM OF SANITARY MANHOLE LOCATED APPROXIMATELY  
188 FT SOUTH OF EVERGREEN TRAIL ALONG DENALI DR. AND  
APPROXIMATELY 40 FT WEST OF THE DENALI DR. CENTERLINE.  
ELEVATION: 875.19 (NAVD 88)

TBM #3:  
NORTH RIM OF SANITARY MANHOLE LOCATED APPROXIMATELY  
188 FT SOUTH OF EVERGREEN TRAIL ALONG DENALI DR. AND  
APPROXIMATELY 432 FT WEST OF THE DENALI DR. CENTERLINE.  
ELEVATION: 875.22 (NAVD 88)

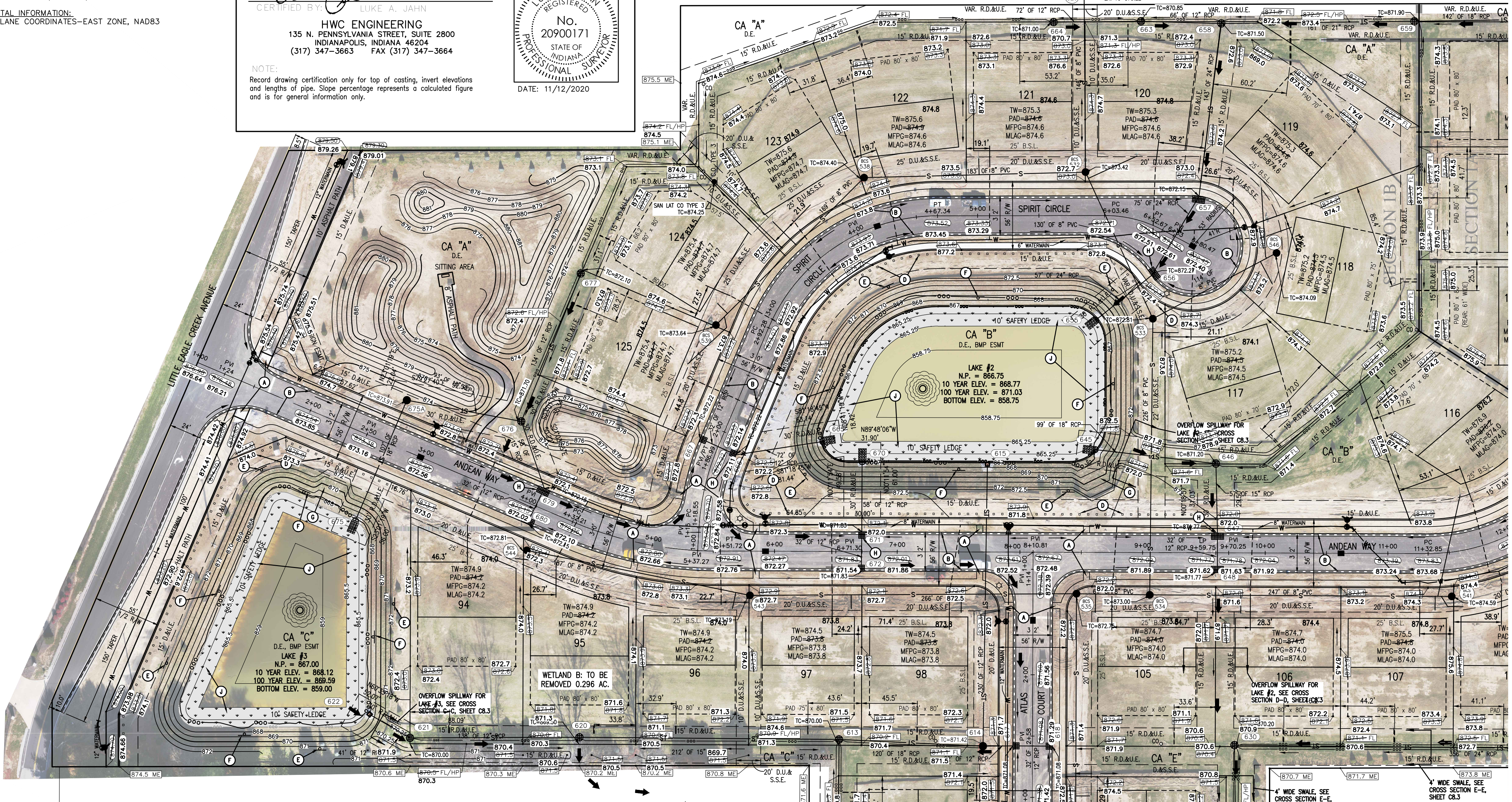
HORIZONTAL INFORMATION:  
STATE PLANE COORDINATES—EAST ZONE, NAD83

**CERTIFICATION FOR "RECORD DRAWING"**  
CERTIFIED BY: LUKE A. JAHN  
**HWC ENGINEERING**  
135 N. PENNSYLVANIA STREET, SUITE 2800  
INDIANAPOLIS, INDIANA 46204  
(317) 347-3663 FAX (317) 347-3664  
No. 20900171  
STATE OF INDIANA  
PROFESSIONAL SURVEYOR  
DATE: 11/12/2020



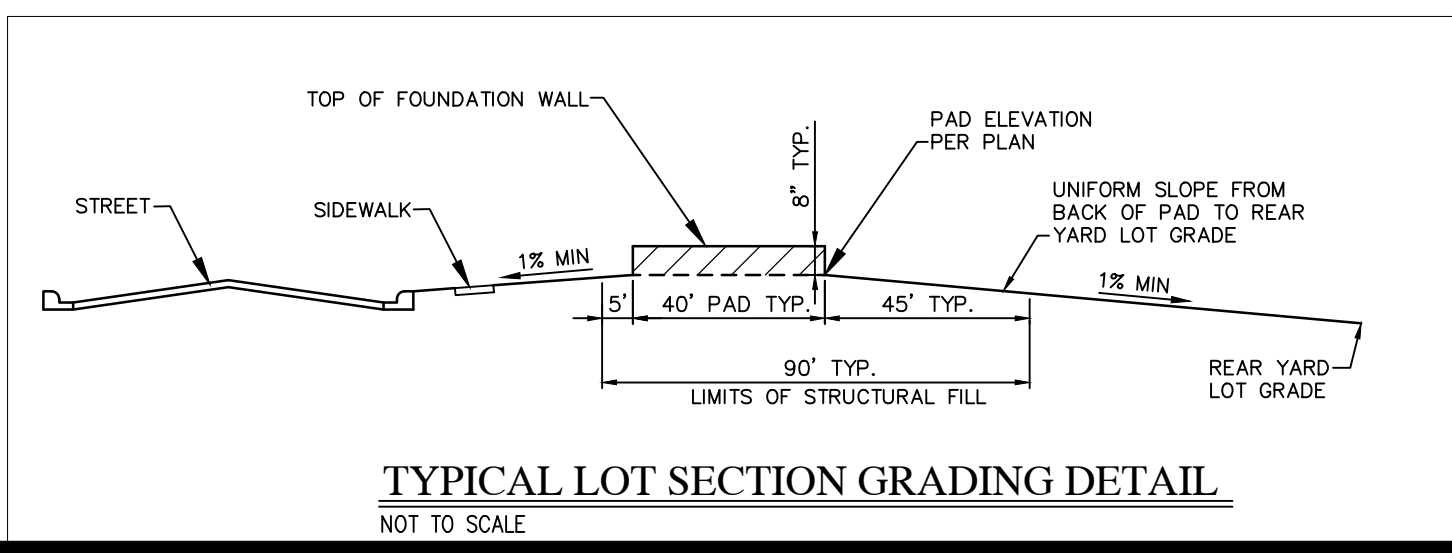
**LEGEND:**

EXISTING	PROPOSED
(Symbol)	RIGHT-OF-WAY LINE
(Symbol)	EASEMENT LINE
(Symbol)	SETBACK LINE
(Symbol)	CENTERLINE
(Symbol)	SWALE / FLOWLINE
(Symbol)	SUBSURFACE DRAIN
(Symbol)	SANITARY SEWER
(Symbol)	STORM SEWER
(Symbol)	STORM CULVERT
(Symbol)	WATER MAIN
(Symbol)	CONTOUR, MAJOR
(Symbol)	CONTOUR, MINOR
(Symbol)	FENCE
(Symbol)	TREE LINE
(Symbol)	SANITARY MANHOLE
(Symbol)	STORM MANHOLE
(Symbol)	STORM INLET
(Symbol)	STORM END SECTION
(Symbol)	FIRE HYDRANT
(Symbol)	FLOW ARROW
(Symbol)	N/A
(Symbol)	EMERGENCY FLOOD ROUTE
(Symbol)	150 WATT HPS STREET LIGHT ON 14' POLE
(Symbol)	INDOT APPROVED SNOWPLOWABLE RAISED PAVEMENT MARKERS
(Symbol)	SSD CLEANOUT
(Symbol)	SANITARY LATERAL CLEANOUT
(Symbol)	A.D.A. HANDICAP RAMP
(Symbol)	2' ROLL CURB
(Symbol)	6" CONCRETE CURB
(Symbol)	6" X 6" VEHICLE BARRIER POST
(Symbol)	POND WARNING SIGNS
(Symbol)	STORMWATER BMP NATIVE PLANTINGS SIGN (DO NOT MOW OR SPRAY)
(Symbol)	20' SAFETY RAMP @ 6:1 SLOPE (CONSTRUCTED WITH COMPACTED CLAY)
(Symbol)	CURB INLET SNOUT BMP
(Symbol)	MECHANICAL SEPARATOR BMP
(Symbol)	WATER QUALITY LITTORAL PLANTING SHELF (SEE DETAILS SHEET C8.2)
(Symbol)	MINIMUM FLOOD PROTECTION GRADE (SEE DEFINITION ON SHEET C1.2)
(Symbol)	MINIMUM LOWEST ADJACENT GRADE (SEE DEFINITION ON SHEET C1.2)
(Symbol)	WETLANDS
(Symbol)	WETLANDS TO BE REMOVED
(Symbol)	AQUA AIR ULTRA POND Aerator (OR APPROVED EQUAL) REFER TO SHEET C1.1 FOR DETAILS
(Symbol)	LAKE #1: 1,491,853 GALLONS PUMPED PER DAY
(Symbol)	*AQUA-AIR ULTRA 2" SINGLE UNIT - 2 DIFFUSER HEAD
(Symbol)	LAKE #2: 1,491,853 GALLONS PUMPED PER DAY
(Symbol)	*AQUA-AIR ULTRA 2" SINGLE UNIT - 2 DIFFUSER HEAD
(Symbol)	LAKE #3: 783,076 GALLONS PUMPED PER DAY
(Symbol)	*AQUA-AIR ULTRA 1" SINGLE UNIT - 1 DIFFUSER HEAD



FOR CONTINUATION SEE SHEET C1.2

FOR CONTINUATION SEE SHEET C1.3



**CARMEL GENERAL NOTES:**

- UTILITY RELOCATIONS REQUIRED BY THE PROJECT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER. UTILITY LINE RELOCATIONS REQUIRED FOR ROAD PROJECTS THAT RESULT IN A CONFLICT WITH PROPOSED DEVELOPMENT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO RESOLVE WITH THE UTILITY. EXISTING POLE LINES REQUIRED TO BE RELOCATED SHALL BE RELOCATED TO WITHIN ONE FOOT OF THE PROPOSED RIGHT-OF-WAY LINE.
- NO EARTH DISTURBING ACTIVITY MAY COMMENCE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.
- ALL PAVING WITHIN THE EXISTING AND PROPOSED CITY RIGHT-OF-WAY SHALL CONFORM TO THE REQUIREMENTS OF THE DEPARTMENT OF ENGINEERING. THE 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 THE WORK AND TO REVIEW THE AUTHORITY OF THE DEPARTMENT AS IT RELATES TO WORK WITHIN THE EXISTING AND PROPOSED RIGHT-OF-WAY.

