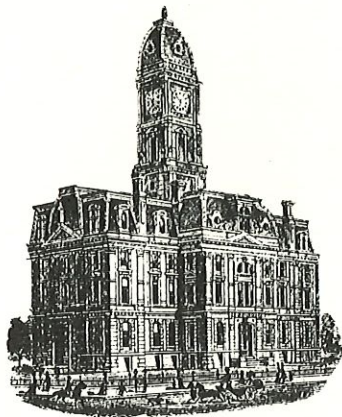


KCW



SURVEYOR'S OFFICE
Hamilton **C**ounty

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

September 28, 2018

TO: Hamilton County Drainage Board

RE: John Underwood Drain Reconstruction

This is an addendum to my report dated February 5, 2018. At the March 26, 2018 meeting of the Drainage Board the hearing for the above referenced reconstruction was approved (see Hamilton County Drainage Board Minutes Book 18, pages 78-86).

However, during the discussion at the hearing the Board wanted to place a future assessment on the drainage shed to recoup the costs of the work if those properties develop before a date 20 years from the completion date of the reconstruction. The deferred assessment rate is \$641.98 per acre for all properties within the drainage shed.

Attached to this addendum is the schedule of deferred assessments. The completion date of the reconstruction shall be the date of the Board's approval date of the Final Report of the Reconstruction.

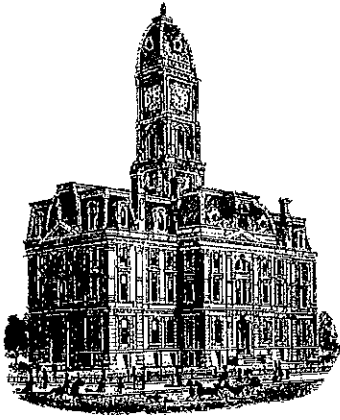
I recommend a hearing for the above deferred assessment be set for November 26, 2018.

Sincerely,

Kenton C. Ward, CFM
Hamilton County Surveyor

KCW/pll

RLW



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

February 5, 2018

To: Hamilton County Drainage Board

Re: John Underwood Drain Reconstruction Project

Attached are reconstruction plans, drainage map, and drainage shed map for the John Underwood Drain.

The portion of the John Underwood Drain to undergo reconstruction is located within the Thorpe Creek Watershed in Sections 20, 21 and 29 of Township 18 North, Range 6 East in Fall Creek Township of Hamilton County, Indiana.

The project runs upstream from the discharge point to Thorpe Creek at the southwest corner of the Barrington Estates Subdivision, then runs generally north and east, crossing under 136th Street, crossing under Interstate 69 and to the intersection of 146th Street and Atlantic Road at the eastern border of Hamilton County. The ditch continues into Madison County but the project ends at the County line.

HISTORY

The John Underwood Drain is part of the original Millard and Bell Drain. The Millard and Bell Drain was viewed on August 28, 1903 based on a petition recorded in Commissioners Record No. 29 Pages 566-587 of Madison County. The viewer's report is dated October 6, 1903. The drain was 17,700-lf in length consisting of 14,810-lf of various sized tile and 2,890-lf of open ditch. An Arm consisting of 1,686-lf of 8-inch tile starting at Station 80+20 of the main drain was included in the drain. The drain was constructed by order of the Hamilton County Commissioners on December 9, 1903 (See Hamilton County Commissioners Record Book 14, Pages 474-485).

A Viewers Report dated April 5, 1966 indicated that the John Underwood Drain was to be 17,575-lf in length and to consist of 6,795-LF of tiled ditch and 10,780-lf of open ditch. A Plan of the Bell and Humbles/John Underwood Drain dated March 17, 1967 indicated the John Underwood Drain was to be 10,782-lf of open ditch and 6,500-lf of tiled drain. This reconstruction project changed the Bell and Humbles Drain from tile drain to open ditch between Stations 57+50 and 148+10 representing a distance of 9,060-lf. The alignment of the John Underwood Drain in this section was different than the

original Bell and Humbles Drain and resulted in a longer length of 10,782-lf between the same points on the Bell and Humble Drain.

A maintenance report was presented to the Drainage Board at the meeting of April 17, 1972 requesting an assessment for maintenance of the John Underwood Drain stated to be a length of 10,782-lf of open drain (see Hamilton County Drainage Board Minutes Book 1, Page 82).

A petition to reconstruct the John Underwood Drain was presented to the Drainage Board at the meeting of April 16, 1979. The petition represented 72% of the land involved. (See Hamilton County Drainage Board Minutes Book 1, Page 304).

At the meeting of the Drainage Board on January 7, 1980, a report dated December 28, 1979 was presented to the Board based on the April 1979 petition. The report indicates that the petition represented 47% of the landowners in the Drainage Shed. The report requests that a maintenance program be established on the John Underwood Drain and on the Bell and Humbles Drain from Station 0+00 to Station 57+50. The report states that Station 148+10 to 177+00 of the Bell and Humbles Drain was unaffected by the maintenance or reconstruction program. The report also requests the formal vacation of the portion of the Bell and Humbles Drain between Stations 57+50 and 148+10 (approximately 9,060-lf) that was replaced with the 1969 reconstruction of the John Underwood Drain and vacation of the 1,686-LF tributary to the Bell and Humbles Drain. This request reduced the length of the Bell and Humbles Drain by 10,746-lf. (See Hamilton County Drainage Board Minutes Book 1, Page 334).

In a report dated February 4, 1980 presented to the Drainage Board at the meeting of February 4, 1980, a request was presented to increase the length of the John Underwood Drain a distance of 100-lf from Station 107+82. The report states that this distance is along Thorpe Creek and is needed to provide a connection for a continuous legal drain from the end of the John Underwood Drain at Station 107+82 to the Bell and Humbles Drain at Station 148+10. This extension would provide a continuous regulated drain 19,522-lf in length consisting of 13,722-lf of open ditch and 5,750-lf of tile. (See Hamilton County Drainage Board Minutes Book 1, Page 339).

The reconstruction of the John Underwood Drain was approved at hearing at the meeting of the Drainage Board on March 3, 1980. (See Hamilton County Drainage Board Minutes Book 1, Page 342). The project was let for construction to Taylor Excavating, Inc. at the meeting of the Drainage Board on April 7, 1980. (See Hamilton County Drainage Board Minutes Book 1, Page 350).

A report dated September 18, 1980 states that the reconstruction project was finished with the exception of a repair to a 12-inch CMP, seeding at two structures and grading for a rock chute. Notes in documentation in the Surveyors Office indicate that the John Underwood Drain was dredged a distance of 10,782-lf and that work on the open ditch also included various tile outlets and structures. The notes indicate that the length of the drain was not increased by 100-feet (as requested by the report dated February 4, 1980) between the end of the John Underwood Drain and Station 148+10 of the Bell Humbles as this length was part of the Martha Ford Drain.

A report dated April 9, 2002 presented to the Drainage Board at the meeting of May 28, 2002 requested the reconstruction of the Thorpe Creek regulated drain and the addition of the John Underwood Drain, and other Drains, to the Thorpe Creek Drainage Area. The report indicates that the open drain portion of the Bell and Humbles Drain between Stations 53+25 and 177+00 and between Stations 83+50 and 148+10 of the Thorpe Creek Drain are regulated as part of the John Underwood Drain. The report also states that: "The John Underwood Drain was originally constructed as the Bell and Humbles Drain. In 1969, the Bell and Humbles Drain was ordered reconstructed by the Hamilton County Circuit Court and named the John Underwood Drain. In 1980, the drain was again reconstructed and placed on a maintenance program. The drain consists of 10,782-lf of open drain. The open drain replaced approximately 10,746-lf of the Bell and Humbles tile drain." The report also requests work to be completed on the John Underwood Drain in the value of \$1,050.00. A report to the Board dated May 28, 2002 requested that this work be removed from the Thorpe Creek reconstruction project. The petition to reconstruct the Thorpe Creek regulated drain was denied. (See Hamilton County Drainage Board Minutes Book 6, Pages 343-356).

The John Underwood Drain was made an arm to the Thorpe Creek Drainage Area at hearing during the meeting of the Drainage Board on January 22, 2007. (See Hamilton County Drainage Board Minutes Book 10, Pages 35-36).

The following drain complaints and work orders are on file at the Hamilton County Surveyor's Office:

Drainage Complaints		
Issue	Date Received	Date completed
Water Backing Up	6/2/2006	10/5/2006
Holes in Tile	3/17/2006	10/16/2006
Hole	2/17/2009	2/18/2009
Blockage of Flow	3/11/2014	3/11/2014
Blowhole/Broken Outlet Pipe/Washed Area	3/27/2007	9/11/2007
Outlet Eroded	4/15/2008	4/16/2008
Blowhole	6/4/2010	10/12/2010
Hole at Culvert	6/2/2011	6/3/2011
Holes	5/8/2009	5/13/2009
Outlet Washed Out	3/12/2015	5/15/2015
Outlet Washed Out	4/28/2014	5/27/2014

There are no open drainage complaints on file.

Work Orders			
Type	Date Issued	Date Completed	Value
Holes in Tile	3/17/2006	8/7/2007	\$ 1,062.00
Outlet Washed Out	1/2/2015	2/25/2016	\$ 1,425.65
Outlet Washed Out	5/15/2015	2/25/2016	\$ 1,253.17

Outlet Eroded	1/5/2009	6/9/2009	\$ 5,921.15
Blockage of Flow	3/11/2014	8/5/2015	\$ 938.00
Hole	2/18/2009	4/28/2009	\$ 334.50

All the work orders have been completed to date.

EXISTING CONDITIONS

The open ditch portion of the drain has been visually inspected several times since approximately 2014. These inspections identified that the drain is overgrown with vegetation and that sediment has accumulated in the channel. This sediment compromises both the hydraulic capacity of the channel and the road crossings. The condition of the drain also limits (or prohibits) the capacity of private field tiles and the ability of these tiles to effectively drain the root zone of the adjacent agricultural lands. An adequately drained root zone relieves stress on plants and also provides aeration to the root system, which potentially increases production/yield of the acreage.

The drain is in close proximity to existing roadways at two locations. To increase safety to the motoring public, the drain should be moved away from the roadway at these two locations as part of the reconstruction project. The two areas are described in the "Reconstruction Project" section of this report.

A wetland delineation was performed by Aqua Terra for Banning Engineering and a report dated September 2015 was provided to the HCSO. The delineation identified two wetland areas within the vicinity of the project. The wetlands are indicated on the Construction Plans and are not impacted by the project.

A report by Banning Engineering dated November 2016 was provided to the HCSO. The report is on file with the HCSO. The report recommends that the open drain be dredged. The NOAA Atlas 14 hydraulic analysis performed by Banning determined that (1) the 136th Street Crossing will only pass runoff from the 5-year storm before overtopping; (2) that the Atlantic Road crossing will only pass runoff from the 10-year storm before overtopping; (3) that the open ditch generally passes runoff from between the 10-year and 25-year storm upstream of Interstate 69; (4) that the open ditch generally passes runoff from the 5-year storm between Interstate 69 and 136th Street; and (5) that the open ditch generally passes runoff from the 50-year storm downstream of 136th Street.

RECONSTRUCTION PROJECT

Banning Engineering has completed plans for the reconstruction of the John Underwood Drain. The project proposes to dredge the entire length of the open ditch from Station 0+00 to Station 107+82 of the 1967 description.

The length of the open ditch as surveyed by Banning Engineering and represented in the Reconstruction Plans is 10,553.25-feet in length. The field survey is used for the basis of developing the construction plans and may not have identified the true length of the drain. The difference of 228.75-feet between the field survey and the length of the drain on record represents approximately 2% of the 10,782-foot length of drain and the difference is considered negligible.

For the purposes of this report, the Reconstruction Plans are the basis for the referenced stationing.

The project will return the ditch to its original depth and configuration, restore the capacity of the ditch and open the drains from the adjacent agricultural fields. Reconstruction of the open ditch will consist of removing the accumulated sediment; the depths of which vary from several inches to almost 2-feet with the average being approximately 1-foot. With this work, the bottom of the ditch will be widened to consistent widths varying from 5-7 feet and 2:1 side slopes. Station 0+00 to Station 41+00 shall be 7-foot bottom width; Station 41+00 to 77+00 shall be 6-foot bottom width; and Station 77+00 to 105+33 shall be 5-foot bottom width. A consistent centerline grade (generally 0.14% - 0.15% slope with a segment where the grade will be 0.075%) will be established as work progresses. The excavated soil and debris will be side cast on the operational side, spread and leveled outside the limits of the proposed top of bank but within the limits of the regulated drain easement. All disturbed areas will be stabilized with seeding.

The project will include tree removal and clearing of debris. Clearing of trees will take place to facilitate an operational side for equipment access for the project and for future maintenance. The operational area will be planted with a 20-foot wide grass filter strip. Looking upstream, the operational side is proposed as follows:

1. Left side (North and West sides): Station 0+00 to approximately Station 40+40 [At the south right-of-way line of Interstate 69]
2. Each Side: Approximately Station 43+25 [At the north right-of-way line of Interstate 69] to the end of the open drain at Station 105+33.25.

Looking upstream, clearing is needed as follows:

1. Left side (West side) between Stations 81+00 and 81+75. Along this segment of the drain, all vegetation within the limits of the regulated drain easement on each side of the drain will be cleared in accordance with HCSO Detail OD-2.
2. Left Side (West side) between Stations 31+25 and 40+40. Along this segment of the drain, clearing will be Conservation Clearing in accordance with HCSO Detail OD-3 between the tops of bank and a distance of 30-feet from the top of bank on the operational side.
3. Left Side (West side) of the drain between Stations 0+00 and 7+25 and between Stations 12+75 and 13+00. Along this segment, there may be limited clearing on the operational side of the drain. Such clearing along this segment of the drain shall be Conservation Clearing in accordance with HCSO Detail OD-3 between the tops of bank and a distance of 30-feet from the top of bank on the operational side

Rip-Rap armoring will be placed at five locations along the drain. Two of the locations are where concentrated surface flows enter the drain from adjacent fields. Three are at bends in the drain. Rip-rap will also be placed at the outlet of the culverts that are being replaced.

Three existing culverts are being replaced. The existing dual 58"x75" CMP pipes at 136th Street are being replaced with a single 91"x142" CMP Pipe Arch. The existing 48" CMP culvert at Atlantic Road is being replaced with a 60" CMP. These culverts are undersized and need to be increased in size to reduce potential for roadway overtopping and to match the new grade of the bottom of the drain. The culvert under Interstate 69 will not be affected by this project.

Approximately 83-LF of existing regulated drain between the end of the open ditch and under 146th Street on the east side of Atlantic Road will be replaced with new 24-inch RCP and a breather installed at the end of the 24-inch RCP on the north side of 146th Street.

The work between Station 43+00 and Station 52+00 shall be limited to clearing and filter strip installation only. There shall be no dredging or ditch work between Station 43+00 and 52+00.

Between Station 52+00 and 55+00 the work shall include installation of filter strip and widening of the channel bottom to 6-feet with associated bank work. The grade of the channel bottom between these stations shall not be altered by this project.

The construction plans include the installation of a filter strip on the western side of the drain between Station 43+00 and Station 60+25. The existing riparian buffer between these stations will remain in place at this time. In the event that this area is cleared in the future by the HCSO or the property owner the filter strip will be installed at that time.

Two segments of the regulated drain will be relocated to improve the clear zone available from the adjacent roadways. The first segment is on the north side of 136th Street between Stations 15+98.22 and 25+93.48. The current length of this segment of the drain is 995.26-feet which will be reduced 8.24-feet to 987.02-feet by the relocation. The second segment is on the south side of 146th Street between Stations 94+89.03 and 105+33.25. The current length of this segment of the drain is 1,044.22-feet which will be reduced 12.86-feet to 1,031.36-feet by the relocation. Soil from the excavation of the new channel will be placed within the limits of the former channel.

With the exception of the two locations noted above, the drain is being reconstructed in place.

The hydraulic analysis by Banning outlined in the November 2016 report indicates that the proposed project will generally carry the runoff from the 10-year storm.

PERMITS

Per a letter dated June 25, 2015 from the IDNR, an IDNR Construction in the Floodway permit is not required as the Drain is less than 10 miles in length.

Per a letter dated June 25, 2015 from the IDNR, an IDNR Ditch Reconstruction permit is not required as the work is not within one half (1/2) mile or a freshwater lake 10-acres or more in size.

Per a letter dated May 16, 2017 from the IDNR, there are no endangered, threatened or rare (ETR) species, high quality natural communities or natural areas within ½-mile of the project area.

A Rule 5 permit is not required as the project is exempt based on the work being maintenance activity.

Per a letter dated August 21, 2017 from the U.S. Army Corps of Engineers, the project is not subject to regulation under Section 404 of the Clean Water Act and is authorized under the Regional General Permit issued December 15, 2014.

An IDEM Individual Section 401 Water Quality Certification was issued in a letter dated August 15, 2017.

EASEMENTS

The reconstruction project of this drain will not require acquisition of new easement. All work will occur within the existing 75 foot easement from the top of bank per IC 36-9-27-33.

CHANGES TO THE DRAIN

The John Underwood Drain currently consists of 10,782-lf of open drain and the Bell and Humbles Arm consisting of 2,900-lf of 10-inch tile and 2,867-lf of 12-inch tile and is a total length of 16,549-lf.

Due to the two relocations, the length of the drain will be reduced by 21.10-feet.

83-lf of the existing 12-inch tile on the Bell and Humbles Arm will be replaced with 83-lf of 24-inch RCP.

The final length of the drain will be 16,528-feet consisting of 10,761-feet of open drain; 83-feet of 24-inch RCP; 2,784-feet of 12-inch tile; and 2,900-feet of 10-inch tile.

QUANTITIES & COST ESTIMATE

Banning Engineering, PC was hired by approval of a Professional Services Agreement in the amount of \$39,900.00 for design, construction staking and as-built drawings on November 24, 2014 per Hamilton County Drainage Board Book 16 Page 48-49. Banning Engineering, PC was also hired to provide a wetland delineation in the amount of \$4,500.00 on August 24, 2015 per Hamilton County Drainage Board Book 16 Page 288-289. Banning was also hired to provide design services for the two ditch relocations in the amount of \$12,900.00 on January 25, 2016 per Hamilton County Drainage Board Book 16 Page 426-427. The total for professional services is \$57,300.00.

The construction cost estimate for the project is outlined in detail as follows:

Drain Work

Description	Quantity	Unit	Unit Price	Amount
Clearing	1	LS	\$ 28,000.00	\$ 28,000.00
Seeding Channel Banks	7	AC	\$ 1,485.00	\$ 10,395.00
Seeding Filter Strips	8.5	AC	\$ 2,400.00	\$ 20,400.00
Excavate 5' Bottom Channel	1757	LF	\$ 6.50	\$ 11,420.50
Excavate 6' Bottom Channel	3600	LF	\$ 7.50	\$ 27,000.00
Excavate 7' Bottom Channel	2984	LF	\$ 8.50	\$ 25,364.00
4" Drain Outlet	5	EA	\$ 375.00	\$ 1,875.00
6" Drain Outlet	8	EA	\$ 425.00	\$ 3,400.00
8" Drain Outlet	7	EA	\$ 560.00	\$ 3,920.00

10" Drain Outlet	8	EA	\$ 610.00	\$ 4,880.00
12" Drain Outlet	7	EA	\$ 660.00	\$ 4,620.00
15" Drain Outlet	2	EA	\$ 745.00	\$ 1,490.00
18" Drain Outlet	3	EA	\$ 800.00	\$ 2,400.00
21" Drain Outlet	1	EA	\$ 955.00	\$ 955.00
24" Drain Outlet	1	EA	\$ 1,100.00	\$ 1,100.00
30" Drain Outlet	1	EA	\$ 1,325.00	\$ 1,325.00
Tile Hole Repair and New Outlet	1	LS	\$ 1,075.00	\$ 1,075.00
Collapse and Plug 20' Existing Tile	1	LS	\$ 1,600.00	\$ 1,600.00
Channel Relocation A (Includes ECB) along 136 th Street	987	LF	\$ 37.25	\$ 36,765.75
Channel Relocation B (Includes ECB) along 146 th Street	1,031	LF	\$ 37.25	\$ 38,404.75
Undistributed Rip-Rap	1,812	LF	\$ 47.75	\$ 86,523.00
Rip-Rap (As Shown on Plans)	148	TON	\$ 80.00	\$ 11,840.00
			Subtotal	\$324,753.00
			15% Contingency	\$ 48,712.95
			Total	\$373,465.95

Highway Work

Hamilton County Highway [136 th Street]				
Description	Quantity	Unit	Unit Price	Amount
91"H x 142" W CMP Pipe Arch	136	LF	\$ 650.00	\$ 88,400.00
Undistributed Riprap	295	LF	\$ 47.75	\$ 14,086.25
Pavement Repair	1	EA	\$ 8000.00	\$ 8,000.00
			Subtotal	\$ 110,486.25
			15% Contingency	\$ 16,572.94
			Total	\$ 127,059.19
Noblesville [146 th Street and Atlantic Road]				
Description	Quantity	Unit	Unit Price	Amount
60" CMP under Atlantic Road	45	LF	\$ 215.00	\$ 9,675.00
Undistributed Riprap	493	LF	\$ 47.75	\$ 23,540.75
Pavement Repair	1	EA	\$ 8000.00	\$ 8,000.00
			Subtotal	\$ 41,215.75
			15% Contingency	\$ 6,182.36
			Total	\$ 47,398.11
Madison County				
Description	Quantity	Unit	Unit Price	Amount
24" RCP	83	LF	\$ 80.00	\$ 6,640.00
CMP Breather	1	EA	\$ 1000.00	\$ 1,000.00

Pavement Repair	1	EA	\$ 8000.00	\$ 8,000.00
			Subtotal	\$ 15,640.00
			15% Contingency	\$ 2,346.00
			Total	\$ 17,986.00

The total construction cost for this project is estimated to be \$565,909.25.

The total cost of this project is estimated to be \$623,209.25.

PROJECT FUNDING

The cost of the new culvert under 136th Street shall be paid by the Hamilton County Highway Department per IC 36-9-27-71. The lump sum cost to be charged to the Hamilton County Highway Department will be \$127,059.19.

The cost for the new culvert under Atlantic Road shall be paid by the City of Noblesville per IC 36-9-27-71. The lump sum cost to be charged to the City of Noblesville will be \$47,398.11.

The cost for the new pipe under 146th Street and the new breather within Madison County shall be paid by the Madison County Highway Department per IC 36-9-27-71. The lump sum cost to be charged to the Madison County Highway Department will be \$17,986.00.

As stated above in this report there are two sections of ditch that is to be relocated out of the right of way. One along 136th Street and one along 146th Street. Upon development of these properties the developer would be responsible for the relocation. I propose the owners of the property affected be billed for this work as a deferred assessment and that the entire payment be made when the first section of any development of that property is recorded. Those properties and costs are as follows:

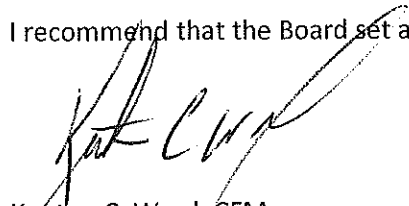
15852 136 th Street LLC	13-12-20-00-00-012.000	\$42,280.61
Sarah S. Trustee of Sarah Waltigney	13-12-20-00-00-005.000	\$44,165.46

The remaining \$373,465.95 will be paid from the Thorpe Creek Watershed maintenance fund. The maintenance fund balance for the Thorpe Creek Watershed is currently \$491,651.88. The Thorpe Creek Watershed maintenance fund currently receives \$99,702.54 annually from maintenance assessments. The Martha Ford Drain reconstruction project is a concurrent project that is proposed to be funded from the Thorpe Creek Watershed Maintenance Fund. The hearing for the Martha Ford Drain reconstruction was held during the January 22nd meeting of the Drainage Board at which time the project was tabled. The cost of the Martha Ford project is estimated to be \$247,490.75. If the Martha Ford project is approved at a later date in 2018 or beyond, the funding for the project is planned to be taken from the Thorpe Creek Watershed maintenance fund. Also, the balance in the Thorpe Creek Watershed maintenance fund will be \$244,161.13. This balance is less than the balance needed to fund the balance of the John Underwood Reconstruction project and will be taken from the General Drain Improvement Fund. However, the Thorpe Creek Watershed maintenance fund will receive adequate funds from the maintenance assessments in 2018 and 2019 to fully fund the project.

