

LEGEND

EXISTING

SINGLE POST SIGN
POWER LINE
TELEPHONE
LIGHT STANDARD
LANDSCAPE LIGHT
FIRE HYDRANT
MANHOLE
INLET
FLARED END SECTION
STUMP
RIGHT OF WAY MARKER
MAILBOX
HANDHOLE

TREE
BUSH
STREET SIGN
GAS VALVE
GAS METER
GAS DRIP
WATER VALVE
WATER METER
PROPOSED
INLET

JEFFERSON COUNTY, MISSOURI OLD LEMAY FERRY RD. NEAR SCHENK RD. CULVERT PLANS

CULVERT REPLACEMENT OLD LEMAY FERRY ROAD

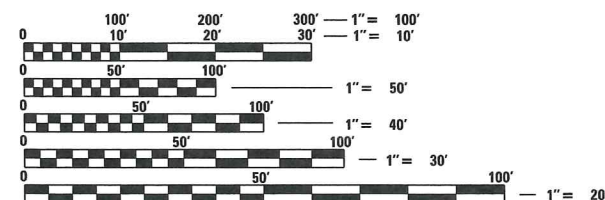
INDEX OF SHEETS

SHEET NO.	ITEM
1	COVER SHEET
2	GENERAL NOTES AND SUMMARY OF QUANTITIES
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4	PLAN SHEET AND PROFILE SHEET
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6	GRADING SHEET
7	TRAFFIC CONTROL PLAN
8-12	STRUCTURAL

EXISTING GUARD RAIL
EXISTING FENCE
EXISTING AERIAL ELECTRIC LINE
EXISTING SANITARY SEWER LINE
EXISTING STORM SEWER LINE
EXISTING UNDERGROUND CABLE TV LINE
EXISTING UNDERGROUND ELECTRIC LINE
EXISTING UNDERGROUND FORCE MAIN
EXISTING UNDERGROUND FIBER OPTIC LINE
EXISTING UNDERGROUND GAS LINE
EXISTING UNDERGROUND TELEPHONE LINE
EXISTING UNDERGROUND WATER LINE
EXISTING RIGHT OF WAY
PROPOSED CONSTRUCTION LIMIT LINE

SCALE IN FEET

PLAN 1" = 20'
PROFILE HORIZONTAL 1" = 20'
PROFILE VERTICAL 1" = 5'

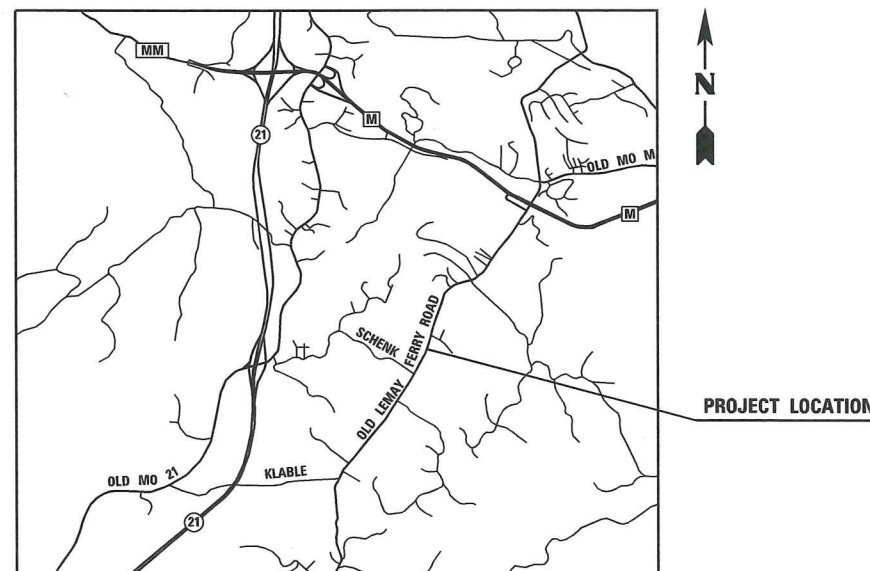


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

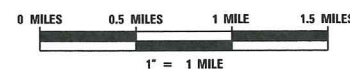
MISSOURI ONE CALL SYSTEM
1-800-344-7483 (DIG-RITE)
OR 811

DESIGN DESIGNATION

CLASSIFICATION = MAJOR COLLECTOR
DESIGN SPEED = 40 MPH
POSTED SPEED = 40 MPH
TERRAIN = ROLLING



LOCATION MAP



BEGINNING STATION
ENDING STATION
NET LENGTH OF PROJECT

100 + 81.00
101 + 16.00
35.00 FT



EXP: 12/31/16

JEFFREY R. RENSING

3/21/16
DATE

JEFFERSON COUNTY, MISSOURI	
APPROVED	3/22/17 DATE
JASON JONAS, PE - DIRECTOR DEPARTMENT OF PUBLIC WORKS	



PO Box 100
Hillsboro, MO 63050
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COLLINSVILLE
100 Lanter Court, Suite 1
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Belleville, IL 62220
tel 618.416.4688

ST. LOUIS
720 Olive, Suite 700
St. Louis, MO 63101
tel 314.588.8381

www.oatesassociates.com

MISSOURI DESIGN FIRM LICENSE NO: 001166

GENERAL NOTES

UTILITIES

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEIR LOCATIONS MUST BE CONSIDERED TO BE APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO. MISSOURI LAW REQUIRES A MINIMUM 72-HOUR NOTICE TO ALL UTILITY COMPANIES BEFORE DIGGING. FIELD LOCATIONS OF UNDERGROUND FACILITIES MAY BE OBTAINED BY CALLING THE MISSOURI ONE CALL SYSTEM AT 800-344-7483 AND PROVIDING 72 HOURS ADVANCE NOTICE. NON MISSOURI ONE CALL MEMBERS MUST BE NOTIFIED INDIVIDUALLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT LIMITS ARE LISTED BELOW.

AMEREN MISSOURI (ELECTRIC)
6450 HWY MM
HOUSE SPRINGS, MO 63051
(314) 992-8902

AT&T MISSOURI (TELEPHONE)
122 N. SECOND STREET
FESTUS, MO 63028
(314) 275-0083

CHARTER COMMUNICATIONS (COMMUNICATION)
815 CHARTER COMMONS DRIVE
TOWN & COUNTRY, MO 63017
(636) 387-6643

CONSOLIDATED PUBLIC WATER SUPPLY C-1
PO BOX 430
BARNHART, MO 63012
(636) 943-2500

THIS UTILITY INFORMATION REPRESENTS THE BEST INFORMATION AVAILABLE TO THE LOCAL AGENCY AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR HAS TAKEN THE FOREGOING INTO CONSIDERATION IN PREPARING HIS/HER BID, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY DELAYS OR INCONVENIENCE CAUSED BY SAME.

2. ANY FACILITIES OR APPURTENANCES WHICH ARE THE PROPERTY OF ANY PUBLIC UTILITY LOCATED WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RELOCATED OR ADJUSTED BY THEIR RESPECTIVE OWNERS. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE OWNERS OF ANY SUCH FACILITY IN THEIR REMOVAL AND REARRANGEMENT OPERATIONS IN ORDER THAT THESE OPERATIONS AND THE CONSTRUCTION OF THIS PROJECT MAY PROGRESS IN A REASONABLE MANNER. ALL ROADSIDE OBJECTS (UTILITY POLES, FIRE HYDRANTS, SIGNS, ETC.) SHALL BE RELOCATED TO PROVIDE A MINIMUM OF 1.5 FEET CLEARANCE, MEASURED FROM THE FACE OF CURB TO THE NEAR EDGE OF THE OBJECT.

GENERAL

3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE LOCAL POSTMASTER FOR APPROVAL OF ALL TEMPORARY MAILBOX LOCATIONS.
4. THE CONTRACTOR SHALL REMOVE, MAINTAIN IN A TEMPORARY LOCATION, AND PERMANENTLY RESET ALL MAILBOXES, TRAFFIC SIGNS, STREET NAME SIGNS AND ALL PRIVATE AND COMMERCIAL SIGNS WHICH INTERFERE WITH CONSTRUCTION OPERATIONS TO THE APPROVAL OF THE ENGINEER. THE COST OF THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT UNIT PRICES BID FOR THE VARIOUS ITEMS OF WORK INVOLVED.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO ORDERING MATERIALS AND COMMENCING CONSTRUCTION.
6. OLD LEMAY FERRY ROAD SHALL BE CLOSED TO THRU TRAFFIC DURING CONSTRUCTION. THE CONTRACTOR SHALL STAGE ALL WORK IN SUCH A WAY AS TO MAINTAIN INGRESS AND EGRESS TO ALL ABUTTING PROPERTIES AT ALL TIMES DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL FERTILIZE, SEED AND MULCH ALL EARTH SURFACES DISTURBED BY CONSTRUCTION.
8. SAW CUTS FOR REMOVAL ARE TO BE FULL DEPTH AND SHALL BE INCLUDED IN THE COST OF THE REMOVAL OF IMPROVEMENTS.
9. ALL EXISTING ROADWAY FEATURES INCLUDING, BUT NOT LIMITED TO PAVEMENT, CULVERTS, HEADWALLS, RIPRAP, TREE REMOVAL, WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR UNLESS NOTED OTHERWISE ON THE PLANS. ALL FEATURES WHICH ARE TO BE REMOVED AND FOR WHICH THERE IS NO SPECIFIC PAY ITEM, WILL NOT BE MEASURED SEPARATELY FOR PAYMENT AND THE COST OF THIS REMOVAL WORK SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT UNIT PRICES FOR REMOVAL OF IMPROVEMENTS.
10. IF REQUIRED FOR CONSTRUCTION OPERATIONS THE EXISTING FENCE SHALL BE REMOVED, STORED AND RESET. THE COST ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE COST OF THE REMOVAL OF IMPROVEMENTS.