- SEE SHEET C1.2 FOR DRAINAGE SUMMARY NOTES.
- SEE SHEET C1.2 FOR OVERALL GENERAL PROJECT NOTES.
- SEE SHEET C8.3 FOR STREET CROSS SECTION.
- SEE SHEET C8.3 FOR TYPICAL SWALE SECTION DETAILS.
- SEE SHEET C8.3 FOR EMERGENCY SPILLWAY DETAILS.
- SEE SHEET C8.2 FOR WET POND SHELF PLANTINGS, DETAIL & NOTES.
- STORM SEWER FOR THIS PROJECT WILL BE PUBLIC.

Hamilton County  
Seal  
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: 2.02.1  
Entered By: SLM

**FLOOD HAZARD STATEMENT:**

THIS SITE DOES NOT LIE WITHIN A FLOODWAY OR FLOOD PLAIN PER FIRM MAP 18057C0205G DATE NOVEMBER 19, 2014.

**REVISIONS**

DATE	DESCRIPTION	BY
07/07/17	REVISED PER TAC COMMENTS	DC
08/22/17	REVISED PER TAC COMMENTS & BID SET	DC
10/28/19	REVISED OUTFALL PIPE	KS
12/10/19	REVISED PER CLIENT COMMENTS	KS/DC
02/05/20	REVISED PER TAC COMMENTS, METRICS, SIGNAGE	KS/DC
03/11/20	REVISED PER TAC COMMENTS	KS
07/07/20	UPDATED WATER QUALITY UNITS	KS
11/11/20	RECORD DRAWINGS	SD

**HWC ENGINEERING**  
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LAFAYETTE - MUNCIE - NEW ALBANY  
www.hwcengineering.com

**BEAR CREEK SOUTH DEVELOPMENT PLAN**

Seal of Brandon T. Baird, Surveyor  
No. 10010075  
INDIANAPOLIS, INDIANA  
PROFESSIONAL SURVEYOR

DRAWN BY: DC  
CHECKED BY: BB  
DATE: APRIL 21, 2017  
SCALE: AS SHOWN

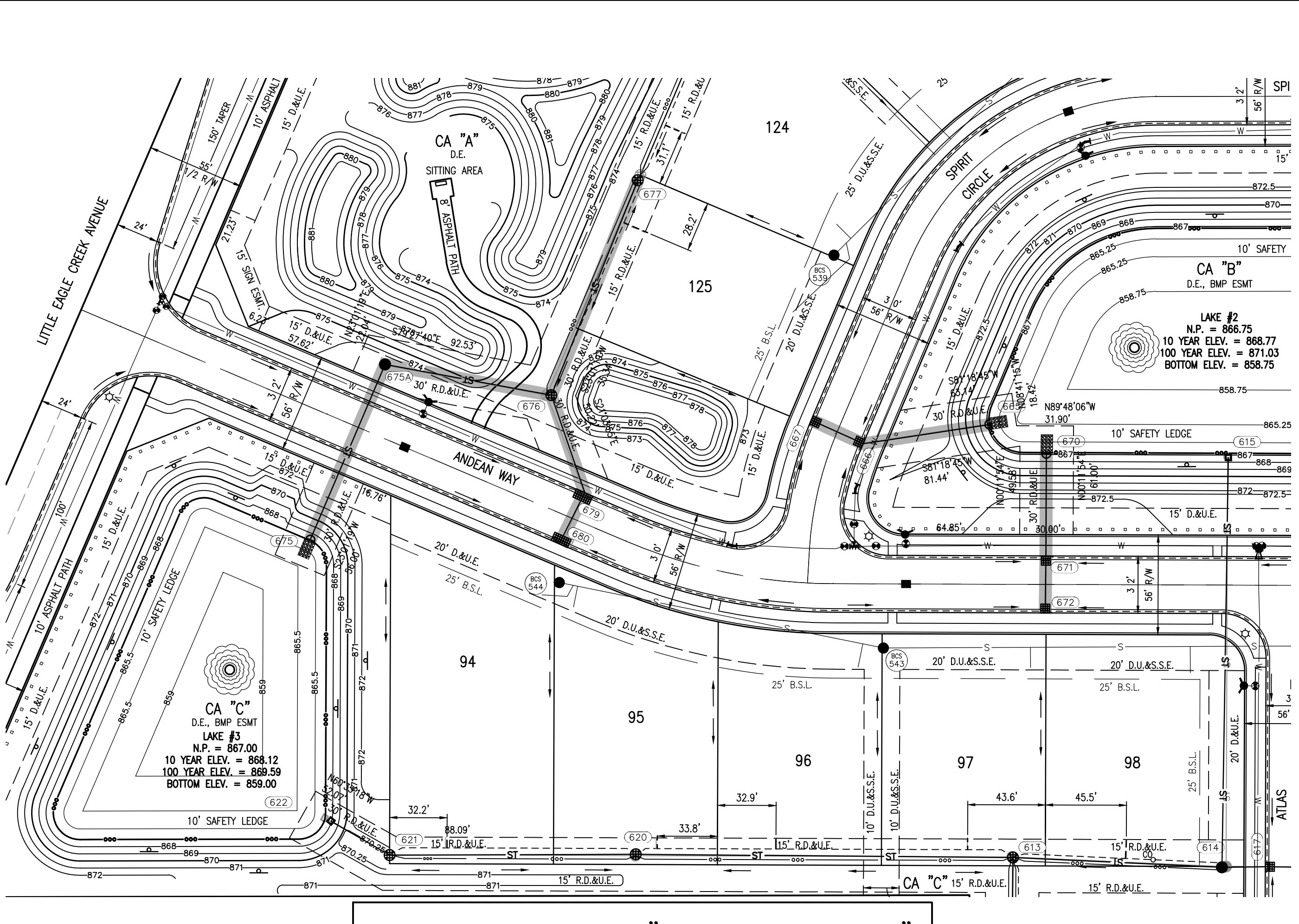
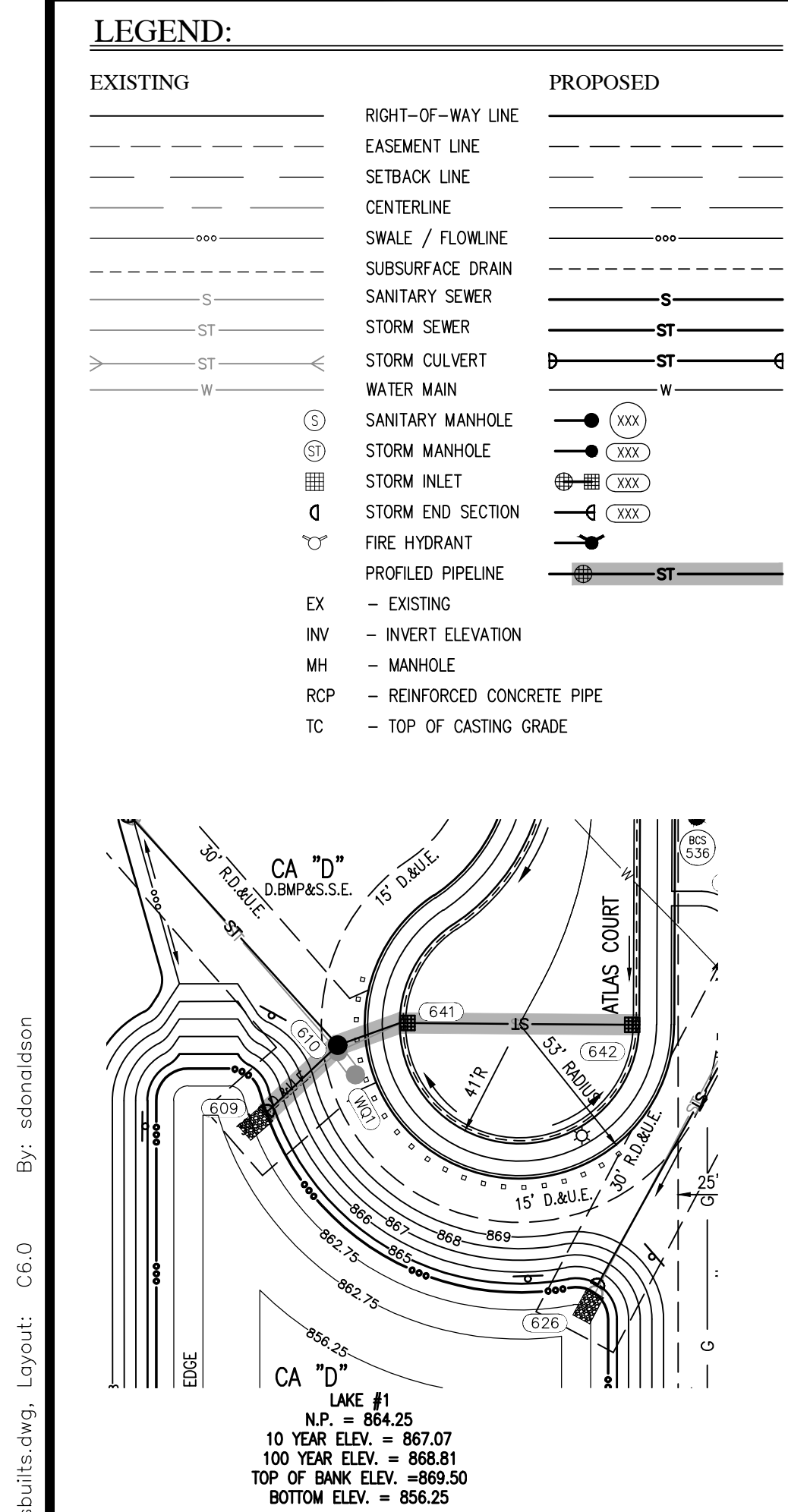
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DEVELOPMENT PLAN  
JOB NUMBER: 20151-169  
SHEET

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Plot Time: 6:13:00  
Plot Date: Nov 12, 2020  
By: sdomalston









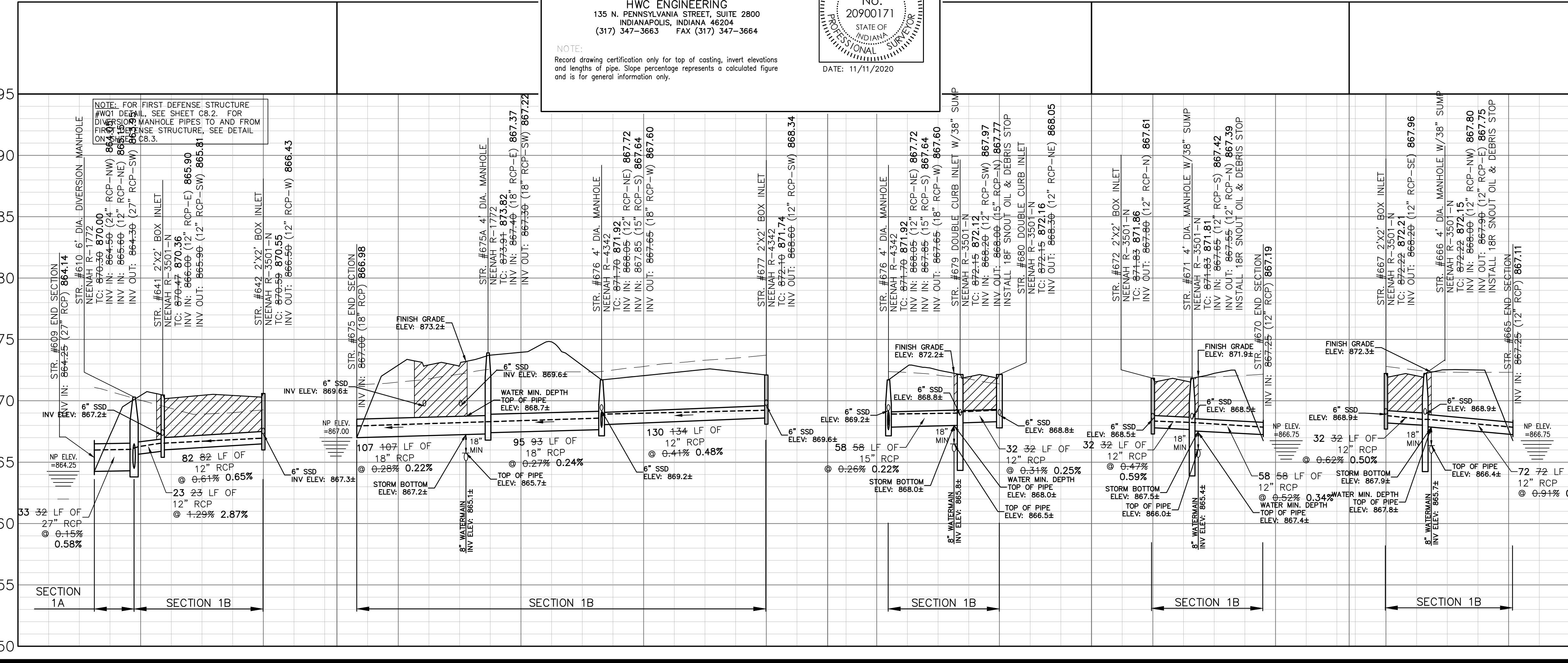
UPSTREAM TO DOWNSTREAM	PIPE LENGTH (FT)	PIPE DIA. (IN)
610-609	32	27"
641-610	23	12"
642-641	82	12"
666-665	72	12"
667-666	32	12"
671-670	58	12"
672-671	32	12"
675A-675	107	18"
676-675A	93	18"
677-676	134	12"
679-676	58	15"
680-679	32	12"