I have reviewed the benefitted drainage shed and upon considering each parcel individually, I believe each parcel within the drainage shed will have equal benefits as provided by the drain.

No additional easements are required for this project. I believe that no damages will result to the landowners by the reconstruction of this drain. Damages are set a zero (0).

I recommend that the Board set a hearing for this proposal on March 26, 2018.

A handwritten signature in black ink, appearing to read 'Kenton C. Ward', is written over the printed name below.

Kenton C. Ward, CFM
Hamilton County Surveyor

KCW/pll

STATE OF INDIANA)
) ss:
COUNTY OF HAMILTON)

BEFORE THE HAMILTON COUNTY
DRAINAGE BOARD
NOBLESVILLE, INDIANA

IN THE MATTER OF THE
RECONSTRUCTION OF THE
John Underwood Drain Reconstruction

FINDINGS AND ORDER FOR RECONSTRUCTION

The matter of the proposed Reconstruction of the **John Underwood Drain Reconstruction** came before the Hamilton County Drainage Board for hearing **on November 26, 2018**, on the Reconstruction Report consisting of the report and the Schedule of Damages and Assessments. The Board also received and considered the written objection of an owner of certain lands affected by the proposed Reconstruction, said owner being:

Evidence was heard on the Reconstruction Report and on the aforementioned objections.

The Board, having considered the evidence and objections, and, upon motion duly made, seconded and unanimously carried, did find and determine that the costs, damages and expenses of the proposed Reconstruction will be less than the benefits accruing to the owners of all land benefited by the Reconstruction.

The Board having considered the evidence and objections, upon motion duly made, seconded and unanimously carried, did adopt the Schedule of Assessments as proposed, subject to amendment after inspection of the subject drain as it relates to the lands of any owners which may have been erroneously included or omitted from the Schedule of Assessments.

The Board further finds that it has jurisdiction of these proceedings and that all required notices have been duly given or published as required by law.


Wherefore, it is ORDERED, that the proposed Reconstruction of the **John Underwood Drain Reconstruction** be and is hereby declared established.

Thereafter, the Board made inspection for the purpose of determining whether or not the lands of any owners had been erroneously included or excluded from the Schedule of Assessments. The Board finds on the basis of the reports and findings at this hearing as follows:

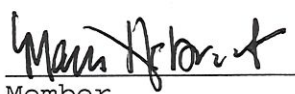
HAMILTON COUNTY DRAINAGE BOARD



PRESIDENT




Member



Member

ATTEST:



Executive Secretary

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD
IN THE MATTER OF

Thorpe Creek Drain, John Underwood Arm Reconstruction

NOTICE

To Whom It May Concern and: _____

Notice is hereby given of the hearing of the Hamilton County Drainage Board concerning the reconstruction of the **Thorpe Creek Drain, John Underwood Arm Reconstruction** on **November 26, 2018** at **9:00 A.M.** in Commissioners Court, Hamilton County Judicial Center, One Hamilton County Square, Noblesville, Indiana. Construction and maintenance reports of the Surveyor and the Schedule of Assessments proposed by the Drainage Board have been filed and are available for public inspection in the office of the Hamilton County Surveyor.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY

OFFICE OF
HAMILTON COUNTY DRAINAGE BOARD
 October 26, 2018

RETURNED
NOV 13 2018

Notice of Hearing on Reconstruction & Schedule of Assessments and Damages on the **John Underwood Drain (Addendum)**.

BKKB Investments LLC
 15160 Creekridge Ln
 Mc Cordsville, IN 46055

Under the Indiana Drainage Code, all land which drains directly, or indirectly, may be assessed for either maintenance cost or reconstruction cost within the drain. In making the calculation for each parcel, the Drainage Board must calculate the percentage of the cost attributable to each parcel of land benefitted. The Drainage Board has received a reconstruction report and schedule of assessments which affects your land. The purpose of the reconstruction project is to perform work which will substantially improve the drainage for the entire watershed served by the drain.

You are hereby notified that the reconstruction report of the County 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 County Surveyor. The chart below contains your proposed assessment and your percentage of the total reconstruction assessment.

The reconstruction report of the Surveyor and schedule of damages and benefits as determined by the Drainage Board for the proposed improvement known as the **John Underwood Drain (Addendum)** have been filed and are available for inspection in the office of the County Surveyor. The schedule of assessments shows the following lands in your name are affected as follows. This assessment is not a charge for services associated with regulating the quality of storm water within your city or town.

Parcel: 13-12-19-00-00-035.000	Benefit	Maintenance Assessment	Damages	Reconstruction Assessment	% of Total	Deferred Assessment
S19 T18 R6 35.46Ac	10.96	*	Zero	*	1.13%	\$7,036.10

*No change in current **maintenance** assessment. **Reconstruction** cost to be paid by Hamilton County Highway, Town of Lapel & City of Noblesville and remainder from the Thorpe Creek maintenance fund. Upon the development of the above listed parcel the owner of the property will be billed a **Deferred** Assessment and the entire payment to be made when the first section of any development of the property is recorded.

A deferred assessment is being placed on the un-platted parcels within the John Underwood Drain.

The hearing on the Surveyor's reconstruction report and on the schedules of damages and assessments are set for hearing at **9:00 A.M. on November 26, 2018**, in the Commissioner's Court. The law provides that objections must be written and filed not less than 5 days before the date of the hearing. Objections may be for causes as specified by law and which are available at the Surveyor's Office. Written evidence in support of objections may be filed. The failure to file objections constitutes a waiver of your right to thereafter object, either before the Board or in court on such causes, to any final action of the Board. On or before the day of the hearing before the Board, the Surveyor shall and any owner of affected lands may cause written evidence to be filed in support of or in rebuttal to any filed objections.

HAMILTON COUNTY DRAINAGE BOARD
 One Hamilton County Square, Ste. 188
 Noblesville, IN 46060-2230

For a copy of the Surveyor's Report to the Drainage Board and a copy of the map, if applicable, please go to www.hamiltoncounty.in.gov/drainageboardnotices.

OFFICE OF
HAMILTON COUNTY DRAINAGE BOARD
 October 26, 2018

RE TURNED
)
DEC 10 2018

Notice of Hearing on Reconstruction & Schedule of Assessments and Damages on the **John Underwood Drain (Addendum)**.

Solhan, Mary A
 5243 N Meridian St
 Indianapolis, IN 46208

Under the Indiana Drainage Code, all land which drains directly, or indirectly, may be assessed for either maintenance cost or reconstruction cost within the drain. In making the calculation for each parcel, the Drainage Board must calculate the percentage of the cost attributable to each parcel of land benefitted. The Drainage Board has received a reconstruction report and schedule of assessments which affects your land. The purpose of the reconstruction project is to perform work which will substantially improve the drainage for the entire watershed served by the drain.

You are hereby notified that the reconstruction report of the County 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 County Surveyor. The chart below contains your proposed assessment and your percentage of the total reconstruction assessment.

The reconstruction report of the Surveyor and schedule of damages and benefits as determined by the Drainage Board for the proposed improvement known as the **John Underwood Drain (Addendum)** have been filed and are available for inspection in the office of the County Surveyor. The schedule of assessments shows the following lands in your name are affected as follows. This assessment is not a charge for services associated with regulating the quality of storm water within your city or town.

Parcel: 13-12-19-00-00-037.000	Benefit	Maintenance Assessment	Damages	Reconstruction Assessment	% of Total	Deferred Assessment
S19 T18 R6 8.71Ac	8.71	*	Zero	*	0.90%	\$5,591.66
*No change in current maintenance assessment. Reconstruction cost to be paid by Hamilton County Highway, Town of Lapel & City of Noblesville and remainder from the Thorpe Creek maintenance fund. Upon the development of the above listed parcel the owner of the property will be billed a Deferred Assessment and the entire payment to be made when the first section of any development of the property is recorded.						
A deferred assessment is being placed on the un-platted parcels within the John Underwood Drain.						

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STATE OF INDIANA)
) SS BEFORE THE HAMILTON
)
COUNTY OF HAMILTON) DRAINAGE BOARD

**IN THE MATTER OF Thorpe Creek Drain, John Underwood Arm
Reconstruction**

NOTICE

Notice is hereby given that the Hamilton County Drainage Board at its regular meeting **November 26, 2018** adopted the reconstruction report of the Surveyor and the Amended Schedule of damages and assessments including annual assessment for periodic maintenance, finding that the costs, damages and expense of the proposed improvement would be less than the benefits which will result to the owner of lands benefited thereby.

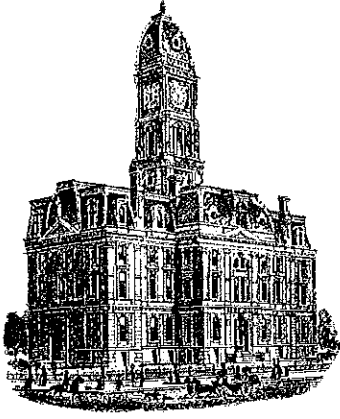
The Board issued an order declaring the proposed improvement established. Such findings and order were marked filed and are available for inspection in the Office of the Hamilton County Surveyor.

If judicial review of the findings and order of the Board is not requested pursuant to Article VIII of the 1965 Indiana Drainage Code as amended within twenty (20) days from the date of publication of this notice, the findings and order shall become conclusive.

HAMILTON COUNTY DRAINAGE BOARD

BY: Steven C. Dillinger
 PRESIDENT

ATTEST: Lynette Mosbaugh
 SECRETARY



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

February 26, 2020

TO: Hamilton County Drainage Board

RE: Thorpe Creek Drain, John Underwood Arm Reconstruction Final Report

This is the Inspector's Final Report on the Thorpe Creek Drain, John Underwood Arm Reconstruction located in Sections 20, 21 & 29, Township 18 North, Range 6 East in Fall Creek Township, Hamilton County, Indiana.

At the March 26, 2018 meeting of the Hamilton County Drainage Board the hearing for the Thorpe Creek Drain, John Underwood Arm Reconstruction was held and the Surveyor's Report dated February 5, 2018 was approved and the Findings and Orders signed (HCDB Minute Book 18, Pages 78 – 86).

At the November 26, 2018 meeting of the Hamilton County Drainage Board a new hearing for the Thorpe Creek Drain, John Underwood Arm Reconstruction was held and the Board approved deferred assessments for the reconstruction through future assessments. The Surveyor's Report dated February 5, 2018 was amended and approved and the Findings and Orders signed (HCDB Minute Book 18, Pages 303 – 308).

At the February 11, 2019 meeting of the Hamilton County Drainage Board the contract for the Thorpe Creek Drain, John Underwood Arm Reconstruction was awarded to Morphe Construction for \$438,000.00 (HCDB Minute Book 18, Page 359).

The Surveyor's report to increase Lapel's amount for drain work in Madison County was presented to the Board on February 24, 2020. The original cost estimate for this work was \$17,986.00. Changes made the actual cost for the work done in Madison County for Lapel cost \$30,472.50 which was an increase of \$12,486.50 for the Town of Lapel. The Board tabled the hearing increase at the meeting until verification of Lapel's acknowledgement of the increase (HCDB Minute Book 19, Pages 152 -153). At the March 9, 2020 of the Hamilton County Drainage

Board Meeting the hearing increase was approved by the Board (HCDB Minute Book 19, Page number not assigned).

The cost estimate for the Thorpe Creek Drain, John Underwood Arm Reconstruction was \$565,909.25.

The Thorpe Creek Drain, John Underwood Arm reconstruction consisted of 8341 of dredging, relocating two segments of the drain away from public road right-of-way, culvert and tile replacement under 136th and 146th Streets, multiple private tile extensions, implementation of erosion control measures on the project, leveling of spoil material from the dredging and seeding.

During the reconstruction of the John Underwood Drain no significant changes were made to the original Banning design of the drain. There were Three (3) Change Orders on this project for additional work or field revision on the project as allowed by IC 36-9-27-80.5. Those change orders are as follows.

Change Order # 1 - Approved July 22, 2019 (HCDB Minute Book 18, Page 536)

Installed 6 – 21 Inch CMP Outlet Pipes
 Total Cost of Change Order # 1 \$7,800.00

Change Order # 2 - Approved August 26, 2019 (HCDB Minute Book 18, Page 581)

Supp UP 18" Repair 44' \$3,960.00
 Put in 1 additional 15" Drain Outlet \$1,200.00
 Put in additional 18' of 24" RCP \$2,916.00
 Total Cost of Change Order # 2 \$8,706.00

Change Order # 3 - Approved November 25, 2019 (HCDB Minute Book 19, Page 17)

Supp UP 18" Repair 36' \$3,240.00
 Additional Common Excavation \$16,990.56
 Additional Earthwork \$16,559.76
 Additional 86.86 Yards Rip Rap \$6,948.80
 Total Cost of Change Order # 3 \$43,739.12

The following items were not billed for on the contract and therefore their costs were deducted from the contract with this Change Order.

5 – 4" Drain Outlet	\$4,500.00
4 – 6" Drain Outlet	\$3,800.00
5 – 8" Drain Outlet	\$5,000.00
3 – 10" Drain Outlet	\$3,120.00
1 – 12" Drain Outlet	\$1,200.00
3 – 18" Drain Outlet	\$3,900.00
1 – 30" Drain Outlet	\$1,600.00

Undistributed Rip Rap (295 LF)	\$2,950.00
Undistributed Rip Rap (1812 LF)	\$18,120.00
Undistributed Rip Rap (493)	\$4,930.00
Pavement Repair	<u>\$2,750.00</u>
Total Cost of Deductions	<u>(-\$51,870.00)</u>
Total Deductions of Change Order #3	<u>(-\$8,130.88)</u>

The following is a breakdown of all payments associated with the Thorpe Creek Drain, John Underwood Arm Reconstruction.

Pay Application # 1 Total	\$185,663.45
Retainage	<u>\$27,849.52</u>
Amount Paid to Morphey Construction (07/09/19)	\$157,813.93
Pay Application # 2 Total	\$141,839.75
Retainage	<u>\$21,275.96</u>
Amount Paid to Morphey Construction (08/13/19)	\$120,563.79
Pay Application # 3 Total	\$40,010.00
Retainage	<u>\$6,001.50</u>
Amount Paid to Morphey Construction (09/10/19)	\$34,008.50
Pay Application # 4 Total	\$78,231.92
Retainage	<u>\$11,734.79</u>
Amount Paid to Morphey Construction (12/10/19)	\$66,497.13
Pay Application # 5 Retainage (03/10/20)	<u>\$66,861.77</u>
Total of Pay Applications 1 - 5	\$445,745.12
Professional Services - Engineering/Staking/As-builts	<u>\$57,300.00</u>
Total Reconstruction Costs	\$503,045.12

The reconstruction of the Thorpe Creek Drain, John Underwood Arm Reconstruction was paid from the Thorpe Creek Drain Fund.

The cost estimate was \$623,209.25. The actual cost is as follows:

	Proposed	Actual
Construction Cost	\$373,465.95	\$323,438.12
Hamilton County (136 th St)	\$127,059.19	\$ 69,674.50
City of Noblesville (146 th St)	\$ 47,398.11	\$ 22,160.00
Town of Lapel (W 700 S)	<u>\$ 17,986.00</u>	<u>\$ 30,472.50</u>
Construction Total:	\$565,909.26	\$445,745.12
Engineering, Staking & As-builts	<u>\$ 57,300.00</u>	<u>\$ 57,300.00</u>

Grand Total: \$623,209.25 \$503,045.12

The assessment for the three roads has been certified in the amount of \$122,307 and will be collected with the regular reconstruction assessments. The settlement will be transferred into the Thorpe Creek maintenance fund since that is where the reconstruction was paid from.

To help recoup the remaining cost there has been a deferred assessment placed on the 50 parcels that aren't currently developed. The deferred assessment will be collected at the time the land is developed if before 20 years from completion of the reconstruction. The rate per acre to be collected is \$567.42 and could bring in \$380,739.08 from the 50 parcels. These collections are to be put back into the Thorpe Creek maintenance fund. Documents for Hamilton County and Madison County are yet to be recorded for the deferred assessments.

Statement of all Incurred Expenses Paid signed by the contractor as required in IC 36-9-27-82(b) was received on November 20, 2019.

Engineering, Construction Staking and As-built Drawings were done by Banning Engineering. As-built Drawings were submitted by Banning Engineering on January 31, 2020. Revised as-built drawings were approved by the Surveyor's Office on February 21, 2020. The as-built drawings are attached.

As of February 26, 2020, I hereby attest to and agree that the reconstruction was completed according to specified plans and have approved such work under IC 36-9-27-82(a). All inspections have been completed.

I recommend the Board approve the drains reconstruction as complete and acceptable.

Respectfully,

Jerry L. Liston
New Construction Inspector
Hamilton County Surveyor's Office

JOHN UNDERWOOD RECONSTRUCTION & MAINTENANCE

SEC. 20, 21, & 29-T18N-R6E, HAMILTON COUNTY, FALL CREEK TOWNSHIP
Zoned : R2, CCPD, & PUD-M

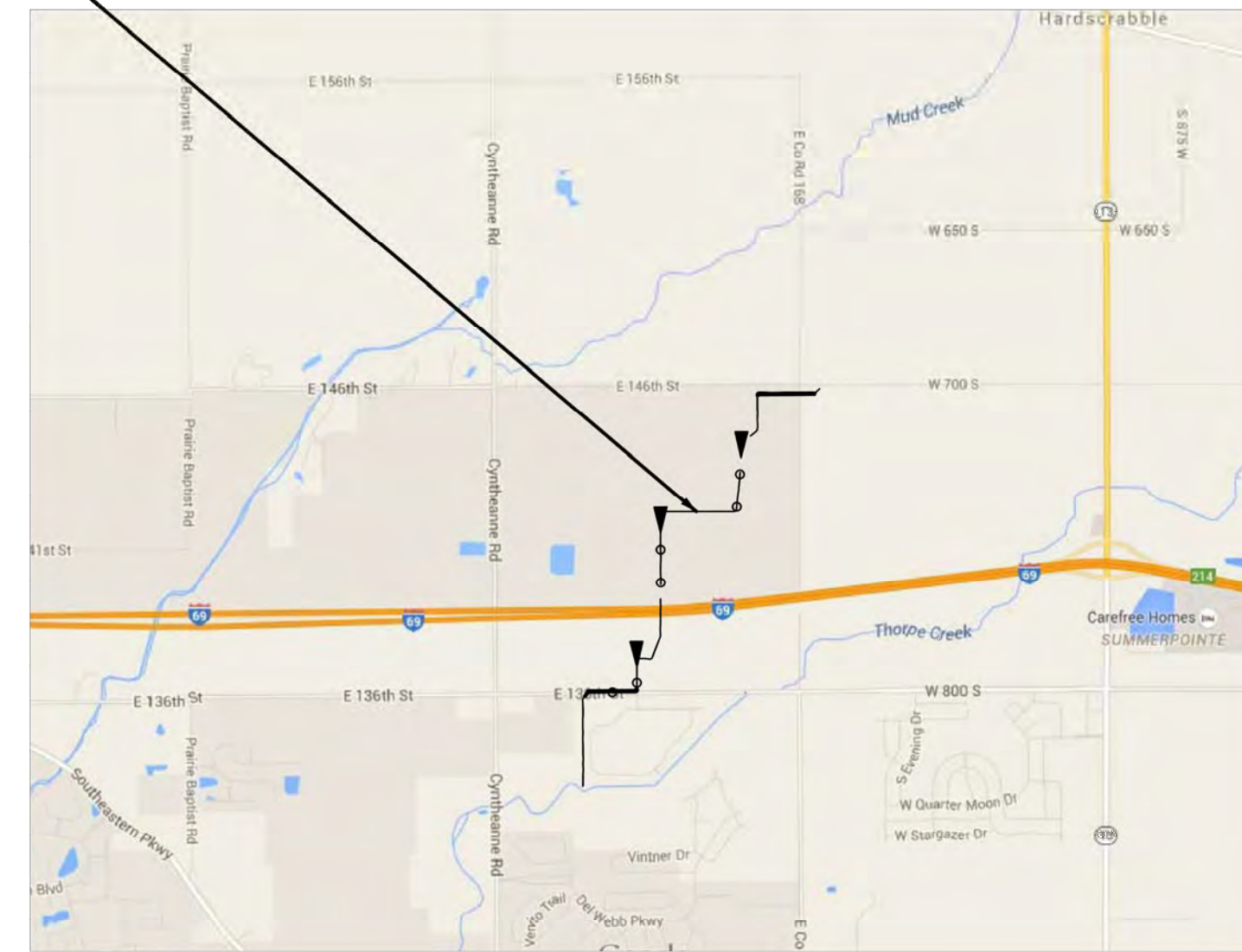
Developer:
HAMILTON COUNTY DRAINAGE BOARD
1 HAMILTON COUNTY SQUARE, SUITE 188
NOBLESVILLE, INDIANA 46060
Phone: 317-776-9628
CONTACT: KENTON WARD

PROJECT LOCATION

PROJECT LOCATION



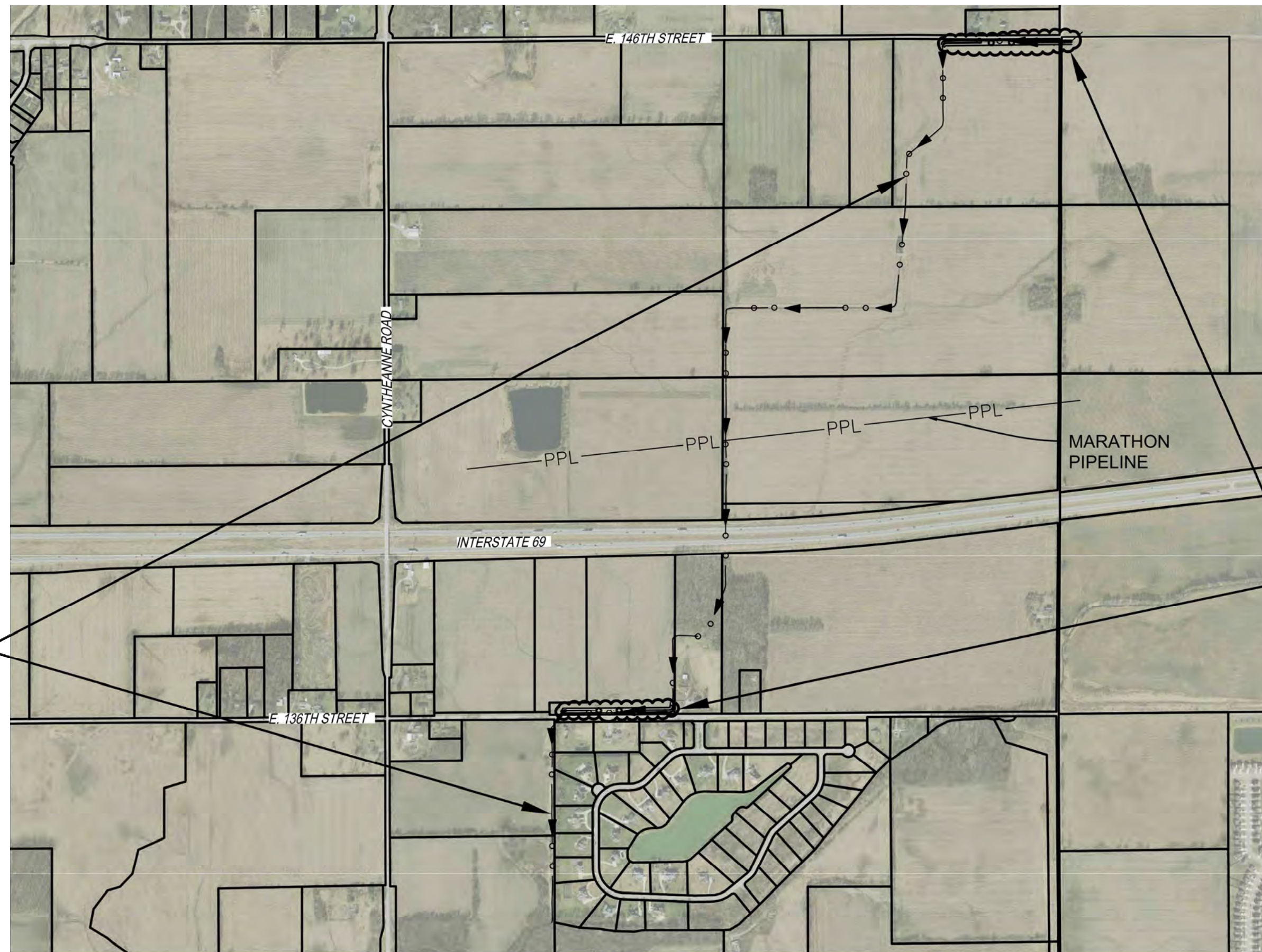
VICINITY MAP
NO SCALE



LOCATION MAP
NO SCALE

JOHN UNDERWOOD MAINTENANCE

JOHN UNDERWOOD RECONSTRUCTION



SITE MAP
SCALE: 1" = 800'

OPERATING AUTHORITIES

GAS
VECTREN
16000 ALLISONVILLE ROAD
NOBLESVILLE, IN 46061
317-776-5534

ELECTRIC
DUKE ENERGY
309 N. MAIN STREET
MARTINSVILLE, IN 46151
765-349-4012

PIPELINE
MARATHON PIPELINE COMPANY
10833 EAST COUNTY ROAD 300 NORTH
CLERMONT, IN 46234
317-291-9460

TELEPHONE
AT&T
5858 N. COLLEGE AVE.
INDIANAPOLIS, IN 46220
317-252-4007

CABLE TELEVISION
BRIGHT HOUSE NETWORKS
3030 ROOSEVELT AVENUE
INDIANAPOLIS, IN 46218
317-632-9077

SANITARY
HAMILTON SOUTHEASTERN UTILITIES
11901 LAKESIDE DRIVE
FISHERS, IN 46038
317-577-1150

STORM
HAMILTON COUNTY
SURVEYOR'S OFFICE
1 HAMILTON COUNTY SQUARE
SUITE 188
NOBLESVILLE, IN 46060
317-776-8495

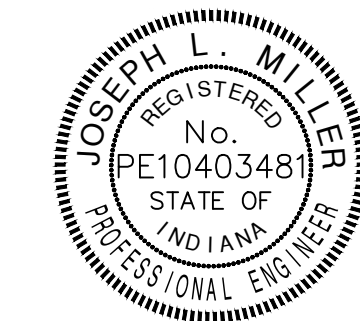
FIRE DEPARTMENT
NOBLESVILLE FIRE DEPARTMENT
STATION 77
15251 OLIO ROAD
NOBLESVILLE, IN 46060
317-770-5177

SCHOOL DISTRICT
HAMILTON SOUTHEASTERN SCHOOLS
13485 CUMBERLAND ROAD
FISHERS, IN 46038
317-594-4100

Certificate of Survey

I hereby state that the record information provided herein is true and correct to the best of my knowledge and belief and was collected under my supervision with the field data completed on January 22, 2020. The record information pertains to the location and elevation of the storm sewer structures. The elevations on top of casting of the structures and their accompanying pipe inverts are accurate to within 0.05 feet and were gathered using a total station applying standard radial surveying techniques. The record locations of the subsurface drain laterals were located as marked by those responsible for construction of said sewer and are subject to the accuracy of the markings provided.

