SHEET 102
DITCH CHECKS

ID	STA.	ROADWAY	ROCK DITCH CHECK (LF)
307	125+63	ROUTE CC LT	19
308	126+18	ROUTE CC LT	19
309	126+73	ROUTE CC LT	19
310	127+28	ROUTE CC LT	19
311	127+83	ROUTE CC LT	19
312	128+38	ROUTE CC LT	19
313	128+93	ROUTE CC LT	19
314	129+48	ROUTE CC LT	19
316	125+63	ROUTE CC RT	19
317	126+18	ROUTE CC RT	19
318	126+73	ROUTE CC RT	19
319	127+29	ROUTE CC RT	19
320	127+83	ROUTE CC RT	19
321	128+39	ROUTE CC RT	19
322	128+93	ROUTE CC RT	19
323	129+48	ROUTE CC RT	19
324	130+03	ROUTE CC RT	19
325	24+35	RIFLE RANGE LT	19
326	24+54	RIFLE RANGE LT	19
327	24+72	RIFLE RANGE LT	19
328	24+91	RIFLE RANGE LT	19
329	25+09	RIFLE RANGE LT	19
330	25+24	RIFLE RANGE LT	19
331	25+43	RIFLE RANGE LT	19
332	25+62	RIFLE RANGE LT	19
333	25+79	RIFLE RANGE LT	19
334	25+97	RIFLE RANGE LT	19
335	26+17	RIFLE RANGE LT	19
336	26+33	RIFLE RANGE LT	19
337	26+51	RIFLE RANGE LT	19
338	26+69	RIFLE RANGE LT	19
339	26+87	RIFLE RANGE LT	19
340	26+86	RIFLE RANGE RT	19
341	26+67	RIFLE RANGE RT	19
342	26+50	RIFLE RANGE RT	19
343	26+32	RIFLE RANGE RT	19
344	26+15	RIFLE RANGE RT	19
345	25+95	RIFLE RANGE RT	19
346	25+78	RIFLE RANGE RT	19
347	25+60	RIFLE RANGE RT	19
348	25+42	RIFLE RANGE RT	19
349	25+18	RIFLE RANGE RT	19
350	25+00	RIFLE RANGE RT	19
351	24+75	RIFLE RANGE RT	19
352	24+52	RIFLE RANGE RT	19
353	24+29	RIFLE RANGE RT	19
354	23+95	RIFLE RANGE RT	19
355	23+58	RIFLE RANGE RT	19
356	23+24	RIFLE RANGE RT	19
357	133+87	ROUTE CC LT	19
358	134+30	ROUTE CC LT	19
359	134+73	ROUTE CC LT	18
360	135+14	ROUTE CC LT	17
361	135+56	ROUTE CC LT	17
363	136+39	ROUTE CC LT	17
365	138+03	ROUTE CC LT	17
366	138+41	ROUTE CC LT	17
367	138+78	ROUTE CC LT	19
368	139+16	ROUTE CC LT	19
369	138+94	ROUTE CC RT	19
370	138+38	ROUTE CC RT	17
371	138+14	ROUTE CC RT	17
372	137+94	ROUTE CC RT	17
373	137+74	ROUTE CC RT	17
374	137+54	ROUTE CC RT	17
375	137+36	ROUTE CC RT	17
376	136+91	ROUTE CC RT	17
377	136+57	ROUTE CC RT	17
378	136+27	ROUTE CC RT	17
379	135+60	ROUTE CC RT	17
380	135+36	ROUTE CC RT	17
381	135+11	ROUTE CC RT	17
382	134+84	ROUTE CC RT	17
383	134+61	ROUTE CC RT	17
384	134+33	ROUTE CC RT	18
385	134+07	ROUTE CC RT	18
386	133+81	ROUTE CC RT	18

SHEET 102
INLET CHECKS

ID	STA.	ROADWAY	ROCK DITCH CHECK (LF)
315	131+70	ROUTE CC RT	50
362	135+85	ROUTE CC RT	50
364	137+15	ROUTE CC RT	50

SHEET 103
DITCH CHECKS

ID	STA.	ROADWAY	ROCK DITCH CHECK (LF)
389	18+55	RIFLE RANGE LT	17
390	18+07	RIFLE RANGE LT	19
391	17+55	RIFLE RANGE LT	19
392	17+47	RIFLE RANGE RT	19
393	17+77	RIFLE RANGE RT	18
394	18+06	RIFLE RANGE RT	18
395	18+35	RIFLE RANGE RT	17
396	18+62	RIFLE RANGE RT	17
397	18+90	RIFLE RANGE RT	17
398	19+90	RIFLE RANGE RT	17