**Indiana 811**  
KNOW WHAT'S BELOW.  
CALL BEFORE YOU DIG.  
Call 811 or 800-382-5544 Before you Dig!

**GRAPHIC SCALE**  
0' 50' 100' 150'  
(IN FEET)

STR. #	TC	INV. IN (ELEV.)	INV. OUT (ELEV.)	PIPE IN DIA. (INCH)	PIPE OUT DIA. (INCH)	PIPE IN MATERIAL	PIPE OUT MATERIAL	STR. & CASTING TYPE	DETAIL REFERENCE	SPECIAL NOTES
609		864.25 (NE)		27"		RCP		END SECTION	SEE DETAIL SHEET CB.3	
610	870.30	864.50 (NW) 865.60 (NE)	864.30 (SW)	24" 12"	27"	RCP RCP	RCP	6" DIA. DIVERSION MANHOLE NEENAH R-1772	SEE DETAIL SHEET CB.3	SEE DIVERSION SHEET CB.3
641	870.47	866.00 (E)	865.90 (SW)	12"	12"	RCP	RCP	2'X2' BOX INLET NEENAH R-3501-N	SEE DETAIL SHEET CB.3	
642	870.59		866.50 (W)		12"		RCP	2'X2' BOX INLET NEENAH R-3501-N	SEE DETAIL SHEET CB.3	
665	868.50	867.25 (W)		12"		RCP		END SECTION	SEE DETAIL SHEET CB.3	
666	872.22	868.00 (NW)	867.90 (E)	12"	12"	RCP	RCP	4" DIA. MANHOLE W/38" SUMP NEENAH R-3501-N	SEE DETAIL SHEET CB.5	INSTALL 18" SMOOT, SEE DETAIL SHEET CB.2
667	872.22		868.20 (SE)		12"		RCP	2'X2' BOX INLET NEENAH R-3501-N	SEE DETAIL SHEET CB.3	
670		867.25 (S)		12"		RCP		END SECTION	SEE DETAIL SHEET CB.3	
671	871.83	867.65 (S)	867.55 (N)	12"	12"	RCP	RCP	4" DIA. MANHOLE W/38" SUMP NEENAH R-3501-N	SEE DETAIL SHEET CB.5	INSTALL 18" SMOOT, SEE DETAIL SHEET CB.2
672	871.83		867.80 (N)		12"		RCP	2'X2' BOX INLET NEENAH R-3501-N	SEE DETAIL SHEET CB.3	
675		867.00 (NE)		18"		RCP		END SECTION	SEE DETAIL SHEET CB.3	
675A	873.91	867.40 (E)	867.30 (SW)	18"	18"	RCP	RCP	4" DIA. MANHOLE NEENAH R-1772	SEE DETAIL SHEET CB.5	
676	871.70	868.05 (NE) 867.85 (S)	867.65 (W)	12" 15"	18"	RCP RCP	RCP	4" DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET CB.3	
677	872.10		868.60 (SW)		12"		RCP	2'X2' BOX INLET NEENAH R-4342	SEE DETAIL SHEET CB.3	
679	872.15	868.20 (SW)	868.00 (N)	12"	15"	RCP	RCP	DOUBLE CURB INLET W/38" SUMP NEENAH R-3501-N	SEE DETAIL SHEET CB.3	INSTALL 18" SMOOT, SEE DETAIL SHEET CB.2
680	872.15		868.30 (NE)		12"		RCP	DOUBLE CURB INLET NEENAH R-3501-N	SEE DETAIL SHEET CB.3	

**STORM PROFILE**  
VERTICAL SCALE: 1" = 5'  
HORIZONTAL SCALE: 1" = 50'



**CERTIFICATION FOR "RECORD DRAWING"**

*Signature*  
CERTIFIED BY: LUKE A. JAHN

HWC ENGINEERING  
135 N. PENNSYLVANIA STREET, SUITE 2800  
INDIANAPOLIS, INDIANA 46204  
(317) 347-3663 FAX (317) 347-3664

NOTE:  
Record drawing certification only for top of casting, invert elevations and lengths of pipe. Slope percentage represents a calculated figure and is for general information only.

DATE: 11/11/2020

GRANULAR BACKFILL  
 EXISTING GRADE  
 PROPOSED GRADE  
 10-YEAR HGL

- GENERAL NOTES:**
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
  - ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
  - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL UTILITY LOCATIONS BEFORE CONSTRUCTION BEGINS.
  - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL EXISTING ELEVATIONS BEFORE CONSTRUCTION BEGINS.
  - THE STORM SEWER SYSTEM SHALL BE CONSTRUCTED PER DESIGN SPECIFIED AND AS APPROVED BY THE CITY OF CARMEL ON THE FINAL APPROVED CONSTRUCTION PLANS. DEVIATIONS FROM THE APPROVED DESIGN SHALL ONLY BE PERMITTED DUE TO SPECIAL CIRCUMSTANCES OR DIFFICULTY DURING CONSTRUCTION AND WILL REQUIRE PRIOR FIELD APPROVAL FROM A DESIGNATED REPRESENTATIVE OF THE CITY OF CARMEL. IN ADDITION TO SUPPLEMENTAL APPROVAL BY THE DESIGN ENGINEER, AN EXPLANATION OF ANY SUCH DEVIATION SHALL BE INCLUDED AS A REQUIREMENT ON AS-BUILT/RECORD DRAWINGS SUBMITTED FOR RELEASE OF PERFORMANCE GUARANTEES. APPROVED DESIGN SLOPES IDENTIFIED AS GENERATING VELOCITIES OF 2.5 FPS OR LESS OR 10 FPS OR GREATER AT FULL FLOW CAPACITY SHALL REQUIRE AS-BUILT CERTIFICATION AT THE TIME OF CONSTRUCTION. PRIOR TO BACKFILLING THE PIPE, THE CONTRACTOR IS INSTRUCTED TO AS-BUILT EACH SECTION OF STORM PIPE AS IT IS BEING INSTALLED TO ENSURE COMPLIANCE WITH THE DESIGN PLANS AND AS APPROVED BY THE CITY OF CARMEL.
  - NO EARTH DISTURBING ACTIVITY MAY COMMENCE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.
  - ALL STORMWATER DRAINAGE CASTINGS SHALL BE LABELED WITH ENVIRONMENTAL MESSAGING "DUMP NO WASTE"
  - ALL CONCRETE PIPE JOINTS SHALL BE CONTINUOUS O-RING RUBBER GASKET CONFORMING TO ASTM C 443
  - 18" OF VERTICAL SEPARATION MUST BE MAINTAINED FOR ALL UTILITY CROSSINGS.
  - FOR STORM SEWER BACKFILL SPECIFICATIONS, REFER TO STORM SEWER TRENCH DETAIL STANDARD DRAWING 10-31 ON SHEET CB.4

**BENCHMARK INFORMATION:**

ORIGINATING BENCHMARK:  
DEPARTMENT OF NATURAL RESOURCES (DN) DISK "HAM33", LOCATED ON THE NW WING WALL OF BRIDGE OVER EAGLE CREEK ON 146TH ST.  
ELEVATION: 869.76 (NAVD 88)

TBM #1:  
SE BONNET BOLT OF FIRE HYDRANT LOCATED ON THE SOUTH SIDE OF THE ENTRANCE TO BEAR CREEK SUBDIVISION ON LITTLE EAGLE CREEK AVE  
ELEVATION: 888.04 (NAVD 88)

TBM #2:  
NORTH RIM OF SANITARY MANHOLE LOCATED APPROXIMATELY 188 FT SOUTH OF EVERGREEN TRAIL ALONG DENALI DR. AND APPROXIMATELY 40 FT WEST OF THE DENALI DR. CENTERLINE.  
ELEVATION: 875.19 (NAVD 88)

TBM #3:  
NORTH RIM OF SANITARY MANHOLE LOCATED APPROXIMATELY 188 FT SOUTH OF EVERGREEN TRAIL ALONG DENALI DR. AND APPROXIMATELY 432 FT WEST OF THE DENALI DR. CENTERLINE.  
ELEVATION: 875.22 (NAVD 88)

HORIZONTAL INFORMATION:  
STATE PLANE COORDINATES—EAST ZONE, NAD83

**REVISIONS**

DATE	DESCRIPTION	BY
07/07/17	REVISED PER TAC COMMENTS	DC
08/22/17	REVISED PER TAC COMMENTS & BID SET	DC
10/28/19	REVISED OUTFALL PIPE	KS
12/10/19	REVISED PER CLIENT COMMENTS	KS/DC
02/05/20	REVISED PER TAC COMMENTS (METALS, SIGNAGE)	KS/DC
03/11/20	REVISED PER TAC COMMENTS	KS
07/07/20	UPDATED WATER QUALITY UNITS	KS
10/29/20	RECORD DRAWINGS	MF

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LAFAYETTE - MUNCIE - NEW ALBANY  
www.hwceengineering.com

**BEAR CREEK SOUTH**

**STORM SEWER PLAN & PROFILE**

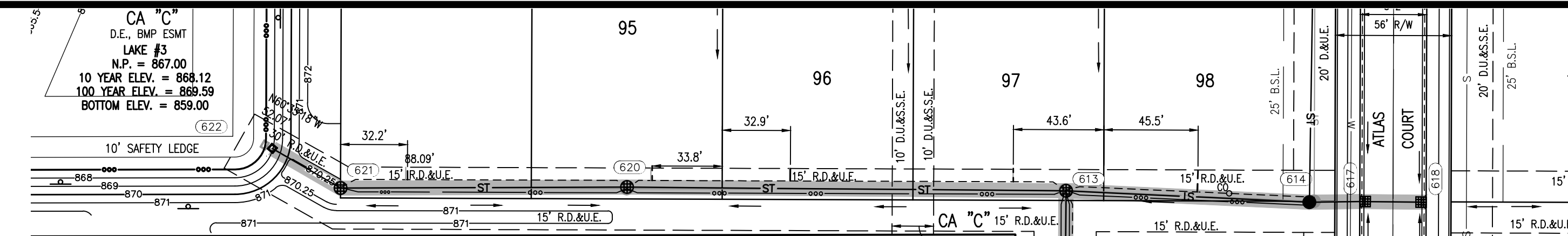
DRAWN BY: DC  
CHECKED BY: BB  
DATE: APRIL 21, 2017  
SCALE: AS SHOWN  
SHEET