Joseph L. Miller
1/23/2020
Joseph L. Miller
Registered Professional Engineer - PE10403481
State of Indiana



853 COLUMBIA ROAD, SUITE #101
PLAINFIELD, IN 46168
BUS: (317) 707-3700, FAX: (317) 707-3800
E-MAIL: Banning@BanningEngineering.com
WEB: www.BanningEngineering.com

CONTACT: JOSEPH L. MILLER

RECORD DRAWING

DRAINAGE BOARD MEMBERS

CHRISTINE ALTMAN, PRESIDENT
MARK HEIRBRANDT, VICE PRESIDENT
STEVE DILLINGER, MEMBER

REVISIONS		
NUMBER	DESCRIPTION	DATE

SHEET INDEX	
SHEET NO	DESCRIPTION
C100	TITLE SHEET
C101	OVERALL PLAN
C102-C109	JOHN UNDERWOOD PLAN AND PROFILE SHEETS
C500-C504	CROSS SECTION
C505	SOIL BORINGS
C506-C507	MISCELLANEOUS DETAILS

CERTIFIED BY:

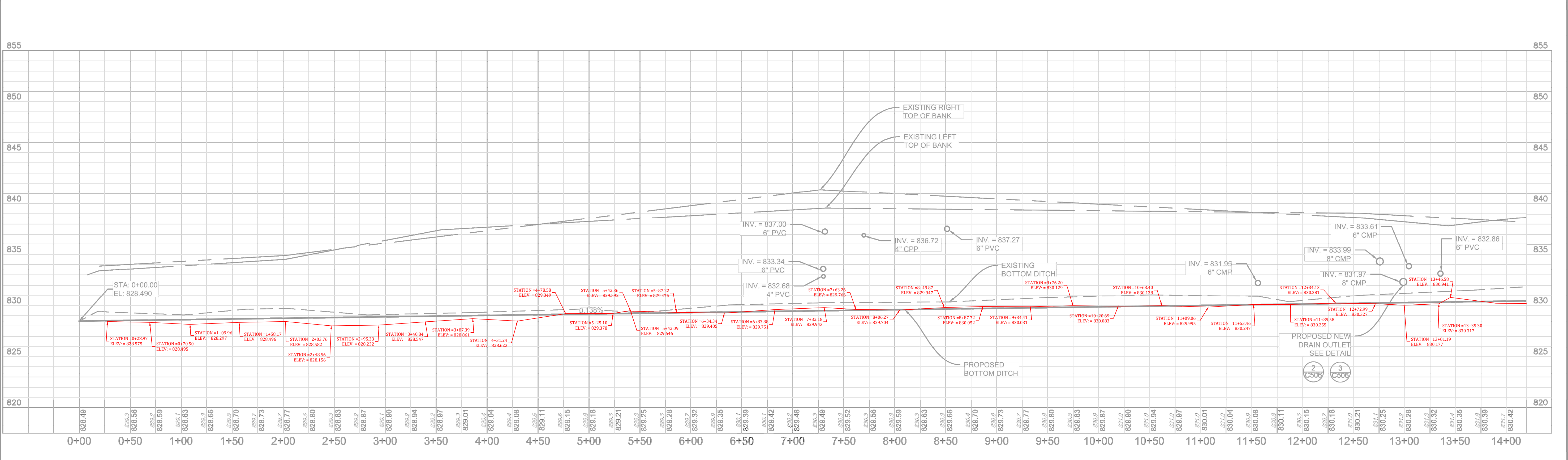
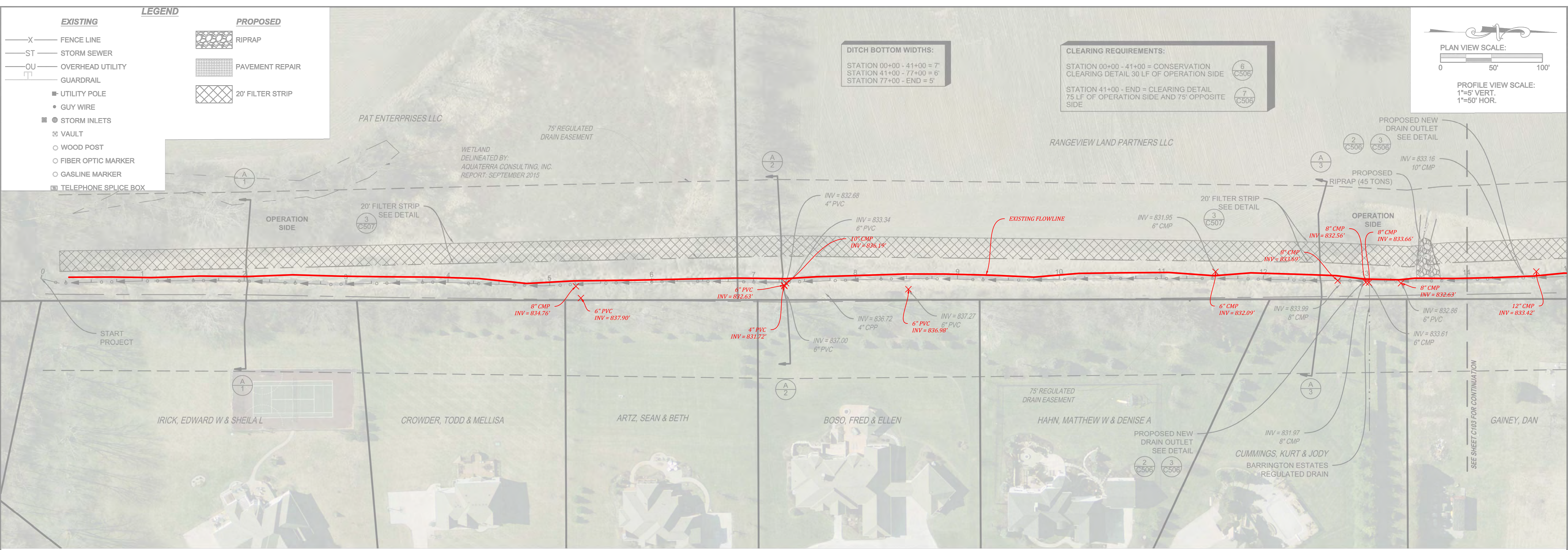
THESE PLANS ARE NOT INTENDED TO BE REPRESENTED AS A RETRACEMENT OR ORIGINAL BOUNDARY SURVEY, A ROUTE SURVEY, OR A SURVEYOR LOCATION REPORT.

Date: 06-19-15

Project No: 14290

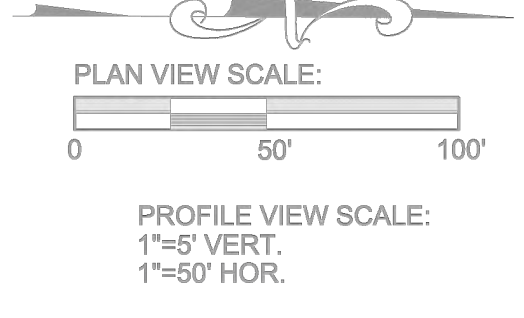
Sheet No:

C100



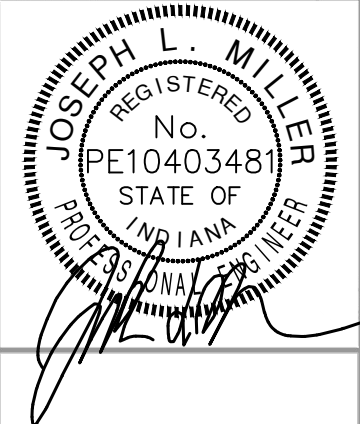
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 STATION 00+00 - 41+00 = 7'
 STATION 41+00 - 77+00 = 6'
 STATION 77+00 - END = 5'

CLEARING REQUIREMENTS:
 STATION 00+00 - 41+00 = CONSERVATION CLEARING DETAIL 30 LF OF OPERATION SIDE
 STATION 41+00 - END = CLEARING DETAIL 75 LF OF OPERATION SIDE AND 75' OPPOSITE SIDE



Designated:	JULM	THM
Drawn:		
Checked:		
Scale:	As Shown	
Date:	06-19-15	

PLAN AND PROFILE STA. 00+00 TO 14+00
 JOHN UNDERWOOD RECONSTRUCTION & MAINTENANCE
 FALL CREEK TOWNSHIPS
 FISHERS, INDIANA



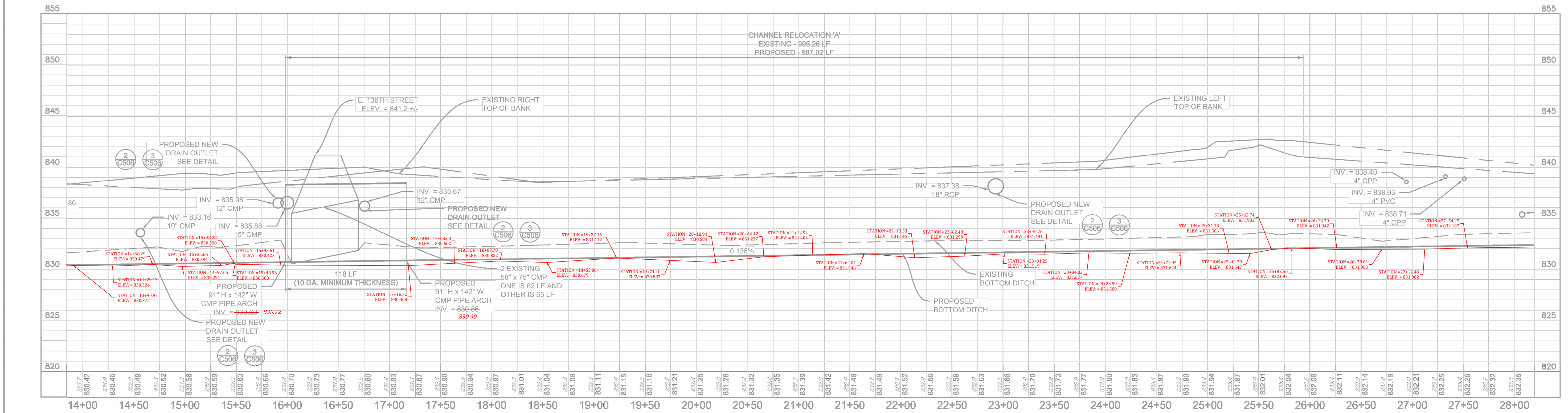
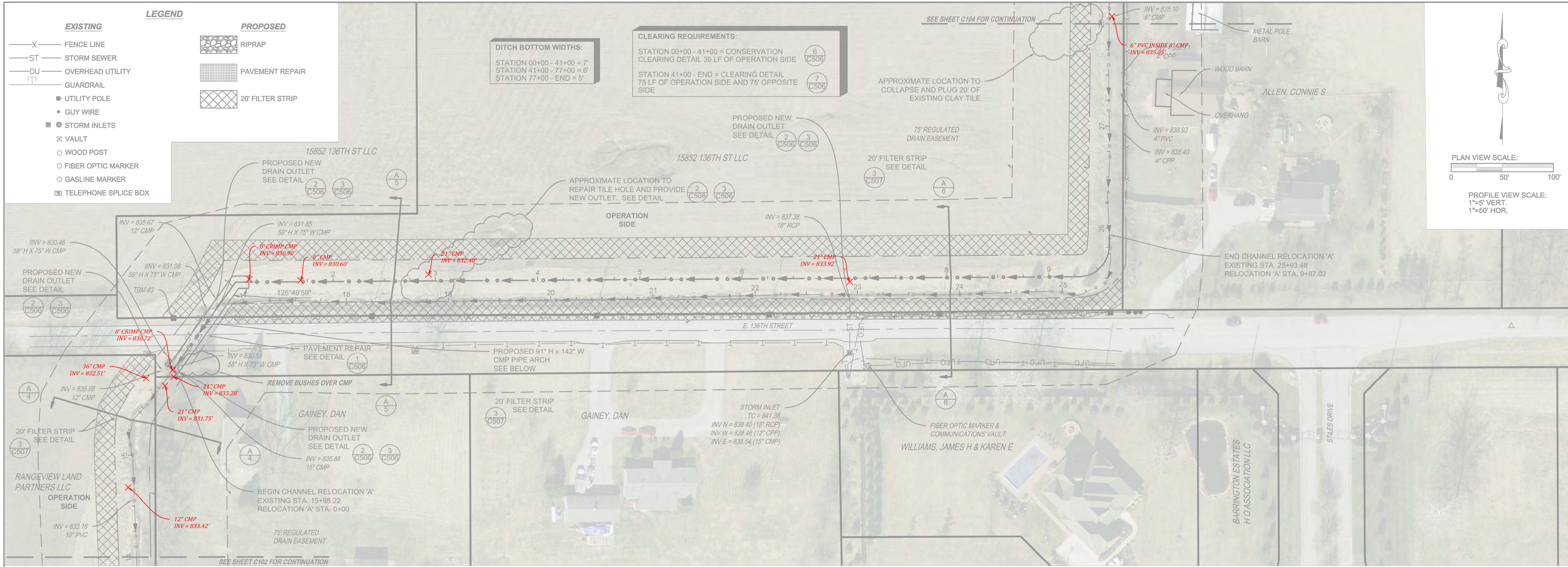
BANNING ENGINEERING
 853 COLUMBIA ROAD, SUITE #101
 PLAINFIELD, IN 46168
 BUS: (317) 707-3700, FAX: (317) 707-3800
 E-MAIL: Banning@BanningEngineering.com
 WEB: www.BanningEngineering.com

RECORD DRAWING



DATES SCALE:SSCALES

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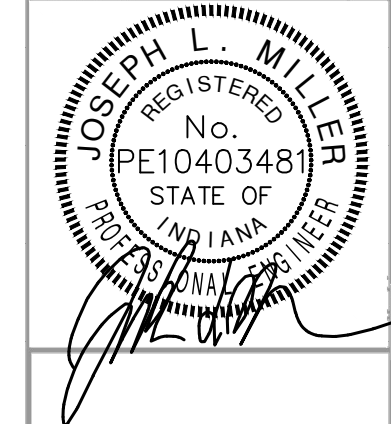
SDATES SCALE:SSCALES
 This copy printed from Digital Archive of the Hamilton County Surveyor's Office, One Hamilton Co. Square, Ste., Noblesville, IN 46060

RECORD DRAWING



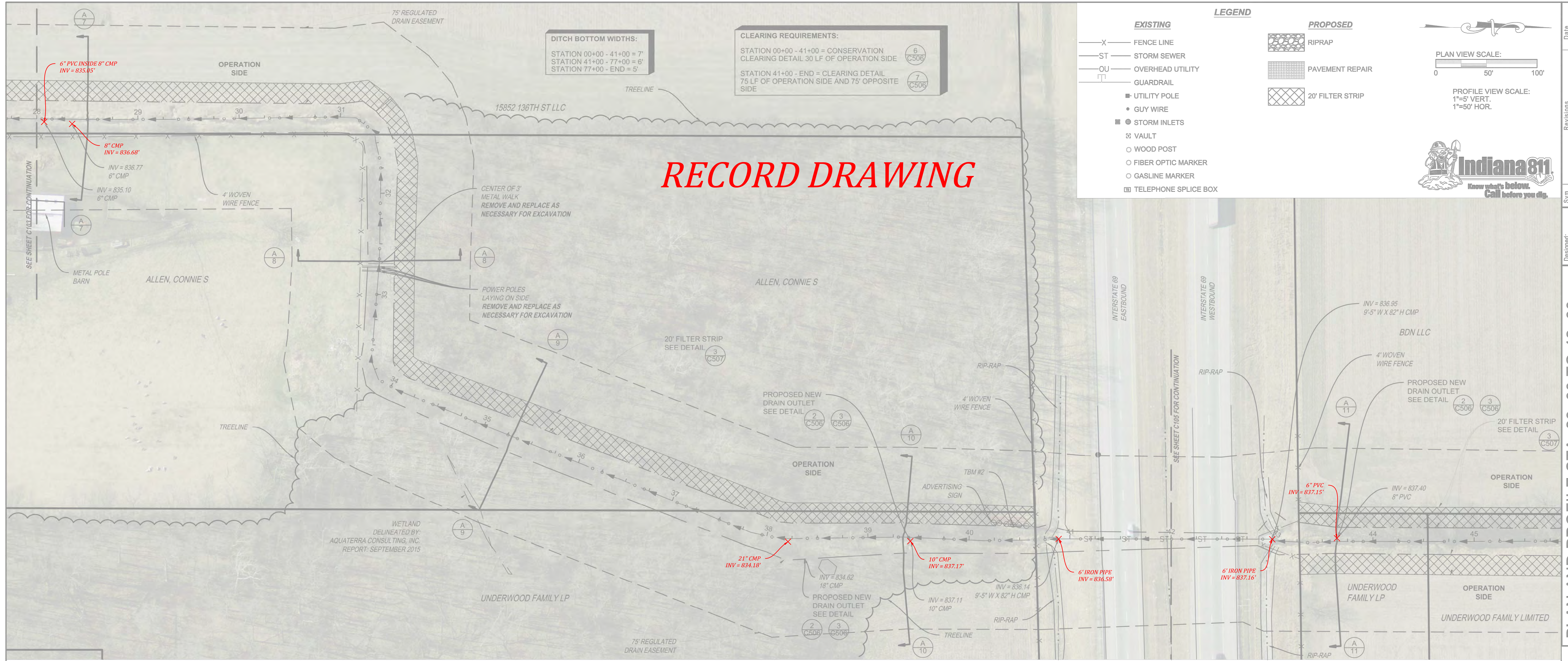
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		JLM	THF				06-19-15

PLAN AND PROFILE STA. 14+00 TO 28+00
JOHN UNDERWOOD RECONSTRUCTION & MAINTENANCE
FALL CREEK TOWNSHIPS
FISHERS, INDIANA



BANNING ENGINEERING
 853 COLUMBIA ROAD, SUITE #101
 PLAINFIELD, IN 46168
 BUS: (317) 707-3700, FAX: (317) 707-3800
 E-MAIL: Banning@BanningEngineering.com
 WEB: www.BanningEngineering.com

Project No: 14290
 Sheet No:
C103



RECORD DRAWING

DITCH BOTTOM WIDTHS:
 STATION 00+00 - 41+00 = 7'
 STATION 41+00 - 77+00 = 6'
 STATION 77+00 - END = 5'

CLEARING REQUIREMENTS:
 STATION 00+00 - 41+00 = CONSERVATION CLEARING DETAIL 30 LF OF OPERATION SIDE
 STATION 41+00 - END = CLEARING DETAIL 75 LF OF OPERATION SIDE AND 75' OPPOSITE SIDE

LEGEND

EXISTING

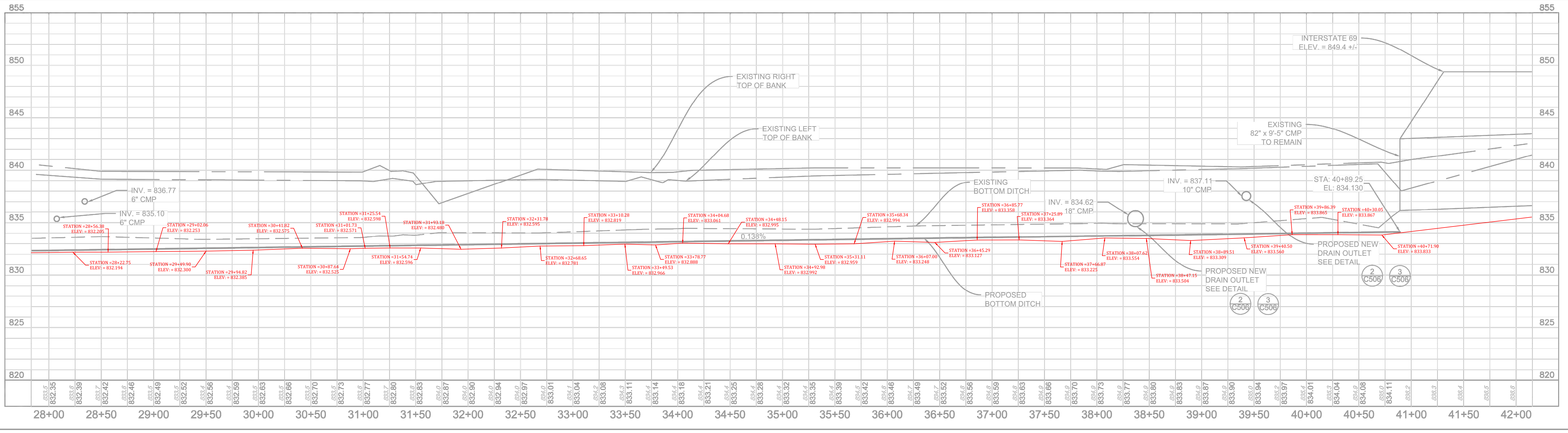
- X FENCE LINE
- ST STORM SEWER
- OU OVERHEAD UTILITY
- GUARDRAIL
- UTILITY POLE
- GUY WIRE
- STORM INLETS
- VAULT
- WOOD POST
- FIBER OPTIC MARKER
- GASLINE MARKER
- TELEPHONE SPLICE BOX

