500 PERMITS & CERTIFICATION

HIGHWAY DESIGN

Chapter

PERMITS & CERTIFICATIONS

Subject

Introduction

HD-501.1 OVERVIEW

Federal and state laws require the Kentucky Department of Highways to obtain the appropriate permit and/or certification prior to construction. Permits are always required for state and federally funded projects that involve waters of the United States (lakes, rivers, streams, or wetlands) in the Commonwealth of Kentucky. This chapter outlines these permits and certifications, as well as the responsibilities and accountability of the designer and project manager in the permit process.

It is critical that the designer and project manager be aware of the types of waterways, potential impacts, and the permit process. The project team should avoid or minimize water impacts when developing the project and must understand the quality of the waterways and magnitude of physical impact. Constructability issues such as temporary stream crossings, equipment pads, waste areas, etc. must be considered in determining the impact. Awareness of impact to waterways is essential for developing a project sensitive to the environment, budget, and schedule.

Impacted resources should be identified as early in the project process as practical. Early communication should be established with the subject matter experts (SMEs) responsible for obtaining the permit(s).

This chapter discusses the decisions used to determine impacts and the resulting permits issued by four agencies: U.S. Army Corps of Engineers, Kentucky Division of Water, U.S. Coast Guard, and the Tennessee Valley Authority.

HIGHWAY DESIGN	*Chapter* PERMITS & CERTIFICATIONS
	Subject Impact Determination

HD-502.1 IMPACT DETERMINATION

When developing the range of alternatives, there must be a broad understanding of the quality of the waterways and magnitude of physical impact. Judgments need to be made about the qualitative characteristics of each waterway on any project. After the qualitative characteristics are assessed, the magnitude of impact can be measured and the type of permit identified.

The types of waterways typically dealt with are:

- Perennial, intermittent, and ephemeral streams
- Wetlands
- Tributaries to perennial, intermittent, or ephemeral streams
- Waters having a significant nexus to these waters

This chapter provides the qualitative and associated measurement of physical impacts.

The impacts of the alternatives to the jurisdictional waters defined below must be taken into consideration. In addition to the effect on schedule that may result while securing permits, impact costs in terms of dollars for mitigation and adverse environmental effects can be high. Every reasonable effort should be made to avoid and minimize waterway impacts when analyzing the range of alternatives and throughout alternative selection and development.

HD-502.2 STREAMS

Jurisdictional waters include:

- Perennial: Flows year-round during a typical year. The water table is above the streambed for most of the year with runoff from rainfall supplementing the stream flow.

- Intermittent: Flows during certain times of the year when groundwater provides water for stream flow. During dry periods, they may not have flowing water. Runoff from rainfall supplements stream flow.

- Ephemeral: Flows only during and for a short time after rainfall events. Ephemeral streambeds are located above the water table year-round and have a defined channel. Groundwater is not a source of water; rainfall is the primary source for stream flow.

- Tributaries: Can be natural or man-made water, including wetlands, and may include water such as rivers, streams, lakes, ponds, impoundments, and ditches

HD-502.3 WETLANDS

Wetlands are areas inundated or saturated by water, sufficient to support vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas.

HD-502.4 SPECIAL USE WATERS

Special use waters have a special designation by a federal or state agency. The agency with direct management responsibilities for a designated river or stream determines whether adverse effects will occur. Primarily, the Kentucky Division of Water makes these designations.

It is the designer's responsibility to contact Division of Environmental Analysis subject matter experts (DEA SMEs) to determine whether a project encroaches upon a special use water A listing of special use waters within Kentucky can be found under 401 KAR 10:026 and is also available from the Kentucky Division of Water.

HIGHWAY DESIGN	*Chapter* PERMITS & CERTIFICATIONS
	Subject Types of Permits & Certifications

HD-503.1 U.S. ARMY CORPS OF ENGINEERS (USACE) PERMITS

The USACE authorizes permits in accordance with Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344). Permits must be obtained for any design feature that creates an obstruction or alteration by excavating, filling, or crossing any of the waters of the United States.

Per USACE permit guidelines, an application must be judged on its own merits separate from mitigation considerations and includes a statement of project need, as well as an exploration of alternatives. The USACE must perform a public interest review to determine if there are "no practicable alternatives" with less impact and "no unacceptable adverse impacts" on aquatic resources. The USACE may only permit the “Least Environmentally Damaging Practicable Alternative (LEDPA).”

The USACE decision-making process may allow for other balancing factors such as cost, the presence of endangered species, cultural resources, and economic factors, or social impacts. If there are overriding considerations that make other alternatives unpractical in light of the project’s purpose, such factors could result in an alternate selection with greater wetland/stream impacts.

USACE permits primarily used by KYTC for authorization of its projects include:

- Nationwide Permits
- Individual Permits, including Letter of Permission (LOP)

The type of permit required is determined by the extent and significance of the impact on the waters. Permits are issued by one of four USACE districts having jurisdictional responsibility for waters within the Commonwealth of Kentucky. By agreement between the Huntington and Louisville USACE districts, the Louisville district reviews and acts on permits within the Kentucky portion of the Huntington district.

HD-503.2 NATIONWIDE PERMITS (NWP)

Nationwide permits (NWP) are classified as "General" permits and are issued every five years on a nationwide basis for a category or categories of substantially similar activities that cause minimal individual and cumulative environmental impacts.

NWPs are issued for specific activities throughout the nation and allow certain activities to occur with little, if any, delay. NWPs are only valid if meeting the conditions applicable to that permit.

There are 52 separate activities covered by NWPs. Only five activities are routinely used for roadway projects and are specific to a proposed impact or need as described below.

