Illinois Department of Natural Resources
CONSERVATION PLAN
FOR THE IOWA DARTER (*ETHESTOMA EXILE*)
(Application for an Incidental Take Authorization)
Per 520 ILCS 10/5.5 and 17 Ill. Adm. Code 1080

150-day minimum required for public review, biological and legal analysis, and permitting

PROJECT APPLICANT: Carl Schoedel, County Engineer, P.E.
Kane County Division of Transportation
41W011 Burlington Road
St. Charles, Illinois 60175

PROJECT NAME: Kane County Division of Transportation
Plans for Proposed Harmony Road Culvert Replacements
Culvert #2 – Structure No. 045-5700 Over Harmony Creek
IDOT Section #17-00481-00-BR
IDOT Sequence #21516

COUNTY: Kane

AMOUNT OF IMPACT AREA: 0.038 acres – Harmony Creek at Harmony Road

EXHIBITS & APPENDICIES:

The incidental taking of endangered and threatened species shall be authorized by the Illinois Department of Natural Resources (IDNR) only if an applicant submits a conservation plan to the IDNR Incidental Take Coordinator that meets the following criteria:

1. A description of the impact likely to result from the proposed taking of the species that would be covered by the authorization, including but not limited to -

A) Identification of the area to be affected by the proposed action, include a legal description and a detailed description including street address, map(s), and GIS shapefile. Include an indication of ownership or control of affected property. Attach photos of the project area.

The affected area is located at Harmony Road over Harmony Creek in Hampshire, Kane County, Illinois. The project area is south of Stoxen Road and north of Higgins Road and is centered at 42.1449780°N and -88.5352604°W in the Marengo South Quadrangle in Section 4, Township 42N, and Range 6E. Attached see Exhibit 1 for a Location Map, Exhibit 2 for an Aerial Photograph, Exhibit 3 for a Web Soil Survey Soil Map, and Exhibit 4 for Site Photographs.

The project area consists of Harmony Road and the public right-of-way (ROW), an existing box culvert, a waterway (Harmony Creek) with wetland fringe, and adjacent farmland. The existing single box culvert is deteriorating and is undersized to convey the hydraulic flow of Harmony Creek. Currently the roadway and guardrails are substandard. The proposed project includes the removal of the existing 10'x5' concrete box culvert and the construction of a new double 8'x6' cast-in-place, reinforced concrete box culvert as well as roadway resurfacing, shoulder widening, and guardrail improvements to meet current barrier warrants. Harmony Road will be overlaid with a hot mix asphalt (HMA). Stone riprap will be placed at both ends of the structure for stabilization. Compensatory storage area will be added along the roadway in ditches.

The box culvert structure number is 045-5700, and the proposed action is detailed in the engineering plan set, titled "Plans for Proposed Harmony Road Culvert Replacements Culvert #2 – Structure No. 045-5700 Over Harmony Creek," which is included with this Conservation Plan under Appendix 1.

Harmony Road and the box culvert within Harmony Creek are owned and maintained by the Kane County Division of Transportation (KDOT). Right-of-way and easement acquisition was required for the culvert improvements for four (4) parcels from three (3) property owners. The County engaged in right-of-way negotiations with these property owners in June 2018. As of June 2019, negotiation are complete and all properties have closed or are in the process of closing. The County's acquisition process required on going coordination and negotiations with the adjacent property owners in order to complete the purchase.

Harmony Creek is a tributary to Coon Creek, Coon Creek is a tributary to the Kishwaukee River, and the Kishwaukee River is a tributary to the Rock River. The Rock River is a Section

10 Traditional Naviagable Waterway that is regulated by the United States Army Corps of Engineers (USACE) under the Rivers and Harbors Act.

The Illinois Department of Natural Resources (IDNR) completed an EcoCAT for the project area (submittal #1903823), which identified records of the state-listed threatened Iowa Darter (*Etheostoma exile*) within the vicinity of the project. IDNR has recommended that Kane County Division of Transportation (KDOT) pursue Incidental Take Authorization for the Iowa Darter for this culvert replacement. IDNR's EcoCAT letter dated October 22, 2018 can be found in Appendix 2.

B) Biological data on the affected species including life history needs and habitat characteristics. Attach all pre-construction biological survey reports.

The Iowa Darter (*Etheostoma exile*) is a state-listed threatened species by IDNR. It is one of eight darter species known to live in both lakes and streams (Hatch & Johnson, 2014). They occur as far north as Saskatchewan to Quebec and can be found as far south as Colorado, Iowa, Illinois, and Ohio (Eddy & Surber, 1947; Copes, 1986). They spend the winter in deeper pools of water, the spring and summer in cobble areas that contain some aquatic vegetation, and in the fall they move back to deeper water (Hatch & Johnson, 2014). According to the FishBase website, Page & Burr (1991) found that the Iowa Darter lives in small to medium rivers, creeks, vegetated lakes, and the pools of headwaters. The Iowa Darter tends to be found in the weedy margins of lakes and streams (Eddy & Surber, 1947; Copes, 1986). The fish prefers clear and slow-moving or standing water that contains vegetation (Bailey & Allum, 1962; Copes, 1986). They also inhabit lakes and streams that contain cold water and sandy bottoms (Beckman, 1952; Copes, 1986). According to IDNR's website, in Illinois the Iowa Darter can be found in glacial lakes in the northeastern part of the state, some streams in the northern part of the state, and a few limestone quarries in Vermillion County, which is in the eastern part of Illinois.

According to Copes (1986), the Iowa Darter feeds on drift organisms and invertebrates that occur in aquatic vegetation. There have been different findings on when the spawning season occurs. Most agree that the spawning season begins in April, and according to Copes (1986), it is believed to last until late July. According to IDNR, the spawn dates for the Iowa Darter are from April 1st – May 31st based on an analysis of stream temperatures. Both male and female Iowa Darters are sexually mature by age one (Copes, 1986). According to survival estimates, it is believed that the Iowa Darter experiences a population turnover every 3-4 years (Copes, 1986). The IDNR website reports that the Iowa Darter is becoming less abundant as a result of habitat degradation. However, their populations are beginning to increase in northern Illinois streams (Tiemann et al. 2015), including many streams in the Kishwaukee basin such as Harmony Creek (Tiemann, 2018).

Illinois Department of Transportation (IDOT) contracted with Illinois Natural History Survey (INHS) to complete a fish survey for the Harmony Creek at Harmony Road project

area. The survey was conducted on June 26, 2018. Eleven species of fishes were collected during the survey, one of which was the Iowa Darter. There were seven individuals of the Iowa Darter collected. The other species collected were not federally or state-listed threatened or endangered species. The July 2018 INHS Aquatic Survey Report titled "Survey for Fishes in Harmony Creek at Harmony Road (IDOT CH 36), Kane County, Illinois IDOT Sequence Number: 21516" detailing the results of the Harmony Creek at Harmony Road fish survey can be found in Appendix 3.

C) Description of project activities that will result in taking of an endangered or threatened species, including practices and equipment to be used, a timeline of proposed activities, and any permitting reviews, such as a USFWS biological opinion or USACE wetland review. Please consider all potential impacts such as noise, vibration, light, predator/prey alterations, habitat alterations, increased traffic, etc.

The project will involve diverting water flow around the work area in order to replace the existing structure with a new box culvert. The potential for a take would come from dewatering during the process of bypassing the creek and in-stream activities related to the construction of the project.

Harmony Creek will be bypassed around the culvert in two stages. During Stage 1, a new channel will be excavated north of the culvert and the bypassed channel will be separated from the work area using steel sheet pile. This will maintain the flow of the channel while allowing work to be done in dry conditions. The existing culvert will be removed, the new culvert will be constructed, and riprap will be placed in the dry creek bed. During Stage 2, flow will be opened up back to the existing channel and will run through the newly constructed culvert. The steel sheet pile walls will be maintained where needed in order to finish constructing the northern wing walls of the culvert and place the remaining riprap.

Construction will take place during the summer of 2020 and will occur outside of the Iowa Darter's spawning season (April 1 – May 31). Completing the project will take approximately 45 working days or 9-10 weeks. It is anticipated that Stage 1 will take about 5-6 weeks, and Stage 2 will take about 2-3 weeks, for a total of 8-9 weeks of in-stream construction. After Stages 1 and 2 are complete, there will be another week of non-stream work to complete the paving and finish the project.

During the diversion of the channel, it is expected that the following equipment will be used: full size excavator with a vibratory hammer for driving sheet piling, skid-steer loader, wheel loader, crawler dozer, and portable pumps for dewatering. For the construction of the culvert we anticipate the use of a full size excavator, skid-steer loader, wheel loader, portable pumps for dewatering, and a portable power generator. The equipment that will be used to complete the project, however, is up to the chosen contractor.

The wetland and Waters impacts for the proposed project were reviewed by USACE. In a Permit Verification Letter dated November 16, 2018, the USACE authorizes the proposed activity as long as the listed special conditions are met. Special condition #3 states that an Incidental Take Authorization for the state-listed threatened Iowa Darter (*Etheostoma exile*) be obtained from the Illinois Department of Natural Resources prior to construction. The Permit Verification Letter dated November 16, 2018 is located in Appendix 4.

D) Explanation of the anticipated adverse effects on listed species;

Individual fish remaining in the work area could be harmed during the process of bypassing the channel or during construction. It is anticipated that most fish will avoid the construction area due to the increased noise and overall disturbance.

According to the USDA Web Soil Survey Soil Map included as Exhibit 3, the soils along Harmony Creek are classified as 329A—Will Loam with 0 to 2 percent slopes. This is a loam/sandy loam soil that typically forms at outwash plains, stream terraces, and kames. The stream banks at the location of the culvert are steep, and once vegetation is removed for construction they will experience erosion. It is likely that sediment will fall into the stream during construction which would temporarily impact water quality downstream of the culvert. Other construction pollutants such as petroleum from equipment, concrete, solid waste debris, etc. will be present on the site and could have the potential of entering the Creek. Measures to keep sediment and pollutants from entering the stream during construction are shown on Sheets 12-15 in the attached engineering plans.

2) Measures the applicant will take to minimize and mitigate that impact <u>and</u> the funding that will be available to undertake those measures, including, but not limited to –

A) Plans to minimize the area affected by the proposed action, the estimated number of individuals of each endangered or threatened species that will be taken, and the amount of habitat affected (please provide an estimate of area by habitat type for each species).

1. In-stream work will be done outside of the spawning season (April 1 – May 31) and will be completed in 8-9 weeks to minimize impacts. The road will be closed to speed up the construction process.

2. The limits of construction are the minimum necessary to complete the work. The amount of Iowa Darter habitat impacted will be limited to the footprint of the culvert and the area where riprap will be placed in the streambed as well as the temporary bypass channel that will be utilized during construction. The existing channel ranges from 8 to 11 feet wide throughout the project area, with the channel being wider near the west side and the downstream pool, and narrower on the east side. The length of the existing channel is 114 feet. The total area of existing channel impacted in the project is 0.038 acres.

3. Harmony Creek will be bypassed around the work area to the north instead of blocking flow completely in order to minimize impacts to the Iowa Darter. The temporary diversion

channel is 8 to 9 feet wide, with the wider portion on the west side and the narrower portion on the east side. The diversion channel is 126 feet in length. The area of the diversion channel is 1031 square feet, or 0.024 acres.

4. We expect 1 – 5 Iowa Darters could be taken as a result of the proposed project. The bypass channel, will maintain water flow within Harmony Creek during construction, which will allow aquatic life to move up or down the Creek without obstruction.

B) Plans for management of the area affected by the proposed action that will enable continued use of the area by endangered or threatened species by maintaining/re-establishing suitable habitat (for example, native species planting, invasive species control, use of other best management practices, restored hydrology, etc.).

During construction, Soil Erosion and Sediment Control (SESC) features will be used within and surrounding the project area. Perimeter erosion barrier will be used around the limits of the project area. Temporary ditch checks will be used south of the culvert on either side of the road. Temporary cofferdams will be used during construction to bypass the channel and allow for in-stream work. The cofferdams directing the flow to the bypass channel will be constructed of steel sheet pile and will be designed to withstand expected flows. Erosion control blanket and IDOT Class 2A and Class 4A will be installed after disturbance is complete. IDOT Class 4A is a low profile native grass seed mixture that includes the following plant species: Little Bluestem (*Andropogon scoparius*), Side-Oats Grama (*Bouteloua curtipendula*), Canada Wild Rye (*Elymus canadensis*), Prairie Dropseed (*Sporobolus heterolepsis*), Annual Ryegrass, Oats, and Perennial Ryegrass. IDOT Class 2A a salt tolerant roadside grass seed mixture that includes the following plant species: Tall Fescue, Perennial Ryegrass, Audubon Red Fescue, Rescue 911 Hard Fescue, and Fults Distans Alkaligrass. An Erosion Control & Seeding Plan is included in the attached engineering plans on Sheets 12-15. The engineering plan set is included with this Conservation Plan under Appendix 1. The project will follow the requirements of the Kane-DuPage Soil & Water Conservation District (KDSWCD), the USACE permit, the Kane County Stormwater Management Ordinance permit, and the NPDES construction permit.

After the in-stream work is complete, the steel sheet pile will be removed and hydrology will be restored to the existing channel. This will allow fish upstream and downstream of the culvert to move back into the project area. After construction, native seeding will be planted in the wetland and ditch areas. There will not be aquatic plantings installed in the creek due to the placement of riprap for erosion control purposes, but there will be Iowa Darter habitat located upstream and downstream of the culvert. The ditches will be used for compensatory storage. This will help filter water before it enters the creek. See Exhibit 5 for the IDOT Storm Water Pollution Prevention Plan.

C) Description of all measures to be implemented to avoid, minimize, and mitigate the effects of the proposed action on endangered or threatened species.

To avoid working within the Iowa Darter's habitat, water flow will be diverted around the work area to the north using steel sheet pile. This will allow work to be done in dry conditions and will maintain the flow of Harmony Creek during construction. During the pre-construction meeting, the contractor will be informed of the presence of the Iowa Darter within the project area and what precautions and restrictions are involved. The Resident Engineer will monitor the project and make sure that all disturbance is staying within the area of impact and the contractor is following all restriction dates. If specimens of the Iowa Darter are observed, the Contractor shall be responsible for stopping work in the area, protecting the area to preserve the Iowa Darter, and contacting the Engineer and the Environmental Consultant, immediately.

To minimize the effects of the proposed action on the Iowa Darter the SESC practices noted above in Section 2.B will be in-place and maintained throughout construction. This will reduce the amount of soil and sediment that enters Harmony Creek and will maintain water clarity. The limits of construction and length of work are the minimum possible to complete the project. In-stream work will be completed outside of the spawning season (April 1 – May 31). If there are fish remaining in the work area during the channel bypass process, they will be removed and relocated downstream of the work area. A licensed biologist shall be present on-site the day construction begins to ensure that there are no Iowa Darters present within the work area. After construction is complete, erosion control blanket and IDOT Class 2A and Class 4A will be installed. See the Erosion Control & Seeding Plan on sheet 12 in the attached engineering plans for the seeding locations.

To mitigate the effects of the culvert replacement on the Iowa Darter, KDOT will pay a mitigation fee of $5,200.00 to the IDNR Wildlife Preservation Fund.

D) Plans for <u>monitoring</u> the effects of the proposed actions on endangered or threatened species, such as monitoring the species' survival rates, reproductive rates, and habitat before and after construction, include a plan for follow-up reporting to IDNR. Monitoring surveys should be targeted at reducing the uncertainty identified in Section 1.d.

KDOT will provide a qualified sub-consultant to perform a pre-construction survey of the cofferdam area for Iowa Darters and relocate any indiviuduals found during the survey. KDOT's consultant will document any findings of Iowa Darters (including relocation sites and dates) from the survey and throughout construction. KDOT will also provide a qualified sub-consultant or utilize the Illinois Natural Histroy Survey to perform two post-construction surveys of the project area and document any findings. These surveys shall be done in Year 2 and Year 5 after construction is complete.

E) <u>Adaptive management practices</u> that will be used to deal with changed or unforeseen circumstances that may affect the endangered or threatened species.

KDOT shall have a full-time Resident Engineer on site to oversee construction activities. If changes or unforeseen circumstances occur that may affect the Iowa Darter, it is the

Resident Engineer's responsibility to consult with KDOT and KDOT shall consult with IDNR to address those issues. For example, if drought conditions occur, IDNR will be consulted regarding appropriate fish salvage recommendations. If flood conditions occur, the Contractor will stop their work, and the qualified sub-consultant noted above in Section 2.D. will be notified and shall be present during any dewatering activities. It is also the Contractor's responsibility to communicate with the Resident Engineer and KDOT if changes are needed.

F) Verification that adequate funding exists to support and implement all minimization and mitigation activities described in the conservation plan. This may be in the form of bonds, certificates of insurance, escrow accounts, or other financial instruments adequate to carry out all aspects of the conservation plan.

All phases of the project including Phase 2, Right-of-Way, and Construction, are being funded by Kane County Division of Transportation. The Harmony Road over Harmony Creek project is budgeted to use Regional Transportation Authority (RTA) Sales Tax Funds, Fund 305 in Kane County's budget.

3) A description of alternative actions the applicant considered that would reduce take, and the reasons that each of those alternatives was not selected. A "no-action" alternative shall be included in this description of alternatives. Please describe the economic, social, and ecological tradeoffs of each action.

During the project pursuit multiple alternatives were considered for the site. Those included a no-action alternative, a reinforced concrete box culvert, a slab bridge, and a PPC deck beam bridge. Out of those alternatives, the reinforced concrete box culvert was selected for the proposed project.

Alternative 1: The No-Action alternative is not practical. The existing concrete culvert is deteriorating and will continue to deteriorate in the future, which could eventually lead to load limiting for the roadway or road closure. The roadway is also currently substandard and does not meet the shoulder width and guardrail requirements. A roadway typical section should consist of 12-foot lanes and 4-foot shoulders. In areas with guardrails, the shoulder width should be 7.75 feet. The existing shoulder is 2-3 feet wide on either side of the road. It was also determined that the existing culvert is not hydraulically adequate. The culvert is located in Zone A (unstudied) floodplain. A steady-state HEC-RAS model was developed based solely on project survey data and flowrates were derived from StreamStats. The model indicates that the existing crossing passes a 10-year event without overtopping. The 25-year event overtops Harmony Road. The minimum overtopping event is somewhere between a 10-year and 25-year event. Optimal hydraulic conditions should pass the 50-year storm event without overtopping.

Alternative 2 (selected alternative): The reinforced concrete box culvert was selected for the proposed project. This includes removal of the existing 10'x5' box culvert and

replacement with a double 8'x6' box culvert. The culvert structure will be approximately 60' long including the wing walls and approximately 20' wide. The new configuration will provide a double box culvert with the added cell designed to convey flows during higher water levels. This alternative also includes roadway resurfacing, shoulder widening, and guardrail improvements. Harmony Road will be overlaid with a hot mix asphalt (HMA). Stone riprap will be placed at both ends of the structure for stabilization. Compensatory storage area will be added along the roadway in ditches.

Alternative 3: The Slab Bridge structure would be approximately 30' long with a 16" thick concrete slab deck and would require instream disturbance to remove the existing culvert and shape the channel around the new bridge abutments. In order to meet hydraulic freeboard requirements, the existing roadway profile would be raised. This would increase the fill in the floodplain and the compensatory storage impacts.

Alternative 4: The PPC Deck Beam Bridge structure would be approximately 30' long with 17" deck beams and an overlay (5" concrete or 1.5" HMA) and would require instream disturbance to remove the existing culvert and shape the channel around the new bridge abutments. In order to meet hydraulic freeboard requirements, the existing roadway profile would be raised with this option as well. This would increase the fill in the floodplain and the compensatory storage impacts.

4) Data and information to indicate that the proposed taking will not reduce the likelihood of the survival of the endangered or threatened species in the wild within the State of Illinois, the biotic community of which the species is a part, or the habitat essential to the species existence in Illinois.

The project has a total footprint area of 1.007 acres with the majority of the impacts being in the upland away from the creek. The proposed project will impact a total of 0.038 acres of Iowa Darter habitat. The permanent impacts are the result of riprap placement within the streambed and on either side of the culvert for stabilization. The temporary impacts will be restored back to pre-construction conditions. The proposed impacts make up a relatively small area of Iowa Darter habitat, and once construction is complete the fish upstream and downstream of the culvert will be able to re-occupy the project area. See Exhibit 6 for a Wetland Impacts Exhibit.

Harmony Creek will be restored after construction and will have minimal disturbance upstream and downstream of the culvert as there will be Soil Erosion and Sediment Control (SESC) devices in place during construction.

After construction is complete, the water quality and temperature are expected to be the same as pre-construction conditions. Water flow in the creek will not be stopped completely but will be diverted north of the culvert during construction. The work area will be coffered to allow for work in dry conditions. This will ensure that water does not become stagnant, therefore, keeping the water quality and temperature as similar to pre-construction conditions as possible. The substrate within and surrounding the culvert will

be different with the addition of the riprap, but suitable habitat will remain in-tact upstream and downstream of the culvert.

The proposed taking will not reduce the likelihood of the survival of the Iowa Darter within Illinois considering there are several other known populations of Iowa Darters within northern Illinois. This includes populations within several streams in the Kishwaukee River basin, which Harmony Creek is a part of (Tiemann, 2018).

5) An implementing agreement, which shall include, but not be limited to (on a separate piece of paper containing signatures):

A) through E)

Please see Exhibit 7 for the attached Implementing Agreement.

PLEASE SUBMIT TO: Incidental Take Authorization Coordinator, Illinois Department of Natural Resources, Division of Natural Heritage, One Natural Resources Way, Springfield, IL, 62702 OR DNR.ITAcoordinator@illinois.gov **July 2016**

REFERENCES

Bailey, R. M. and M. 0. Allum 1962 Fishes of S. Dakota. Misc. Publ. Mus. of Zoo. Univ. Mich. Ann Arbor, Publ. 119, 131 p.

Beckman, W. C. 1952. Guide to the fishes of Colorado. Univ. of Colorado Mus. Boulder, Colorado. Leaflet It, 110 p.

Copes, F.A. 1986. The Iowa Dater *Etheostoma exile*. North American Native Fishes Association. Reprinted from *American Currents*. Retrieved from http://www.nanfa.org/articles/aciowadarter.shtml

Eddy, S. and T. Surber. 1947. Northern fishes. Ref. ed. Univ. Minn. Press. 276 p.

Hatch, J.T. and J.D. Johnson. 2014. A Life History Study of Minnesota's Great Northerner: The Iowa Darter. *American Currents, 39*(3), 9-16. Retrieved from http://www.nanfa.org/ac/iowa-darter-life-minnesota.pdf.

Illinois Department of Natural Resources. 2018. Iowa Darter – Features & Behaviors. Webpage: https://www.dnr.illinois.gov/education/Pages/WAPIowa.aspx

Page, L.M. and B.M. Burr. 1991. A field guide to freshwater fishes of North America north of Mexico. Houghton Mifflin Company, Boston. 432 p. Retrieved from http://www.fishbase.se/summary/3420

Tiemann, J.S. 2018. Survey for Fishes in Harmony Creek at Harmony Road (IDOT CH 36), Kane County, Illinois. Illinois Natural History Survey Technical Report. 2018(58): 1-11.

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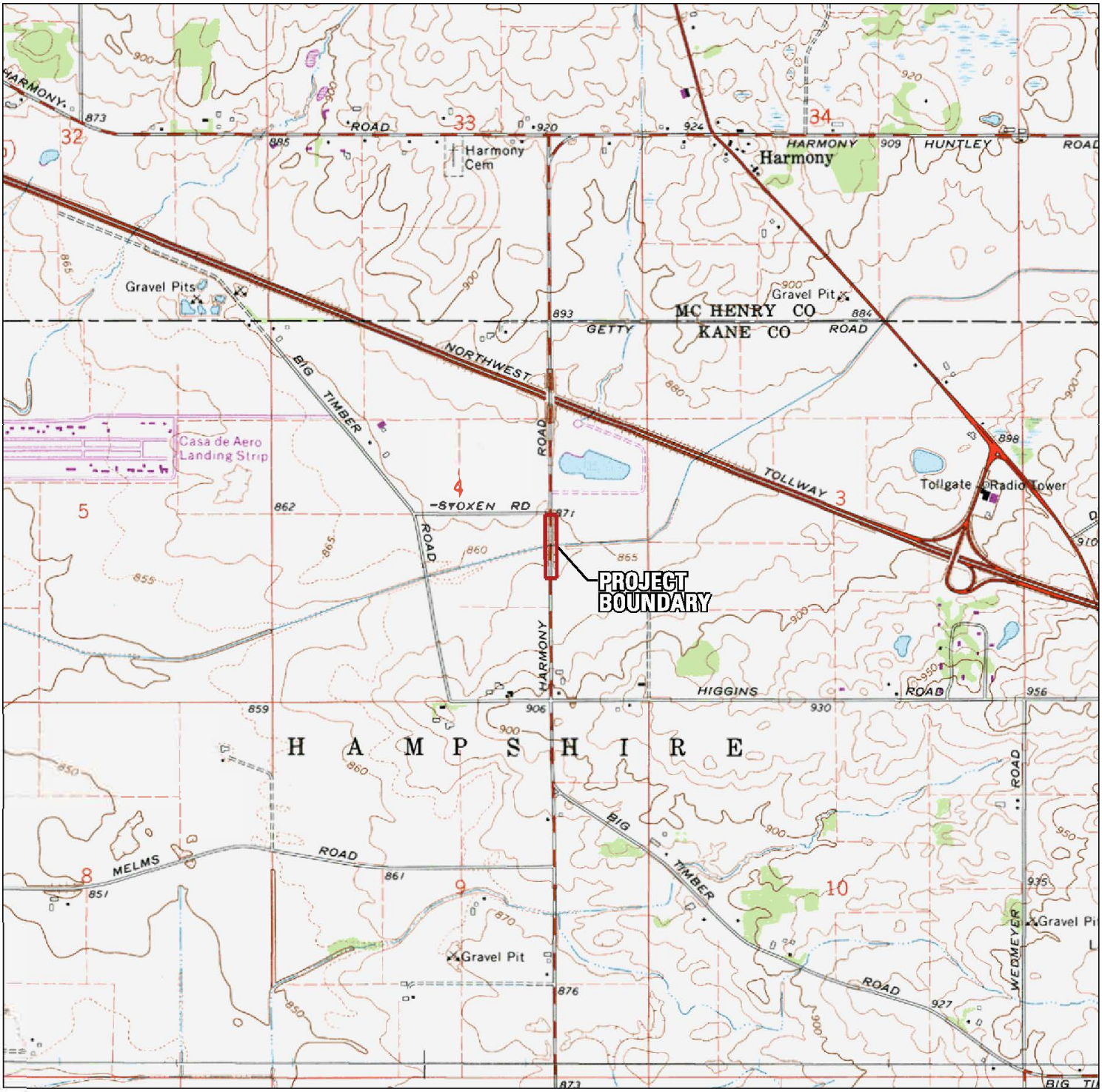
EXHIBIT 1

Location Map



USGS 7.5' TOPO MAP, MARENGO SOUTH QUADRANGLE, PHOTOREVISED 1975

SCALE: 1" = 2000'

PLSS DESCRIPTION: PARTS OF THE SE¼ OF SECTION 4, TOWNSHIP 42N, RANGE 6E, KANE COUNTY, ILLINOIS

LATITUDE: 42.1449780° N
LONGITUDE: 88.5352604° W

CLIENT KANE COUNTY DIVISION OF TRANSPORTATION 41W011 BURLINGTON ROAD ST. CHALES, IL 60175	TITLE HARMONY ROAD OVER HARMONY CREEK (S.N. 045-5543)	DWN.	NDP	CHKD.	ACO
		JOB# 17-0191			N
WBK engineering WBK ENGINEERING, LLC 116 WEST MAIN STREET, SUITE 201 ST. CHARLES, ILLINOIS 60174 (630) 443-7755	**USGS LOCATION MAP**				DATE 2/2/2018
					EXHIBIT 1

EXHIBIT 2

Aerial Photograph

SOURCE: KANE COUNTY GIS AERIAL PHOTO, 2016

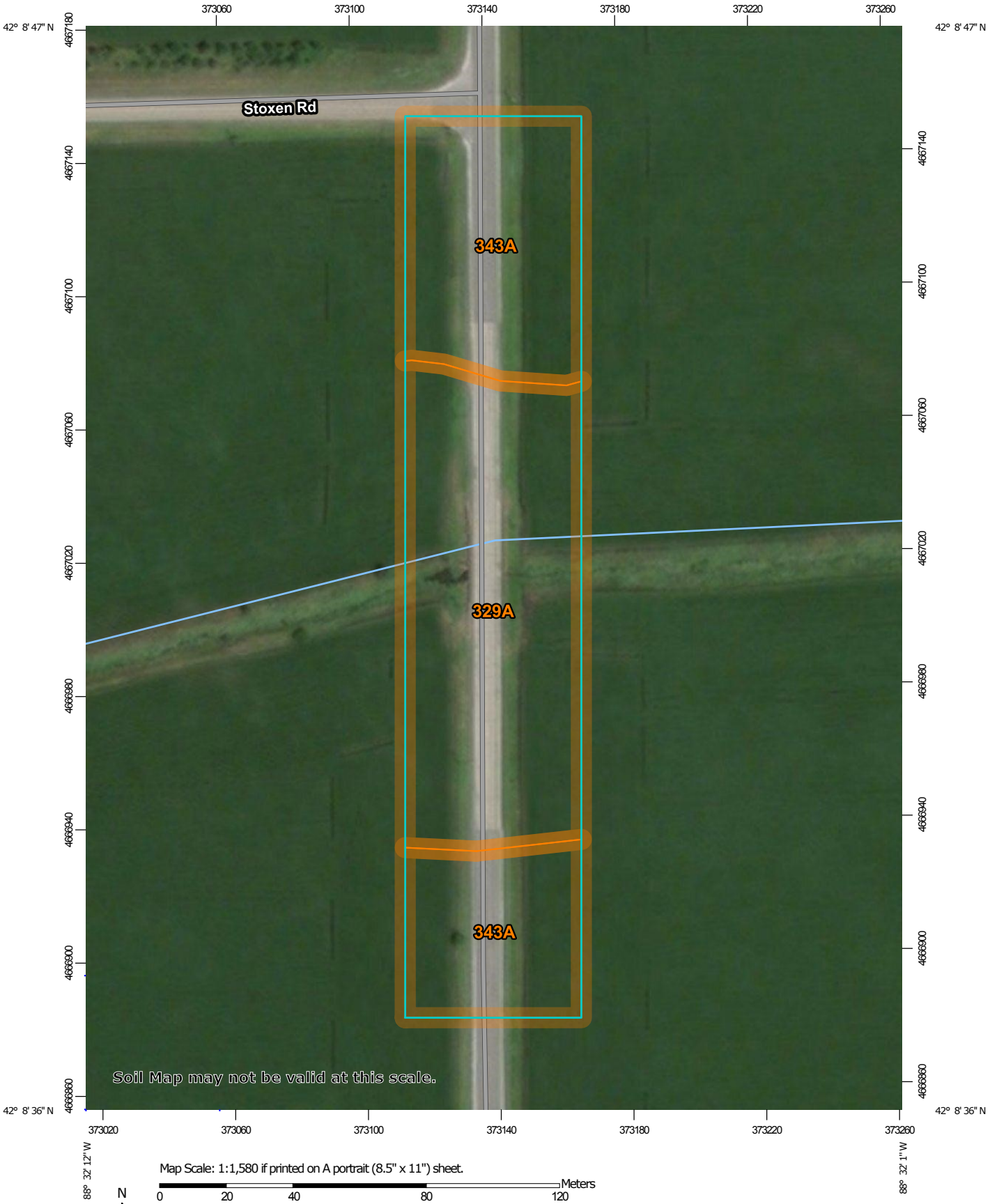
SCALE: 1" = 300'

CLIENT KANE COUNTY DIVISION OF TRANSPORTATION 41W011 BURLINGTON ROAD ST. CHALES, IL 60175	TITLE HARMONY ROAD OVER HARMONY CREEK (S.N. 045-5543)	DWN.	NDP	CHKD.	ACO
		JOB # 17-0191			N
WBK engineering WBK ENGINEERING, LLC 116 WEST MAIN STREET, SUITE 201 ST. CHARLES, ILLINOIS 60174 (630) 443-7755	**AERIAL PHOTOGRAPH**				DATE 1/16/2019
					EXHIBIT 2

EXHIBIT 3

Web Soil Survey Map

Soil Map—Kane County, Illinois



Map Scale: 1:1,580 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Kane County, Illinois
Survey Area Data: Version 12, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 3, 2011—Oct 22, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
329A	Will loam, 0 to 2 percent slopes	1.9	52.3%
343A	Kane silt loam, 0 to 2 percent slopes	1.7	47.7%
Totals for Area of Interest		**3.6**	**100.0%**

EXHIBIT 4

Site Photographs

Photo 1: View of the west end of the Harmony Road over Harmony Creek culvert looking east.

Photo 2: View of the east end of the Harmony Road over Harmony Creek culvert looking west.

Photo 3: View from the culvert looking east upstream.

Photo 4: View from the culvert looking west downstream.

CLIENT **KANE COUNTY DIVISION OF TRANSPORTATION** 41W011 BURLINGTON ROAD ST. CHARLES, IL 60175	JOB # 170191	DSGN.	ACO	CHKD. PDK
		TITLE **HARMONY ROAD OVER HARMONY CREEK (NORTH CULVERT)**		
WBK engineering **WBK ENGINEERING, LLC** 116 W. MAIN STREET, SUITE 201 ST. CHARLES, IL 60174 (630) 443-7755	**SITE PHOTOGRAPHS**	DATE 01/11/19		
		EXHIBIT 4		

EXHIBIT 5

Illinois Department Of Transportation (IDOT) Storm Water Pollution Prevention Plan (SWPPP)

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route	Marked Route	Section
CH 36	Harmony Road	17-00481-00-BR
Project Number	**County**	**Contract Number**
N/A	Kane County	N/A

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issues by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name	Title	Agency
Jennifer O'Connell	Senior Project Manager	Kane Co. Div. of Transportation

Signature	Date

I. Site Description

A. Provide a description of the project location (include latitude and longitude):

The proposed Harmony Road over Harmony Creek Culvert Improvements project area is located in the Village of Hampshire, Kane County south of Stoxen Road and north of Higgins Road. The project is in Section 4, Township 42N, and Range 6E. The project length is 0.10 miles from Sta. 37+90 to Sta. 46+85 along Harmony Road. (Latitude: 42.1449780 degrees N, Longitude: -88.5352604 degrees W).

B. Provide a description of the construction activity which is subject of this plan:

The proposed improvements include: removal of the existing box culvert over Harmony Creek, construction of a new double box culvert, resurfacing of the roadway, widening of the shoulder, and improvements to the guardrail along Harmony Road.

C. Provide the estimated duration of this project:

2-3 months

D. The total area of the construction site is estimated to be 1.007 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 0.905 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

C=0.66

F. List all soils found within project boundaries. Include map unit name, slope information and erosivity:

The USDA SSURGO Soil Data (December 2004) was reviewed for hydric soils on the property. Hydric soils may indicate wetland conditions exist. The following soils are mapped on the property:
329A- Will loam, 0 to 2 percent slopes (hydric)
343A - Kane silt loam, 0 to 2 percent slopes

G. Provide an aerial extent of wetland acreage at the site:

WBK Engineering, LLC identified fringe wetlands along the north and south sides of Harmony Creek. A total of 0.038 acres of wetlands were identified within the project area.

H. Provide a description of potentially erosive areas associated with this project:

During construction activities, the areas with the greatest potential for erosion are the ditches and banks of Harmony Creek. Temporary ditch checks will be placed in the ditches to prevent siltation, erosion and scouring of the ditches and temporary erosion control seeding will be provided to prevent erosion of the banks. After construction, stone riprap and filter fabric will be placed at the culvert outlets to dissipate the flow and prevent erosion. The ditches and banks will be vegetated and covered with temporary erosion control blanket.

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g. steepness of slopes, length of scopes, etc.):

The ground will be disturbed for the entire length of the project due to the removal of current stabilization (vegetation and asphalt) to remove and replace the culvert, resurface the roadway, and widen the shoulders. During the replacement of the culvert the channel will be shaped, then the riprap protection will be placed. Filter bag systems will be utilized to control sediment release to the creek for all dewatering processes required to replace the culvert structure or channel stabilization. Cofferdams, consisting of sheet piling, will be in place to prevent erosion of the bare banks and water quality impacts of the active construction. During the grading and shaping of the ditches, the bare soil will be protected by temporary ditch checks, temporary seed, and temporary erosion control blanket prior to final stabilization. The embankments will be protected from erosion by vegetation and erosion control blankets.

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent off site sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:

Kane County

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located.

Kane County will have reporting jurisdiction for this project location.

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. The location of the receiving waters can be found on the erosion and sediment control plans:

Harmony Creek is a tributary to Coon Creek, Coon Creek is a tributary to the Kishwaukee River, and the Kishwaukee River is a tributary to the Rock River. The Rock River is the ultimate receiving waters for this site and is a Section 10 Traditional Navigable Waterway.

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

The contractor will be prohibited from entering areas outside of the project area and these areas will be protected by perimeter erosion barrier (silt fence).

O. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- [x] Floodplain
- [x] Wetland Riparian
- [ ] Threatened and Endangered Species
- [ ] Historic Preservation
- [x] 303(d) Listed receiving waters for suspended solids, turbidity, or siltation
- [ ] Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity, or siltation
- [ ] Applicable Federal, Tribal, State or Local Programs
- [ ] Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

Coon Creek, Kishwaukee River, and Rock River

a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

Coon Creek: Sedimentation/Siltation, Fecal Coliform
Kishwaukee River: Mercury, PCBs, Fecal Coliform, Dissolved Oxygen
Rock River: Mercury, PCBs, Fecal Coliform

b. Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

Temporary ditch checks and temporary erosion control seeding will be used during construction. A perimeter control barrier will be in place. After construction, stone riprap and filter fabric will be placed at the culvert outlets to dissipate the flow and prevent erosion. The ditches and bank slopes will be vegetated and covered with temporary erosion control blanket.

c. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

Harmony Creek discharges into Coon Creek northwest of Hampshire, Coon Creek discharges into the Kishwaukee River east of Belvidere, and the Kishwaukee River discharges into the Rock River south of Rockford.

d. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

Dewatering discharges will return to Harmony Creek after being properly filtered using filter bags or an alternative measure approved by the Kane-DuPage Soil and Water Conservation District.

2. TMDL (fill out this section if checked above)

a. The name(s) of the listed water body:

N/A

b. Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

N/A

c. If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet the allocation:

N/A

P. The following pollutants of concern will be associated with this construction project:

- [x] Soil Sediment
- [x] Concrete
- [x] Concrete Truck waste
- [x] Concrete Curing Compounds
- [x] Solid waste Debris
- [x] Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)
- [x] Antifreeze / Coolants
- [x] Waste water from cleaning construction equipment
- [ ] Other (specify) _____
- [ ] Other (specify) _____

- [x] Paints
- [ ] Other (specify) _____
- [x] Solvents
- [ ] Other (specify) _____
- [x] Fertilizers / Pesticides
- [ ] Other (specify) _____

II. Controls

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. **Erosion and Sediment Controls:** At a minimum, controls must be coordinated, installed, and maintained to:
1. Minimize the amount of soil exposed during construction activity;
2. Minimize the disturbance of steep slopes;
3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible;
4. Minimize soil compaction and, unless infeasible, preserve topsoil.

B. **Stabilization Practices:** Provided below is a description of interim and permanent stabilization practices, including site- specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(B)(1) and II(B)(2), stabilization measures shall be initiated **immediately** where construction activities have temporarily or permanently ceased, but in no case more than **one (1) day** after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- [x] Preservation of Mature Vegetation
- [x] Erosion Control Blanket / Mulching
- [ ] Vegetated Buffer Strips
- [ ] Sodding
- [ ] Protection of Trees
- [ ] Geotextiles
- [x] Temporary Erosion Control Seeding
- [x] Other (specify) Inlet protection
- [ ] Temporary Turf (Seeding, Class 7)
- [ ] Other (specify) _____
- [ ] Temporary Mulching
- [ ] Other (specify) _____
- [x] Permanent Seeding
- [ ] Other (specify) _____

Describe how the stabilization practices listed above will be utilized during construction:

Mature vegetation will be preserved where possible. Temporary erosion control seeding will be utilized at all bare surfaces to prevent erosion of the existing ground during construction operations and inlet protection will be utilized at the culvert to prevent sediment from entering the existing drainage system.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

Permanent seeding and erosion control blanket will be placed once all proposed grading and improvements have been completed.

C. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree

attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The following stabilization practices will be used for this project:

☒ Perimeter Erosion Barrier	☐ Rock Outlet Protection
☒ Temporary Ditch Check	☒ Riprap
☐ Storm Drain Inlet Protection	☐ Gabions
☐ Sediment Trap	☐ Slope Mattress
☐ Temporary Pipe Slope Drain	☐ Retaining Walls
☐ Temporary Sediment Basin	☐ Slope Walls
☐ Temporary Stream Crossing	☐ Concrete Revetment Mats
☐ Stabilized Construction Exits	☐ Level Spreaders
☐ Turf Reinforcement Mats	☒ Other (specify) Filter Fabric
☐ Permanent Check Dams	☐ Other (specify)
☐ Permanent Sediment Basin	☐ Other (specify)
☒ Aggregate Ditch	☐ Other (specify)
☐ Paved Ditch	☐ Other (specify)

Describe how the structural practices listed above will be utilized during construction:

Perimeter Erosion Barrier will be installed along the perimeter of the project area to prevent sediment from leaving the site and temporary ditch checks will be utilized to prevent erosion and scouring of the existing ditches.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Riprap and filter fabric will be placed at the culvert outlets to dissipate the flow to prevent erosion and scouring and aggregate ditches will be utilized to prevent scouring of the proposed ditches.

D. **Treatment Chemicals**

Will polymer flocculents or treatment chemicals be utilized on this project: ☐ Yes ☒ No

If yes above, identify where and how polymer flocculents or treatment chemicals will be utilized on this project.

N/A

E. **Permanent Storm Water Management Controls:** Provided below is a description of measures that will be installed during the construction process to control volume and pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water act.

1. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

   The practices selected for implementation were determined on the basis of the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT Bureau of Design & Environment Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

2. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of permanent storm water management controls:

The roadside ditches will be vegetated to promote infiltration and filtration of stormwater runoff. The banks of Harmony Creek and culvert outlets will have riprap with underlying filter fabric for erosion control and velocity dissipation.

F. **Approved State or Local Laws:** The management practices, controls, and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

In accordance with the current Kane County Stormwater Management Ordinance, Kane-DuPage Soil and Water Conservation District, and the US Army Corps of Engineers.

G. **Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342a.

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:
    - Approximate duration of the project, including each stage of the project
    - Rainy season, dry season, and winter shutdown dates
    - Temporary stabilization measures to be employed by contract phases
    - Mobilization time frame
    - Mass clearing and grubbing/roadside clearing dates
    - Deployment of Erosion Control Practices
    - Deployment of Sediment Control Practices (including stabilized construction entrances/exits)
    - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
    - Paving, saw-cutting, and any other pavement related operations
    - Major planned stockpiling operations
    - Time frame for other significant long-term operations or activities that may plan non-storm water discharges such as dewatering, grinding, etc.
    - Permanent stabilization activities for each area of the project
2. The Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
    - Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
    - Material delivery, Storage, and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
    - Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
    - Waste Disposal - Discuss methods of waste disposal that will be used for this project.
    - Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.).
    - Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
    - Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
    - Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.

- Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
- Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
- Additional measures indicated in the plan.

III. Maintenance

When requested by the Contractor, the Resident Engineer will provide general maintenance guides to the Contractor for the practices associated with this project. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

Vegetative soil erosion measures - the vegetative growth of temporary and permanent seeding, vegetative filters, etc., shall be maintained periodically and supplied adequate watering and fertilizer. The vegetative cover shall be removed and reseeded as necessary.

Water treatment systems (ie: soil flocculant systems, filter bags, inlet filters, etc.) will be cleaned and items replaced as recommended by the designer of the system. Sediment accumulation will be removed at a minimum when the height is equal to 50% of the volume of the treatment.

Perimeter erosion barrier, temporary ditch checks, and rolled excelsior logs will be examined regularly and repaired as necessary. Sediment shall be removed when it reaches a height equal to 50% of the height of the barrier.

Stabilized access road and stabilized construction exits (if required) shall have sediment build up removed as necessary.

IV. Inspections

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report (BC 2259). Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm or by the end of the following business or work day that is 0.5 inch or greater or equivalent snowfall.

Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by e-mail at: epa.swnoncomp@illinois.gov, telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Non-Compliance" (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

Additional Inspections Required:

V. Failure to Comply

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.

Illinois Department of Transportation

Contractor Certification Statement

E15

Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.G of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractors/subcontractor completing this form.

Route	Marked Route	Section
CH 36	Harmony Road	17-00481-00-BR
Project Number	**County**	**Contract Number**
N/A	Kane County	N/A

This certification statement is a part of SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

☐ Contractor

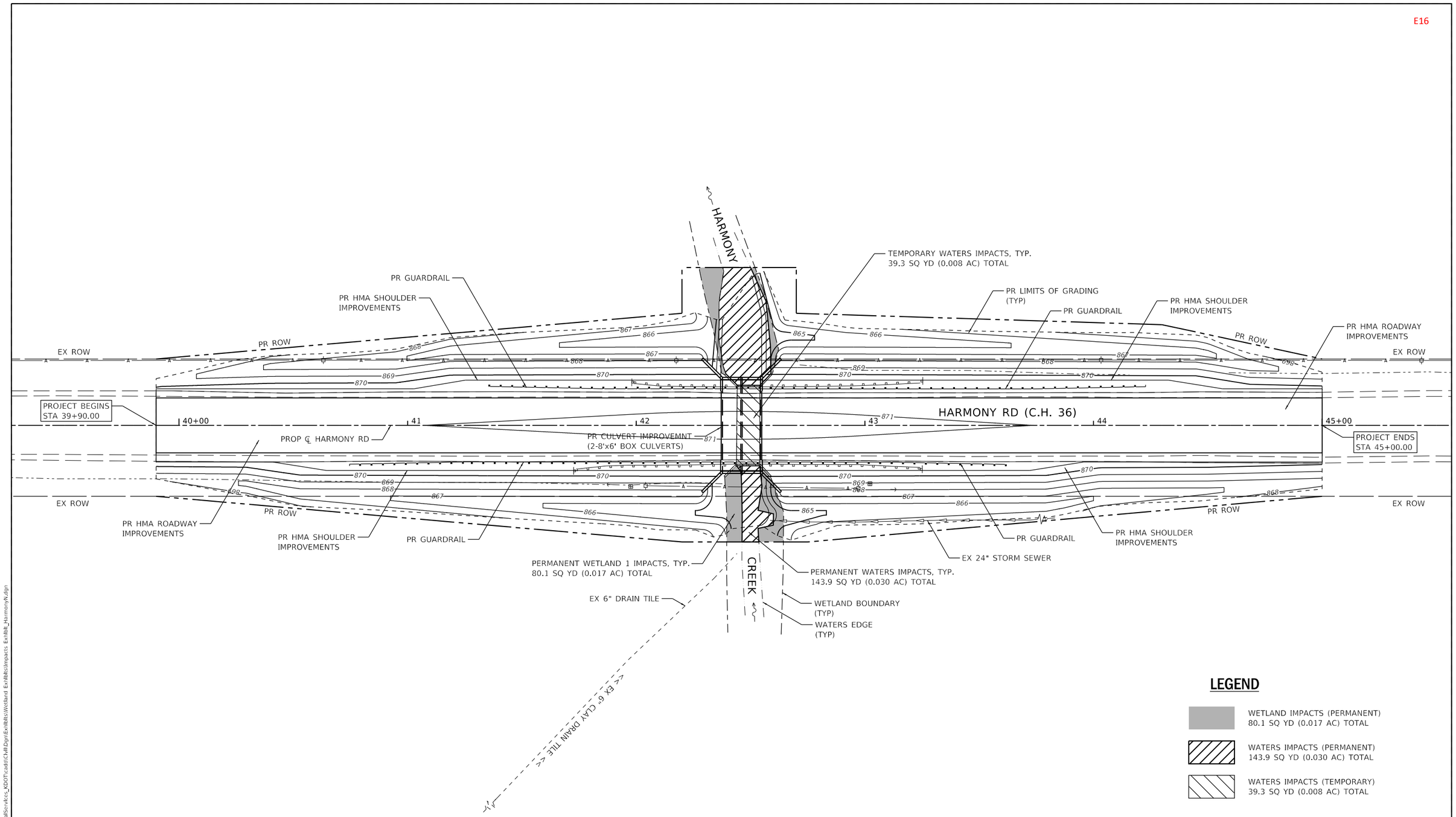
☐ Sub-Contractor

Print Name	Signature
Title	**Date**
Name of Firm	**Telephone**
Street Address	**City/State/Zip**

Items which the Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP:

EXHIBIT 6

Wetland Impacts Exhibit



LEGEND

- WETLAND IMPACTS (PERMANENT) 80.1 SQ YD (0.017 AC) TOTAL
- WATERS IMPACTS (PERMANENT) 143.9 SQ YD (0.030 AC) TOTAL
- WATERS IMPACTS (TEMPORARY) 39.3 SQ YD (0.008 AC) TOTAL

N

0 20 40 60

SCALE IN FEET

FILE NAME = W:\Projects\2017\170193 2017StructuralServices_KDOT\cadd\Civil\Dgn\Exhibits\Wetland Exhibits\Impacts Exhibit_HarmonyN.dgn

WBK engineering
WBK ENGINEERING, LLC
116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

USER NAME = mcrinion	DESIGNED - SBP	REVISED -	
	DRAWN - NDP	REVISED -	
PLOT SCALE = 1:40	CHECKED - MCC	REVISED -	
PLOT DATE = 4/26/2018	DATE - 4/26/18	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

HARMONY ROAD OVER HARMONY CREEK
WETLAND IMPACTS EXHIBIT

SCALE: 1"=20' | SHEET 1 OF 1 SHEETS | STA. 39+90 TO STA. 45+00

C.H. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
36	17-00481-00-BR	KANE	1	1
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

EXHIBIT 7

Implementing Agreement

IMPLEMENTING AGREEMENT

A) Names and signatures of all participants in the execution of the conservation plan;

Kane County Division of Transportation

Carl Schoedel, P.E.
County Engineer

B) The obligations and responsibilities of each of the identified participants with schedules and deadlines for completion of activities included in the conservation plan and a schedule for preparation of progress reports to be provided to the IDNR;

Kane County Division of Transportation (KDOT), or the Resident Engineer assigned to the project, will be responsible for making sure the Conservation Plan is followed. Soil Erosion and Sediment Control (SESC) inspections will be required weekly and after every 0.5 inch rainfall. KDOT and the Resident Engineer will ensure that any issues identified during the SESC inspections are addressed within one week. KDOT will notify the Illinois Department of Natural Resources (IDNR) of commencement of the project, via email. KDOT will provide a project report to IDNR within 90 days after Harmony Road is open to the public. Should the species become de-listed prior to in-stream activity, the agreement will be terminated upon delisting.

C) Certification that each participant in the execution of the conservation plan has the legal authority to carry out their respective obligations and responsibilities under the conservation plan;

The project is an undertaking by the Kane County Division of Transportation (KDOT). KDOT has the legal authority to carry out the project and accepts responsibility of adhering to the conservation plan.

D) Assurance of compliance with all other federal, State and local regulations pertinent to the proposed action and to execution of the conservation plan;

The USACE Section 404 Regional Permit has been received. Project approval from the Kane-DuPage Soil and Water Conservation District (KDSWCD) has been received. A letter dated September 18, 2018 was sent to the Illinois Department of Natural Resources – Office of Water Resources stating that the proposed project is authorized under Statewide Permit No. 12 and notifying them that a construction permit application would not be submitted as a result. The Office of Water Resources agreed that the project is authorized under Statewide Permit No. 12. The Kane County Stormwater Management Ordinance Permit is in process. All permits and correspondence are located in Appendix 4.

APPENDIX 1

Engineering Plan Set –

Plans for Proposed Harmony Road Culvert Replacement

A1

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	1
	ILLINOIS	CONTRACT NO.		

ITA SUBMITTAL

PROJECT MANAGER: JENNIFER O'CONNELL, P.E. (847) 705-4406

FOR INDEX OF SHEETS, SEE SHEET NO. 2

DESIGN DESIGNATION
MAJOR COLLECTOR (RURAL)

DESIGN/ POSTED SPEED
POSTED SPEED: 55 MPH
DESIGN SPEED: 55 MPH

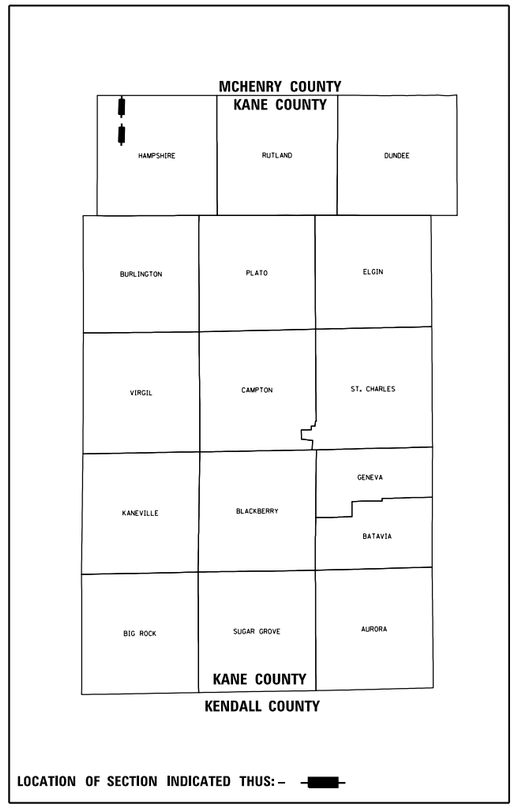
TRAFFIC DATA

HARMONY ROAD - CULVERT #2
CURRENT ADT = 2,780 (2018)
FUTURE ADT = 3,550 (2040)

KANE COUNTY
DIVISION OF TRANSPORTATION

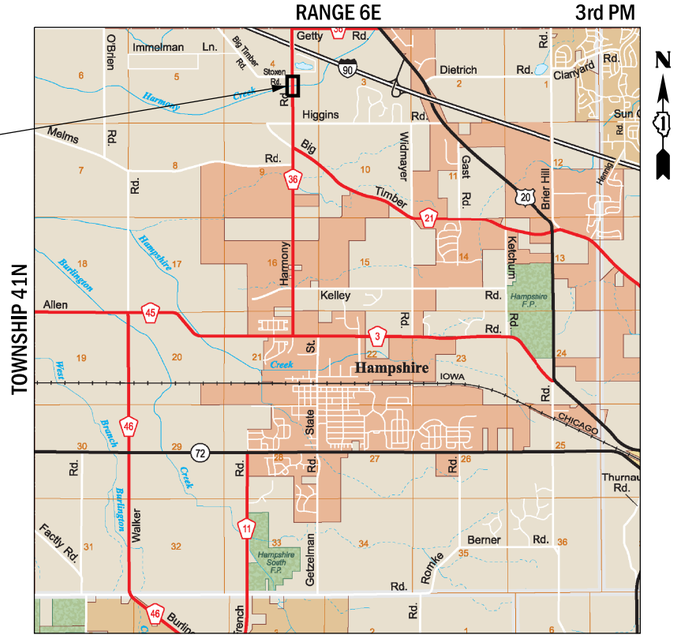
PLANS FOR PROPOSED HARMONY ROAD CULVERT REPLACEMENT

CULVERT #2 - STRUCTURE NO. 045-5700 OVER HARMONY CREEK



LOCATION OF SECTION INDICATED THUS: –■–

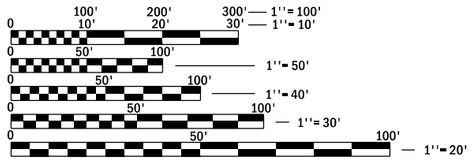
PROJECT LOCATED IN THE UNINCORPORATED KANE COUNTY



PROJECT LOCATION
CULVERT #2
EX S.N. 045-5543
PR S.N. 045-5700
STA. 39+90.00 TO
STA. 45+00.00

HAMPSHIRE TOWNSHIP
CULVERT #2 - PROJECT GROSS LENGTH = 510 LIN FT (0.097 MILE)

PROJECTS LOCATED IN:
EAST HALF OF SECTIONS 4 AND 9, TOWNSHIP 41N, RANGE 6E,
OF THE 3RD PRINCIPAL MERIDIAN, KANE COUNTY, ILLINOIS



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

WBK engineering
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(630) 443-7755

KANE COUNTY
DIVISION OF TRANSPORTATION

APPROVED _____ 20 _____

_____
CARL SCHOEDEL, PE, COUNTY ENGINEER, KANE COUNTY

_____ 20 _____

MONICA C. CRINION
ILLINOIS REG. PROFESSIONAL ENGINEER NO. 062-064345
EXPIRATION DATE 11-30-2019
SHEETS 1-21, 26-38

_____ 20 _____

JOHN S. PERADOTTI
ILLINOIS REG. STRUCTURAL ENGINEER NO. 081-005671
EXPIRATION DATE 11-30-2020
SHEETS 22-25

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE APPLICABLE REQUIREMENT SET FORTH IN "THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED APRIL 1, 2016 THEREINAFTER REFERRED TO AS STANDARD SPECIFICATIONS, THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM MANUAL TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" IN EFFECT ON THE DATE OF INVITATION FOR BIDS; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" LATEST EDITION; INTERIM SPECIAL PROVISIONS AS INCLUDED IN THE CONTRACT DOCUMENTS; AND THE DETAILS AND STANDARDS CONTAINED IN THESE PLANS.

2. BEFORE STARTING ANY EXCAVATIONS, THE CONTRACTOR SHALL CALL "JULIE" AT 1-800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES. (48 HOUR NOTIFICATION IS REQUIRED)

3. THE LOCATIONS OF THE EXISTING UTILITIES, AS SHOWN ON THE DRAWINGS, REPRESENT DATA RECEIVED FROM VARIOUS SOURCES, IT IS NOT GUARANTEED TO BE CORRECT OR ALL INCLUSIVE. THE CONTRACTOR SHALL CONDUCT HIS OWN INVESTIGATIONS INTO THE LOCATION, SIZE, DEPTH, AND NATURE OF ANY AND ALL EXISTING UTILITIES WHICH MAY INTERFERE WITH THE WORK UNDER THIS CONTRACT. ANY EXISTING UTILITIES WHICH ARE TO REMAIN IN SERVICE SHALL BE FULLY PROTECTED BY THE CONTRACTOR AND ANY DAMAGE CAUSED BY THE CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED AT NO ADDITIONAL COST IN ACCORDANCE WITH ARTICLE 105.07.

4. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.

5. ALL WORK SHALL BE COMPLETED WITHIN THE LIMITS OF THE PROJECT SHOWN. NO EQUIPMENT, MATERIAL YARD OR FIELD OFFICE SHALL BE SET UP OR STORED ON TOWNSHIP OR PRIVATE PROPERTY WITHOUT WRITTEN PERMISSION OF THE ENGINEER.

6. MAINTENANCE OF TRAFFIC - GENERAL: TRAFFIC CONDITIONS, ACCIDENTS AND OTHER UNFORESEEN EMERGENCY CONDITIONS MAY REQUIRE THE ENGINEER TO RESTRICT, MODIFY OR REMOVE LANE CLOSURES OR CHANNELIZATION SHOWN IN THE PLANS. THE CONTRACTOR SHALL RESPOND WITHIN 30 MINUTES OF THE TIME OF NOTIFICATION BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC CONTROL DEVICES.

7. TRAFFIC CONTROL DEVICES: ALL TRAFFIC CONTROL DEVICES USED FOR THE MAINTENANCE OF TRAFFIC AS DETAILED ON THE PLANS SHALL BE REFLECTORIZED PRIOR TO INSTALLATION AND CLEANED AS NECESSARY THROUGHOUT THE DURATION OF THE CONTRACT OR AS DIRECTED BY THE ENGINEER. CLEANING AN MAINTENANCE OF TRAFFIC CONTROL DEVISES, INCUDING SIGNS, WILL NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE INCLUDED THE APPLICABLE TRAFFIC CONTROL PAY ITEM.

DRAINAGE NOTES

1. DURING CONSTRUCTION OPERATIONS ALL LOOSE MATERIAL DEPOSITED IN THE FLOW LINE OF DRAINAGE STRUCTURES AND TEMPORARY DITCHES THAT OBSTRUCTS THE NATURAL FLOW OF WATER SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF THE CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES SHALL BE CLEANED AS NECESSARY TO INSURE THAT THEY ARE FREE FROM ALL DIRT AND DEBRIS PRIOR TO THE FINAL INSPECTION OF THE PROJECT. THIS WORK WILL NOT BE MEASURED SEPARATELY FOR PAYMENT, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF EARTH EXCAVATION.

2. ANY FARM DRAIN, FIELD TILE SYSTEM OR OTHER UNDERGROUND TILE FACILITY ENCOUNTERED IN THE WORK SHALL BE LOCATED AND STAKED AND REPORTED TO THE ENGINEER. ANY DRAINAGE LINES WHICH ARE CUT OR DAMAGED BY GRADING, TRENCHING, EXCAVATION OR OTHER CONSTRUCTION ACTIVITIES SHALL BE REPAIRED SO AS TO MAINTAIN ITS ORIGINAL ALIGNMENT. IF THIS CANNOT BE ACCOMPLISHED, THE TILE SHALL BE REPAIRED AND CONNECTED TO THE PROPOSED STORM SEWER SYSTEM IN SUCH A MANNER AS TO RENDER THE LINES USABLE FOR THE PURPOSES INTENDED.

   THE WORK SHALL BE DONE IN ACCORDANCE WITH SECTION 611. THE MINIMUM SIZE FOR REPLACEMENT MUST BE 12 INCH AND SHALL BE PAID FOR AS "PIPE DRAINS" OF THE DIAMETER SPECIFIED". THE DRAIN PIPE MATERIAL SHALL BE PVC OR CORRUGATED PVC WITH A SMOOTH INTERIOR IN ACCORDANCE WITH SECTION 601. A TYPE A INLET W/ TYPE 1 CLOSED LID WILL BE CONSTRUCTED TO CONNECT THE TILE(S) AND/OR PIPE DRAIN. A NOMINAL QUANTITY OF 12", 15" AND 18" HAVE BEEN INCLUDED IN THE PLAN QUANTITIES.

   PRIOR TO MAKING THE CONNECTION THE CONTRACTOR SHALL CLEAN THE ENDS OF THE TILE TO BE CONNECTED. IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATION THE EXISTING TILE SHALL BE REMOVED OR CRUSHED AND TRENCH BACKFILL MATERIAL SHALL BE PLACED IN THE TRENCH LEFT BY THE REMOVAL. THE TILE REMOVAL SHALL BE PAID FOR AS "EXISTING FIELD TILE REMOVAL". TRENCH BACKFILL WILL NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE INCLUDED IN THE COST OF THE TILE REMOVAL.

3. MORTAR:
   ALL CONNECTION POINTS WHERE THE DRAIN TILE OR STORM SEWER ENTERS THE DRAINAGE STRUCTURE SHALL BE MORTARED ON THE INSIDE AND OUTSIDE OF THE DRAINAGE STRUCTURE. THE MORTAR MATERIAL SHALL BE PLACED AROUND THE ENTIRE CIRCUMFERENCE OF THE PIPE. THE MORTAR MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 602.04. MORTARING THE PIPE CONNECTION SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE DRAIN TILE OR STORM SEWER PIPE AND INSTALLATION.

KANE-DUPAGE SOIL & WATER CONSERVATION DISTRICT

1. THE CONTRACTOR AND ENGINEER SHALL MEET WITH THE KANE-DUPAGE SOIL & WATER CONSERVATION DISTRICT TO COORDINATE ALL IN-STREAM WORK ACTIVITIES.

2. THE CONTRACTOR'S IN-STREAM WORK PLAN SHALL BE SUBMITTED TO THE SOIL & WATER CONSERVATION DISTRICT AND KANE COUNTY FOR REVIEW AND APPROVAL PRIOR TO STARTING ANY WORK. THERE WILL BE NO ADDITIONAL COMPENSATION FOR PROVIDING THE COORDINATION AND WORK PLAN.

3. SEE EROSION CONTROL PLAN SHEETS FOR ADDITIONAL DETAILS, CONDTIONS AND NOTES.

TREES AND SHRUBS

1. THE CONTRACTOR SHALL REMOVE ONLY THOSE TREES AND SHRUBS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, OR THOSE, WHICH DIRECTLY INTERFERE WITH THE SAFETY OR QUALITY OF CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN WORKING NEAR EXISTING TREES AND SHRUBS TO AVOID DAMAGING THOSE NOT SCHEDULED FOR REMOVAL AND SHALL REPLACE IN-KIND ANY DAMAGED PLANTS AT HIS OWN EXPENSE.

EARTHWORK AND ROADWAY

1. EARTHWORK SHALL BE PAID FOR ONLY ONCE, REGARDLESS OF STAGING. STOCK PILING OF MATERIALS FOR LATER USE AND REDISTRIBUTION SHALL BE DONE AT THE CONTRACTOR'S EXPENSE. STOCK PILING NECESSARY FOR RESPREADING IN SHOULDERS, CONSTRUCTING EMBANKMENTS, CUT OR BORROW AREAS SHALL BE CONSIDERED INCLUDED IN THE UNIT PRICE OF EARTH EXCAVATION.

2. THE CONTRACTOR WILL NOT BE ALLOWED TO STOCK PILE MATERIAL(S) BEYOND THE PROJECT LIMITS. THE CONTRACTOR WILL NOT PLACE STOCK PILES IN LOCATIONS WHERE THEY WILL BLOCK DRAINAGE WAYS OR ON PAVEMENTS THAT ARE NOT SPECIFIED FOR REMOVAL. ANY DAMAGE REQUIRING REPAIR CAUSED BY THE CONTRACTORS STOCK PILING OR CONSTRUCTION OPERATIONS WILL BE DONE AT NO ADDITIONAL COST TO THE CONTRACT. STOCK PILE AREAS SHALL BE COORDINATED WITH THE ENGINEER.

3. GEOTECHNICAL FABRIC FOR GROUND STABILIZATION:
   ITEM NO. 21001000 GEOTECHNICAL FABRIC FOR GROUND STABILIZATION WILL ONLY BE UTILIZED IN AREAS THAT HAVE BEEN IDENTIFIED AS SUBGRADE UNDERCUTS AREAS OR WHERE DETERMINED IN THE FIELD BY A GEOTECHNICAL ENGINEER. THE FABRIC WILL BE USED IN COMBINATION WITH AGGREGATE SUBGRADE IMPROVEMENT. THE QUANTITY INCLUDED IN THE PLANS IS BASED ON THE SUBSURFACE INVESTIGATION PREPARED BY TESTING SERVICE CORPORATION RECOMMENDATIONS FOR UNDERCUT AREAS.

4. ALL EXCAVATION AND EMBANKMENT LOCATIONS REQUIRING SEEDING OR SODDING SHALL BE CONSTRUCTED TO 6 INCHES BELOW FINISHED GRADE LINE TO ALLOW TOPSOIL PLACEMENT.

5. PAVEMENT ELEVATIONS: THE ELEVATIONS SHOWN ON THE PLANS ARE FINISHED GRADES FOR THE PROPOSED PAVEMENT OR SURFACE COURSE, UNLESS OTHERWISE INDICATED.

REMOVAL NOTES

1. SAW CUTS:
   ALL LOCATIONS WHERE A SAW CUT IS REQUIRED FOR THE REMOVAL OF PAVEMENT, CURB, GUTTER, MEDIANS, DRIVEWAYS, SIDEWALK, BUTT JOINTS, PATCHES OR ANY OTHER STRUCTURE WHICH ARE ALL ONE PIECE WITH NO CONSTRUCTION JOINTS. THIS SAW CUT SHALL BE MADE AT THE LIMITS OF CONSTRUCTION OR OTHER AREAS AS REQUIRED TO PERFORM THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THE SAW CUT SHALL BE ACCOMPLISHED WITH A "PAVEMENT SAW". VERMEER TYPE TRENCHERS WILL NOT BE ALLOWED FOR FINAL SAW CUT AT THE LIMITS OF CONSTRUCTION. UNLESSS OTHERWISE NOTED IN THE PLANS, SAW CUTTING SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE UNIT CONTRACT PRICE OF THE RELATED REMOVAL ITEM.

INDEX OF SHEETS

HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
442201-03	CLASS C AND D PATCHES
482001-02	HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
515001-03	NAME PLATE FOR BRIDGES
542411	SLOPED METAL END SECTIONS FOR PPIPE CULVERTS 15" (375 mm) THRU 60" (1500 mm) DIA.
542301-03	PRECAST REINFORCED CONCRETE FLARED END SECTION
601001-05	PIPE UNDERDRAINS
601101-02	CONCRETE HEADWALL FOR PIPE UNDERDRAIN
630001-12	STEEL PLATE BEAM GUARDRAIL
630106-02	LONG-SPAN GUARDRAIL OVER CULVERT
630201-07	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
666001-01	RIGHT OF WAY MARKERS
701001-02	OFF-RD OPERATION 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-RD OPERATION 2L, 2W, 4.5 M 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701901-08	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
720006-04	SIGN PANEL ERECTION DETAILS
725001-01	OBJECT AND TERMINAL MARKERS
728001-01	TELESCOPING STEEL SIGN SUPPORT

DISTRICT STANDARDS

STANDARD NO.	DESCRIPTION
BD-32	BUTT JOINTS AND HMA TAPER
BD-51	BENCHING DETAIL FOR EMBANKMENT WIDENING
TC-10	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS
TC-13	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
TC-22	ARTERIAL ROAD INFORMATION SIGN (DISTRICT 1)

SURVEY DATUM

THE HORIZONTAL DATUM IS NAD 83 AND THE VERTICAL DATUM IS NAVD 88.