PROPOSED

- RIPRAP
- PAVEMENT REPAIR
- 20' FILTER STRIP

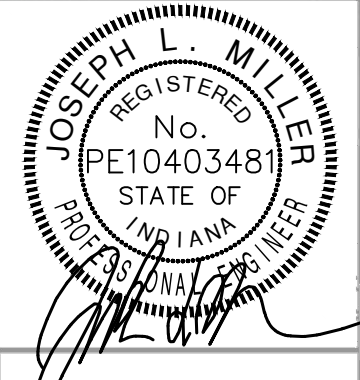
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 0 50' 100'

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



Date	Revisions	Sym.	Design:	Drawn:	Checked:	Scale:	As Shown:	Date:
			JLM	THF				06-18-15

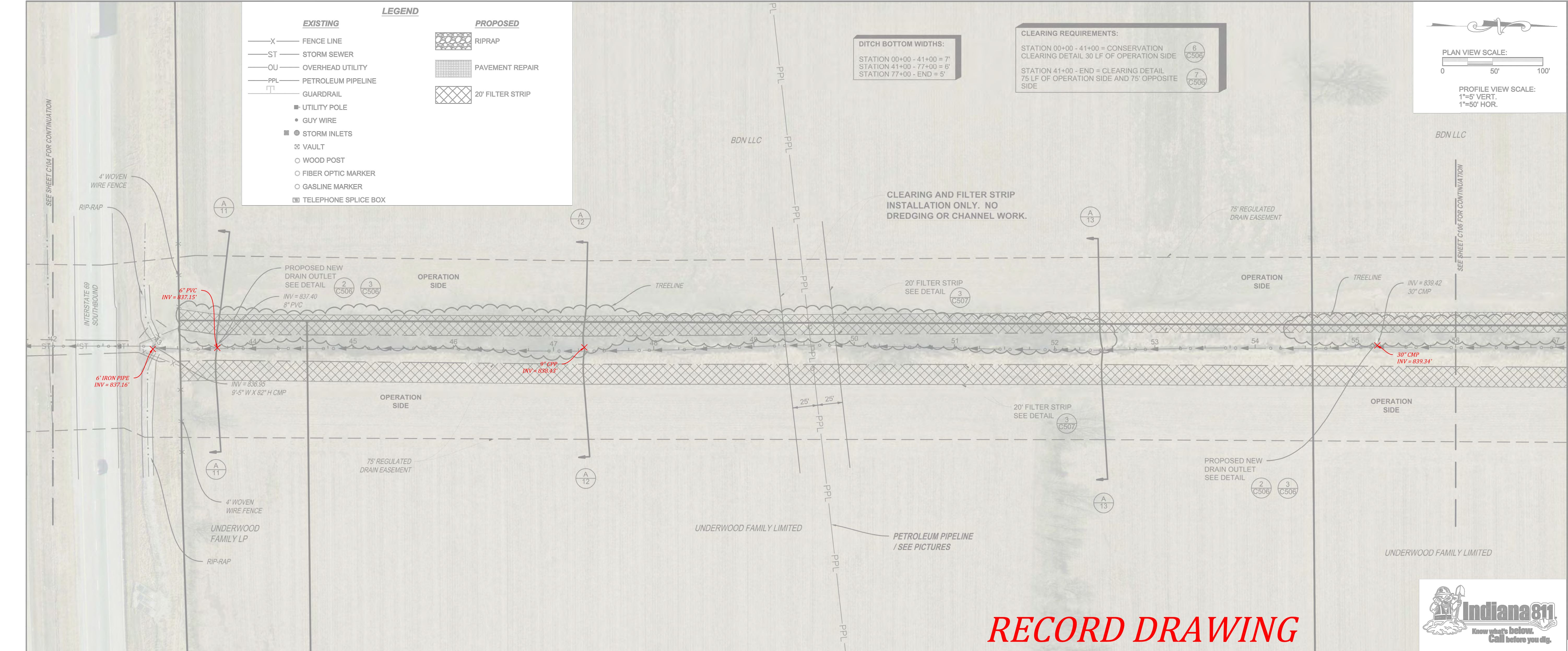
PLAN AND PROFILE STA. 28+00 TO 42+00
JOHN UNDERWOOD RECONSTRUCTION & MAINTENANCE
FALL CREEK TOWNSHIPS
FISHERS, INDIANA



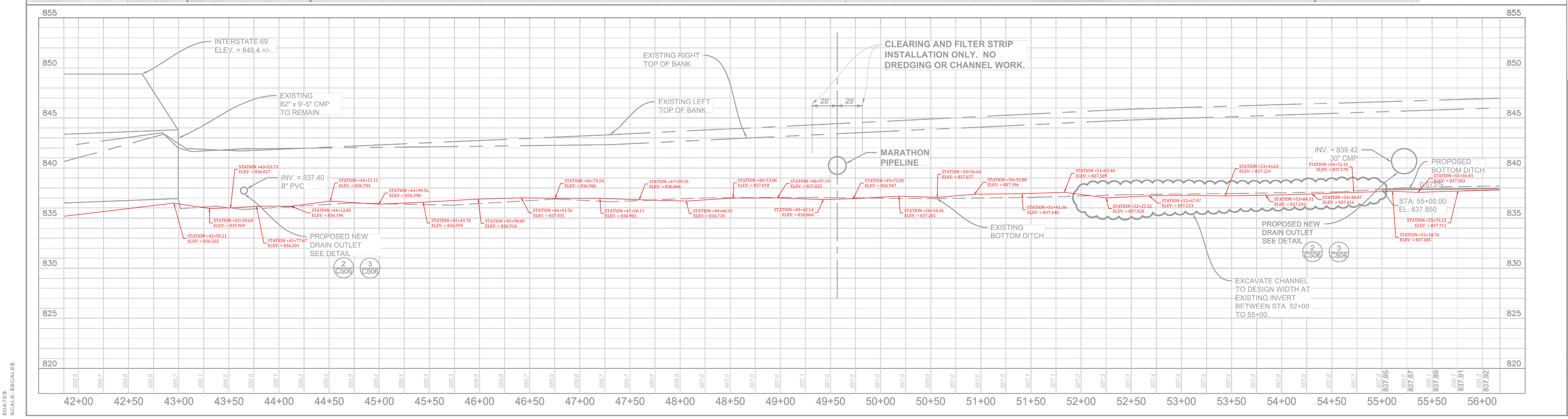
BANNING ENGINEERING
 853 COLUMBIA ROAD, SUITE #101
 PLAINFIELD, IN 46168
 BUS: (317) 707-3700, FAX: (317) 707-3800
 E-MAIL: Banning@BanningEngineering.com
 WEB: www.BanningEngineering.com

Project No: 14290
 Sheet No: **C104**

SDATES SCALE:SSCALES



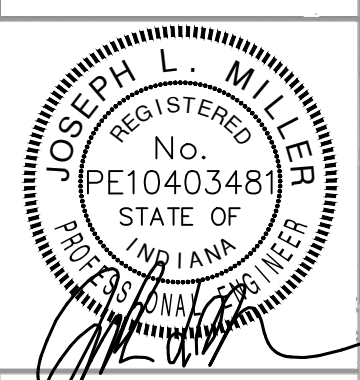
RECORD DRAWING



DATE: 06-15-15
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SCALE: 1"=50' VERT.

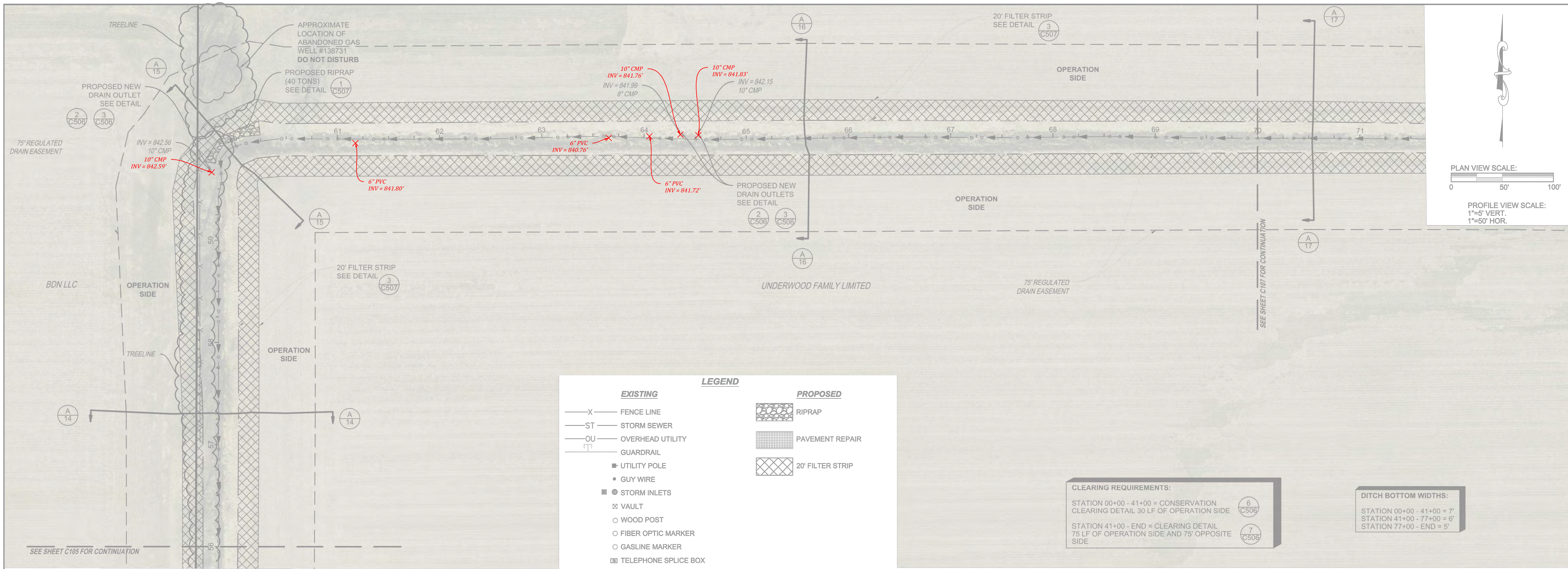
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			JLM	THF				06-15-15

PLAN AND PROFILE STA. 42+00 TO 56+00
JOHN UNDERWOOD RECONSTRUCTION & MAINTENANCE
FALL CREEK TOWNSHIPS
FISHERS, INDIANA



BANNING ENGINEERING
 853 COLUMBIA ROAD, SUITE #101
 PLAINFIELD, IN 46168
 BUS: (317) 707-3700, FAX: (317) 707-3800
 E-MAIL: Banning@BanningEngineering.com
 WEB: www.BanningEngineering.com

Project No: 14290
 Sheet No: **C105**



LEGEND

EXISTING	PROPOSED
X — FENCE LINE	RIPRAP
—ST— STORM SEWER	PAVEMENT REPAIR
—OU— OVERHEAD UTILITY	20' FILTER STRIP
GUARDRAIL	
■ UTILITY POLE	
• GUY WIRE	
■ STORM INLETS	
⊗ VAULT	
○ WOOD POST	
○ FIBER OPTIC MARKER	
○ GASLINE MARKER	
□ TELEPHONE SPLICE BOX	

CLEARING REQUIREMENTS:

STATION 00+00 - 41+00 = CONSERVATION CLEARING DETAIL 30 LF OF OPERATION SIDE

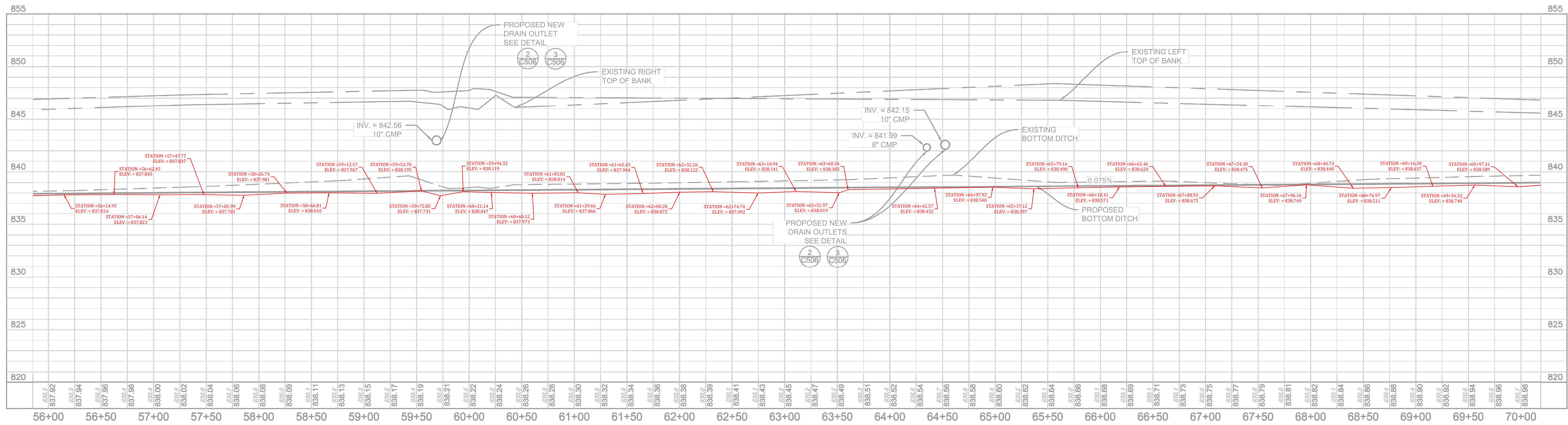
STATION 41+00 - END = CLEARING DETAIL 75 LF OF OPERATION SIDE AND 75' OPPOSITE SIDE

DITCH BOTTOM WIDTHS:

STATION 00+00 - 41+00 = 7'

STATION 41+00 - 77+00 = 6'

STATION 77+00 - END = 5'



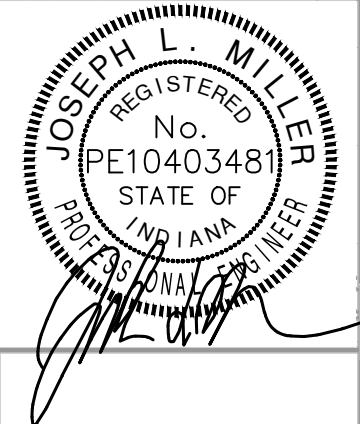
SDATES SCALE:SSCALES

RECORD DRAWING



Designated:	DATE
JUL	
THF	
Checked:	
Scale:	
As Shown	
Date:	06-18-15

PLAN AND PROFILE STA. 56+00 TO 70+00
JOHN UNDERWOOD RECONSTRUCTION & MAINTENANCE
FALL CREEK TOWNSHIPS
FISHERS, INDIANA



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 WEB: www.BanningEngineering.com

CLEARING REQUIREMENTS:
 STATION 00+00 - 41+00 = CONSERVATION CLEARING DETAIL 30 LF OF OPERATION SIDE
 STATION 41+00 - END = CLEARING DETAIL 75 LF OF OPERATION SIDE AND 75' OPPOSITE SIDE

DITCH BOTTOM WIDTHS:
 STATION 00+00 - 41+00 = 7'
 STATION 41+00 - 77+00 = 6'
 STATION 77+00 - END = 5'

LEGEND

EXISTING

- X FENCE LINE
- ST STORM SEWER
- OU OVERHEAD UTILITY
- GUARDRAIL
- UTILITY POLE
- GUY WIRE
- STORM INLETS
- VAULT
- WOOD POST
- FIBER OPTIC MARKER
- GASLINE MARKER
- TELEPHONE SPLICE BOX

PROPOSED

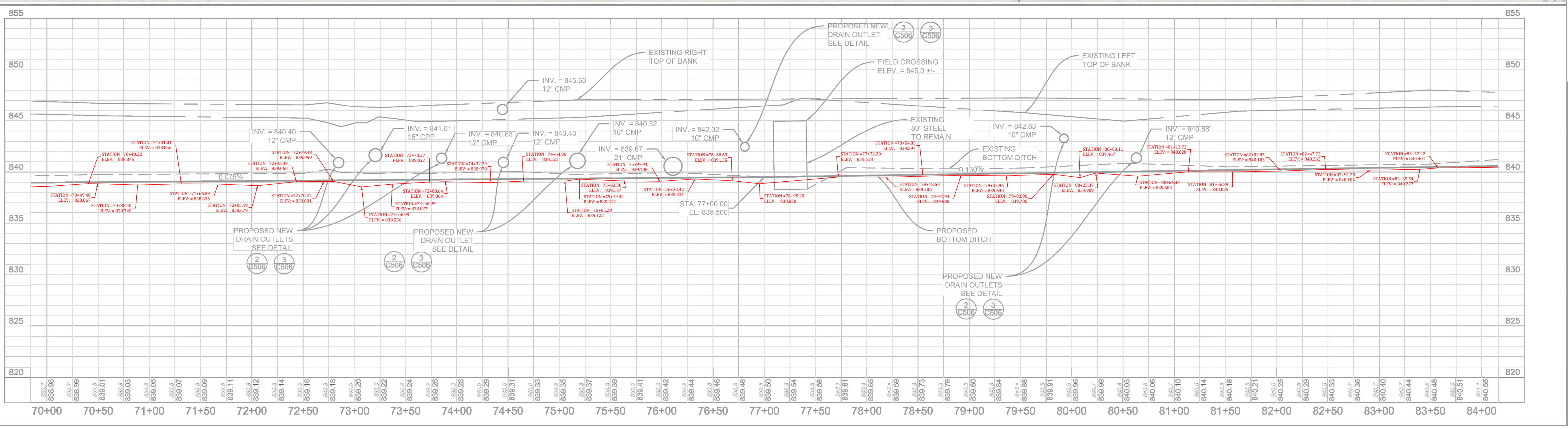
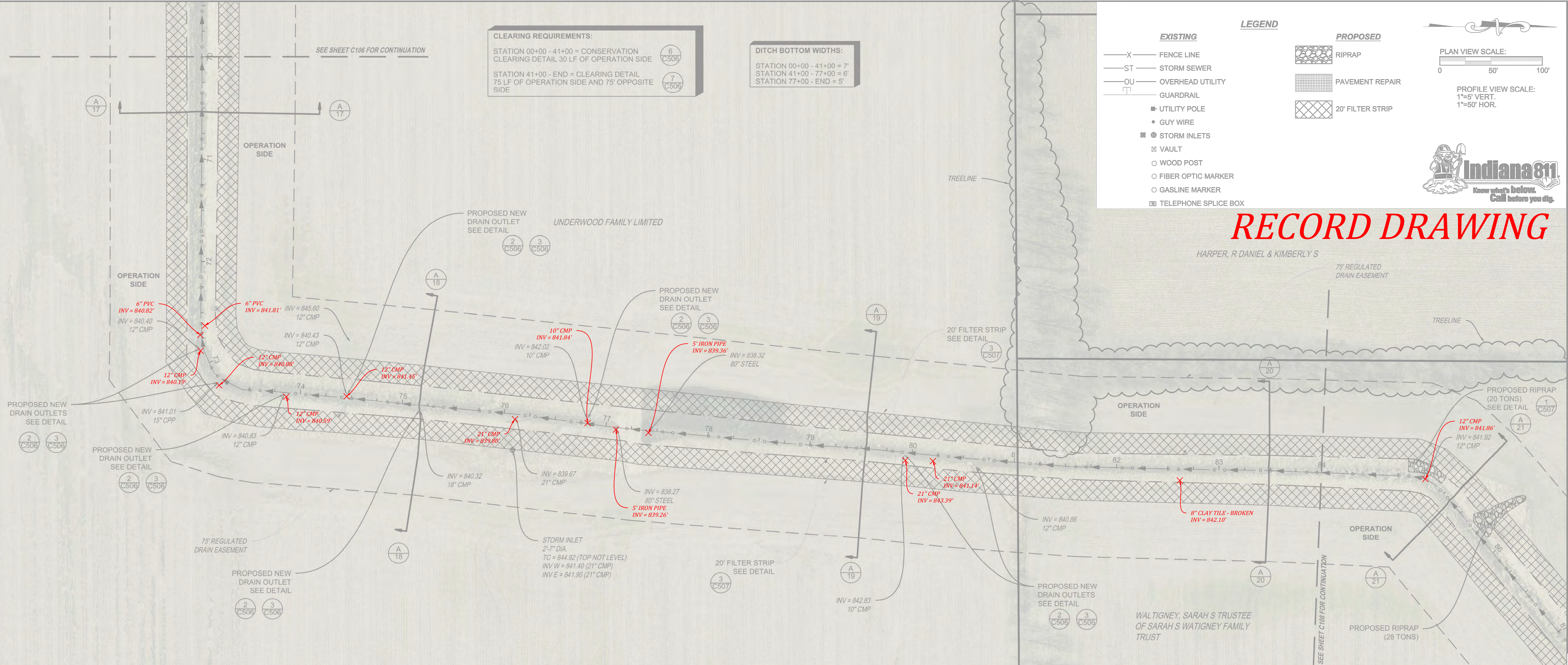
- RIPRAP
- PAVEMENT REPAIR
- 20' FILTER STRIP

PLAN VIEW SCALE:
 0 50' 100'

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

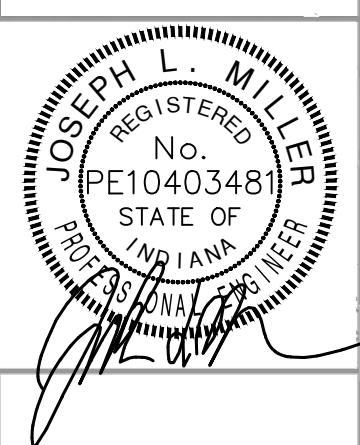
Indiana811
 Know what's below. Call before you dig.