NATIONWIDE PERMIT ACTIVITIES ROUTINELY USED FOR ROADWAY PROJECTS

No.	Title	Use and Restrictions
3	Maintenance	• Repair, rehabilitation, or replacement of a structure or fill, including those damaged by a storm event, flood, or other event • Sediment and debris removal
13	Bank Stabilization	• Bank stabilization activities for erosion prevention • Limited to 500 feet • Cannot exceed one cubic yard of material placed below the ordinary high water mark per running foot of stream • Limits can be exceeded with special notification to USACE
14	Linear Transportation Projects	• Construction, expansion, modification, or improvement of a linear transportation crossing, such as bridge and culvert placement or replacement • Permit cannot be used if impacts exceed 0.5 acres loss of waters and/or 500 linear feet at each impact site • Pre-Construction Notification (PCN) is required for impacts to wetlands, stream impacts exceeding 300 linear feet, or impacts to other special aquatic sites • Impacts may not result in loss of more than 0.1 acre of Waters of the United States without a PCN to the USACE • A PCN may also be required if there are adverse impacts to historic resources or endangered species

NATIONWIDE PERMIT ACTIVITIES ROUTINELY USED FOR ROADWAY PROJECTS (cont.)		
No.	**Title**	**Use and Restrictions**
15	U.S. Coast Guard Approved Bridges	• Bridges in navigable waters previously approved by the U.S. Coast Guard • Does not cover causeways or approach fills
33	Temporary Construction, Access, and Dewatering	• Temporary crossings (i.e. detours), cofferdams, and dewatering of construction sites • Normal flows must be maintained to downstream areas and flooding minimized • Requires complete removal and restoration of disturbed areas

HD-503.3 GENERAL CONDITIONS FOR NATIONWIDE PERMITS

The 2012 issuance of the USACE NWPs includes thirty one general conditions. Of particular concern are requirements for compliance with Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act. Permit applications are not considered complete until Section 7 and Section 106 concerns are resolved. A complete listing of these conditions can be found at:

http://www.usace.army.mil/Portals/2/docs/civilworks/nwp/2012/NWP2012_corrections_21-sep-2012.pdf

HD-503.4 INDIVIDUAL PERMITS

Individual Permits (IPs) are required for activities not specifically covered by, or that exceed the coverage limits of, NWPs or their general conditions. Activities that may require an IP approval include:

- Channel changes
- Excess material sites
- Wetland impacts exceeding 0.1 acre
- Stream impacts exceeding 500 linear feet
- Other impacts to waters of the U.S. not authorized under a NWP

Individual permits may also be required if there are adverse effects to endangered aquatic species, special use waters, or historic resources or if there is the potential for significant public controversy. Individual permits are subject to a 30-day public notice/comment period.

HD-503.5 LETTER OF PERMISSION

The Letter of Permission (LOP) is a type of an IP issued by the USACE for activities conducted by KYTC or their agents on Kentucky roadways. The LOP is unique in

that it requires that KYTC engage stakeholder resource agencies (U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, State Historic Preservation Officer, etc.) early in the design process to assure impacts to resources are avoided or minimized to the maximum extent practicable. This coordination must occur early during the NEPA process to assure the consideration of stakeholder concerns. An LOP permit must not impact more than seven acres of combined stream and wetland. If impact thresholds are exceeded, an IP is required. An LOP requires a 21-day notice to stakeholder resource agencies before USACE issues a permit.

HD-503.6 OTHER REQUIRED PERMITS

The Department of Highways, in compliance with state and federal laws, shall apply for and obtain the following permits when required:

- Tennessee Valley Authority Permits - These permits are authorized by the Tennessee Valley Authority's Board of Directors through the Division of Land and Forest Resources and are issued in accordance with Section 26a of the Tennessee Valley Authority Act of 1933, as Amended (49 State. 1079, 16 U.S.C. sec. 831y-1). These permits are obtained before the construction, operation, or maintenance of any structure and/or obstruction affecting the Tennessee River or its tributaries.

- State Water Quality Certifications - These certifications are authorized by the Kentucky Energy and Environment Cabinet through the Division of Water. They are issued in accordance with Section 401 of the Clean Water Act (33 U.S.C. 1341) and certify that permitted Section 404 activities, authorized by the USACE, will not violate Kentucky water quality standards. These certifications are obtained before conducting any activity that discharges a pollutant into a water of the Commonwealth. Activities that require an individual water quality certification include:

  - Any activity that may result in a violation of Kentucky water quality standards
  - Discharges into, and causing or resulting in the loss of or adverse impact (impoundment, excavation, or drainage) to one acre or more of wetlands
  - Impacts of 300 feet or more to any intermittent or perennial stream or stream bank (below ordinary high water)
  - Channel relocations exceeding 100 linear feet
  - Any activity that will result in a discharge into special use water

HIGHWAY DESIGN	*Chapter* PERMITS & CERTIFICATIONS
	Subject Procedures & Responsibilities

HD-504.1 PROCEDURES AND RESPONSIBILITIES

The Project Development Branch Manager (PDM) is responsible for contacting the Division of Environmental Analysis (DEA) for a determination of permitting requirements early in the project development process. Notification should occur during the range of alternative analysis and must identify an estimate of each stream/wetland impact with a description of the anticipated construction activity. DEA will provide comments or recommendations as required. Should any of the topics below be considered an issue of concern, the PDM, or designee, should consult the *Environmental Analysis Guidance Manual* or a DEA subject matter expert (SME) for permitting.

After a preferred alternative is selected, the project manager will provide DEA with plans and a "Water Related Impacts Summary" for the chosen alternative identifying each stream impact and describing anticipated construction activity. If an Individual Permit (IP) is required, a detailed mitigation plan must be included.

As early as possible, the project manager—with guidance and support from DEA—shall identify:

- Mitigation needs (such as additional right of way)
- Opportunities for further avoidance or minimization of impacts
- Means for addressing mitigation requirements (such as on-site, off-site, mitigation bank, in-lieu of fee)

Any required mitigation design work shall begin at this phase.