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PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS & STANDARDS
HARMONY ROAD CULVERT IMPROVEMENTS

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	2
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANT	HARMONY CULVERT #2	
1	TEMPORARY CONSTRUCTION FENCE	FOOT	100	100	
2	EARTH EXCAVATION	CU YD	458	458	
3	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	58	58	
4	POROUS GRANULAR EMBANKMENT	CU YD	37	37	
5	TRENCH BACKFILL	CU YD	3.6	3.6	
6	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	174	174	
7	TOPSOIL EXCAVATION AND PLACEMENT	CU YD	457	457	
8	SEEDING, CLASS 2A	ACRE	0.2	0.2	
9	SEEDING, CLASS 4	ACRE	0.3	0.3	
10	EROSION CONTROL BLANKET	SQ YD	2,304	2,304	
11	TEMPORARY EROSION CONTROL SEEDING	POUND	191	191	
12	TEMPORARY DITCH CHECKS	FOOT	150	150	
13	AGGREGATE DITCH CHECKS	TON	6	6	
14	PERIMETER EROSION BARRIER	FOOT	1,103	1,103	
15	INLET AND PIPE PROTECTION	EACH	4	4	
16	STONE RIPRAP, CLASS A3	SQ YD	92	92	
17	STONE RIPRAP, CLASS A5	SQ YD	304	304	
18	FILTER FABRIC	SQ YD	290	290	
19	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	58	58	
20	AGGREGATE BASE COURSE, TYPE B 12"	SQ YD	1,087	1,087	
21	BITUMINOUS MATERIALS (PRIME COAT)	POUND	2,078	2,078	
25	LEVELING BINDER (MACHINE METHOD), N50	TON	228	228	
26	TEMPORARY RAMP	SQ YD	26	26	
27	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	164	164	
28	BITUMINOUS MATERIALS (TACK COAT)	POUND	1,030	1,030	
29	PAVEMENT REMOVAL	SQ YD	91	91	
30	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	1,365	1,365	
31	CLASS D PATCHES, TYPE IV, 10 INCH	SQ YD	91	91	
32	HOT-MIX ASPHALT SHOULDERS, 7"	SQ YD	691	691	
33	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH			
34	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1	1	
35	PIPE CULVERT REMOVAL	FOOT	102	102	
36	STRUCTURE EXCAVATION	CU YD	147	147	

CODE NO.	ITEM	UNIT	TOTAL QUANT	HARMONY CULVERT #2	
37	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	118	118	
38	REINFORCEMENT BARS, EPOXY COATED	POUND	12,930	12,930	
39	CONCRETE BOX CULVERTS	CU YD	86.2	86.2	
40	SLOPED METAL END SECTION, STANDARD 542411, 15", 1:4	EACH	4	4	
41	PIPE CULVERTS, CLASS C, TYPE 1 15"	FOOT	68	68	
42	STORM SEWERS, CLASS B, TYPE 1 24"	FOOT	95	95	
43	PIPE DRAINS 12"	FOOT	50	50	
44	INLETS, TYPE A, TYPE 1 FRAME, CLOSED LID	EACH	2	2	
45	INLETS, TYPE B, TYPE 1 FRAME, CLOSED LID	EACH	2	2	
46	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	300	300	
47	LONG-SPAN GUARDRAIL OVER CULVERT, 18 FT 9 IN SPAN	FOOT			
48	LONG-SPAN GUARDRAIL OVER CULVERT, 25 FT SPAN	FOOT	50	50	
49	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4	
50	GUARDRAIL REMOVAL	FOOT	276	276	
51	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	11	11	
52	MOBILIZATION	LSUM	0.5	0.5	
53	SIGN PANEL - TYPE 1	SQ FT			
54	REMOVE SIGN PANEL ASSEMBLY - TYPE A	EACH	4	4	
55	TELESCOPING STEEL SIGN SUPPORT	FOOT			
56	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	1,148	1,148	
57	GUARDRAIL MARKERS, TYPE A	EACH	10	10	
58	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
59	BASE FOR SIGN SUPPORT, SPECIAL	EACH			
60	EXISTING FIELD TILE REMOVAL	FOOT	50	50	
61	WASHOUT BASIN	EACH	1	1	
62	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	106	106	
63	TOPSOIL FURNISH AND PLACE, SPECIAL	CU YD	64	64	
64	EXPLORATION TRENCH, SPECIAL	FOOT	100	100	
65	TEMPORARY ACCESS (FIELD ENTRANCE)	EACH	2	2	
66	GRANULAR BACKFILL FOR STRUCTURES	CU YD	49	49	
67	WOVEN WIRE FENCE REMOVAL	FOOT			
68	CHANGEABLE MESSAGE SIGN	CAL DA			
69	TRAFFIC CONTROL AND PROTECTION (DETOUR)	L SUM	0.5	0.5	

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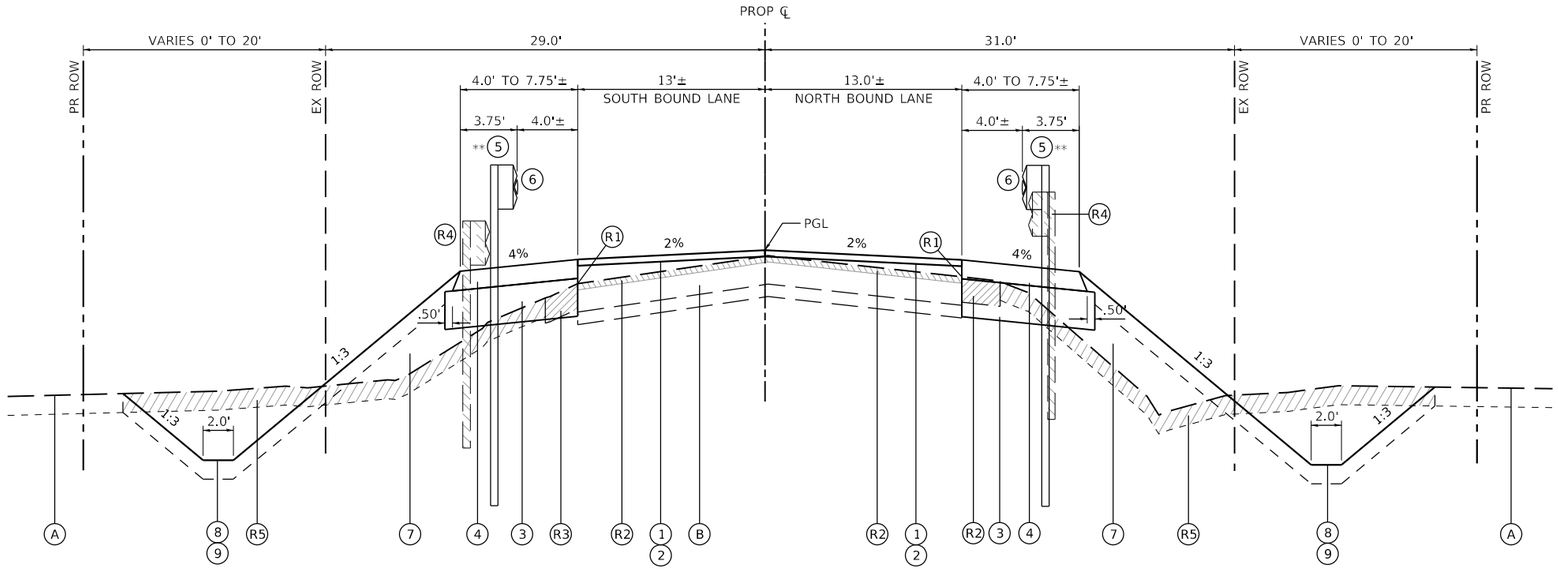
KANE COUNTY
DIVISION OF TRANSPORTATION

SUMMARY OF QUANTITIES
HARMONY ROAD CULVERT IMPROVEMENTS

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	3
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



** GUARDRAIL LIMITS
STA 41+33.5 TO STA 44+08.5, LT
STA 40+83.5 TO STA 43+58.5, RT

TYPICAL SECTION - CULVERT #2

STA 39+90.0 TO STA 45+00.0, HARMONY ROAD (NORTH)

LEGEND, EXISTING

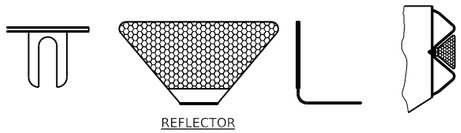
- (A) EXISTING GROUND
- (B) EXISTING PAVEMENT
  PVMT: BIT 6.5"-8"
  BASE: SAND & GRAVEL 4"

LEGEND, REMOVALS

- (R1) SAWCUT, FULL DEPTH
- (R2) HMA SURFACE REMOVAL, 2"
- (R3) AGGREGATE SHOULDER REMOVAL (INCLUDED IN EARTH EX)
- (R4) GUARDRAIL REMOVAL
- (R5) TOPSOIL STRIPPING, 7" AVG

LEGEND, PROPOSED

- (1) HMA SURFACE COURSE, MIX "D", N50, 2"
- (2) HMA LEVELING BINDER (MACHINE METHOD), VAR. (SEE TABLE ON THIS SHEET)
- (3) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (4) HMA SHOULDERS, 7"
  2" SURFACE COURSE, MIX "D", N50
  5" HMA BINDER COURSE, N50
- (5) STEEL PLATE BEAM GUARDRAIL, TYPE A, 9' POSTS
- (6) GUARDRAIL MARKERS, TYPE A
- (7) STRUCTURAL EMBANKMENT (PAID AS FURNISHED EXCAVATION)
- (8) TOPSOIL FURNISH AND PLACEMENT, 6"
- (9) SEEDING & FERTILIZER (AS SPECIFIED) W/ EROSION CONTROL BLANKET

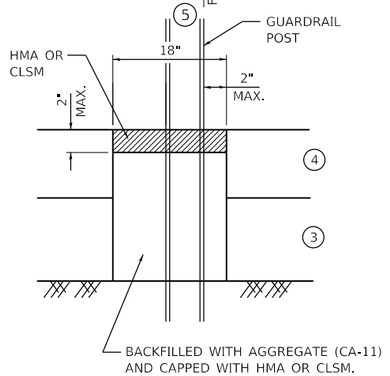


REFLECTOR

GUARDRAIL MARKER NOTE:

1. GUARDRAIL MARKERS SHALL BE REFLECTIVE ON ONE (1) SIDE OF THE MARKER CONSISTING OF WHITE FOR APPROACHING TRAFFIC. SEE SPECIAL PROVISIONS.

GUARDRAIL MARKER, TYPE A



GUARDRAIL LEAVE-OUT DETAIL

SEE STD. 630001 FOR ADDITIONAL DETAILS

STRUCTURAL PAVEMENT DESIGN - CULVERT #2

STRUCTURAL DESIGN TRAFFIC: Year 2032
PV = 2310 SU = 520 MU = 423
ROAD/STREET CLASSIFICATION: Class 2
PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:
P = 71 S = 16 M = 13
TRAFFIC FACTOR: Actual TF = 2.77 AC Type = PG64-22
Minimum TF = 2.77
PG GRADE: Binder = PG 64-22 /58-22 Surface = PG 58-28
SUBGRADE SUPPORT RATING: SSR = (POOR)

HOT-MIX ASPHALT MIXTURE REQUIREMENTS - CULVERT #2

ITEM	AIR VOIDS @ Ndes
HARMONY ROAD (NORTH) - RESURFACING	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL 9.5 mm), 2"	4% @ 50 GYR.
HOT-MIX ASPHALT LEVELING BINDER (HMA BINDER IL-19 mm), VARIES 1/2"-1"	4% @ 50 GYR.
HARMONY ROAD (NORTH) - HMA SHOULDERS (7")	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL 9.5 mm), 2"	4% @ 50 GYR.
HOT-MIX ASPHALT SHOULDER (HMA BINDER IL-19 mm), 5"	4% @ 50 GYR.
HARMONY ROAD (NORTH) - FULL DEPTH PATCH 10"	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL 9.5 mm), 2"	4% @ 50 GYR.

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LB/SQ YD/IN.

THE AC TYPE FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS. FOR USE OF RECYCLED MATERIAL SEE SPECIAL PROVISIONS.

LEVELING BINDER DEPTH TABLE

MEASUREMENTS ARE IN INCHES

STATION	LT	CTR	RT
39+90.00	0.00	0.00	0.00
40+50.00	4.28	0.00	2.72
41+00.00	4.59	0.71	2.69
41+50.00	5.26	0.65	3.07
42+00.00	7.38	1.61	5.18
42+30.03	6.84	1.54	4.10
OMIT CULVERT			
42+63.03	6.75	1.36	3.95
43+00.00	6.37	1.86	4.55
43+50.00	5.21	0.00	6.20
44+00.00	5.03	0.82	4.20
44+38.08	4.00	0.72	4.61
44+70.00	2.12	0.11	2.57
45+00.00	0.00	0.00	0.00

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KANE COUNTY
DIVISION OF TRANSPORTATION

TYPICAL SECTIONS
HARMONY ROAD - CULVERT NO. 2

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	4
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

EARTHWORK SUMMARY

LOCATION CULVERT #2	EARTHWORK			TOPSOIL			SUBGRADE IMPROVEMENT		
	20200100			21101505			20201200	30300001	210010000
	EARTHWORK EXCAVATION	EMBANKMENT	BALANCE WASTE (+) OR SHORTAGE (-)	TOPSOIL EXCAVATION & PLACEMENT	TOPSOIL EMBANKMENT	BALANCE WASTE (+) OR SHORTAGE (-) (NO SHRINKAGE)	REMOVAL & DISPOSAL OF UNSUITABLE MATERIAL	AGGREGATE SUBGRADE IMPROVEMENT	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(SQ YD)
MAINLINE R.E. DESCRETION	458.0	307.0	83.0	457.0	298.0	159.0	0.0	0.0	0.0
TOTAL	458.0	307.0	83.0	457.0	298.0	159.0	0.0	0.0	0.0

EARTHWORK GENERAL NOTES

ALL EARTHWORK QUANTITIES ARE CALCULATED BY THE METHOD OF AVERAGE END AREAS USING THE PLAN CROSS SECTIONS.

SHRINKAGE FACTOR, ASSUMED TO BE 15% FOR THIS PROJECT IS ESTIMATED FOR THE PURPOSE OF DETERMINING A BALANCE OF EARTHWORK. THE CONTRACTOR SHALL ESTIMATE HIS OWN SHRINKAGE FACTORS IN DETERMINING HIS EARTHWORK. NO PAYMENT WILL BE MADE ON EARTHWORK QUANTITIES DUE TO VARIATION IN THE SHRINKAGE FACTOR SINCE EARTHWORK IS MEASURED IN ITS FINAL POSITION.

NO SHRINKAGE FACTOR WAS APPLIED WHEN CALCULATING TOPSOIL QUANTITIES.

RECOMMENDATIONS OUTLINED IN THE STRUCTURE GEOTECHNICAL REPORT PREPARED BY WANG ENGINEERING, INC. DATED MARCH 4, 2019 WERE USED IN PREPARATION OF THE ROADWAY PLANS AND RELATED EARTHWORK QUANTITY CALCULATIONS.

THE AVERAGE THICKNESS OF SIX (6) INCHES OF TOPSOIL WAS ASSUMED ON THIS PROJECT FOR THE PURPOSE OF CALCULATING TOPSOIL STRIPPING QUANTITIES.

TOPSOIL STRIPPING WILL MEASURED FOR PAYMENT AS "TOPSOIL EXCAVATION AND PLACEMENT".

EARTH EXCAVATION WILL ALSO INCLUDE ALL AGGREGATE BASE COURSES, AGGREGATE SUB-BASE'S, AGGREGATE SURFACES AND AGGREGATE SHOULDERS.

EARTH AND TOPSOIL EXCAVATION SHALL BE PAID FOR ONLY ONCE, REGARDLESS OF STAGING OR SEQUENCING OF CONTRACTORS OPERATIONS THAT REQUIRE TEMPORARY STOCKPILING OF MATERIALS FOR LATER USE FOR REDISTRIBUTION AND RESPREADING IN SHOULDERS AND CONSTRUCTING OF EMBANKMENTS.

TOPSOIL EXCAVATION INCLUDES EXCAVATION, TEMPORARILY STOCKPILING, PLACEMENT IN ITS FINAL POSITION AND TRANSPORTING SURPLUS MATERIALS FROM THE SITE.

UNDERCUT NOTES

UNDERCUT RECOMMENDATIONS OUTLINED IN THE STRUCTURE GEOTECHNICAL REPORT PREPARED BY WANG ENGINEERING, INC. DATED MARCH 4, 2019 WERE USED TO DETERMINE THE QUANTITY FOR "REMOVAL & DISPOSAL OF UNSUITABLE MATERIAL".

UNDERCUTS WILL BE PAID FOR AS "REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL".

IN ADDITION TO ANY AREAS SHOWN ON THE PLANS, 100 CY OF ADDITIONAL AGGREGATE SUBGRADE IMPROVEMENT (ASI) HAS BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR SOILS THAT TEND TO BE UNSTABLE AND/OR UNSUITABLE. THE ACTUAL NEED FOR REMOVAL AND REPLACEMENT WITH ASI WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC OR DYNAMIC CONE PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.04 OF THE SSRBC AND IDOT SUBGRADE STABILITY MANUAL. IF UNSTABLE AND/OR UNSUITABLE SOILS ARE NOT ENCOUNTERED, THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.

THE SUBGRADE STABILITY SHALL BE VERIFIED BY PROOF ROLLING WITH A FULLY LOADED TANDEM-AXLE TRUCK.

ANY AGGREGATE SUBGRADE IMPROVEMENT CONTAMINATED AND/OR DAMAGED BY THE CONTRACTOR'S VEHICLES AND/OR EQUIPMENTS IS TO BE REMOVED AND REPLACED AS DIRECT BY THE ENGINEER AT CONTRACTOR EXPENSE.

WBK engineering
WBK ENGINEERING, LLC
116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

USER NAME = nparris	DESIGNED - SBP	REVISED -	
	DRAWN - NDP	REVISED -	
PLOT SCALE = 1:2	CHECKED - MCC	REVISED -	
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

SCHEDULE OF QUANTITIES
HARMONY ROAD CULVERT IMPROVEMENTS

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	5
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = W:\Projects\2017\170193 2017StructuralServices_KDOT\cadd\CivilDsgn\Shts\170193-STA_SCH_1_01.dgn

EARTHWORK SCHEDULE

LOCATION CULVERT #2	END AREAS					TOPSOIL			EARTHWORK			SUBGRADE IMPROVEMENT		
	TOPSOIL STRIPPING (TSS)	TOPSOIL EMBANKMENT	EXCAVATION (CUT)	EMBANKMENT (FILL)	UNDERCUT	21101505 TOPSOIL EXCAVATION & PLACEMENT	TOPSOIL EMBANKMENT	BALANCE WASTE (+) OR SHORTAGE (-) (NO SHRINKAGE)	20200100 EARTHWORK EXCAVATION	EMBANKMENT	20400800 BALANCE WASTE (+) OR SHORTAGE (-)	20201200 REMOVAL & DISPOSAL OF UNSUITABLE MATERIAL	30300001 AGGREGATE SUBGRADE IMPROVEMENT	210010000 GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
	(SQ FT)	(SQ FT)	(SQ FT)	(SQ FT)	(SQ FT)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(SQ YD)
MAINLINE														
39+50.00	0.0	0.0	0.0	0.0										
39+90.00	6.3	4.7	10.2	0.2		4.7	3.5	1.2	7.6	0.2	6.3			
40+50.00	19.3	14.2	24.0	1.2		28.4	21.0	7.4	38.1	1.6	30.8			
41+00.00	24.1	16.6	30.1	6.0		40.2	28.6	11.6	50.1	6.7	35.9			
41+50.00	29.8	19.9	33.2	12.1		50.0	33.8	16.2	58.6	16.7	33.1			
42+00.00	33.6	22.9	33.6	28.1		58.7	39.6	19.1	61.9	37.2	15.4			
42+30.03	34.1	23.2	21.8	56.8		37.6	25.6	12.0	30.8	47.2	-21.0			
OMIT CULVERT														
42+62.03	33.7	22.8	9.5	100.1										
43+00.00	32.8	22.0	22.6	36.6		46.8	31.5	15.3	22.6	96.1	-76.9			
43+50.00	30.7	20.5	20.9	25.8		58.8	39.3	19.5	40.3	57.7	-23.4			
44+00.00	26.9	19.1	25.7	10.8		53.4	36.6	16.8	43.2	33.9	2.8			
44+38.08	24.1	9.3	40.5	0.5		36.0	20.0	16.0	46.7	8.0	31.7			
44+70.00	18.6	6.8	22.6	0.7		25.3	9.5	15.8	37.3	0.7	31.0			
45+00.00	10.5	8.3	13.4	0.3		16.2	8.4	7.8	20.0	0.5	16.5			
SHRINKAGE FACTOR			**15%**		**TOTAL**	**456.1**	**297.4**	**158.7**	**457.2**	**306.5**	**82.1**	**0.0**	**0.0**	**0.0**
					ADJ. TOTAL	**457.0**	**298.0**	**159.0**	**458.0**	**307.0**	**83.0**	**0.0**	**0.0**	**0.0**

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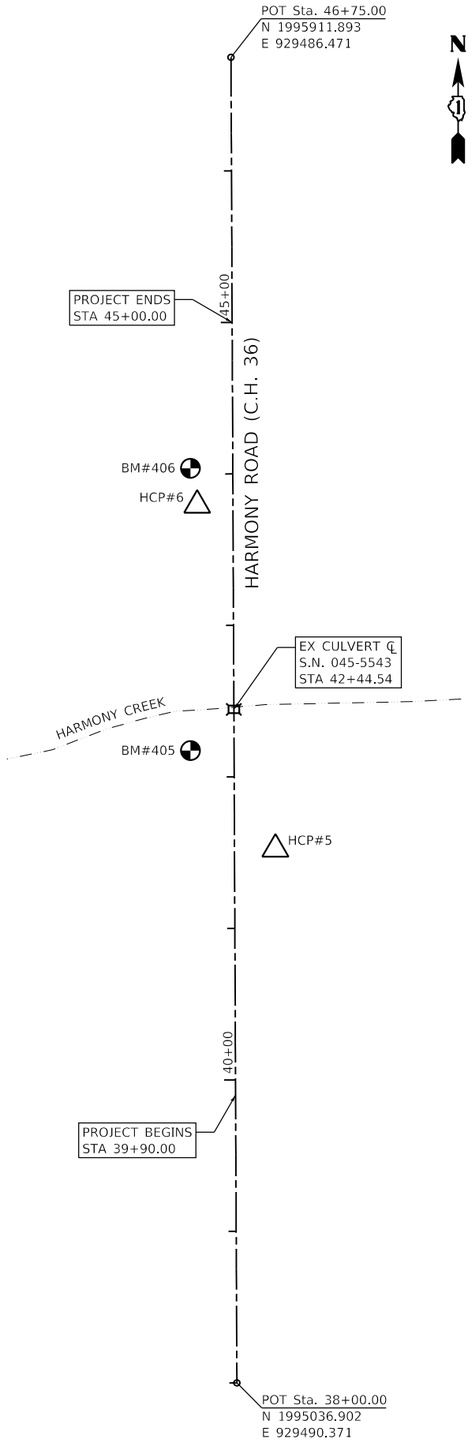
USER NAME = nparris	DESIGNED - SBP	REVISED -
	DRAWN - NDP	REVISED -
PLOT SCALE = 1:2	CHECKED - MCC	REVISED -
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

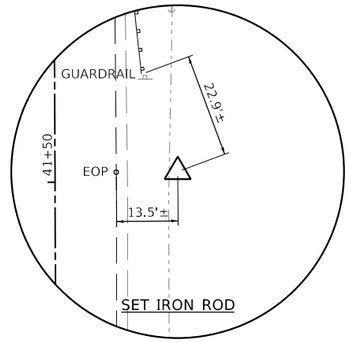
KANE COUNTY
DIVISION OF TRANSPORTATION

SCHEDULE OF QUANTITIES
HARMONY ROAD CULVERT IMPROVEMENTS

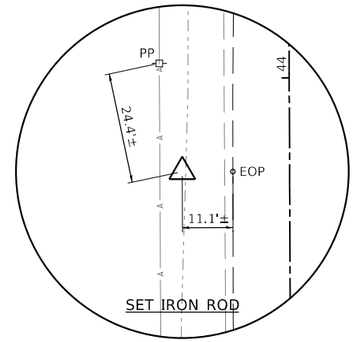
SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	6
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

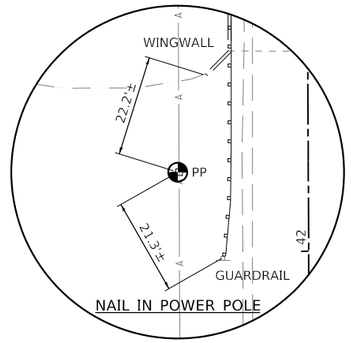




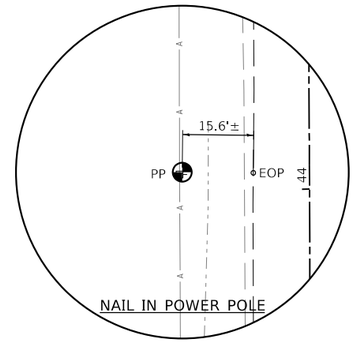
HORIZONTAL CONTROL POINT NO. 5



HORIZONTAL CONTROL POINT NO. 6



BENCH MARK POINT NO. 405



BENCH MARK POINT NO. 406

VERTICAL REFERENCE MARK

NATIONAL GEODETIC SURVEY BENCH MARK:

UNKNOWN

LEGEND

= BENCH MARK (BM) LOCATION

= HORIZONTAL CONTROL POINT (HCP) LOCATION

HORIZONTAL CONTROL POINTS (NAD 83)							
POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
5	1995389.225	929515.806	868.230	HARNORTH	41+52.21	27.00' RT	SET IRON ROD
6	1995616.274	929464.171	868.516	HARNORTH	43+79.48	23.62' LT	SET IRON ROD

BENCH MARKS (NAVD 88 - GEOID03 CONUS)							
POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
405	1995454.295	929459.772	869.175	HARNORTH	42+17.53	28.74' LT	NAIL IN POWER POLE
406	1995640.629	929459.703	870.076	HARNORTH	44+03.86	27.98' LT	NAIL IN POWER POLE

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_KDOT\cadd\CivilDgn\Sht\170191-ATB_H_02.dgn

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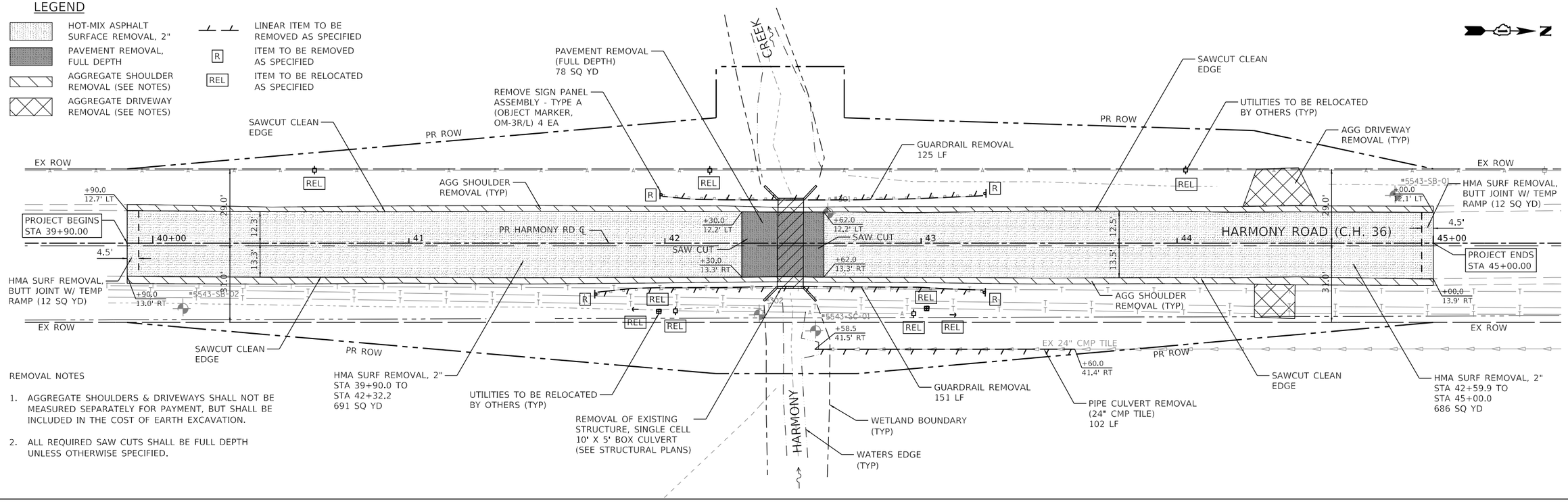
(630) 443-7755

USER NAME = nparris	DESIGNED - SBP	REVISED -	KANE COUNTY DIVISION OF TRANSPORTATION	ALIGNMENT, TIES & BENCHMARKS HARMONY ROAD - CULVERT NO. 2
	DRAWN - NDP	REVISED -		
PLOT SCALE = 1:100	CHECKED - MCC	REVISED -		
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -		SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	7
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

LEGEND

- HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- PAVEMENT REMOVAL, FULL DEPTH
- AGGREGATE SHOULDER REMOVAL (SEE NOTES)
- AGGREGATE DRIVEWAY REMOVAL (SEE NOTES)
- LINEAR ITEM TO BE REMOVED AS SPECIFIED
- R — ITEM TO BE REMOVED AS SPECIFIED
- REL — ITEM TO BE RELOCATED AS SPECIFIED

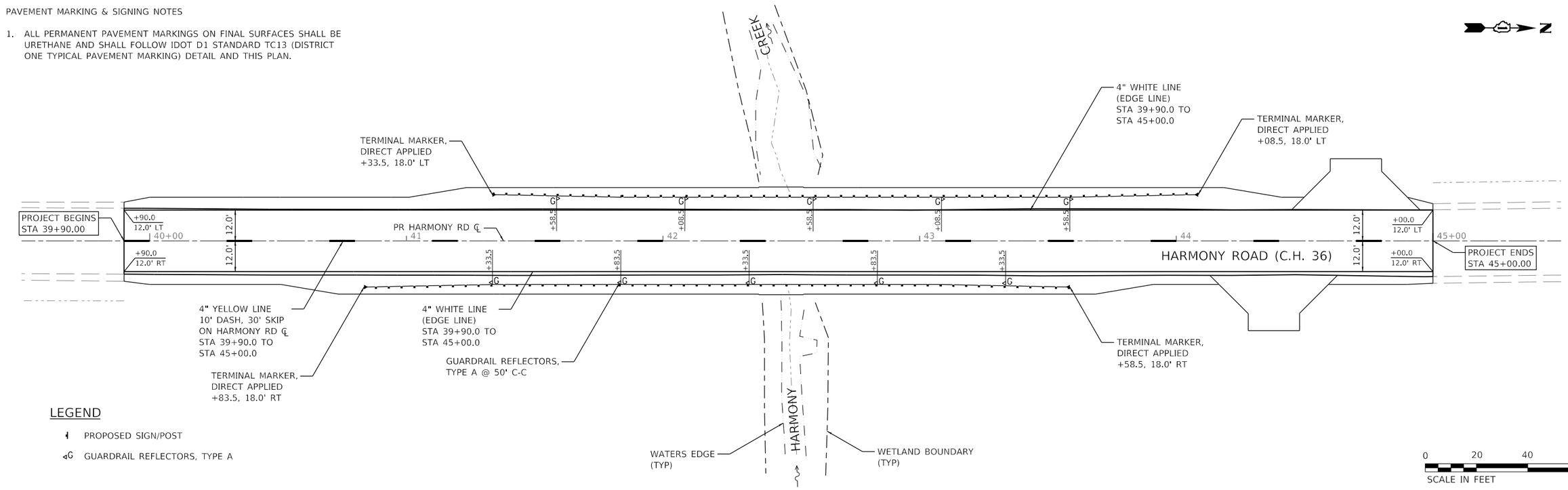


REMOVAL NOTES

1. AGGREGATE SHOULDERS & DRIVEWAYS SHALL NOT BE MEASURED SEPARATELY FOR PAYMENT, BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
2. ALL REQUIRED SAW CUTS SHALL BE FULL DEPTH UNLESS OTHERWISE SPECIFIED.

PAVEMENT MARKING & SIGNING NOTES

1. ALL PERMANENT PAVEMENT MARKINGS ON FINAL SURFACES SHALL BE URETHANE AND SHALL FOLLOW IDOT D1 STANDARD TC13 (DISTRICT ONE TYPICAL PAVEMENT MARKING) DETAIL AND THIS PLAN.



LEGEND

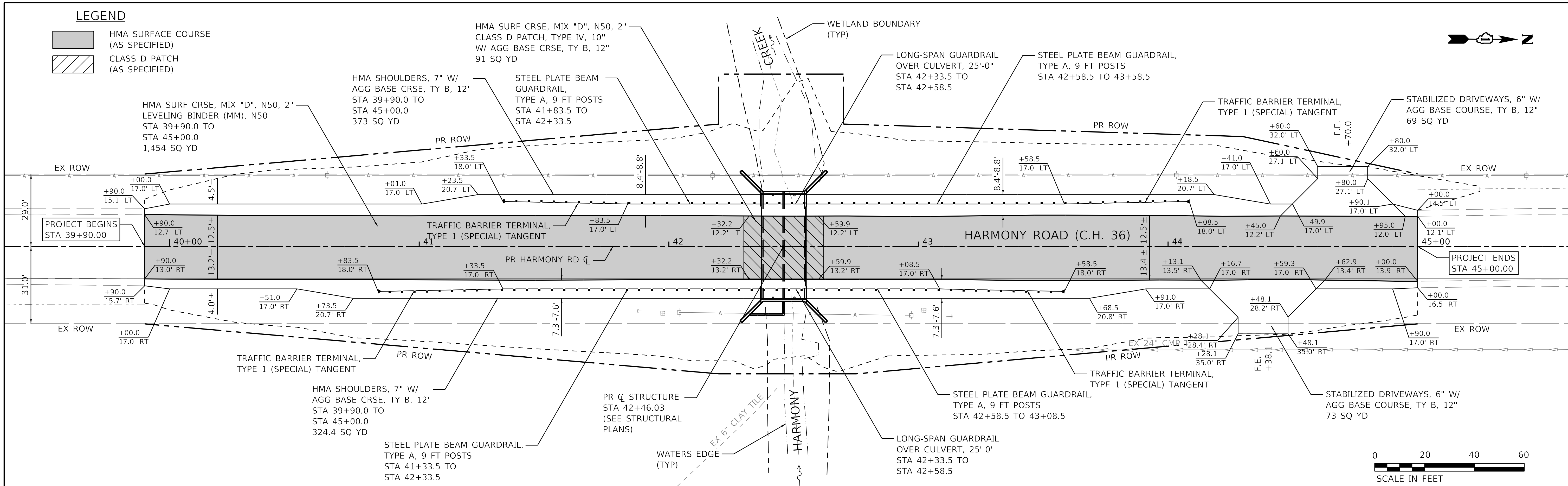
- PROPOSED SIGN/POST
- G — GUARDRAIL REFLECTORS, TYPE A

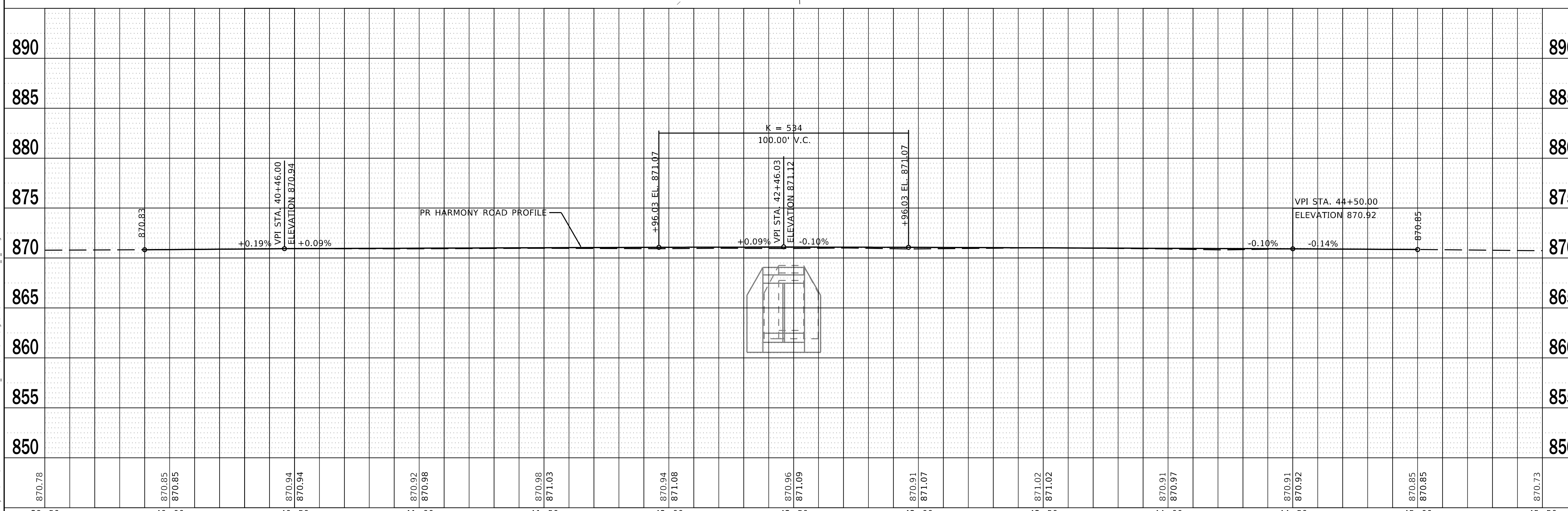
0 20 40 60
SCALE IN FEET

FILE NAME = W:\Projects\2017\179191 2017StructuralServices_KDOT_cadd\CivilDgn\Sht\179191-REM_H_02.dgn

WBK engineering — WBK ENGINEERING, LLC, 116 WEST MAIN STREET, SUITE 201, ST. CHARLES, ILLINOIS 60174, (630) 443-7755	USER NAME = nparris	DESIGNED - SBP	REVISED -	KANE COUNTY DIVISION OF TRANSPORTATION	REMOVAL PLAN & PAVEMENT MARKING & SIGNING PLAN HARMONY ROAD - CULVERT NO. 2
		DRAWN - NDP/RMS	REVISED -		
	PLOT SCALE = 1:40	CHECKED - MCC	REVISED -		SCALE: 1"=20' SHEET 1 OF 1 SHEETS STA. 39+90.00 TO STA. 45+00.00
	PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -		

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	8
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			


LEGEND
HMA SURFACE COURSE (AS SPECIFIED)
CLASS D PATCH (AS SPECIFIED)
HMA SURF CRSE, MIX "D", N50, 2" CLASS D PATCH, TYPE IV, 10" W/ AGG BASE CRSE, TY B, 12" 91 SQ YD
WETLAND BOUNDARY (TYP)
CREEK
LONG-SPAN GUARDRAIL OVER CULVERT, 25'-0" STA 42+33.5 TO STA 42+58.5
STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FT POSTS STA 42+58.5 TO 43+58.5
HMA SHOULDERS, 7" W/ AGG BASE CRSE, TY B, 12" STA 39+90.0 TO STA 45+00.0 373 SQ YD
STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FT POSTS STA 41+83.5 TO STA 42+33.5
HMA SURF CRSE, MIX "D", N50, 2" LEVELING BINDER (MM), N50 STA 39+90.0 TO STA 45+00.0 1,454 SQ YD
TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT
STABILIZED DRIVEWAYS, 6" W/ AGG BASE COURSE, TY B, 12" 69 SQ YD
PR ROW
EX ROW
PROJECT BEGINS STA 39+90.00
HARMONY ROAD (C.H. 36)
PR HARMONY RD ℄
PROJECT ENDS STA 45+00.00
TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT
HMA SHOULDERS, 7" W/ AGG BASE CRSE, TY B, 12" STA 39+90.0 TO STA 45+00.0 324.4 SQ YD
STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FT POSTS STA 41+33.5 TO STA 42+33.5
PR ℄ STRUCTURE STA 42+46.03 (SEE STRUCTURAL PLANS)
WATERS EDGE (TYP)
EX 6" CLAY TILE
HARMONY
STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FT POSTS STA 42+58.5 TO 43+08.5
LONG-SPAN GUARDRAIL OVER CULVERT, 25'-0" STA 42+33.5 TO STA 42+58.5
TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT
STABILIZED DRIVEWAYS, 6" W/ AGG BASE COURSE, TY B, 12" 73 SQ YD
EX 24" CMP
F.E. +70.0
F.E. +38.1
29.0'
31.0'
0 20 40 60
SCALE IN FEET


K = 534
100.00' V.C.
PR HARMONY ROAD PROFILE
VPI STA. 40+46.00 ELEVATION 870.94
VPI STA. 42+46.03 ELEVATION 871.12
VPI STA. 44+50.00 ELEVATION 870.92
+96.03 EL. 871.07
+0.19%
+0.09%
-0.10%
-0.14%
890 885 880 875 870 865 860 855 850
39+50 40+00 40+50 41+00 41+50 42+00 42+50 43+00 43+50 44+00 44+50 45+00 45+50

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	DRAWN - NDP	REVISED -
PLOT SCALE = 1:40	CHECKED - MCC	REVISED -
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

PLAN & PROFILE
HARMONY ROAD - CULVERT NO. 2

SCALE: 1"=20' | SHEET 2 OF 2 SHEETS | STA. 39+90.00 TO STA. 45+00.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	9

CONTRACT NO.