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITIES
2013000	CLEARING AND GRUBBING	ACRE	0.1
2022010	REMOVAL OF IMPROVEMENTS	L SUM	1
2063300	CLASS 4 EXCAVATION	CY	102
3040504	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK)	SY	150
3101003	GRAVEL (A)	SY	12
4011209	BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-1)	TON	16
4013000	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE)	TON	56
4071005	TACK COAT	GAL	50
6096030A	FURNISHING TYPE 3 ROCK DITCH LINER	CY	72
6096043	PLACING TYPE 3 ROCK DITCH LINER	CY	72
6169901	TRAFFIC CONTROL	L SUM	1
6181000	MOBILIZATION	L SUM	1
7034040	CLASS B-1 CONCRETE (CULVERTS)	CY	19.2
7061030	REINFORCING STEEL (CULVERTS)	LB	1,800
7250312A	12 IN. PIPE GROUP B	LF	40
7320012A	12 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION	EA	1
8052000A	SEEDING - WARM SEASON MIXTURES	SY	166
8061019	SILT FENCE	LF	52
8064120	TYPE 1 EROSION CONTROL BLANKET	SY	25
	PRECAST CONCRETE BOX CULVERTS 8'X6'	LF	40

FILE NAME : H:\P\13074.005 - Schenk\Microstation\Sheets\JLF.Schenk - shf.gnnote-500.dgn



OATES ASSOCIATES
Engineering + Architecture
MISSOURI PROF. ENG. CORP. LICENSE NO: 001166

USER NAME : travis.helmkamp

DESIGNED -

DRAWN -

PLOT SCALE = 40.0000' / in.

CHECKED -

PLOT DATE = 3/23/2016

DATE -



3/21/16

JEFFERSON COUNTY, MISSOURI

GENERAL NOTES AND SUMMARY OF QUANTITIES

SCALE: NTS

SHEET 1 OF 1 SHEETS

STA.100+00.00 TO STA.102+00.00

SECTION

CONTRACT NO.

OLD LEMAY FERRY ROAD CULVERT REPLACEMENT

MSD BASEMAP NO.

COUNTY

JEFFERSON

TOTAL SHEETS

12

SHEET NO.

2

PAVEMENT SCHEDULE

STATION	STATION	OFFSET	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK) (SQ YD)	GRAVEL (A) (SQ YD)	BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BP-1) NOTE 1 (TON)	BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BASE) NOTE 2 (TON)	TACK COAT NOTE 3 (GAL)
100+63	101+16	LT	57		6	12	20
100+81	101+16		93		10	44	30
100+81	101+16	LT		12			
TOTAL			150	12	16	56	50

PAVEMENT NOTES:

1. BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BP-1) SHALL BE A DEPTH OF 2".
2. BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BASE) SHALL BE A DEPTH OF 8.5" FOR ROADWAY PAVEMENT.
3. BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BASE) SHALL BE A DEPTH OF 4" FOR DRIVEWAY PAVEMENT.
- APPLICATION RATE FOR TACK COAT IS 0.05 GAL / SQUARE YARD.

SEEDING SCHEDULE

STATION	STATION	OFFSET	SEEDING WARM SEASON MIXTURES (SQ YD)
100+69	101+33	LT	101
100+81	101+34	RT	65
TOTAL			166

EROSION CONTROL SCHEDULE

STATION	STATION	OFFSET	FURNISHING TYPE 3 ROCK DITCH LINER (CU YD)	PLACING TYPE 3 ROCK DITCH LINER (CU YD)	SILT FENCE (FOOT)	TYPE 1 EROSION CONTROL BLANKET (SQ YD)
100+71	100+88	LT				6
100+73	101+14	LT	39	39		
100+81	101+16	LT			35	
100+83	100+88	RT				4
100+88	101+20	RT	33	33		
100+96	101+16	LT				7
100+99	101+16	RT			17	
101+07	101+22	RT				8
TOTAL			72	72	52	25

DRAINAGE SCHEDULE

STATION	STATION	OFFSET	12 IN. PIPE GROUP B (FOOT)	12 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION (EACH)
100+58	100+97	RT	40	1
TOTAL			40	1

MISCELLANEOUS SCHEDULE

DESCRIPTION	UNIT	QUANTITY
REMOVAL OF IMPROVEMENTS	L SUM	1
TRAFFIC CONTROL	L SUM	1
MOBILIZATION	L SUM	1

CLEARING & GRUBBING

STATION	STATION	CLEARING & GRUBBING (ACRE)
100+57	101+34	0.1
TOTAL		0.1

FILE NAME : H:\P\13054.005 - Schenk\Microstation\Sheets\JLF\Schenk - shi-gemnote-500.dgn



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Engineering + Architecture
MISSOURI PROF. ENG. CORP. LICENSE NO: 001166

USER NAME : travis.helmkamp	DESIGNED -
	DRAWN -
PLOT SCALE : 40.0000 ' / in.	CHECKED -
PLOT DATE : 3/21/2016	DATE -