**C6.0**  
STORM SEWER PLAN & PROFILE

© 2017

**LEGEND:**

EXISTING	PROPOSED
	RIGHT-OF-WAY LINE
	EASEMENT LINE
	SETBACK LINE
	CENTERLINE
	SWALE / FLOWLINE
	SUBSURFACE DRAIN
	SANITARY SEWER
	STORM SEWER
	STORM CULVERT
	WATER MAIN
	SANITARY MANHOLE
	STORM MANHOLE
	STORM INLET
	STORM END SECTION
	FIRE HYDRANT
	PROFILED PIPELINE
	- EXISTING
	- INVERT ELEVATION
	- MANHOLE
	- REINFORCED CONCRETE PIPE
	- TOP OF CASTING GRADE



**STORM SEWER STRUCTURE DATA TABLE**

STR. #	TC	INV. IN (ELEV.)	INV. OUT (ELEV.)	PIPE IN DIA. (INCH)	PIPE OUT DIA. (INCH)	PIPE IN MATERIAL	PIPE OUT MATERIAL	STR. & CASTING TYPE	DETAIL REFERENCE	SPECIAL NOTES
609		864.25 (NE)		27"		RCP		END SECTION	SEE DETAIL SHEET C8.3	
610	870.30	864.50 (NW) 865.60 (NE)	864.30 (SW)	24"	27"	RCP	RCP	6' DIA. DIVERSION MANHOLE NEENAH R-1772	SEE DETAIL SHEET C8.3	SEE DIVERSION MANHOLE DETAIL SHEET C8.3
611	869.25	864.70 (N)	864.70 (SE)	24"	24"	RCP	RCP	4' DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
612	869.25	865.10 (N)	864.90 (S)	21"	24"	RCP	RCP	4' DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
613	870.00	865.70 (E) 865.90 (W)	865.50 (S)	18"	21"	RCP	RCP	4' DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
615	871.10		866.75 (S)		12"		RCP	CONCRETE OUTLET CONTROL STRUCTURE	SEE DETAIL SHEET C8.2	
617	871.08	866.80 (E)	866.70 (W)	12"	12"	RCP	RCP	2'x2' BOX INLET NEENAH R-3501-N	SEE DETAIL SHEET C8.3	
618	871.08		867.00 (W)		12"		RCP	2'x2' BOX INLET NEENAH R-3501-N	SEE DETAIL SHEET C8.3	
620	869.50	866.55 (W)	866.35 (E)	12"	15"	RCP	RCP	2'x2' BOX INLET NEENAH R-4342	SEE DETAIL SHEET C8.3	
621	870.00	866.90 (NW)	866.90 (E)	12"	12"	RCP	RCP	2'x2' BOX INLET NEENAH R-4342	SEE DETAIL SHEET C8.3	
622	869.75		867.00 (SE)		12"		RCP	CONCRETE OUTLET CONTROL STRUCTURE	SEE DETAIL SHEET C8.2	

**Pipe Table**

UPSTREAM TO DOWNSTREAM	PIPE LENGTH (FT)	PIPE DIA. (IN)
611-610	107	24"
612-611	92	24"
613-612	214	21"
614-613	120	18"
615-614	230	12"
617-614	22	12"
618-617	32	12"
620-613	212	15"
621-620	138	12"
622-621	41	12"

**BENCHMARK INFORMATION:**

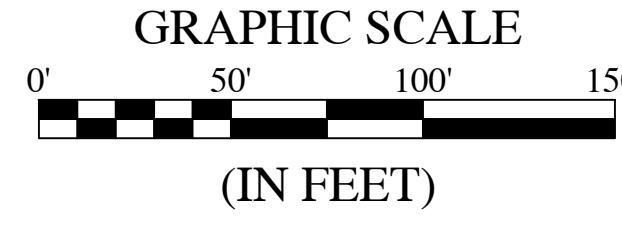
ORIGINATING BENCHMARK:  
 DEPARTMENT OF NATURAL RESOURCES (DNR) DISK, "HAM38", LOCATED ON THE NW CORNER OF BRIDGE OVER EAGLE CREEK ON 146TH ST.  
 ELEVATION: 869.76 (NAVD 88)

TBM #1:  
 SE CORNER BOLT OF FIRE HYDRANT LOCATED ON THE SOUTH SIDE OF THE ENTRANCE TO BEAR CREEK SUBDIVISION ON LITTLE EAGLE CREEK AVE  
 ELEVATION: 888.04 (NAVD 88)

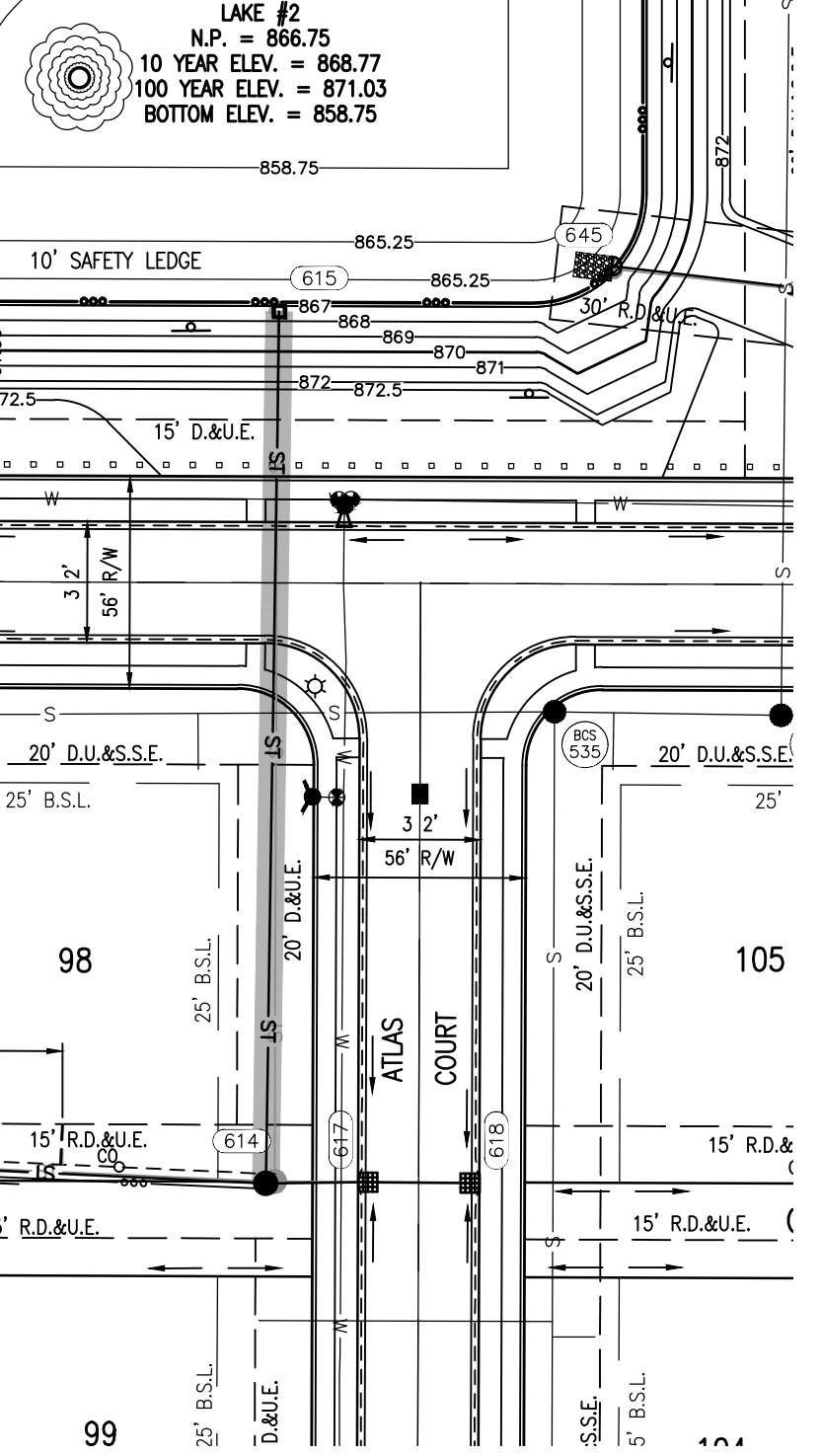
TBM #2:  
 NORTH RIM OF SANITARY MANHOLE LOCATED APPROXIMATELY 188 FT SOUTH OF EVERGREEN TRAIL ALONG DENALI DR. AND APPROXIMATELY 40 FT WEST OF THE DENALI DR. CENTERLINE.  
 ELEVATION: 875.19 (NAVD 88)

TBM #3:  
 NORTH RIM OF SANITARY MANHOLE LOCATED APPROXIMATELY 188 FT SOUTH OF EVERGREEN TRAIL ALONG DENALI DR. AND APPROXIMATELY 432 FT WEST OF THE DENALI DR. CENTERLINE.  
 ELEVATION: 875.22 (NAVD 88)

**HORIZONTAL INFORMATION:**  
 STATE PLANE COORDINATES—EAST ZONE, NAD83



- GENERAL NOTES:**
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
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  - ALL STORMWATER DRAINAGE CASTINGS SHALL BE LABELED WITH ENVIRONMENTAL MESSAGING "DUMP NO WASTE"
  - ALL CONCRETE PIPE JOINTS SHALL BE CONTINUOUS O-RING RUBBER GASKET CONFORMING TO ASTM C 443
  - 18" OF VERTICAL SEPARATION MUST BE MAINTAINED FOR ALL UTILITY CROSSINGS.
  - FOR STORM SEWER BACKFILL SPECIFICATIONS, REFER TO STORM SEWER TRENCH DETAIL STANDARD DRAWING 10-31 ON SHEET C8.4



**STORM PROFILE**

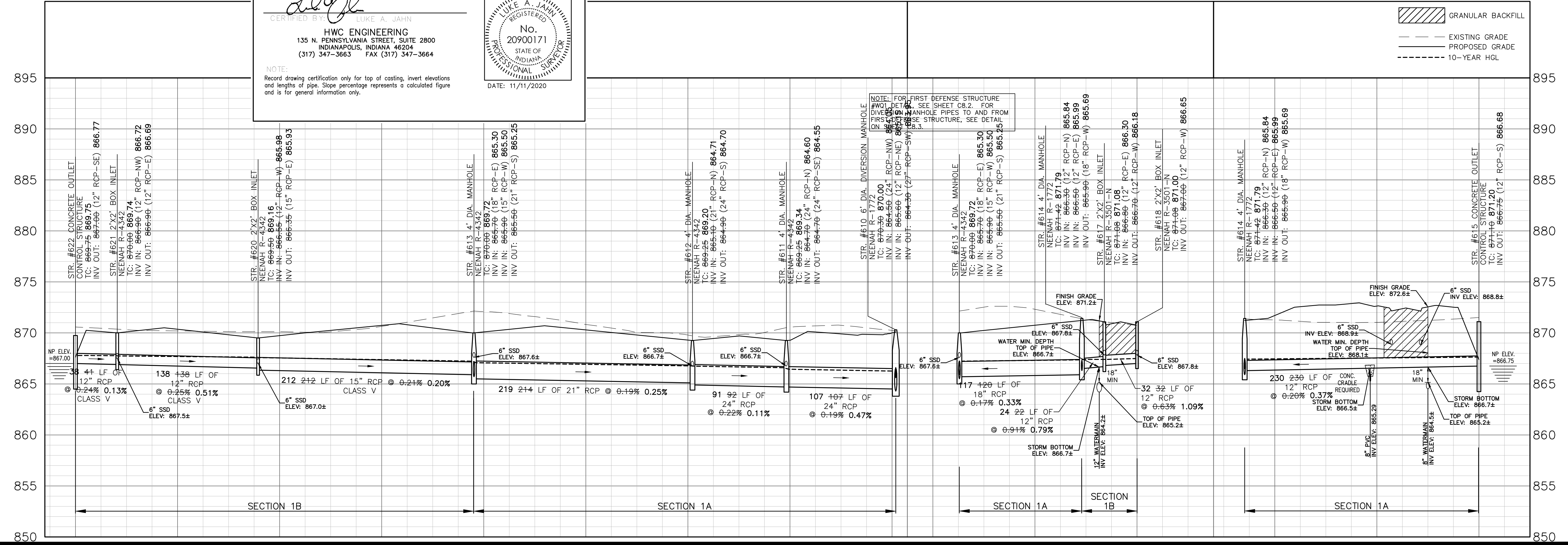
VERTICAL SCALE: 1" = 5'  
 HORIZONTAL SCALE: 1" = 50'