SHEET 103
INLET CHECKS

ID	STA.	ROADWAY	ROCK DITCH CHECK (LF)
387	20+40	RIFLE RANGE LT	50
388	19+12	RIFLE RANGE LT	50

SHEET 104
DITCH CHECKS

ID	STA.	ROADWAY	ROCK DITCH CHECK (LF)
399	14+70	ELM ST LT	17
400	16+80	ELM ST LT	17
402	18+90	ELM ST LT	17
404	14+80	ELM ST LT	9
405	16+80	ELM ST LT	9
406	18+90	ELM ST LT	9
407	21+00	ELM ST LT	9
408	21+43	ELM ST LT	9
409	21+87	ELM ST LT	9
410	22+29	ELM ST LT	9
411	22+73	ELM ST LT	9
412	23+16	ELM ST LT	9
413	23+59	ELM ST LT	9
414	24+01	ELM ST LT	9
415	24+44	ELM ST LT	9
416	24+87	ELM ST LT	9
417	25+31	ELM ST LT	9

SHEET 104
INLET CHECKS

ID	STA.	ROADWAY	ROCK DITCH CHECK (LF)
401	18+50	ELM ST LT	50
403	26+08	ELM ST LT	50
418	25+93	ELM ST LT	50

SHEET 96
DITCH CHECKS

ID	STA.	ROADWAY	ROCK DITCH CHECK (LF)
419	26+60	ELM ST LT	9
420	27+02	ELM ST LT	9
421	27+46	ELM ST LT	9
422	27+89	ELM ST LT	9
423	28+32	ELM ST LT	9
424	28+75	ELM ST LT	9
425	29+17	ELM ST LT	9
426	29+60	ELM ST LT	9
427	30+03	ELM ST LT	9
428	30+46	ELM ST LT	9
429	30+90	ELM ST LT	9
430	31+74	ELM ST LT	9
431	32+68	ELM ST LT	9
432	34+42	ELM ST LT	9

SHEET 105
INLET CHECKS

ID	STA.	ROADWAY	ROCK DITCH CHECK (LF)
433	33+21	ELM ST LT	50

PRELIMINARY

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DATE PREPARED
3/11/2019

ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 107
COUNTY WEBSTER
JOB NO. J8I0445
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)