STATE OF MISSOURI

JEFFREY R. RENNING

PROFESSIONAL ENGINEER

NUMBER
PE-2006012376

EXP:
12/31/16

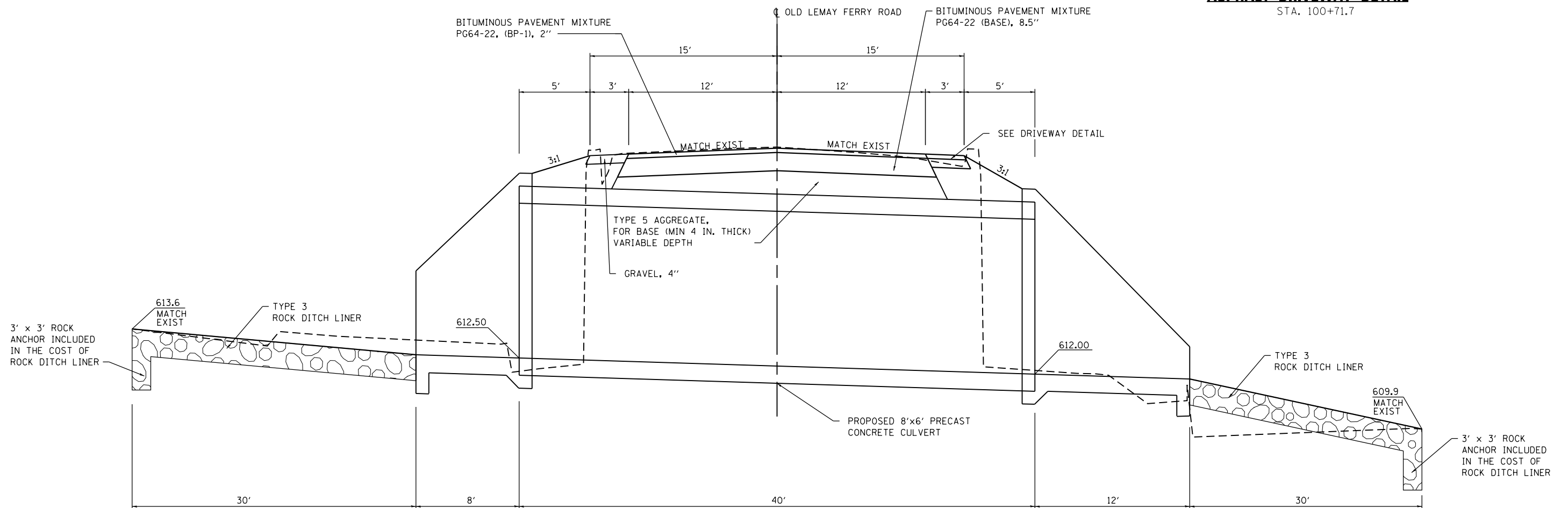
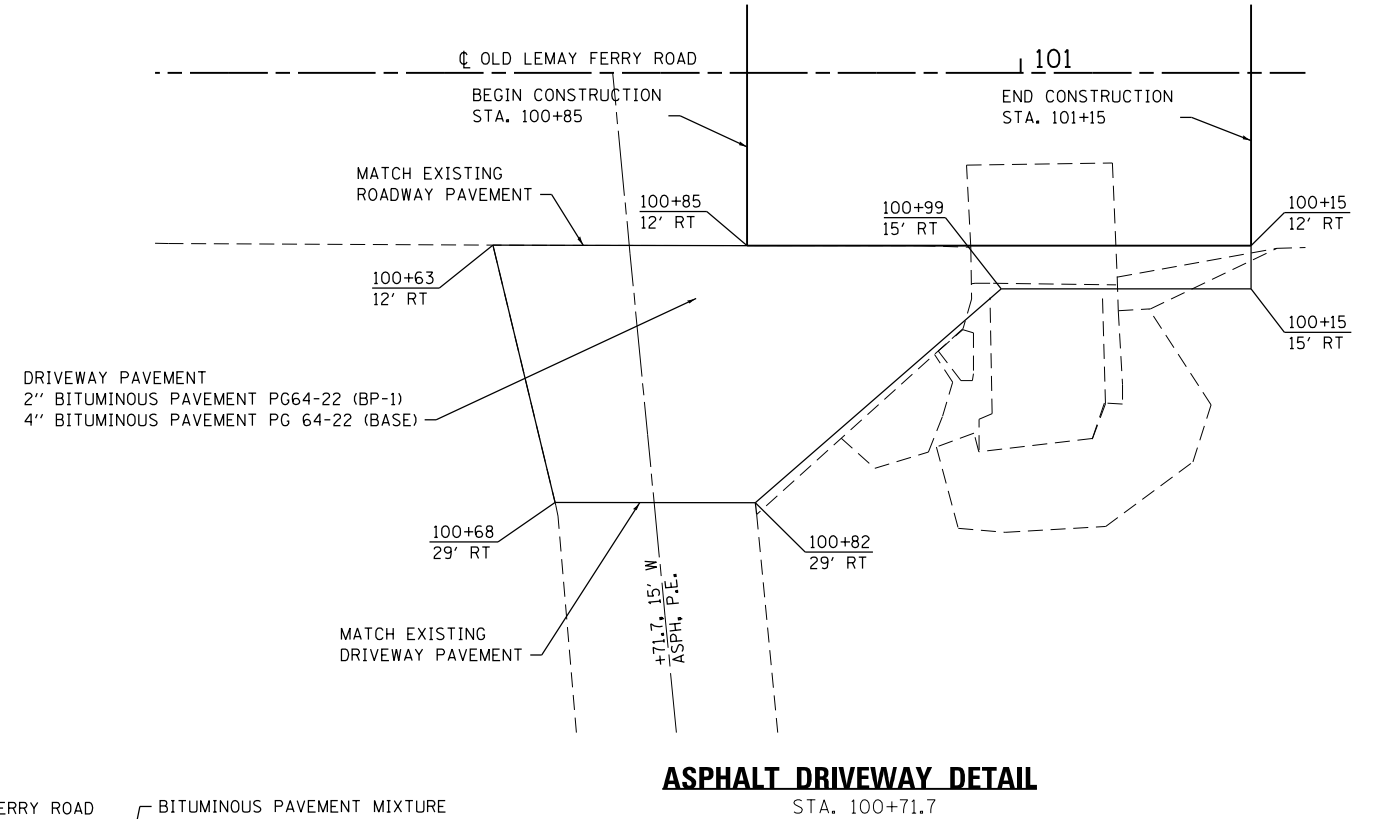
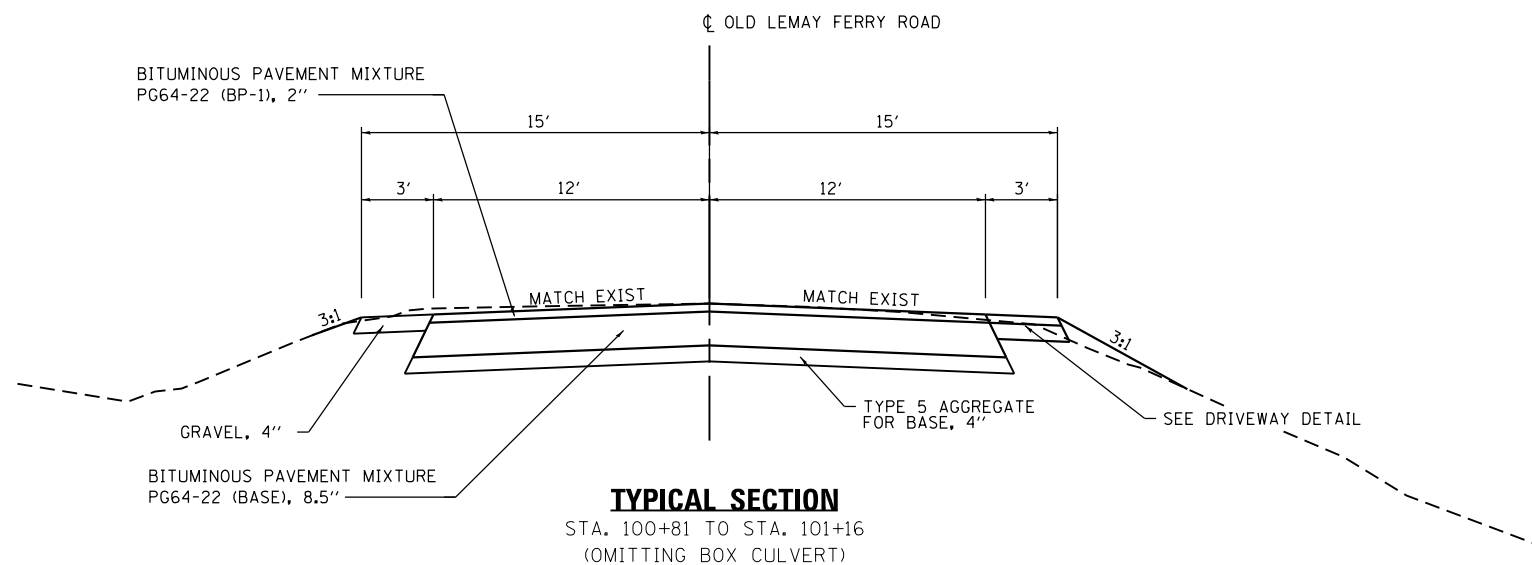
3/21/16

JEFFERSON COUNTY, MISSOURI

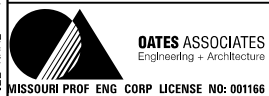
SCHEDULE OF QUANTITIES

SCALE: NTS	SHEET 1	OF 1	SHEETS	STA. 100+00.00	TO STA. 102+00.00
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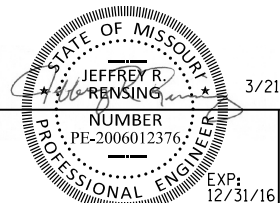
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.	JEFFERSON	12	2B
OLD LEMAY FERRY ROAD CULVERT REPLACEMENT			
MSD BASEMAP NO.			



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USER NAME = travis.helmkamp	DESIGNED -
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PLOT DATE = 3/21/2016	CHECKED -
	DATE -



3/21/16

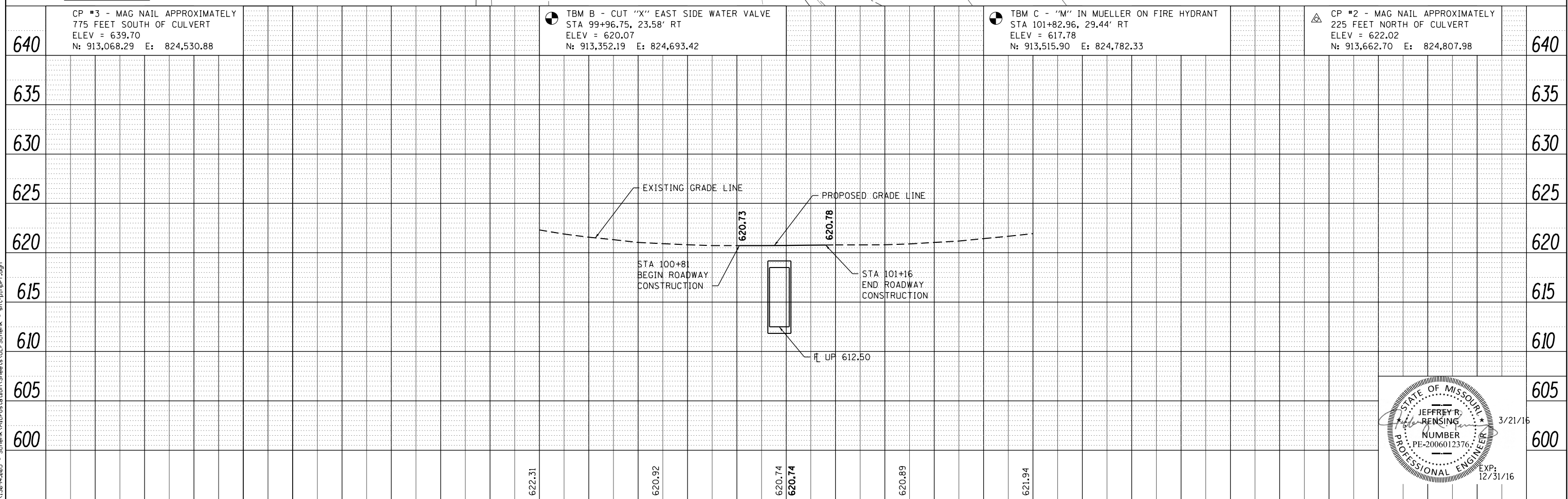
JEFFERSON COUNTY, MISSOURI

TYPICAL SECTION SHEET

SCALE: NTS SHEET 1 OF 1 SHEETS STA. 100+00.00 TO STA. 102+00.00

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.	JEFFERSON	12	3
OLD LEMAY FERRY ROAD CULVERT REPLACEMENT			
MSD BASEMAP NO.			