ILLINOIS | FED. AID PROJECT

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_KDOT\cadd\Civil\Dgn\Sht\170191-PLNPRF_H_02.dgn

GENERAL NOTES:

1. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS TO PRIVATE ENTRANCES. THE TEMPORARY CLOSURE OF PRIVATE ENTRANCES WILL BE LIMITED TO THE DURATION OF THE CONSTRUCTION DIRECTLY IN FRONT OF THE ENTRANCE. THE ENTRANCE(S) SHALL BE OPEN AT THE END OF THE WORK DAY OR AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL COORDINATE CLOSURES WITH THE ENGINEER AND PROPERTY OWNER A MINIMUM OF SEVEN (7) DAYS IN ADVANCE OF THE CLOSURE.

2. AGGREGATE SURFACE FOR TEMPORARY ACCESS WILL BE MEASURED FOR PAYMENT FOR EACH PRIVATE ENTRANCE CONSTRUCTED FOR THE PURPOSE OF TEMPORARY ACCESS. TEMPORARY AGGREGATE SURFACE COURSE SHALL BE PAID FOR AT THE CONTRACT UNIT COST EACH FOR TEMPORARY ACCESS (PRIVATE ENTRANCE) AND TEMPORARY ACCESS (COMMERCIAL ENTRANCE).

3. THE TRAFFIC CONTROL DEPICTED HEREIN IS THE MINIMUM REQUIREMENT. ADDITIONAL TRAFFIC CONTROL DEVICES, AS SPECIFIED BY THE SPECIAL PROVISIONS, SHALL BE PLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

TEMPORARY ROAD CLOSURE DURATION

THE CONTRACT DOCUMENTS WILL ALLOW THE ROADWAY CLOSURE DETAILED IN THESE PLANS TO REMAIN IN PLACE FOR THE DURATION OF TIME SPECIFIED IN THE SPECIAL PROVISION FOR "COMPLETION DATE PLUS WORKING DAYS". THE CONTRACTOR WILL BE EXPECTED TO COMPLETE ALL PROPOSED WORK RELATED TO THE CONSTRUCTION OF THE PROPOSED BRIDGE AND ROADWAY DURING THIS CLOSURE. THE ROADWAY MUST HAVE HMA SURFACE COURSE PLACED AND THE GUARDRAIL INSTALLED BEFORE THE ROADWAY IS OPENED TO TRAFFIC.

CHANGEABLE MESSAGE SIGN, SPECIAL

A CHANGEABLE MESSAGE SIGN WILL BE PLACED AT EACH END OF THE PROJECT FOR THE DURATION OF TIME SPECIFIED IN THE SPECIAL PROVISION FOR "CHANGEABLE MESSAGE SIGN, SPECIAL". THE FINAL LOCATION OF EACH SIGN SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

TEMPORARY INFORMATION SIGN

THE CONTRACTOR SHALL ERECT A TEMPORARY INFORMATION SIGN ON THE EAST AND WEST SIDES OF THE PROJECT TO INFORM THE PUBLIC OF THE CONSTRUCTION DURATION. THE CONTRACTOR WILL COORDINATE WITH THE ENGINEER ON THE EXACT PLACEMENT OF THE SIGN. THE SIGN SHALL BE IN PLACE FOR THE ENTIRE DURATION OF THE CONTRACT OR AS DIRECTED BY THE ENGINEER. THE TEMPORARY SIGN WILL BE AS DIMENSIONED AND DETAILED ON THE ROAD CLOSURE PLAN. THE SIGNING, WHICH INCLUDES POST AND MOUNTING, WILL BE PAID AS TEMPORARY INFORMATION SIGNING PER SQ FT FOR EACH SIGN ERECTED. THE SIGN SHALL BE UPDATED IF THE COMPLETION DATE CHANGES.

CONTACTS

THE CONTRACTOR WILL BE REQUIRED TO COORDINATE ALL MAINTENANCE OF TRAFFIC OPERATIONS WITH ALL MUNICIPALITIES, TOWNSHIP, AND COUNTY ENTITIES WITHIN THE PROJECT LIMITS. THE FOLLOWING IS THE APPLICABLE LIST OF CONTACTS:

KANE COUNTY SHERIFF	DONALD E. KRAMER	630-232-6840
HAMPSHIRE POLICE DEPARTMENT	BRIAN THOMPSON, POLICE CHIEF	847-683-2240
KANE CO. OFFICE OF EMERGENCY MANAGEMENT	DON BRYANT	630-232-5985
HAMPSHIRE FIRE PROTECTION DISTRICT	BILL ROBINSON, FIRE CHIEF	847-683-2629
HAMPSHIRE SCHOOL DISTRICT 300	FRED HEID, SUPERINTENDENT	847-551-8308
UNITED STATES POSTAL SERVICE	POSTMASTER	800-275-8777

LIMITATIONS OF CONSTRUCTION

THE CONTRACTOR SHALL COORDINATE THE ITEMS OF WORK IN ORDER TO KEEP HAZARDS AND TRAFFIC INCONVENIENCES TO A MINIMUM, AS SPECIFIED BELOW:

1. IF THERE ARE CONSTRUCTION OPERATION COMPLETE OUTSIDE OF THE DURATION OF THE ROADWAY CLOSURE, THOSE CONSTRUCTION OPERATIONS WILL BE CONDUCTED SO ONE LANE IN EACH DIRECTION ON HARMONY ROAD REMAIN OPEN AT ALL TIMES.

2. THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN ALL THE NECESSARY SIGNS, BARRICADES, CONES, DRUMS, AND LIGHTS FOR THE WARNING AND PROTECTION OF TRAFFIC, AS REQUIRED BY SECTIONS 107 AND 701 THROUGH 703 OF THE STANDARD SPECIFICATIONS, OR AS MODIFIED BY THE ENGINEER.

3. THE CONTRACTOR SHALL FURNISH AND ERECT "ROAD CONSTRUCTION AHEAD" SIGNS (W20-I103 (O)-48) AT BOTH ENDS OF THE PROJECT AND AT ALL SIDE ROADS WITHIN THE LIMITS OF THIS SECTION WHEN WORKING IN THE VICINITY OF THE SIDE ROAD INTERSECTION.

KEEPING ROADS OPEN TO TRAFFIC

THE CONTRACTOR SHALL SCHEDULE HIS/HER SEQUENCE OF OPERATIONS TO PERMIT THE CONSTRUCTION OF THIS SECTION WITH THE LEAST INCONVENIENCE TO THE TRAVELING PUBLIC. THE CONTRACTOR'S SCHEDULE SHALL REFLECT THE FOLLOWING REQUIREMENTS AND SEQUENCE OF CONSTRUCTION. THESE REQUIREMENTS FOLLOW THE SUGGESTED TRAFFIC CONTROL PLAN INCLUDED IN THE DRAWINGS.

HARMONY ROAD WILL BE COMPLETELY CLOSED TO TRAFFIC FOR THE DURATION SPECIFIED IN THE CONTRACT DOCUMENTS.

SEQUENCE OF CONSTRUCTION

IN GENERAL, THE STAGING OF CONSTRUCTION FOR THIS SECTION SHALL BE AS FOLLOWS:

MAJOR WORK ITEMS - STAGE 1 (ROADWAY CLOSURE) HARMONY ROAD

- COORDINATE UTILITY RELOCATES
- SET UP CHANGEABLE MESSAGE SIGNS AND INFORMATION SIGNS
- SET UP CLOSURE AS DETAILED IN THE PLANS
- SET UP TEMPORARY EROSION CONTROL MEASURES
- REMOVE EXISTING PAVEMENTS, BRIDGE STRUCTURE & WING WALLS
- CONSTRUCT THE PROPOSED BRIDGE AND WING WALLS
- CONSTRUCT EMBANKMENT, SUBGRADE AND AGGREGATE BASE COURSES
- CONSTRUCT UNDERDRAINS
- CONSTRUCT SHOULDERS AND PAVEMENTS (INCLUDING FINAL SURFACE)
- CONSTRUCT GUARDRAILS AND TRAFFIC BARRIER TERMINALS
- PLACE PERMANENT PAVEMENT MARKINGS**

MAJOR WORK ITEMS - STAGE 2 - RESTORATION

THESE OPERATIONS MAY TAKE PLACE AFTER THE ROADWAY IS OPEN TO TRAFFIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THESE WORK OPERATIONS UNDER THE APPROPRIATE IDOT TRAFFIC CONTROL STANDARD. THESE STANDARDS WILL BE NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE CONSIDERED INCLUDED IN THE COST FOR TRAFFIC CONTROL AND PROTECTION, SPECIAL.

- PLACE PERMANENT RESTORATION
- PLACE GUARDRAIL MARKER
- PLACE PERMANENT SIGNAGE
- FINALIZE PUNCH LIST AND SITE CLEANUP

** IF CONTRACTOR ELECTS TO COMPLETE PERMANENT PAVEMENT MARKING OUTSIDE OF THE CLOSURE PERIOD, THEN THE CONTRACTOR SHALL PLACE THE APPROPRIATE TEMPORARY PAVEMENT MARKINGS. ALL MARKINGS ON THE PERMANENT SURFACES SHALL BE TAPE. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE TEMPORARY PAVEMENT MARKINGS.

TRAFFIC CONTROL - IDOT STANDARD DRAWINGS

THE CONTRACTOR'S OPERATION MAY REQUIRE WORK THAT WILL NOT BE COMPLETED UNDER THE ROADWAY CLOSURE. UNDER THESE CIRCUMSTANCES THE CONTRACTOR WILL COMPLETE THE WORK UTILIZING THE APPLICABLE IDOT TRAFFIC CONTROL STANDARD. THE STANDARD APPLICATION WILL BE APPROVED BY THE ENGINEER. A LIST OF POTENTIAL STANDARD DRAWINGS HAS BEEN INCLUDED IN THE SPECIAL PROVISION FOR "TRAFFIC CONTROL PLAN". THE CONTRACTOR IS ENCOURAGED TO COMPLETE ALL WORK UNDER THE ROADWAY CLOSURE.

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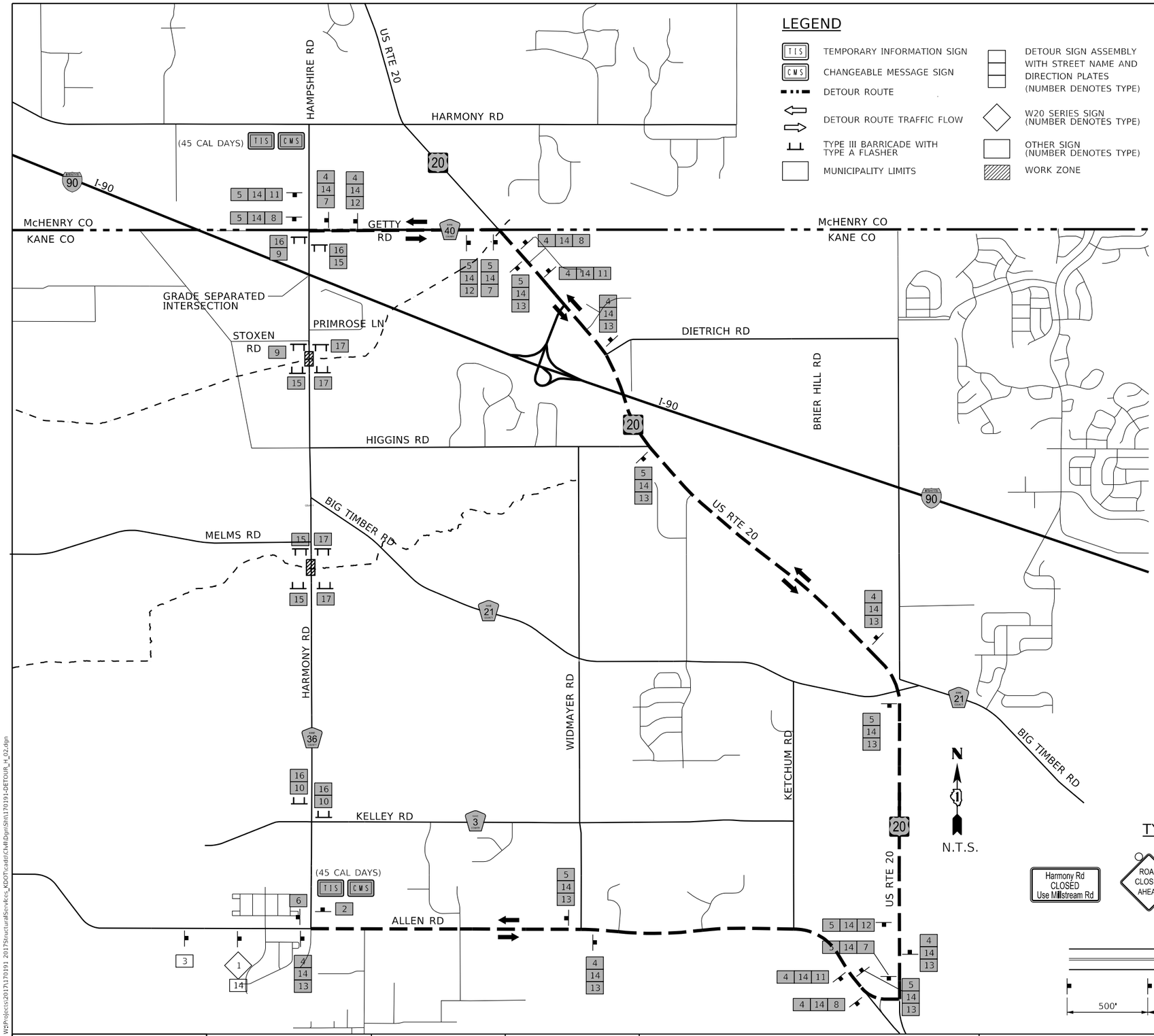
KANE COUNTY
DIVISION OF TRANSPORTATION

MAINTENANCE OF TRAFFIC NOTES
HARMONY ROAD CULVERT IMPROVEMENTS

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	10
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



LEGEND

- TIS — TEMPORARY INFORMATION SIGN
- CMS — CHANGEABLE MESSAGE SIGN
- DETOUR ROUTE
- DETOUR ROUTE TRAFFIC FLOW
- TYPE III BARRICADE WITH TYPE A FLASHER
- MUNICIPALITY LIMITS
- DETOUR SIGN ASSEMBLY WITH STREET NAME AND DIRECTION PLATES (NUMBER DENOTES TYPE)
- W20 SERIES SIGN (NUMBER DENOTES TYPE)
- OTHER SIGN (NUMBER DENOTES TYPE)
- WORK ZONE

NOTE:

REFER TO DISTRICT STANDARD TC-21 FOR SIGN SPACING DETAILS.

SCHEDULE OF DETOUR SIGNS

SIGN NO.	SIGN	MUTCD CODE-SIZE
1	DETOUR AHEAD	W20-2-4848
2	ROAD CLOSED AHEAD	W20-3-4848
3*	Harmony Rd CLOSED Use US Route 20	SPECIAL-(O)-6030
4	NORTH	M3-2(O)-2412
5	SOUTH	M3-4(O)-2412
6	END DETOUR	M4-8A-2418
7	DETOUR →	M4-9 SERIES-3024
8	DETOUR ←	M4-9 SERIES-3024
9	DETOUR	M4-10L-4818
10	DETOUR	M4-10R-4818
11	DETOUR ↰	M4-9 SERIES-3024
12	DETOUR ↱	M4-9 SERIES-3024
13	DETOUR ↑	M4-9 SERIES-3024
14	HarmonyRd	D3-(O)3612-VAR
15	ROAD CLOSED	R11-2-4830
16	BRIDGE OUT X MILES AHEAD LOCAL TRAFFIC ONLY	R11-3B-6030
17	BRIDGE OUT	R11-2-4830 (MODIFIED)
18	ROAD CLOSED TO THRU TRAFFIC	R11-4-6030

SIGN BODY SHALL BE ORANGE IN COLOR WITH BLACK LETTERING

1" OR 2" SEE NOTE 2

DETOUR AHEAD

COLORED PANEL EDGE AROUND SIGN, TYPICAL TO ALL SIGN TYPES

NOTES

1. PANEL EDGE COLOR SHALL BE FLUORESCENT GREEN AND IS BE USED ON ALL DETOUR ROUTE SIGNS (W20-2, W20-3, M3 SERIES, M4-8A, M4-9 SERIES, AND D3)
2. A 2" PANEL EDGE SHALL BE USED ON W20-2 AND W20-3 SIGNS, ALL OTHER SIGNS SHALL USE A 1" PANEL EDGE.
3. COLORED PANEL EDGE IS TO DIFFERENTIATE BETWEEN TWO SEPARATE DETOUR ROUTES THAT OVERLAP ALONG GETTY ROAD.

COLORED PANEL EDGE DETAIL

NORTH M3-2 OR M3-4

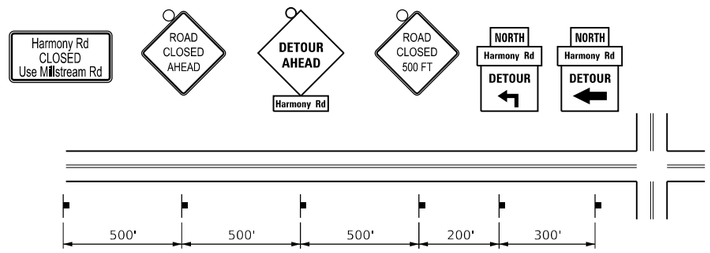
Harmony Rd D3

DETOUR → M4-9 SERIES

DETOUR SIGN ASSEMBLY

TYPICAL DETOUR SIGN ASSEMBLIES

TYPICAL DETOUR SIGN SPACING



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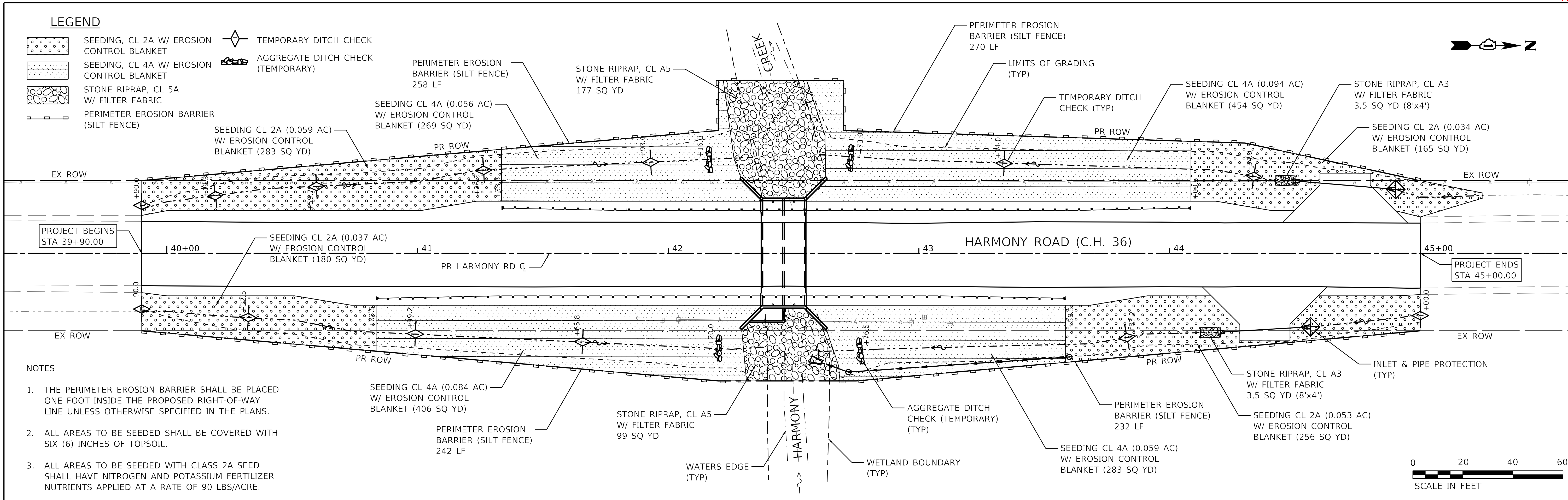
KANE COUNTY
DIVISION OF TRANSPORTATION

MAINTENANCE OF TRAFFIC DETOUR PLAN
HARMONY ROAD CULVERT IMPROVEMENTS

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	11
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



NOTES

1. THE PERIMETER EROSION BARRIER SHALL BE PLACED ONE FOOT INSIDE THE PROPOSED RIGHT-OF-WAY LINE UNLESS OTHERWISE SPECIFIED IN THE PLANS.
2. ALL AREAS TO BE SEEDED SHALL BE COVERED WITH SIX (6) INCHES OF TOPSOIL.
3. ALL AREAS TO BE SEEDED WITH CLASS 2A SEED SHALL HAVE NITROGEN AND POTASSIUM FERTILIZER NUTRIENTS APPLIED AT A RATE OF 90 LBS/ACRE.

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KANE COUNTY
DIVISION OF TRANSPORTATION

EROSION CONTROL & SEEDING PLAN
HARMONY ROAD - CULVERT #2

SCALE: 1"=20' | SHEET 2 OF 5 SHEETS | STA. 39+90.00 TO STA. 45+00.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	12
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

EROSION CONTROL INSPECTION

ALL EROSION CONTROL MEASURES MUST BE INSPECTED WEEKLY AND AFTER EACH ½" RAIN EVENT.

WINTER SHUT DOWN

A WINTER SHUT DOWN IS NOT ANTICIPATED FOR THIS PROJECT. BUT IN THE EVENT THAT UNAVOIDABLE CIRCUMSTANCES REQUIRE A WINTER SHUT DOWN, THE CONDITION OF THE CONSTRUCTION SITE FOR WINTER SHUTDOWN SHALL BE ADDRESSED EARLY IN THE FALL GROWING SEASON SO THAT SLOPES AND OTHER BARE EARTH AREAS MAY BE STABILIZED WITH TEMPORARY AND/OR PERMANENT VEGETATIVE COVER FOR PROPER EROSION AND SEDIMENT CONTROL. ALL OPEN AREAS THAT ARE TO REMAIN IDLE THROUGHOUT THE WINTER SHALL RECEIVE TEMPORARY EROSION CONTROL MEASURES INCLUDING TEMPORARY SEEDING, MULCHING AND/OR EROSION CONTROL BLANKET PRIOR TO THE END OF THE FALL GROWING SEASON. THE AREAS TO BE WORKED BEYOND THE END OF THE GROWING SEASON MUST INCORPORATE SOIL STABILIZATION MEASURES THAT DO NOT RELY ON VEGETATIVE COVER SUCH AS EROSION CONTROL BLANKET AND HEAVY MULCHING.

TEMPORARY DITCH CHECKS

TEMPORARY DITCH CHECKS WILL BE REQUIRED AT THOSE LOCATIONS WHERE THE CONTRACTORS OPERATIONS REQUIRE TEMPORARY OR PERMANENT DITCHES. THE LOCATION OF TEMPORARY DITCH CHECKS ARE SHOWN ON THE PLANS. THE EXACT LOCATION MAY REQUIRE FIELD ADJUSTMENT AND WILL BE COORDINATED IN THE FIELD WITH THE ENGINEER. THE QUANTITIES INCLUDE A PLAN ALLOWANCE OF TEMPORARY DITCH CHECKS FOR MAINTENANCE PURPOSES. TEMPORARY DITCH CHECKS SHALL BE CONSTRUCTED AS SPECIFIED IN SECTION 280 OF THE STANDARD SPECIFICATIONS FOR ROAD AND CULVERT CONSTRUCTION, LATEST EDITION.

PERIMETER EROSION BARRIER (SILT FENCE)

PERIMETER EROSION CONTROL BARRIER (SILT FENCE) SHALL BE PLACED AT THE LOCATIONS SHOWN ON THE PLANS. THE PERIMETER EROSION CONTROL BARRIER SHALL BE CONSTRUCTED AS DETAILED ON THE PLANS AND AS SPECIFIED IN SECTION 280 OF THE STANDARD SPECIFICATIONS FOR ROAD AND CULVERT CONSTRUCTION, LATEST EDITION.

STOCKPILE LOCATIONS AND PROTECTING STOCK PILE AREAS

STOCKPILES SHOULD NOT BE PLACED IN OR NEAR CRITICAL AREAS, OR AREAS THAT HAVE HIGH POTENTIAL FOR CONTRIBUTING SEDIMENTS TO STORMWATER FACILITIES.

CONTRACTOR MAY OPT TO STOCKPILE MATERIAL. STAGING OF THE PROJECT IS AT THE DISCRETION OF THE CONTRACTOR AND COORDINATION OF STOCK PILES WILL BE WITH KANE COUNTY DIVISION OF TRANSPORTATION (KDOT) AND KANE-DUPAGE SOIL AND WATER CONSERVATION DISTRICT (KDSWCD). STOCKPILES OF SOIL AND OTHER CONSTRUCTION MATERIALS TO REMAIN IN PLACE MORE THAN THREE (3) DAYS SHALL BE FURNISHED WITH EROSION AND SEDIMENT CONTROL MEASURES (I.E. PERIMETER SILT FENCE). STOCKPILES, NOT BEING ACTIVELY WORKED AND TO REMAIN IN PLACE FOR 14 DAYS OR MORE SHALL RECEIVE TEMPORARY SEEDING.

STABILIZED CONSTRUCTION AREA

TEMPORARY STABILIZATION OF THE CONSTRUCTION AREA SHOULD TAKE PLACE AT THE END OF EACH WORK DAY.

PERMANENT STABILIZATION OF THE CONSTRUCTION AREA SHALL BE COMPLETED WITHIN 7 DAYS OF FINAL GRADING.

WORK IN FLOWING WATER

NO WORK SHALL BE PERFORMED IN FLOWING WATER. WORK IN AND NEAR THE CRITICAL AREAS SHOULD BE ISOLATED FROM CONCENTRATED FLOWS OR STREAM FLOW. ONCE WORK IN THIS AREA BEGINS, PRIORITY SHALL BE GIVEN TO THE COMPLETION OF THE WORK AND FINAL STABILIZATION OF ALL DISTURBED AREAS. SEE ADDITIONAL IN-STREAM NOTES.

DEWATERING

WHEN DEWATERING THE CONSTRUCTION AREA IS NECESSARY, ALL WATERS SHALL BE FILTERED BY USING FILTER BAGS OR AN ALTERNATIVE MEASURE APPROVED BY THE KANE-DUPAGE SOIL & WATER CONSERVATION DISTRICT. ALL FILTER BAGS MUST HAVE SECONDARY CONTAINMENT DEVICES, AND SHOULD BE PLACED ON LEVEL GROUND. WATER MUST HAVE SEDIMENT REMOVED BEFORE BEING ALLOWED TO RETURN TO THE ORIGINAL CREEK. THE DISCHARGE SHALL BE DESIGNED SO THAT RETURNING WATERS DO NOT CAUSE EROSION. THE CONTRACTOR WILL COORDINATE THE METHOD, DESIGN AND LOCATION OF THE DEWATERING PLAN AND FILTER BAG(S) WITH KANE-DUPAGE SOIL & WATER CONSERVATION DISTRICT AT THE PRE-CONSTRUCTION MEETING.

DEWATERING AND FILTERING BAG SYSTEMS REQUIRED FOR ALL CONSTRUCTION OPERATIONS WILL NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE INCLUDED IN THE COST OF THE RELATED WORK ITEM REQUIRING DEWATERING. DEWATERING WILL INCLUDE MEANS, METHODS AND ALL MATERIALS TO DEWATER AND TO PROVIDE FILTRATION OF WATERS BEFORE RE-ENTERING THE CREEK.

KEEPING PAVEMENTS CLEAN

THE CONTRACTOR WILL KEEP ALL PERMANENT PAVEMENT SURFACES CLEAN OF DIRT OR CONSTRUCTION DEBRIS. THE PAVEMENT SHALL BE CLEANED AT THE END OF EACH DAYS OPERATION OR MORE FREQUENTLY AS REQUIRED BY THE ENGINEER IF THE DEBRIS IS DEEMED TO BE A HAZARD TO THE MOTORING PUBLIC.

STABILIZED CONSTRUCTION ENTRANCE

A STABILIZED CONSTRUCTION ENTRANCE IS NOT ANTICIPATED FOR THIS PROJECT. HOWEVER, IF IT IS DETERMINED BY THE ENGINEER OR THE KANE-DUPAGE SOIL AND WATER CONVERSATION DISTRICT THAT THE CONTRACTOR OPERATIONS REQUIRE A STABILIZED ENTRANCE, QUANTITY HAS BEEN INCLUDED IN THE PROJECT TO COMPLETE THIS WORK. THERE WILL BE NO ADJUSTMENT TO THE CONTRACT IF THE ENTRANCE IS NOT CONSTRUCTED. IF REQUIRED, THE CONTRACTOR WILL SUBMIT THE LOCATION AND DETAILS TO KDSWCD FOR APPROVAL.

CONCRETE WASHOUT

A CONCRETE WASHOUT IS NEEDED FOR THIS PROJECT. IT SHOULD BE DRAWN ON THESE PLANS BY THE CONTRACTOR AT THE TIME OF INSTALLATION. WASHOUTS ARE TO BE CONSTRUCTED AND MAINTAINED IN A MANNER CONSISTENT WITH THE DETAILS ON THE PLANS AND THE LATEST EDITION OF THE ILLINOIS URBAN MANUAL.

STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING				A		*	*	A				
DORMANT SEEDING	B										B	
TEMPORARY SEEDING			C									
EROSION CONTROL				D								

A. CLASS 2A

B. INCREASE SEEDING RATES BY 25% WHEN DORMANT SEEDING (NOT ANTICIPATED)

C. TEMPORARY SEEDING (PERENNIAL RYE GRASS, SPRING OATS)

D. EROSION CONTROL BLANKET (PERMANENT SEED AREAS ONLY)

* IRRIGATION MAY BE NEEDED DURING JUNE AND JULY (INCLUDED IN SEEDING)

NOTE: SEEDING TO BE COMPLETED PER REQUIREMENTS OF SECTION 250 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND CULVERTS AND THE SPECIAL PROVISIONS.

GENERAL NOTES

A) UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS IN THE ILLINOIS URBAN MANUAL, LATEST EDITION.

B) THE KANE-DUPAGE SOIL AND WATER CONSERVATION DISTRICT (KDSWCD) MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITIES, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

C) A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

D) PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING BUT NOT LIMITED TO, ADDITIONAL PHASES OF DEVELOPMENT AND OFF-SITE BORROW OR WASTE AREAS) A SUPPLEMENTARY EROSION CONTROL PLAN SHALL BE SUBMITTED TO THE OWNER FOR REVIEW BY THE KDSWCD.

E) THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE KDSWCD.

F) IT IS THE RESPONSIBILITY OF THE OWNER AND/OR GENERAL CONTRACTOR TO INFORM ANY SUB-CONTRACTOR(S) WHO MAY PERFORM WORK ON THIS PROJECT, OF THE REQUIREMENTS IN IMPLEMENTING AND MAINTAINING THESE EROSION CONTROL PLANS AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS SET FORTH BY THE ILLINOIS EPA.

G) THE CONTRACTOR IS RESPONSIBLE FOR INDICATING THE CURRENT LOCATION OF THE CONCRETE WASHOUT AND ANY MODIFICATIONS TO THE LOCATIONS OR DETAILS OF EROSION AND SEDIMENT CONTROLS ON THESE PLANS.

H) ALL DROP INLETS ON AND ADJACENT TO THE SITE MUST HAVE SEDIMENT TRAPPING OR CONTAINMENT DEVICE INSTALLED DURING CONSTRUCTION ACTIVITIES. FILTER FABRIC ON ITS OWN IS NOT AN APPROVED METHOD. PREFABRICATED DROP INLET PROTECTION SHOULD BE AS RESTRICTIVE AS THE ILLINOIS URBAN MANUAL STANDARD 861 FOR INLET PROTECTION.

CONTRACTOR SUBMITTAL

MEANS AND METHODS TO CONSTRUCT THE CULVERT, CHANNEL AND OTHER APPURTENANT WORK IS THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR IS REQUIRED TO SUBMIT TO KDSWCD FOR APPROVAL ALL DRAWINGS AND/OR DETAILS SHOWING THE EXACT SEQUENCING, METHODS, AND LOCATIONS OF THE COFFERDAMS WHICH WILL INCLUDE DEWATERING AND FILTRATION METHODS.

IN-STREAM NOTES

SEE SHEET 14 FOR ADDITIONAL NOTES.

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KANE COUNTY
DIVISION OF TRANSPORTATION

EROSION CONTROL & SEEDING NOTES
HARMONY ROAD CULVERT IMPROVEMENTS

SCALE: 1"=20' | SHEET 3 OF 5 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	13
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

IN-STREAM WORK

A. WORK IN THE WATERWAY SHOULD BE TIMED TO TAKE PLACE DURING LOW OR NO-FLOW CONDITIONS. LOW FLOW CONDITIONS ARE FLOW AT OR BELOW THE NORMAL WATER ELEVATION.

B. THE PLAN WILL BE DESIGNED TO ALLOW FOR THE CONVEYANCE OF THE 2-YEAR PEAK FLOW PAST THE WORK AREA WITHOUT OVERTOPPING THE COFFERDAM. THE CORPS HAS THE DISCRETION TO REDUCE THIS REQUIREMENT IF DOCUMENTED BY THE APPLICANT TO BE INFEASIBLE OR UNNECESSARY.

C. WATER SHALL BE ISOLATED FROM THE IN-STREAM WORK AREA USING A COFFERDAM CONSTRUCTED OF NON-ERODIBLE MATERIALS (STEEL SHEETS, AQUA BARRIERS, RIPRAP AND GEOTEXTILE LINER, ETC.). EARTHEN COFFERDAMS ARE NOT PERMISSIBLE.

D. THE COFFERDAM MUST BE CONSTRUCTED FROM THE UPLAND AREA AND NO EQUIPMENT MAY ENTER FLOWING WATER AT ANY TIME. IF THE INSTALLATION OF THE COFFERDAM CANNOT BE COMPLETED FROM SHORE AND ACCESS IS NEEDED TO REACH THE AREA TO BE COFFERED, OTHER MEASURES, SUCH AS THE CONSTRUCTION OF A CAUSEWAY WILL BE NECESSARY TO ENSURE THAT EQUIPMENT DOES NOT ENTER THE WATER. ONCE THE COFFERDAM IS IN PLACE AND THE ISOLATED AREA IS DEWATERED, EQUIPMENT MAY ENTER THE COFFERED AREA TO PERFORM THE REQUIRED WORK.

E. IF BYPASS PUMPING IS NECESSARY, THE INTAKE HOSE SHALL BE PLACED ON A STABLE SURFACE OR FLOATED TO PREVENT SEDIMENT FROM ENTERING THE HOSE. THE BYPASS DISCHARGE SHALL BE PLACED ON A NON-ERODIBLE, ENERGY DISSIPATING SURFACE PRIOR TO REJOINING THE STREAM FLOW AND SHALL NOT CAUSE EROSION. FILTERING OF BYPASS WATER IS NOT NECESSARY UNLESS THE BYPASS WATER HAS BECOME SEDIMENT-LADEN AS A RESULT OF THE CURRENT CONSTRUCTION ACTIVITIES.

F. DURING DEWATERING OF THE COFFERED WORK AREA, ALL SEDIMENT-LADEN WATER MUST BE FILTERED TO REMOVE SEDIMENT. POSSIBLE OPTIONS FOR SEDIMENT REMOVAL INCLUDE BAFFLE SYSTEMS, ANIONIC POLYMERS SYSTEMS, DEWATERING BAGS, OR OTHER APPROPRIATE METHODS. WATER SHALL HAVE SEDIMENT REMOVED PRIOR TO BEING RE-INTRODUCED TO THE DOWNSTREAM WATERWAY. A STABILIZED CONVEYANCE FROM THE DEWATERING DEVICE TO THE WATERWAY MUST BE IDENTIFIED IN THE PLAN. DISCHARGE WATER IS CONSIDERED CLEAN IF IT DOES NOT RESULT IN A VISUALLY IDENTIFIABLE DEGRADATION OF WATER CLARITY.

G. THE AREA FROM THE TOE TO THE TOP OF THE SIDE SLOPE SHALL BE TEMPORARILY STABILIZED DURING CONSTRUCTION TO REDUCE THE POTENTIAL FOR EROSION. ALL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO PROPOSED CONDITIONS AND FULLY STABILIZED PRIOR TO ACCEPTING FLOWS.

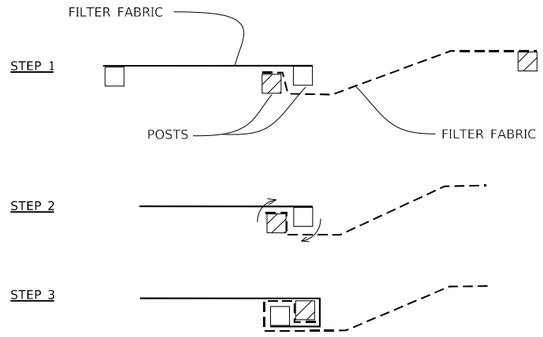
DIVERSION AND DEWATERING

DIVERSION AND DEWATERING WORK SHALL CONSIST OF FURNISHING ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS TO INSTALL, MAINTAIN, AND OPERATE ALL NECESSARY DEWATERING SYSTEMS TO DIVERT, REMOVE WATER FROM THE CHANNEL REACH OR DESIGNED TO CONTROL SEDIMENT DISCHARGE IN DEWATERING APPLICATIONS WHERE WATER IS BEING PUMPED FOR THE CONSTRUCTION OF THE PROPOSED CULVERT, HEADWALLS, STONE RIP RAP CHANNEL LINING AND OTHER WORK ASSOCIATED WITH CONSTRUCTION OF THE CULVERT TO ASSURE THE WORK CAN BE COMPLETED IN THE DRY OR IN MANAGEABLE CONDITIONS AS APPROVED BY THE ENGINEER.

