



US Army Corps
of Engineers®
Little Rock District

JOINT PUBLIC NOTICE

CORPS OF ENGINEERS – STATE OF MISSOURI

Application Number: SWL 2019-00194

Date: January 30, 2020

Comments Due: February 20, 2020

TO WHOM IT MAY CONCERN: Comments are invited on the work described below.
Please see the Public Involvement section for details on submitting comments.

Point of Contact. If additional information is desired, please contact the regulator, Chris Joyner, telephone number: (501) 340-1381, mailing address: Little Rock District Corps of Engineers, Regulatory Division, PO Box 867, Little Rock, Arkansas 72203-0867, email address: Chris.J.Joyner@usace.army.mil

Project Information. Pursuant to Section 404 of the Clean Water Act (33 U.S. Code 1344), notice is hereby given that

**Mr. Travis Koestner
Missouri Department of Transportation (MoDOT)
105 West Capitol Avenue
Jefferson City, Missouri 65102**

has requested authorization for the placement of dredged and fill material in waters of the United States (WOTUS) associated with the construction of an approximately five-mile section of four-lane interstate highway on new alignment, referenced as the McDonald County Interstate 49 Bella-Vista Bypass project. Work will include construction of a standard diamond interchange at Missouri Route 90 with bridge (A7000) over Future I-49, grading (cut and fills), median barrier construction, and box culvert construction for hydraulic conveyance of stream flows under Future I-49. The Project will impact 12 jurisdictional streams (0, 0.75, 1, 2, 3, 5, 6, 7, 9, 10, 11, 12) and an existing MoDOT mitigation area (No. 263886) that was previously permitted under Department of the Army Permit No. 17757. Total impacts to WOTUS include approximately 8,640 linear feet of stream impacts, in addition to, approximately 581 linear feet of stream impacts to the existing mitigation area (No. 263886). The project site will impact Goodin Hollow Creek and tributaries, White Oak Hollow Creek, Mill Creek tributaries, and Rattlesnake Hollow Creek, located in parts of sections 10, 15, 21, 22, 27, 28, and 34, Township 21 North, Range 32 West, in McDonald County, Missouri.

The purpose of the project is to provide increased traffic safety and accessibility for the purpose of Interstate commerce through a multi-State Interstate System extending from Shreveport, LA to Kansas City, MO, as established in the Intermodal Surface Transportation Efficiency Act (ISTEA). The project is not water dependent.

The main site for the project will require approximately 309 contiguous acres of new highway right-of-way south of Pineville, McDonald County, Missouri, extending south to the Arkansas – Missouri State line. The project will include tree clearing and grubbing of approximately 236 acres to construct the highway system and interchange. A total of 12 jurisdictional streams were

identified within the project area. Six additional drainage features were identified within the project area lacking ordinary high water marks. No wetlands were identified adjacent to the streams or within the project area.

The total project impacts from all phases of the proposed project will include filling, piping and morphological changes associated with channel relocations, box culvert construction, and energy dissipater construction. Two streams (0, 6) totaling 2,029 linear feet (0.96 acres) will be relocated and filled with approximately 1,539 cubic yards of fill material. Ten streams (0.75, 1, 2, 3, 5, 7, 9, 10, 11, 12) totaling 4,939 linear feet (1.64 acres) will be impacted with approximately 6,687 cubic yards of reinforced concrete from the construction of box culverts or special design reinforced concrete pipe culverts. The ten streams that will be impacted with box culverts will also have a total of 1,672 linear feet (0.64 acres) of impacts associated with morphological changes from the placement of 3,605 cubic yards of type 2 rock for energy dissipation structures at the culvert outlets. Additionally, the proposed activity will impact an existing MoDOT stream mitigation area (No. 263886), authorized under Department of the Army permit No. 17757 that offset 330 linear feet of impacts by realigning Goodin Hollow Creek, associated with MoDOT project No. J7P0601C. Approximately 581 linear feet (0.34 acres) of Goodin Hollow Creek that lies within this mitigation area will be impacted with 1.56 acres of the stream riparian restoration buffer. No wetlands will be impacted within the project area. Typical best management practices such as silt fencing and other construction methods would be used to mitigate impacts to water quality and other resources.

The applicant has investigated alternative project sites located in various locations in the southern United States. The project corridor (Preferred Alternative) was determined by the applicant to be the least damaging practical alternative in the final environmental impact statement reevaluation. The roadway fills are designed to be the minimum necessary to construct the I-49 4-lane highway.

The applicant has avoided potential impacts to the environment and natural resources from the project through careful selection of the proposed project site. The applicant has further avoided potential impacts through the proposed project layout and design.

Compensatory mitigation requirements for impacts to the streams will utilize the latest revision of the State of Missouri Stream Mitigation Method. The applicant proposes to mitigate for unavoidable impacts by off-site permittee responsible mitigation, at a proposed mitigation site located in Elk River within the Elk River Watershed near Pineville, McDonald County, Missouri, through the proposed restoration and preservation of approximately 7,155 linear feet of perennial stream (Sheets 30-35 of 35).

The location and general plan for the proposed work are shown on the enclosed sheets (Sheets 1-29 of 35).

Water Quality Certification. By copy of this public notice, the applicant is requesting certification from the Missouri Department of Natural Resources that the operation of the proposed facility will apparently not violate the existing water quality criteria of the State of Missouri. The Commission hereby gives notice of its intent to certify this construction. A Corps

of Engineers permit will not be issued until such certification has been granted. Commenters are requested to furnish a copy of their comments to the Missouri Department of Natural Resources.

Cultural Resources. A Corps staff archeologist will review topographic maps, the National Register of Historic Places, and other data on reported sites in the area. The District Engineer invites responses to this public notice from Native American Nations or tribal governments; Federal, State, and local agencies; historical and archeological societies; and other parties likely to have knowledge of or concerns with historic properties in the area.

Endangered Species. Our preliminary determination is that the proposed activity will not affect listed Endangered Species or their critical habitat. A copy of this notice is being furnished to the U.S. Fish and Wildlife Service and appropriate state agencies and constitutes a request to those agencies for information on whether any listed or proposed-to-be-listed endangered or threatened species may be present in the area which would be affected by the proposed activity.

Floodplain. We are providing copies of this notice to appropriate floodplain officials in accordance with 44 Code of Federal Regulations (CFR) Part 60 (Floodplain Management Regulations Criteria for Land Management and Use) and Executive Order 11988 on Floodplain Management.

Section 404(b)(1) Guidelines. The evaluation of activities to be authorized under this permit, which involves the discharge of dredged or fill material will include application of guidelines promulgated by the Administrator, Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act. These guidelines are contained in 40 CFR 230.

Public Involvement. Any interested party is invited to submit to the above-listed POC written comments or objections relative to the proposed work on or before **February 20, 2020**. Substantive comments, both favorable and unfavorable, will be accepted and made a part of the record and will receive full consideration in determining whether this work would be in the public interest. The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic

properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request in writing within the comment period specified in this notice that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. The District Engineer will determine if the issues raised are substantial and whether a hearing is needed for making a decision.

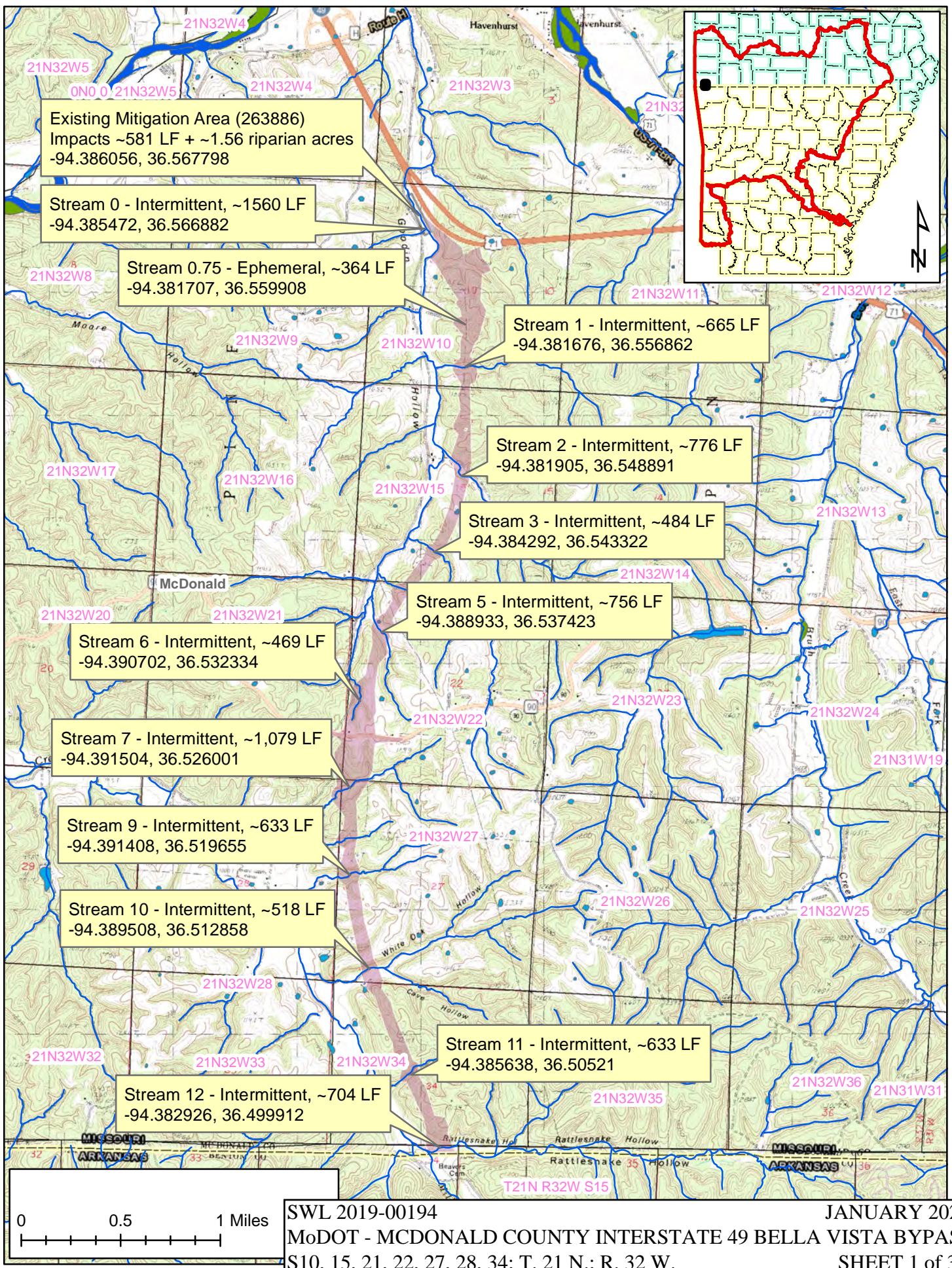
NOTE: The mailing list for this Public Notice is arranged by state and county(s) where the project is located, and includes any addressees who have asked to receive copies of all public notices. Please discard notices that are not of interest to you. If you have no need for any of these notices, please advise us so that your name can be removed from the mailing list.

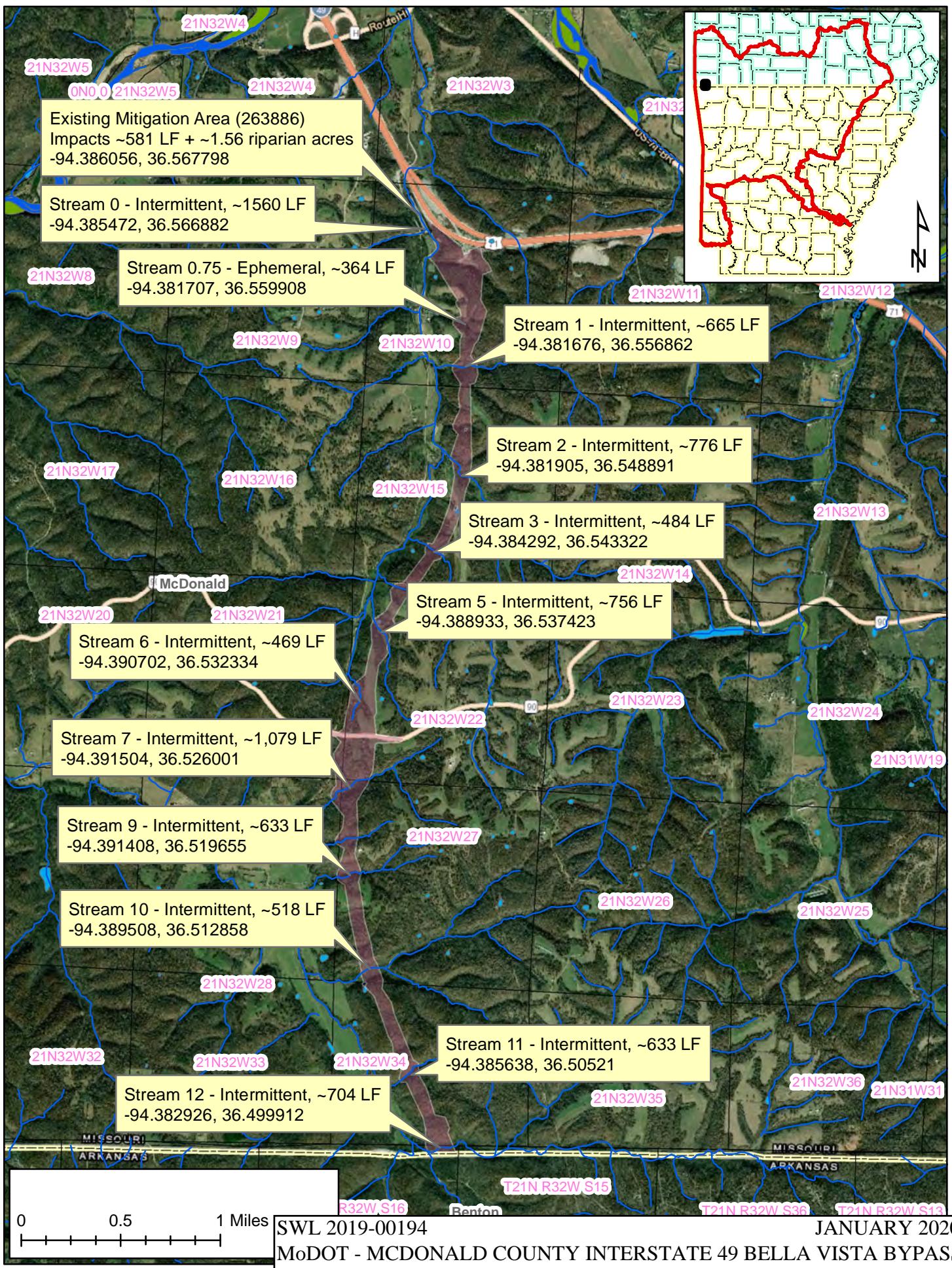
Enclosures

Approximate Coordinates of Project Center

Latitude: **36.529818** Longitude: **-94.390766**

UTM Zone: **15** North: **4043615** East: **375493**





DESIGN DESIGNATION

A.D.T. - 2021 = 21,035

A.D.T. - 2041 = 29,469

D.H.V. = 8%

T = 19%

V = 70 M.P.H.

FUNCTIONAL CLASSIFICATION - INTERSTATE

FULLY-CONTROLLED ACCESS HIGHWAY

THIS SHALL BE A FULLY CONTROLLED ACCESS HIGHWAY, BETWEEN STA. 735+90.89 (S.B.L.) AND STA. 988+65.36. NO ABUTTING OWNER SHALL HAVE THE RIGHT OF DIRECT ACCESS TO SAID HIGHWAY OR ITS RIGHT-OF-WAY EXCEPT THAT ACCESS WILL BE PERMITTED TO ANY ADJACENT OUTER ROADWAY OR SERVICE ROAD TO WHICH ACCESS IS NOT SPECIFICALLY PROHIBITED BY THE SPECIAL SYMBOL DENOTING "NO RIGHT OF ACCESS" AS SHOWN ON THE PLANS. NO ACCESS WILL BE PERMITTED FROM OUTER ROADWAYS AND SERVICE ROADS TO THROUGHWAYS EXCEPT ALONG ROUTES CONSTRUCTED FOR THAT PURPOSE. OUTER ROADWAYS AND SERVICE ROADS, AS THE CASE MAY BE, ARE SO DESIGNATED ON THE PLANS.