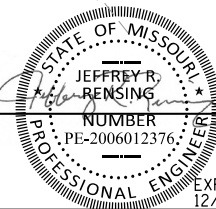
PROFILE	SURVEYED _____	BY _____	DATE _____
NOTE BOOK	PLOTTED _____		
NO. _____	GRADES CHECKED _____		
	B.M. NOTED _____		
	STRUCTURE NOTATIONS CHKD _____		

[illegible]

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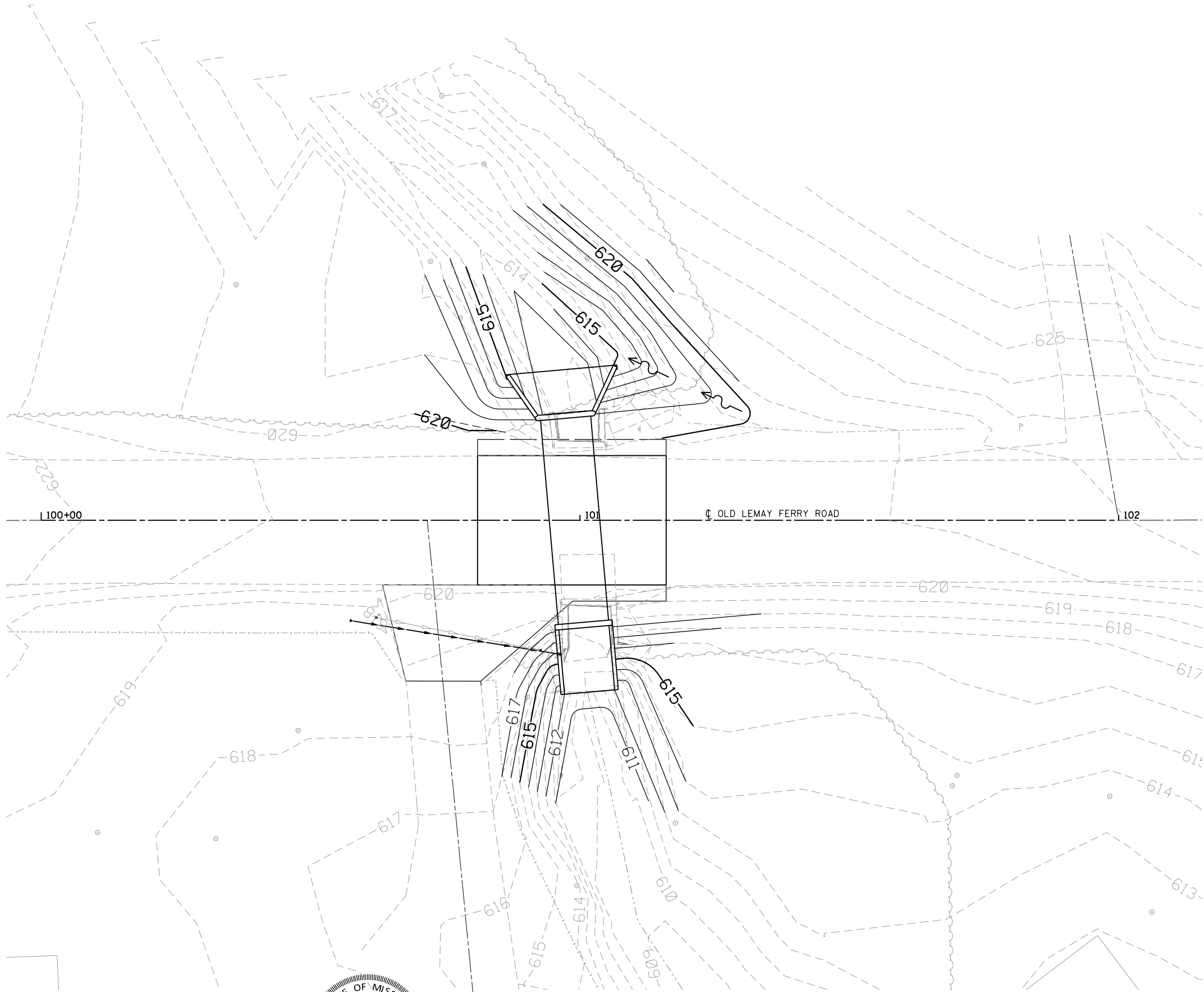
3/21/16

JEFFERSON COUNTY, MISSOURI

GRADING SHEET

SCALE: 1"=10' SHEET 1 OF 1 SHEETS STA. 100+00.00 TO STA. 102+00.00

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.	JEFFERSON	12	6
OLD LEMAY FERRY ROAD CULVERT REPLACEMENT			
MSD BASEMAP NO.			





TRAFFIC CONTROL NOTES

1. ALL TRAFFIC CONTROL SIGNS, BARRICADES, AND MAINTENANCE TO BE INCLUDED IN THE COST OF TRAFFIC CONTROL.
2. ALL TRAFFIC CONTROL AND WORK ZONE SIGNING SHALL CONFORM TO CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY (MUTCD) STANDARDS.
3. ACCESS TO ENTRANCES SHALL BE MAINTAINED AT ALL TIMES.
4. THE CONTRACTOR SHALL MAINTAIN DRAINAGE THROUGHOUT CONSTRUCTION.
5. TYPE A LOW INTENSITY FLASHING LIGHTS SHALL BE USED ON THE FIRST SIGN IN ADVANCE OF THE WORK SITE AND ON ALL TYPE III BARRICADES DURING HOURS OF DARKNESS.
6. BARRICADES AND SIGNS SHALL BE POSITIONED AS SHOWN, ACCORDING TO HIGHWAY STANDARDS, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND AS DIRECTED BY THE ENGINEER.
7. THE EXACT LOCATION OF THE BARRICADES AND SIGNS SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR TWO WORKING DAYS IN ADVANCE OF CONSTRUCTION OPERATIONS FOR APPROVAL BY THE ENGINEER.
8. ALL SIGNS SHALL BE INSTALLED ON 2 POUND U-CHANNEL POSTS WITH BOTTOM OF SIGN 7' ABOVE GRADE AND AT THE LOCATION INDICATED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES.
10. STRIPES FOR BARRICADES SHALL BE SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC WILL PASS.
11. ALL TYPE III BARRICADES UTILIZED FOR ROAD CLOSURES SHALL HAVE A LOW INTENSITY FLASHING LIGHT MOUNTED ON TOP OF EACH BARRICADE.
12. ALL WARNING SIGNS SHALL BE A MINIMUM OF 48" X 48" AND HAVE A BLACK LEGEND AND BORDER OF A FLUORESCENT ORANGE REFLECTORIZED BACKGROUND.
13. ALL RESIDENTS FRONTING THE PROJECT SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ROAD CLOSURES AFFECTING THEIR ACCESS.



① W11-4



② W20-3



③ W20-3

WARNING LIGHT

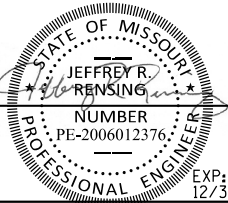
TRAFFIC CONTROL PLAN LEGEND

FILE NAME : H:\P\13054.005 - Schenk\Microstation\Sheets\JLF\Schenk - sht-traffic control.dgn



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MISSOURI PROF. ENG. CORP. LICENSE NO: 001166

USER NAME : travis.helmkamp	DESIGNED -
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PLOT SCALE : 6.6000' / in.	CHECKED -
PLOT DATE : 3/23/2016	DATE -



3/21/16

JEFFERSON COUNTY, MISSOURI

TRAFFIC CONTROL PLAN

SCALE: NTS SHEET 1 OF 1 SHEETS STA.100+00.00 TO STA.102+00.00

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.	JEFFERSON	12	7
OLD LEMAY FERRY ROAD CULVERT REPLACEMENT			
MSD BASEMAP NO.			

ESTIMATED QUANTITIES		FINAL QUANTITIES
Removal of Improvements	Lump Sum	1
Class 4 Excavation	Cu. Yd.	102
Class "B-1" Concrete (Culverts)	Cu. Yd.	19.2
Reinforcing Steel (Culverts)	Pound	1,800
Precast Concrete Box Culverts 8' x 6'	Lin. Ft.	40

HYDROLOGIC DATA

Drainage Area = 0.156 (sq. mi.)
Design Flood Frequency = 15 (year)
Design Flood Discharge = 267 (cfs)
Design Flood (D.F.) Elev. = 618.20 (ft)
BASE FLOOD (100 YEAR)
Base Flood Elev. = 619.46 (ft)
Base Flood Discharge = 360 (cfs)
Estimated Backwater = 1.83 (ft)
Outlet Velocity = 11.29 (ft/s)
ROADWAY OVERTOPPING
Overtopping Flood Discharge = 464 (cfs)
Overtopping Flood Frequency = 1000 (year)
Overtopping Flood Elev. = 620.74 (ft)

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications with 2013 Interims

DESIGN LOADING

HL-93
Earth = 120 lb/ft³
Design Fill = < 2 ft.