THIS ITEM WILL ALSO CONSIST OF CONSTRUCTING A DEWATERING FILTERING SYSTEM CONSISTING OF FILTRATION OR SEDIMENT BAGS FOR COLLECTING SEDIMENT FROM PUMPING OPERATIONS WITHIN COFFER DAMS AND SUMP PITS. CONSTRUCTION WATERS WILL INCLUDE, BUT NOT BE LIMITED TO, ALL WATERS GENERATED FROM THE INSTALLATION OF CULVERT, HEADWALLS, DRAINAGE SYSTEMS, FOOTING AND AGGREGATE BASE CONSTRUCTION.

DIVERSION & DEWATERING - BASIS OF PAYMENT

ALL WORK REQUIRED TO PROVIDE FOR THE DEWATERING AND/OR DIVERSION SYSTEMS FOR THE CONSTRUCTION OF THE CULVERT, HEADWALLS, CHANNEL AND BANK STABILIZATION SHALL NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE INCLUDED IN THE COST OF THE "CONCRETE BOX CULVERT", WHICH WORK SHALL INCLUDE MEANS AND METHODS FOR DESIGN OF COFFERDAMS, BARRIER WALL, FILTER FABRIC, PIPING, PUMPING, FOUNDATION PREPARATION, FRAMING AND SUPPORTS, DEWATERING FILTERING SYSTEM CONSISTING OF FILTRATION OR SEDIMENT BAGS, INSTALLATION, MAINTENANCE, REMOVAL OF SYSTEMS AND ALL LABOR, MATERIAL, AND EQUIPMENT NEEDED TO PERFORM THE WORK DESCRIBED HEREIN AND AS SPECIFIED ON THE PLANS.



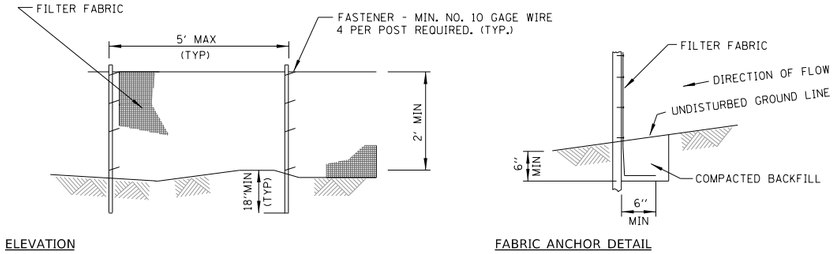
ATTACHING TWO SILT FENCES

NOTES:

1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. CUT THE FABRIC NEAR THE BOTTOM OF THE STAKES TO ACCOMMODATE THE 6" FLAP.
4. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES INTO THE GROUND AND BURY THE FLAP.
5. COMPACT BACKFILL (PARTICULARLY AT SPLICES) COMPLETELY TO PREVENT STORMWATER PIPING.

PERIMETER EROSION BARRIER (SILT FENCE) - SPLICING TWO FENCES

STD. IUM-620B
(SILT FENCE - SPLICING TWO FENCES)



ELEVATION

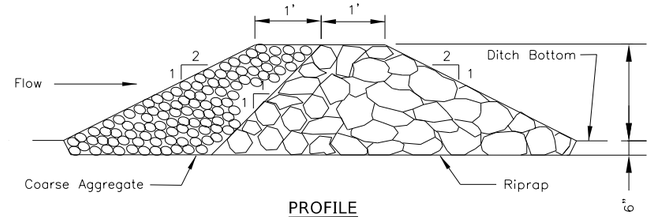
FABRIC ANCHOR DETAIL

NOTES:

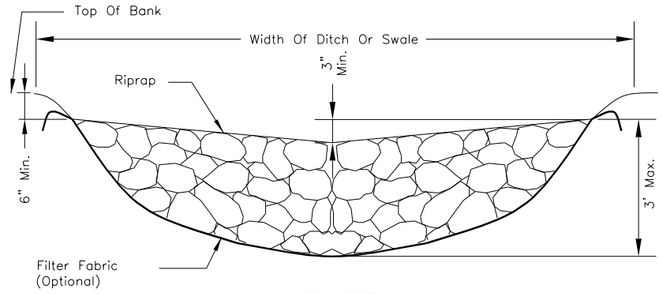
1. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 40 FOR WOVEN.
3. FENCE POSTS SHALL BE EITHER STANDARD STEEL POST OR WOOD POST WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.

PERIMETER EROSION BARRIER (SILT FENCE)

STD. IUM-620A
(SILT FENCE PLAN)



PROFILE



CROSS SECTION
CENTERLINE LOOKING DOWNSTREAM

AGGREGATE DITCH CHECK NOTES:

1. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS I, II, OR IV AND SHALL BE PLACED OVER THE CLEARED AREA PRIOR TO THE PLACING OF ROCK.
2. COARSE AGGREGATE SHALL MEET ONE OF THE FOLLOWING IDOT GRADATIONS, CA-1, CA-2, CA-3, OR CA-4.
3. RIPRAP SHALL MEET IDOT GRADATION RR-3 OR RR-4 AND MEET QUALITY DESIGNATION A.
4. COARSE AGGREGATE AND RIPRAP SHALL BE PLACED ACCORDING TO CONSTRUCTION SPECIFICATION 25 ROCKFILL USING PLACEMENT METHOD 1 AND CLASS III COMPACTION.
5. FOR ADDED STABILITY, THE BASE OF THE DAM MAY BE KEYED 6 INCHES INTO THE SOIL.
6. MAXIMUM DRAINAGE AREA TO EACH DAM IS 10 ACRES.
7. ROCK CHECK DAM-COARSE AGGREGATE IL-605CA MAY BE USED FOR DRAINAGE AREAS UNDER 2 ACRES.

AGGREGATE DITCH CHECK

N.T.S.

WBK engineering
WBK ENGINEERING, LLC
116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

USER NAME = nparris	DESIGNED - SBP	REVISED -	
	DRAWN - NDP	REVISED -	
PLOT SCALE = 1:40	CHECKED - MCC	REVISED -	
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -	

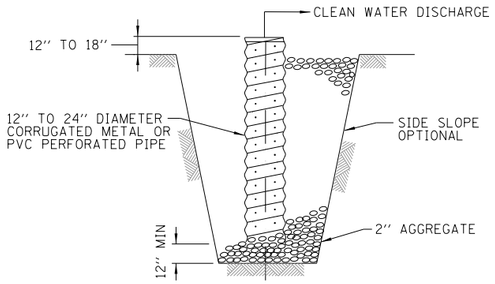
KANE COUNTY
DIVISION OF TRANSPORTATION

EROSION CONTROL & SEEDING DETAILS
HARMONY ROAD CULVERT IMPROVEMENTS

SCALE: 1"=20' | SHEET 4 OF 5 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	14
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_KDOT\Cadd\CivilDgn\Sht\170191-EROS_1_04.dgn



SECTION

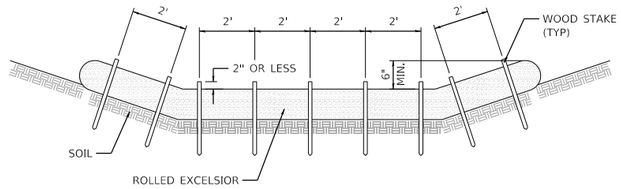
SUMP PIT NOTES:

1. PIT DIMENSIONS ARE OPTIONAL.
2. THE STANDPIPE WILL BE CONSTRUCTED BY PERFORATING A 12"-24" DIAMETER CORRUGATED METAL OR PVC PIPE.
3. A BASE OF 2" AGGREGATE WILL BE PLACED IN THE PIT TO A MINIMUM DEPTH OF 12". AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE WILL THEN BE BACKFILLED WITH 2" AGGREGATE.
4. THE STANDPIPE WILL EXTEND 12" TO 18" ABOVE THE LIP OF THE PIT.
5. IF DISCHARGE WILL BE PUMPED DIRECTLY TO A STORM DRAINAGE SYSTEM, THE STANDPIPE WILL BE WRAPPED WITH FILTER FABRIC BEFORE INSTALLATION.
6. IF DESIRED, ¼"-½" HARDWARE CLOTH MAY BE PLACED AROUND THE STANDPIPE PRIOR TO ATTACHING THE FILTER FABRIC. THIS WILL INCREASE THE RATE OF WATER SEEPAGE INTO THE PIPE.

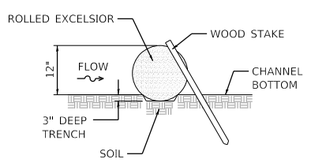
SUMP PIT PLAN

STD. IL-650
(SUMP PIT PLAN)

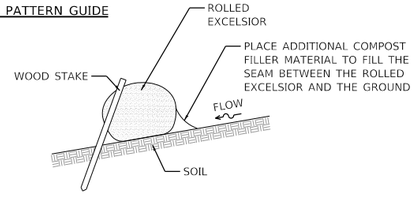
THE SUMP PIT WILL NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE CONSIDERED PART OF THE DEWATERING OPERATIONS.



STAKING PATTERN GUIDE



STAKE DETAIL



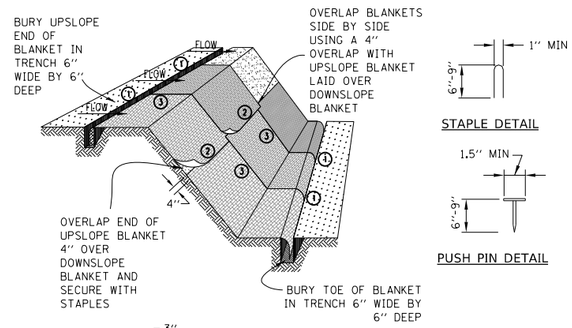
COMPOST FILTER SOCK DETAIL

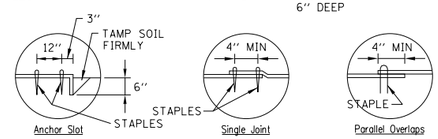
NOTES:

1. ENDS OF ROLLED EXCELSIOR SHALL BE TURNED AT LEAST 6" UPSLOPE.
2. RECOMMENDED STAKES ARE 1⅛" WIDE x 1⅛" THICK x 30" LONG.
3. STAKES SHALL NOT EXTEND ABOVE THE ROLLED EXCELSIOR MORE THAN 2".
4. SPACING: THE TOE OF THE UPSTREAM DITCH CHECK SHALL CREATE A HORIZONTAL LINE WITH THE TOP OF THE DOWNSTREAM DITCH CHECK.
5. WHEN COMPOST FILTER SOCK DITCH CHECK IS USED, PLACE A COMPOST BERM UPSTREAM OF THE FILTER SOCK (SEE IUM 805). A TRENCH IS NOT REQUIRED.
6. OVERLAP MINIMUM IS THE DIAMETER OF THE ROLL.
7. STAKES SHALL BE PLACED EVERY 2' FOR ROLLED EXCELSIOR, OR AS SPECIFIED BY THE MANUFACTURER.

TEMPORARY DITCH CHECK ROLLED EXCELSIOR

STD. IUM-514
(ROLLED EROSION CONTROL PRODUCTS)





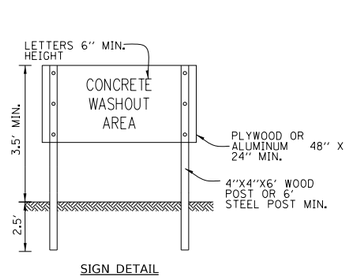
DETAIL 1 DETAIL 2 DETAIL 3

NOTES:

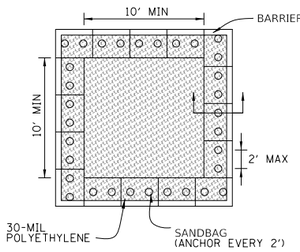
1. STAPLES SHALL BE PLACED IN A DIAMOND PATTERN AT 2 PER S.Y. FOR STITCHED BLANKETS. NON-STICHED SHALL USE 4 STAPLES PER S.Y. OF MATERIAL. THIS EQUATES TO 200 STAPLES WITH STITCHED BLANKET AND 400 STAPLES WITH NON-STICHED BLANKET PER 100 S.Y. OF MATERIAL
2. STAPLE OR PUSH PIN LENGTHS SHALL BE SELECTED BASED ON SOIL TYPE AND CONDITIONS. (MINIMUM STAPLE LENGTH IS 6")
3. EROSION CONTROL MATERIAL SHALL BE PLACED IN CONTACT WITH THE SOIL OVER A PREPARED SEEDBED.
4. ALL ANCHOR SLOTS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

EROSION CONTROL BLANKET INSTALLATION DETAILS

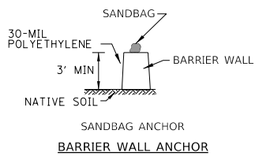
STD. IL-530A, IL-530B, IUM-531
(EROSION CONTROL BLANKET)



SIGN DETAIL



PLAN VIEW



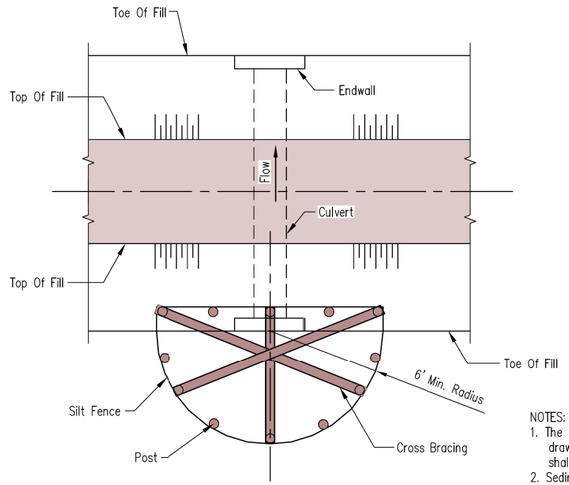
BARRIER WALL ANCHOR SECTIONS

WASHOUT NOTES:

1. MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND/OR SLURRY AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION.
2. FACILITY SHALL BE CLEANED OR RECONSTRUCTED IN A NEW AREA ONCE WASHOUT BECOMES TWO-THIRDS FULL.

TEMPORARY CONCRETE WASHOUT FACILITY - BARRIER WALL

STD. IUM-654BW
(TEMPORARY CONCRETE WASHOUT)



PLAN VIEW

NOTES:
1. The silt fence shall meet the requirements as shown on standard drawing IL-ENG-49 SILT FENCE except the maximum post spacing shall be 3 feet and the tops of posts shall be cross braced.
2. Sediment shall be removed when the sediment has accumulated to one-half the height of the silt fence.
3. The maximum drainage area to the culvert being protected is 1 acre.

INLET & PIPE PROTECTION

WBK engineering
WBK ENGINEERING, LLC
116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

USER NAME = nparris	DESIGNED - SBP	REVISED -	
	DRAWN - NDP	REVISED -	
PLOT SCALE = 1:40	CHECKED - MCC	REVISED -	
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

EROSION CONTROL & SEEDING DETAILS
HARMONY ROAD CULVERT IMPROVEMENTS

SCALE: 1"=20' | SHEET 5 OF 5 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	15
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_KDOT\cadd\CivilDgn\Sht\170191-EROS_1_05.dgn

WETLAND BOUNDARY (TYP)

EXISTING CONTOURS (TYP)

LIMITS OF GRADING (TYP)

PROPOSED DITCH, LT

PR ROW

EX ROW

PROJECT BEGINS STA 39+90.00

29.0'

31.0'

40+00

41

42

43

44

45+00

HARMONY ROAD (C.H. 36)

PR HARMONY RD ℄

PROPOSED DITCH, RT

PROPOSED CONTOURS (TYP)

SLOPED METAL END SECT, STD 542411, 24", 1:4
+56.9, 42.2' RT (AT END)
INV 863.20

WATERS EDGE (TYP)

CREEK

HARMONY

EX 6" CLAY TILE

PR ℄ STRUCTURE
STA 42+46.03
(SEE STRUCTURAL PLANS)

INLET, TYPE B, TY 1 F&G, CL
+71.9, 47.5' RT
RIM 687.00
INV 863.28 N&S
(SEE NOTE 2)

STORM SEWER, CL B, TY 1, 24"
10 LF @ 0.80%

SLOPED METAL END SECT, STD 542411, 15", 1:4
+49.3, 28.9' LT (AT END)
INV 866.85

PROPOSED DITCH, LT

PR ROW

PIPE CULVERT, CL C, TY 1, 15"
36 LF @ 2.0% (1.8 CY TB)

SLOPED METAL END SECT, STD 542411, 15", 1:4
+90.2, 25.5' LT (AT END)
INV 867.67

EX ROW

PROJECT ENDS STA 45+00.00

PROPOSED DITCH, RT

EX 24" CMP TILE

PR ROW

INLET, TYPE B, TY 1 F&G, CL
+60.0, 41.4' RT
RIM 867.00
INV 863.54 N&S
(SEE NOTE 2)

STORM SEWER, CL B, TY 1, 24"
85 LF @ 0.30%

SLOPED METAL END SECT, STD 542411, 15", 1:4
+56.3, 29.4' RT (AT END)
INV 866.65

PIPE CULVERT, CL C, TY 1, 15"
32 LF @ 1.75% (1.8 CY TB)

SLOPED METAL END SECT, STD 542411, 15", 1:4
+19.3, 31.6' RT (AT END)
INV 866.02

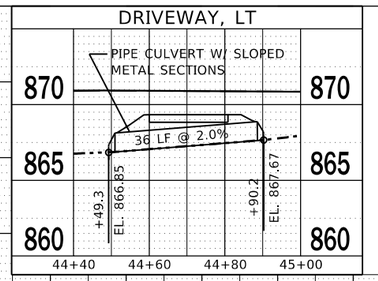
EX ROW

0 20 40 60
SCALE IN FEET

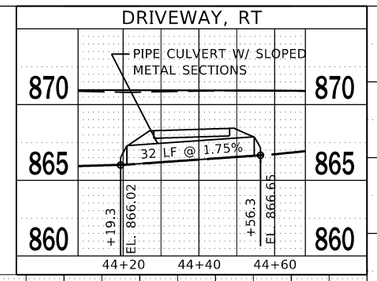
DRAINAGE NOTES

1. ALL STORM SEWER AND CULVERT PIPES SHALL BE POLYETHYLENE (PE) PIPE WITH SMOOTH INTERIOR.
2. GRADING AROUND THE INLET STRUCTURES SHALL BE MOUNDED SO THE FRAME & LID ARE NOT EXPOSED.

DRIVEWAY, LT



DRIVEWAY, RT



WBK engineering — WBK ENGINEERING, LLC, 116 WEST MAIN STREET, SUITE 201, ST. CHARLES, ILLINOIS 60174, (630) 443-7755	USER NAME = nparris	DESIGNED - SBP	REVISED -
		DRAWN - NDP	REVISED -
	PLOT SCALE = 1:40	CHECKED - MCC	REVISED -
	PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

DRAINAGE & GRADING - PLAN & PROFILE
HARMONY ROAD - CULVERT #2

SCALE: 1"=20' | SHEET 2 OF 2 SHEETS | STA. 39+90.00 | TO STA. 45+00.00

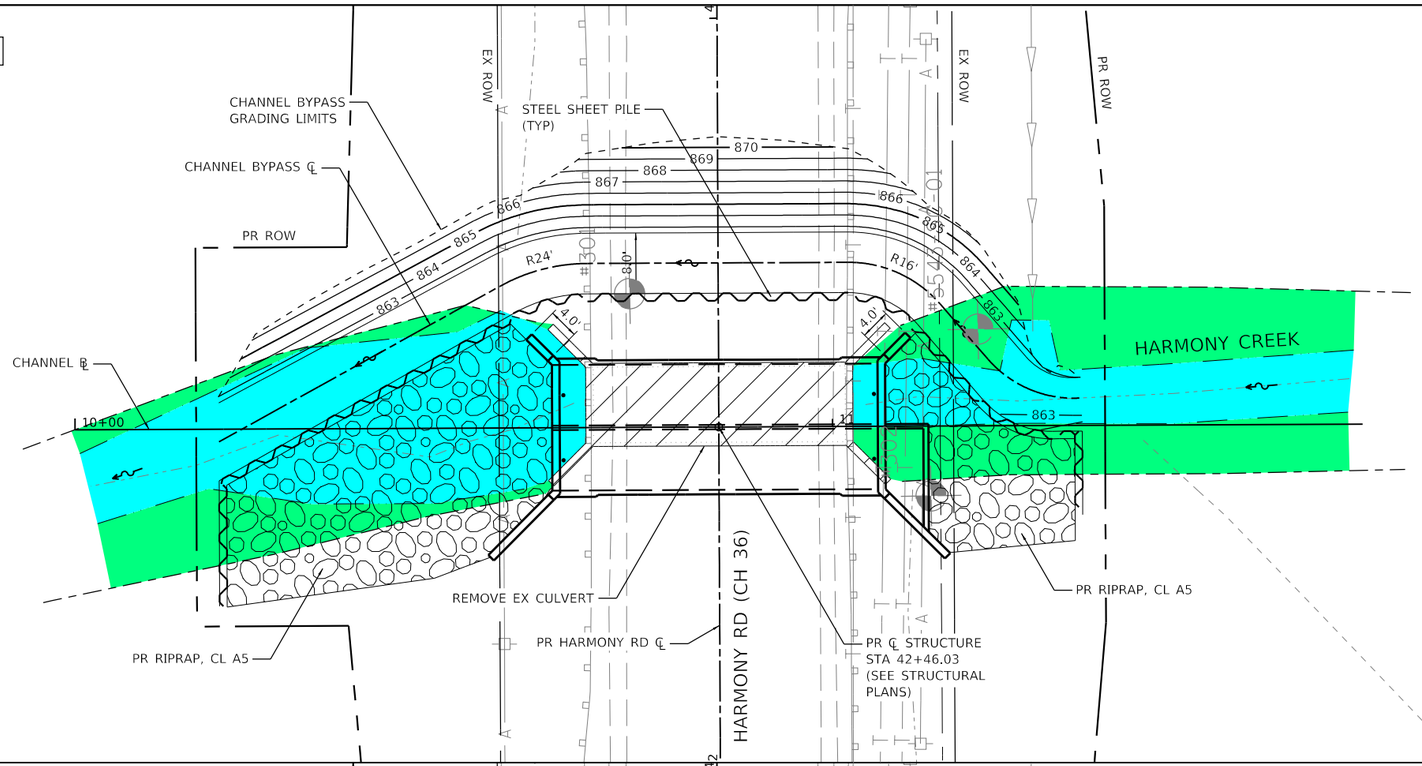
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	16
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

PLAN — SURVEYED; PLOTTED; ALIGNMENT CHECKED; RT. OF WAY CHECKED; CADD FILE NAME; NOTE BOOK; NO.; BY; DATE

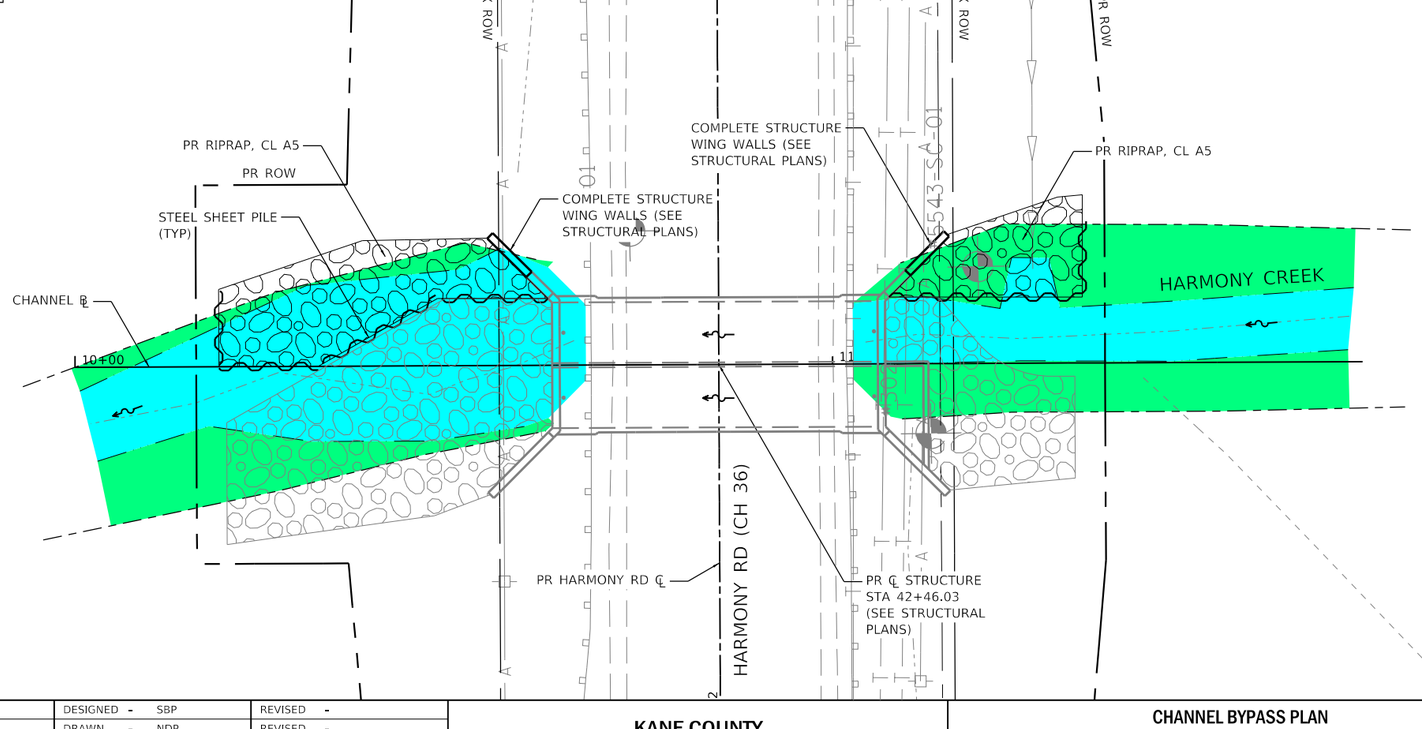
PROFILE — SURVEYED; PLOTTED; PROFILE CHECKED; BM. NOTED; STRUCTURE NO(ATNS CHKD; NOTE BOOK; NO.; BY; DATE

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_KDOT\cadd\CivilDgn\Shts\170191-DRAIN_H_02.dgn

CHANNEL BYPASS - STAGE 1



CHANNEL BYPASS - STAGE 2



LEGEND

- WATERS LIMITS
- WETLAND LIMITS

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_IDOT\cadd\CivilDgn\Sht\170191-STG_BYPASS_pl_01.dgn

WBK engineering	WBK ENGINEERING, LLC 116 WEST MAIN STREET, SUITE 201 ST. CHARLES, ILLINOIS 60174 (630) 443-7755	USER NAME = nparris	DESIGNED - SBP	REVISED -	
			DRAWN - NDP	REVISED -	
		PLOT SCALE = 1:20	CHECKED - MCC	REVISED -	
		PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -	

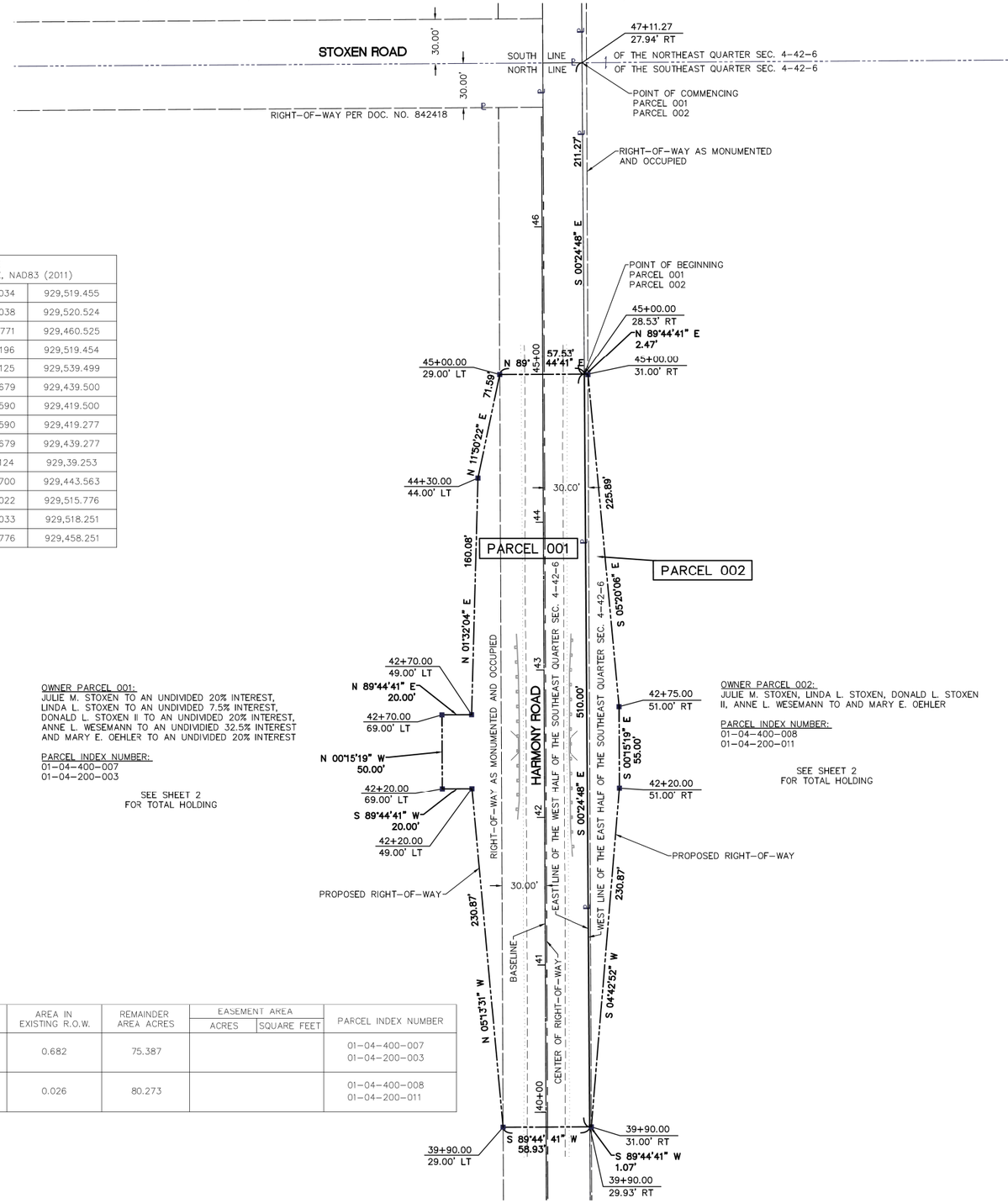
KANE COUNTY
DIVISION OF TRANSPORTATION

CHANNEL BYPASS PLAN
STAGE 1 & 2

SCALE: 1"=10' | SHEET 1 OF 1 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	17
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PART OF THE SOUTHEAST QUARTER OF SECTION 4, TWP. 42 N., R. 6 E. OF THE 3RD. P.M., IN KANE COUNTY, ILLINOIS.



COORDINATE TABLE ILLINOIS STATE PLANE, EAST ZONE, NAD83 (2011)			
39+90.00	29.93' RT	1,995,227.034	929,519.455
39+90.00	31.00' RT	1,995,227.038	929,520.524
39+90.00	29.00' LT	1,995,226.771	929,460.525
39+90.16	29.93' RT	1,995,227.196	929,519.454
42+20.00	51.00' RT	1,995,457.125	929,539.499
42+20.00	49.00' LT	1,995,456.679	929,439.500
42+20.00	69.00' LT	1,995,456.590	929,419.500
42+70.00	69.00' LT	1,995,506.590	929,419.277
42+70.00	49.00' LT	1,995,506.679	929,439.277
42+75.00	51.00' RT	1,995,512.124	929,39.253
44+30.00	44.00 LT	1,995,666.700	929,443.563
45+00.00	28.53' RT	1,995,737.022	929,515.776
45+00.00	31.00' RT	1,995,737.033	929,518.251
45+00.00	29.00' LT	1,995,736.776	929,458.251

OWNER PARCEL 001:
JULIE M. STOXEN TO AN UNDIVIDED 20% INTEREST,
LINDA L. STOXEN TO AN UNDIVIDED 7.5% INTEREST,
DONALD L. STOXEN II TO AN UNDIVIDED 20% INTEREST,
ANNE L. WESEMANN TO AN UNDIVIDED 32.5% INTEREST
AND MARY E. OEHLER TO AN UNDIVIDED 20% INTEREST

PARCEL INDEX NUMBER:
01-04-400-007
01-04-200-003

SEE SHEET 2
FOR TOTAL HOLDING

OWNER PARCEL 002:
JULIE M. STOXEN, LINDA L. STOXEN, DONALD L. STOXEN
II, ANNE L. WESEMANN TO AND MARY E. OEHLER

PARCEL INDEX NUMBER:
01-04-400-008
01-04-200-011

SEE SHEET 2
FOR TOTAL HOLDING

PARCEL NUMBER	TOTAL HOLDINGS ACRES	PART TAKEN ACRES	AREA IN EXISTING R.O.W.	REMAINDER AREA ACRES	EASEMENT AREA ACRES	EASEMENT AREA SQUARE FEET	PARCEL INDEX NUMBER
001	76.245	0.857	0.682	75.387			01-04-400-007 01-04-200-003
002	80.423	0.150	0.026	80.273			01-04-400-008 01-04-200-011

LEGEND

SECTION CORNER (9 10 / 16 15)
QUARTER SECTION CORNER (16 15 / 16 15)

- SECTION / QUARTER SECTION LINE
- PLATTED LOT LINES
- PROPERTY (DEED) LINE
- EXISTING CENTER OF RIGHT-OF-WAY
- PROPOSED BASELINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EDGE OF PAVEMENT
- EDGE OF SHOULDER
- GUARD RAIL
- FENCE LINE

129.32' MEASURED DIMENSION
(129.32') RECORDED DIMENSION

N

GRAPHIC SCALE FEET
0 40
SCALE: 1" =40'

ALL DIMENSIONS ARE MEASURED UNLESS OTHERWISE SPECIFIED.

BEARINGS AND DISTANCES SHOWN HEREON REFERENCE THE ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT) "GRID". ALL MEASURED AND CALCULATED DISTANCES ARE "GRID" NOT "GROUND". TO OBTAIN GROUND DISTANCES, DIVIDE GRID DISTANCES SHOWN BY THE COMBINATION FACTOR OF 0.9998952584.

AREAS SHOWN ON PLAT ARE GROUND.

- ○ IRON PIPE OR ROD FOUND
- ⊕ "MAG" NAIL SET
- ● CUT CROSS FOUND OR SET
- ● 5 / 8" REBAR SET
- ■ **STAKING OF PROPOSED RIGHT-OF-WAY.** SET DIVISION OF HIGHWAYS SURVEY MARKER TO MONUMENT THE POSITION SHOWN. IDENTIFIED BY INSCRIPTION DATA AND SURVEYORS REGISTRATION NUMBER.
- ■ M **STAKING OF PROPOSED RIGHT-OF-WAY IN CULTIVATED AREAS.** BURIED 5/8 INCH METAL ROD 20 INCHES BELOW GROUND TO MARK FUTURE SURVEY MARKER POSITION IDENTIFIED BY COLORED PLASTIC BEARING SURVEYORS REGISTRATION NUMBER.
- ◔ PERMANENT SURVEY MARKER, I.D.O.T. STANDARD 2135 (TO BE SET BY OTHERS)
- □ RIGHT-OF-WAY STAKING PROPOSED TO BE SET

STATE OF ILLINOIS)
)SS
COUNTY OF KANE)

THIS IS TO CERTIFY THAT I, DONALD RERICKA, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, (WBK ENGINEERING, LLC. AN ILLINOIS PROFESSIONAL DESIGN FIRM LAND SURVEYING CORPORATION, NUMBER 184.007317), HAVE SURVEYED THE PLAT OF HIGHWAYS SHOWN HEREON IN SECTION 4, TOWNSHIP 42 NORTH, RANGE 06 EAST OF THE THIRD PRINCIPAL MERIDIAN, KANE COUNTY, ILLINOIS, THAT THE SURVEY IS TRUE AND COMPLETE-AS SHOWN TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THE PLAT CORRECTLY REPRESENTS SAID SURVEY, THAT ALL MONUMENTS FOUND AND ESTABLISHED ARE OF PERMANENT QUALITY AND OCCUPY THE POSITIONS SHOWN THEREON AND THAT THE MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED. MADE FOR THE DEPARTMENT OF TRANSPORTATION, STATE OF ILLINOIS.