RECORD DRAWING



Date	Revisions	Sym.	Design:	Drawn:	Checked:	Scale:	As Shown:	Date:
			JLM	THF				06-19-15

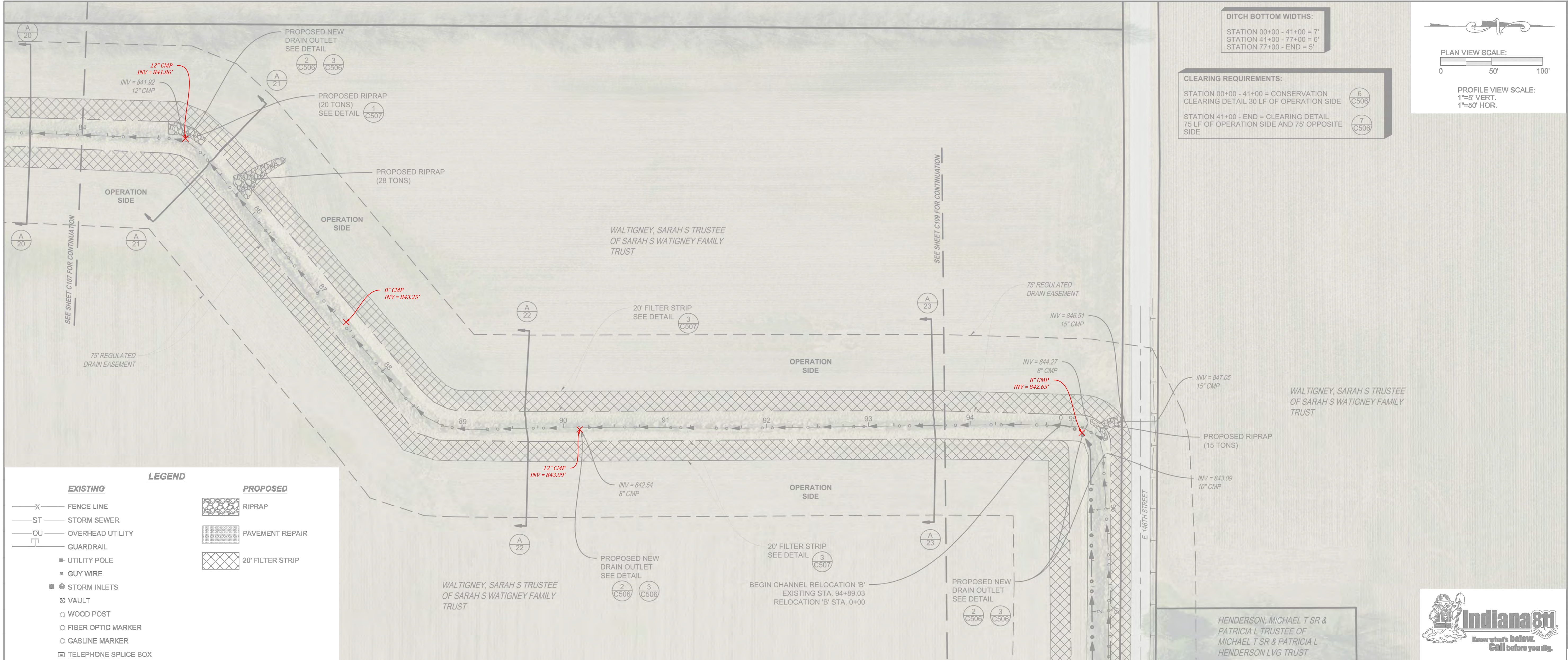
PLAN AND PROFILE STA. 70+00 TO 84+00
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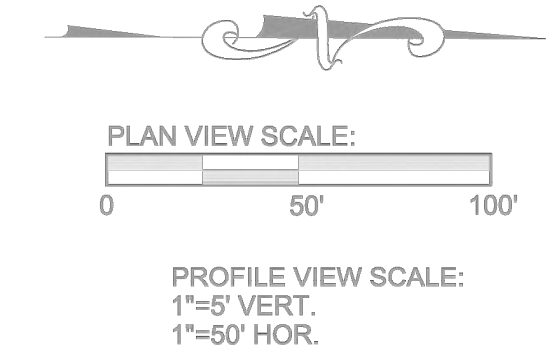
Project No: 14290
 Sheet No: **C107**

SDATES
 SCALE:SSCALES



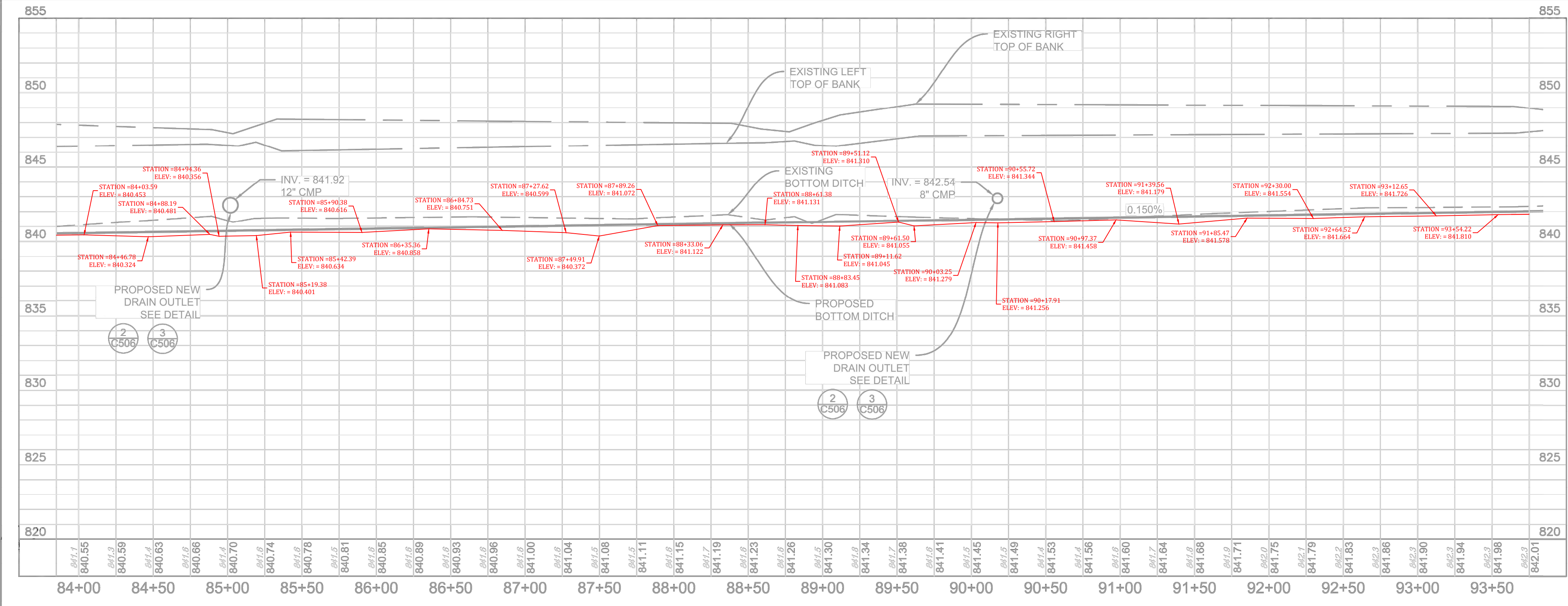
DITCH BOTTOM WIDTHS:
 STATION 00+00 - 41+00 = 7'
 STATION 41+00 - 77+00 = 6'
 STATION 77+00 - END = 5'

CLEARING REQUIREMENTS:
 STATION 00+00 - 41+00 = CONSERVATION CLEARING DETAIL 30 LF OF OPERATION SIDE (C506)
 STATION 41+00 - END = CLEARING DETAIL 75 LF OF OPERATION SIDE AND 75' OPPOSITE SIDE (C506)



LEGEND

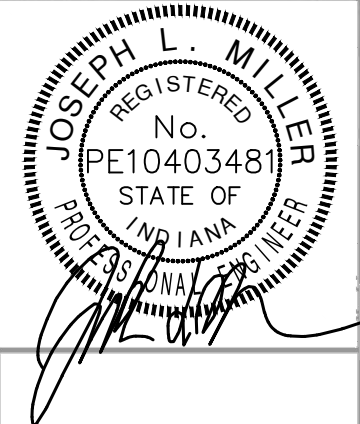
EXISTING	PROPOSED
—X— FENCE LINE	▨ RIPRAP
—ST— STORM SEWER	▨ PAVEMENT REPAIR
—OU— OVERHEAD UTILITY	▨ 20' FILTER STRIP
—GD— GUARDRAIL	
■ UTILITY POLE	
• GUY WIRE	
● STORM INLETS	
▣ VAULT	
○ WOOD POST	
○ FIBER OPTIC MARKER	
○ GASLINE MARKER	
▣ TELEPHONE SPLICE BOX	



RECORD DRAWING

Date	Revisions	Sym.	Designated:
		JULM	
		THIF	
		Checked:	
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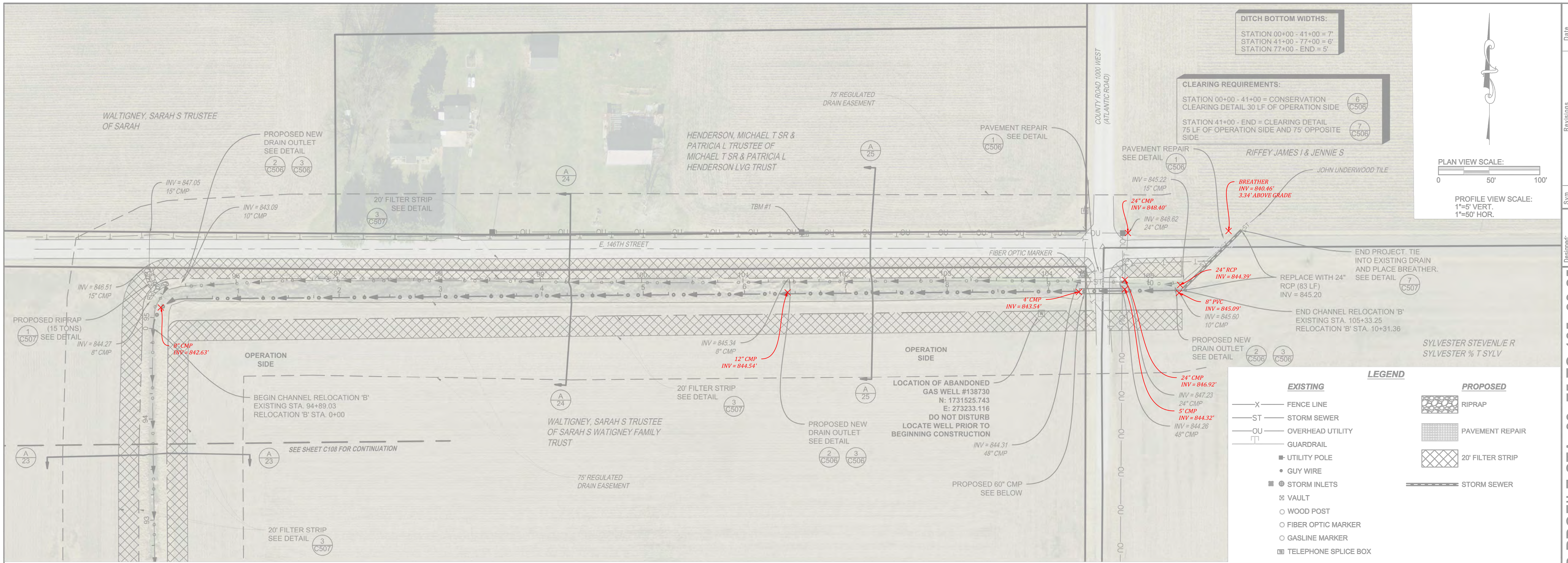
PLAN AND PROFILE STA. 84+00 TO 93+75
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Project No: 14290
 Sheet No: **C108**

SDATES SCALE:SSCALES



DITCH BOTTOM WIDTHS:
 STATION 00+00 - 41+00 = 7'
 STATION 41+00 - 77+00 = 6'
 STATION 77+00 - END = 5'

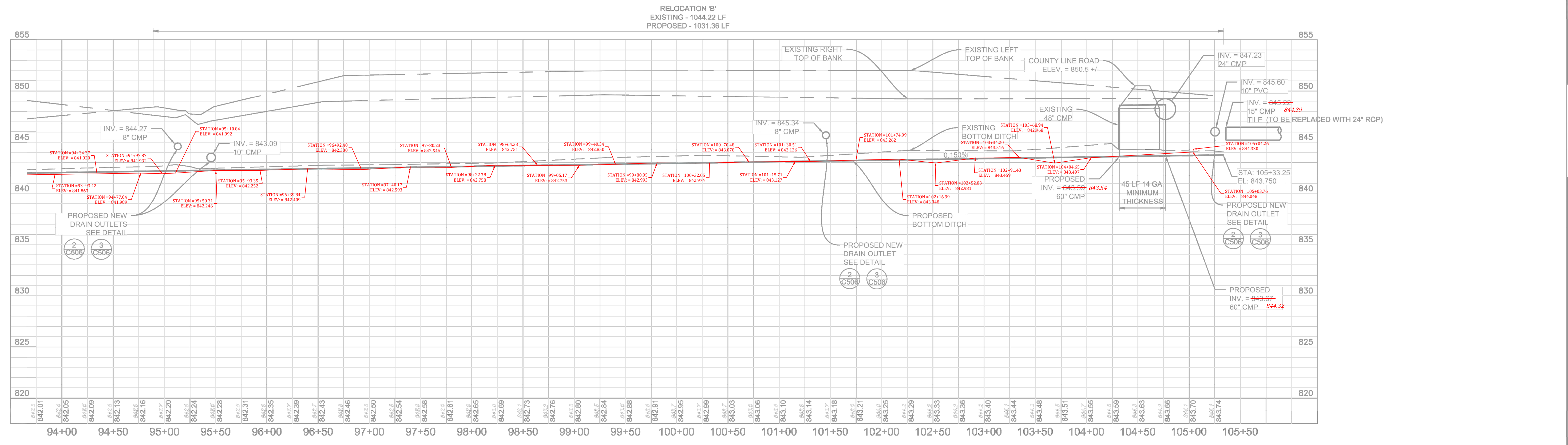
CLEARING REQUIREMENTS:
 STATION 00+00 - 41+00 = CONSERVATION CLEARING DETAIL 30 LF OF OPERATION SIDE
 STATION 41+00 - END = CLEARING DETAIL 75 LF OF OPERATION SIDE AND 75' OPPOSITE SIDE

PLAN VIEW SCALE:
 0 50' 100'

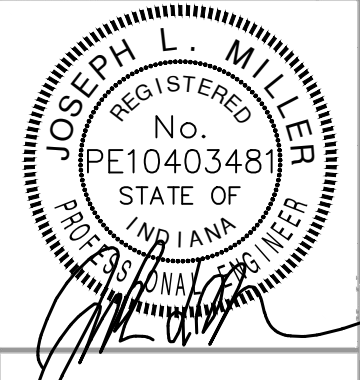
PROFILE VIEW SCALE:
 1"=5' VERT.
 1"=50' HOR.

LEGEND

EXISTING	PROPOSED
-X- FENCE LINE	[Pattern] RIPRAP
-ST- STORM SEWER	[Pattern] PAVEMENT REPAIR
-OU- OVERHEAD UTILITY	[Pattern] 20' FILTER STRIP
[Symbol] GUARDRAIL	[Symbol] STORM SEWER
[Symbol] UTILITY POLE	
[Symbol] GUY WIRE	
[Symbol] STORM INLETS	
[Symbol] VAULT	
[Symbol] WOOD POST	
[Symbol] FIBER OPTIC MARKER	
[Symbol] GASLINE MARKER	
[Symbol] TELEPHONE SPLICE BOX	



PLAN AND PROFILE STA. 93+75 TO 105+33.25
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FALL CREEK TOWNSHIPS
FISHERS, INDIANA



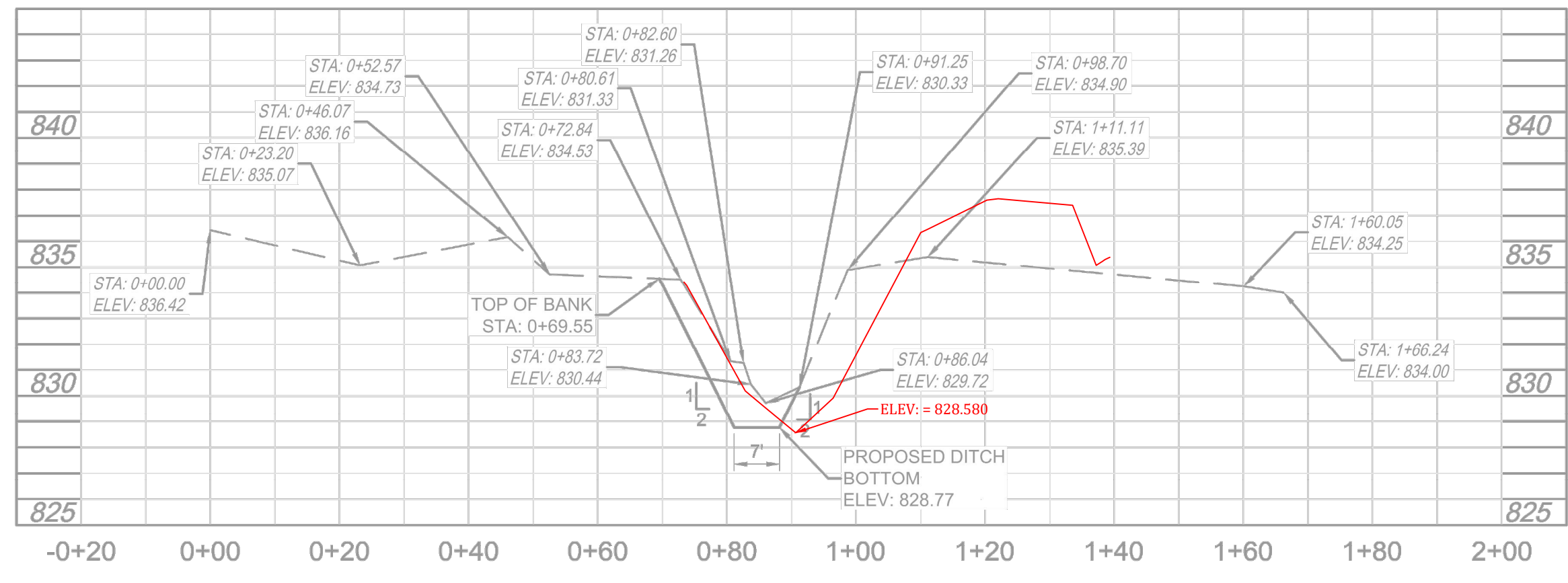
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Project No: 14290
 Sheet No:
C109

RECORD DRAWING

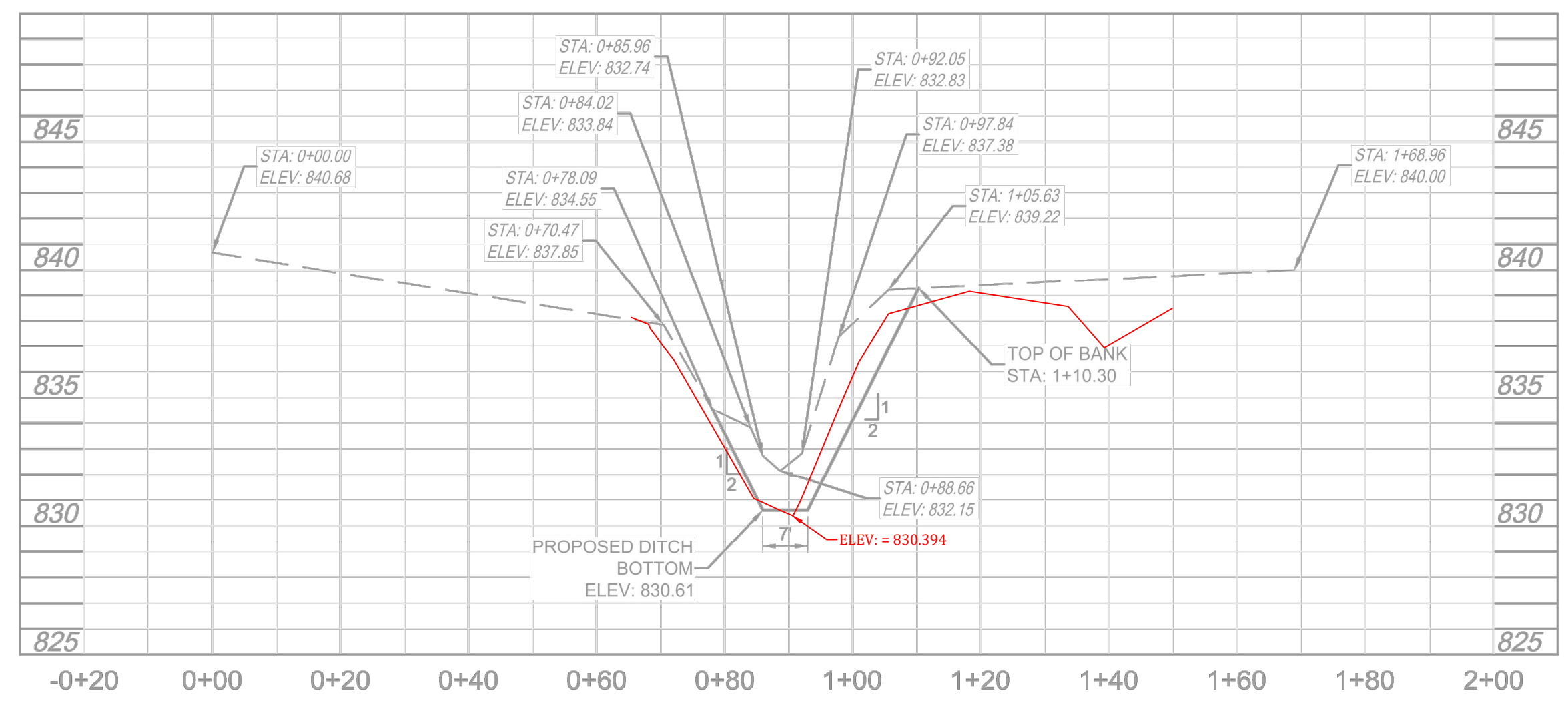


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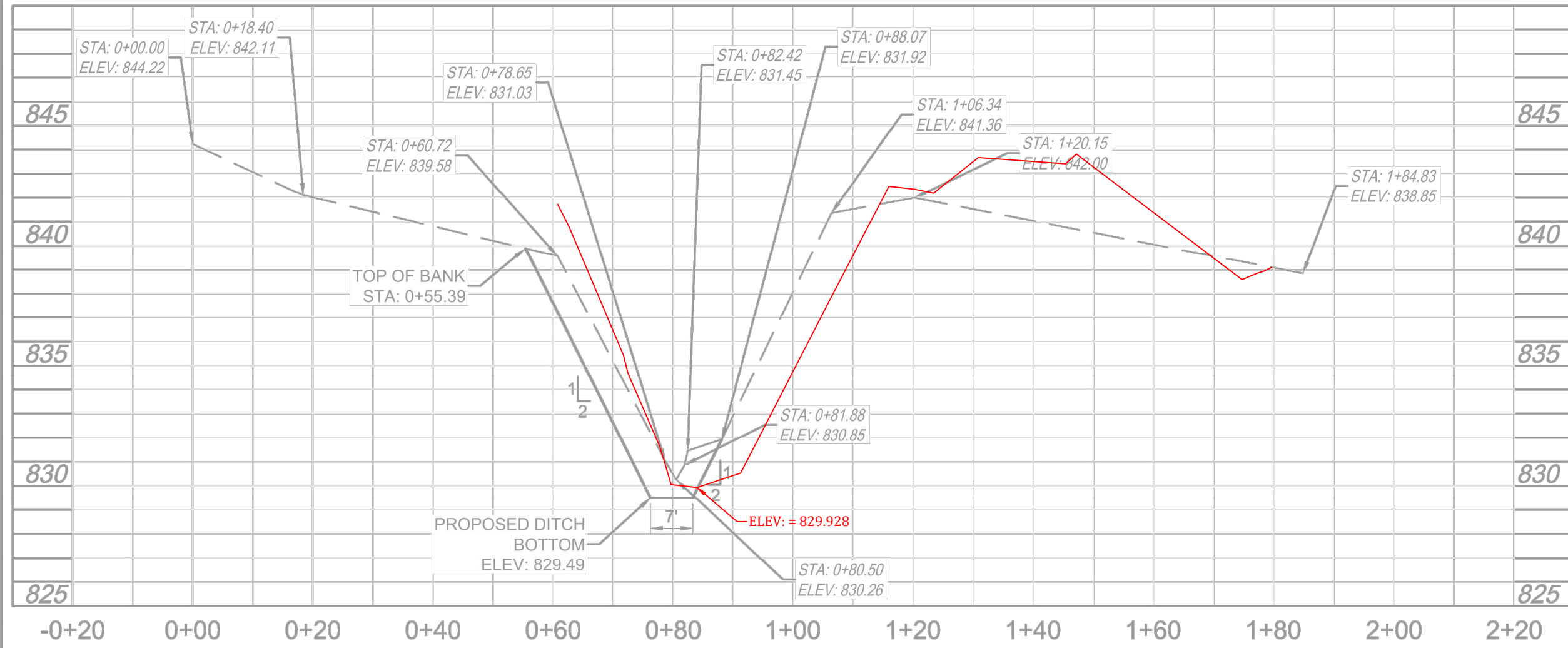


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STA. 02+03.26

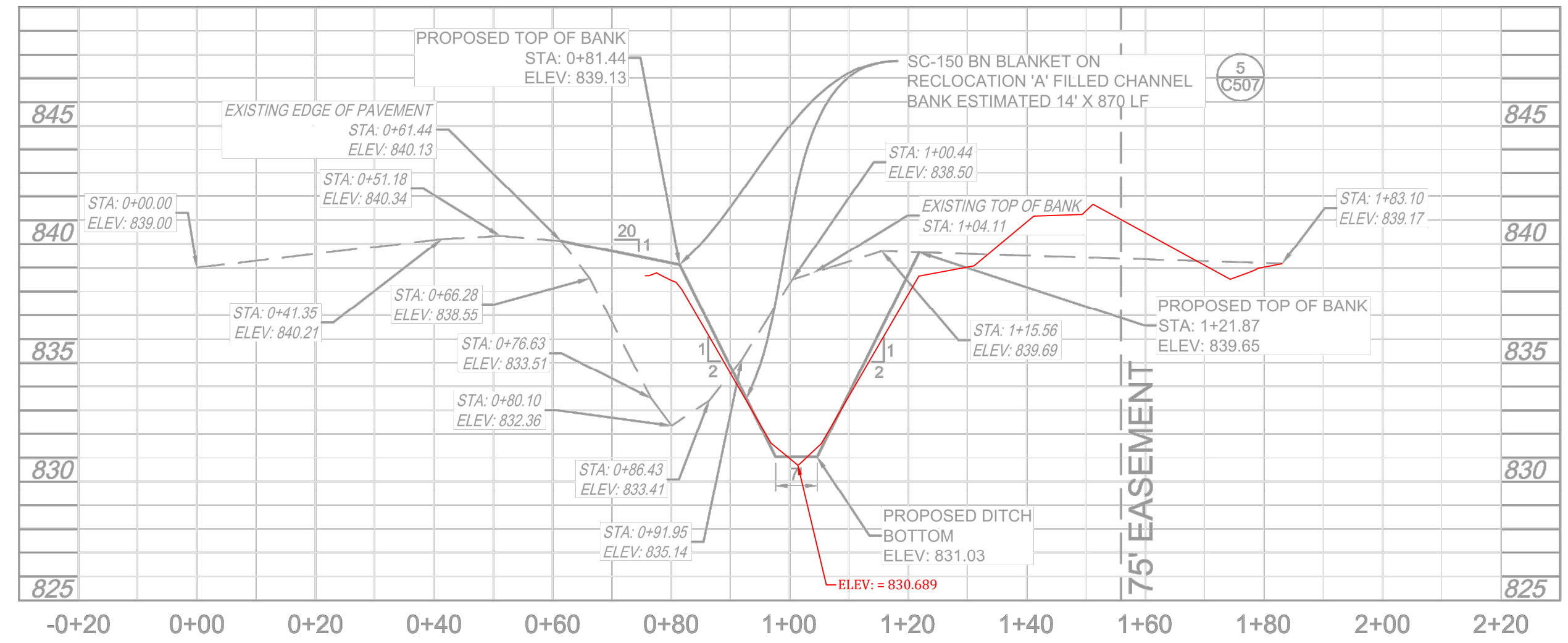
SCALE:
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1"=20' HOR.