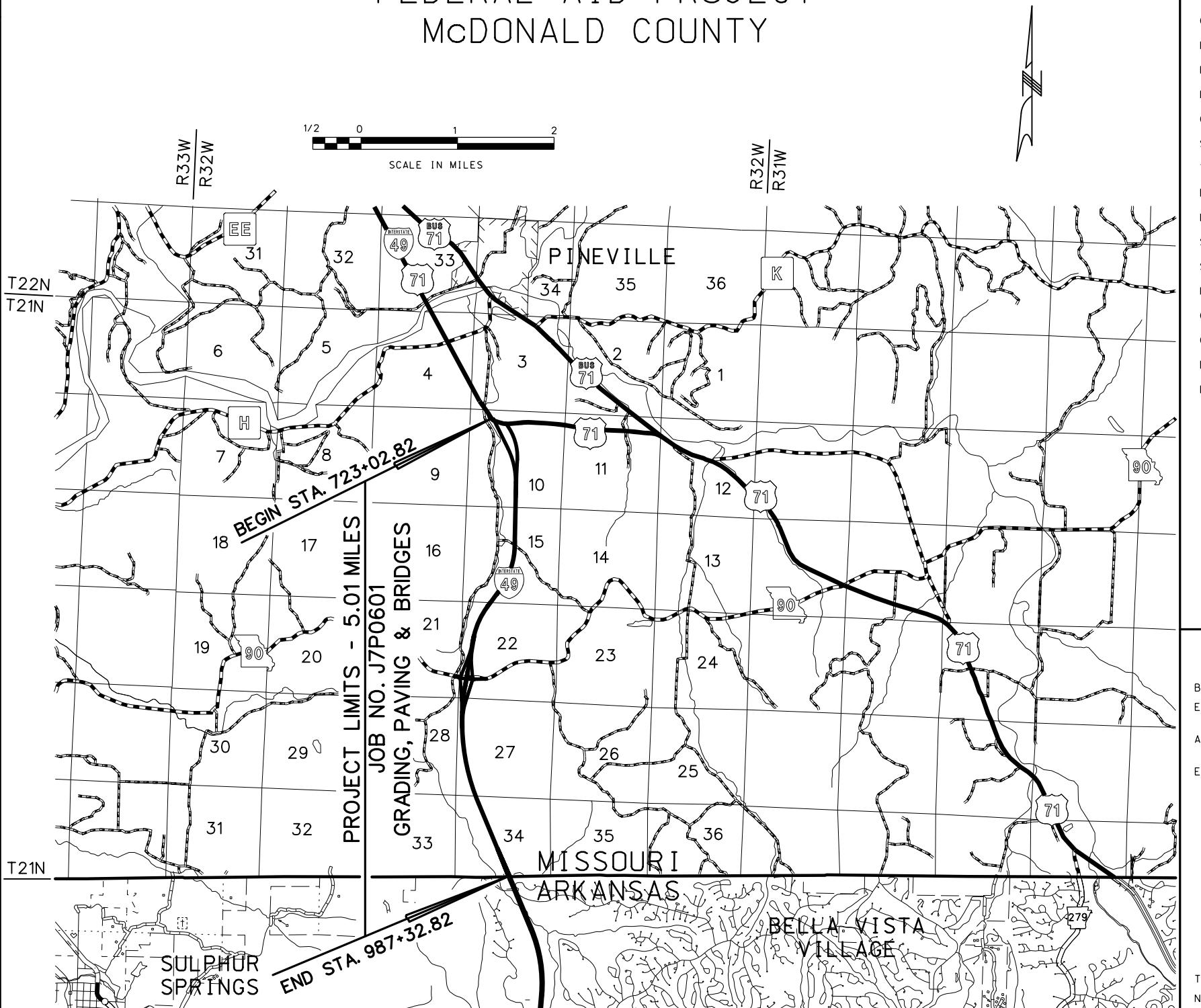
- BEGINNING AND ENDING OF CONTROLLED ACCESS
- CONTROLLED ACCESS
- NO RIGHT OF ACCESS OR CROSSING OF LINES BEARING THIS SYMBOL WILL BE PERMITTED UNDER ANY CIRCUMSTANCES.
- TEMPORARY ACCESS THROUGH FUTURE NO RIGHT OF WAY

CONVENTIONAL SYMBOLS
(USED IN PLANS)

| | EXISTING | NEW |
|------------------------------|----------|-----|
| BUILDINGS AND STRUCTURES | □ | □ |
| GUARD RAIL | ○ | ■ |
| GUARD CABLE | ○○○○ | ● |
| CONCRETE RIGHT-OF-WAY MARKER | — | — |
| STEEL RIGHT-OF-WAY MARKER | — | — |
| LOCATION SURVEY MARKER | ○ | ○ |
| UTILITIES | | |
| FIBER OPTICS | FO | FO |
| OVERHEAD CABLE TV | OTV | OTV |
| UNDERGROUND CABLE TV | UTV | UTV |
| OVERHEAD TELEPHONE | OT | OT |
| UNDERGROUND TELEPHONE | UT | UT |
| OVERHEAD POWER | OE | OE |
| UNDERGROUND POWER | UE | UE |
| SANITARY SEWER | S | S |
| STORM SEWER | SS | SS |
| GAS | G | G |
| WATER | W | W |

| | |
|---------------------|------|
| MANHOLE | SAN |
| FIRE HYDRANT | HYD |
| WATER VALVE | WM |
| WATER METER | WM |
| DROP INLET | DI |
| DITCH BLOCK | DB |
| GROUND MOUNTED SIGN | SIGN |
| LIGHT POLE | LP |
| H-FRAME POWER POLE | HFP |
| TELEPHONE PEDESTAL | TP |
| FENCE | F |
| CHAIN LINK | CL |
| WOVEN WIRE | WW |
| GATE POST | GP |
| BENCHMARK | BM |

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED STATE HIGHWAYFEDERAL AID PROJECT
McDONALD COUNTY

SWL 2019-00194

MoDOT - McDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.JANUARY 2020
SHEET 3 of 35

INDEX OF SHEETS

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| BR A6380 (BR)----- | - |
| BR A7000 (BR)----- | - |

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED

8/12/2019

ROUTE

49

STATE

MO

DISTRICT

7

SHEET NO.

1

COUNTY

McDONALD

JOB NO.

J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

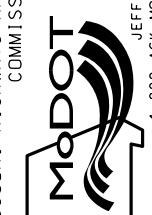
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)



THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE PROVIDED TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION MAKES NO WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THE INFORMATION IS AT THE DISCRETION OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUBMIT WITH THE LISTED UTILITIES.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

HEET 3 OF 10

| SPECIAL DESIGN CONCRETE BOX CULVERTS (R.C.B.) | | | | | | | | | | | | |
|---|----------|-----------|----------|-------------------|--------|----------|--------------|----------------------------|------------------------|----------------------------|---------------------|-------------------------------|
| SHEET | RTE. | STATION | SKEW | FILL HEIGHT (FT.) | STD. | SIZE | LENGTH (FT.) | CLASS B-1 CONCRETE (CU.YD) | REINFORCING STEEL (LB) | CLASS 4 EXCAVATION (CU.YD) | ROCK LINING (CU.YD) | REMARKS |
| 7 | I-49 NBL | 743+58.95 | 35° L.A. | 73.7 | 703.14 | 4' X 4' | 610 | 478.0 | 84970 | 1038 | 15 | SEE SPECIAL SHEETS 47, 56 |
| 7 | I-49 SBL | 739+41.86 | 20° L.A. | 69.0 | 703.14 | 5' X 5' | 519 | 514.0 | 97630 | 997 | | SEE SPECIAL SHEETS 48, 56 |
| 10 | I-49 | 768+06.77 | 8° R.A. | 103.8 | 703.14 | 10' X 8' | 504 | 1726.0 | 276840 | 1148 | | SEE SPECIAL SHEETS 49, 56 |
| 15 | I-49 | 842+96.71 | 32° R.A. | 86.3 | 703.14 | 4' X 4' | 319 | 275.3 | 50580 | 283 | | SEE SPECIAL SHEETS 50, 56 |
| 15 | I-49 | 844+08.90 | 30° L.A. | 88.2 | 703.14 | 6' X 5' | 495 | 738.4 | 113780 | 564 | | SEE SPECIAL SHEETS 51, 52, 56 |
| 21 | I-49 | 887+10.93 | 32° R.A. | 97.7 | 703.14 | 7' X 6' | 909 | 1859.4 | 277440 | 1738 | | SEE SPECIAL SHEETS 53, 56 |
| 21 | I-49 | 899+93.87 | 13° R.A. | 57.3 | 703.14 | 4' X 4' | 473 | 356.8 | 64340 | 993 | | SEE SPECIAL SHEETS 54, 56 |
| 25 | I-49 | 909+72.11 | 6° R.A. | 63.8 | 703.14 | 7' X 6' | 484 | 738.6 | 122180 | 722 | | SEE SPECIAL SHEETS 55, 56 |
| | | | | | | TOTAL = | 6686.5 | 1087760 | 7483 | 15 | | |
| | | | | | | USE = | 6686.5 | 1087760 | 7483 | 15 | | |

| SPECIAL DESIGN REINFORCED CONCRETE PIPE CULVERTS (R.C.P.) | | | | | | | | | | |
|---|----------|-----------|----------|------------------------|----------------|-----|-----|-------------------------|-----|---------|
| SHEET | RTE. | STATION | SKEW | FILL HEIGHT (FT) | LENGTH (FT) | | | FLARED END SEC. (EA) | | REMARKS |
| | | | | | 24" | 30" | 60" | 24" | 30" | |
| 7 | I-49 NBL | 758+17.83 | 0° | 64.79 | | 527 | | 2 | | |
| 7 | I-49 NBL | 760+00.63 | 27° L.A. | 64.26 | 584 | | | 2 | | |
| 29 | I-49 | 964+60.36 | 19° R.A. | 61.74 | | | 501 | | 2 | |
| | | | | TOTAL = | 584 | 527 | 501 | 2 | 2 | 2 |
| | | | | USF = | 584 | 527 | 501 | 2 | 2 | 2 |

| GROUP B PIPE (CROSSROAD PIPES) | | | | | | | |
|--------------------------------|---------|----------|---------|----------------|--------|----------------------------|-------------------|
| SHEET | RTE. | STATION | SKEW | FILL | LENGTH | 18" | ROCK |
| | | | | HEIGHT (FT) | (FT) | FLARED END SEC. (EA) | LINING (CU.YD) |
| 33 | RTE. 90 | 56+50.00 | 0° | 3.0 | 48 | 2 | 2 |
| 33 | RTE. 90 | 60+29.00 | 6° R. A | 2.2 | 41 | 2 | 2 |
| | | | | TOTAL = | 89 | 4 | 4 |
| | | | | USF = | 89 | 4 | 4 |

| CLASS III REINFORCED CONCRETE PIPE CULVERTS (R.C.P.) | | | | | | | | | |
|--|--------|------------|----------|------------------------|--------|----------------|-------------------------|---------------------------|----------------------|
| SHEET | RTE. | STATION | SKEW | FILL HEIGHT (FT) | STD. | LENGTH (FT) | FLARED END SEC. (EA) | ROCK LINING (CU.YD) | REMARKS |
| | | | | | | 24" | 24" | | |
| 17 | RAMP 1 | 1009+04.71 | 30° R.A. | 18'-32" | 726-30 | 183 | 2 | 3 | RAMP 1 GORE DRAINAGE |
| | | | | | | TOTAL = | 183 | 2 | 3 |
| | | | | | | USE = | 183 | 2 | 3 |

| GROUP B PIPE (MEDIAN DRAINS) | | | | | | | |
|------------------------------|--------|-----------|----|-----------|----------------|-----|--------------|
| SHEET | LOC. | STATION | TO | STATION | LENGTH (FT) | | REMARKS |
| | | | | | 15" | 18" | |
| 13 | 1-49 C | 797+33.00 | - | 798+53.65 | 119 | | MEDIAN DRAIN |
| 13 | 1-49 C | 798+53.65 | - | 799+74.00 | | 119 | MEDIAN DRAIN |
| 13 | 1-49 C | 799+74.00 | - | 802+00.00 | | 224 | MEDIAN DRAIN |
| 13 | 1-49 C | 802+00.00 | - | 806+00.00 | | 399 | MEDIAN DRAIN |
| 13 | 1-49 C | 806+00.00 | - | 810+00.00 | 399 | | MEDIAN DRAIN |
| 13 | 1-49 C | 810+00.00 | - | 814+00.00 | 399 | | MEDIAN DRAIN |
| 15 | 1-49 C | 830+63.00 | - | 830+78.00 | 13 | | MEDIAN DRAIN |
| 15 | 1-49 C | 830+78.00 | - | 831+10.00 | 30 | | MEDIAN DRAIN |
| 15 | 1-49 C | 831+10.00 | - | 831+50.00 | 38 | | MEDIAN DRAIN |
| 15 | 1-49 C | 831+50.00 | - | 833+00.00 | 149 | | MEDIAN DRAIN |
| 15 | 1-49 C | 833+00.00 | - | 835+50.00 | 249 | | MEDIAN DRAIN |
| 21 | 1-49 C | 877+45.00 | - | 877+75.00 | 29 | | MEDIAN DRAIN |
| 21 | 1-49 C | 879+25.00 | - | 880+50.00 | 123 | | MEDIAN DRAIN |
| 21 | 1-49 C | 880+50.00 | - | 882+00.00 | 148 | | MEDIAN DRAIN |
| 21 | 1-49 C | 882+00.00 | - | 883+00.00 | 98 | | MEDIAN DRAIN |
| 21 | 1-49 C | 883+00.00 | - | 884+00.00 | 98 | | MEDIAN DRAIN |
| 21 | 1-49 C | 885+75.00 | - | 887+25.00 | 149 | | MEDIAN DRAIN |
| 21 | 1-49 C | 887+25.00 | - | 889+25.00 | 199 | | MEDIAN DRAIN |
| 21 | 1-49 C | 889+25.00 | - | 891+25.00 | 199 | | MEDIAN DRAIN |
| 21 | 1-49 C | 891+25.00 | - | 893+00.00 | 174 | | MEDIAN DRAIN |
| 21 | 1-49 C | 894+50.00 | - | 896+00.00 | 148 | | MEDIAN DRAIN |
| 21 | 1-49 C | 897+50.00 | - | 899+00.00 | 148 | | MEDIAN DRAIN |
| 21 | 1-49 C | 900+50.00 | - | 902+00.00 | 148 | | MEDIAN DRAIN |
| 25 | 1-49 C | 904+00.00 | - | 906+00.00 | 198 | | MEDIAN DRAIN |
| 25 | 1-49 C | 908+00.00 | - | 910+00.00 | 198 | | MEDIAN DRAIN |
| 25 | 1-49 C | 910+00.00 | - | 912+00.00 | 198 | | MEDIAN DRAIN |
| 25 | 1-49 C | 912+00.00 | - | 914+00.00 | 198 | | MEDIAN DRAIN |
| 25 | 1-49 C | 916+00.00 | - | 918+00.00 | 198 | | MEDIAN DRAIN |
| 25 | 1-49 C | 920+00.00 | - | 922+00.00 | 198 | | MEDIAN DRAIN |
| 25 | 1-49 C | 925+00.00 | - | 926+25.00 | 123 | | MEDIAN DRAIN |
| 25 | 1-49 C | 926+25.00 | - | 927+50.00 | 123 | | MEDIAN DRAIN |
| 25 | 1-49 C | 927+50.00 | - | 928+50.00 | 98 | | MEDIAN DRAIN |
| 25 | 1-49 C | 928+50.00 | - | 929+00.00 | 48 | | MEDIAN DRAIN |
| 25 | 1-49 C | 929+00.00 | - | 929+41.92 | 40 | | MEDIAN DRAIN |
| 25 | 1-49 C | 929+41.92 | - | 929+87.00 | 43 | | MEDIAN DRAIN |
| 25 | 1-49 C | 929+87.00 | - | 930+75.00 | 86 | | MEDIAN DRAIN |
| 25, 27 | 1-49 C | 930+75.00 | - | 931+75.00 | 98 | | MEDIAN DRAIN |
| | | | | TOTAL = | 4904 | 399 | 343 |
| | | | | USE = | 4904 | 399 | 343 |