Before or when right-of-way plans are submitted the project manager will provide DEA a copy of the plans, the drainage folder, and permit drawings (**Exhibit 500-01**). NWPs may require up to six months for processing. In certain cases, a pre-construction notification (PCN) may be required before construction begins. The PCN involves a 30-day review by the USACE and includes information similar to the requirements of an IP application. IPs typically require 12 to 18

months, or more, for processing which includes a 30-day public notice and opportunity for comment. Letters of Permission (LOP) generally require six to eight months for processing.

Once a permit is approved, DEA will notify the project manager, the Division of Construction Procurement's Plans, Specifications, and Estimates Branch (PS&E), and the district office providing copies as required. Any plan changes that affect the waterway or conditions of the permit after issuance may require additional review and approval by the USACE. In the case of an approved IP, another 30-day public notice may be required. Impacts not identified on the approved plans (such as temporary stream crossings) may require a separate permit or permit modification before construction may begin. Surplus excavation sites affecting streams or wetlands will often require an LOP or IP. It is critical that early project reviews identify permit requirements and consider these project needs. Permitting needs should be periodically revisited after preliminary requirements are determined and design details and project revisions are developed that may affect streams or wetlands. Significant changes/additions not identified during preliminary permit review may result in a project requiring an IP or LOP permit rather than a NWP. Securing these more complex permits would require several additional months.

HD-504.2 REQUIRED INFORMATION FOR PERMIT APPLICATION

The Division of Environmental Analysis permits coordinator needs the following information to prepare the permit application:

- Purpose and Need, and Alternatives Analysis

  For federally funded projects, the approved environmental document should provide the information needed to satisfy USACE requirements for discussion of the project purpose and analysis of alternatives considered.

  On projects without an approved environmental document (state-funded projects), evaluated alternatives must be documented. The documentation should include the environmental impacts for each alternative with an emphasis on streams and wetlands, and the basis for selection of the preferred alignment. The designer may accomplish this by documenting the decision process—specifically documenting how water-related issues were considered in the evaluation of alternatives. The information should include, at a minimum:

  - Purpose and need for the project
  - Alternative analysis
  - Scope of impacts

- Constructability
- Other environmental considerations

➢ Site-Specific Minimization and Mitigation Narrative

When no practicable avoidance alternative exists, minimization of impacts should be addressed. Lengthening bridges, steepening slopes, reducing the lengths of channel changes, and minor alignment shifts are just a few examples. A narrative describing the minimization and mitigation efforts used at each specific site shall be provided.

After consideration and identification of implementable minimization measures, appropriate mitigation should be considered. Mitigation includes, but is not limited to:

- Using stream and/or wetland credits from a KYTC bank
- Paying an "in-lieu-of" mitigation fee to the Kentucky Department of Fish and Wildlife Resources
- Instream habitat replacement (such as restoration, enhancement, and/or creation of wetlands)

The Division of Environmental Analysis is responsible for providing guidance in this area.

➢ Permit drawings (**Exhibit 500-01**)

The permit drawings shall contain the following:

- Plan view
- Elevation and/or cross-section view (typical channel section and/or structure section)
- Stream profile (optional, except for channel changes)
- Rock line soundings (along proposed channel change locations)
- Vicinity map

All permit drawings shall be submitted on a KYTC sheet cell "SCOE" located in cell library "KYTC_SHEET.CEL" (**Exhibit 500-02**).

➢ Volume of displacement and area of impact

The volume of displacement (only below the ordinary high-water elevations) and area of impact (at the ordinary high-water elevations) shall be estimated and shall include, but not be limited to, the following, as applicable:

- Excavation
- Embankment
- Piers, footers, etc.
- Channel lining (Rip Rap)
- Temporary equipment crossings or pads
- Old channel fills (fill placed in abandoned streams)
- In-stream structures (stone riffles and deflectors)
- Area of impact (measured surface disturbed)

➢ Plan set

One set of plans is to be furnished. These plans shall contain the following:

- Layout Sheet
- Typical Channel Sections
- Plan and Profile Sheets
- Structure and/or Pipe Sections
- Stream Profile

The permit coordinator is responsible for reviewing this material and notifying the project manager of any additional information required, or corrections to be made. The project manager shall submit revised drawings and/or plans to the permit coordinator when making revisions affecting any activity requiring a permit.

DEA will furnish the environmental documentation and expertise necessary to coordinate and fulfill the obligations concerning all social, economic, biological, historical, and archaeological conditions of a permit. DEA will submit all correspondence to the USACE, Kentucky Division of Water, and, as appropriate, the TVA for obtaining required permits.

A copy of the permit is inserted into the contract bid proposal after approval and issuance of the permit, with additional copies forwarded to the Division of Construction and other appropriate personnel and/or agencies. After the letting procedures have been concluded, the Division of Construction will furnish a copy to the contractor who was awarded the project. The contractor will post a copy of the permit in a conspicuous place at the project site for the duration of the project construction or as directed by the permit. The contractor will perform work in compliance with the terms and conditions of the permit.

HIGHWAY DESIGN	*Chapter* PERMITS & CERTIFICATIONS
	Subject DEFINITIONS

HD-505.1 OVERVIEW

This chapter provides definitions to aid the designer's understanding of the terms associated with permits.

HD-505.2 WATERS OF THE UNITED STATES

For the purpose of considering impacts of KYTC projects, the designer should assume that all water not clearly characterized as sheet flow may be a Water of the United States. This would include all water flowing as a result of rain events (ephemeral streams) or within a channel having a base groundwater flow (intermittent or perennial streams), wetland areas, and tributaries to these water features. This definition may also include certain roadside ditches and man-made impoundments, such as ponds or lakes.