DESIGN UNIT STRESSES

Class B-1 concrete, f'c = 4,000 psi
Reinforcing steel (Grade 60), fy = 60,000 psi

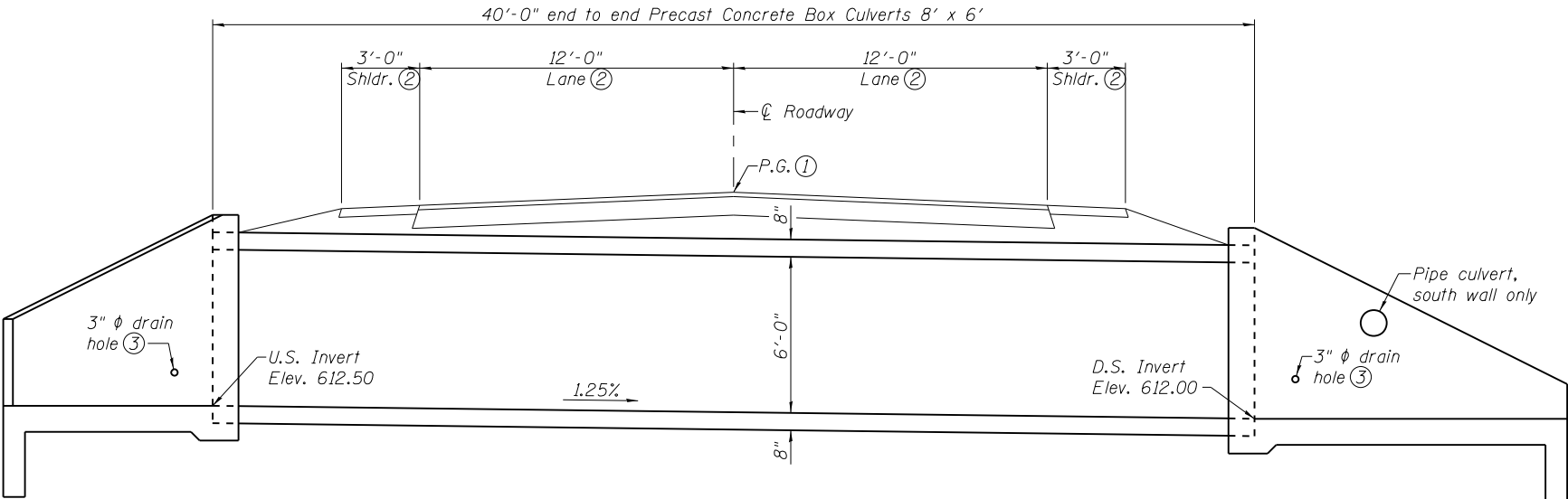
GENERAL NOTES

- Precast end sections will not be allowed.
- Channel bottom shall be graded within the right of way for transition of channel bed to culvert opening. Channel banks shall be tapered to match culvert opening.
- Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.
- Structure to be closed during construction. Traffic to be maintained on other routes during construction.
- Ends of precast concrete box sections protruding thru cast-in-place end section shall be cast without bell or spigot.
- "Sec" refers to the section in the Missouri Standard Specifications for Highway Construction.

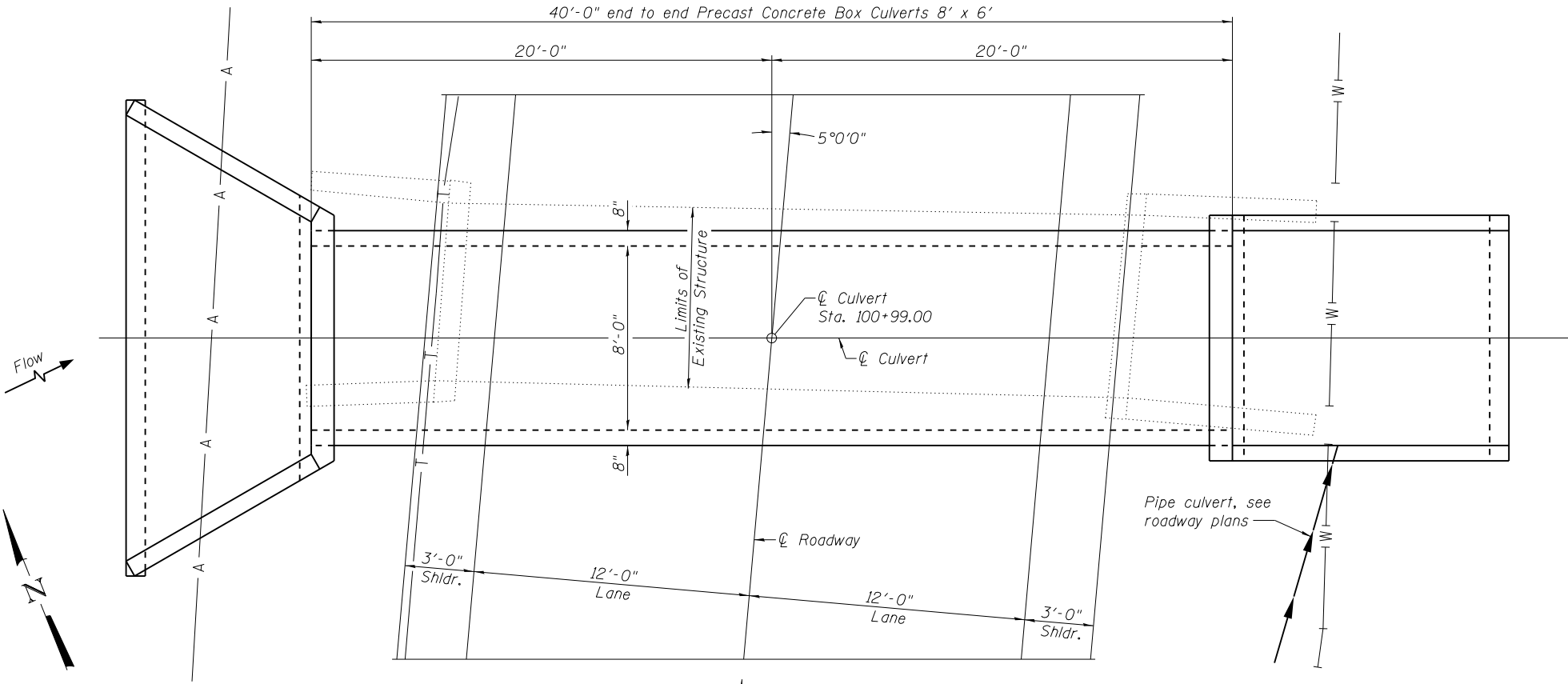
BENCHMARK

TBM C Elev. 617.78, "M" in Mueller on fire hydrant, 29.44' Rt. of Sta. 101+82.96

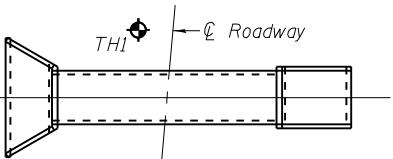
- Notes:
- See roadway plans for profile grade.
 - Dimensions are at right angles to centerline of roadway.
 - Place one drain in each wall near tall end and ±1'-0" above finished ground at front face.
 - The culvert and wingwalls shall be backfilled with porous backfill according to Sec 206 except that the backfill shall extend to the limits shown. Cost of Porous backfill shall be included in the cost of Class 4 Excavation.



ELEVATION

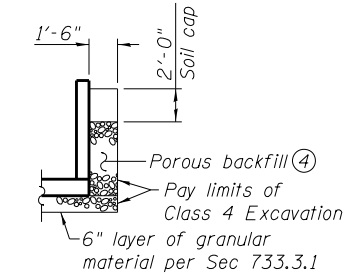


PLAN

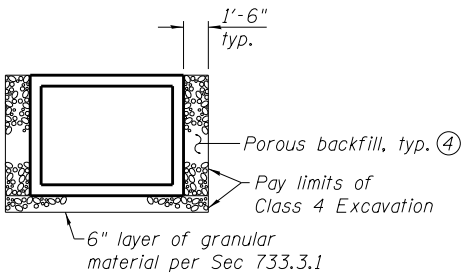


BORING LOCATIONS

"TH" indicates location of boring.