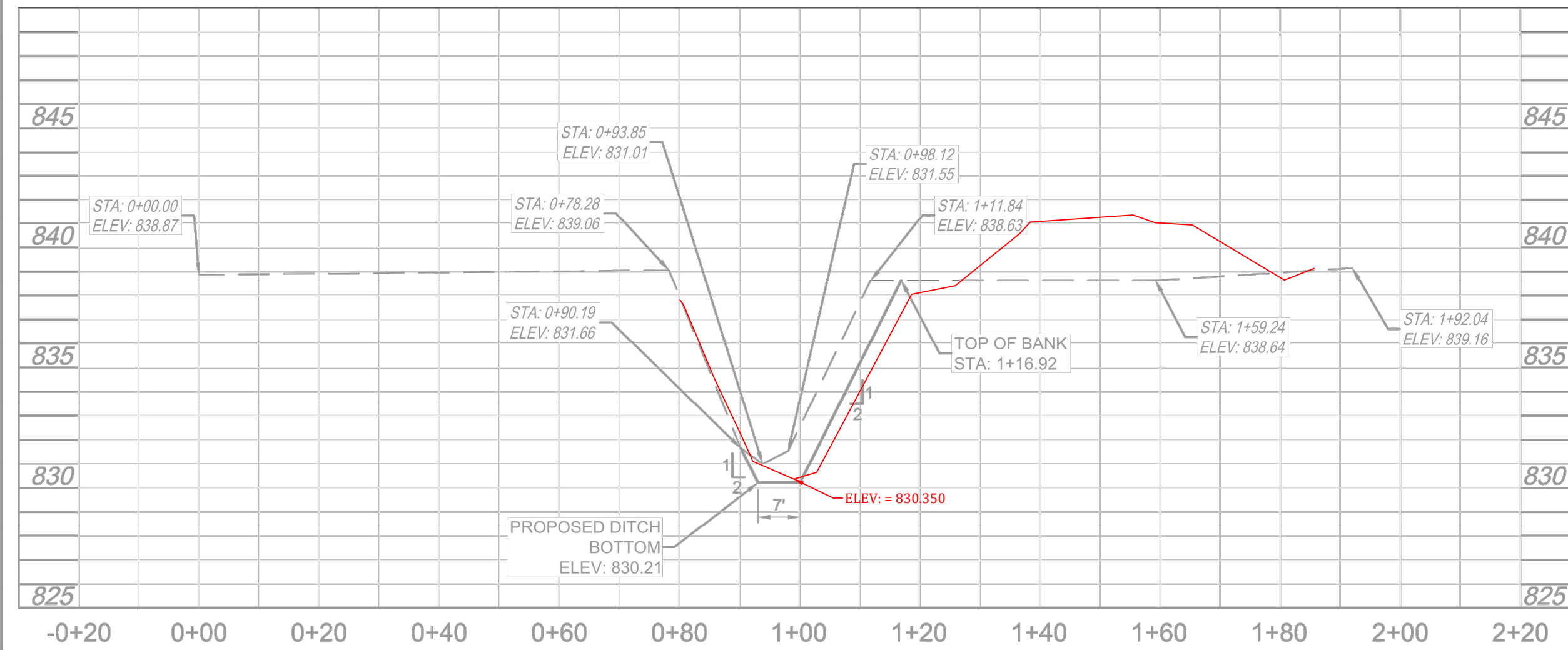
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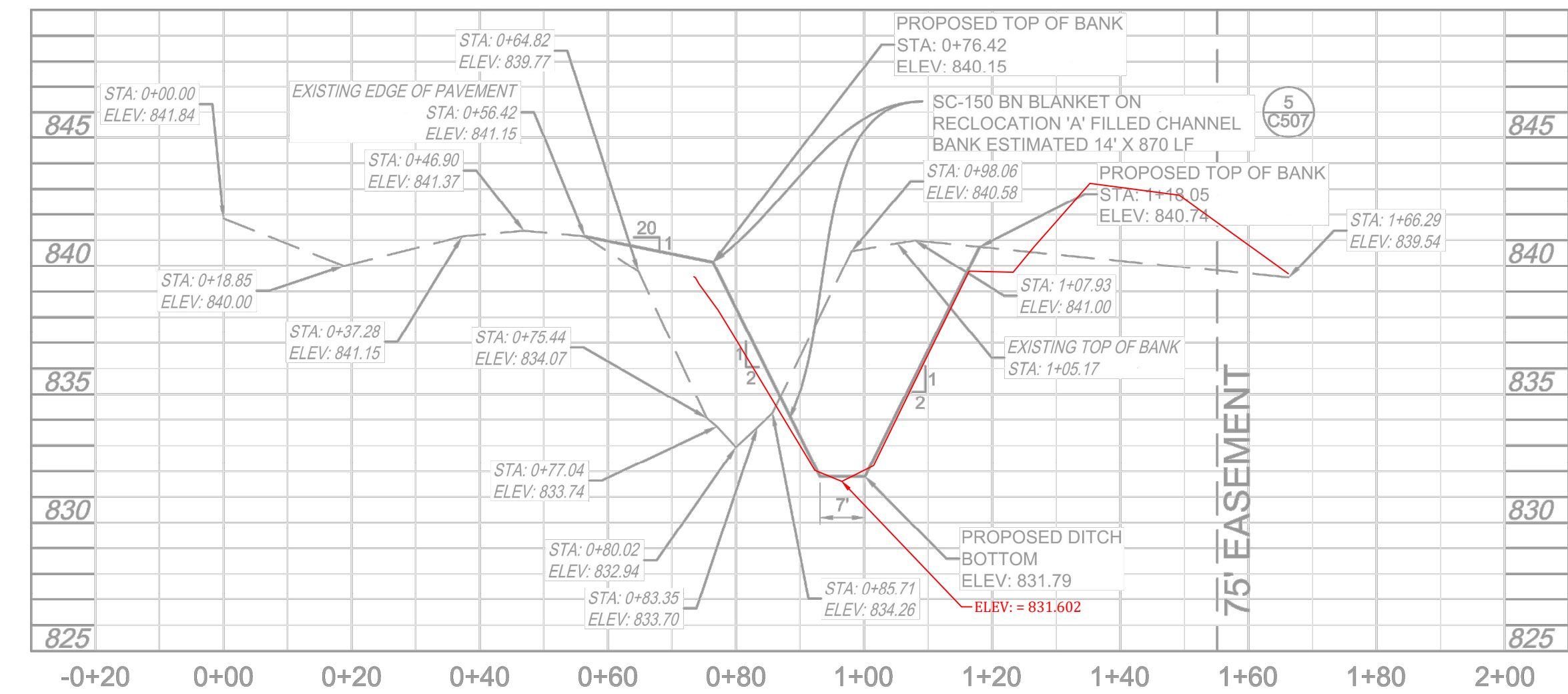
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CROSS SECTION
STA. 18+42.79



CROSS SECTION
STA. 12+56.21

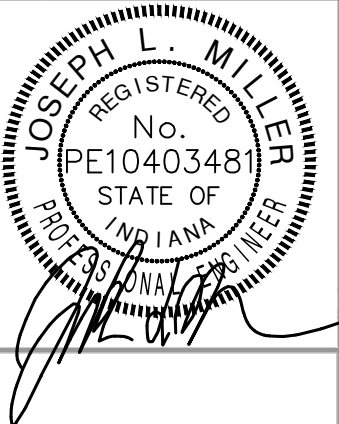


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RECORD DRAWING

Date	Revisions	Sym.	Design:	Drawn:	Checked:	Scale:	As Shown:	Date:
			JLM	TMF				06-19-15

CROSS SECTIONS
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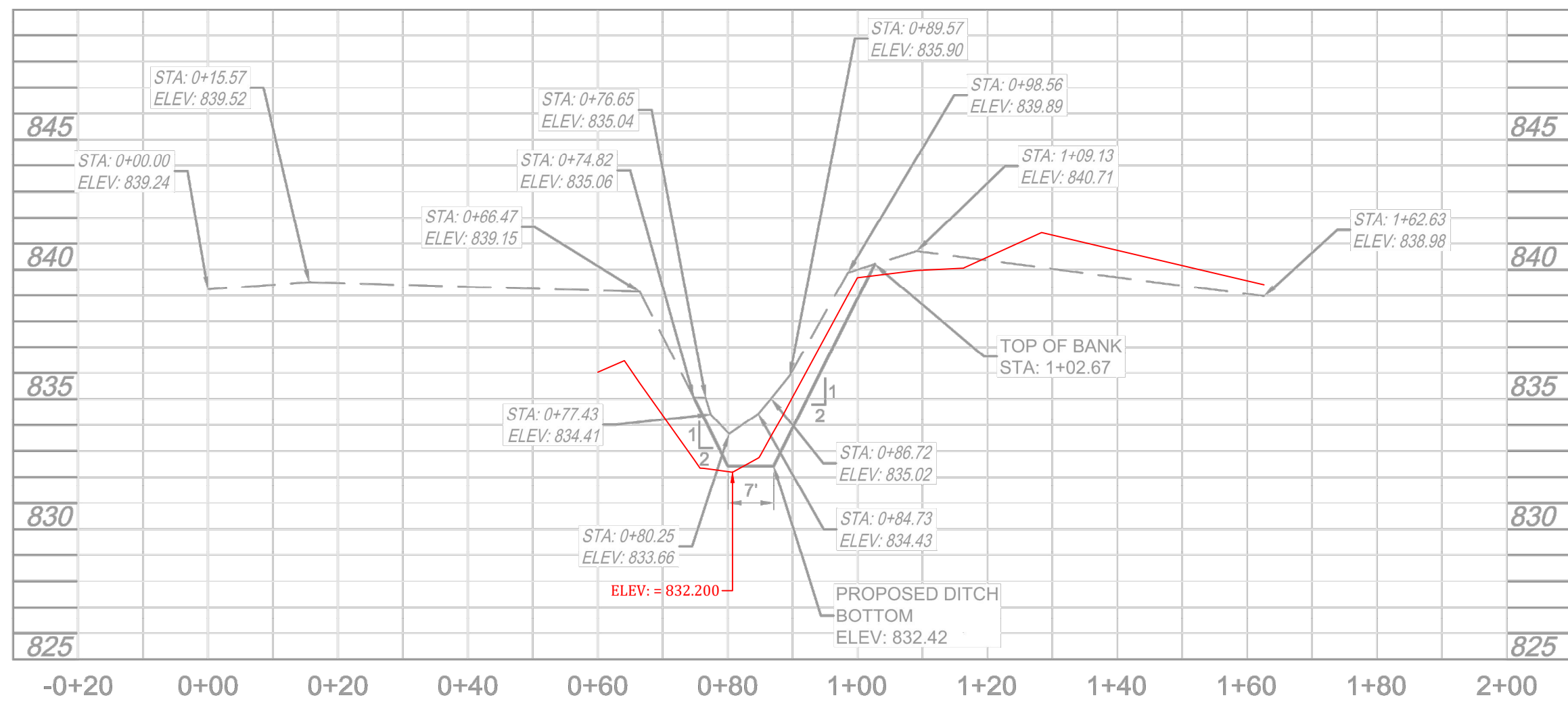


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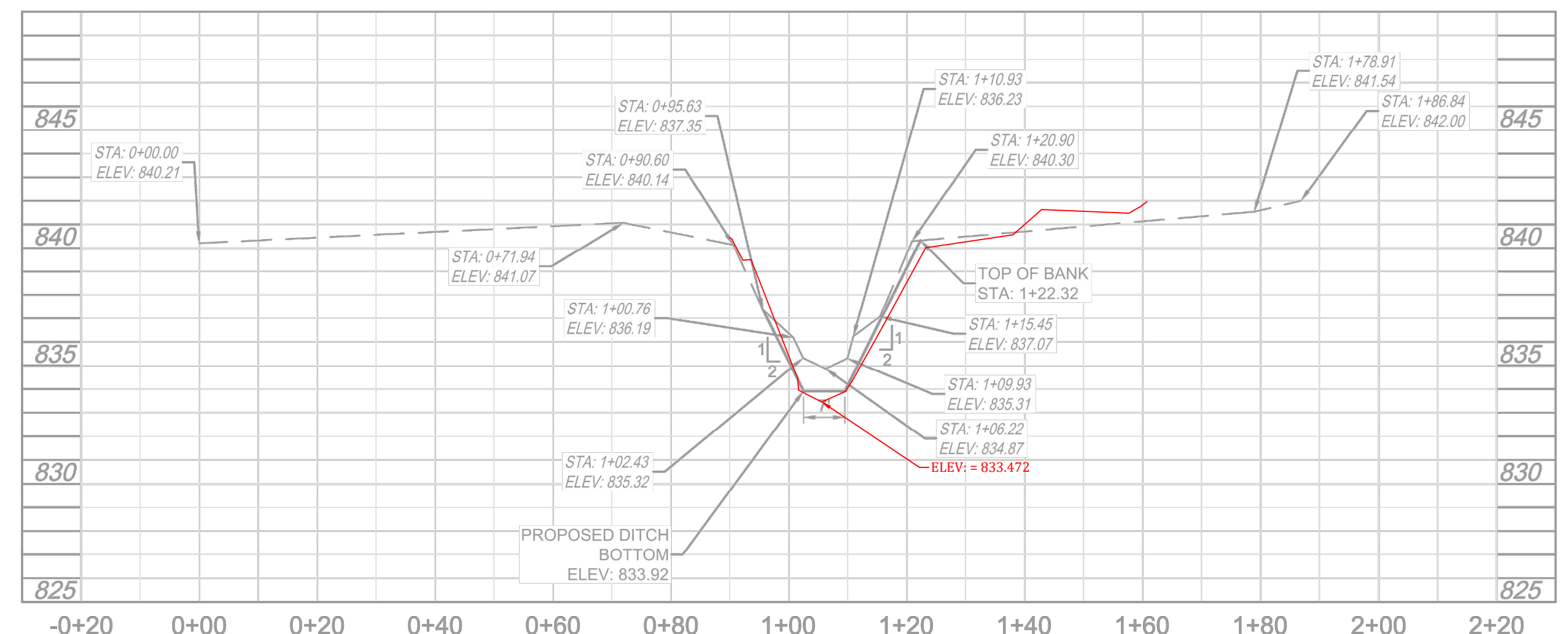
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Sheet No:
C500

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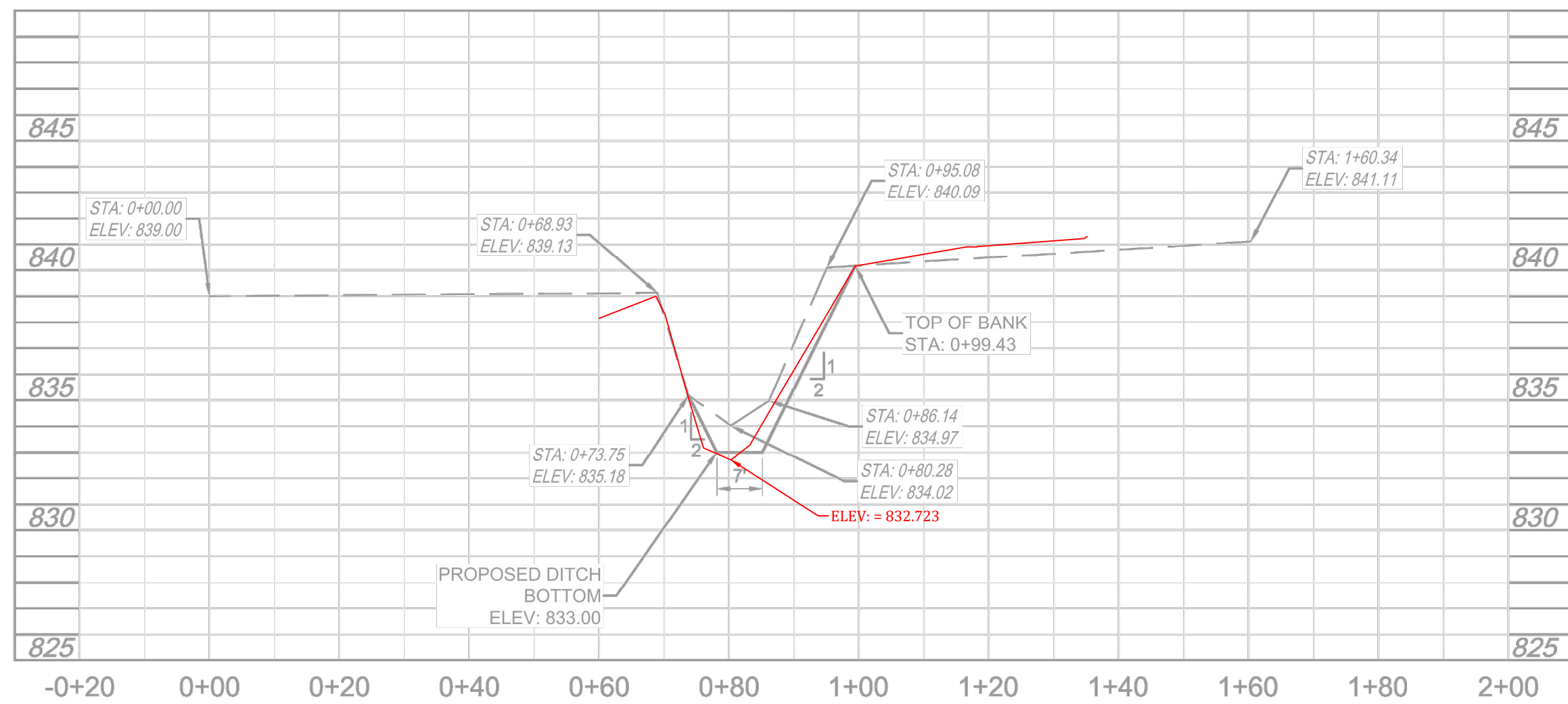
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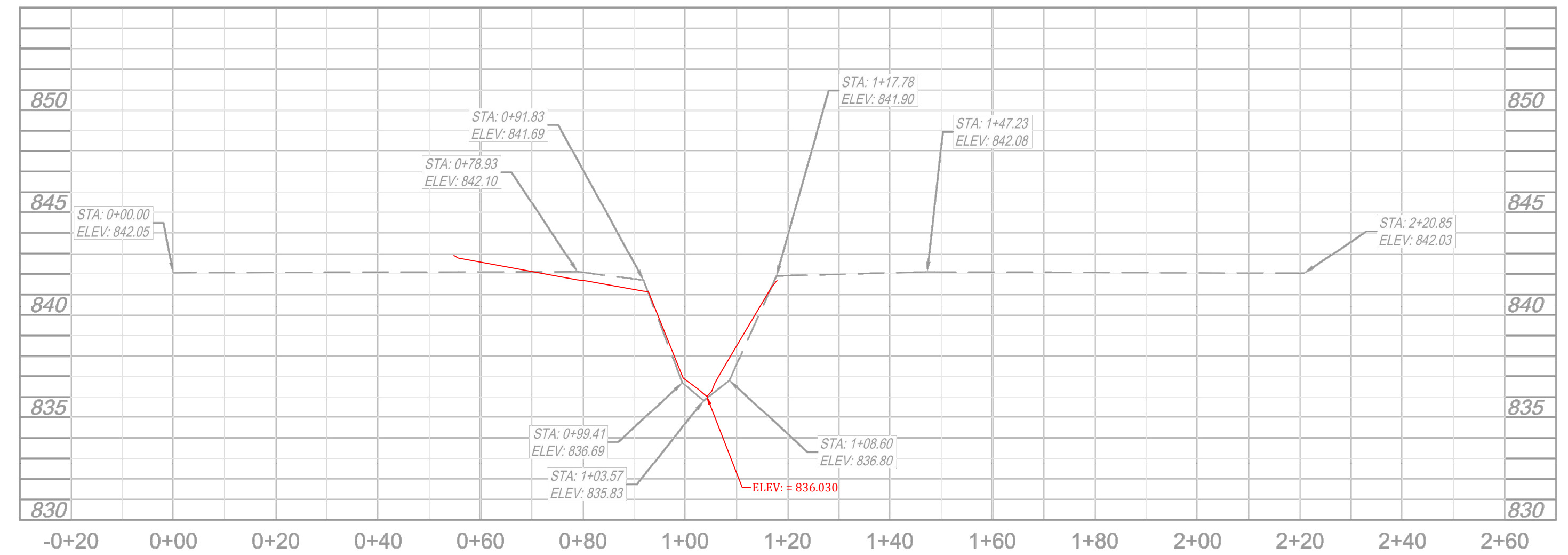
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STA. 28+50.73