**CERTIFICATION FOR "RECORD DRAWING"**

CERTIFIED BY: **LUKE A. JAHN**  
 REGISTERED PROFESSIONAL SURVEYOR  
 No. 20900171  
 STATE OF INDIANA  
 DATE: 11/11/2020

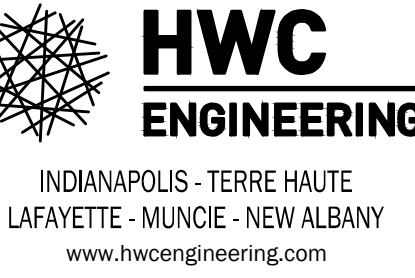
**HWC ENGINEERING**  
 135 N. PENNSYLVANIA STREET, SUITE 2800  
 INDIANAPOLIS, INDIANA 46204  
 (317) 347-3663 FAX (317) 347-3664

NOTE:  
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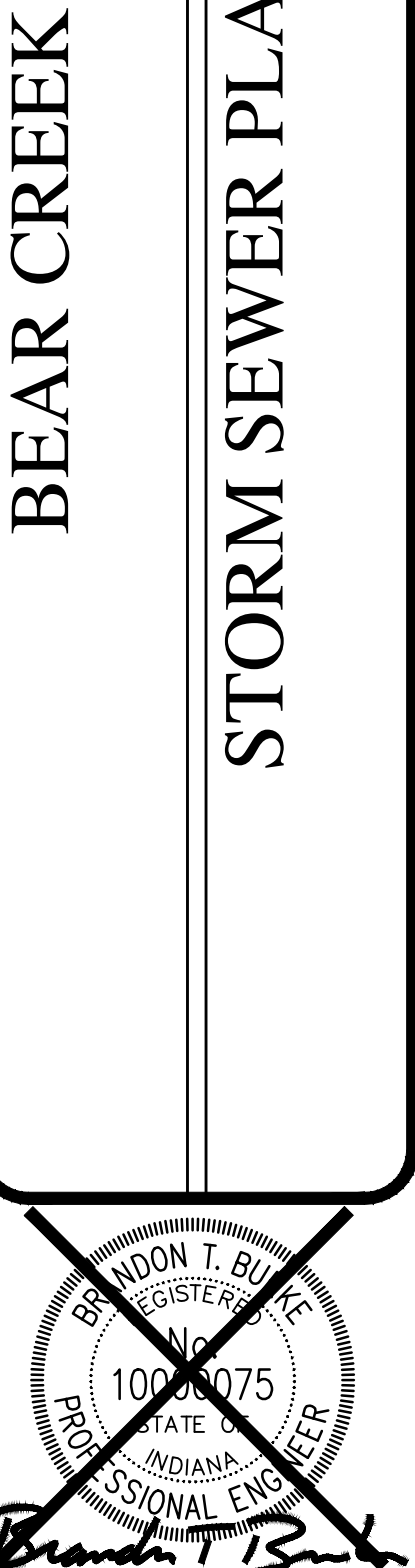


**REVISIONS**

DATE	DESCRIPTION	BY
07/07/17	REVISED PER TAC COMMENTS	DC
08/22/17	REVISED PER TAC COMMENTS & BID SET	DC
10/28/19	REVISED OUTFALL PIPE	KS
12/10/19	REVISED PER CLIENT COMMENTS	KS/DC
02/05/20	REVISED PER TAC COMMENTS WETLANDS, SIGNAGE	KS/DC
03/11/20	REVISED PER TAC COMMENTS	KS
07/07/20	UPDATED WATER QUALITY UNITS	KS
10/29/20	RECORD DRAWINGS	MF



**BEAR CREEK SOUTH  
STORM SEWER PLAN & PROFILE**



**C6.1**  
STORM SEWER PLAN & PROFILE

DRAWN BY DC	JOB NUMBER 20151-169
CHECKED BY BB	
DATE APRIL 21, 2017	
SCALE AS SHOWN	
SHEET	

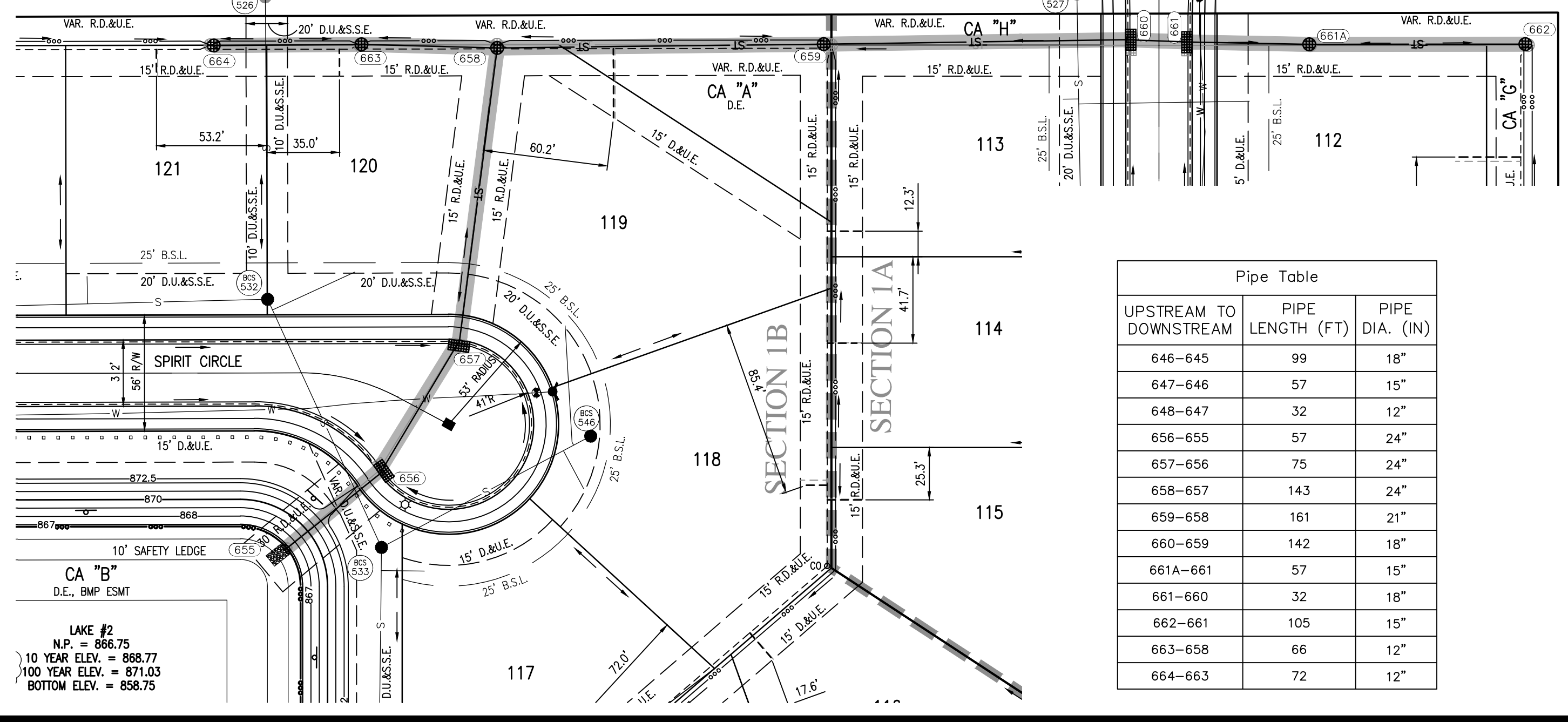
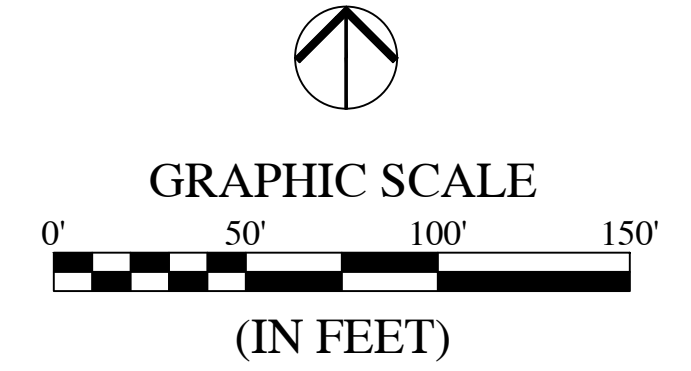
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 Plot Time: 8:27am  
 By: sfernaldisan

**LEGEND:**

EXISTING	PROPOSED
RIGHT-OF-WAY LINE	--- --
EASEMENT LINE	--- --
SETBACK LINE	--- --
CENTERLINE	--- --
SWALE / FLOWLINE	--- --
SUBSURFACE DRAIN	--- --
SANITARY SEWER	--- --
STORM SEWER	--- --
STORM CULVERT	--- --
WATER MAIN	--- --
SANITARY MANHOLE	⊙
STORM MANHOLE	⊙
STORM INLET	⊙
STORM END SECTION	⊙
FIRE HYDRANT	⊙
PROFILED PIPELINE	--- --
EX - EXISTING	
INV - INVERT ELEVATION	
MH - MANHOLE	
RCP - REINFORCED CONCRETE PIPE	
TC - TOP OF CASTING GRADE	

- GENERAL NOTES:**
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
  - ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
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  - ALL CONCRETE PIPE JOINTS SHALL BE CONTINUOUS O-RING RUBBER GASKET CONFORMING TO ASTM C 443
  - 18" OF VERTICAL SEPARATION MUST BE MAINTAINED FOR ALL UTILITY CROSSINGS.
  - FOR STORM SEWER BACKFILL SPECIFICATIONS, REFER TO STORM SEWER TRENCH DETAIL STANDARD DRAWING 10-31 ON SHEET C8.4



**Pipe Table**

UPSTREAM TO DOWNSTREAM	PIPE LENGTH (FT)	PIPE DIA. (IN)
646-645	99	18"
647-646	57	15"
648-647	32	12"
656-655	57	24"
657-656	75	24"
658-657	143	24"
659-658	161	21"
660-659	142	18"
661A-661	57	15"
661-660	32	18"
662-661	105	15"
663-662	66	12"
664-663	72	12"