HD-505.3 WETLANDS

Wetlands are areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

HD-505.4 LAKE

A lake is a standing body of open water that occurs in a natural depression fed by one or more streams. Lakes occur due to the widening, natural blockage, or cutoff of a river or stream, but may also occur in an isolated natural depression not ~~a~~ part of a surface river or stream. A lake is also defined as a standing body of open water created by artificially blocking or restricting the flow of a river, stream, or tidal area. As used in this manual, the term does not include artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water for such purposes as stock watering, irrigation, settling basins, cooling, or rice growing.

HD-505.5 ORDINARY HIGH-WATER (OHW) MARK

The OHW mark is defined as the line on the shore established by the fluctuations of water and indicated by physical characteristics. These may include:

- A clear, natural line impressed on the bank
- Shelving
- Changes in the character of soil
- Destruction of terrestrial vegetation
- Presence of litter and debris
- Other appropriate means that consider the characteristics of the surrounding areas

HD-505.6 DREDGED MATERIAL

Dredged material is defined as material excavated or dredged from waters of the United States, including, but not limited to:

- Channel Changes
- Channel Widening
- Bridge Piers
- Abutments
- Box Culverts
- Retaining Walls

HD-505.7 DISCHARGE OF DREDGED MATERIAL

The discharge of dredged material is defined as any addition of such material into the waters of the United States. The term includes, without limitation, the addition of dredged material to a specified discharge site located in waters of the United States and the runoff or overflow from a contained land or water disposal area. This term does not include discharges of pollutants into waters of the United States resulting from onshore processing of dredged material extracted from any commercial use (other than fill). Discharging of dredged materials is subject to Section 402 of the Clean Water Act, although the extraction and deposit of such material may require a permit from the U.S. Army Corps of Engineers. The term does not include plowing, cultivating, seeding, and harvesting for the production of food, fiber, and forest products.

HD-505.8 FILL MATERIAL

Fill material is used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a water body. The term does not

include any pollutant discharged into the water to dispose of waste as regulating the activity under Section 402 of the Clean Water Act.

HD-505.9 DISCHARGE OF FILL MATERIAL

The discharge of fill material is defined as the addition of fill material into waters of the United States. The term generally includes, without limitation, the following activities:

- Placement of fill necessary to the construction of any structure or impoundment requiring rock, sand, dirt, or other material for its construction
- Site-development fills for recreational, industrial, commercial, residential, and other uses
- Property protection and/or reclamation devices such as riprap, groins, breakwaters, and revetments
- Fill for structures such as sewage treatment facilities
- Intake and outfall pipes associated with power plants and subaqueous utility lines
- Causeways or roadfills, dams, dikes, artificial islands, beach nourishment, levees, and artificial reefs

The term does not include plowing, cultivating, seeding, and harvesting for the production of food, fiber, and forest products.

HD-505.10 SPECIAL AQUATIC SITES

Special aquatic sites are defined as wetlands, mudflats, vegetated shallows, coral reefs, riffle and pool complexes, sanctuaries, and refuges.

HD-505.11 SPECIAL USE WATERS

Special use waters are defined as rivers, streams, and lakes listed in the Kentucky Administrative Regulations or Federal Register as Cold Water Aquatic Habitat, Exceptional Waters, Reference Reach Waters, Outstanding State Resource Waters, Outstanding National Resource Waters, State Wild Rivers, and Federal Wild and Scenic Rivers.

HD-505.12 TRIBUTARY

A tributary is water physically characterized by the presence of a bed and banks and ordinary high water mark, as defined at 33 CFR 328.3(e), which contributes flow, either directly or through another water. In addition, wetlands, lakes, and ponds are tributaries (even if they lack a bed and banks or ordinary high water mark), if they contribute flow, either directly or through another water.

A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if, for any length, there are one or more man-made breaks (such as bridges, culverts, pipes, or dams), or one or more natural breaks (such as wetlands at the head of or along the run of a stream, debris piles, boulder fields, or a stream that flows underground), so long as a bed and banks and an ordinary high water mark can be identified upstream of the break.

A tributary, including wetlands, can be natural, man-altered, or man-made water and includes waters such as rivers, streams, lakes, ponds, impoundments, canals, and certain ditches.

HD-505.13 SIGNIFICANT NEXUS

Significant nexus is defined as a water, including wetlands, either alone or in combination with other similarly situated waters in the region that significantly affects the chemical, physical, or biological integrity of a water.

For an effect to be considered significant, it must be more than speculative or insubstantial. Other waters, including wetlands, are similarly situated when they perform similar functions, are located sufficiently close together or sufficiently close to a water of the United States, and can be evaluated as a single landscape unit with regard to their effect on the chemical, physical, and biological integrity of another water.