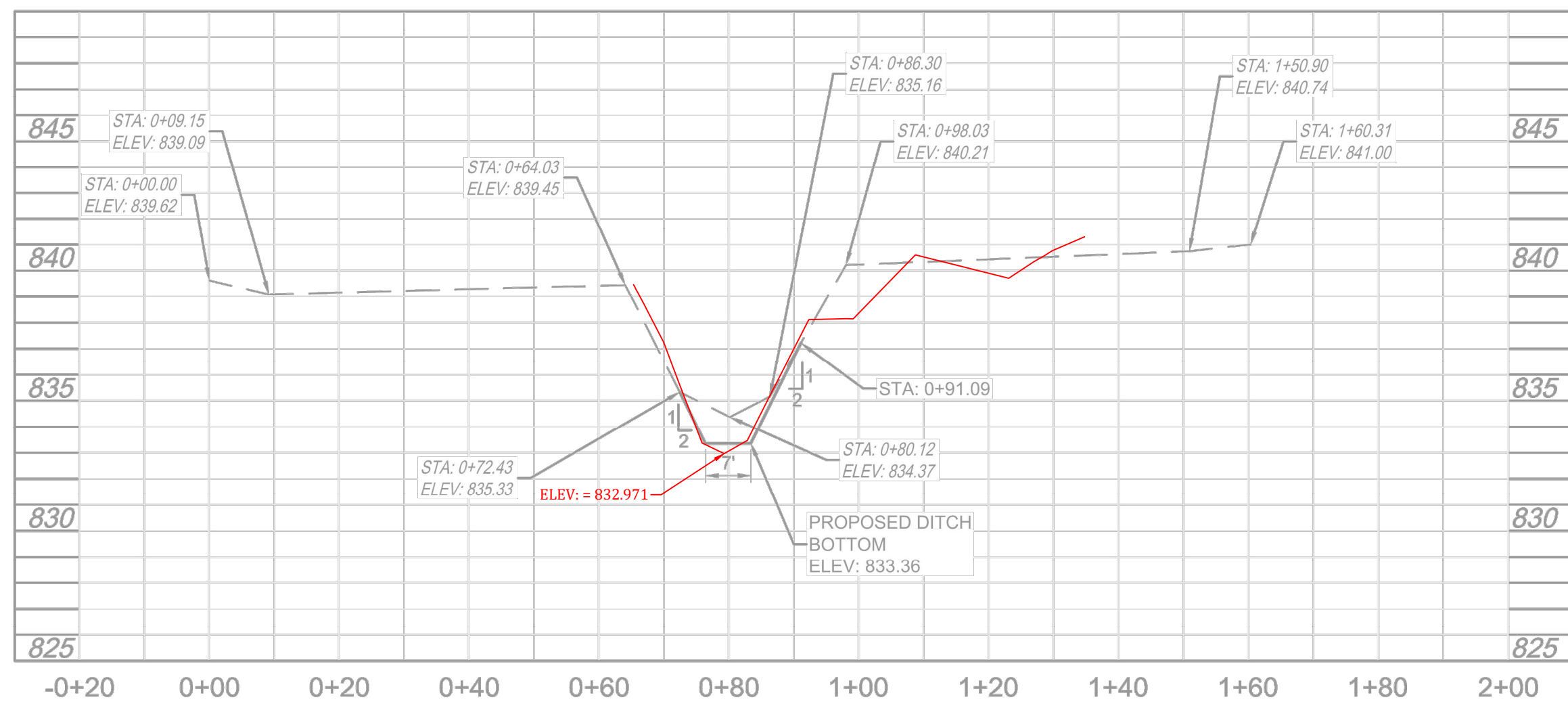
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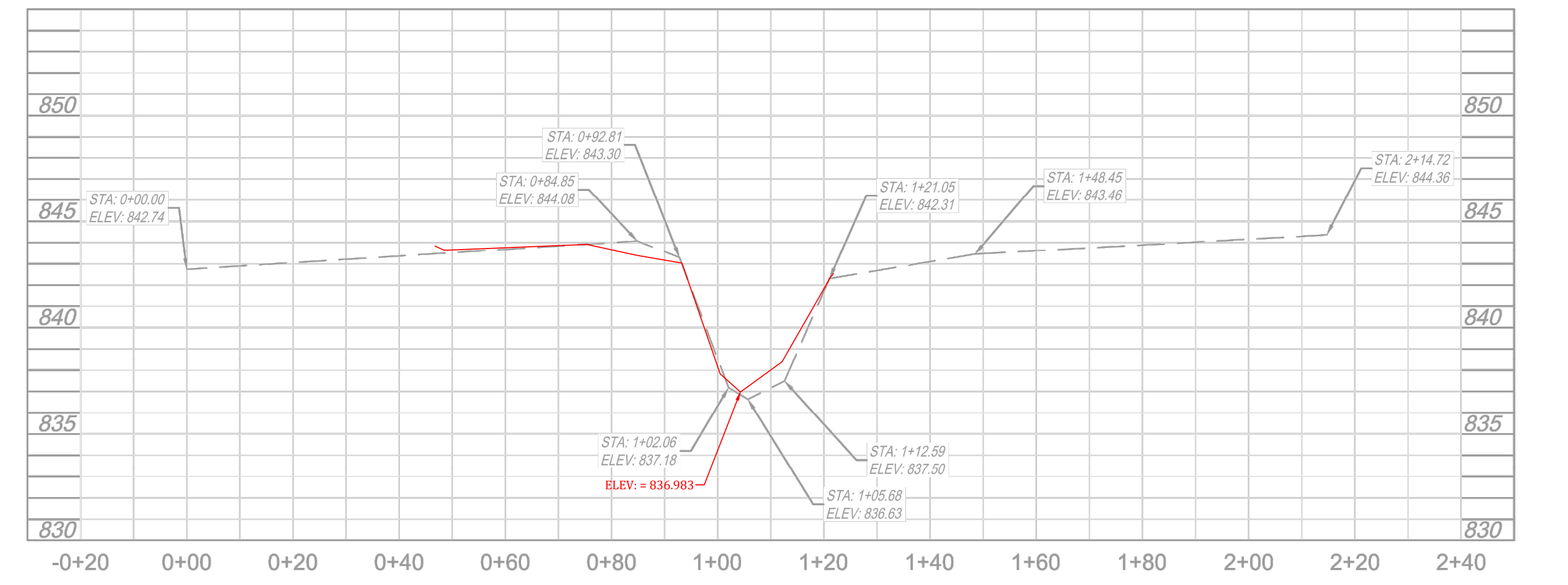
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CROSS SECTION
STA. 43+64.67



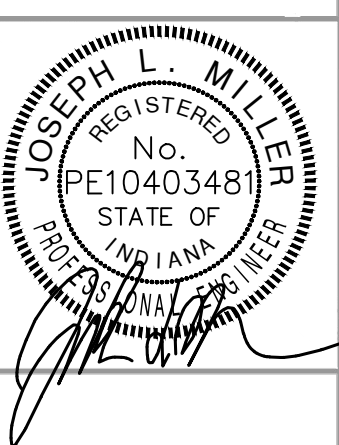
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CROSS SECTION
STA. 47+31.18

Date	
Revisions	
Sym.	
Design:	JLM
Drawn:	THF
Checked:	
Scale:	As Shown
Date:	06-18-15

CROSS SECTIONS
JOHN UNDERWOOD RECONSTRUCTION & MAINTENANCE
FALL CREEK TOWNSHIPS
FISHERS, INDIANA



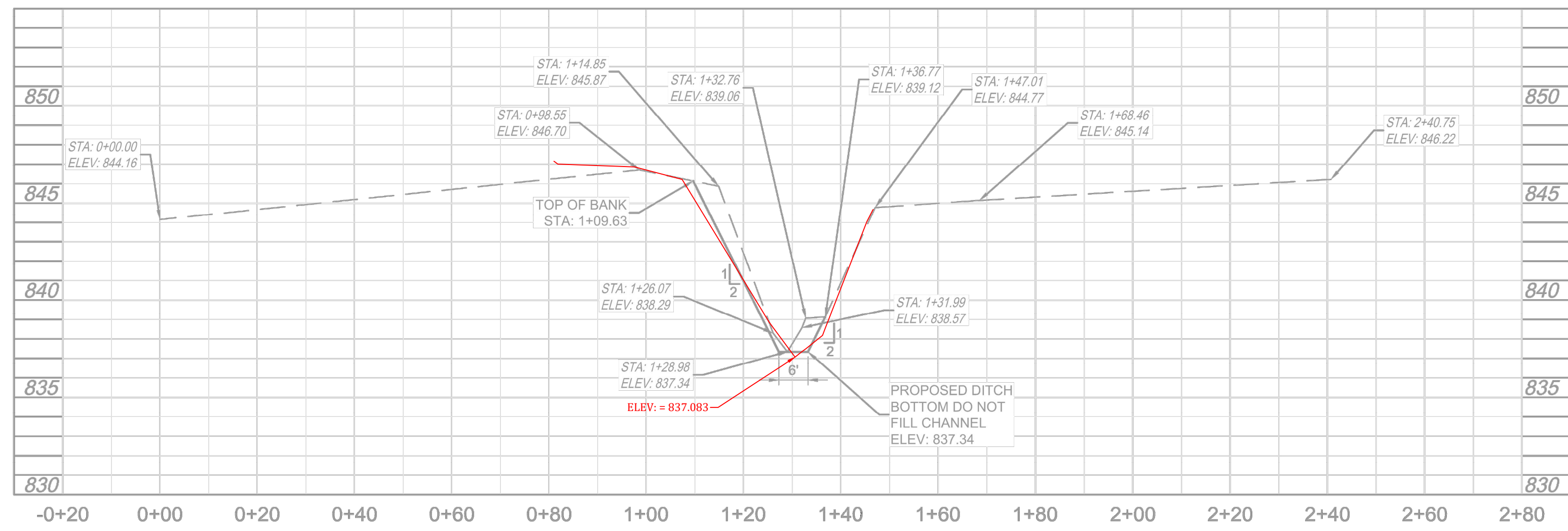
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Project No: 14290
Sheet No:

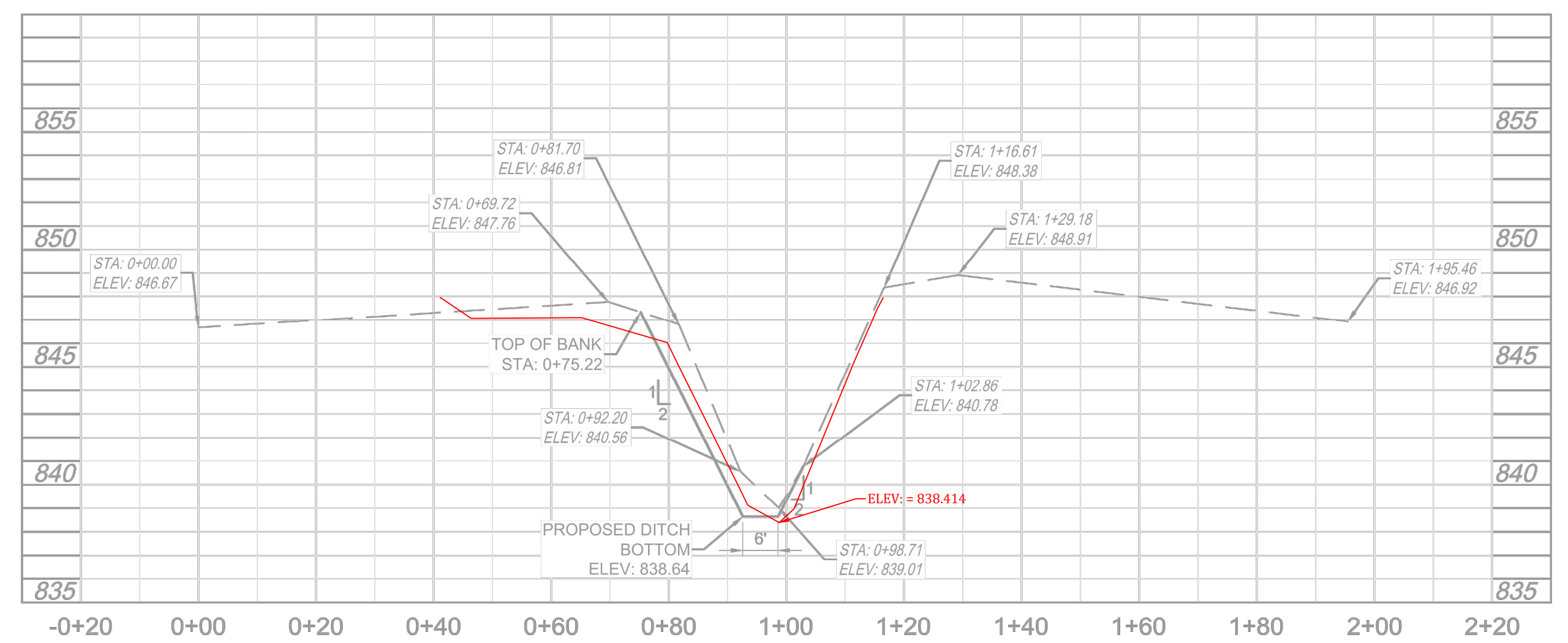
RECORD DRAWING

C501

SDATES
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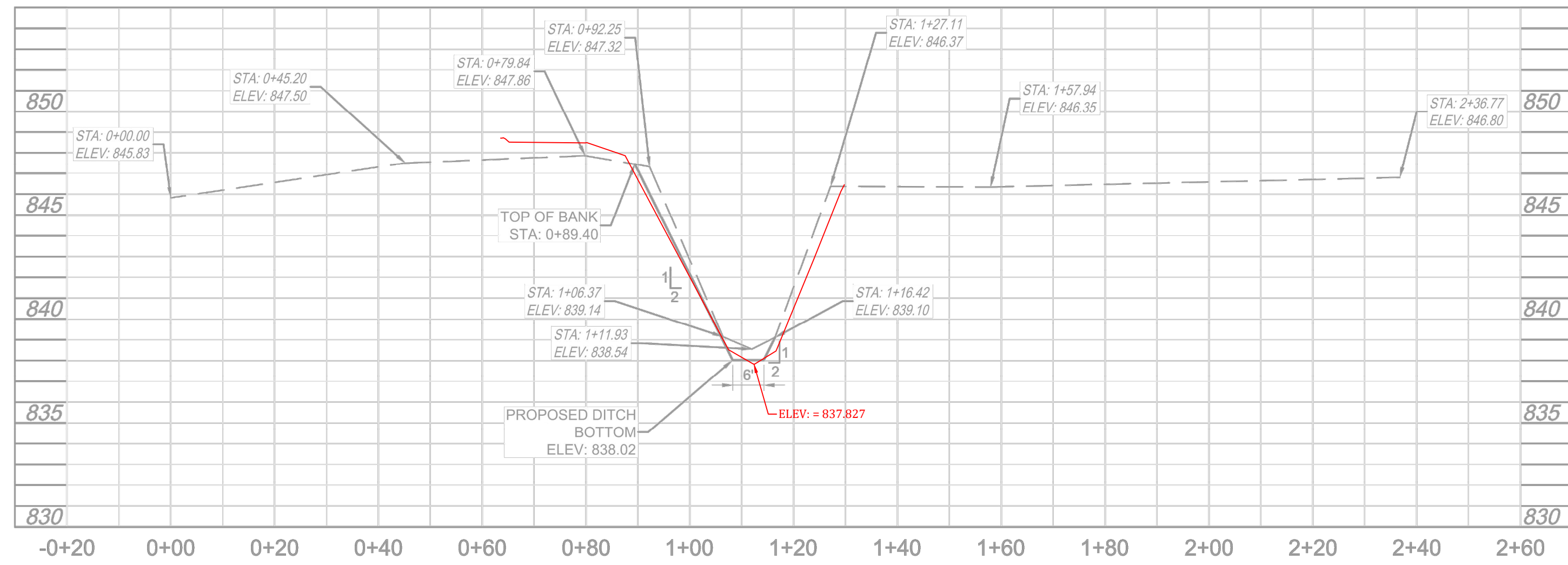


CROSS SECTION
STA. 52+48.11 (A-13)

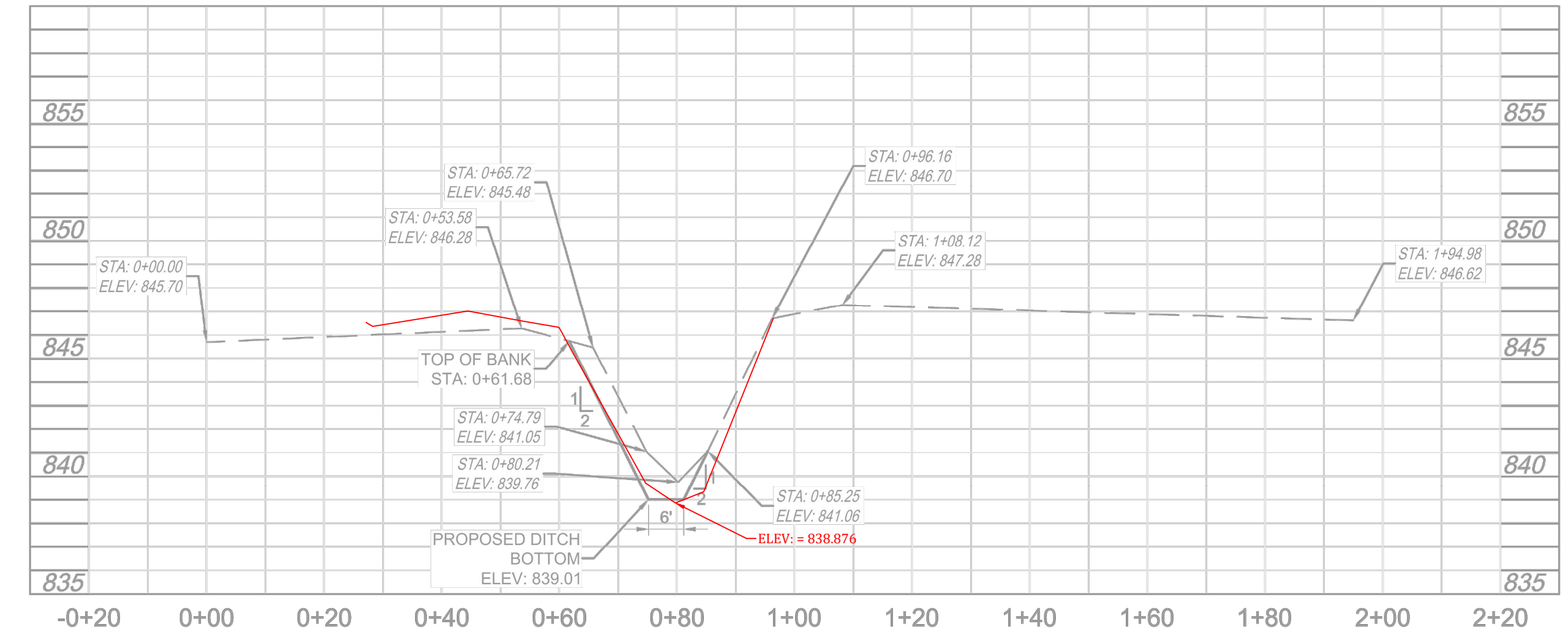


CROSS SECTION
STA. 65+57.90 (A-16)

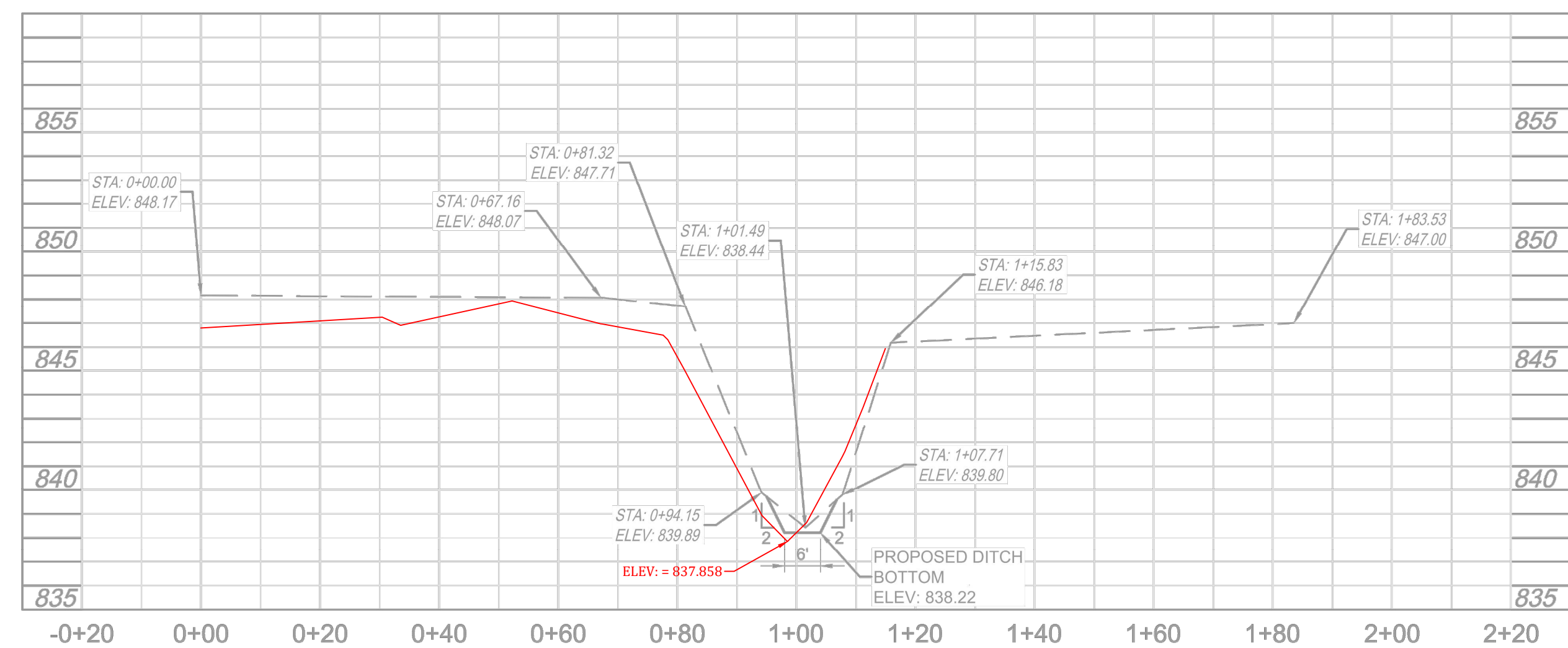
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1"=20' HOR.