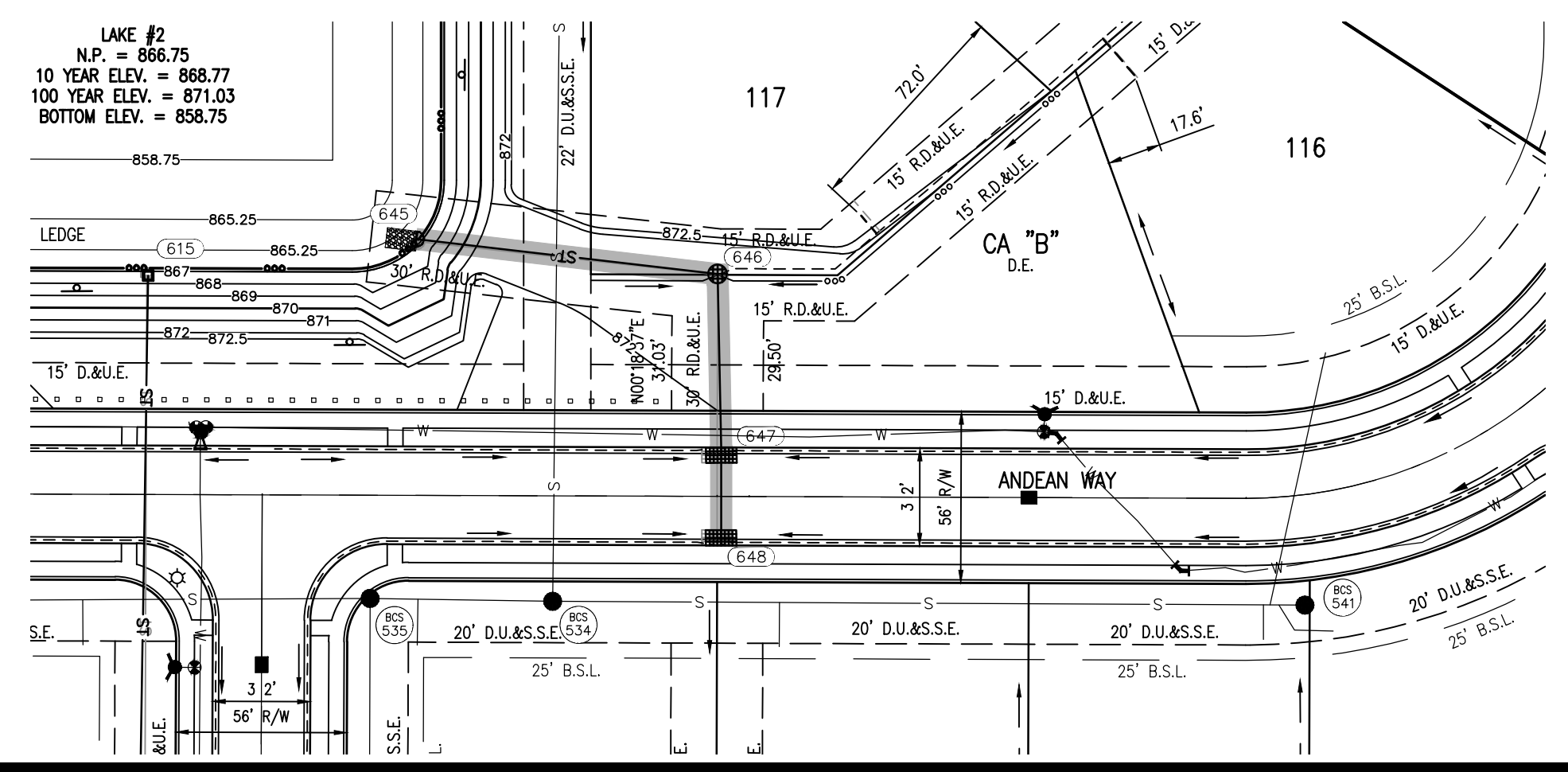
**CERTIFICATION FOR "RECORD DRAWING"**

LUKE A. JAHN  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 20900171  
 STATE OF INDIANA  
 HWC ENGINEERING  
 135 N. PENNSYLVANIA STREET, SUITE 2800  
 INDIANAPOLIS, INDIANA 46204  
 (317) 547-3885 FAX (317) 547-3864  
 DATE: 11/17/2020

Record drawing certification only for top of casting, invert elevations and lengths of pipe. Slope percentage represents a calculated figure and is for general information only.

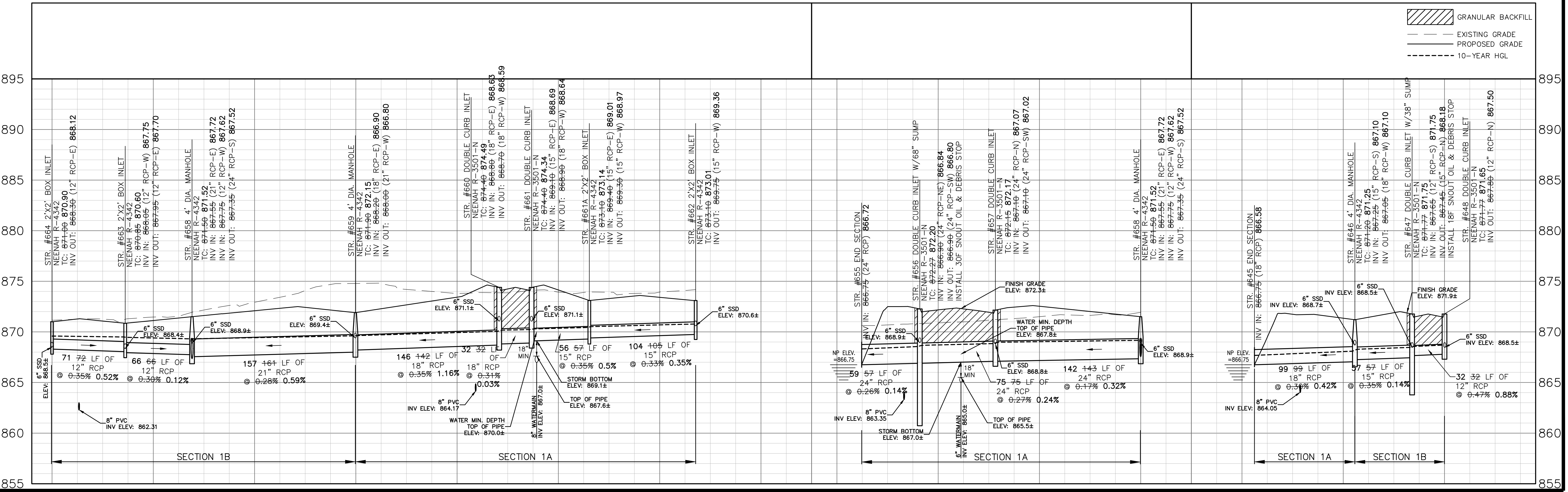
**STORM SEWER STRUCTURE DATA TABLE**

STR. #	TC	INV. IN (ELEV.)	INV. OUT (ELEV.)	PIPE IN DIA. (INCH)	PIPE OUT DIA. (INCH)	PIPE IN MATERIAL	PIPE OUT MATERIAL	STR. & CASTING TYPE	DETAIL REFERENCE	SPECIAL NOTES
645		866.75 (E)		18"		RCP		END SECTION	SEE DETAIL SHEET C8.3	
646	871.20	867.25 (S)	867.05 (W)	15"	18"	RCP	RCP	4" DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
647	871.77	867.65 (S)	867.45 (N)	12"	15"	RCP	RCP	DOUBLE CURB INLET W/38" SUMP NEENAH R-3501-N	SEE DETAIL SHEET C8.3	INSTALL 18" SNOOT, SEE DETAIL SHEET C8.2
648	871.77		867.80 (N)		12"		RCP	DOUBLE CURB INLET NEENAH R-3501-N	SEE DETAIL SHEET C8.3	
655		866.75 (NE)		24"		RCP		END SECTION	SEE DETAIL SHEET C8.3	
656	872.27	866.90 (NE)	866.90 (SW)	24"	24"	RCP	RCP	DOUBLE CURB INLET W/68" SUMP NEENAH R-3501-N	SEE DETAIL SHEET C8.3	INSTALL 30" SNOOT, SEE DETAIL SHEET C8.2
657	872.15	867.10 (N)	867.10 (SW)	24"	24"	RCP	RCP	DOUBLE CURB INLET NEENAH R-3501-N	SEE DETAIL SHEET C8.3	
658	871.50	867.55 (E)	867.35 (S)	21"	24"	RCP	RCP	4" DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
659	871.90	868.20 (E)	868.00 (W)	18"	21"	RCP	RCP	4" DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
660	874.40	868.80 (E)	868.70 (W)	18"	18"	RCP	RCP	DOUBLE CURB INLET NEENAH R-3501-N	SEE DETAIL SHEET C8.3	
661A	873.10	869.40 (E)	869.30 (W)	15"	15"	RCP	RCP	2'X2' BOX INLET NEENAH R-4342	SEE DETAIL SHEET C8.3	
661	874.40	869.10 (E)	868.90 (W)	15"	18"	RCP	RCP	DOUBLE CURB INLET NEENAH R-3501-N	SEE DETAIL SHEET C8.3	
662	873.10		869.75 (W)		15"		RCP	2'X2' BOX INLET NEENAH R-4342	SEE DETAIL SHEET C8.3	
663	870.85	868.05 (W)	867.95 (E)	12"	12"	RCP	RCP	2'X2' BOX INLET NEENAH R-4342	SEE DETAIL SHEET C8.3	
664	871.00		868.30 (E)		12"		RCP	2'X2' BOX INLET NEENAH R-4342	SEE DETAIL SHEET C8.3	



**Indiana 88**  
 KNOW WHAT'S BELOW.  
 CALL BEFORE YOU DIG.  
 Call 811 or 800-382-5544 Before you Dig!

**STORM PROFILE**  
 VERTICAL SCALE: 1" = 5'  
 HORIZONTAL SCALE: 1" = 50'



**REVISIONS**

DATE	DESCRIPTION	BY
07/07/17	REVISED PER TAC COMMENTS	DC
08/22/17	REVISED PER TAC COMMENTS & BID SET	DC
10/28/19	REVISED OUTFALL PIPE	KS
12/10/19	REVISED PER CLIENT COMMENTS	KS/DC
02/05/20	REVISED PER CLIENT COMMENTS, METRICS, SIGNAGE	KS/DC
03/11/20	REVISED PER TAC COMMENTS	KS
07/07/20	REVISED WATER QUALITY UNITS	KS
10/29/20	RECORD DRAWINGS	MF

**HWC ENGINEERING**  
 INDIANAPOLIS - TERRE HAUTE  
 LAFAYETTE - MUNCIE - NEW ALBANY  
 www.hwceengineering.com

**BEAR CREEK SOUTH**

**STORM SEWER PLAN & PROFILE**

INDYANAPOLIS REGISTERED PROFESSIONAL ENGINEER  
 No. 10006075  
 DR. DANIEL T. BURTON

DRAWN BY: DC  
 CHECKED BY: BB  
 DATE: APRIL 21, 2017  
 SCALE: AS SHOWN  
 SHEET: C6.2

STORM SEWER PLAN & PROFILE

© 2017

**LEGEND:**

EXISTING	PROPOSED
(---) RIGHT-OF-WAY LINE	(---) RIGHT-OF-WAY LINE
(---) EASEMENT LINE	(---) EASEMENT LINE
(---) SETBACK LINE	(---) SETBACK LINE
(---) CENTERLINE	(---) CENTERLINE
(---) SWALE / FLOWLINE	(---) SWALE / FLOWLINE
(---) SUBSURFACE DRAIN	(---) SUBSURFACE DRAIN
(---) SANITARY SEWER	(---) SANITARY SEWER
(---) STORM SEWER	(---) STORM SEWER
(---) STORM CULVERT	(---) STORM CULVERT
(---) WATER MAIN	(---) WATER MAIN
(●) SANITARY MANHOLE	(●) SANITARY MANHOLE
(●) STORM MANHOLE	(●) STORM MANHOLE
(●) STORM INLET	(●) STORM INLET
(□) STORM END SECTION	(□) STORM END SECTION
(●) FIRE HYDRANT	(●) FIRE HYDRANT
(---) PROFILED PIPELINE	(---) PROFILED PIPELINE
EX - EXISTING	INV - INVERT ELEVATION
MH - MANHOLE	ST - STORM SEWER
RCP - REINFORCED CONCRETE PIPE	
TC - TOP OF CASTING GRADE	

- GENERAL NOTES:**
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
  - ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
  - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL UTILITY LOCATIONS BEFORE CONSTRUCTION BEGINS.
  - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL EXISTING ELEVATIONS BEFORE CONSTRUCTION BEGINS.
  - THE STORM SEWER SYSTEM SHALL BE CONSTRUCTED PER DESIGN SPECIFIED AND AS APPROVED BY THE CITY OF CARMEL ON THE FINAL APPROVED CONSTRUCTION PLANS. DEVIATIONS FROM THE APPROVED DESIGN SHALL ONLY BE PERMITTED DUE TO SPECIAL CIRCUMSTANCES OR DIFFICULTY DURING CONSTRUCTION AND WILL REQUIRE PRIOR FIELD APPROVAL FROM A DESIGNATED REPRESENTATIVE OF THE CITY OF CARMEL IN ADDITION TO SUPPLEMENTAL APPROVAL BY THE DESIGN ENGINEER. AN EXPLANATION OF ANY SUCH DEVIATION SHALL BE INCLUDED AS A REQUIREMENT ON AS-BUILT/RECORD DRAWINGS SUBMITTED FOR RELEASE OF PERFORMANCE GUARANTEES. APPROVED DESIGN SLOPES IDENTIFIED AS GENERATING VELOCITIES OF 2.5 FPS OR LESS OR 10 FPS OR GREATER (AT FULL FLOW CAPACITY) SHALL REQUIRE AS-BUILT CERTIFICATION AT THE TIME OF CONSTRUCTION, PRIOR TO BACKFILLING THE PIPE. THE CONTRACTOR IS INSTRUCTED TO AS-BUILT EACH SECTION OF STORM PIPE AS IT IS BEING INSTALLED TO ENSURE COMPLIANCE WITH THE DESIGN PLANS AND AS APPROVED BY THE CITY OF CARMEL.
  - NO EARTH DISTURBING ACTIVITY MAY COMMENCE WITHOUT AN APPROVED STORM WATER MANAGEMENT PLAN.
  - ALL STORMWATER DRAINAGE CASTINGS SHALL BE LABELED WITH ENVIRONMENTAL MESSAGING "DUMP NO WASTE"
  - ALL CONCRETE PIPE JOINTS SHALL BE CONTINUOUS O-RING RUBBER GASKET CONFORMING TO ASTM C 443
  - 18" OF VERTICAL SEPARATION MUST BE MAINTAINED FOR ALL UTILITY CROSSINGS.
  - FOR STORM SEWER BACKFILL SPECIFICATIONS, REFER TO STORM TRENCH DETAIL STANDARD DRAWING 10-31 ON SHEET C8.4.