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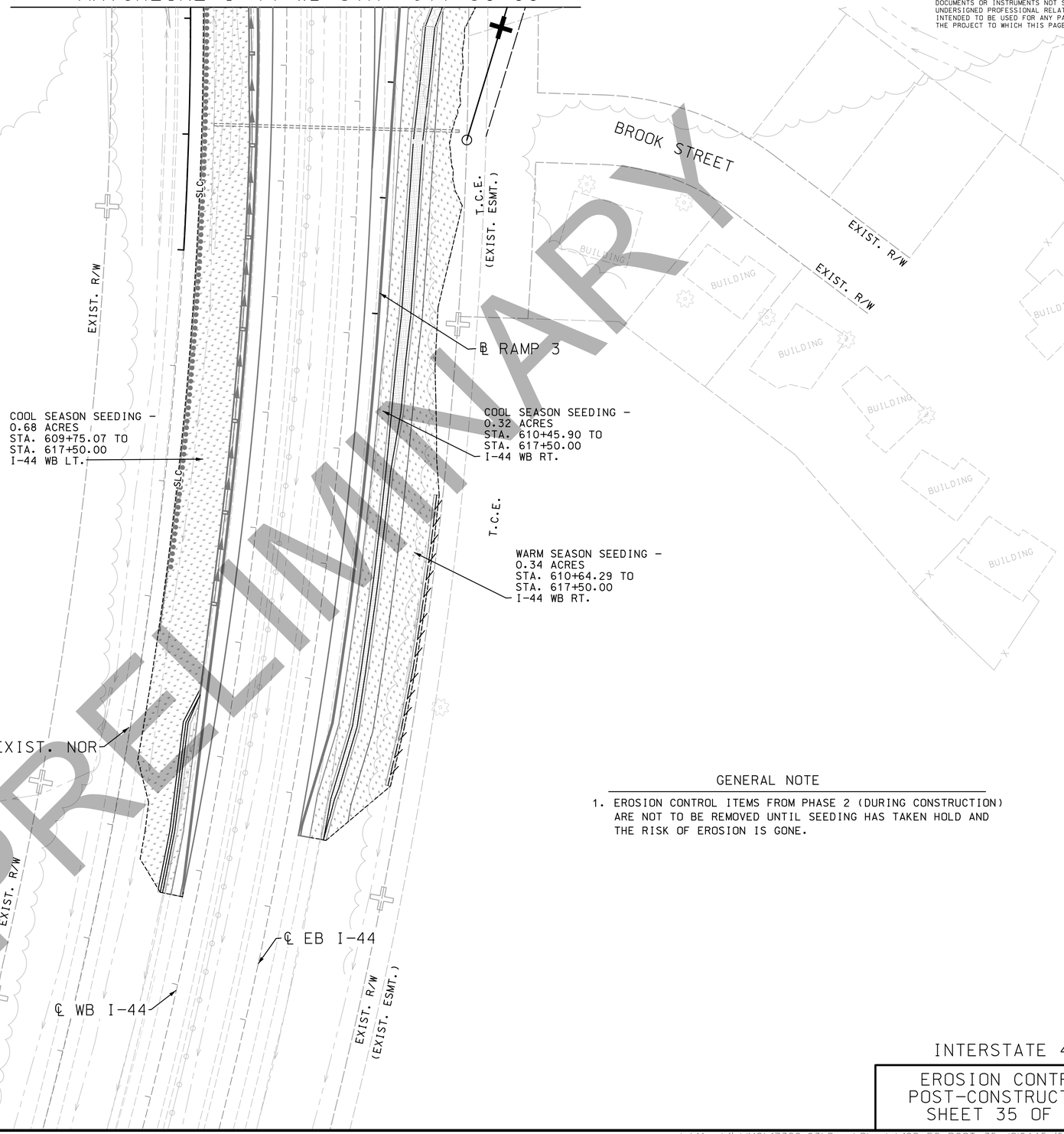
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EROSION CONTROL
DURING CONSTRUCTION
SHEET 34 OF 49

SCALE

0 50 100 150

SEE SHEET 109
MATCHLINE I-44 WB STA. 617+50.00



TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING - COOL SEASON MIXTURE
- SILT FENCE

GENERAL NOTE

1. EROSION CONTROL ITEMS FROM PHASE 2 (DURING CONSTRUCTION) ARE NOT TO BE REMOVED UNTIL SEEDING HAS TAKEN HOLD AND THE RISK OF EROSION IS GONE.

INTERSTATE 44

EROSION CONTROL
POST-CONSTRUCTION
SHEET 35 OF 49

PRELIMINARY

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JOB NO.: J8I0445
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SCALE
0 50 100 150

SEE SHEET 110
MATCHLINE I-44 WB STA. 626+50.00

NORTH OUTER ROAD
STA. 626+00.00

℄ NOR

℄ EB I-44

℄ WB I-44

℄ RAMP 2

EXIST. R/W

SLC

R/W

(EXIST. ESMT.)

COOL SEASON SEEDING -
0.48 ACRES
STA. 619+08.24 TO
STA. 625+98.54
I-44 WB LT.

COOL SEASON SEEDING -
1.10 ACRES
STA. 619+08.24 TO
STA. 626+50.06
I-44 WB LT.

WARM SEASON SEEDING -
0.94 ACRES
STA. 619+08.24 TO
STA. 625+82.90
I-44 WB LT.

COOL SEASON SEEDING -
0.69 ACRES
STA. 619+08.24 TO
STA. 626+50.00
I-44 WB RT.

COOL SEASON SEEDING -
0.53 ACRES
STA. 620+00.99 TO
STA. 626+50.00
I-44 WB LT.

COOL SEASON SEEDING -
0.62 ACRES
STA. 617+50.00 TO
STA. 626+50.00
I-44 WB RT.

WARM SEASON SEEDING -
0.94 ACRES
STA. 617+50.00 TO
STA. 626+50.00
I-44 WB RT.