EXAMPLE VICINITY MAP

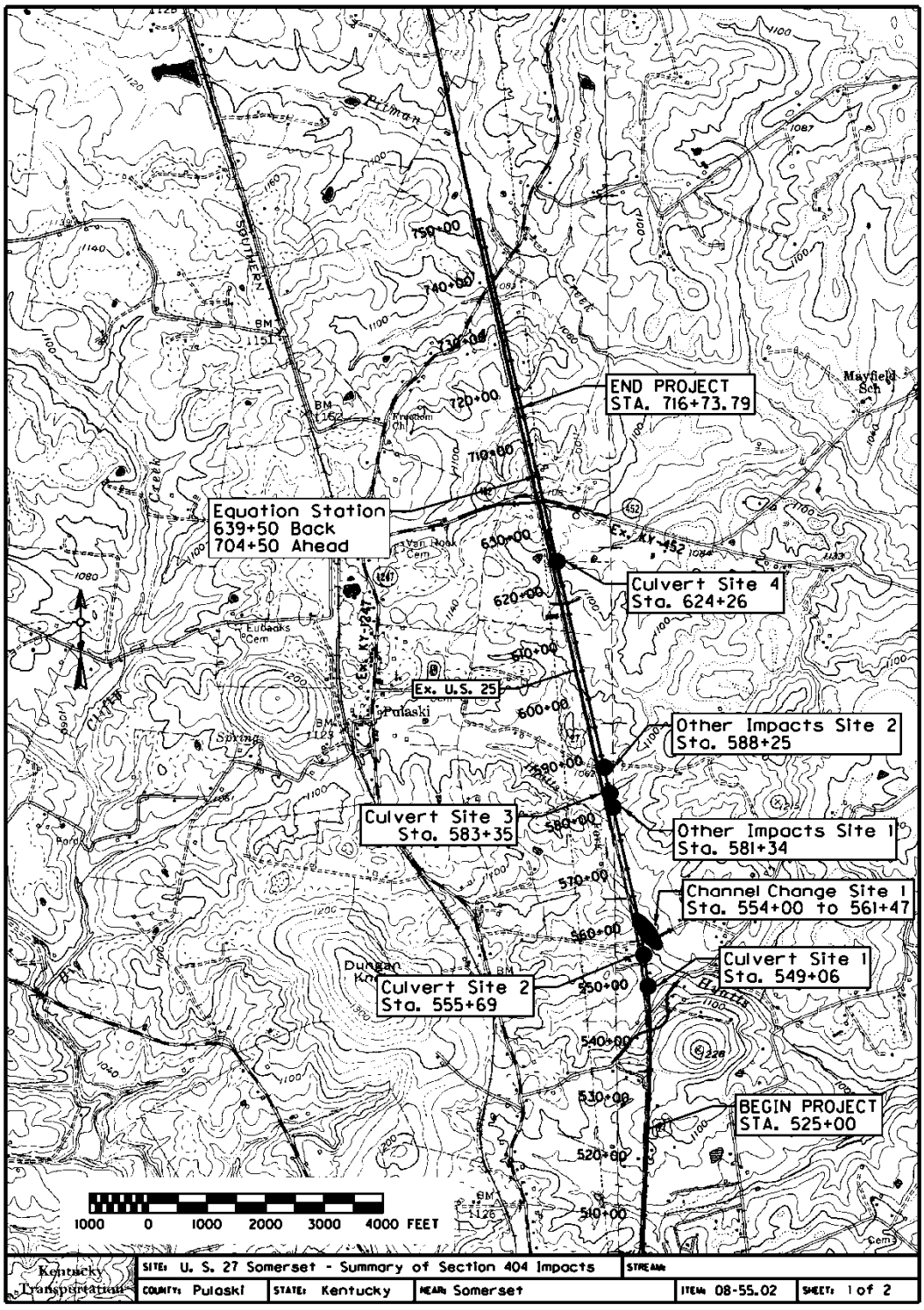
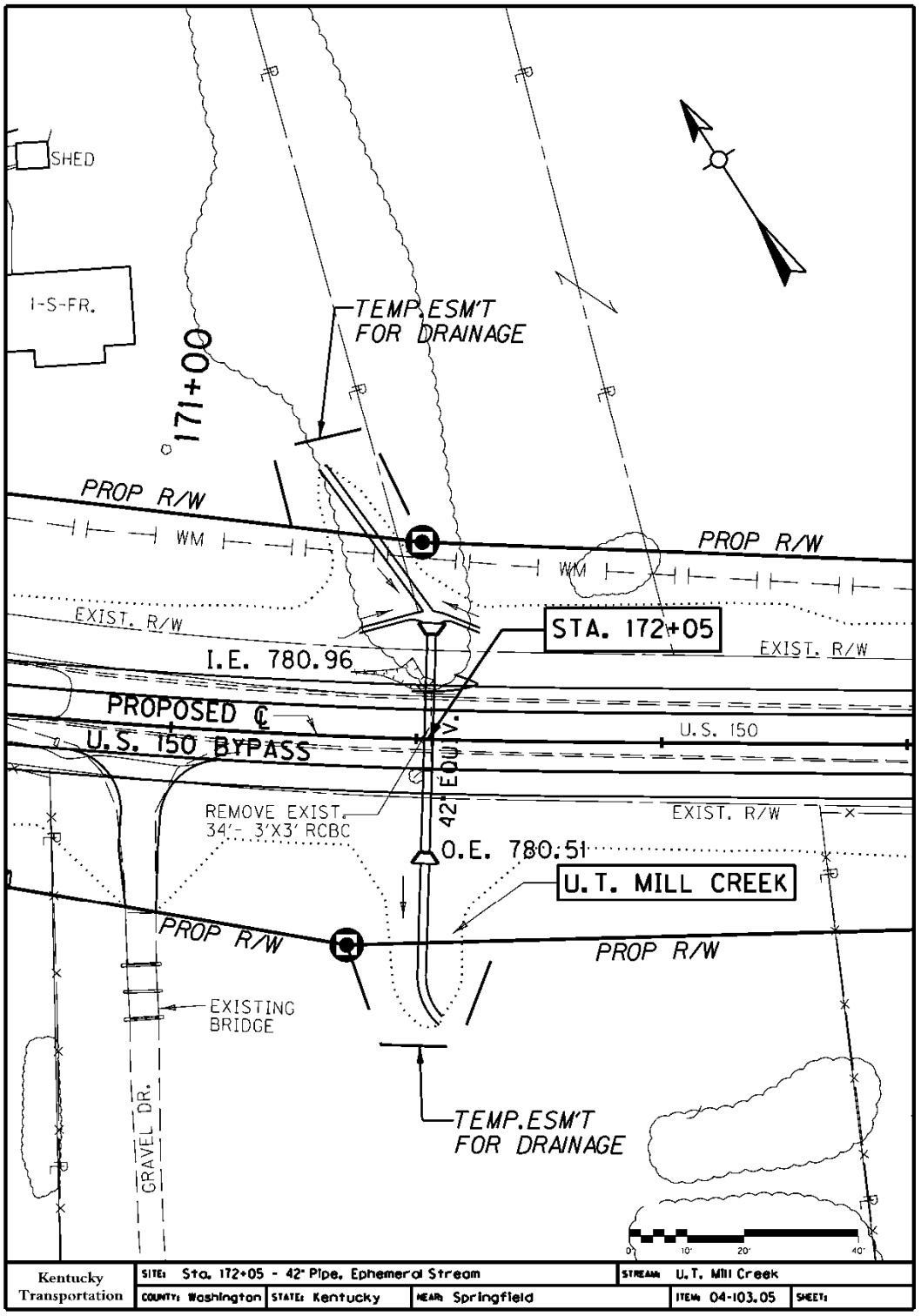