| CLASS IV REINFORCED CONCRETE PIPE CULVERTS (R.C.P.) | | | | | | | | | | |
|---|------------|----------|------|------------------------|--------|----------------|-----|-------------------------|---------------------------|------------------------|
| ET | RTE. | STATION | SKEW | FILL HEIGHT (FT) | STD. | LENGTH (FT) | | FLARED END SEC. (EA) | ROCK LINING (CU.YD) | REMARKS |
| | | | | | | 24" | 42" | | | |
| 1-49 | 958+02.44 | 7° R.A. | | 32.74 | 726.30 | | 297 | 2 | | |
| RAMP 2 | 2012+30.00 | 57° L.A. | | 32.9 | 726.30 | 453 | | 2 | | 3 RAMP 2 GORE DRAINAGE |
| RAMP 4 | 4007+25.00 | 0° | | 33.05 | 726.30 | 303 | | 2 | | RAMP 4 GORE DRAINAGE |
| | | | | TOTAL = | 756 | 297 | 4 | 2 | 3 | |
| | | | | USE = | 756 | 297 | 4 | 2 | 3 | |

| CLASS V REINFORCED CONCRETE PIPE CULVERTS (R.C.P.) | | | | | | | | | | | | | |
|--|--------|---------------|----------|------------------|--------|-------------|-----|-----|----------------------|-----|-----|---------------------|-------------------------|
| ET | RTE. | STATION | SKEW | FILL HEIGHT (FT) | STD. | LENGTH (FT) | | | FLARED END SEC. (EA) | | | ROCK LINING (CU.YD) | REMARKS |
| | | | | | | 30" | 36" | 48" | 30" | 36" | 48" | | |
| 1 | 1-49 | SBL 731+00.00 | 0° | 36.95 | 726.30 | | 340 | | | 2 | | | |
| 0 | 1-49 | 783+66.96 | 13° R.A. | 38.59 | 726.30 | 341 | | | 2 | | | | |
| 3 | 1-49 | 794+39.04 | 37° R.A. | 42.73 | 726.30 | | | 257 | | | 1 | | CONNECT TO BOX CULV. RT |
| 3 | 1-49 | 818+19.01 | 2° L.A. | 37.45 | 726.30 | | | 327 | | | 2 | | |
| 5 | 1-49 | 831+22.78 | 19° R.A. | 49.97 | 726.30 | | 421 | | | 2 | | | |
| 1 | RAMP 3 | 3003+51.72 | 30° L.A. | 48.4 | 726.30 | 331 | | | 2 | | | 4 | RAMP 3 GORE DRAINAGE |
| | | | | | | TOTAL = | 672 | 761 | 584 | 4 | 4 | 3 | 4 |
| | | | | | | LUSE = | 672 | 761 | 584 | 4 | 4 | 3 | 4 |

| CONCRETE SLOPE PROTECTION | | | | | | |
|---------------------------|---------------|-------------|--------------|-------------|----------------------------------|------------------|
| SHEET | BEGIN STATION | END STATION | LENGTH (FT.) | WIDTH (FT.) | CONCRETE SLOPE PROTECTION (SQYD) | REMARKS |
| 7, 33 | 49+23.00 | 49+27.00 | 4 | 37 | 16.4 | RTE. 90. BR. A7C |
| 7, 33 | 50+78.00 | 50+82.00 | 4 | 37 | 16.4 | RTE. 90. BR. A7C |
| | | | TOTAL = | | 33.0 | |

| PLACING TYPE 2 ROCK DITCH LINER | | | | | | | | | | | |
|---------------------------------|------------|----|------------|-------------|----------------|--------------------------|-----------------|---------|-----------|-----------------------------|---------|
| SET | STATION | TO | STATION | LOCATION | DEPTH (FT.) | BOTTOM WIDTH (FT.) | LENGTH (FT.) | INSLOPE | BACKSLOPE | PLACING TYPE 2 (C.Y.) | REMARKS |
| | 756+00.00 | - | 757+60.00 | NBL - LT | 1.4 | 4 | 160.00 | 3 | 2 | | |
| | 742+50.00 | - | 747+50.00 | SBL - LT | 1.0 | 8 | 500.00 | 3 | 2 | | |
| | 793+00.00 | - | 795+00.00 | I-49 LT | 1.5 | 8 | 200.00 | 2 | 2 | | |
| | 832+50.00 | - | 835+50.00 | I-49 LT | 1.8 | 8 | 300.00 | 3 | 2 | 197.0 | |
| 17 | 845+35.00 | - | 848+76.00 | I-49 LT | 2.4 | 4 | 341.00 | 2 | 2 | 186.0 | |
| | 873+00.00 | - | 873+50.00 | I-49 RT | 2.0 | 0 | 50.00 | 6 | 2 | 31.0 | |
| 21 | 873+50.00 | - | 880+00.00 | I-49 RT | 2.0 | 8 | 650.00 | 3 | 2 | 453.0 | |
| | 1011+20.00 | - | 1015+25.00 | RAMP 1 - RT | 1.5 | 8 | 405.00 | 6 | 2 | 307.0 | |
| | 2016+25.00 | - | 2017+78.00 | RAMP 2 - RT | 1.0 | 8 | 153.00 | 3 | 2 | 76.0 | |
| | | | | | | | | | | TOTAL = | 1674.0 |
| | | | | | | | | | | USE = | 1674.0 |

| PLACING TYPE 3 ROCK DITCH LINER | | | | | | | | | | | | |
|---------------------------------|------------|----|------------|-------------|-------------|--------------------|--------------|---------|-----------|-----------------------|-------------------------|---------|
| SHEET | STATION | TO | STATION | LOCATION | DEPTH (FT.) | BOTTOM WIDTH (FT.) | LENGTH (FT.) | INSLOPE | BACKSLOPE | PLACING TYPE 3 (C.Y.) | BEDDING MATERIAL (C.Y.) | REMARKS |
| 13 | 792+50.00 | - | 796+00.00 | I-49 RT | 2.2 | 8 | 350.00 | 2 | 2 | 423.0 | 154.0 | |
| 5, 17 | 846+50.00 | - | 848+00.00 | I-49 RT | 2.0 | 8 | 150.00 | 3 | 2 | 191.0 | 70.0 | |
| 17 | 865+00.00 | - | 867+10.00 | I-49 LT | 1.9 | 8 | 210.00 | 3 | 2 | 260.0 | 95.0 | |
| 17 | 867+10.00 | - | 869+16.00 | I-49 LT | 1.1 | 8 | 206.00 | 3 | 2 | 195.0 | 71.0 | |
| 21 | 875+00.00 | - | 877+00.00 | I-49 LT | 2.8 | 8 | 200.00 | 3 | 2 | 314.0 | 114.0 | |
| 21 | 880+00.00 | - | 882+00.00 | I-49 RT | 1.9 | 8 | 200.00 | 3 | 2 | 248.0 | 90.0 | |
| 27 | 934+50.00 | - | 938+50.00 | I-49 LT | 2.7 | 8 | 400.00 | 2 | 2 | 545.0 | 198.0 | |
| 29 | 976+50.00 | - | 980+00.00 | I-49 RT | 1.7 | 8 | 350.00 | 3 | 2 | 409.0 | 148.0 | |
| 17 | 1009+61.00 | - | 1015+21.00 | RAMP 1 - LT | 1.4 | 2 | 560.00 | 6 | 2 | 519.0 | 189.0 | |
| | | | | | | | | | | TOTAL = | 3104.0 | 1129.0 |
| | | | | | | | | | | USE = | 3104.0 | 1129.0 |

2019-00194

DT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
5, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W. SHEET 4 of 35

ANUARY 2020

VISTA BYPASS
SHEET 4 of 35



105 WEST CAPITOL
JEFFERSON CITY, MO 65102
8888-ASK-MODOT (1-888-275-6636)

JEFF
1-888-ASK-MC

UTILITIES

ELECTRIC
NEW-MAC ELECTRIC CO-OP., INC.
P.O. BOX 310
NEOSHO, MO 64850
(417) 451-1515

TELEPHONE
MCDONALD COUNTY TELEPHONE CO.
P.O. BOX 207
704 MAIN ST.
PINEVILLE, MO 64856
(417) 223-4313

PIPELINE
SOUTHERN STAR CENTRAL GAS PIPELINE
13430 W. 98TH STREET
LENEXA, KS 66215
(913) 310-7611

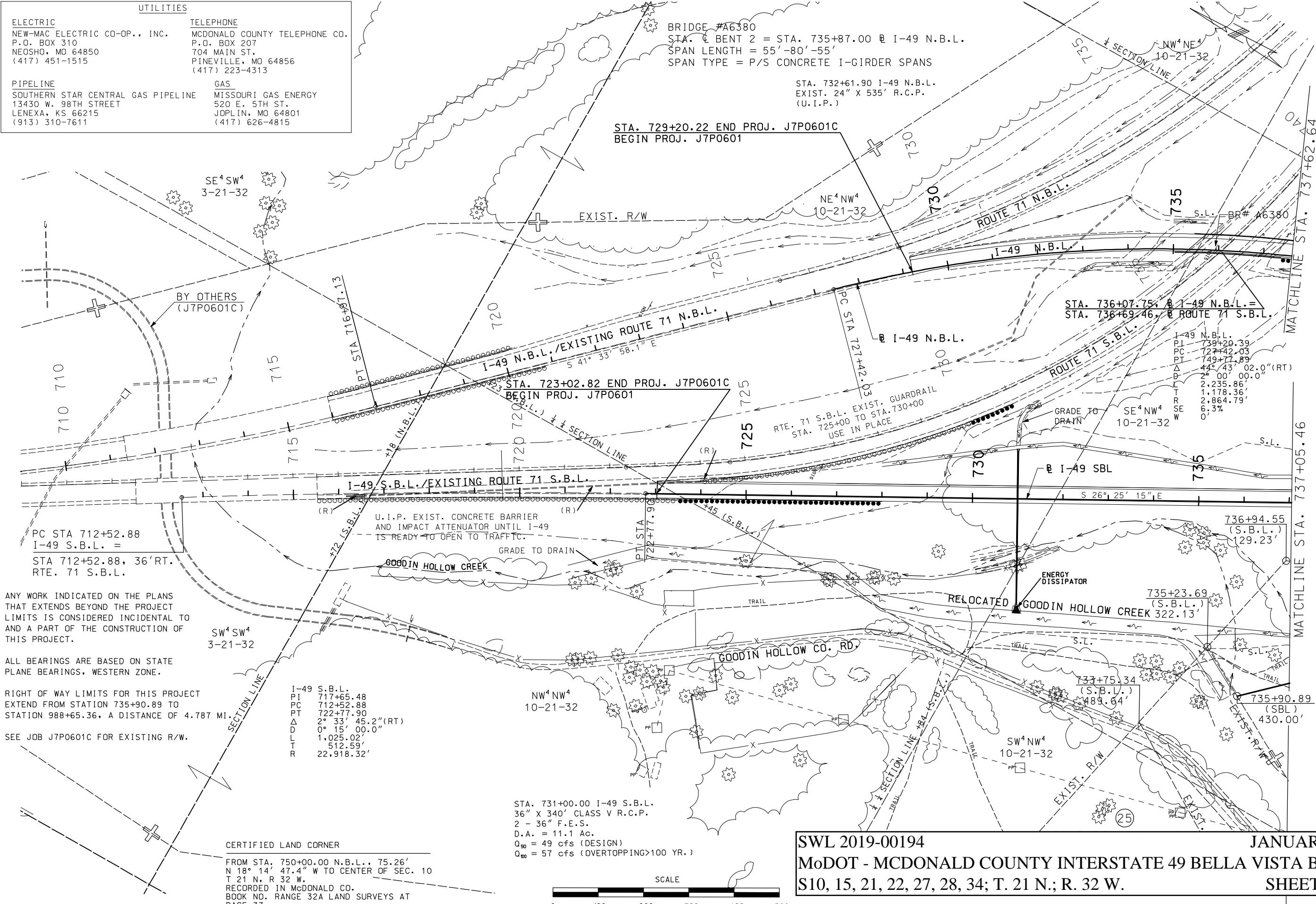
GAS
MISSOURI GAS ENERGY
520 E. 5TH ST.
JOPLIN, MO 64801
(417) 626-4815

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
02/04/2010

ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 4
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION DATE DESCRIPTION
105 WEST CAPITOL JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



| DATE PREPARED | |
|--------------------|-----------------|
| 02/04/2010 | |
| ROUTE 49 | STATE MO |
| DISTRICT 7 | SHEET NO. 10 |
| COUNTY McDONALD | |
| JOB NO. J7P0601 | CONTRACT ID. |
| PROJECT NO. | |
| BRIDGE NO. | |

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

⑥ JOHN M. BROWN &
CHARLOTTE R. BROWN
5.62 Ac. NEW R/W
79.58 Ac. REMAINING LT.

② RONALD D. PARMLEY &
CAROL E. PARMLEY
8.13 Ac. NEW R/W
71.88 Ac. REMAINING LT.

NW⁴NE⁴
15-21-32

SW⁴NE⁴
15-21-32

SW⁴NE⁴
15-21-32

SECTION LINE +7

SECTION LINE +7

GARDNER PRIVATE ROAD
PI 1+51.67
PC 0+00.00
PT 1+59.37
D 130° 26' 58.3" (RT)
L 81° 51' 04.0"
T 159.37'
R 151.67'
70.00'

⑥A MARK WATKINS &
CYNTHIA WATKINS
3.92 Ac. NEW R/W
6.09 Ac. REMAINING LT.

STA. 783+66.96 I-49
30" X 341' CLASS V R.C.P.
2 - 30" F.E.S.
SKEW = 13° R.A.
D.A. = 12.7 Ac.
Q₅₀ = 71 cfs (DESIGN)
Q₁₀₀ = 83 cfs (OVERTOPPING>100 YR.)

⑤ RUSSELL VAN ELK
2.18 Ac. NEW R/W
2.83 Ac. REMAINING LT.

TYPE 2
ROCK BLANKET

NEW R/W

S.L.

790

785

DRAIN &
MUCK

780

S.L.

775

770

765

760

755

750

745

740

735

730

725

720

715

710

705

700

695

690

685

680

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SWL 2019-00194

JANUARY 2020
MoDOT - McDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.
SHEET 7 of 35



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DOCUMENT."