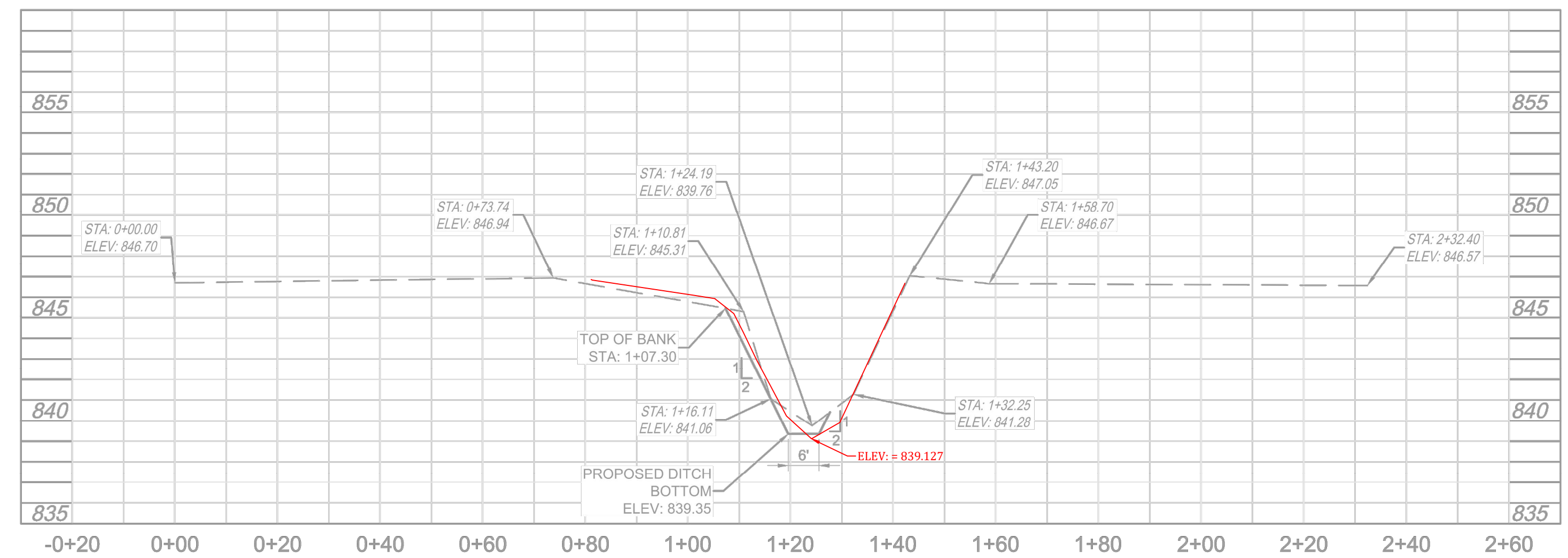
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CROSS SECTION
STA. 70+53.53 (A-17)



CROSS SECTION
STA. 59+91.94 (A-15)

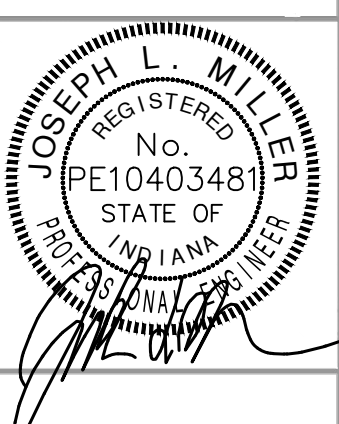


CROSS SECTION
STA. 75+16.34 (A-18)

RECORD DRAWING

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JLM	THF				06-18-15

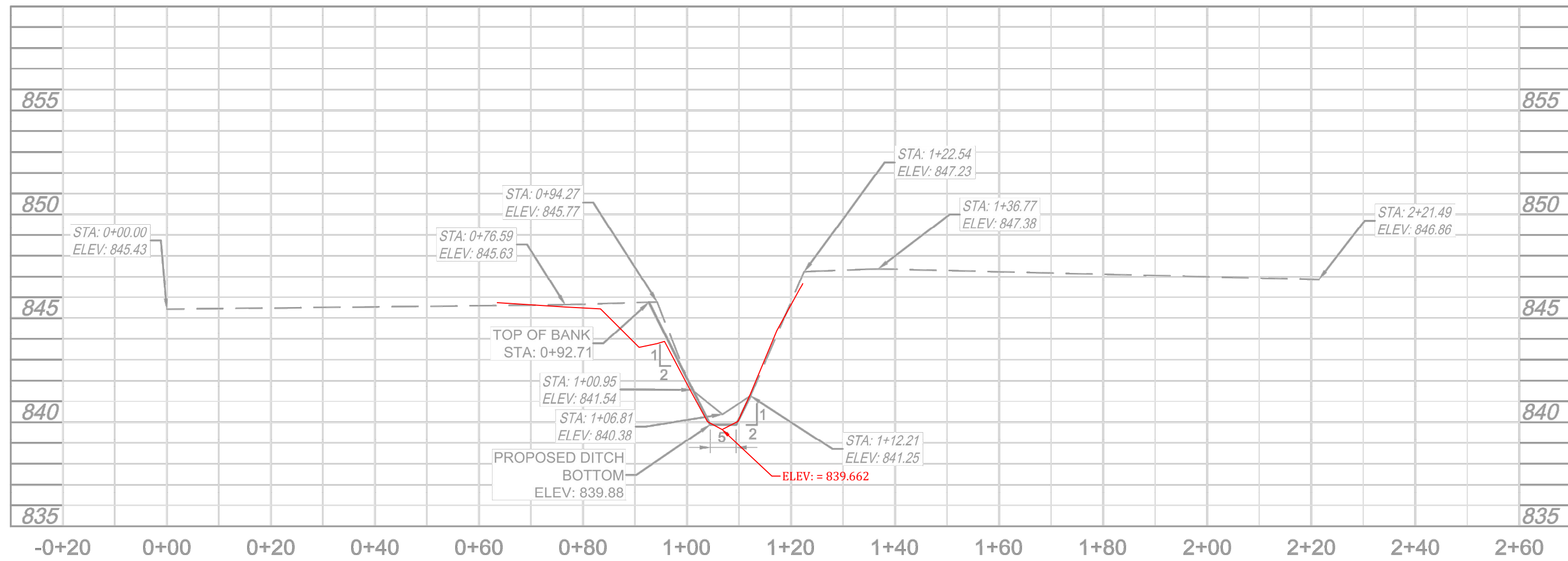
CROSS SECTIONS
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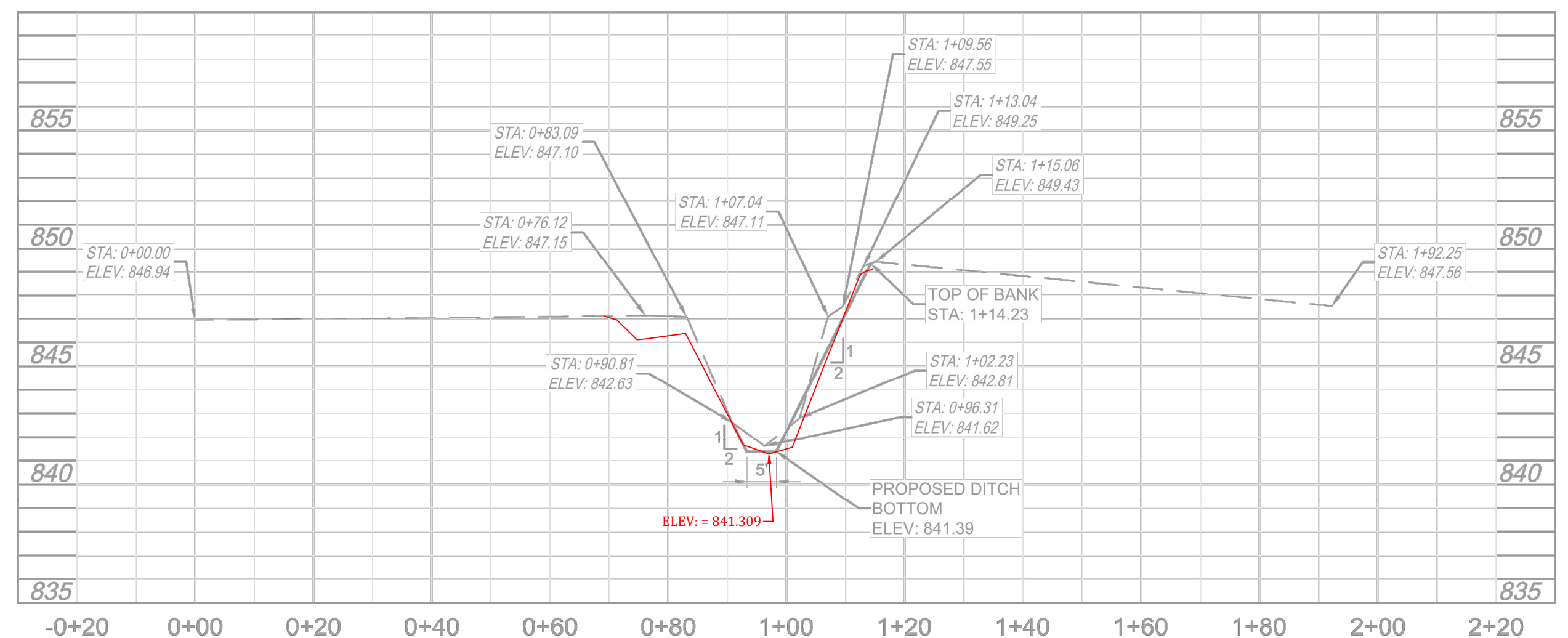
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Project No: 14290
Sheet No:
C502

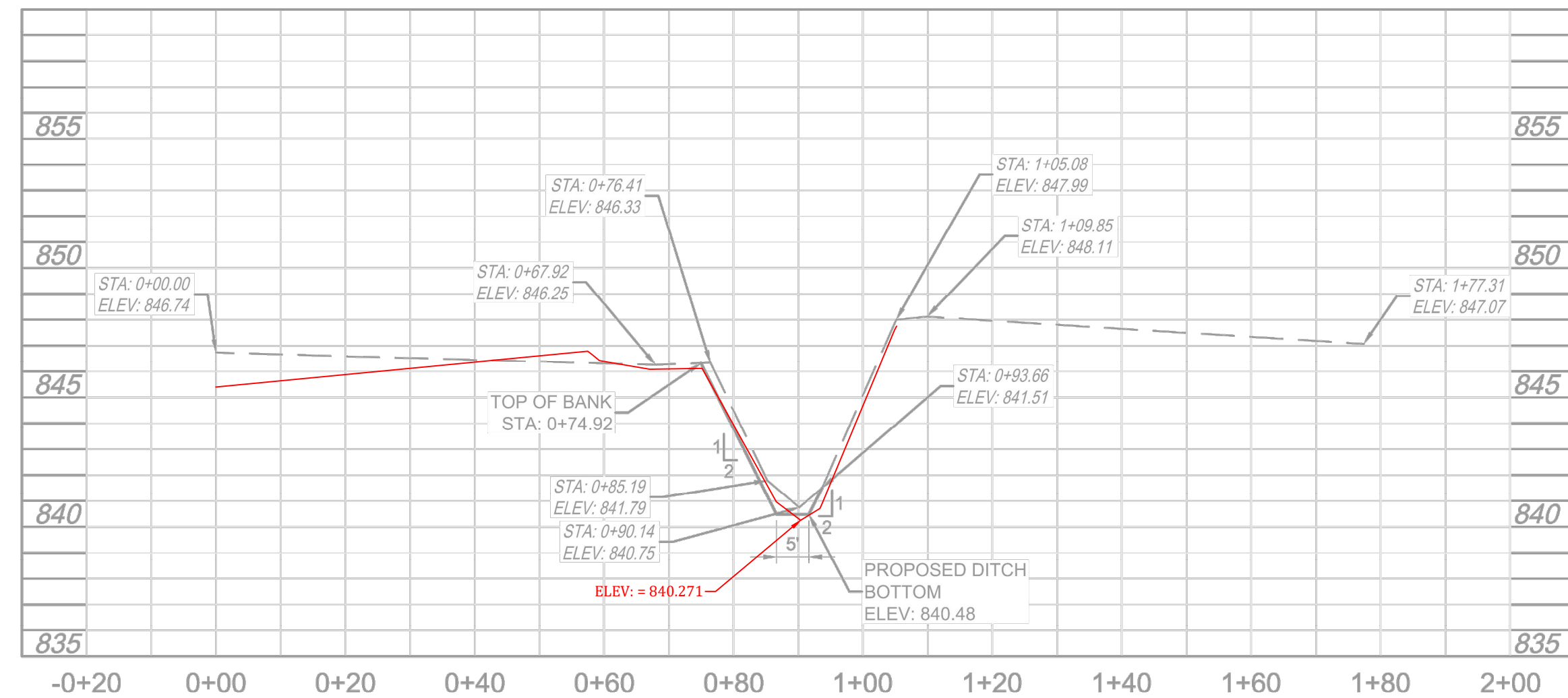
SDATES SCALE:SSCALES
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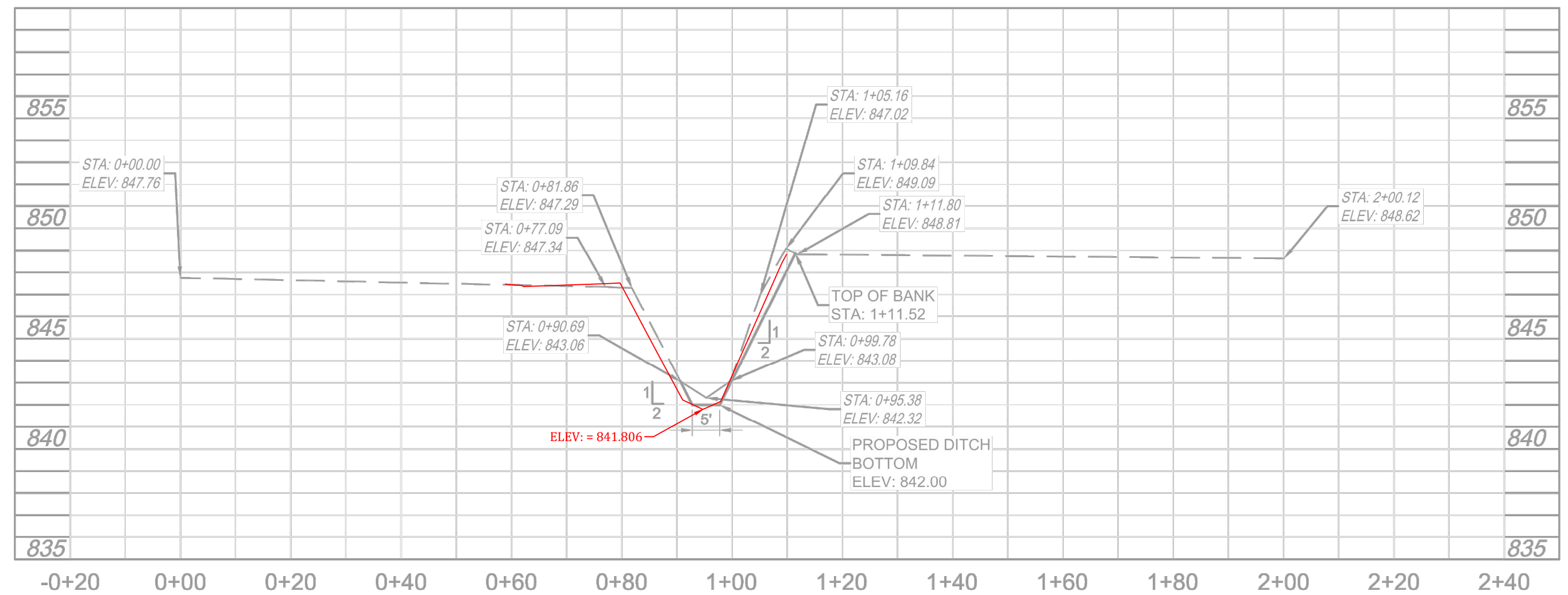
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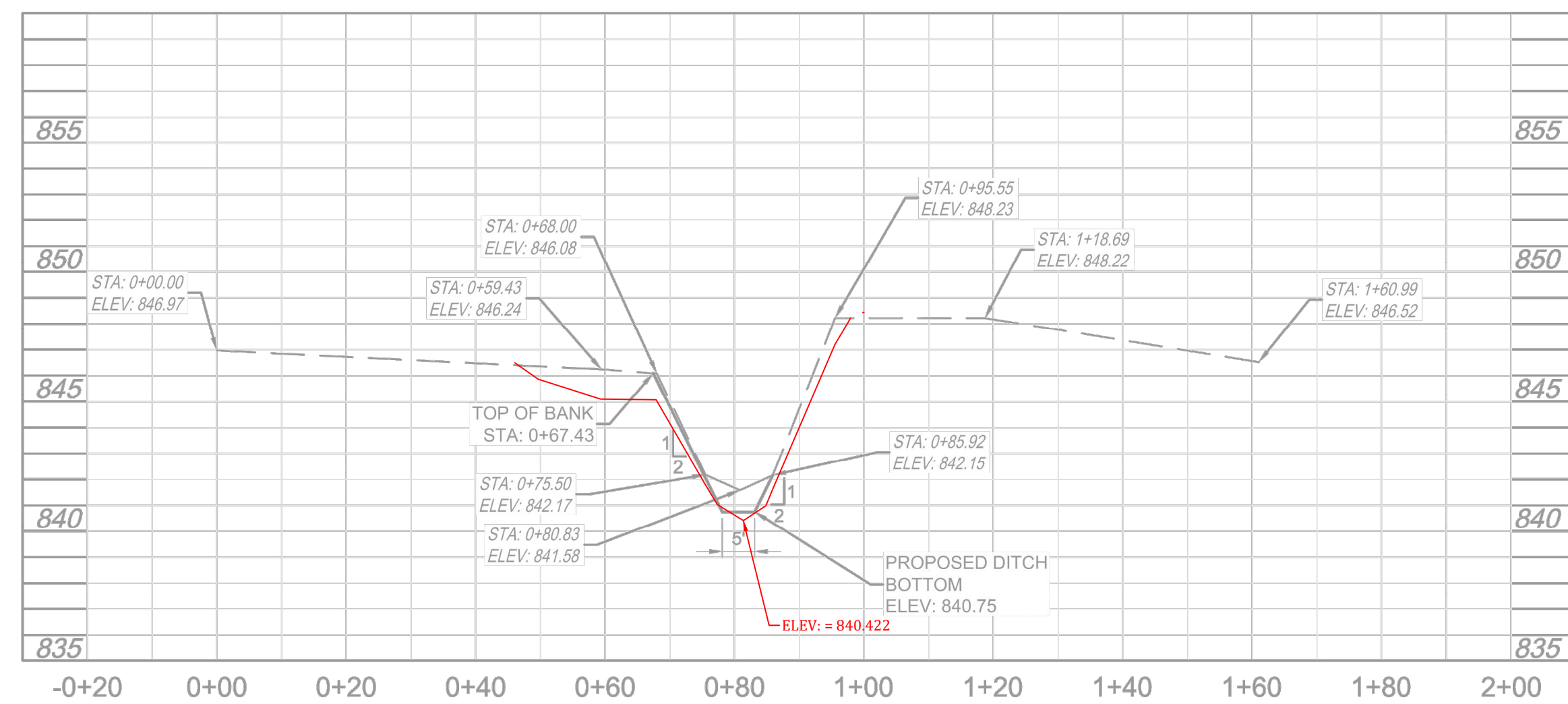
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STA. 89+63.53



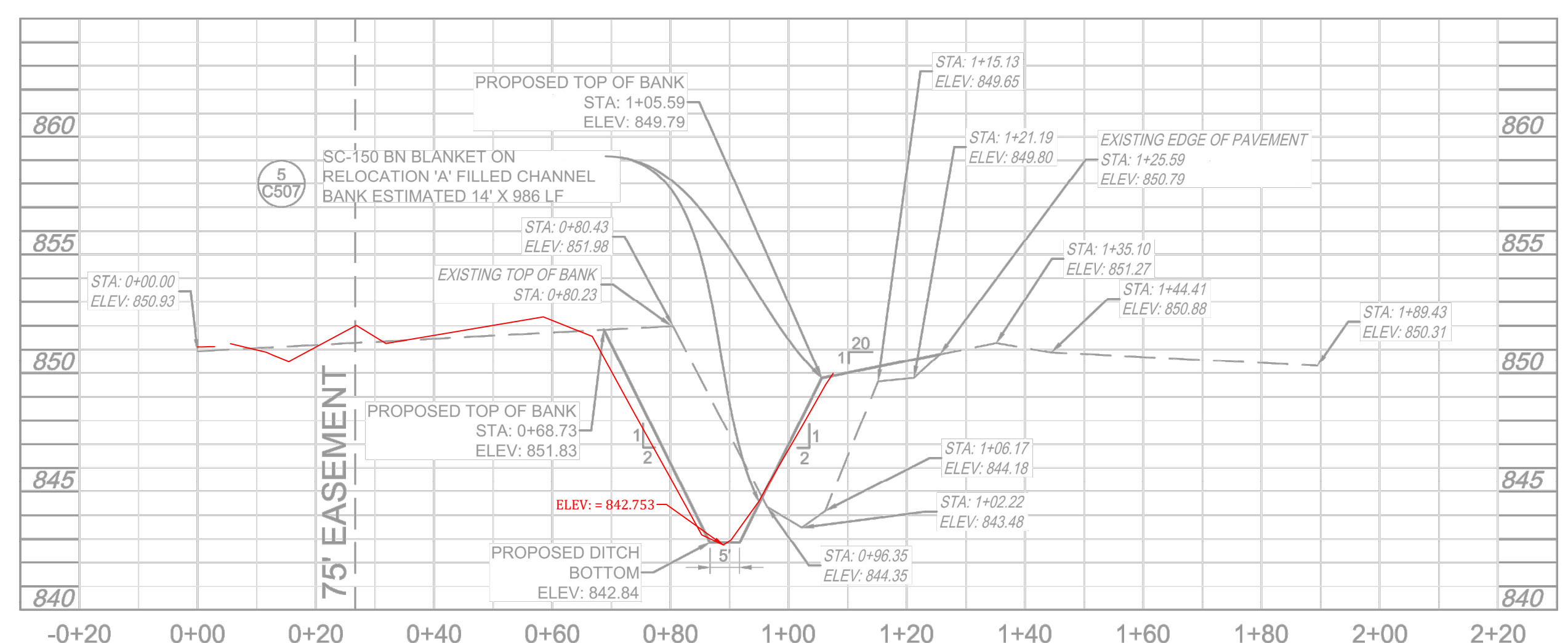
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STA. 83+48.53



CROSS SECTION
STA. 93+64.58



CROSS SECTION
STA. 85+33.39



CROSS SECTION
STA. 99+27.98

SCALE:
1"=5' VERT.
1"=20' HOR.

Designated:	Drawn:	Checked:	Scale:	Date:
JLM	TRF		As Shown	06-19-15

CROSS SECTIONS
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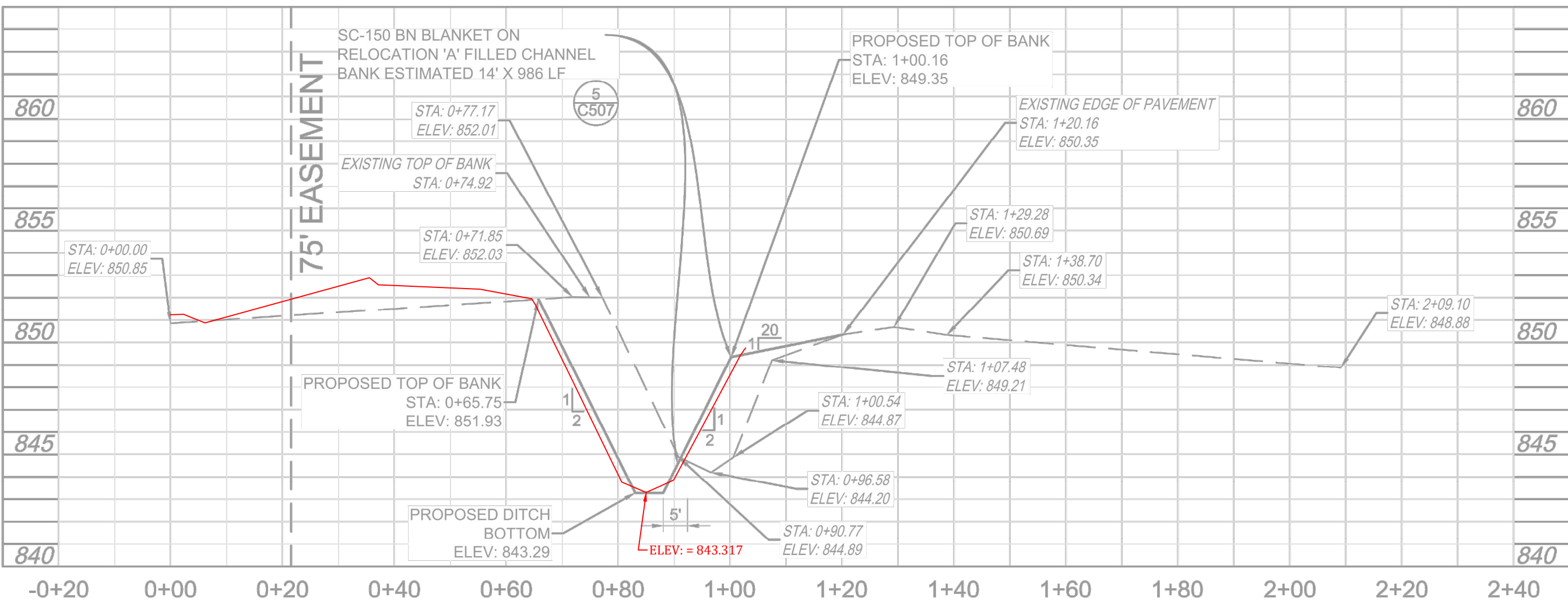
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Project No: 14290
Sheet No:

RECORD DRAWING

C503

SDATES SCALE:SSCALES

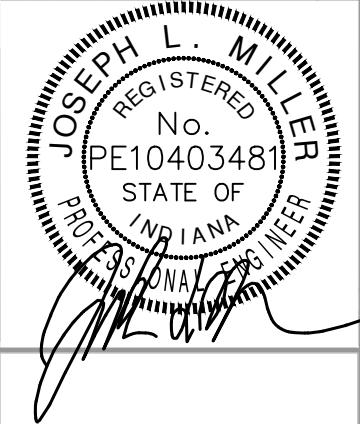


CROSS SECTION
STA. 102+27.26 A
25

SCALE:
 1"=5' VERT.
 1"=20' HOR.

Designated:	JLM	TRM	Date
Drawn:			
Checked:			
Scale:	As Shown		
Date:	06-19-15		

CROSS SECTIONS
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Project No: 14290
 Sheet No:

C504

RECORD DRAWING

SDATES
 SCALE:SSCALES