**STORM SEWER STRUCTURE DATA TABLE**

STR. #	TC	INV. IN (ELEV.)	INV. OUT (ELEV.)	PIPE IN DIA. (INCH)	PIPE OUT DIA. (INCH)	PIPE IN MATERIAL	PIPE OUT MATERIAL	STR. & CASTING TYPE	DETAIL REFERENCE	SPECIAL NOTES
626		864.25 (NE)		30"		RCP		END SECTION	SEE DETAIL SHEET C8.3	
627	871.01	864.70 (E)	864.60 (SW)	30"	30"	RCP	RCP	6' DIA. DIVERSION MANHOLE NEENAH R-1772	SEE DETAIL SHEET C8.5	SEE DIVERSION MANHOLE DETAIL SHEET C8.3
628	869.50	865.05 (N)	864.95 (W)	30"	30"	RCP	RCP	5' DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
629	869.80	865.65 (N)	865.45 (S)	27"	30"	RCP	RCP	5' DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
630	870.20	866.05 (E)	865.85 (S)	24"	27"	RCP	RCP	5' DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
631	873.00	867.25 (NE)	867.15 (W)	24"	24"	RCP	RCP	4' DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
632	873.94	867.80 (NE)	867.60 (SW)	21"	24"	RCP	RCP	4' DIA. MANHOLE NEENAH R-3501-N	SEE DETAIL SHEET C8.5	
633	873.94	868.10 (NE)	868.00 (SW)	21"	21"	RCP	RCP	4' DIA. MANHOLE NEENAH R-3501-N	SEE DETAIL SHEET C8.5	
634	873.20	869.00 (N)	868.50 (SW)	15"	21"	RCP	RCP	4' DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.5	
635	873.20		869.70 (S)					2'-2" BOX INLET NEENAH R-4342	SEE DETAIL SHEET C8.3	



**BENCHMARK INFORMATION:**

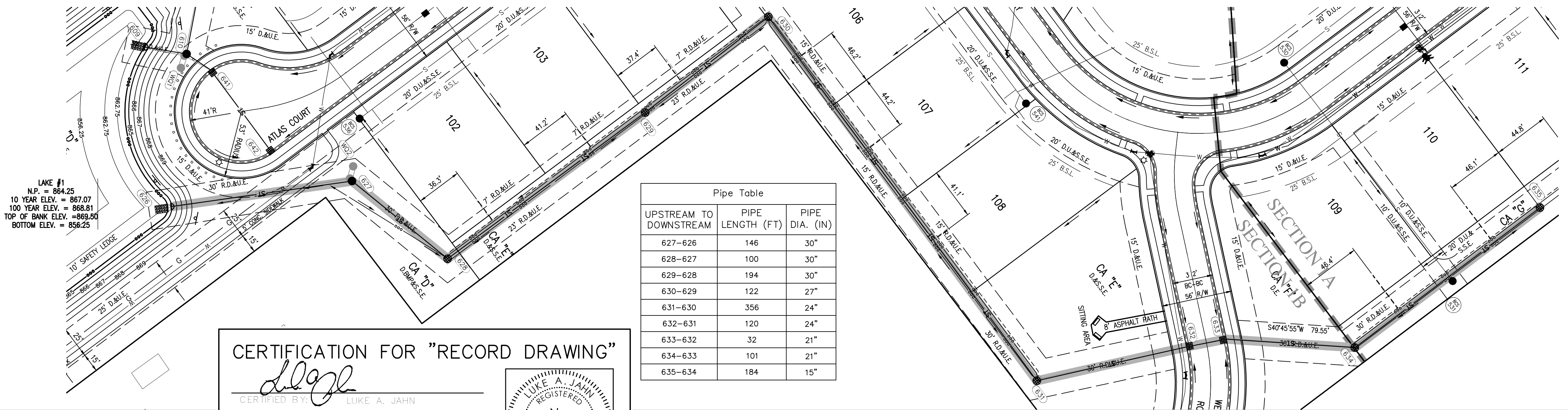
ORIGINATING BENCHMARK:  
 DEPARTMENT OF NATURAL RESOURCES (DNR) DISK, "HAM38", LOCATED ON THE NW CORNER OF BRIDGE OVER EAGLE CREEK ON 146TH ST.  
 ELEVATION: 869.76 (NAVD 88)

TBM #1:  
 SE BONNET BOLT OF FIRE HYDRANT LOCATED ON THE SOUTH SIDE OF THE ENTRANCE TO BEAR CREEK SUBDIVISION ON LITTLE EAGLE CREEK AVE  
 ELEVATION: 888.04 (NAVD 88)

TBM #2:  
 NORTH RIM OF SANITARY MANHOLE LOCATED APPROXIMATELY 188 FT SOUTH OF EVERGREEN TRAIL ALONG DENALI DR. AND APPROXIMATELY 40 FT WEST OF THE DENALI DR. CENTERLINE.  
 ELEVATION: 875.19 (NAVD 88)

TBM #3:  
 NORTH RIM OF SANITARY MANHOLE LOCATED APPROXIMATELY 188 FT SOUTH OF EVERGREEN TRAIL ALONG DENALI DR. AND APPROXIMATELY 432 FT WEST OF THE DENALI DR. CENTERLINE.  
 ELEVATION: 875.22 (NAVD 88)

HORIZONTAL INFORMATION:  
 STATE PLANE COORDINATES—EAST ZONE, NAD83



**Pipe Table**

UPSTREAM TO DOWNSTREAM	PIPE LENGTH (FT)	PIPE DIA. (IN.)
627-626	146	30"
628-627	100	30"
629-628	194	30"
630-629	122	27"
631-630	356	24"
632-631	120	24"
633-632	32	21"
634-633	101	21"
635-634	184	15"

**CERTIFICATION FOR "RECORD DRAWING"**

*LUKE A. JAHN*  
 CERTIFIED BY: LUKE A. JAHN  
 HWC ENGINEERING  
 135 N. PENNSYLVANIA STREET, SUITE 2800  
 INDIANAPOLIS, INDIANA 46204  
 (317) 347-3663 FAX (317) 347-3664

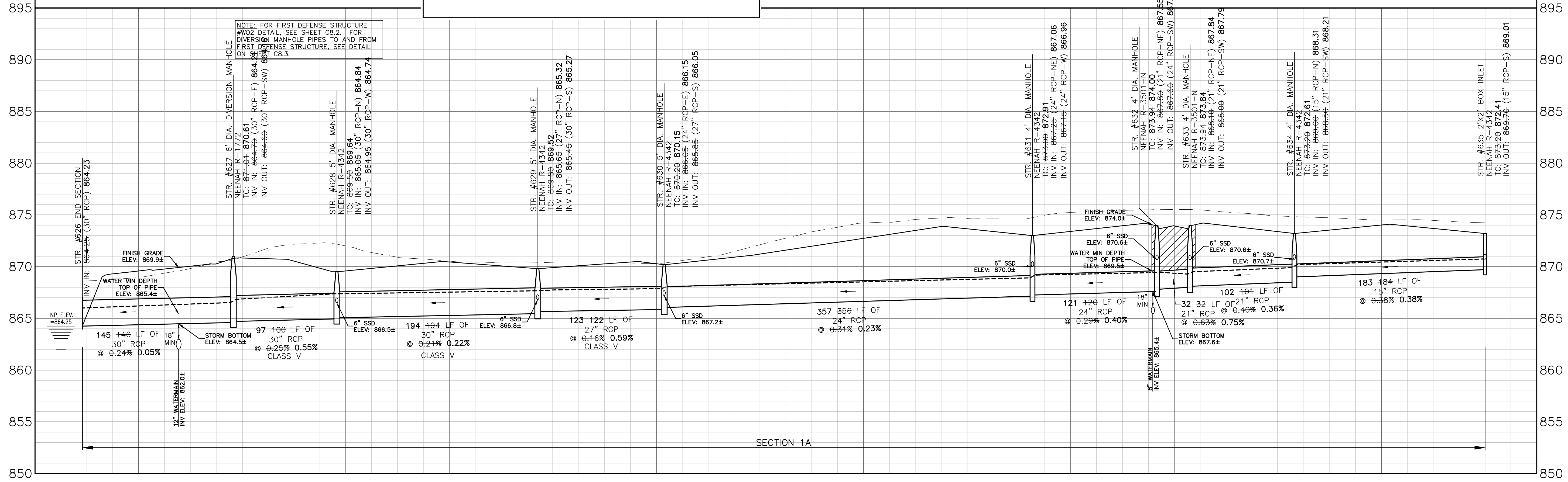
NOTE:  
 Record drawing certification only for top of casting, invert elevations and lengths of pipe. Slope percentage represents a calculated figure and is for general information only.