DATE PREPARED
02/04/2010

ROUTE STATE
49 MO

DISTRICT SHEET NO.
7 31

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

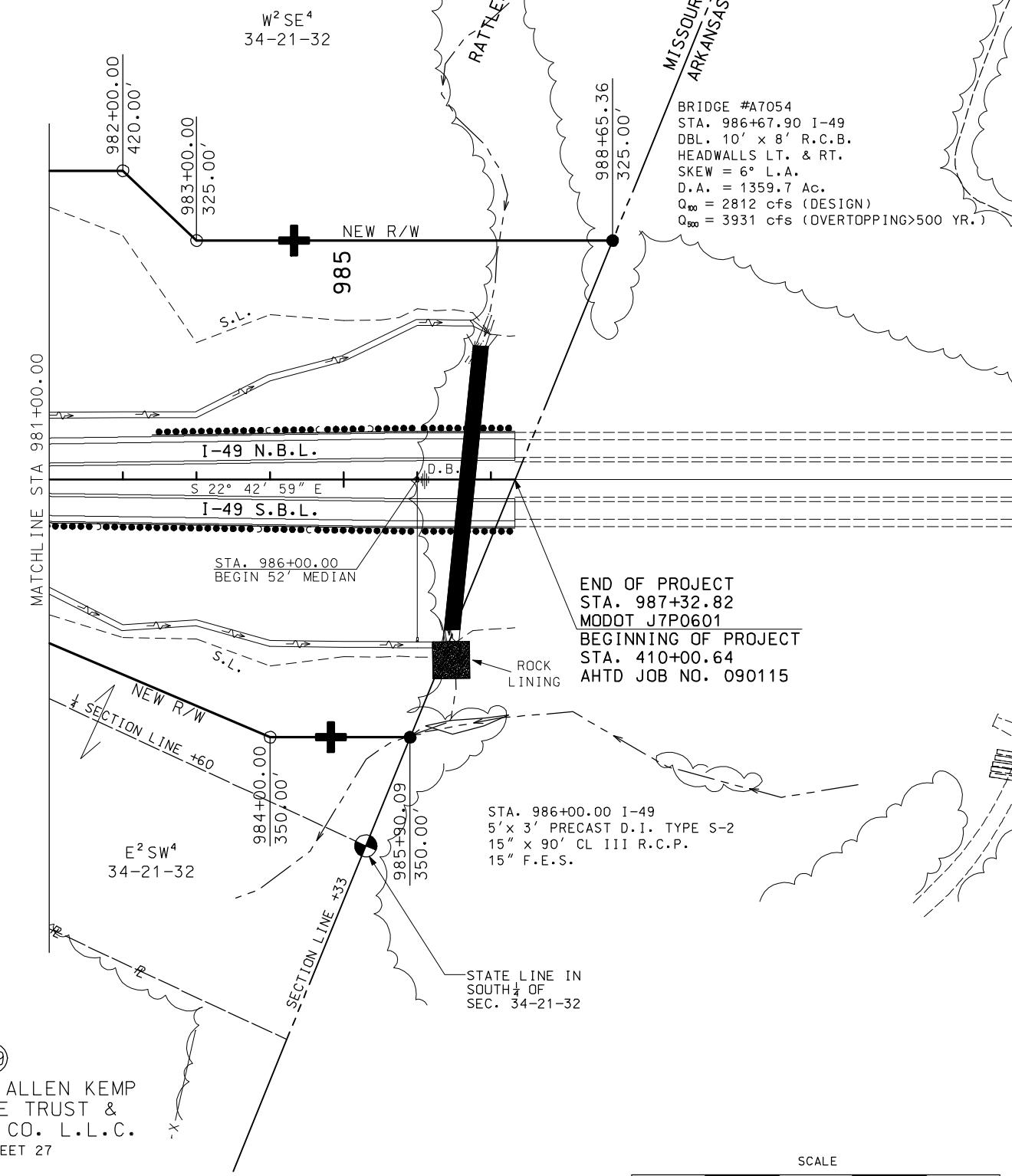
BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



(22)
THE BARBARA CHANCE TRUST
SEE SHEET 29



(19)
THE JAMES ALLEN KEMP
REVOCABLE TRUST &
KEMP LAND CO. L.L.C.
SEE SHEET 27

SWL 2019-00194
JANUARY 2020
MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.
SHEET 15 of 35

"THIS MEDIA SHOULD
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A CERTIFIED
DOCUMENT."
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED
02/04/2010
ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 33
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.



MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

DATE

DESCRIPTION

<p

DATE PREPARED
02/04/2010

ROUTE STATE
49 MO
DISTRICT SHEET NO.
7 45

COUNTY
McDONALD

JOB NO.
P6P0601
CONTRACT ID.

PROJECT NO.

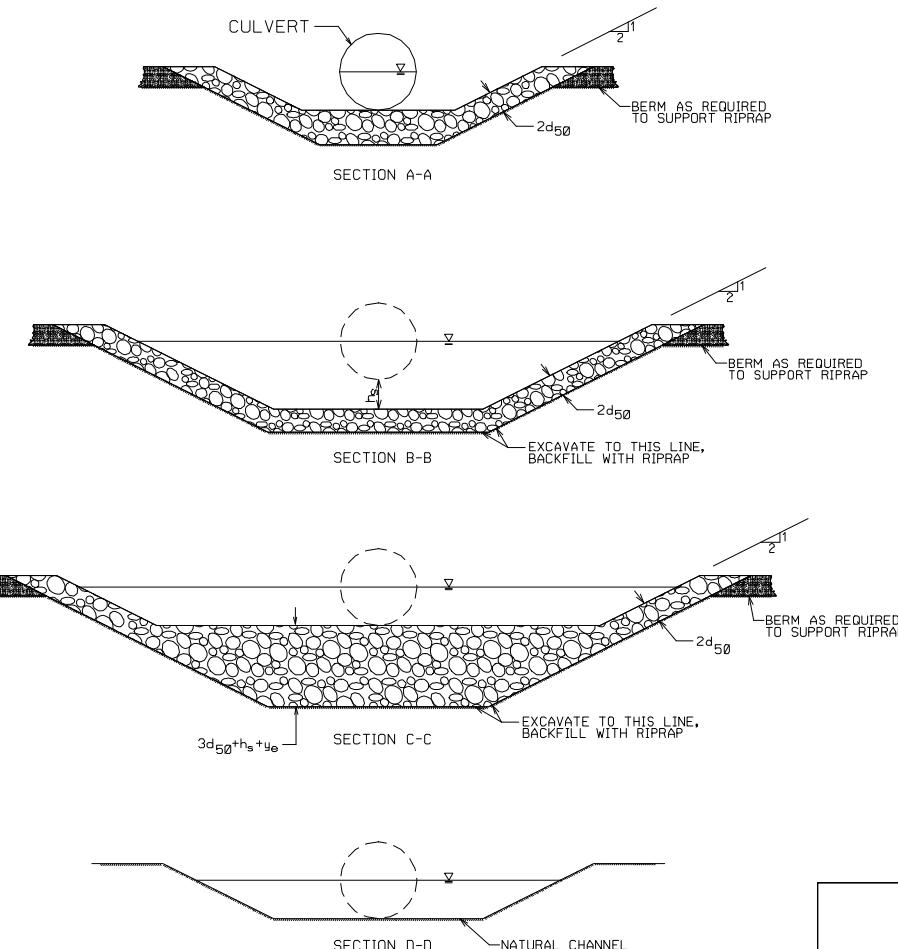
BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



| | CULVERT DETAILS | | BASIN DIMENSIONS | | | | | | RIPRAP DIMENSIONS | | | | | | | | | | | | | | | | | | |
|----------|--------------------|------------------|------------------|------|------|----|----|------|-------------------|-------|--------|-------|-------|--------|-------|-------|--------|-------|------|---------------|------|-------------|-----|-------|------|-------|-------|
| RTE. | CENTERLINE STATION | CULVERT WIDTH DO | hs | Ye | TW | LS | LA | LT | d50 | DEPTH | LENGTH | WIDTH | DEPTH | LENGTH | WIDTH | DEPTH | LENGTH | WIDTH | WIER | APRON w/o TOE | TOE | SIDE SLOPES | | | | | |
| I-49 SBL | 731+00.00 | 36" | 0.96 | 1.88 | 0.89 | 10 | 5 | 1.69 | 0.85 | 2.54 | 1.92 | 3.6 | 1.69 | 5.75 | 6.2 | 5.38 | 1.92 | 8.8 | 1.69 | 3.10 | 9.9 | 3.38 | 1.7 | 12.30 | 1.69 | 15.15 | 8.58 |
| I-49 SBL | 739+41.86 | 5' x 5' | 1.26 | 3.15 | 1.48 | 15 | 6 | 2.84 | 1.42 | 4.25 | 2.52 | 5.8 | 2.84 | 9.96 | 10.0 | 8.66 | 2.52 | 14.2 | 2.84 | 3.47 | 15.2 | 5.67 | 2.8 | 18.73 | 2.84 | 22.45 | 12.10 |
| I-49 NBL | 758+17.83 | 30" | 1.10 | 1.57 | 1.25 | 11 | 5 | 1.41 | 0.70 | 2.11 | 2.19 | 3.2 | 1.41 | 6.58 | 6.2 | 4.78 | 2.19 | 9.1 | 1.41 | 4.07 | 10.7 | 2.82 | 1.4 | 13.23 | 1.41 | 17.33 | 8.19 |
| I-49 NBL | 760+00.63 | 24" | 1.50 | 1.25 | 1.27 | 15 | 8 | 1.13 | 0.56 | 1.69 | 3.01 | 3.0 | 1.13 | 9.02 | 7.0 | 4.45 | 3.01 | 11.0 | 1.13 | 6.39 | 13.8 | 2.26 | 1.1 | 16.85 | 1.13 | 23.77 | 8.40 |
| I-49 | 768+06.77 | 10' x 8' | 2.30 | 5.12 | 1.07 | 30 | 12 | 4.61 | 2.30 | 6.91 | 4.61 | 11.5 | 4.61 | 20.78 | 20.0 | 14.34 | 4.61 | 28.5 | 4.61 | 6.91 | 30.8 | 9.22 | 4.6 | 36.91 | 4.61 | 43.76 | 18.84 |
| I-49 | 783+66.96 | 30" | 2.19 | 1.57 | 1.69 | 22 | 11 | 1.41 | 0.70 | 2.11 | 4.39 | 4.0 | 1.41 | 13.16 | 9.8 | 5.87 | 4.39 | 15.7 | 1.41 | 9.55 | 19.8 | 2.82 | 1.4 | 24.19 | 1.41 | 34.66 | 10.64 |
| I-49 | 794+44.90 | 2 - 8' x 8' | 1.58 | 5.28 | 5.42 | 66 | 22 | 4.75 | 2.38 | 7.13 | 3.17 | 23.1 | 4.75 | 59.66 | 44.0 | 13.99 | 3.17 | 64.9 | 4.75 | 17.25 | 70.2 | 9.50 | 4.8 | 79.87 | 4.75 | 92.74 | 17.59 |
| I-49 | 818+19.01 | 48" | 2.63 | 2.51 | 0.48 | 26 | 13 | 2.26 | 1.13 | 3.38 | 5.26 | 5.8 | 2.26 | 15.79 | 12.8 | 8.52 | 5.26 | 19.8 | 2.26 | 10.90 | 24.4 | 4.51 | 2.3 | 29.94 | 2.26 | 41.60 | 13.73 |
| I-49 | 831+22.78 | 36" | 1.69 | 1.88 | 1.87 | 17 | 8 | 1.69 | 0.85 | 2.54 | 3.38 | 4.1 | 1.69 | 10.15 | 8.6 | 6.11 | 3.39 | 13.1 | 1.69 | 6.77 | 16.0 | 3.38 | 1.7 | 19.63 | 1.69 | 26.74 | 10.22 |
| I-49 | 844+08.90 | 6' x 5' | 1.79 | 3.90 | 2.65 | 18 | 9 | 3.51 | 1.76 | 5.27 | 3.59 | 7.2 | 3.51 | 10.82 | 12.0 | 10.96 | 3.59 | 16.8 | 3.51 | 5.46 | 18.7 | 7.02 | 3.5 | 23.40 | 3.51 | 28.42 | 14.97 |
| RAMP 4 | 4007+25.00 | 24" | 0.86 | 1.25 | 0.68 | 9 | 4 | 1.13 | 0.56 | 1.69 | 1.73 | 2.6 | 1.13 | 5.19 | 4.9 | 3.81 | 1.73 | 7.2 | 1.13 | 3.20 | 8.5 | 2.26 | 1.1 | 10.46 | 1.13 | 13.67 | 6.97 |
| I-49 | 887+10.93 | 7' x 6' | 2.17 | 4.62 | 3.15 | 22 | 11 | 4.16 | 2.08 | 6.24 | 4.34 | 8.4 | 4.16 | 13.03 | 14.2 | 13.03 | 4.34 | 20.0 | 4.16 | 6.70 | 22.3 | 8.32 | 4.2 | 28.02 | 4.16 | 34.33 | 17.43 |
| I-49 | 899+93.87 | 4' x 4' | 1.27 | 2.76 | 1.30 | 13 | 6 | 2.48 | 1.24 | 3.73 | 2.54 | 4.8 | 2.48 | 7.62 | 8.2 | 7.76 | 2.54 | 11.6 | 2.48 | 3.86 | 12.9 | 4.97 | 2.5 | 16.28 | 2.18 | 20.07 | 11.25 |
| I-49 | 909+72.11 | 7' x 6' | 2.01 | 4.38 | 3.03 | 21 | 10 | 3.64 | 1.97 | 5.91 | 4.03 | 8.3 | 3.94 | 12.94 | 14.0 | 12.31 | 4.03 | 19.7 | 3.64 | 6.13 | 21.7 | 7.88 | 3.9 | 27.06 | 3.94 | 32.75 | 16.54 |
| I-49 | 958+02.44 | 42" | 0.88 | 2.19 | 1.39 | 11 | 4 | 1.97 | 0.99 | 2.96 | 1.75 | 4.1 | 1.97 | 6.99 | 7.0 | 6.03 | 1.75 | 9.9 | 1.97 | 2.41 | 10.6 | 3.95 | 2.0 | 13.09 | 1.97 | 15.69 | 9.10 |
| I-49 | 964+60.36 | 60" | 1.88 | 3.13 | 2.68 | 19 | 9 | 2.82 | 1.41 | 4.23 | 3.76 | 6.3 | 2.82 | 11.28 | 11.3 | 9.24 | 3.76 | 16.3 | 2.82 | 6.58 | 18.8 | 5.64 | 2.8 | 23.33 | 2.82 | 29.71 | 13.45 |



GENERAL NOTES

THE MATERIALS FOR ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF SEC. 611.30 FOR TYPE 2 ROCK BLANKET.

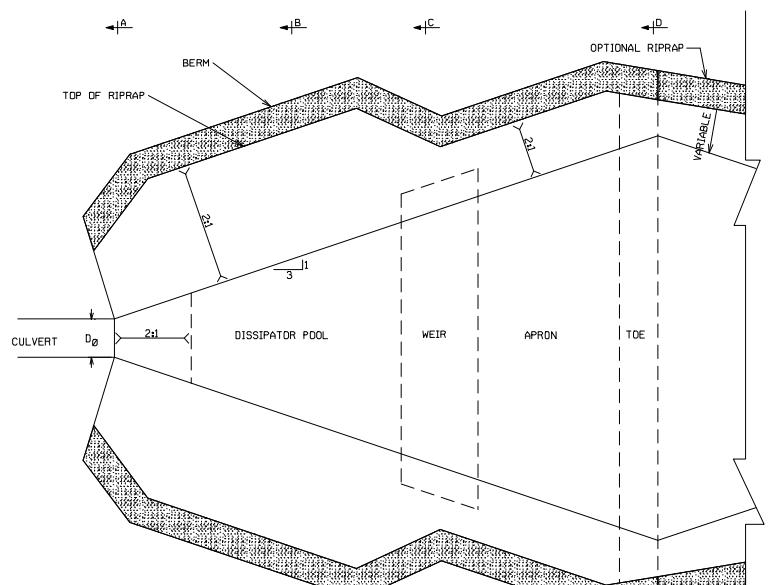
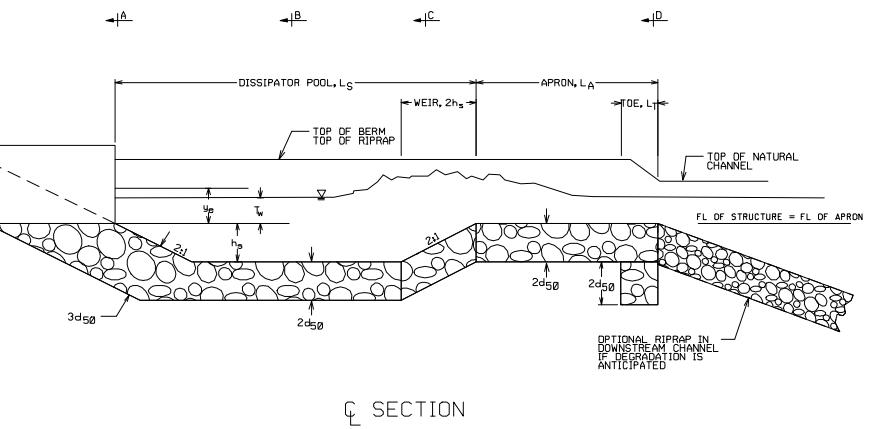
ALL EXCAVATION REQUIRED TO CONSTRUCT THE ENERGY DISSIPATORS SHALL BE COVERED UNDER THE PAY ITEM FOR CLASS 3 EXCAVATION.

WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL. TOP OF RIPRAP IN FLOOR OF BASIN DISSIPATOR POOL OR APRON SHALL BE AT THE SAME OR LOWER ELEVATION THAN THE NATURAL CHANNEL BOTTOM SECTION D-D. MODIFY FLAT BOTTOM WIDTH IF THE OPTIONAL EXTENDED TRANSITION IS REQUIRED.

MODIFY THE BASIN DIMENSIONS AS REQUIRED TO MATCH THE CONFIGURATION OF CULVERT END TREATMENTS.