EXHIBIT NOT TO SCALE

EXAMPLE PIPE PLAN SHEET



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EXAMPLE PIPE PROFILE SHEET

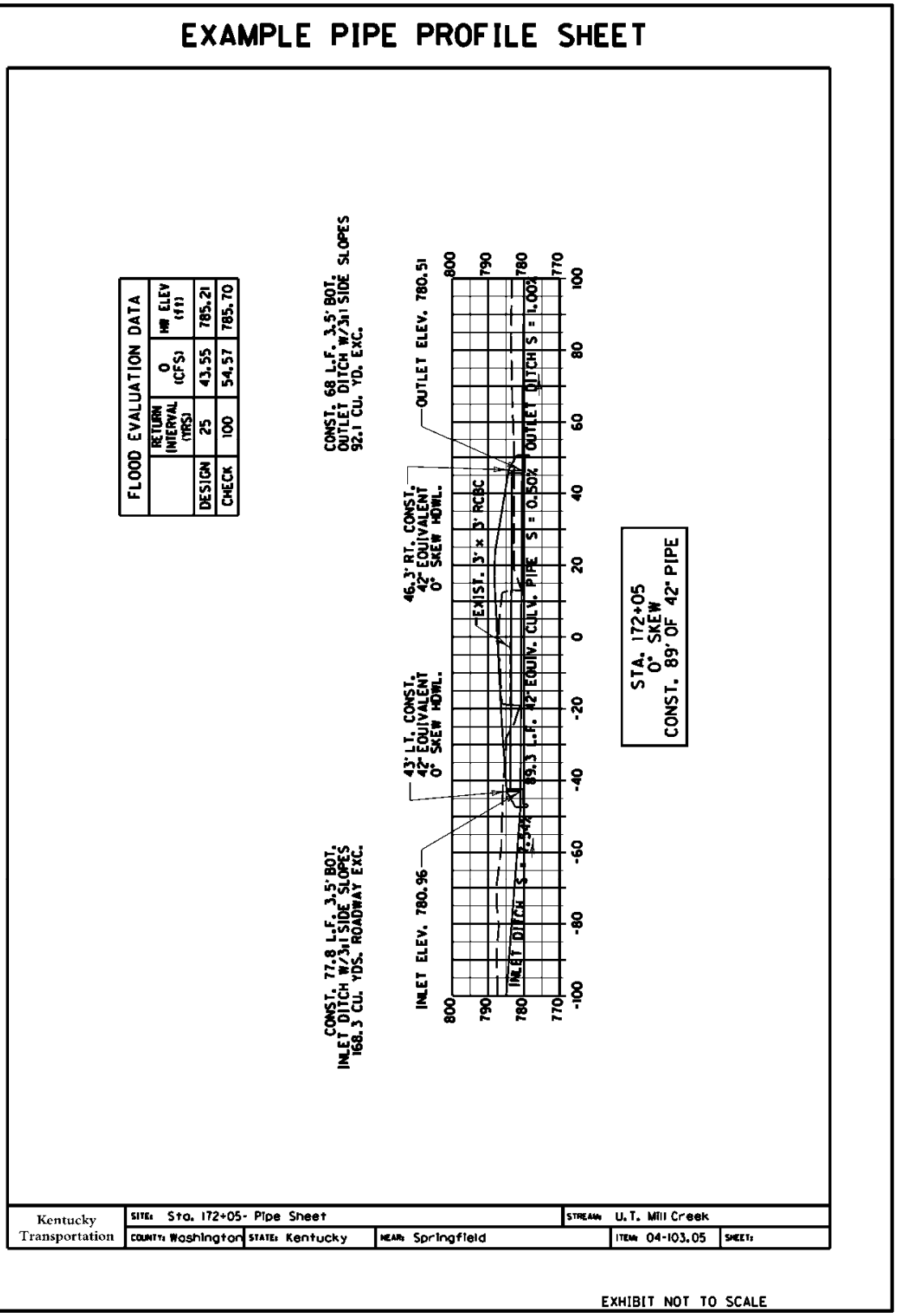