MATCHLINE I-44 WB STA. 617+50.00
SEE SHEET 108

TEMPORARY EROSION CONTROL LEGEND

- S — SEDIMENT TRAP
- A — ALTERNATE DITCH CHECK
- C — CURB INLET CHECK
- R — ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING - COOL SEASON MIXTURE
- SILT FENCE

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DISTRICT: SW | SHEET NO.: 109
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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INTERSTATE 44

EROSION CONTROL
POST-CONSTRUCTION
SHEET 36 OF 49

NORTH OUTER ROAD
STA. 635+00.00

SEE SHEET 111
MATCHLINE I-44 WB STA. 634+50.00

℄ RAMP 1

COOL SEASON SEEDING –
0.82 ACRES
STA. 632+01.07 TO
STA. 634+50.00
I-44 WB LT.

COOL SEASON SEEDING
1.03 ACRES
STA. 630+97.07 TO
STA. 634+50.00
I-44 WB RT.

COOL SEASON SEEDING –
0.91 ACRES
STA. 630+97.07 TO
STA. 634+50.00
I-44 WB

COOL SEASON SEEDING –
0.20 ACRES
STA. 631+60.01 TO
STA. 634+50.00
I-44 WB RT.

WARM SEASON SEEDING
0.22 ACRES
STA. 631+74.73 TO
STA. 634+50.00
I-44 WB RT.

WARM SEASON SEEDING –
1.49 ACRES
STA. 625+82.90 TO
STA. 634+92.70
I-44 WB LT.

SEE SHEET 115
ROUTE CC
MATCHLINE STA. 64+00.00

WARM SEASON SEEDING
0.12 ACRES
STA. 8+26.01 TO
STA. 9+05.79
MARSHALL RT.

COOL SEASON SEEDING
0.23 ACRES
STA. 6+50.00 TO
STA. 9+47.77
MARSHALL RT.

COOL SEASON SEEDING
1.03 ACRES
STA.626+50.00 TO
STA. 630+64.07
I-44 WB RT.

COOL SEASON SEEDING –
0.87 ACRES
STA. 626+50.00 TO
STA. 630+64.07
I-44 WB LT.

WARM SEASON SEEDING –
0.17 ACRES
STA. 626+50.00 TO
STA. 629+06.94
I-44 WB RT.

COOL SEASON SEEDING –
0.51 ACRES
STA. 626+50.00 TO
STA. 629+93.46
I-44 WB RT.

COOL SEASON SEEDING –
0.67 ACRES
STA. 625+98.54 TO
STA. 634+92.70
I-44 WB LT.

COOL SEASON SEEDING –
1.29 ACRES
STA. 626+50.06 TO
STA. 629+89.72
I-44 WB LT.

℄ WB I-44

℄ EB I-44

MATCHLINE I-44 WB STA. 626+50.00
SEE SHEET 109

MATCHLINE MARSHALL ROAD
STA. 6+50.00, SEE SHEET 79

NORTH OUTER ROAD
STA. 626+00.00

POND

EXIST. R/W

(EXIST. ESMT.)

L℄ RAMP 3

R/W

SLC

SLF

ITS

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0 50 100 150

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DISTRICT: SW | SHEET NO.: 110
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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INTERSTATE 44