SECTION THRU WINGWALL



SECTION THRU BARREL

OLD LEMAY FERRY ROAD
CULVERT REPLACEMENT
STA. 100+99.00

Std. 706.35H

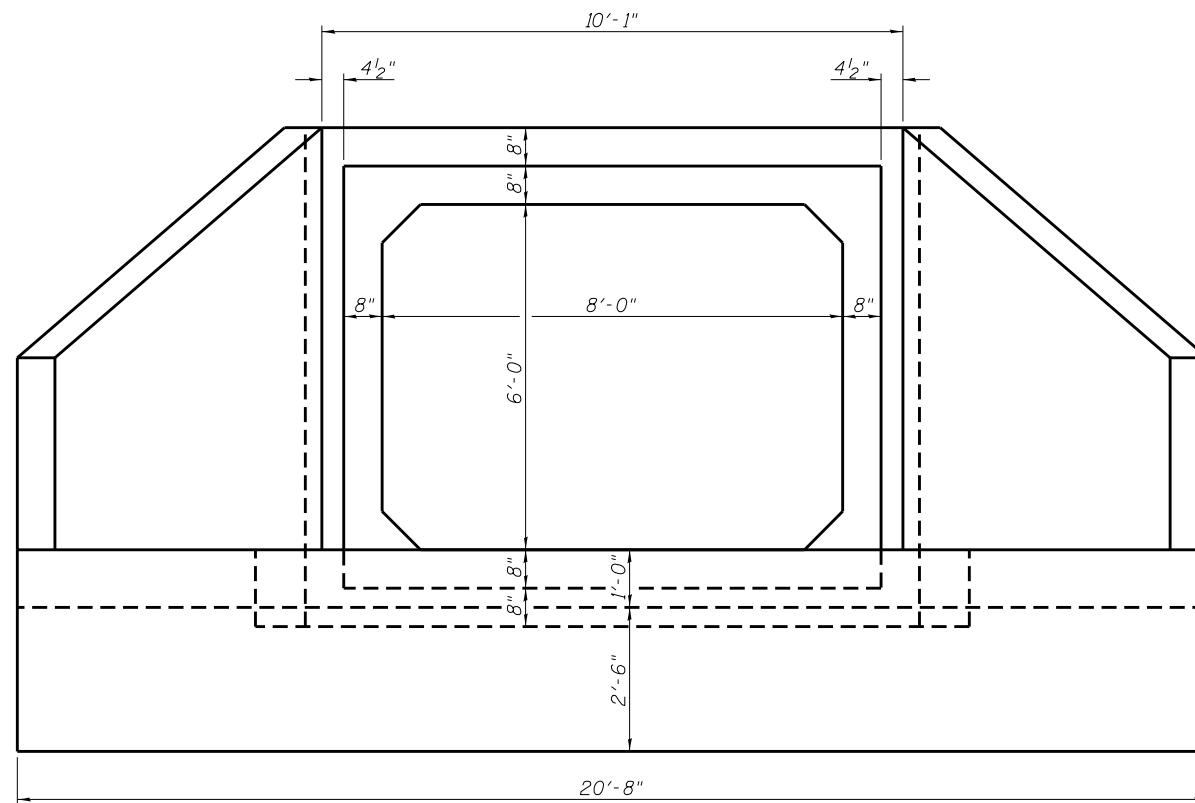


USER NAME =	DESIGNED - JAD
CHECKED - KBC	
PLOT SCALE =	DRAWN - JAD
PLOT DATE = 3/21/2016	CHECKED - KBC

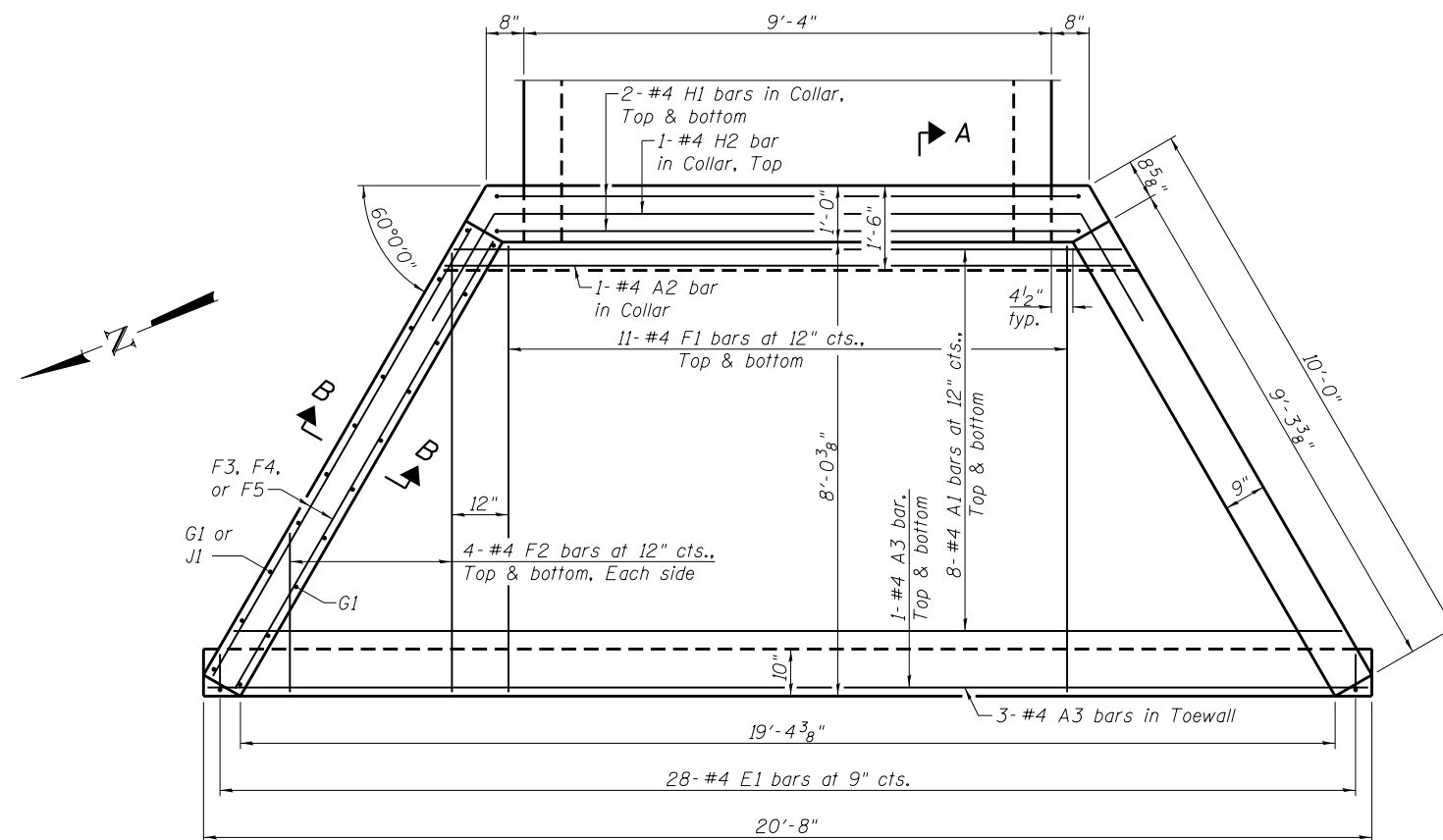
JEFFERSON COUNTY, MISSOURI

GENERAL PLAN AND ELEVATION

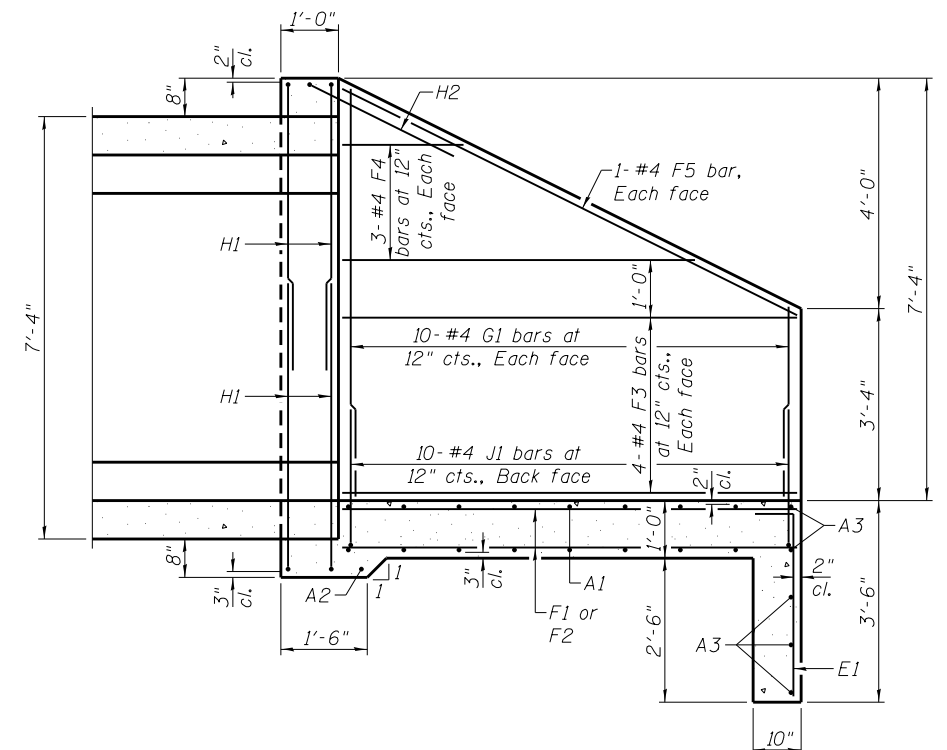
SHEET NO. 1 OF 5 SHEETS



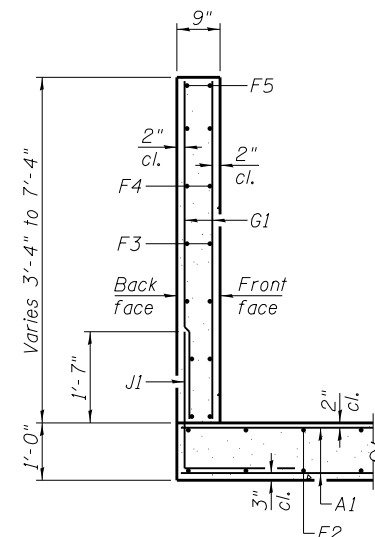
END ELEVATION



PLAN



SECTION A-A



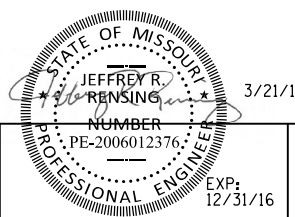
SECTION B-B

Notes:
① Minimum bar lap for #4 bars = 1'-5".