REFER TO FHWA HEC-14 MANUAL FOR HYDRAULIC DESIGN PROCEDURES OF ENERGY DISSIPATORS FOR CULVERTS AND CHANNELS.

DESIRABLE SLOPE IS 0.0% IN DISSIPATOR POOL AND IN APRON FLAT BOTTOM.



SWL 2019-00194
MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.

JANUARY 2020
SHEET 17 of 35

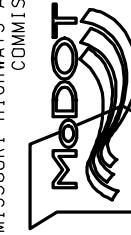
DATE PREPARED
02/04/2010

ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 115

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



743+58.95

JANUARY 2020
MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.
SHEET 18 of 35

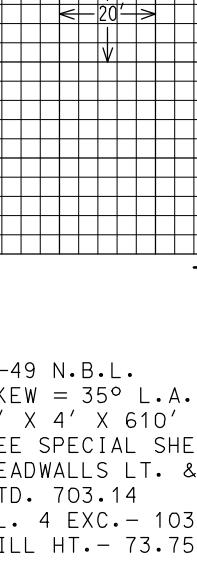
20'
↑
↓

DIS -41.29
EL 1056.34

DIS -41.29
EL 1053.58

MATCH LINE

I-49 N.B.L.
SKEW = 35° L.A.
4' X 4' X 610' R.C.B.
SEE SPECIAL SHEETS 47, 56
HEADWALLS LT. & RT.
STD. 703.14
CL. 4 EXC. - 1038 CU. YD.
FILL HT. - 73.75'



Transverse Joint
w/ Collar Beam
(13 PLS)

2.92%

0.79'

CAMBER

EL=978.91

43.20'

50'

Section "G"

50'
40'
20'
0

DIS -342.45

U.F.L. 986.0

391

Section "A"

40'

Section "B"

40'

Section "C"

40'

Section "D"

50'

Section "E"

50'

Section "F"

50'

Section "G"

360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0

DIS -41.29
EL 1053.58

6.71

MATCH LINE

3.62

3.62

0.77'

CAMBER

EL=977.54

6.80'

50'

Section "G"

50'

Section "H"

50'

Section "I"

50'

Section "J"

50'

Section "K"

40'

40'

30'

30'

ROCK LINING
2'X 15'X 13.6 = 15 CU. YD.
(ABUTTS CULVERT INLET
AT 739+41.86 I-49 S.B.L.)

DIS 318.77

L.F.L. 967.6

SWL 2019-00194

MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.

DATE PREPARED
02/04/2010

ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 116

COUNTY J7P0601
JOB NO. McDONALD
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

| DESCRIPTION | DATE |
|-------------|------|
| | |

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)



ENERGY DISSIPATOR
TYPE 2 ROCK BLANKET = 31 CU. YD.
CLASS 3 EXC. = 19 CU. YD.
R/W

L.F.L. 991.2

DIS 367.60

ENERGY DISSIPATOR
TYPE 2 ROCK BLANKET = 31 CU. YD.
CLASS 3 EXC. = 19 CU. YD.
R/W

320 340 360 380

DIS 38.12
EL 1088.45

POL EL 1088.97
DIS 8.97
EL 1081.08

DIS 19.92
EL 1079.77

DIS 64.11
EL 1077.56

6.6:1

7.1:1

3.4:1

760+00.63

I-49 N.B.L.
SKEW = 27° L.A.
24" X 584' SPECIAL DESIGN R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 24" F.E.S.
FILL HT. - 64.26'

A

A

DIS 332.59

ENERGY DISSIPATOR
TYPE 2 ROCK BLANKET = 26 CU. YD.
CLASS 3 EX. = 21 CU. YD.
R/W

L.F.L. 990.0

280 300 320 340

DIS -202.18

DIS 34.00
EL 1076.40

POL EL 1079.07
DIS 8.00
EL 1079.07

DIS 32.58
EL 1076.85

DIS 70.85
EL 1074.89

6.1:1

6.1:1

3:1

758+17.83

I-49 N.B.L.
SKEW = 0°
30" X 527' SPECIAL DESIGN R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 30" F.E.S.
FILL HT. - 64.79'

A

A

U.F.L. 1025.4

0.51'

CAMBER
EL=1014.85

6.61%

0.65'

CAMBER
EL=1007.96

6.1:1

6.1:1

3:1

SWL 2019-00194

JANUARY 2020
MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.

SHEET 19 of 35

DATE PREPARED
02/04/2010

ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 117

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.

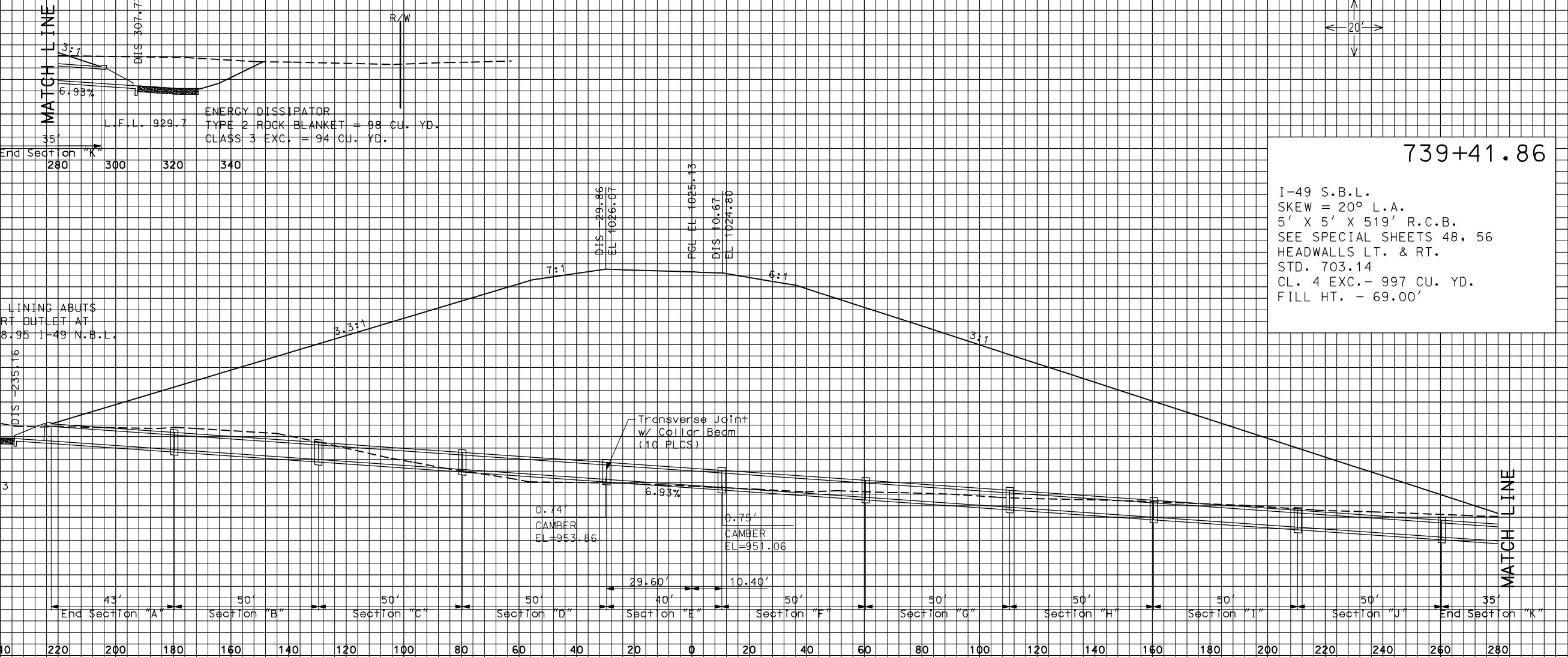
PROJECT NO.
BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



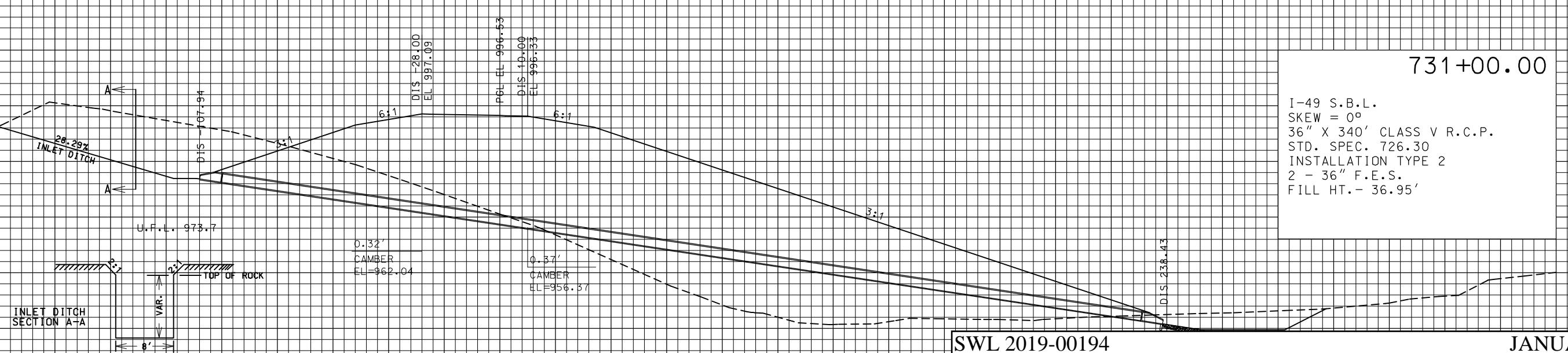
739+41.86

I-49 S.B.L.
SKEW = 20° L.A.
5' X 5' X 519' R.C.B.
SEE SPECIAL SHEETS 48, 56
HEADWALLS LT. & RT.
STD. 703.14
CL. 4 EXC.- 997 CU. YD.
FILL HT. - 69.00'



731+00.00

I-49 S.B.L.
SKEW = 0°
36" X 340' CLASS V R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 2
2 - 36" F.E.S.
FILL HT. - 36.95'



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JANUARY 2020
MoDOT - McDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.
SHEET 20 of 35

DATE PREPARED
02/04/2010
ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 118
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

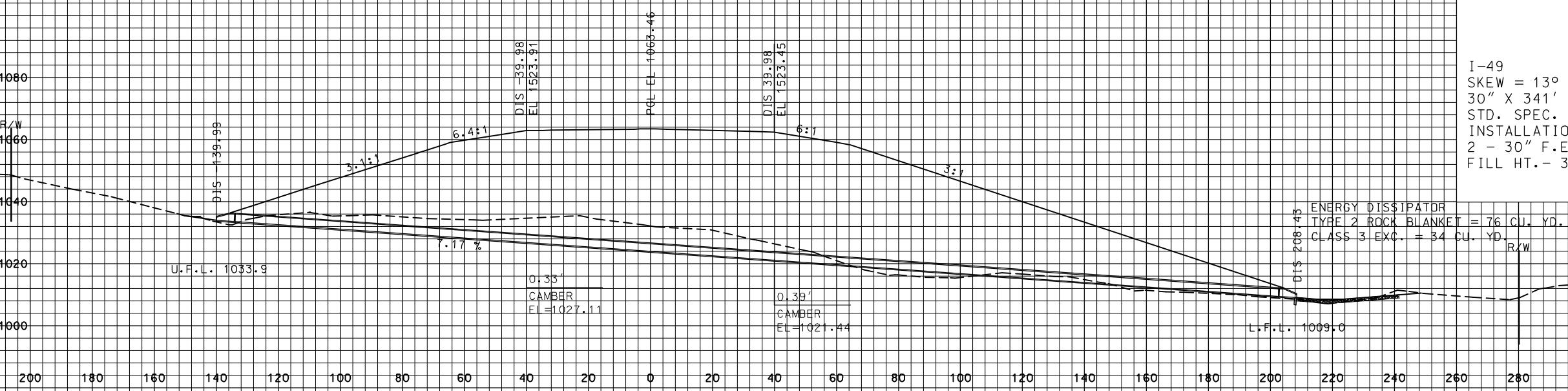
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



783+66.96

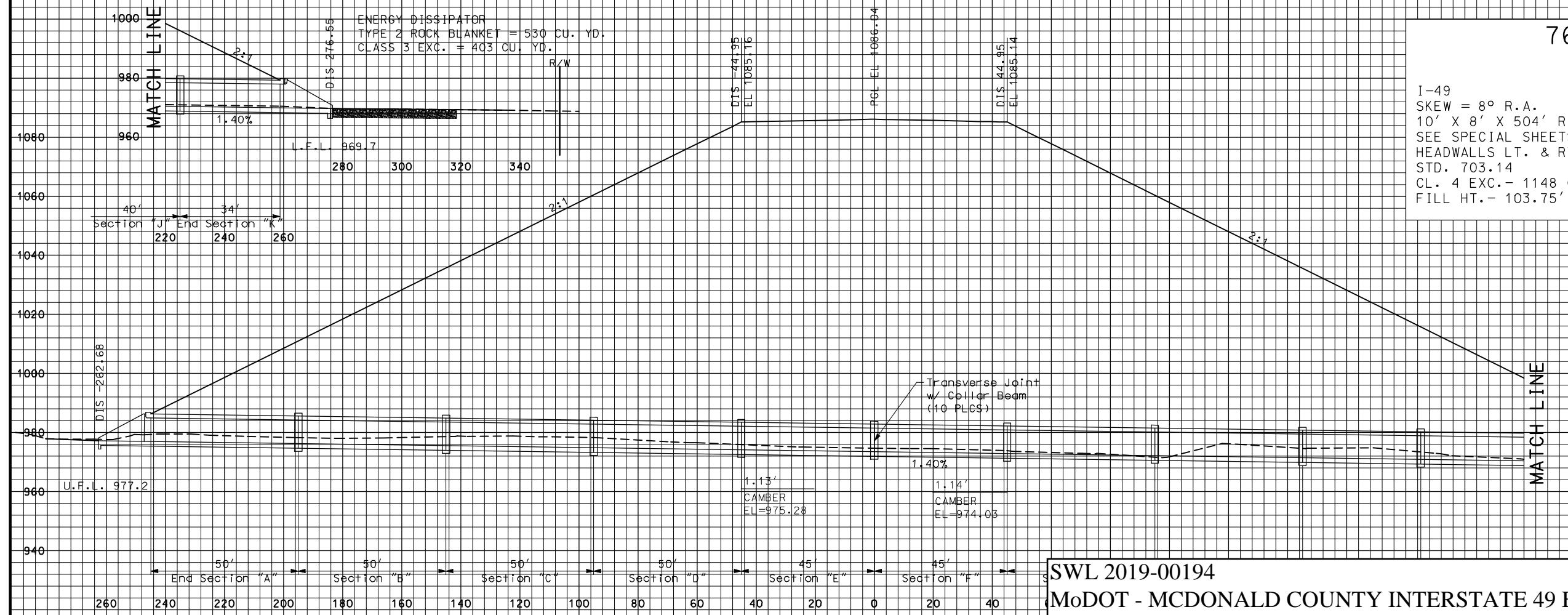
I-49
SKEW = 13° R.A.
30" X 341' CLASS V R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 30" F.E.S.
FILL HT. - 38.59'

ENERGY DISSIPATOR
TYPE 2 ROCK BLANKET = 76 CU. YD.
CLASS 3 EXC. = 34 CU. YD.