EXHIBIT NOT TO SCALE

EXAMPLE BRIDGE PLAN SHEET

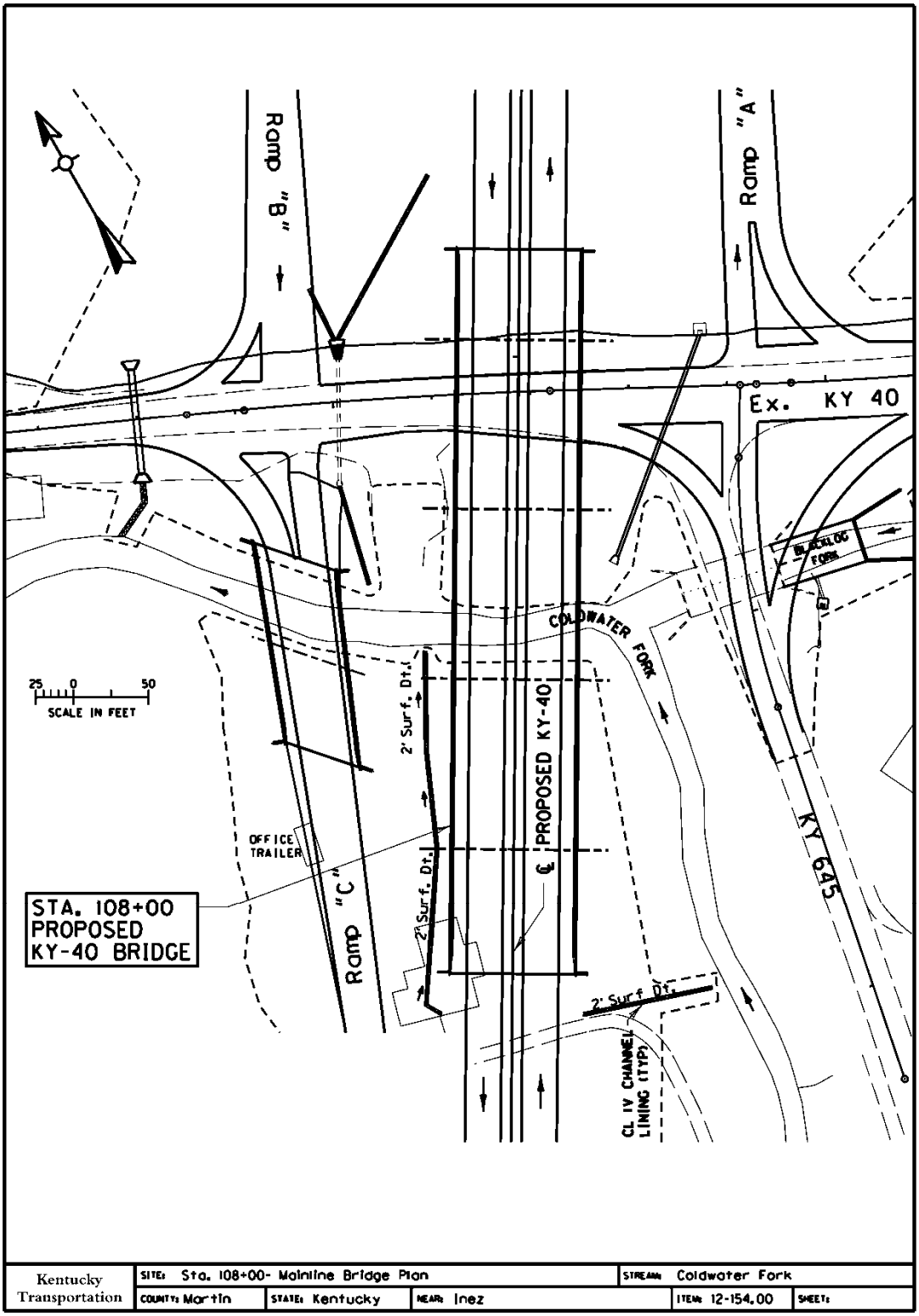
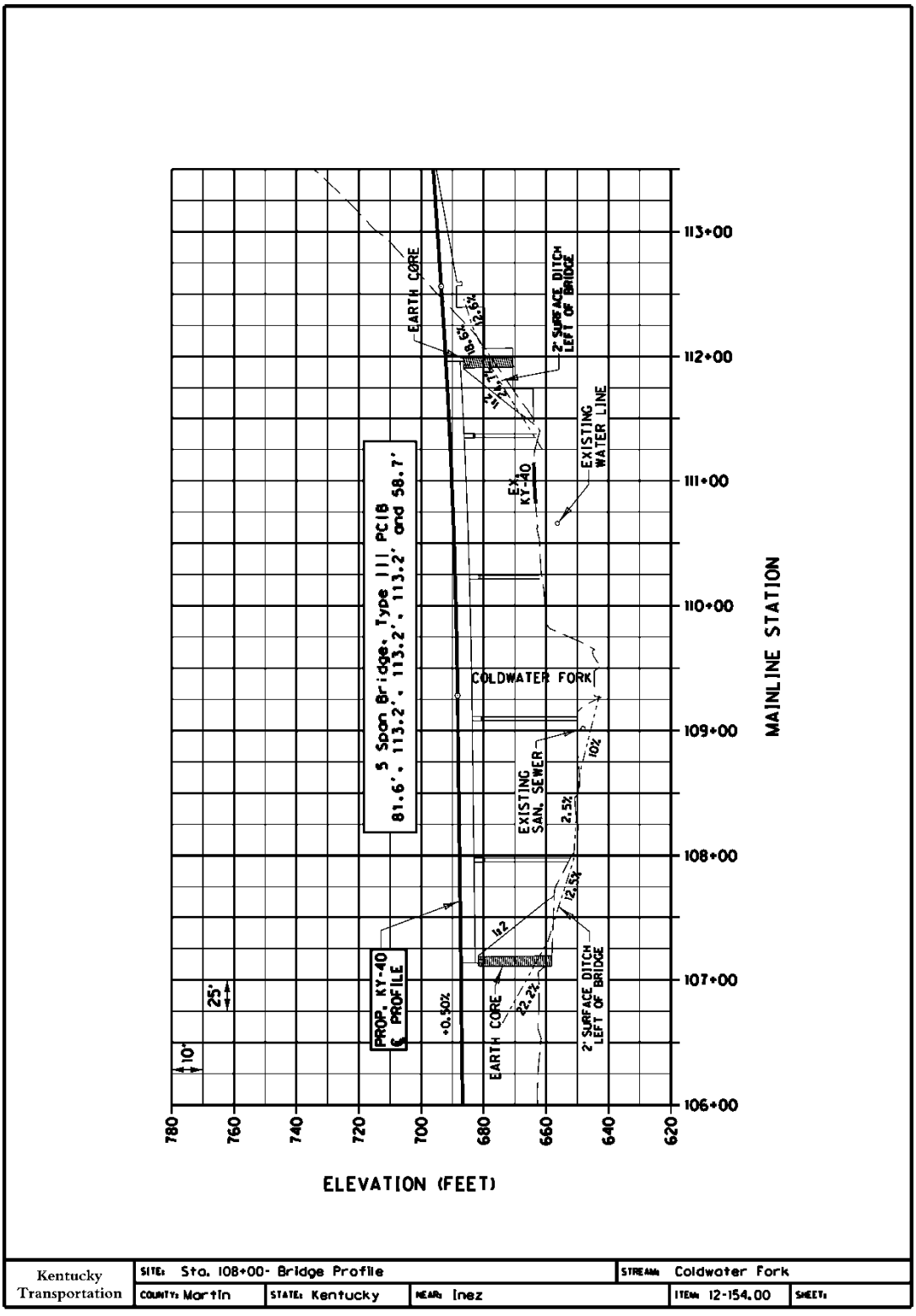