DATED AT ST. CHARLES, ILLINOIS THIS 25th DAY OF APRIL, 2018 A.D.

ILLINOIS PRCFESSIONAL LAND SURVEYOR NO. 035-003465
LICENSE EXFIRATION DATE: NOVEMBER 30, 2018
THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT
ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

DONALD E. RERICKA 035-003465 REGISTERED PROFESSIONAL LAND SURVEYOR ILLINOIS

WBK engineering
WBK ENGINEERING, LLC
116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

PLAT OF HIGHWAYS

KANE COUNTY
DIVISION OF TRANSPORTATION
HARMONY ROAD

LIMITS: AT HARMONY CREEK COUNTY: KANE
SECTION: 17-00481-00-BR JOB NO.:
STA. 39+00.00 TO STA. 45+00.00
SCALE: 1"=40' SHEET 2 OF 3 SHEETS

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_KDOT\Civil\CivilDgn\Sht\170191-PLAT_03.dgn

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116 WEST MAIN STREET, SUITE 201
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USER NAME = nparris	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 1:2	CHECKED -	REVISED -	
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -	

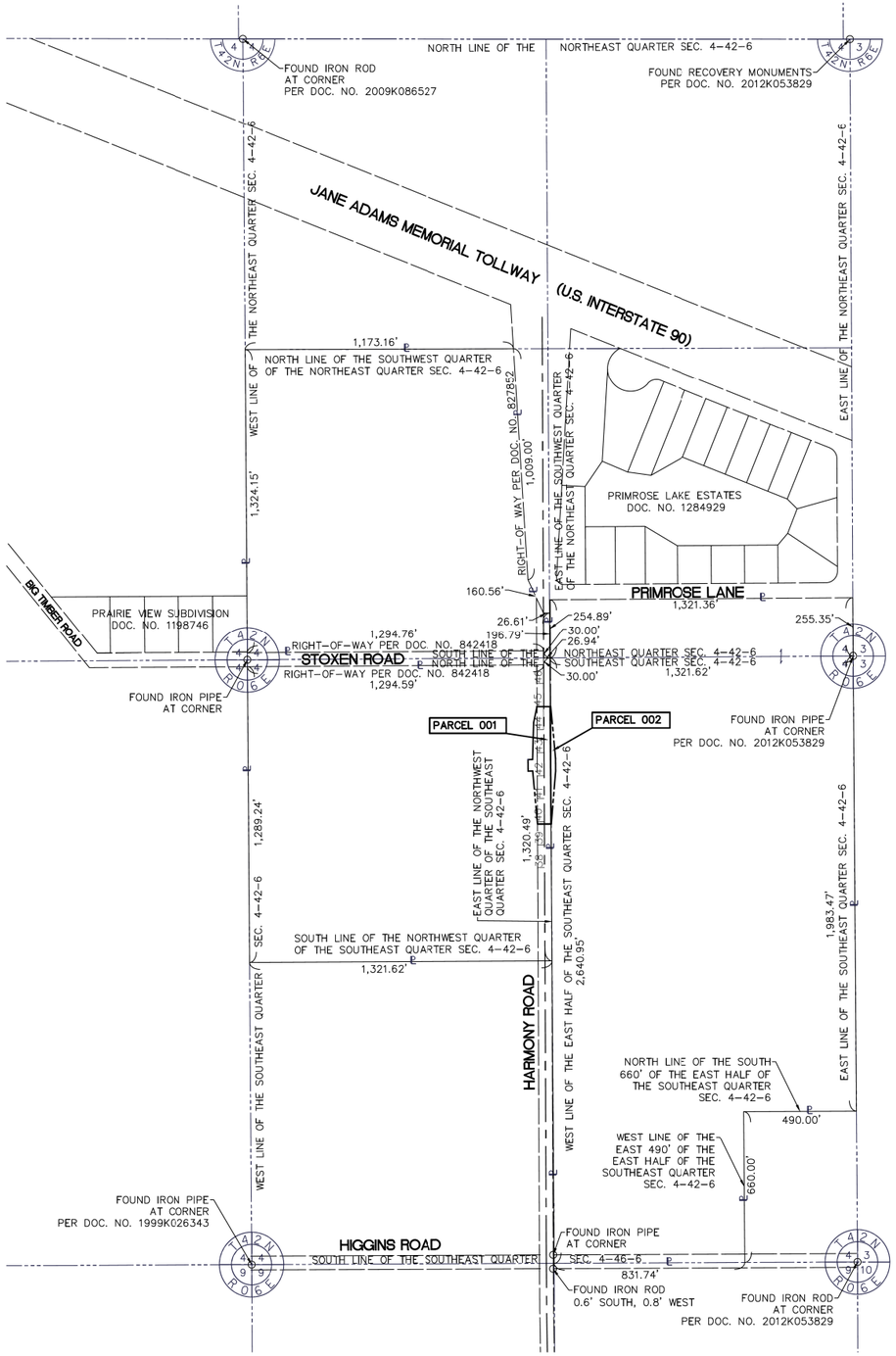
KANE COUNTY
DIVISION OF TRANSPORTATION

PLAT OF HIGHWAYS - FOR REFERENCE ONLY
HARMONY ROAD - CULVERT NO. 2

SCALE: | SHEET 3 OF 4 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	18
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

PART OF THE NORTHEAST QUARTER AND SOUTHEAST QUARTER OF SECTION 4, TWP. 42 N., R. 6 E. OF THE 3RD. P.M., IN KANE COUNTY, ILLINOIS.



LEGEND

SECTION CORNER

QUARTER SECTION CORNER

N

GRAPHIC SCALE FEET

0 300

SCALE: 1" =300'

- SECTION / QUARTER SECTION LINE
- PLATTED LOT LINES
- PROPERTY (DEED) LINE
- EXISTING CENTER OF RIGHT-OF-WAY
- PROPOSED BASELINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EDGE OF PAVEMENT
- EDGE OF SHOULDER
- GUARD RAIL
- FENCE LINE

129.32' MEASURED DIMENSION

(129.32') RECORDED DIMENSION

ALL DIMENSIONS ARE MEASURED UNLESS OTHERWISE SPECIFIED.

BEARINGS AND DISTANCES SHOWN HEREON REFERENCE THE ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT) "GRID". ALL MEASURED AND CALCULATED DISTANCES ARE "GRID" NOT "GROUND". TO OBTAIN GROUND DISTANCES, DIVIDE GRID DISTANCES SHOWN BY THE COMBINATION FACTOR OF 0.9998952584.

AREAS SHOWN ON PLAT ARE GROUND.

- ○ IRON PIPE OR ROD FOUND
- ⊕ "MAG" NAIL SET
- ● CUT CROSS FOUND OR SET
- ● 5 / 8" REBAR SET
- ■ **STAKING OF PROPOSED RIGHT-OF-WAY.** SET DIVISION OF HIGHWAYS SURVEY MARKER TO MONUMENT THE POSITION SHOWN. IDENTIFIED BY INSCRIPTION DATA AND SURVEYORS REGISTRATION NUMBER.
- ■ M **STAKING OF PROPOSED RIGHT-OF-WAY IN CULTIVATED AREAS.** BURIED 5/8 INCH METAL ROD 20 INCHES BELOW GROUND TO MARK FUTURE SURVEY MARKER POSITION IDENTIFIED BY COLORED PLASTIC BEARING SURVEYORS REGISTRATION NUMBER.
- ◔ PERMANENT SURVEY MARKER, I.D.O.T. STANDARD 2135 (TO BE SET BY OTHERS)
- □ RIGHT-OF-WAY STAKING PROPOSED TO BE SET

STATE OF ILLINOIS)
)SS
COUNTY OF KANE)

THIS IS TO CERTIFY THAT I, DONALD RERICKA, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, (WBK ENGINEERING, LLC. AN ILLINOIS PROFESSIONAL DESIGN FIRM LAND SURVEYING CORPORATION, NUMBER 184.007317), HAVE SURVEYED THE PLAT OF HIGHWAYS SHOWN HEREON IN SECTION 4, TOWNSHIP 42 NORTH, RANGE 06 EAST OF THE THIRD PRINCIPAL MERIDIAN, KANE COUNTY, ILLINOIS, THAT THE SURVEY IS TRUE AND COMPLETE-AS SHOWN TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THE PLAT CORRECTLY REPRESENTS SAID SURVEY, THAT ALL MONUMENTS FOUND AND ESTABLISHED ARE OF PERMANENT QUALITY AND OCCUPY THE POSITIONS SHOWN THEREON AND THAT THE MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED. MADE FOR THE DEPARTMENT OF TRANSPORTATION, STATE OF ILLINOIS.

DATED AT ST. CHARLES, ILLINOIS THIS 25th DAY OF APRIL, 2018 A.D.

ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-003465
LICENSE EXPIRATION DATE: NOVEMBER 30, 2018

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

DONALD E. RERICKA 035-03465 REGISTERED PROFESSIONAL LAND SURVEYOR ILLINOIS

WBK engineering
WBK ENGINEERING, LLC
116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

PLAT OF HIGHWAYS

KANE COUNTY
DIVISION OF TRANSPORTATION
HARMONY ROAD

LIMITS: AT HARMONY CREEK COUNTY: KANE

SECTION: 17-00481-00-BR JOB NO.:

STA. TO STA.

SCALE: 1"=300' SHEET 3 OF 3 SHEETS

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_IDOT\Leaf\Civil\Dgn\Sht\170191-PLAT_04.dgn

WBK engineering
WBK ENGINEERING, LLC
116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

USER NAME = nparris	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 1:2	CHECKED -	REVISED -	
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

PLAT OF HIGHWAYS - FOR REFERENCE ONLY
HARMONY ROAD - CULVERT NO. 2

SCALE: | SHEET 4 OF 4 SHEETS | STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	19
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

BENCHMARK

TBD.... IL-KANE-20-42-6: Elev. 854.59

EXISTING STRUCTURE

The existing structure is a single 10' x 5' reinforced concrete box culvert.
The culvert is 35'-3" long with cast-in-place concrete headwalls and wingwalls.
The existing roadway to be closed during construction and traffic detoured.

No salvage.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	858.56	858.38

WATERWAY INFORMATION

Drainage Area = 5.64 sq. mi. — Low Grade Elev. 870.73 @ Sta. 45+48.0

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	478	46.5	80	867.65	2.22	0.63	869.87	868.28
Design	30	666	50	80	868.10	2.81	1.50	870.91	869.60
Base	100	900	50	80	868.47	2.55	2.41	871.02	870.88
Overtopping (E)	25	635	50	80	868.04	2.83	1.33	870.87	869.37
Overtopping (P)	100	900	50	80	868.47	2.55	2.41	871.02	870.88
Max. Calc.	500	1260	50	80	868.90	2.27	2.17	871.17	871.07

(E)= Existing, (P)= Proposed

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge
Design Specifications, 8th Edition
& 2017 Culvert Manual

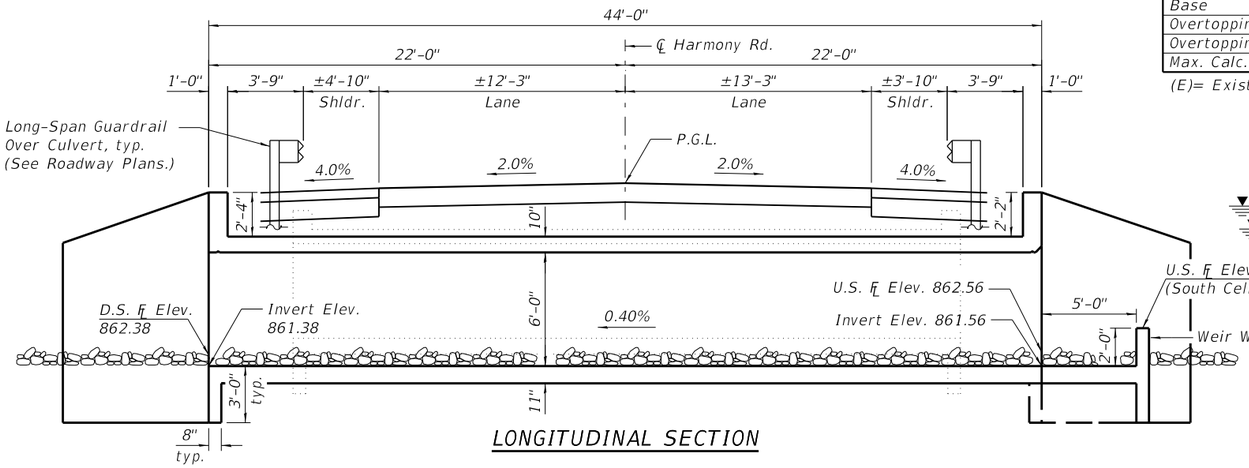
DESIGN STRESSES

FIELD UNITS

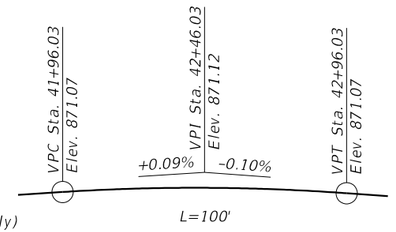
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

LOADING HL-93

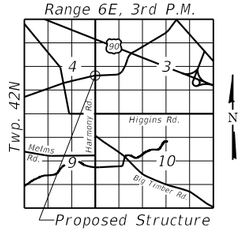
Allow 50#/sq. ft. for future wearing surface.



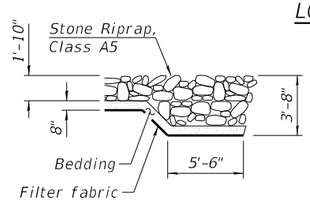
LONGITUDINAL SECTION



PROFILE GRADE

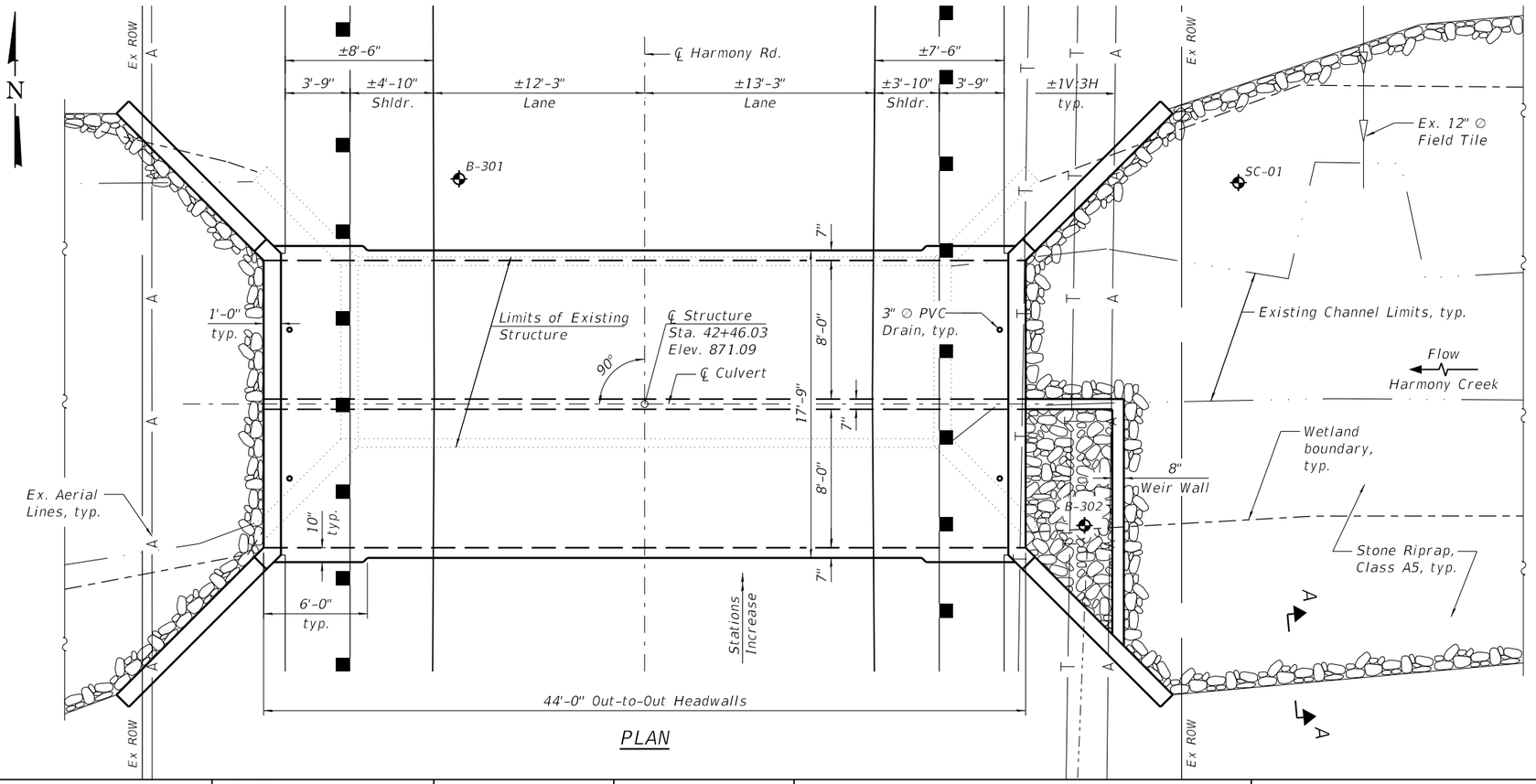


LOCATION SKETCH



SECTION A-A

INDEX OF SHEETS



PLAN

GENERAL PLAN
HARMONY ROAD OVER HARMONY CREEK
SECTION 17-00481-00-BR
KANE COUNTY
STA. 42+46.03
STRUCTURE NO 045-5700

FILE NAME = W:\Projects\2017\170191 2017Structural Services-KDOT\cadd\Structural\Dgn\N001_Harmony North_GPE.dgn

WBK engineering
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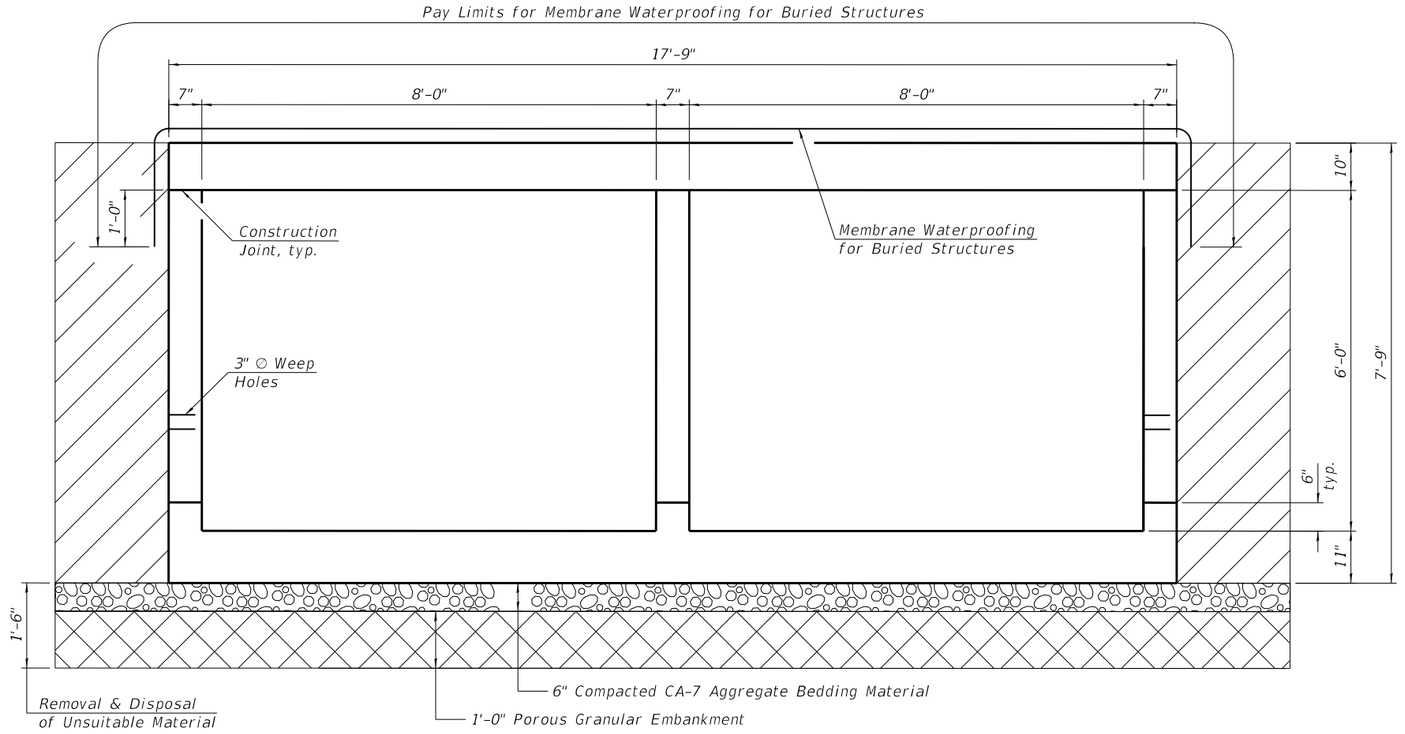
USER NAME = nparris	DESIGNED - JSP	REVISED -	
	CHECKED - MCC	REVISED -	
PLOT SCALE = 1:8	DRAWN - JMM	REVISED -	
PLOT DATE = 4/12/2019	CHECKED - JSP	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 045-5700
SHEET NO. OF 4 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	20
		CONTRACT NO.N/A		
	ILLINOIS	FED. AID PROJECT		



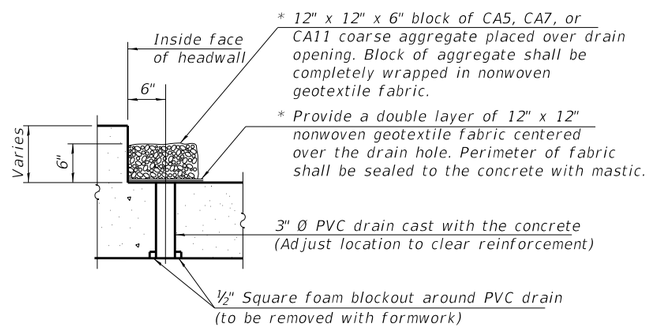
GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Drain holes shall conform to the requirements of Article 503.11 of the Standard Specification. Cost shall be included in Concrete Box Culverts.
3. Membrane Waterproofing for Buried Structures shall adhere to IDOT Guide Bridge Special Provision #81.
4. See Roadway Plans for limits of riprap. Layout of the riprap may be varied to suite gound ocnditions in the field as directed by the Engineer.
5. Proposed Structure Number 045-5700 refers to a County issued structure number.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	37
Stone Riprap, Class A3	Sq. Yd.	85
Stone Riprap, Class A5	Sq. Yd.	304
Filter Fabric	Sq. Yd.	304
Removal of Existing Structures No. 2	Each	1
Structure Excavation	Cu. Yd.	147
Removal and Disposal of Unsuitable Material	Cu. Yd.	118
Reinforcement Bars, Epoxy Coated	Pound	12,930
Concrete Box Culverts	Cu. Yd.	86.2
Membrane Waterproofing for Buried Structures	Sq. Yd.	106
Granular Backfill for Structures	Cu. Yd.	49

* Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.



DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

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USER NAME = nparris	DESIGNED - MCC	REVISED -	KANE COUNTY DIVISION OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 045-5700
	CHECKED - JSP	REVISED -		
PLOT SCALE = 1:2.66764	DRAWN - JMM	REVISED -		
PLOT DATE = 4/12/2019	CHECKED - JSP	REVISED -		SHEET NO. OF 4 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	21
		CONTRACT NO.N/A		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = W:\Projects\2017\17019 2017StructuralServices_KDOT\cadd\Structural\Dgn\K002_Harmony North_General Data.dgn

PROJECT **Culvert Improvements, Kane County, Illinois**

CLIENT **Homer L. Chastain and Associates, LLP, Rockford, Illinois**

BORING **401** DATE STARTED **4-29-11** DATE COMPLETED **4-29-11** JOB **L-75,957**

ELEVATIONS
GROUND SURFACE **870.0**
END OF BORING **855.0**

WATER LEVEL OBSERVATIONS
▼ WHILE DRILLING **5.5 '**
▽ AT END OF BORING **5.0 '**
▼ 24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.8	869.2	10" Bituminous Concrete
							1.2	868.8	4" Sand and Gravel Base
1	SS		6	20.3	0.5*	108			FILL - Brown and dark brown silty CLAY, little sand, trace gravel, occasional silt and sand seams, very moist (CL)
							3.0	867.0	
2	SS		12	21.9	1.0*	104			FILL - Black clayey TOPSOIL, very moist (OL)
							5.5	864.5	
3	SS		27						Firm brown and gray SAND and GRAVEL, saturated (SP/GP)
4	SS		22				10.5	859.5	
5	SS		29						Firm gray SAND and GRAVEL, saturated (SP/GP)
6	SS		23						
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET: 0, 5, 10, 15, 20, 25

TSC 75957 GPJ TSC_ALL GDT 7/19/11

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Culvert Improvements, Kane County, Illinois**

CLIENT **Homer L. Chastain and Associates, LLP, Rockford, Illinois**

BORING **402** DATE STARTED **4-29-11** DATE COMPLETED **4-29-11** JOB **L-75,957**

ELEVATIONS
GROUND SURFACE **870.0**
END OF BORING **855.0**

WATER LEVEL OBSERVATIONS
▼ WHILE DRILLING **5.5 '**
▽ AT END OF BORING **4.0 '**
▼ 24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.8	869.2	10" Bituminous Concrete
							1.2	868.8	4" Sand and Gravel Base
1	SS		10	16.7	2.0*	116			FILL - Brown and black silty CLAY, little sand and gravel, trace organic, moist (CL)
							3.0	867.0	
2	SS		6	27.3	1.25*	97			▽ FILL - Black silty CLAY, trace sand, trace organic, very moist (CL/CH)
							5.5	864.5	▼
3	SS		25	14.3					Firm gray SAND, saturated (SP)
4	SS		20	7.8			8.0	862.0	
5	SS		36	8.3					Firm to dense gray SAND and GRAVEL, saturated (SP/GP)
6	SS		25	8.0					
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET: 0, 5, 10, 15, 20, 25

TSC 75957 GPJ TSC_ALL GDT 7/19/11

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

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WBK engineering
WBK ENGINEERING, LLC
116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

USER NAME = nparris	DESIGNED - JSP	REVISED -
	CHECKED - MCC	REVISED -
PLOT SCALE = 1:0.166667	DRAWN - JMM	REVISED -
PLOT DATE = 4/12/2019	CHECKED - JSP	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 045-5700
SHEET NO. OF 4 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	22
		CONTRACT NO.N/A		
	ILLINOIS	FED. AID PROJECT		

Wang Engineering
wangeng@wangeng.com
1145 North Main Street
Lombard, IL 60148
Telephone: 630-953-9928
Fax: 630-953-9938

BORING LOG 5544-SC-01

WEI Job No.: 412-10-01

Client: **WBK Engineering, LLC**
Project: **KDOT 2017 Structural Services**
Location: **Kane County, Illinois**

Datum: NAVD 88
Elevation: 869.15 ft
North: 1990307.57 ft
East: 929573.54 ft
Station: NA
Offset: NA

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	868.8	4-inch thick, black SILTY LOAM --TOPSOIL--						
		Soft, brown CLAY LOAM; moist --RDR 2--			1	3 1 2	0.25 B	27
	866.4	Medium dense, brown GRAVELLY SAND to GRAVELLY SANDY LOAM; wet to saturated --RDR 3-- --PID = 0.0 ppm-- --PID = 0.0 ppm--	5		2	7 9 11	NP	12
					3	11 9 14	NP	13
		--%Gravel=45.2-- --%Sand=35.5-- --%Silt=14.3-- --%Clay=5.0--	10		4	7 7 13	NP	11
					5	3 12 10	NP	11
			15		6	5 7 11	NP	14
		--PID = 0.0 ppm--			7	4 6 6	NP	13
	851.2	Stiff to very stiff, gray CLAY LOAM to LOAM, trace gravel; damp --RDR 2--	20		8	4 6 7	1.07 B	13
		--PID = 0.0 ppm--	25		9	4 4 8	2.21 B	12
					10	4 5 6	1.56 B	12
					11	5 7 9	1.97 B	12
			30		12	5 8 11	2.38 B	11
	839.2	Boring terminated at 30.00 ft	35					
			40					

GENERAL NOTES

Begin Drilling: **01-08-2018** Complete Drilling: **01-08-2018**
Drilling Contractor: **Wang Testing Services** Drill Rig: **D25 ATV [93%]**
Driller: **R&K** Logger: **T. Rothschild** Checked by: **C. Marin**
Drilling Method: **2.25 IDA HSA; boring backfilled upon completion**

WATER LEVEL DATA

While Drilling: **2.75 ft**
At Completion of Drilling: **3.75 ft**
Time After Drilling: **NA**
Depth to Water: **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 412100 1.GPJ WANGENG.GDT 3/15/18

FILE NAME = W:\Projects\2017\170191 20175tructuralServices.KDOT\eadd\Structural\Dgn\N084_Harmony North_Boring Log 11.dgn

WBK engineering
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USER NAME = nparris		DESIGNED - JSP	REVISED -	KANE COUNTY DIVISION OF TRANSPORTATION	SOIL BORING LOGS STRUCTURE NO. 045-5700
		CHECKED - MCC	REVISED -		
PLOT SCALE = 1:0.166667		DRAWN - JMM	REVISED -		
PLOT DATE = 4/12/2019		CHECKED - JSP	REVISED -		SHEET NO. OF 4 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	23
		CONTRACT NO.N/A		
	ILLINOIS	FED. AID PROJECT		

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

874 872 870 868

PR ROW
EX ROW

868.96
867.75
867.75
1:2
1:2

870.51
17.00' LT
870.69
12.30' LT
4.0%
2.0%
870.94
2.0%
870.67
13.31' RT
870.53
17.00' RT
4.0%

1:3
867.64
867.64
1:3
889.17

EX FIBER
EX TELE
EX TELE

EARTHWORK
CUT 24.0 SQ YD
FILL 1.2 SQ YD
TSS 19.3 SQ YD

STA. 40+50.00

869.75
869.60
869.60
870.07
15.11' LT
870.16
12.71' LT
4.0%
5.3%
870.83
2.3%
870.53
13.00' RT
870.42
15.74' RT
4.0%
868.90
868.90
869.04

EX FIBER
EX TELE
EX TELE

EARTHWORK
CUT 10.2 SQ YD
FILL 0.2 SQ YD
TSS 6.3 SQ YD

STA. 39+90.00

STA. 39+50.00

DATE	BY	
		SURVEYED
		PLOTTED
		TEMPLATE
		AREAS
		AREAS CHECKED

FINAL SURVEY — NOTE BOOK — NO.

ORIGINAL SURVEY — NOTE BOOK — NO.

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_KDOT\cadd\Civil\Dgn\Sht\170191-XSHT_HarmonyN.dgn

WBK engineering
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116 WEST MAIN STREET, SUITE 201
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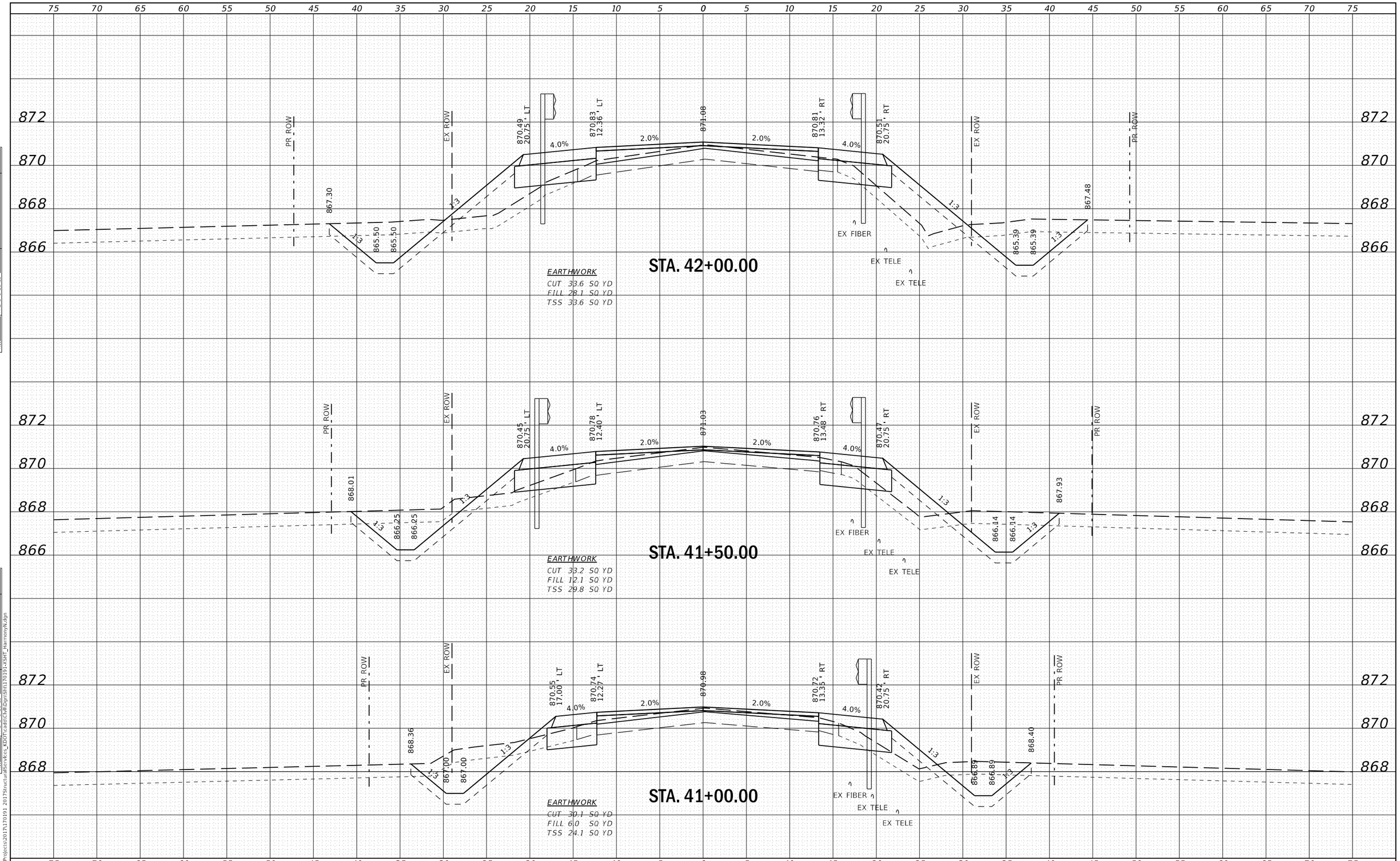
USER NAME = nparris	DESIGNED - SBP	REVISED -
	DRAWN - NDP	REVISED -
PLOT SCALE = 1:10	CHECKED - MCC	REVISED -
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CROSS SECTIONS
HARMONY ROAD - CULVERT #2

SCALE: H:5 V:2 | SHEET 1 OF 6 SHEETS | STA. 39+50.00 TO STA. 40+50.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	24
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY	DATE	BY
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	DATE	BY
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

FILE NAME = W:\Projects\2017\170191 2017StructuralServices_KDOT\cadd\Civil\Dgn\Sht\170191-XSHT_HarmonyN.dgn