EROSION CONTROL
POST-CONSTRUCTION
SHEET 37 OF 49

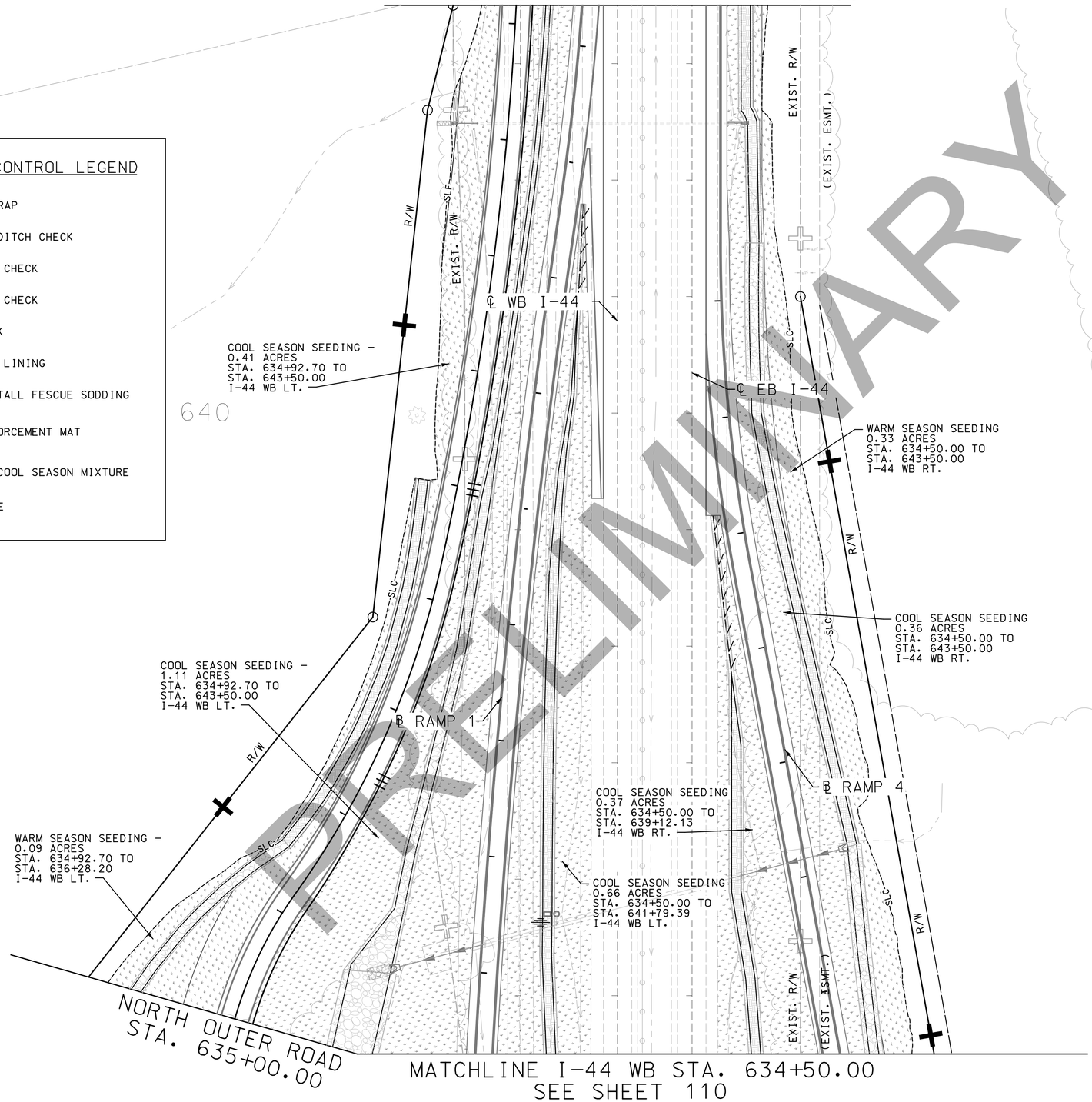
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SCALE
0 50 100 150

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING – COOL SEASON MIXTURE
- SILT FENCE

SEE SHEET 112
MATCHLINE I-44 WB STA. 643+50.00



MATCHLINE I-44 WB STA. 634+50.00
SEE SHEET 110

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DISTRICT: SW | SHEET NO.: 111
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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INTERSTATE 44

EROSION CONTROL
POST-CONSTRUCTION
SHEET 38 OF 49

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SCALE

0 50 100 150

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650

645

EXIST. R/W

SLC

EXIST. R/W

COOL SEASON SEEDING –
0.54 ACRES
STA. 643+50.00 TO
STA. 651+15.00
I-44 WB LT.

WARM SEASON SEEDING
0.11 ACRES
STA. 643+50.00 TO
STA. 649+10.00
I-44 WB RT.

COOL SEASON SEEDING
0.23 ACRES
STA. 643+50.00 TO
STA. 649+10.00
I-44 WB RT.

COOL SEASON SEEDING –
0.02 ACRES
STA. 643+50.00 TO
STA. 645+00.99
I-44 WB LT.

MATCHLINE I-44 WB STA. 643+50.00
SEE SHEET 111

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING – COOL SEASON MIXTURE
- SILT FECE