EXHIBIT NOT TO SCALE

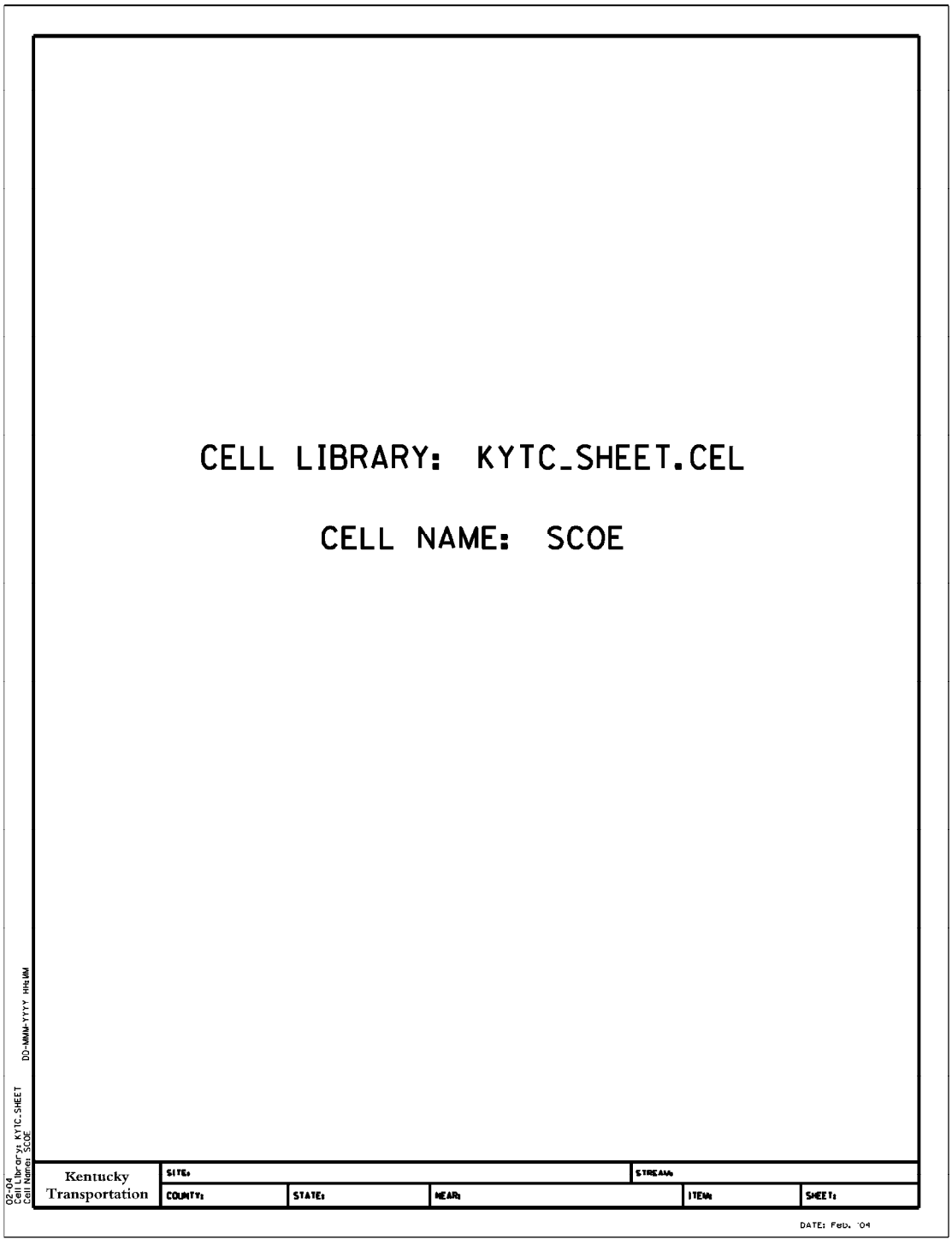
EXAMPLE BRIDGE PROFILE SHEET



Kentucky Transportation	SITE: Sta. 108+00- Bridge Profile			STREAM: Coldwater Fork	
	COUNTY: Martin	STATE: Kentucky	NEAR: Inez	ITEM: 12-154.00	SHEET:

EXHIBIT NOT TO SCALE

EXAMPLE EXHIBIT SHEET CELL



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