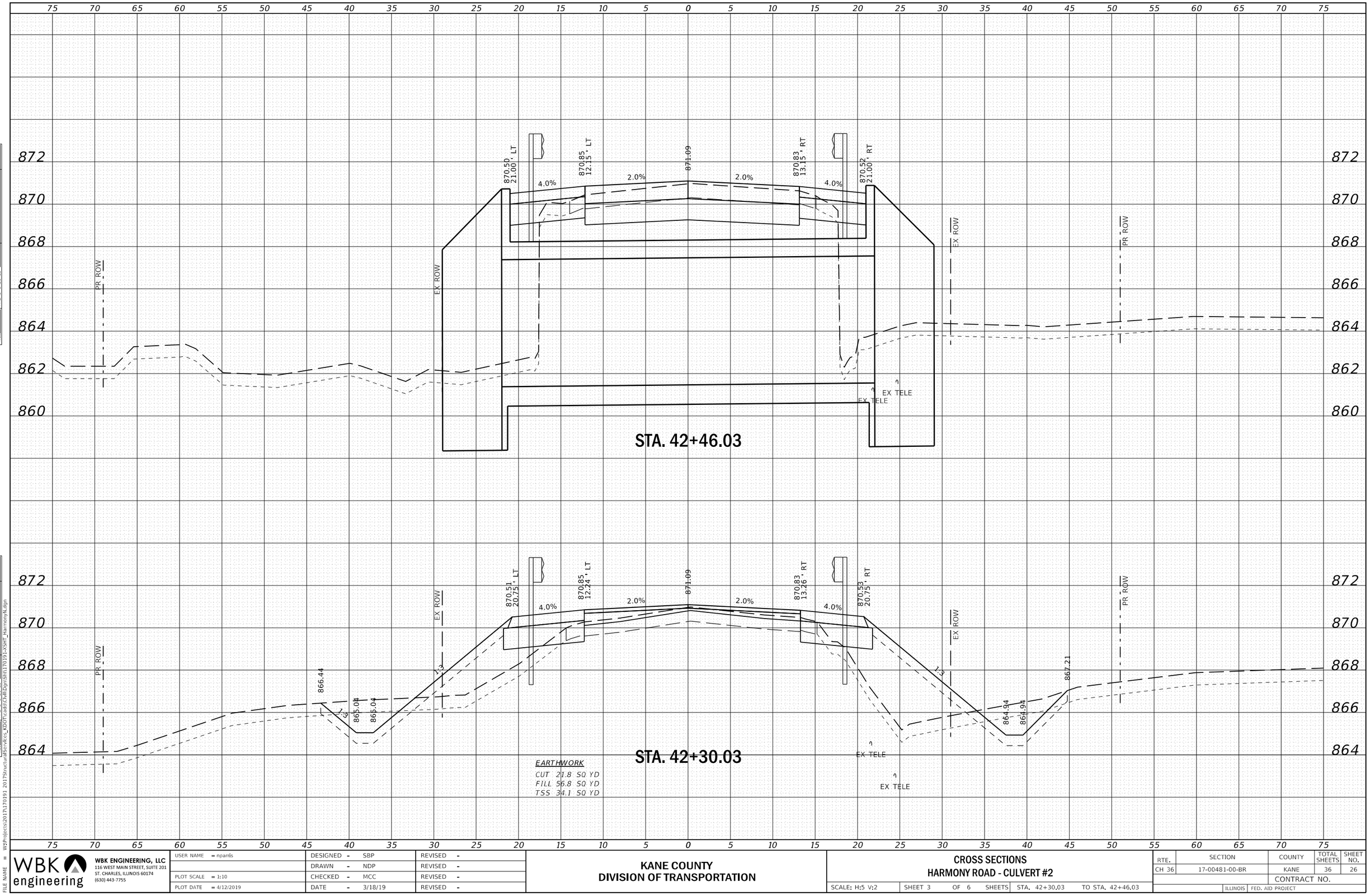
WBK engineering WBK ENGINEERING, LLC 116 WEST MAIN STREET, SUITE 201 ST. CHARLES, ILLINOIS 60174 (630) 443-7755	USER NAME = nparris	DESIGNED - SBP	REVISED -
		DRAWN - NDP	REVISED -
	PLOT SCALE = 1:10	CHECKED - MCC	REVISED -
	PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CROSS SECTIONS
HARMONY ROAD - CULVERT #2

SCALE: H:5 V:2 | SHEET 2 OF 6 SHEETS | STA. 41+00.00 TO STA. 42+00.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 36	17-00481-00-BR	KANE	36	25
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



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FILL 56.8 SQ YD
TSS 34.1 SQ YD

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WBK engineering
WBK ENGINEERING, LLC
116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

USER NAME = nparris	DESIGNED - SBP	REVISED -
	DRAWN - NDP	REVISED -
PLOT SCALE = 1:10	CHECKED - MCC	REVISED -
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CROSS SECTIONS
HARMONY ROAD - CULVERT #2

SCALE: H:5 V:2 | SHEET 3 OF 6 SHEETS | STA. 42+30.03 TO STA. 42+46.03

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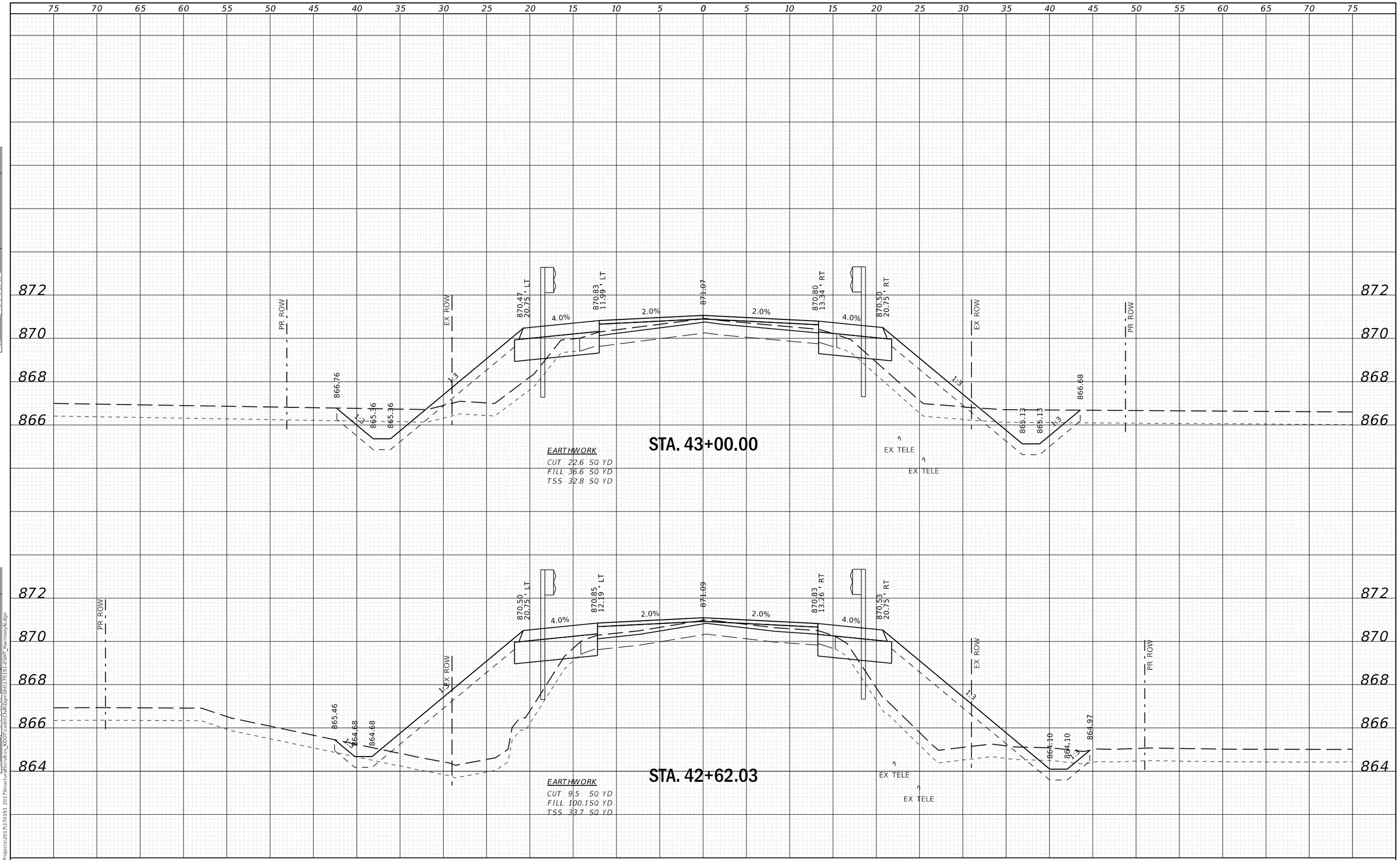

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		PLOTTED
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WBK engineering	USER NAME = nparris	DESIGNED - SBP	REVISED -	KANE COUNTY DIVISION OF TRANSPORTATION
WBK ENGINEERING, LLC 116 WEST MAIN STREET, SUITE 201 ST. CHARLES, ILLINOIS 60174 (630) 443-7755		DRAWN - NDP	REVISED -	CROSS SECTIONS HARMONY ROAD - CULVERT #2
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RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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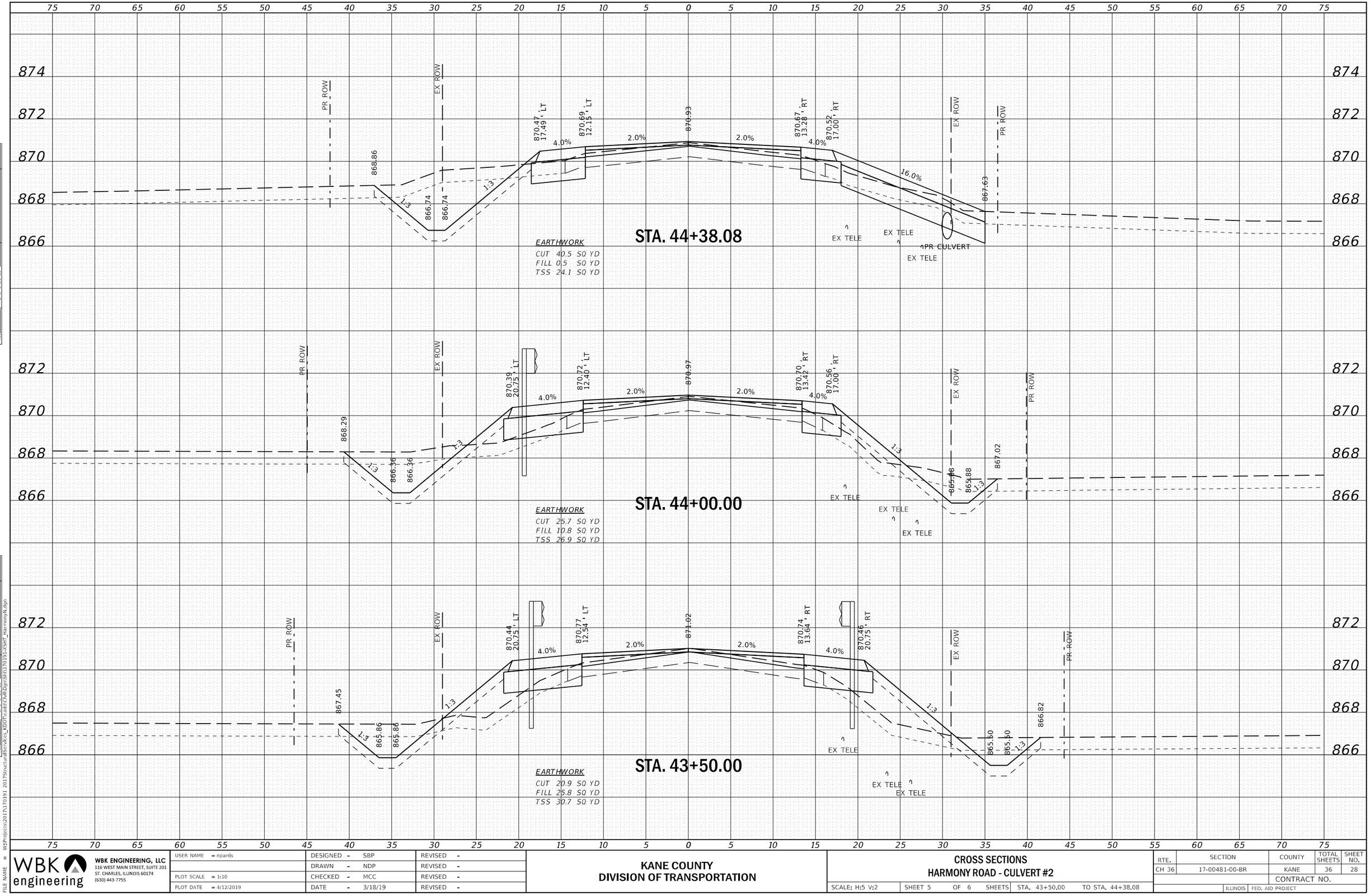

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NOTE BOOK		
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PLOTTED
TEMPLATE
AREAS
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NOTE BOOK		
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AREAS
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USER NAME = nparris	DESIGNED - SBP	REVISED -
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PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CROSS SECTIONS
HARMONY ROAD - CULVERT #2

SCALE: H:5 V:2 | SHEET 5 OF 6 SHEETS | STA. 43+50.00 TO STA. 44+38.08

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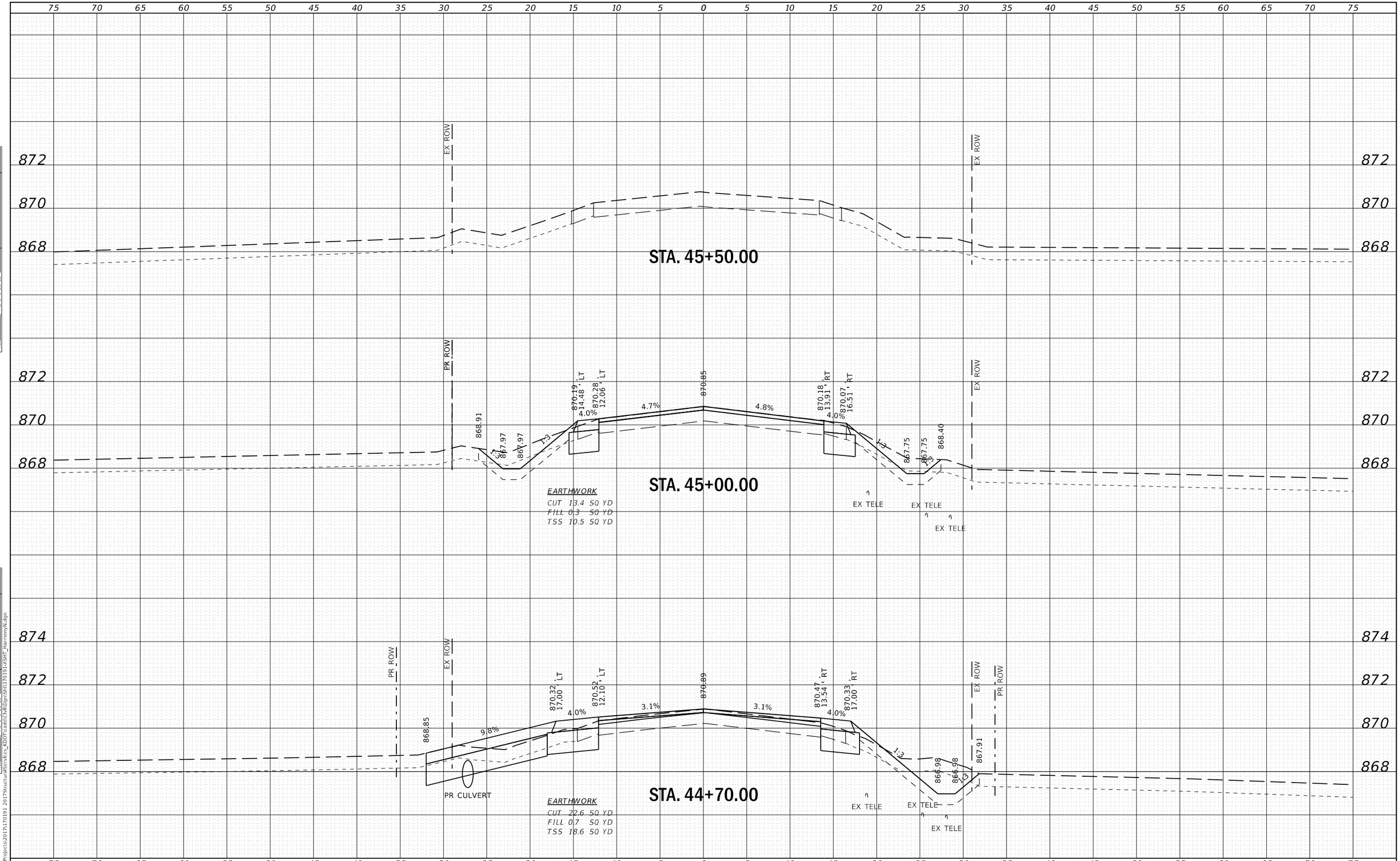

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	PLOTTED
	TEMPLATE
	AREAS
	AREAS CHECKED

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NOTE BOOK	BY
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PLOT SCALE = 1:10	CHECKED - MCC	REVISED -
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CROSS SECTIONS
HARMONY ROAD - CULVERT #2

SCALE: H:5 V:2 | SHEET 6 OF 6 SHEETS | STA. 44+70.00 TO STA. 45+50.00

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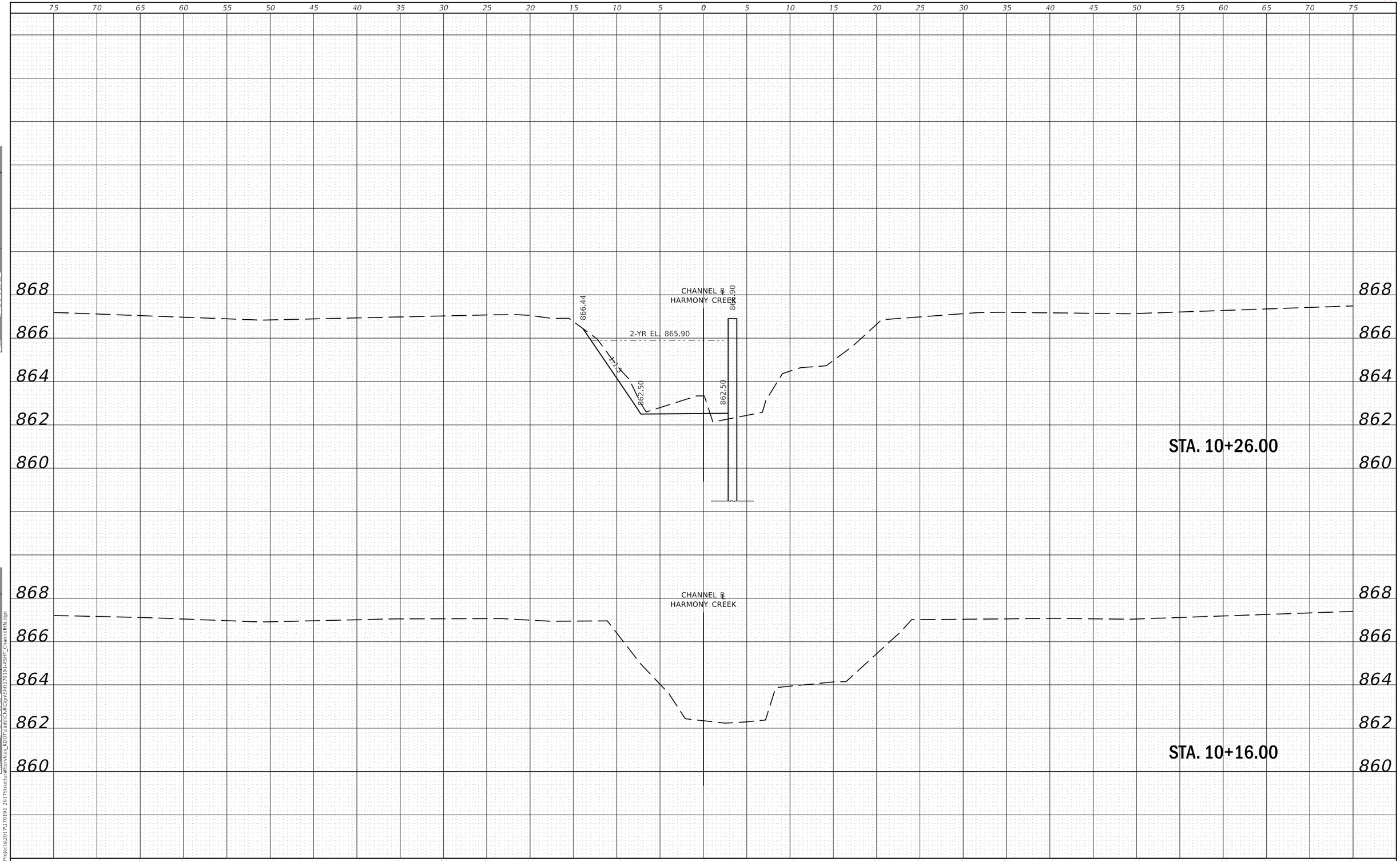

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USER NAME = nparris	DESIGNED - SBP	REVISED -
	DRAWN - NDP	REVISED -
PLOT SCALE = 1:10	CHECKED -	REVISED -
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CHANNEL BYPASS CROSS SECTIONS
HARMONY CREEK

SCALE: H:5 V:2 | SHEET 1 OF 7 SHEETS | STA. 10+16.00 TO STA. 10+26.00

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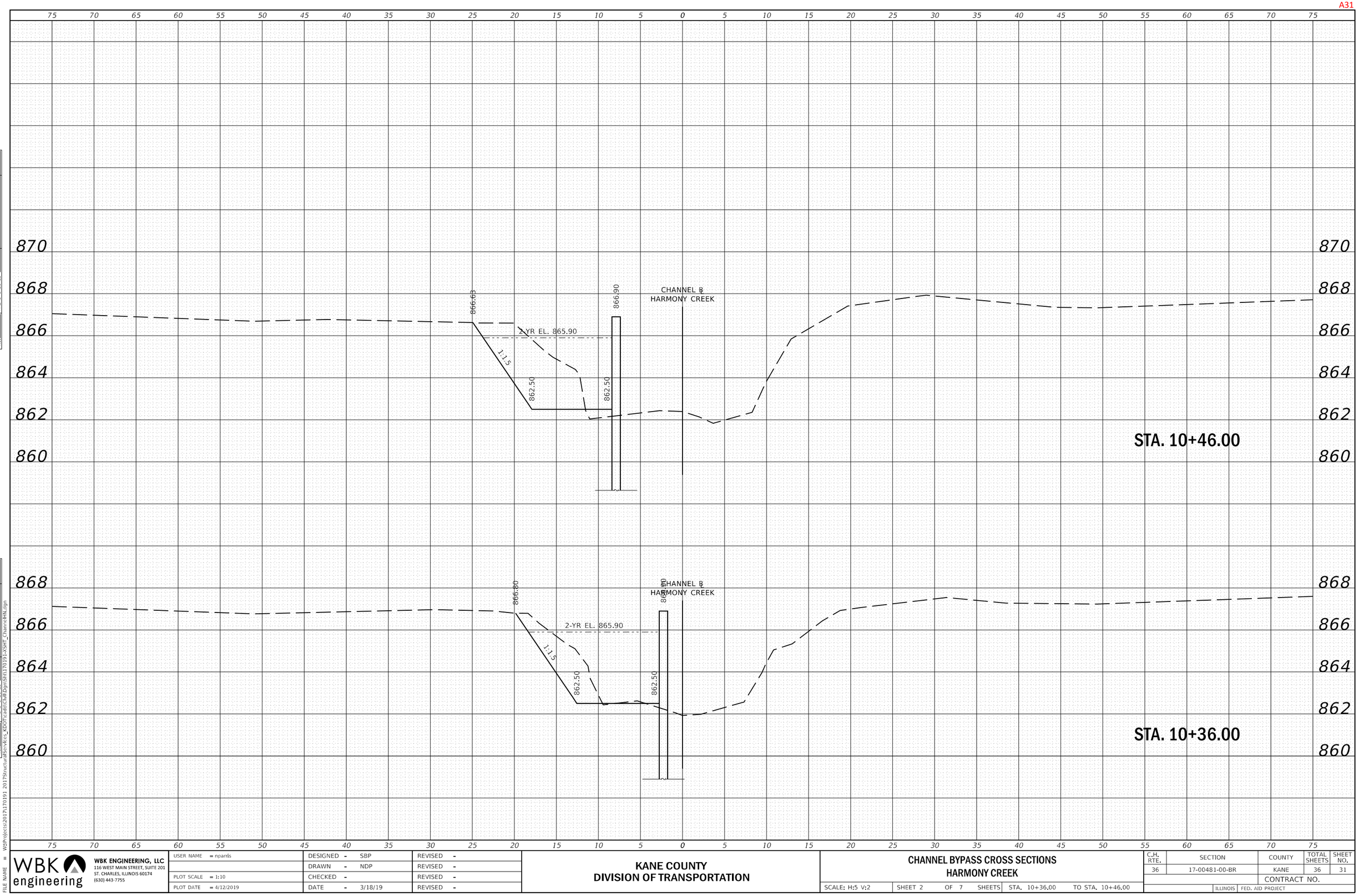

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	AREAS	BY
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USER NAME = nparris	DESIGNED - SBP	REVISED -	
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PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

CHANNEL BYPASS CROSS SECTIONS
HARMONY CREEK

SCALE: H:5 V:2 | SHEET 2 OF 7 SHEETS | STA. 10+36.00 | TO STA. 10+46.00

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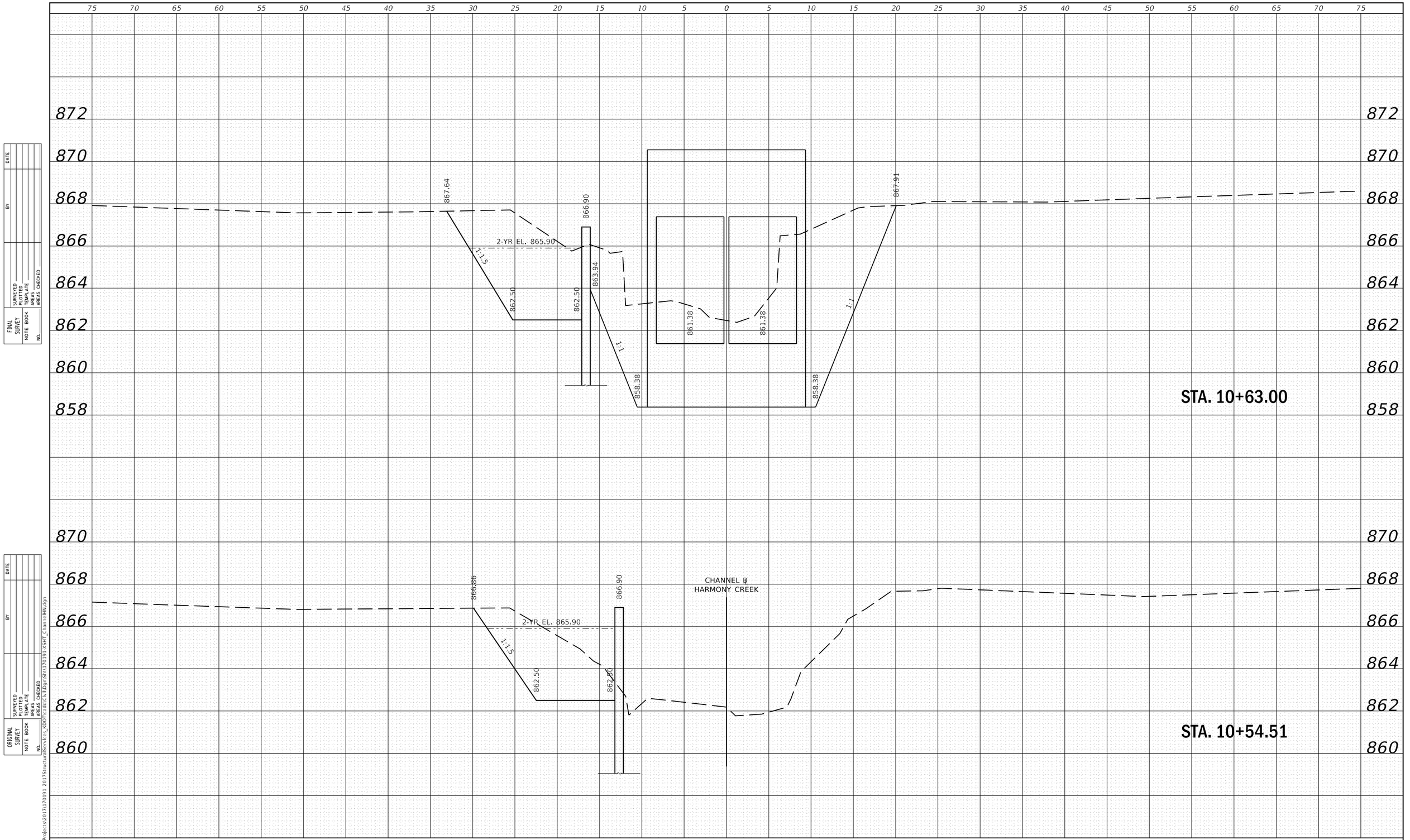

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USER NAME = nparris	DESIGNED - SBP	REVISED -
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PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CHANNEL BYPASS CROSS SECTIONS
HARMONY CREEK

SCALE: H:5 V:2 | SHEET 3 OF 7 SHEETS | STA. 10+54.51 TO STA. 10+63.00

C.H. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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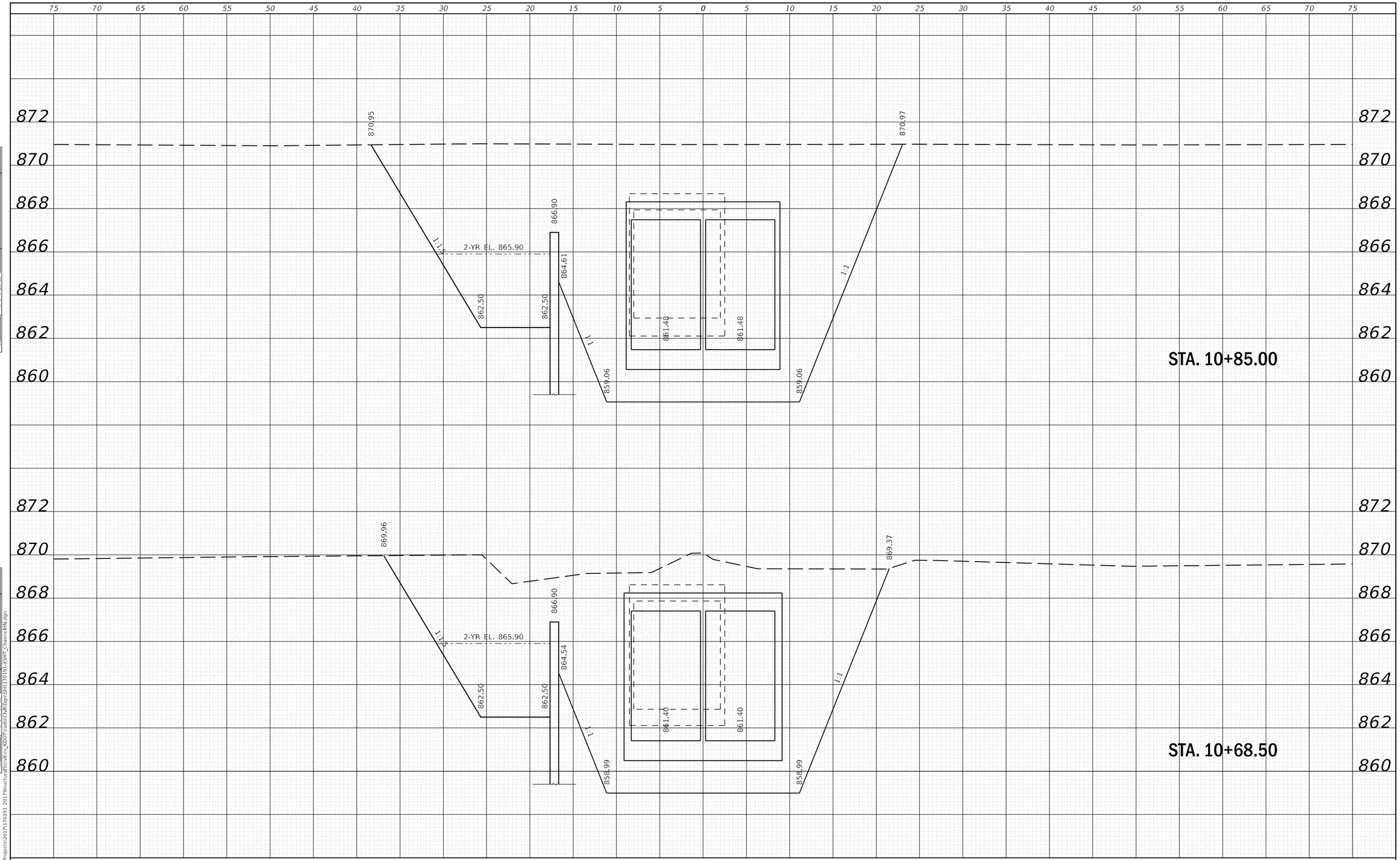

FINAL SURVEY / ORIGINAL SURVEY

NOTE BOOK

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WBK engineering

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116 WEST MAIN STREET, SUITE 201
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(630) 443-7755

USER NAME = nparris	DESIGNED - SBP	REVISED -
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PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CHANNEL BYPASS CROSS SECTIONS
HARMONY CREEK

SCALE: H:5 V:2 | SHEET 4 OF 7 SHEETS | STA. 10+68.50 TO STA. 10+85.00

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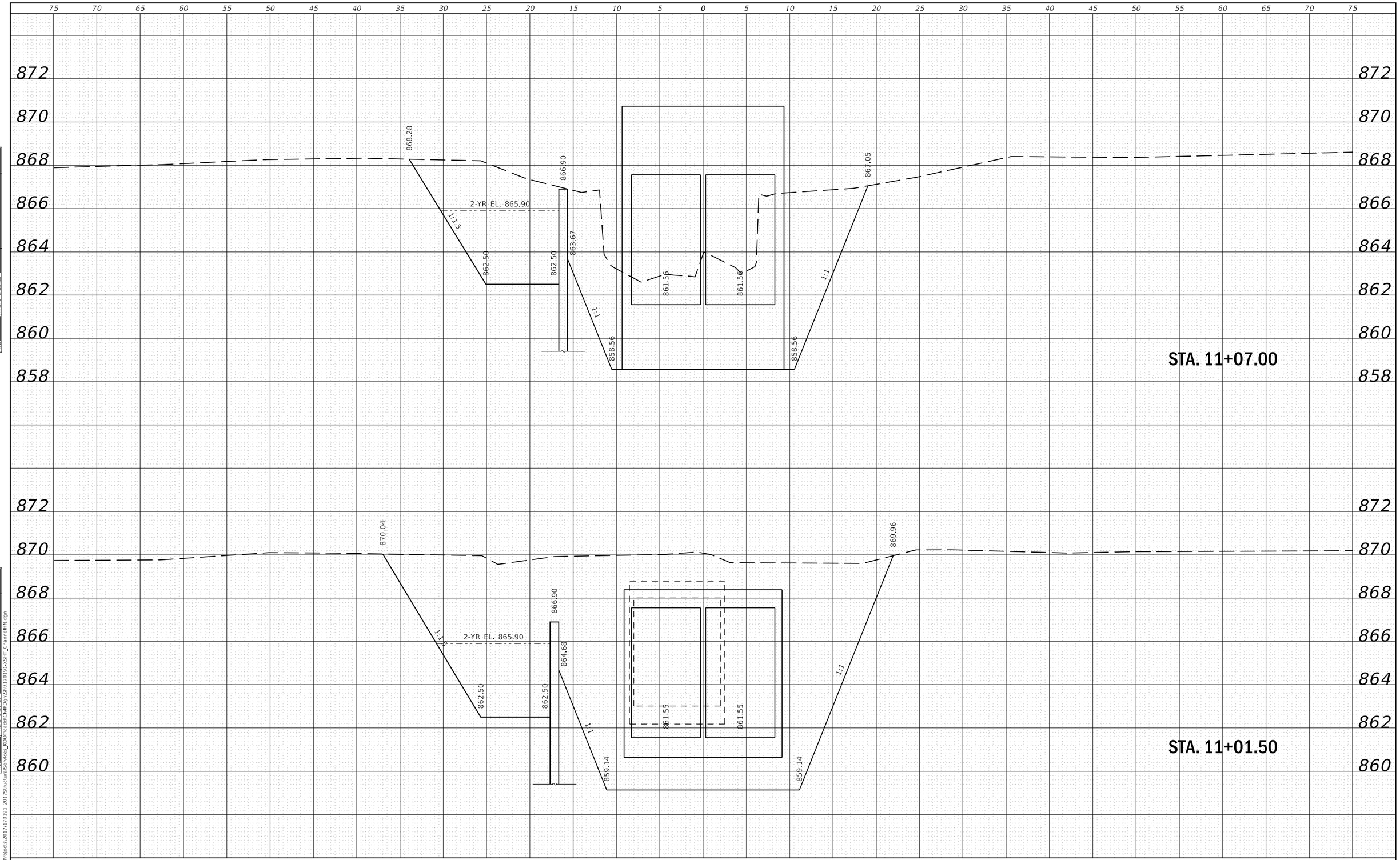

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NO.	NOTE BOOK	BY	DATE

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NO.	NOTE BOOK	BY	DATE

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WBK engineering

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(630) 443-7755

USER NAME = nparris	DESIGNED - SBP	REVISED -	
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PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

CHANNEL BYPASS CROSS SECTIONS
HARMONY CREEK

SCALE: H:5 V:2 | SHEET 5 OF 7 SHEETS | STA. 11+01.50 TO STA. 11+07.00

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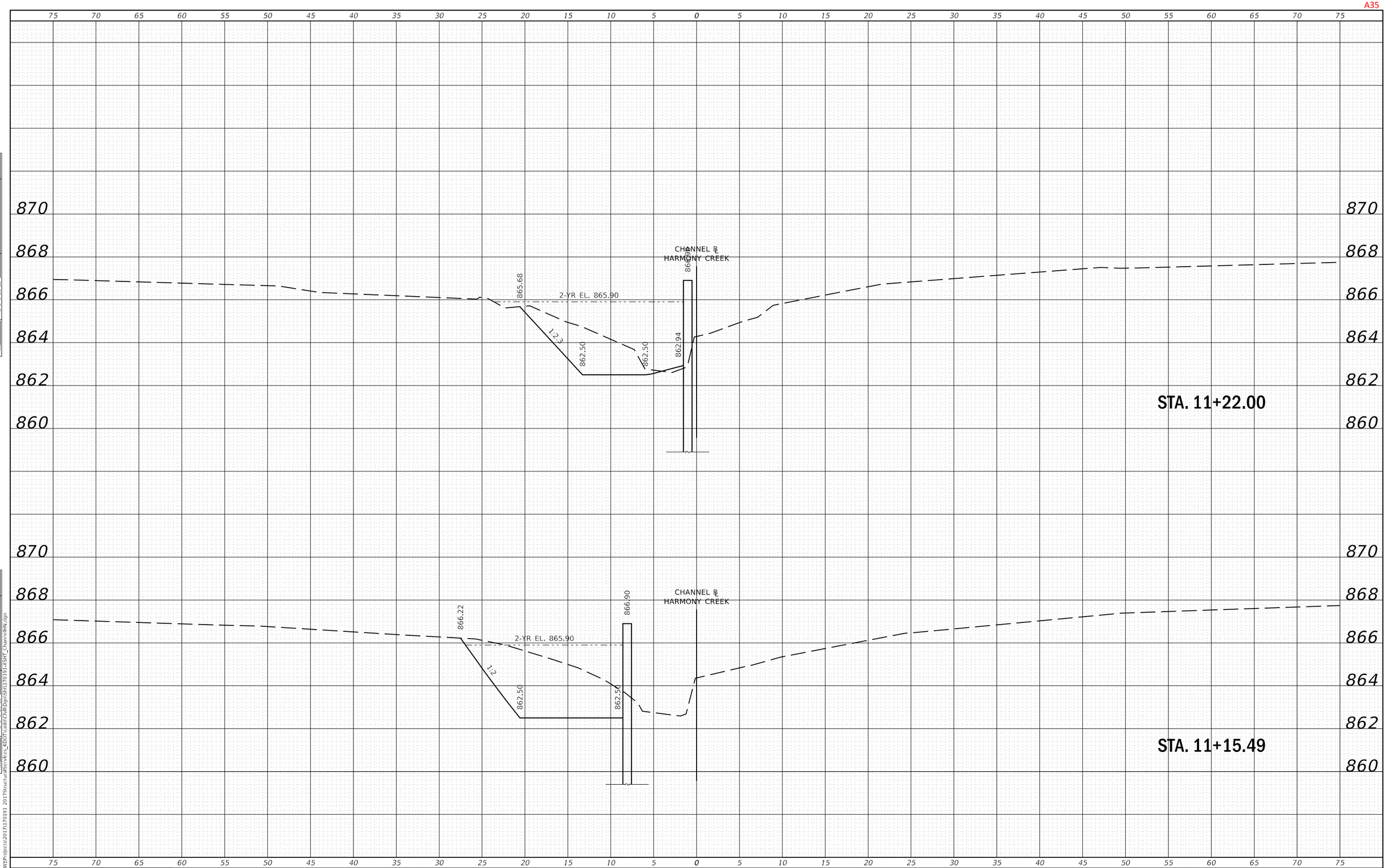

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PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CHANNEL BYPASS CROSS SECTIONS
HARMONY CREEK

SCALE: H:5 V:2 | SHEET 6 OF 7 SHEETS | STA. 11+15.49 TO STA. 11+22.00

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		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

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SURVEYED	
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AREAS CHECKED	

BY	DATE

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

868
866
864
862
860

CHANNEL ℄
HARMONY CREEK

STA. 11+36.00

CHANNEL ℄
HARMONY CREEK

STA. 11+29.00

ORIGINAL SURVEY	
NOTE BOOK	
NO.	