DATE: 11/11/2020

Professional Engineer Seal: LUKE A. JAHN, No. 20900171, STATE OF INDIANA

**STORM PROFILE**

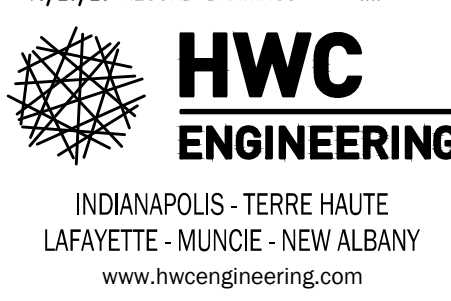
VERTICAL SCALE: 1" = 5'  
 HORIZONTAL SCALE: 1" = 50'



GRANULAR BACKFILL  
 EXISTING GRADE  
 PROPOSED GRADE  
 10-YEAR HGL

**REVISIONS**

DATE	DESCRIPTION	BY
07/07/17	REVISED PER TAC COMMENTS	DC
08/22/17	REVISED PER TAC COMMENTS & BID SET	DC
10/28/19	REVISED OUTFALL PIPE	KS
12/10/19	REVISED PER CLIENT COMMENTS	KS/DC
02/05/20	REVISED PER TAC COMMENTS, WELANDS, SIGNAGE	KS/DC
03/11/20	REVISED PER TAC COMMENTS	KS
07/07/20	UPDATED WATER QUALITY UNITS	KS
10/29/20	RECORD DRAWINGS	MF



**BEAR CREEK SOUTH**

**STORM SEWER PLAN & PROFILE**

**PROFESSIONAL ENGINEER**  
 LUKE A. JAHN  
 No. 20900171  
 STATE OF INDIANA

DRAWN BY: DC  
 CHECKED BY: BB  
 DATE: APRIL 21, 2017  
 SCALE: AS SHOWN  
 SHEET:

**C6.3**  
 STORM SEWER PLAN & PROFILE

JOB NUMBER: 20151-103  
 © 2017

**LEGEND:**

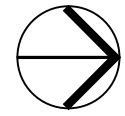
EXISTING	PROPOSED
---	--- RIGHT-OF-WAY LINE
---	--- EASEMENT LINE
---	--- SETBACK LINE
---	--- CENTERLINE
---	--- SWALE / FLOWLINE
---	--- SUBSURFACE DRAIN
---	--- SANITARY SEWER
---	--- STORM SEWER
---	--- STORM CULVERT
---	--- WATER MAIN
---	--- SANITARY MANHOLE
---	--- STORM MANHOLE
---	--- STORM INLET
---	--- STORM END SECTION
---	--- FIRE HYDRANT
---	--- PROFILED PIPELINE
---	--- EX - EXISTING
---	--- INV - INVERT ELEVATION
---	--- MH - MANHOLE
---	--- RCP - REINFORCED CONCRETE PIPE
---	--- TC - TOP OF CASTING GRADE

**STORM SEWER STRUCTURE DATA TABLE**

STR. #	TC	INV. IN (ELEV.)	INV. OUT (ELEV.)	PIPE IN DIA. (INCH)	PIPE OUT DIA. (INCH)	PIPE IN MATERIAL	PIPE OUT MATERIAL	STR. & CASTING TYPE	DETAIL REFERENCE	SPECIAL NOTES
601		863.75 (N)		24"		RCP	RCP	END SECTION	SEE DETAIL SHEET CB.3	
602	867.81	863.97 (N)	863.97 (S)	24"	24"	RCP	RCP	5' DIA. MANHOLE NEENAH R-1772	SEE DETAIL SHEET CB.3	
603	867.60	864.20 (N)	864.20 (S)	24"	24"	RCP	RCP	5' DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET CB.5	
604	867.50		864.25 (S)		24"		RCP	CONCRETE OUTLET CONTROL STRUCTURE	SEE DETAIL SHEET CB.5	

**Pipe Table**

UPSTREAM TO DOWNSTREAM	PIPE LENGTH (FT)	PIPE DIA. (IN)
602-601	233	24"
603-602	232	24"
604-603	58	24"



GRAPHIC SCALE



**GENERAL NOTES:**

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- 18" OF VERTICAL SEPARATION MUST BE MAINTAINED FOR ALL UTILITY CROSSINGS.
- FOR STORM SEWER BACKFILL SPECIFICATIONS, REFER TO STORM SEWER TRENCH DETAIL STANDARD DRAWING 10-31 ON SHEET CB.4.

**BENCHMARK INFORMATION:**

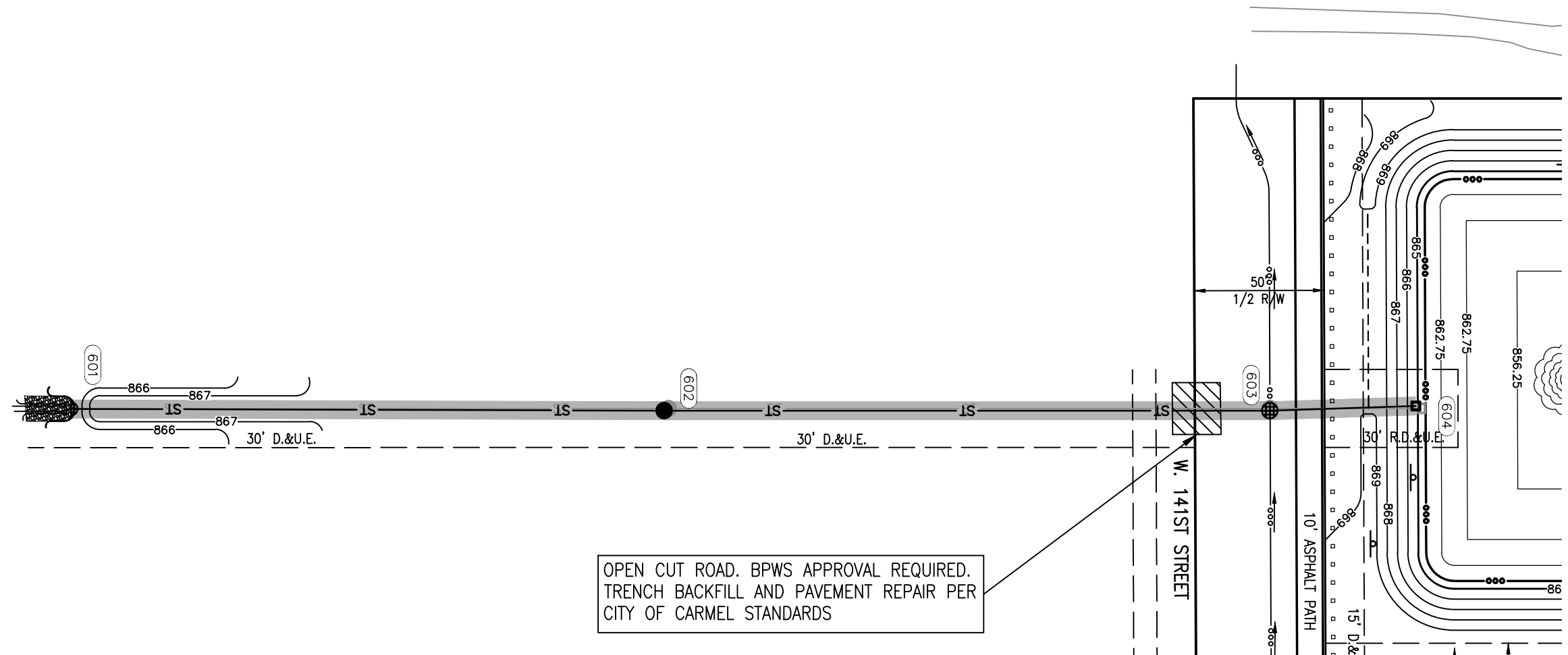
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SE BONNET BOLT OF FIRE HYDRANT LOCATED ON THE SOUTH SIDE OF THE ENTRANCE TO BEAR CREEK SUBDIVISION ON LITTLE EAGLE CREEK AVE  
ELEVATION: 888.04 (NAVD 88)

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ELEVATION: 875.19 (NAVD 88)

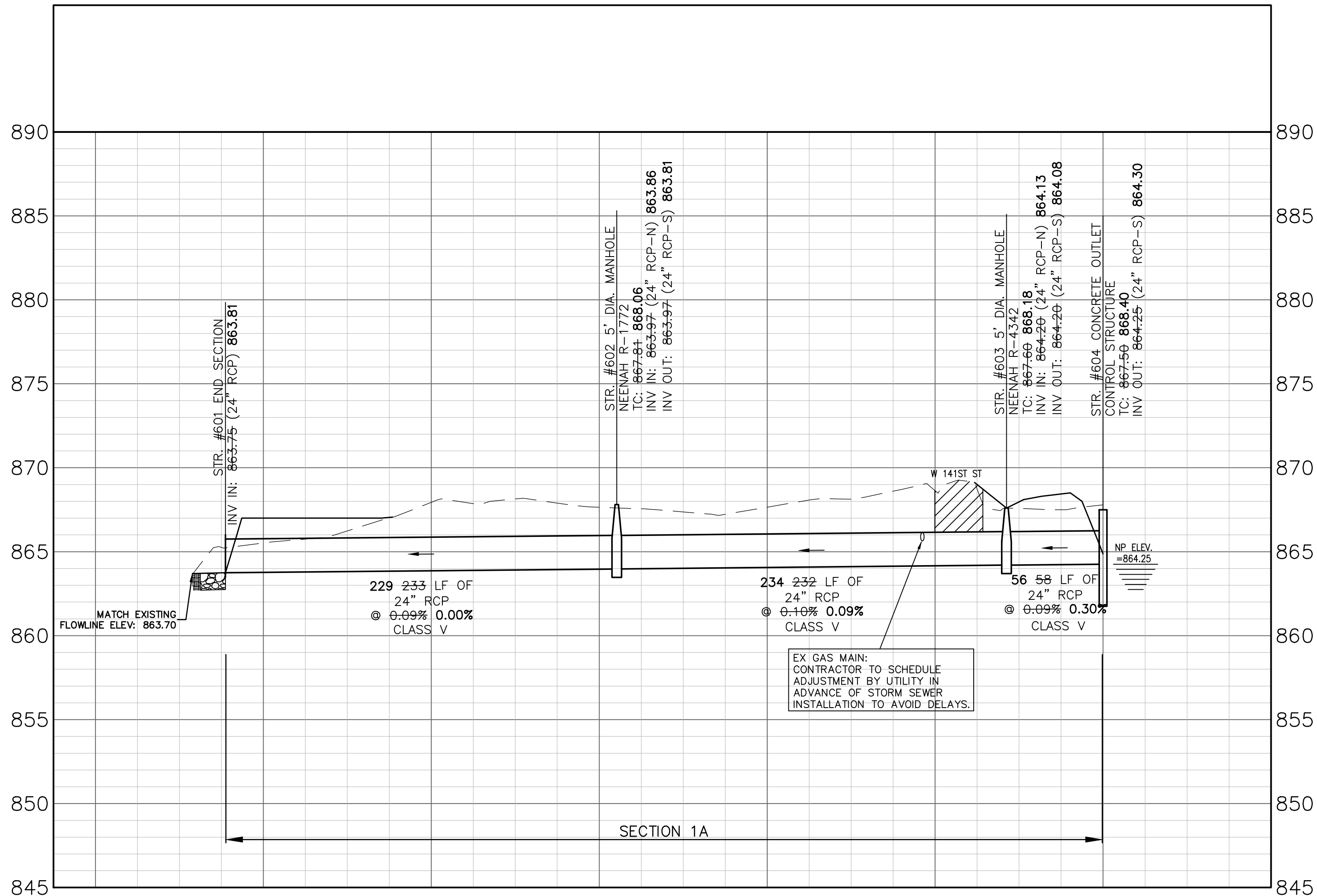
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ELEVATION: 875.22 (NAVD 88)

**HORIZONTAL INFORMATION:**  
STATE PLANE COORDINATES--EAST ZONE, NAD83



**STORM PROFILE**

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



GRANULAR BACKFILL  
 EXISTING GRADE  
 PROPOSED GRADE  
 10-YEAR HGL

**CERTIFICATION FOR "RECORD DRAWING"**

CERTIFIED BY: *Luke A. Jahn*

LUKE A. JAHN  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF INDIANA  
No. 20900171  
DATE: 11/11/2020

**HWC ENGINEERING**  
135 N. PENNSYLVANIA STREET, SUITE 2800  
INDIANAPOLIS, INDIANA 46204  
(317) 347-3663 FAX (317) 347-3664

NOTE: Record drawing certification only for top of casting, invert elevations and lengths of pipe. Slope percentage represents a calculated figure and is for general information only.

**REVISIONS**

DATE	DESCRIPTION	BY
07/07/17	REVISED PER TAC COMMENTS	DC
08/22/17	REVISED PER TAC COMMENTS & BID SET	DC
10/28/19	REVISED OUTFALL PIPE	KS
12/10/19	REVISED PER CLIENT COMMENTS	KS/DC
02/05/20	REVISED PER TAC COMMENTS, WEIR/LANES, SIGNAGE	KS/DC
03/11/20	REVISED PER TAC COMMENTS	KS
07/07/20	UPDATED WATER QUALITY UNITS	KS

**HWC ENGINEERING**  
INDIANAPOLIS - TERRE HAUTE  
LAFAYETTE - MUNCIE - NEW ALBANY  
www.hwceengineering.com

**BEAR CREEK SOUTH  
STORM SEWER PLAN & PROFILE**

DRAWN BY: DC  
 CHECKED BY: BB  
 DATE: APRIL 21, 2017  
 SCALE: AS SHOWN  
 SHEET: C6.4  
 STORM SEWER PLAN & PROFILE

JOB NUMBER: 2015-165