768+06.77

I-49
SKEW = 8° R.A.
10' X 8' X 504' R.C.B.
SEE SPECIAL SHEETS 49, 56
HEADWALLS LT. & RT.
STD. 703.14
CL. 4 EXC. - 1148 CU. YD.
FILL HT. - 103.75'



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MoDOT - McDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
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SHEET 21 of 35

DATE PREPARED
02/04/2010

ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 119

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

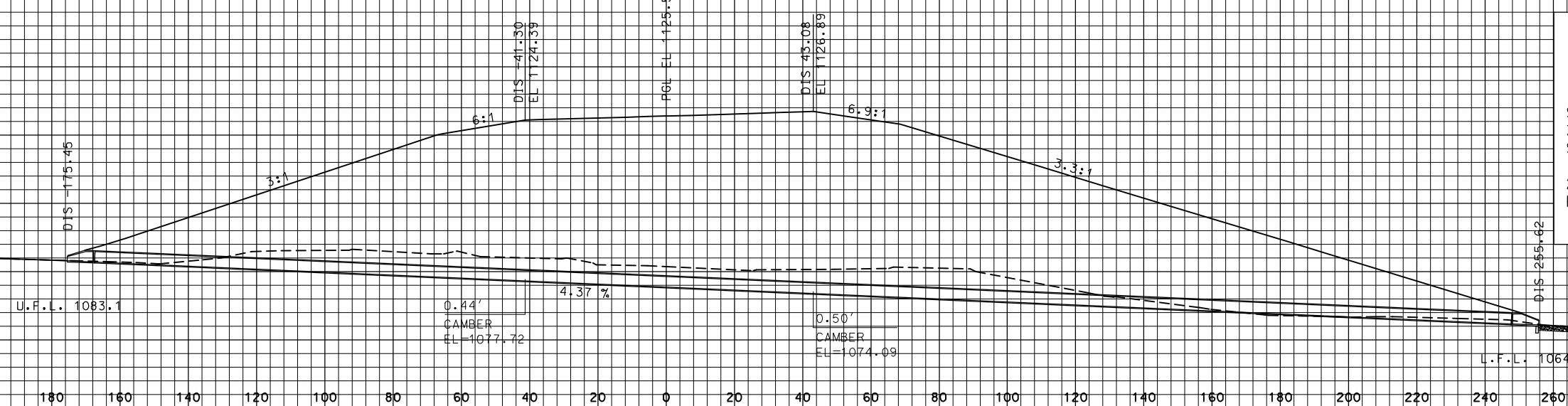
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

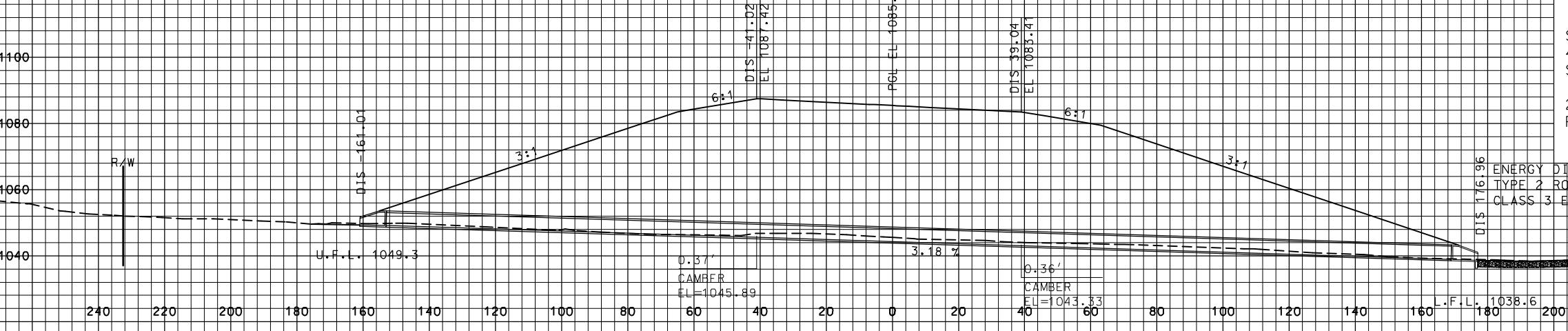
831+22.78

I-49
SKEW = 19° R.A.
36" X 421' CLASS V R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 36" F.E.S.
FILL HT.- 49.97'



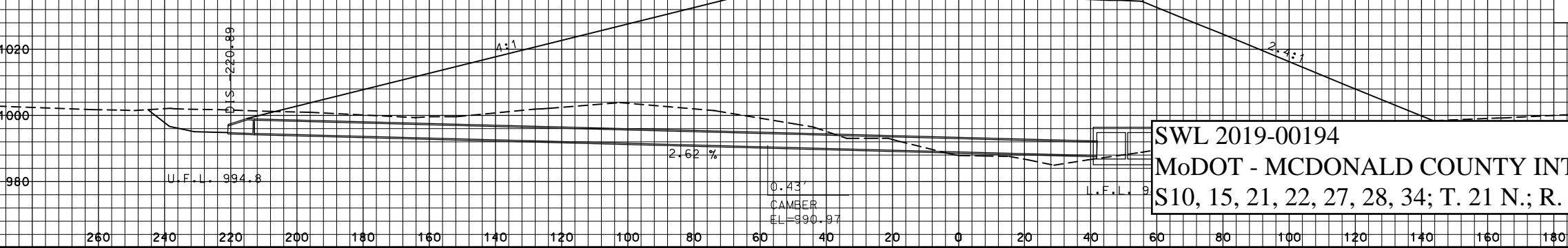
818+19.01

I-49
SKEW = 2° L.A.
48" X 327' CLASS V R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 2
2 - 48" F.E.S.
FILL HT.- 37.45'



794+39.04

I-49
SKEW = 37° R.A.
48" X 257' CLASS V R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
1 - 48" F.E.S. LT.
FILL HT.- 42.73'



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MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
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"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
02/04/2010

ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 121

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



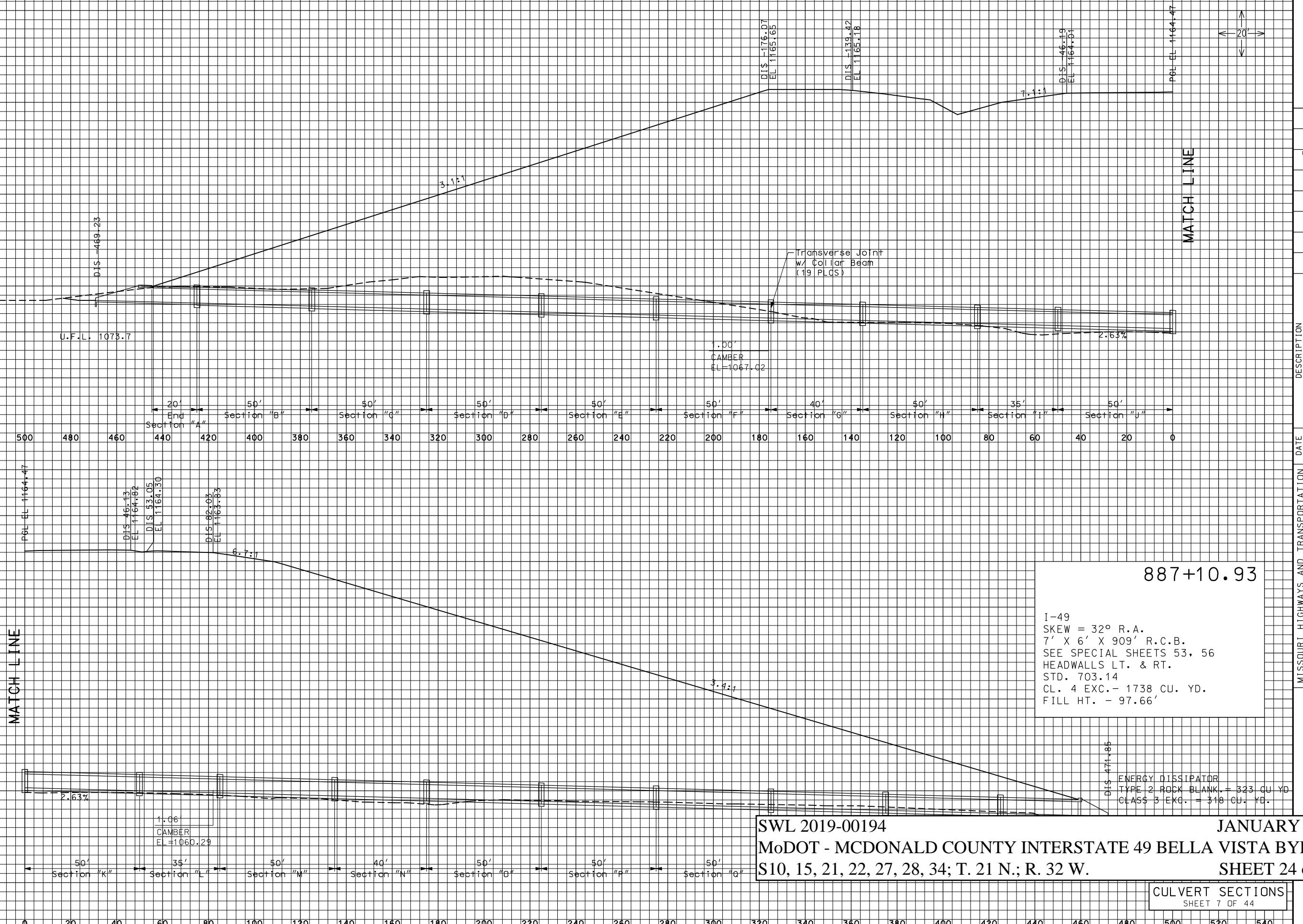
SWL 2019-00194

MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.

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CULVERT SECTIONS
SHEET 7 OF 44



DATE PREPARED
02/04/2010

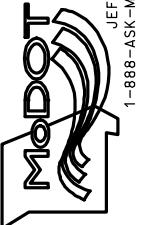
ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 122

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

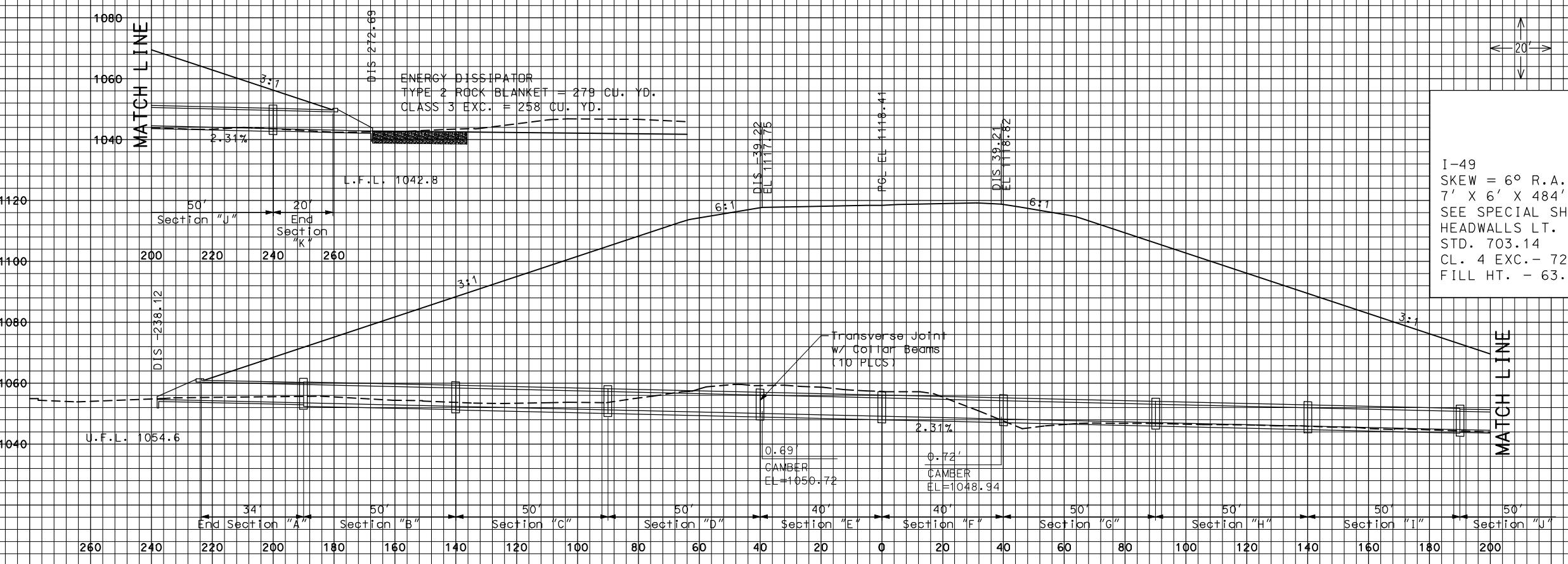
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION DATE
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



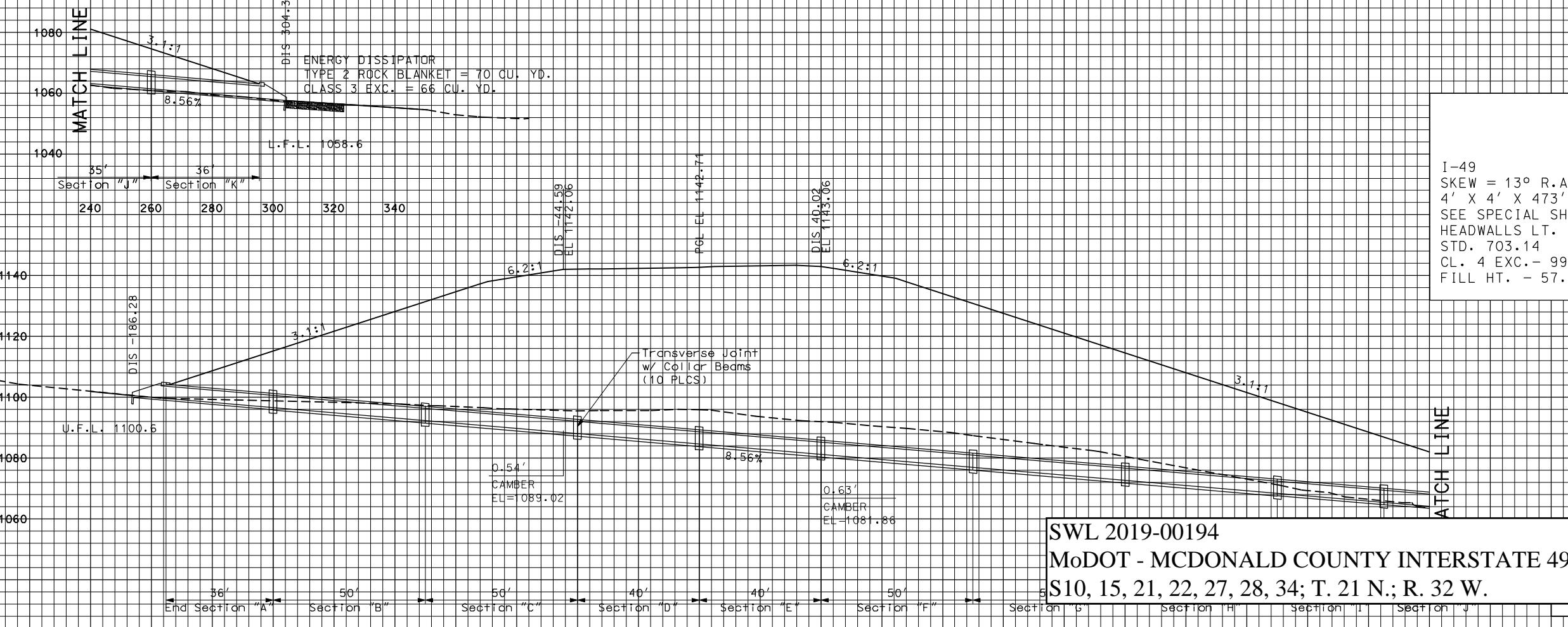
909+72.11

I-49
SKEW = 6° R.A.
7' X 6' X 484' R.C.B.
SEE SPECIAL SHEETS 55, 56
HEADWALLS LT. & RT.
STD. 703.14
CL. 4 EXC.- 722 CU. YD.
FILL HT. - 63.75'



899+93.87

I-49
SKEW = 13° R.A.
4' X 4' X 473' R.C.B.
SEE SPECIAL SHEETS 54, 56
HEADWALLS LT. & RT.
STD. 703.14
CL. 4 EXC.- 993 CU. YD.
FILL HT. - 57.25'



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MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
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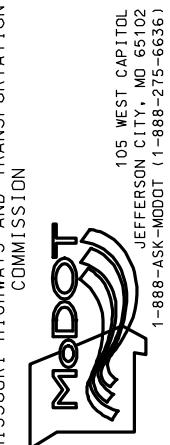
DATE PREPARED
02/04/2010

ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 123

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

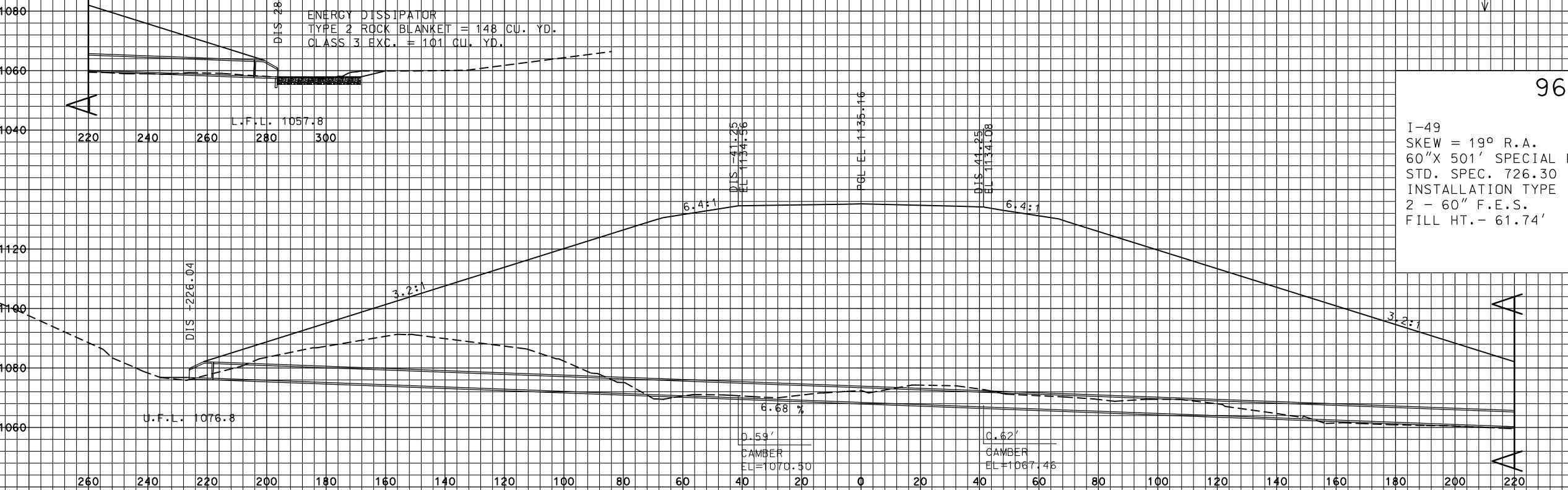
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



964+60.36

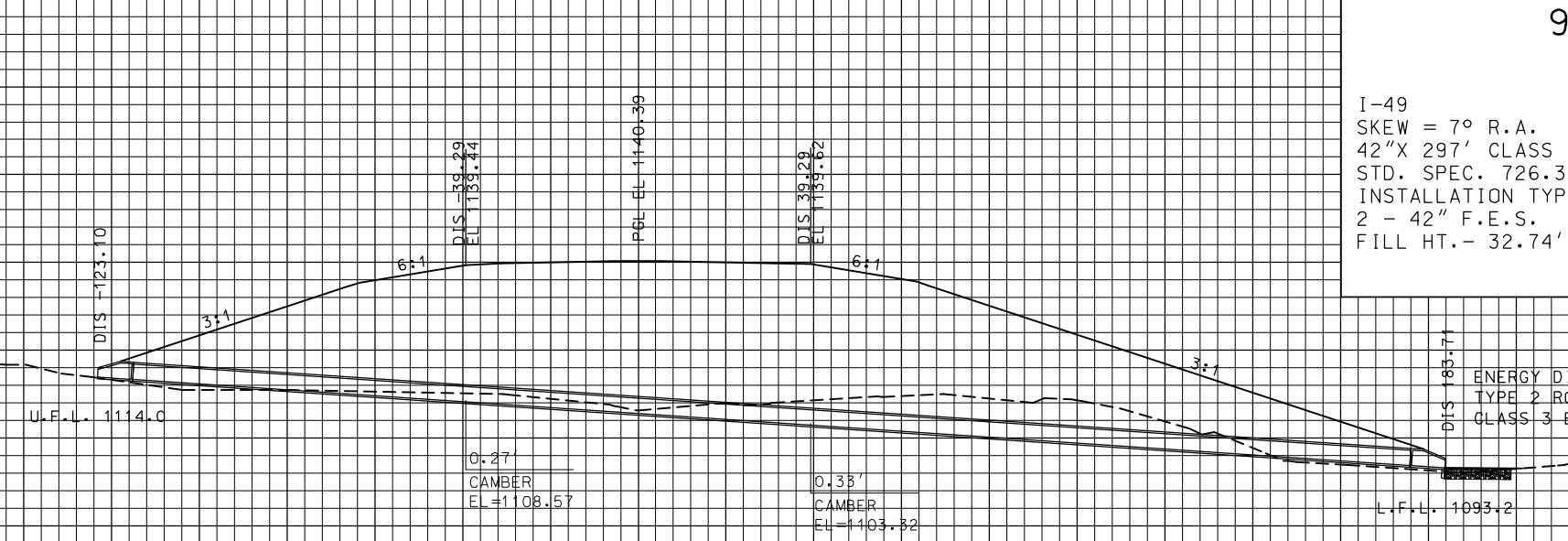
I-49
SKEW = 19° R.A.
60"X 501' SPECIAL DESIGN R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 60" F.E.S.
FILL HT. - 61.74'

A



958+02.44

I-49
SKEW = 7° R.A.
42"X 297' CLASS IV R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 42" F.E.S.
FILL HT. - 32.74'



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MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.
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DATE PREPARED
02/04/2010

ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 124

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



2012+30.00

RAMP 2
SKEW = 57° L.A.
24" X 453' CLASS IV R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 24" F.E.S.
FILL HT. - 32.90'

ROCK LINING
1' X 6' X 14' = 3 CU. YD.

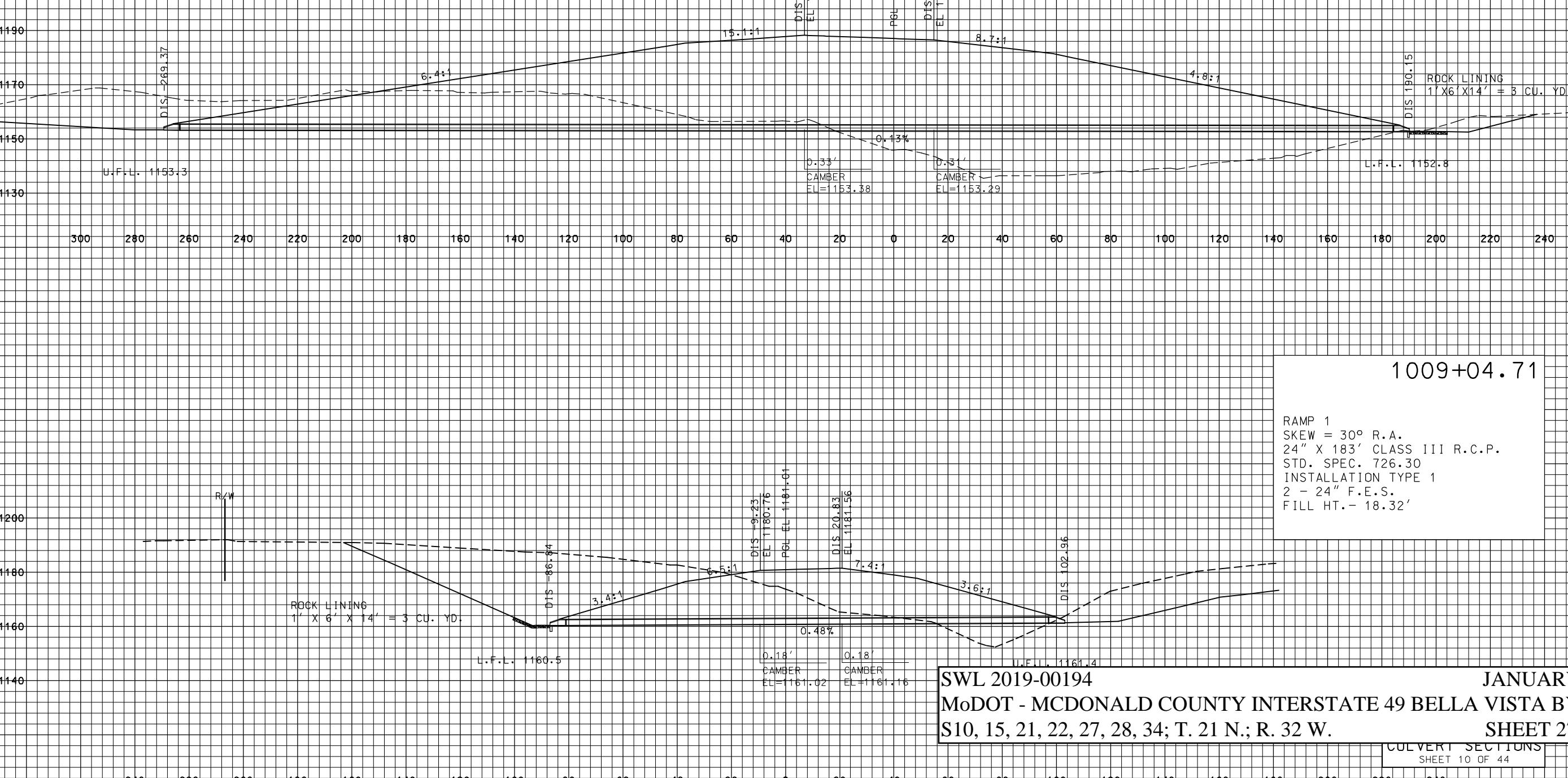
1009+04.71

RAMP 1
SKEW = 30° R.A.
24" X 183' CLASS III R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 24" F.E.S.
FILL HT. - 18.32'

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MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.
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CULVERT SECTIONS
SHEET 10 OF 44



DATE PREPARED
02/04/2010

ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 125

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION DATE
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

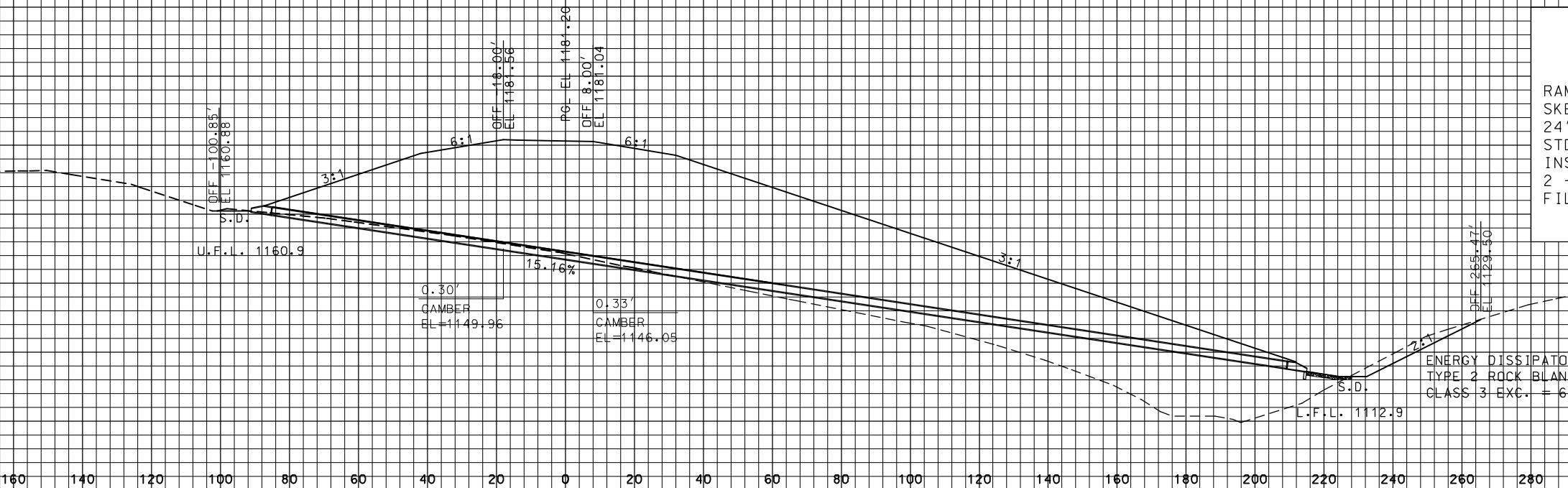


4007+25.00

RAMP 4
SKEW = 0°
24" X 303' CLASS IV R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 24" F.E.S.
FILL HT. - 33.05'

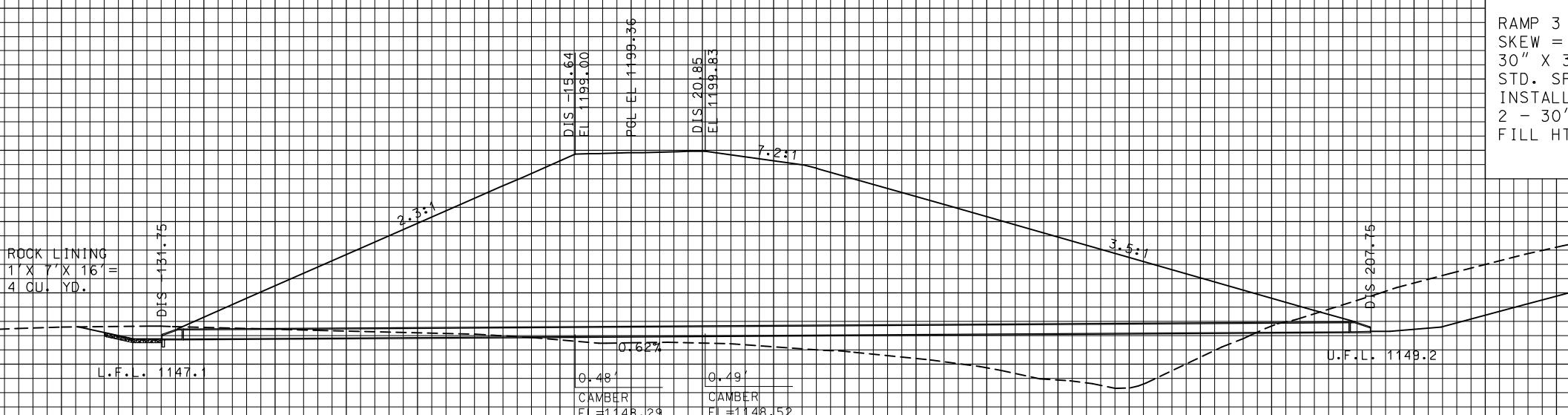
PG-EL 1181.26
OFF 8.00'
EL 1181.04
PG-EL 1181.56
OFF 265.47'
EL 1293.30

ENERGY DISSIPATOR
TYPE 2 ROCK BLANKET = 14 CU. YD.
CLASS 3 EXC. = 6 CU. YD.