SURVEYED	
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BY	DATE

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116 WEST MAIN STREET, SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755

USER NAME = nparris	DESIGNED - SBP	REVISED -
	DRAWN - NDP	REVISED -
PLOT SCALE = 1:10	CHECKED -	REVISED -
PLOT DATE = 4/12/2019	DATE - 3/18/19	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CHANNEL BYPASS CROSS SECTIONS
HARMONY CREEK

SCALE: H:5 V:2 | SHEET 7 OF 7 SHEETS | STA. 11+29.00 TO STA. 11+36.00

C.H. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
36	17-00481-00-BR	KANE	36	36
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

APPENDIX 2

Illinois Department of Natural Resources (IDNR) EcoCAT

Illinois Department of
Natural Resources
One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov
Bruce Rauner, Governor
Wayne A. Rosenthal, Director

October 22, 2018

Susan Hargrove
Illinois Department of Transportation
2300 S Dirksen Parkway
Room 330
Springfield, IL 62764

RE: Harmony Rd over Harmony Cr, Sec. 17-00481-00-BR, seq. 21516
Project Number(s): 1903823 [21516]
County: Kane

Ms. Hargrove:

The Department has received your submission for this project for the purposes of consultation pursuant to the Illinois Endangered Species Protection Act [520 ILCS 10/11], the Illinois Natural Areas Preservation Act [525 ILCS 30/17], and Title 17 Illinois Administrative Code Part 1075. Additionally, the Department may offer advice and recommendations for species covered under the Fish & Aquatic Life Code [515 ILCS 5, et seq.]; the Illinois Wildlife Code [520 ILCS 5, et seq.]; and the Herptiles-Herps Act [510 ILCS 69].

The proposed action being reviewed in this letter consists of the building of a culvert replacement at Harmony road over Harmony creek (EcoCAT submittal #1903823).

EcoCAT has identified records of the state-listed threatened **Iowa Darter** (*Etheostoma exile*) within the vicinity of the project. Additionally, the Department has reviewed an INHS fish survey, contracted by IDOT, that was provided with this consultation application.

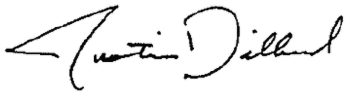
The Department has determined that take of the Iowa Darter is likely, given the presence of Iowa Darters and Iowa Darter habitat within the area of direct impact. The Department recommends IDOT pursue Incidental Take Authorization for the state-listed Iowa Darter for this culvert replacement.

Consultation for Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented

within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database and the Illinois Wetlands Inventory at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.



Justin Dillard

Resource Planner, Consultation Services
Illinois Dept. of Natural Resources
(217) 557-6723
Justin.Dillard@Illinois.gov

APPENDIX 3

Illinois Natural History Survey (INHS) Aquatic Survey Report –

Survey for Fishes in Harmony Creek at Harmony Road (IDOT CH 36), Kane County, Illinois
IDOT Sequence Number: 21516

ILLINOIS
Illinois Natural History Survey
PRAIRIE RESEARCH INSTITUTE

Aquatic
Survey Report

Survey for Fishes in Harmony Creek at Harmony Road (IDOT CH 36), Kane County, Illinois

IDOT Sequence Number: 21516

Prepared by:
Jeremy S. Tiemann

INHS/IDOT Statewide Biological Survey & Assessment Program
2018:58

July 2018

PROJECT SUMMARY

This report is submitted in response to a request made by the Illinois Department of Transportation (IDOT) to the Illinois Natural History Survey (INHS) for a fish survey in Harmony Creek at Harmony Road (IDOT CH 36), Kane County, Illinois. Specifically, IDOT inquired about that status of the state-threatened Iowa Darter (*Etheostoma exile*) in the project area.

A survey for fishes was conducted in Harmony Creek at Harmony Road (IDOT CH 36) by INHS personnel on 26 June 2018. Fishes were collected from 40 yards downstream (west) of the Harmony Road (IDOT CH 36) crossing to 40 yards upstream (east) of the crossing via pull-seining and kick-seining (= 30-minute effort). Specifically, 13 40-foot^2 plots were kick-seined throughout the project area; these plots were placed among the aquatic vegetation. Eleven species of fishes were collected during these surveys, including seven individuals of the Iowa Darter. All other taxa encountered are common inhabitants of northern Illinois headwater streams, and none collected are listed as threatened or endangered at the federal or state level, nor are they candidates for listing in Illinois.

Iowa Darter populations appear to be increasing in northern Illinois streams, including many areas in the Kishwaukee River basin. Many of these headwater streams / channelized ditches in the Kishwaukee River basin, like Harmony Creek, have been shown to be ideal habitat for the Iowa Darter. Suitable habitat (e.g., areas with aquatic vegetation) was present throughout the area. Based upon the kick-seining method, the Iowa Darter density estimate is 1.3 individuals per 100 feet^2 at this site.

Report Approved By: Kevin Cummings, Further Studies Aquatics Group Coordinator-Malacologist

Surveys Lead By: Jeremy S. Tiemann, Aquatic Zoologist
Danny P. Morrill, INHS Hourly Assistant

Edited by: Mark J. Wetzel, INHS Research Affiliate

GIS Layers: Janet L. Jarvis, GIS and Remote Sensing Specialist

University of Illinois
Prairie Research Institute
Illinois Natural History Survey
Statewide Biological Survey and Assessment Program
1816 South Oak Street
Champaign, Illinois 61820

TABLE OF CONTENTS

Cover photo: Harmony Creek at Harmony Road (IDOT CH 36), ~3 miles north of Hampshire, Kane County, Illinois (Latitude 42.14498° North, Longitude 88.53526° West) on 26 June 2018 (J.S. Tiemann photo), with an inset of the state-threatened Iowa Darter (*Etheostoma exile*) collected from the study site (D.P. Morrill photo). Picture facing upstream in an easterly direction.

INTRODUCTION

This report is submitted in response made by Susan Hargrove of the Illinois Department of Transportation (IDOT) to Wendy Schelsky of the Illinois Natural History Survey (INHS) on 5 April 2018 for a fish survey in Harmony Creek at Harmony Road (IDOT CH 36) located approximately 3 miles north of Hampshire, Kane County, Illinois [IDOT Sequence Number 21516; IDOT Section 17-00481-00-BR; Structure No. 045-5543; INHS Project No. FS-1238]. Specifically, IDOT inquired about that status of the state-threatened Iowa Darter (*Etheostoma exile*) in the project area. IDOT proposes box culvert reconstruction of a non-system single barrel reinforced concrete box culvert, as well as roadway resurfacing, shoulder widening, and guardrail improvements at the Harmony Road crossing of Harmony Creek.

This report summarizes the results of the surveys for fishes conducted in Harmony Creek at the Harmony Road (IDOT CH 36) crossing on 26 June 2018.

PROJECT LOCATION

The Harmony Road (IDOT CH 36) crossing project area consisted of one perennial stream site (**Figure 1**):

1) Harmony Creek at Harmony Road (IDOT CH 36), located approximately 3 miles north of Hampshire, Kane County, Illinois (Latitude 42.14498° North, Longitude 88.53526° West) (**cover photo**).

Appendix 1 references a shapefile with sampling point information for the Harmony Road crossing as discussed in this report.

HABITAT CHARACTERIZATION

Harmony Creek at the Harmony Road (IDOT CH 36) crossing was visited by INHS personnel on 26 June 2018 (**cover photo**). We examined a reach of the stream from 40 yards downstream (west) of the Harmony Road (IDOT CH 36) crossing to 40 yards upstream (east) of the crossing. Harmony Creek was relatively uniform, except for a small (12-foot wide, 18-foot long) area immediately downstream of the Harmony Road crossing (**Figure 2**). In this open area, the stream was <1.5-feet deep with sandy gravel substrates in the main channel and a thick layer of silt along the right descending (north) bank. Elsewhere in the project area, Harmony Creek was 1.5-feet deep, ~4-feet wide (including undercut banks), and had substrates of sand/gravel. Undercut banks and patches of vegetation were present throughout the project area but no woody debris was observed. The stream was flowing ~1.5 feet per second. Being a channelized ditch, stream banks were steeply sloped and predominantly grass lined.

BACKGROUND

Harmony Creek is a tributary of Coon Creek in the Kishwaukee River basin (Rock River drainage). This small (~30 mi^2) basin originates east of Harmony in McHenry County and flows in a west-southwesterly direction into Kane County before depositing its waters in Coon Creek near the McHenry-DeKalb-Kane tri-county line. The conversion of wetlands to cropland has

resulted in several anthropogenic alterations in the Kishwaukee River basin (Page et al. 1992), and Harmony Creek is no exception as it has been channelized and drain tiles have been added to the row-crop agricultural fields.

The state-threatened Iowa Darter (*Etheostoma exile*) has been reported from Harmony Creek at the Interstate 90 crossing, which is located <0.5 miles from the Harmony Road crossing (Dreslik et al. 2013; Stites et al. 2016). The Iowa Darter (**Figure 3**) is commonly found in glacial lakes and quiet pools of clear low-gradient streams of northeastern Illinois over a mud/clay silted sandy bottom with aquatic vegetation (Smith 1979; Tiemann et al. 2015). In Wisconsin, the Iowa Darter spawns from late April to mid-June when water temperatures are around 55-60° F (Becker 1983). Their incubation period can last nearly a month (Becker 1983). The range of the Iowa Darter has diminished in Illinois as a result of the drainage of marshes, sloughs, and natural lakes, increased turbidity in streams, habitat degradation, introduced non-native species, and continued urbanization of northeastern Illinois (Smith 1971; Smith 1979). The Iowa Darter was believed to have been extirpated from the Des Plaines River basin (Retzer 2005). However, because of recent targeted surveys, the distribution of the Iowa Darter in the Des Plaines River basin is now better understood (Tiemann et al. 2015; Sherwood et al. 2017).

METHODS

A survey for fishes was conducted in Harmony Creek at the Harmony Road (IDOT CH 36) crossing on 26 June 2018 at 1330 hrs by INHS personnel J.S. Tiemann and D.P. Morrill. Fishes were collected from 40 yards downstream (west) of the Harmony Road (IDOT CH 36) crossing to 40 yards upstream (east) of the crossing via pull-seining and kick-seining (= 30-minute effort). Specifically, 13 40-foot^2 plots were kick-seined throughout the project area; these plots were placed among the aquatic vegetation. Our kick-seine method involved disturbing the substrate 10 feet upstream from a stationary 4-foot wide (=entire stream width), ¼”-mesh seine and proceeding downstream to the seine in a back and forth path covering the width of the seine. To minimize disturbance, plots were sampled near shore to far shore and were sampled from downstream to upstream. This kick-seining method has been shown to be an appropriate quantitative method for sampling benthic fishes, including darters (Tiemann et al. 2004; Tiemann 2008). Those areas not kick-seined (e.g., the open area immediately downstream of the Harmony Road crossing) were sampled by pull-seining, where INHS personnel would drag a seine through an area (e.g., down a sandy run or along the stream margins).

All fishes were identified, counted, and released. Nomenclature discussed in this report follows Page and Burr (2011) except that subspecies are not recognized. The current status of threatened and endangered species of fishes discussed in this report are taken from U.S. Department of Interior, Fish and Wildlife Service (USDI, FWS) (1996, 1997) and Illinois Endangered Species Protection Board (IESPB) (2015). All fishes were collected and processed according to Institute of Animal Care and Use Committee (IACUC) protocol # 16057.

RESULTS AND DISCUSSION

Eleven species of fishes, including the state-listed Iowa Darter, were collected from Harmony Creek at the Harmony Road (IDOT CH 36) crossing on 26 June 2018 (**Table 1**). All other taxa encountered are common inhabitants of northern Illinois headwater streams (Smith 1979) and are not listed as threatened or endangered at the federal or state level, nor are they candidates for listing in Illinois (IESPB 2015). Other than the Iowa Darter, none of the species collected are considered intolerant species (Bertrand et al. 1996). Four of the species collected – Fathead Minnow (*Pimephales promelas*), Creek Chub (*Semotilus atromaculatus*), Yellow Bullhead (*Ameiurus natalis*), and Green Sunfish (*Lepomis cyanellus*) – are listed as "tolerant" by Smogor (2000). These species adapt well to changing environmental conditions.

Iowa Darter populations appear to be increasing in northern Illinois streams, including many areas in the Kishwaukee River basin (Tiemann et al. 2015; Sherwood et al. 2017; Sherwood et al. *in prep*). Many of these headwater streams / channelized ditches in the Kishwaukee River basin, like Harmony Creek, have been shown to be ideal habitat for the Iowa Darter. Seven individuals were collected from Harmony Creek in the Harmony Road (IDOT CH 36) project area – four from upstream of the road, and three from downstream of the road. Suitable habitat (e.g., areas with aquatic vegetation) was present in throughout the 80-yard reach of Harmony Creek surveyed on 26 June 2018. Based upon the kick-seining method, the Iowa Darter density estimate is 1.3 individuals per 100 feet^2 at this site.

ACKNOWLEDGMENTS

D.P. Morrill (INHS) assisted in the field survey; J.L. Jarvis (INHS) prepared the map in **Figure 1** and associated shape file referenced in **Appendix 1**; and M.J. Wetzel (INHS) edited the report.

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Table 1. List of fish species and number of individuals collected in Harmony Creek at Harmony Road (IDOT CH 36), ~3 miles north of Hampshire, Kane County, Illinois (Latitude 42.14498° North, Longitude 88.53526° West) by INHS personnel on 26 June 2018. Special status includes **ST** = state-threatened species.

Family	Scientific name	Common name	26 June 2018
Cyprinidae	*Campostoma anomalum*	Central Stoneroller	1
	Pimephales promelas	Fathead Minnow	1
	Semotilus atromaculatus	Creek Chub	9
Ictaluridae	*Ameiurus natalis*	Yellow Bullhead	1
Umbridae	*Umbra limi*	Central Mudminnow	7
Gasterosteidae	*Culaea inconstans*	Brook Stickleback	34
Centrarchidae	*Lepomis cyanellus*	Green Sunfish	3
	Lepomis macrochirus	Bluegill	17
	Micropterus salmoides	Largemouth Bass	13
	Pomoxis nigromaculatus	Black Crappie	1
Percidae	*Etheostoma exile* ST	Iowa Darter	7

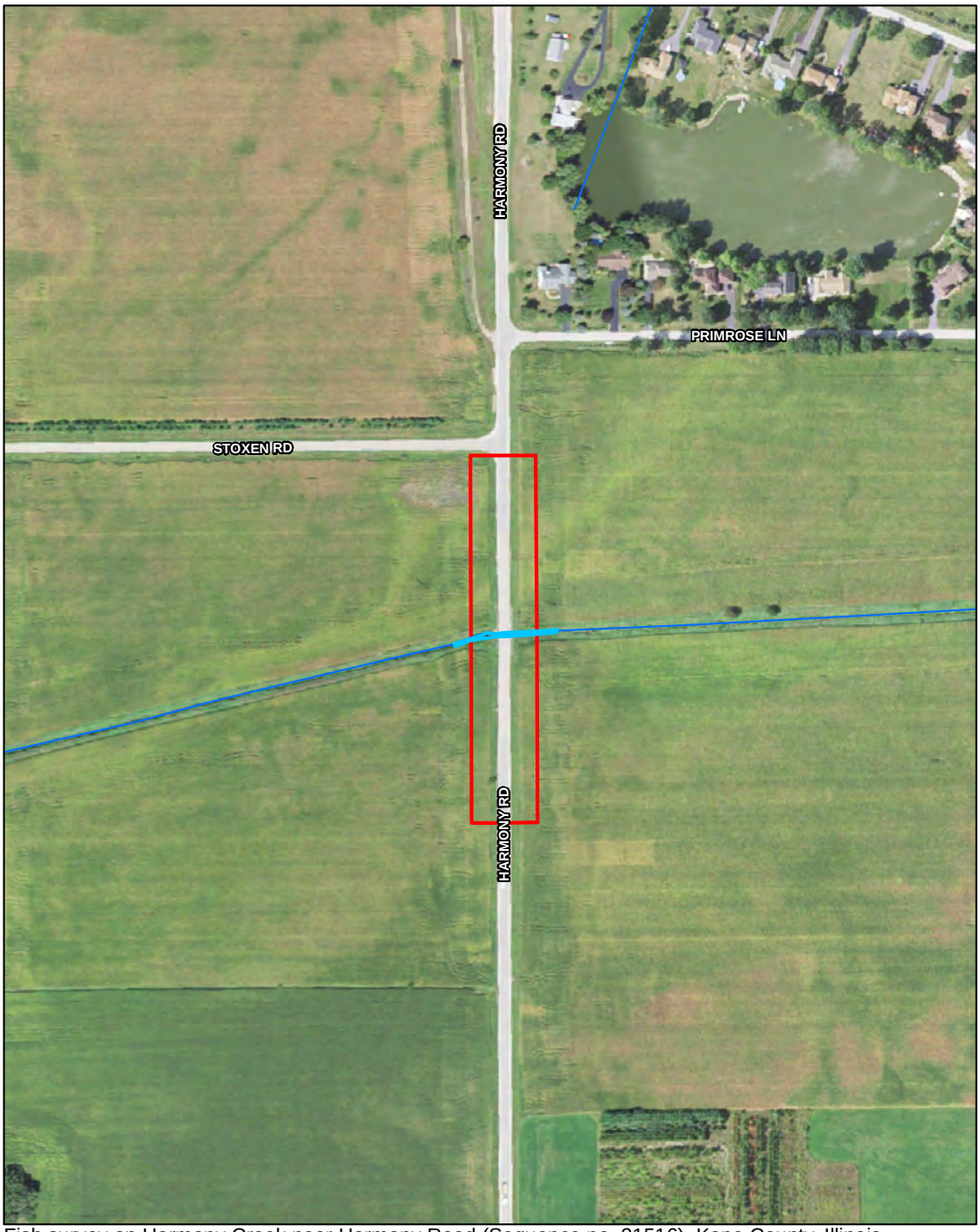

Figure 1. Map of Harmony Creek at Harmony Road (IDOT CH 36), ~3 miles north of Hampshire, Kane County, Illinois (Latitude 42.14498° North, Longitude 88.53526° West), where a survey for fishes was conducted by INHS personnel on 26 June 2018 (Map created by J.L. Jarvis).

Figure 2. Harmony Creek at Harmony Road (IDOT CH 36), ~3 miles north of Hampshire, Kane County, Illinois (Latitude 42.14498° North, Longitude 88.53526° West) on 26 June 2018. Picture facing downstream in a westerly direction and is focusing on the open area where the stream widens to ~12 feet (J.S. Tiemann photo).

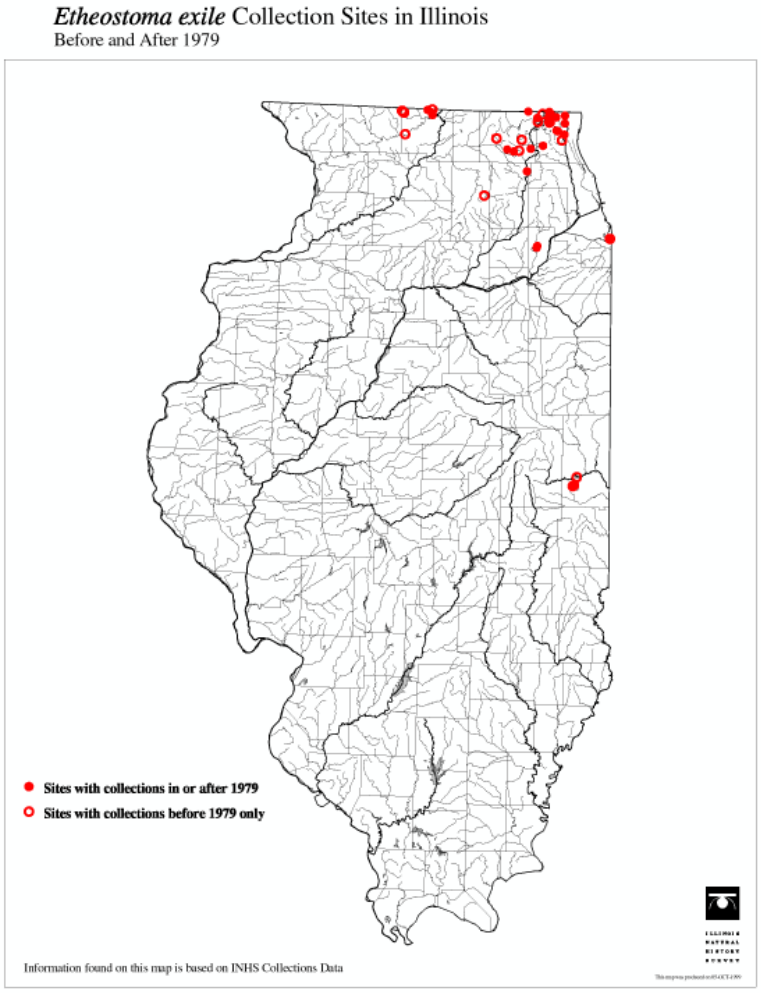

Figure 3. The Illinois state-threatened Iowa Darter *Etheostoma exile* and its distribution in Illinois prior to 2005 (photo from North American Native Fishes Association – www.nanfa.org; map from INHS Fish Collection - http://wwx.inhs.illinois.edu/files/1113/3944/3641/et_exile.gif).

Appendix 1

This appendix cover page references < **21516_Fish_Survey_GIS.zip** > containing an ArcGIS shapefile with sampling point information for the site discussed in this report. Specifically, this shapefile includes site information for Harmony Creek at Harmony Road (IDOT CH 36), ~3 miles north of Hampshire, Kane County, Illinois (Latitude 42.14498° North, Longitude 88.53526° West), where a survey for fishes was conducted by INHS personnel on 26 June 2018.

The ArcGIS shapefile and this report were both submitted to IDOT via the IDOT Site Assessment Tracking System extranet website (Frostycap) on 10 July 2018.

APPENDIX 4

Agency Correspondence –

United States Army Corps of Engineers (USACE) Permit Verification Letter

Kane-DuPage Soil & Water Conservation District (KDSWCD) Project Approval Letter

Statewide Permit No. 12 Letter sent to Illinois Department of Natural Resources (IDNR) Office of Water Resources

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
231 SOUTH LASALLE STREET
CHICAGO, ILLINOIS 60604-1437

REPLY TO
ATTENTION OF:

November 16, 2018

Technical Services Division
Regulatory Branch
LRC-2012-62

SUBJECT: Permit Verification for the Replacement of a Culvert, Located at Harmony Road and Harmony Creek, Located South of Stoxen Road, Hampshire Township, Kane County, Illinois (SE ¼ of Section 4, T42N R6E) (42.14498, -88.53539)

Carl Schoedel
Kane County Division of Transportation
41W011 Burlington Road
St. Charles, Illinois 60175

Dear Mr. Schoedel:

This office has verified that your proposed activity complies with the terms and conditions of Regional Permits 3 (Transportation Projects) and 7 (Temporary Construction Activities) and the General Conditions for all activities authorized under the Regional Permit Program.

This verification expires three (3) years from the date of this letter and covers only your activity as described in your notification and as shown on the plans titled, "Kane County Division of Transportation, Plans for Proposed Harmony Road Culvert Improvements, Non-MFT, County Highway No. 36, Section 17-000481-00-BR, Harmony Road over Harmony Creek, Culvert Replacement" dated May 1, 2018 (revised August 29, 2018), prepared by WBK Engineering, LLC. Caution must be taken to prevent construction materials and activities from impacting waters of the United States beyond the scope of this authorization. If you anticipate changing the design or location of the activity, you should contact this office to determine the need for further authorization.

The activity may be completed without further authorization from this office provided the activity is conducted in compliance with the terms and conditions of the RPP, including conditions of water quality certification issued under Section 401 of the Clean Water Act by the Illinois Environmental Protection Agency (IEPA). If the design, location, or purpose of the project is changed, you should contact this office to determine the need for further authorization.

The following special conditions are a requirement of your authorization:

1. You shall undertake and complete the project as described in the plans titled, "Kane County Division of Transportation, Plans for Proposed Harmony Road Culvert Improvements, Non-MFT, County Highway No. 36, Section 17-000481-00-BR, Harmony Road over Harmony Creek, Culvert Replacement" dated May 1, 2018 (revised August 29, 2018), prepared by WBK Engineering, LLC, including all relevant documentation to the project plans as proposed.

2. This authorization is contingent upon implementing and maintaining soil erosion and sediment controls in a serviceable condition throughout the duration of the project. You shall comply with the Kane/DuPage Soil and Water Conservation District's (SWCD) written and verbal recommendations regarding the soil erosion and sediment control (SESC) plan and the installation and maintenance requirements of the SESC practices on-site.

    a. You shall schedule a preconstruction meeting with the SWCD to discuss the SESC plan and the installation and maintenance requirements of the SESC practices on the site. You shall contact the SWCD at least 10 calendar days prior to the preconstruction meeting so that a representative may attend.
    b. You shall notify the SWCD of any changes or modifications to the approved plan set. Field conditions during project construction may require the implementation of additional SESC measures. If you fail to implement corrective measures, this office may require more frequent site inspections to ensure the installed SESC measures are acceptable.
    c. Prior to commencement of any in-stream work, you shall submit constructions plans and a detailed narrative to the SWCD that disclose the contractor's preferred method of cofferdam and dewatering method. Work in the waterway shall NOT commence until the SWCD notifies you, in writing, that the plans have been approved.

3. You shall obtain an Incidental Take Authorization for the state-listed threatened Iowa Darter (*Etheostoma exile*) from the Illinois Department of Natural Resources.

4. Under no circumstances shall the Contractor prolong final grading and shaping so that the entire project can be permanently seeded at one time. Permanent stabilization within the wetland and stream buffers identified in the plans shall be initiated immediately following the completion of work. Final stabilization of these areas should not be delayed due to utility work to be performed by others.

5. You shall provide written notification to this office and to the SWCD at least ten (10) days prior to the commencement of work indicating the start date and estimated end date of construction.

6. Please note that this site is within the aboriginal homelands of several American Indian Tribes. If any cultural, archaeological or historical resources are unearthed during

activities authorized by this permit, work in that area must be stopped immediately and the Corps, State Historic Preservation Office and/or Tribal Historic Preservation Office must be contacted for further instruction. The Corps will initiate the coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing on the National Register of Historic Places.

7. You are responsible for all work authorized herein and for ensuring that all contractors are aware of the terms and conditions of this authorization.

8. A copy of this authorization must be present at the project site during all phases of construction.

9. You shall notify this office of any proposed modifications to the project, including revisions to any of the plans or documents cited in this authorization. You must receive approval from this office before work affected by the proposed modification is performed.

10. You shall notify this office prior to the transfer of this authorization and liabilities associated with compliance with its terms and conditions.

11. Work in the waterway should be timed to take place during low or no-flow conditions. Low flow conditions are flow at or below the normal water elevation.

12. The plan will be designed to allow for the conveyance of the 2-year peak flow past the work area without overtopping the cofferdam. The Corps has the discretion to reduce this requirement if documented by the applicant to be infeasible or unnecessary.

13. Water shall be isolated from the in-stream work area using a cofferdam constructed of non-erodible materials (steel sheets, aqua barriers, rip rap and geotextile liner, etc.). Earthen cofferdams are not permissible.

14. The cofferdam must be constructed from the upland area and no equipment may enter flowing water at any time. If the installation of the cofferdam cannot be completed from shore and access is needed to reach the area to be coffered, other measures, such as the construction of a causeway, will be necessary to ensure that equipment does not enter the water. Once the cofferdam is in place and the isolated area is dewatered, equipment may enter the coffered area to perform the required work.

15. If bypass pumping is necessary, the intake hose shall be placed on a stable surface or floated to prevent sediment from entering the hose. The bypass discharge shall be placed on a non-erodible, energy dissipating surface prior to rejoining the stream flow and shall not cause erosion. Filtering of bypass water is not necessary unless the bypass water has become sediment-laden as a result of the current construction activities.

16. During dewatering of the coffered work area, all sediment-laden water must be filtered to remove sediment. Possible options for sediment removal include baffle systems, anionic

polymers systems, dewatering bags, or other appropriate methods. Water shall have sediment removed prior to being re-introduced to the downstream waterway. A stabilized conveyance from the dewatering device to the waterway must be identified in the plan. Discharge water is considered clean if it does not result in a visually identifiable degradation of water clarity.

17. The portion of the side slope that is above the observed water elevation shall be stabilized as specified in the plans prior to accepting flows. The substrate and toe of slope that has been disturbed due to construction activities shall be restored to proposed or pre-construction conditions and fully stabilized prior to accepting flows.

This verification does not obviate the need to obtain all other required Federal, state, or local approvals before starting work. Please note that Section 401 Water Quality Certification has been issued by IEPA for this RP. If you have any questions regarding Section 401 certification, please contact Mr. Darin LeCrone at IEPA Division of Water Pollution Control, Permit Section #15, by telephone at (217) 782-0610.

Once you have completed the authorized activity, please sign and return the enclosed compliance certification. If you have any questions, please contact Ms. Kimberly Kubiak of my staff by telephone at (312) 846-5541, or email at kimberly.j.kubiak@usace.army.mil.

Sincerely,

Digitally signed by MCLAURIN.DIEDRA.L.1230340362
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=MCLAURIN.DIEDRA.L.1230340362
Date: 2018.11.16 15:38:40 -06'00'

Diedra L. McLaurin
Team Leader, West Section
Regulatory Branch

Enclosures

Copy Furnished:

Illinois Department of Natural Resources/OWR (Gary Jereb)
Kane County Division of Transportation (Jennifer O'Connell)
Kane County Division of Environmental Management (Jodie Wollnik)
Kane/DuPage SWCD (Ashley Curran)
WBK Engineering, LLC (Laura Jack, Monica Crinion)

PERMIT COMPLIANCE

CERTIFICATION

Permit Number: LRC-2012-62

Permittee: Carl Schoedel
Kane County Division of Transportation

Date: November 16, 2018

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of said permit and if applicable, compensatory wetland mitigation was completed in accordance with the approved mitigation plan.[1]

_____ _____

PERMITTEE DATE

Upon completion of the activity authorized by this permit and any mitigation required by the permit, this certification must be signed and returned to the following address:

U.S. Army Corps of Engineers
Chicago District, Regulatory Branch
231 South LaSalle Street, Suite 1500
Chicago, Illinois 60604-1437

Please note that your permitted activity is subject to compliance inspections by Corps of Engineers representatives. If you fail to comply with this permit, you may be subject to permit suspension, modification, or revocation.

[1] If compensatory mitigation was required as part of your authorization, you are certifying that the mitigation area has been graded and planted in accordance with the approved plan. You are acknowledging that the maintenance and monitoring period will begin after a site inspection by a Corps of Engineers representative or after thirty days of the Corps' receipt of this certification. You agree to comply with all permit terms and conditions, including additional reporting requirements, for the duration of the maintenance and monitoring period.

August 28, 2018

Laura Jack
WBK Engineering, LLC
8 East Galena Boulevard, Suite 402
Aurora, IL 60506

KDSWCD File: 18e049
USACE Permit Number: LRC-2012-62
KDSWCD Approved: 07/27/2018

Dear Ms. Jack:

I received your soil erosion and sedimentation control plan submittal for the Harmony Road over Harmony Creek project located in Hampshire, Illinois. **KDSWCD approval is contingent upon:**

1. If the plans require revision based on the concurrent review by USACE and these revisions result in significant changes to the plans, revised plans must be submitted to KDSWCD for re-review.

2. The means, methods, and locations for dewatering and/or in-stream work materials should be coordinated with and approved by KDSWCD prior to the commencement of construction.

This letter and a set of plans located at the construction site, will serve to certify that the erosion and sediment control plans meet Technical Standards. I will visit the site several times during the course of construction to assess compliance with the specifications and will be glad to address specific issues that may arise.

Sincerely,

Ashley Curran

Ashley Curran, CPESC
Resource Conservationist

ECC: Kimberly Kubiak, USACE
Diedra Willis , USACE

WBK engineering

September 18, 2018

Gary W. Jereb, P.E., Chief
Northeastern Illinois Regulatory Programs Section
Illinois DNR, Office of Water Resources
2050 West Stearns Road
Bartlett, Illinois 60103

Project Name: Harmony Road over Harmony Creek Culvert Replacement
IDNR Permit #: N2018-0064

Dear Mr. Jereb:

The Kane County Division of Transportation is proposing to remove and replace an existing culvert under Harmony Road near the Village of Hampshire, Illinois. The culvert spans Harmony Creek, as identified on the effective Federal Emergency Management Agency Flood Insurance Rate Map (FIRM). Proposed improvements include removal and replacement of the 10' X 5' reinforced concrete box culvert (RCBC) with twin 8' X 6' RCBCs.

In April of 2018, WBK Engineering, LLC requested and urban/rural determination for this crossing. At that time the project was assigned the above referenced permit number. This letter serves to notify IDNR that a construction permit application will not be submitted because the improvements qualify for authorization under statewide permit No. 12.

The project is authorized under Statewide Permit No. 12, as a culvert replacement in Kane County which is not located in a regulatory floodway or public body of water. The project also meets all the special conditions of the permit as listed below.

1. A registered professional engineer has determined and documented that the existing structure has not been the cause of demonstrable flood damage. Such documentation includes confirmation that:
    a. no buildings or structures have been impacted by the backwater induced by the existing structure; and
    b. there is no record of complaints of flood damages associated with the existing structure
2. A registered professional engineer has determined that the new structure will provide the same or greater effective waterway opening as the existing structure.
3. The project does not include any appreciable raising of the approach roads.
4. The project does not involve the straightening, enlargement or relocation of the existing channel of the river or stream.
5. The permittee will maintain records of projects authorized by this permit necessary to document compliance with the above conditions.

WBK Engineering, LLC
WBKEngineering.com
Part of the Mno-Bmadsen Family

St. Charles Office
116 West Main Street, Suite 201
St. Charles, IL 60174
630.443.7755

Aurora Office
8 East Galena Boulevard, Suite 402
Aurora, IL 60506
630.701.2245

Please contact me with any questions at jwitte@wbkengineering.com or (630) 443-7755.

Sincerely,

John Witte, P.E., CFM
Water Resources Practice Lead

Cc: File