FILE NAME = H:\P\13094.005 - Schenk\Structural\Final Plans\Microstation\13094.005.B.002.Flares End Details.dgn



USER NAME =	DESIGNED - JAD
CHECKED - KBC	
PLOT SCALE =	DRAWN - JAD
PLOT DATE = 3/21/2016	CHECKED - KBC

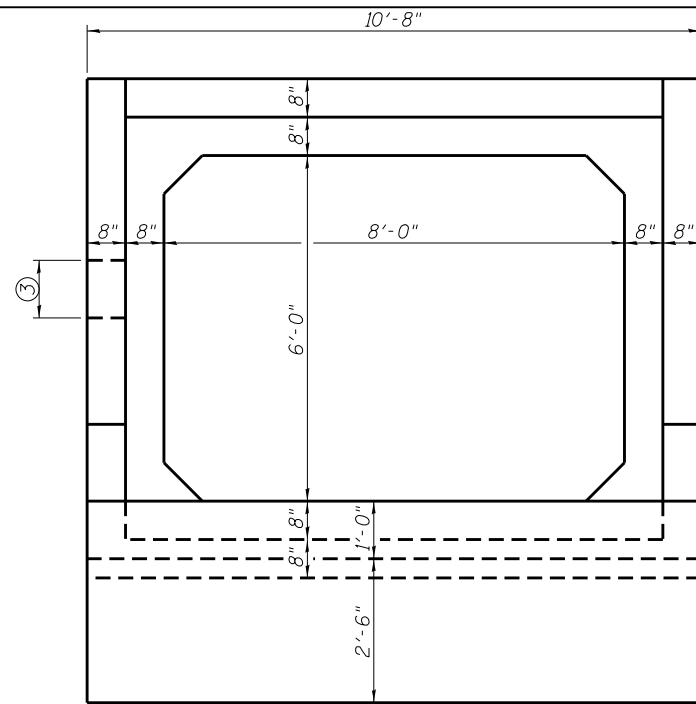


JEFFERSON COUNTY, MISSOURI

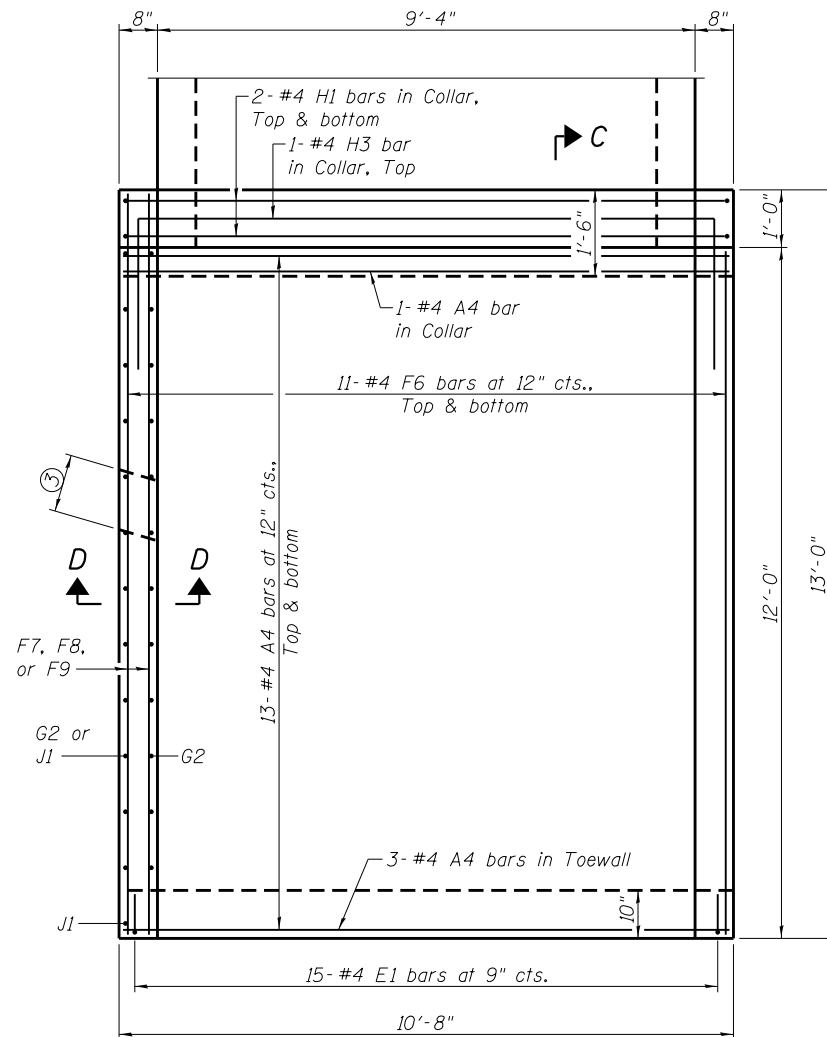
FLARED END DETAILS

SHEET NO. 2 OF 5 SHEETS

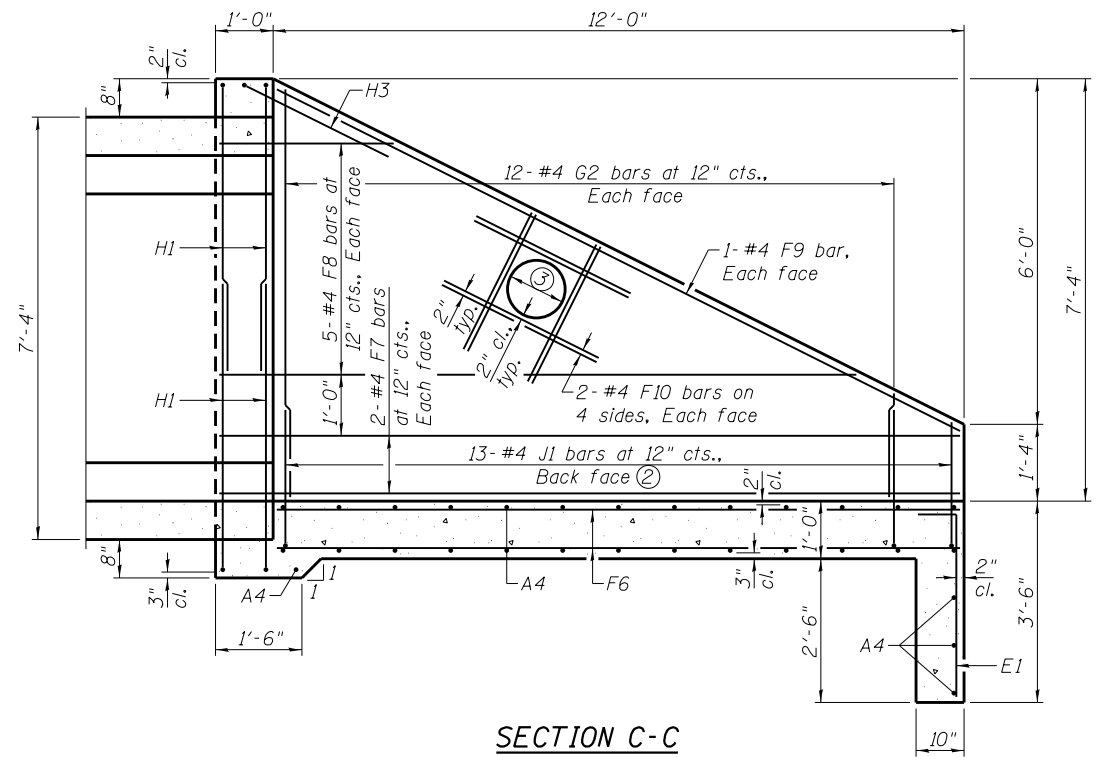
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.	JEFFERSON	12	9
OLD LEMAY FERRY ROAD CULVERT REPLACEMENT			
MSD BASEMAP NO.			



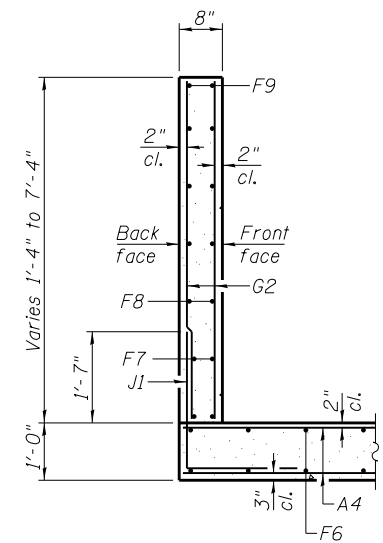
END ELEVATION



PLAN



SECTION C-C



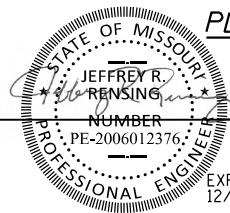
SECTION D-D

- Notes:
- Minimum bar lap for #4 bars = 1'-5".
 - Cut J1 bar to fit at short end of wall.
 - 12" diameter pipe culvert to be cast into south wall only. Vertical and horizontal reinforcement in wall shall be bent as required to accommodate the hole. For pipe culvert invert, see roadway plans.