3003+51.72

RAMP 3
SKEW = 30° L.A.
30" X 331' CLASS V R.C.P.
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 30" F.E.S.
FILL HT. - 48.40'



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MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S10, 15, 21, 22, 27, 28, 34; T. 21 N.; R. 32 W.
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CLOUDWATER SECTION
SHEET 11 OF 44

DATE PREPARED
02/04/2010
ROUTE 49 STATE MO
DISTRICT 7 SHEET NO. 139
COUNTY MCDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

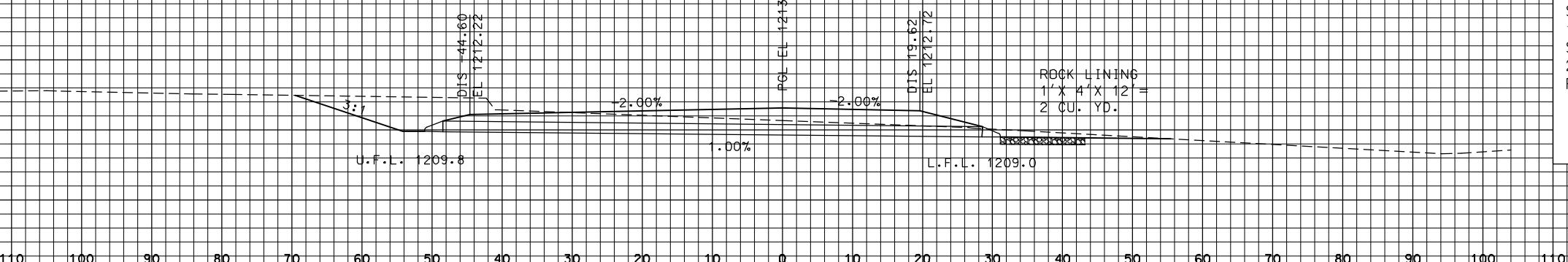
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION DATE
105 WEST CAPITOL JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



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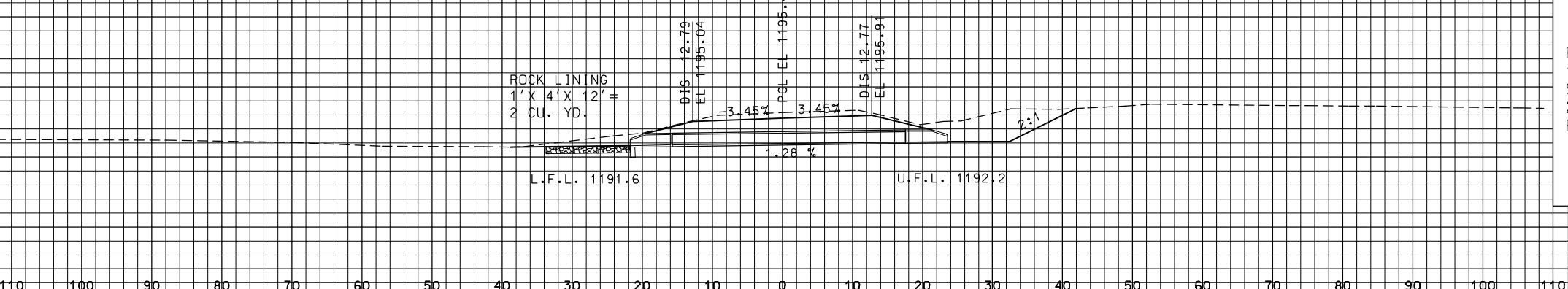
710+64.87

SUMNER CO. RD.
18" X 77' GROUP C PIPE
SKEW= 21° R.A.
2 - 18" GROUP C F.E.S.
FILL HT. - 2.3'



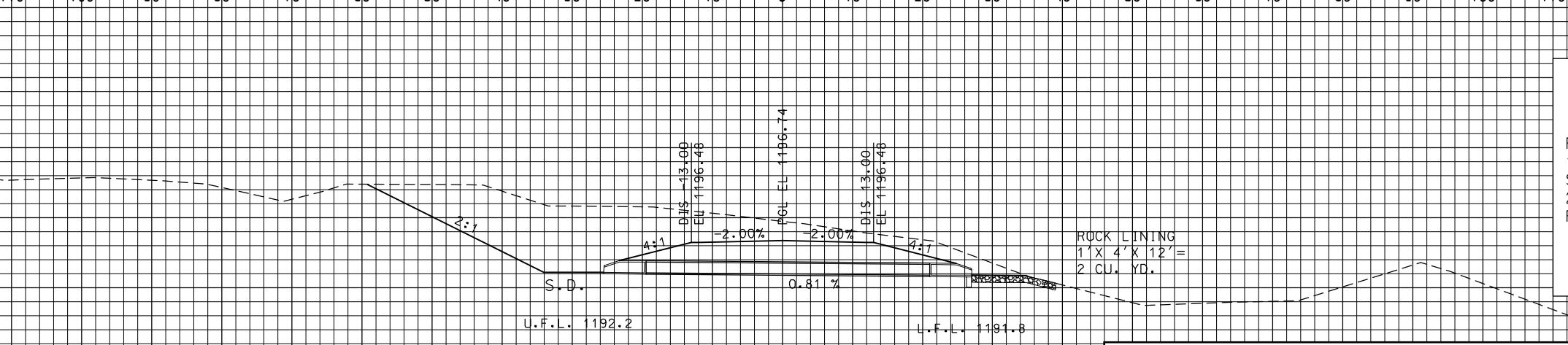
60+29.00

RTE. 90
18" X 41' GROUP B PIPE
SKEW= 6° R.A.
2 - 18" GROUP B F.E.S.
FILL HT. - 2.2'



56+50.00

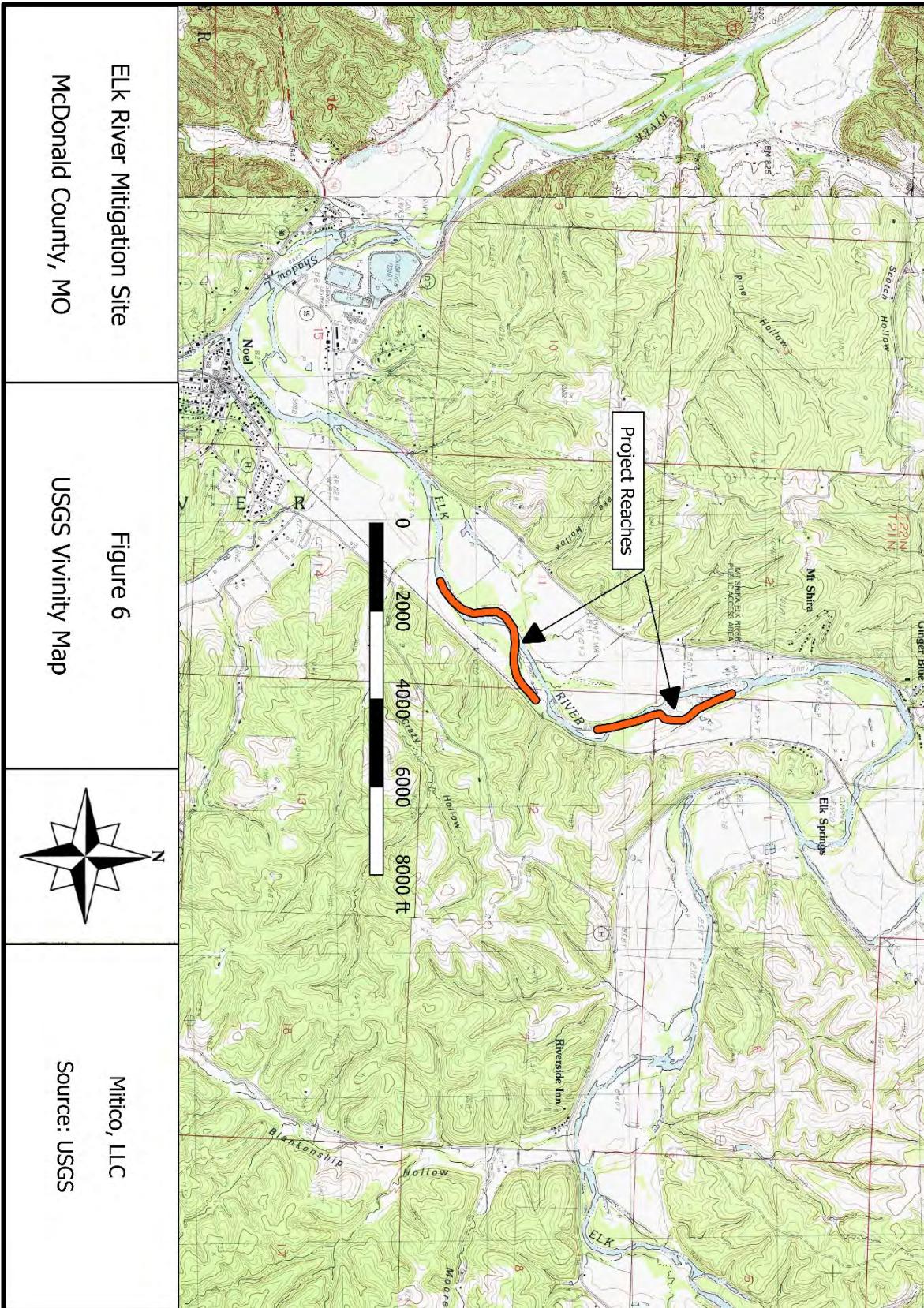
RTE. 90
18" X 48' GROUP B PIPE
SKEW = 0°
2 - 18" GROUP B F.E.S.
FILL HT. - 3.0'



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CULVERT SECTIONS
SHEET 25 OF 44

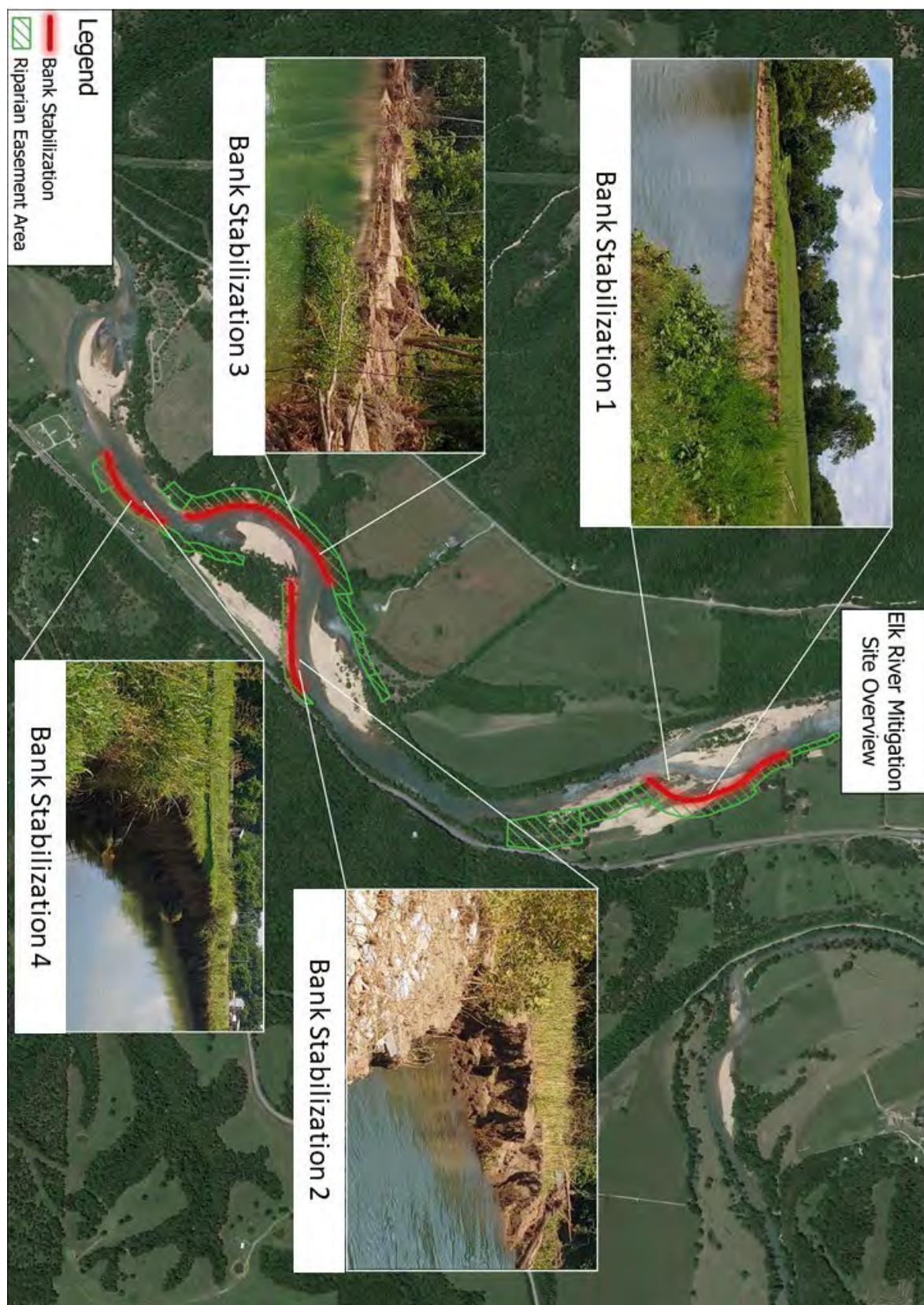


Mitico, LLC. 701

SWL 2019-00194

JANUARY 2020
MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S1, 2, 11, 12; T. 21 N.; R. 33 W.
SHEET 30 of 35

Figure 4. Site Overview and In-Stream Net Benefits



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Mitico, LLC. 701 Cr

MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S1, 2, 11, 12; T. 21 N.; R. 33 W.

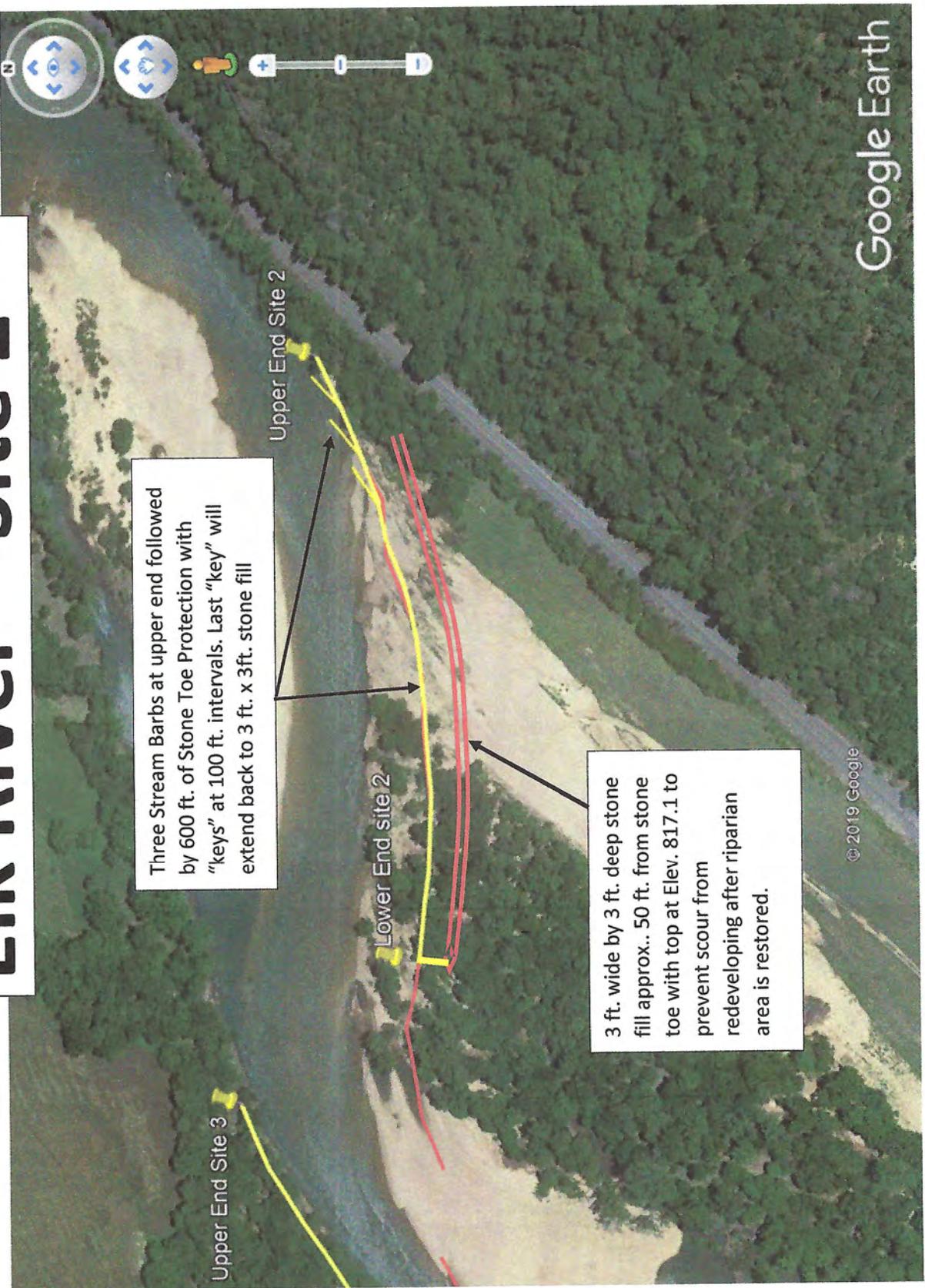
JANUARY 2020

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Elk River Site 1



Elk River—Site 2



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MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
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Google Earth

Elk River Site 3



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MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
S1, 2, 11, 12; T. 21 N.; R. 33 W.

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SHEET 34 of 35

Elk River Site 4



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MoDOT - MCDONALD COUNTY INTERSTATE 49 BELLA VISTA BYPASS
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