Note: This drawing is not to scale. Follow dimensions.



USER NAME =	DESIGNED - JAD
PLOT SCALE =	CHECKED - KBC
PLOT DATE = 3/21/2016	DRAWN - JAD
	CHECKED - KBC

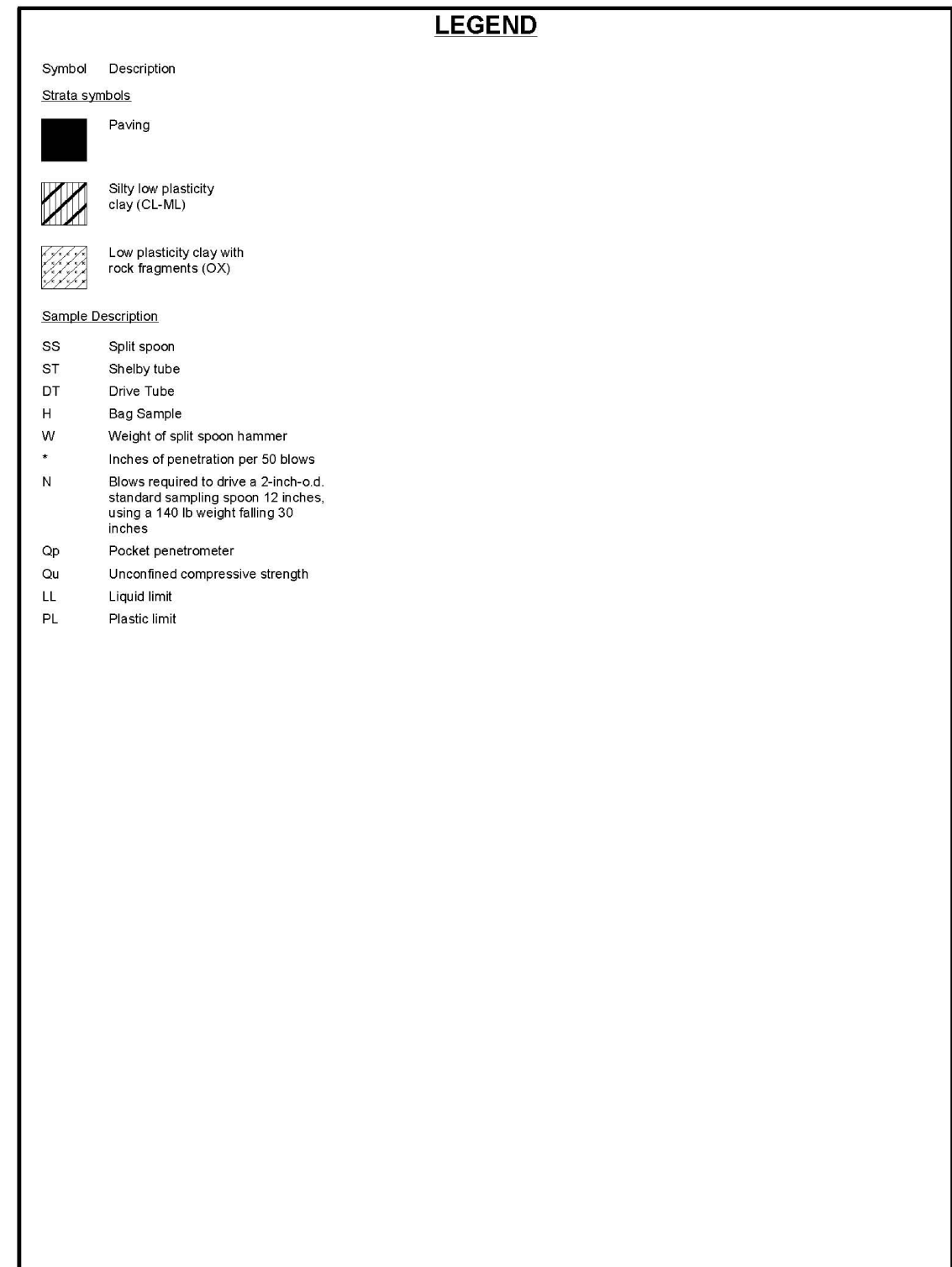
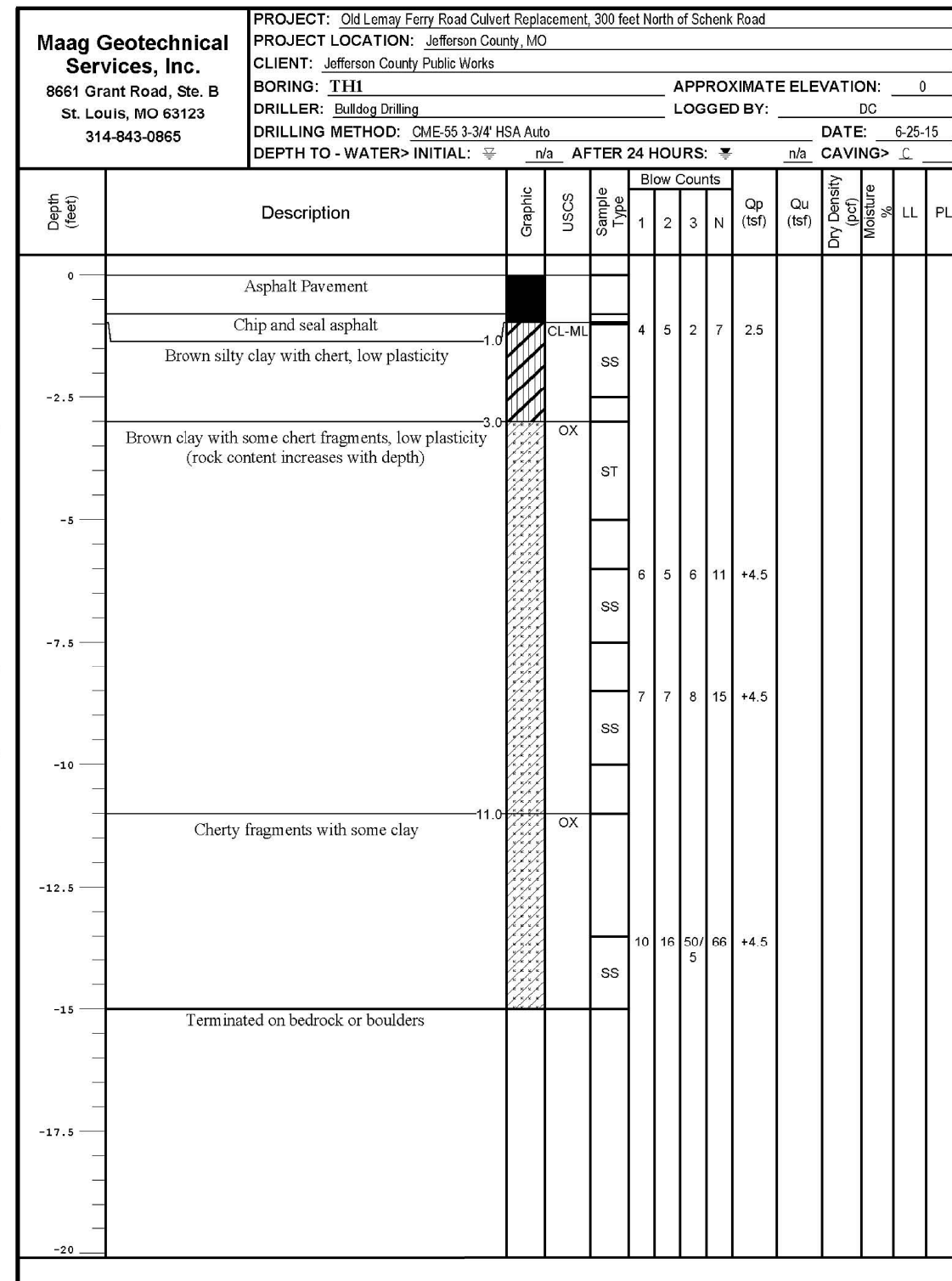


JEFFERSON COUNTY, MISSOURI

STRAIGHT END DETAILS

SHEET NO. 3 OF 5 SHEETS

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.	JEFFERSON	12	10
OLD LEMAY FERRY ROAD CULVERT REPLACEMENT			
MSD BASEMAP NO.			

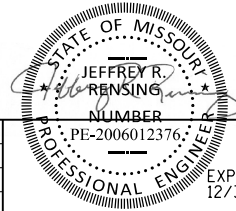


Notes:
 (1) For location of borings, see sheet 1 of 5.

Note: This drawing is not to scale. Follow dimensions.



USER NAME =	DESIGNED -
	CHECKED -
PLOT SCALE =	DRAWN -
PLOT DATE = 3/21/2016	CHECKED -



3/21/16

EXP:
12/31/16

JEFFERSON COUNTY, MISSOURI

SOIL BORING LOGS

SHEET NO. 5 OF 5 SHEETS

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.	JEFFERSON	12	12
OLD LEMAY FERRY ROAD CULVERT REPLACEMENT			
MSD BASEMAP NO.			