INTERSTATE 44

EROSION CONTROL
DURING CONSTRUCTION
SHEET 39 OF 49

DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	112

COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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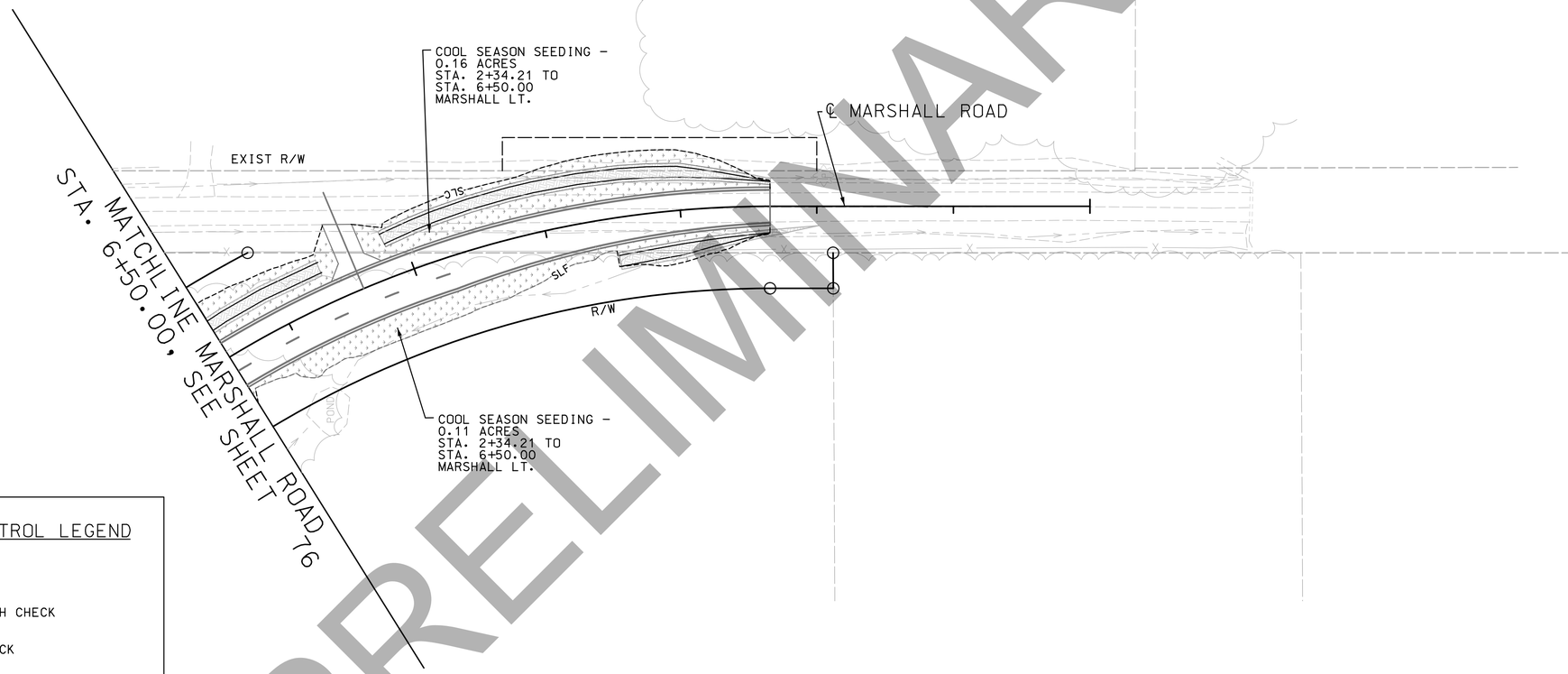
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SCALE
0 50 100 150



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING – COOL SEASON MIXTURE
- SILT FENCE

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COUNTY: WEBSTER
JOB NO.: J8I0445
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PROJECT NO.:
BRIDGE NO.:

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MARSHALL ROAD

EROSION CONTROL
POST-CONSTRUCTION
SHEET 40 OF 49

SCALE

0 50 100 150

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BUILDING
BUILDING
BUILDING
WELL
POND

95 70 75

SEE SHEET 79
MATCHLINE ROUTE CC
STA. 64+00.00

WARM SEASON SEEDING –
0.09 ACRES
STA. 64+00.00 TO
STA. 68+16.42
ROUTE CC LT.

℄ ROUTE CC

COOL SEASON SEEDING –
0.37 ACRES
STA. 64+00.00 TO
STA. 76+50.00
ROUTE CC RT.

SEE SHEET 81
MATCHLINE ROUTE CC
STA. 76+50.00

SLC
EXIST R/W
T.C.E.

WARM SEASON SEEDING –
0.53 ACRES
STA. 64+00.00 TO
STA. 76+50.00
ROUTE CC RT.

COOL SEASON SEEDING –
0.72 ACRES
STA. 64+00.00 TO
STA. 76+50.00
ROUTE CC RT.

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING – COOL SEASON MIXTURE
- SILT FENCE

PRELIMINARY

ROUTE CC

EROSION CONTROL
POST-CONSTRUCTION
SHEET 41 OF 49

DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	114

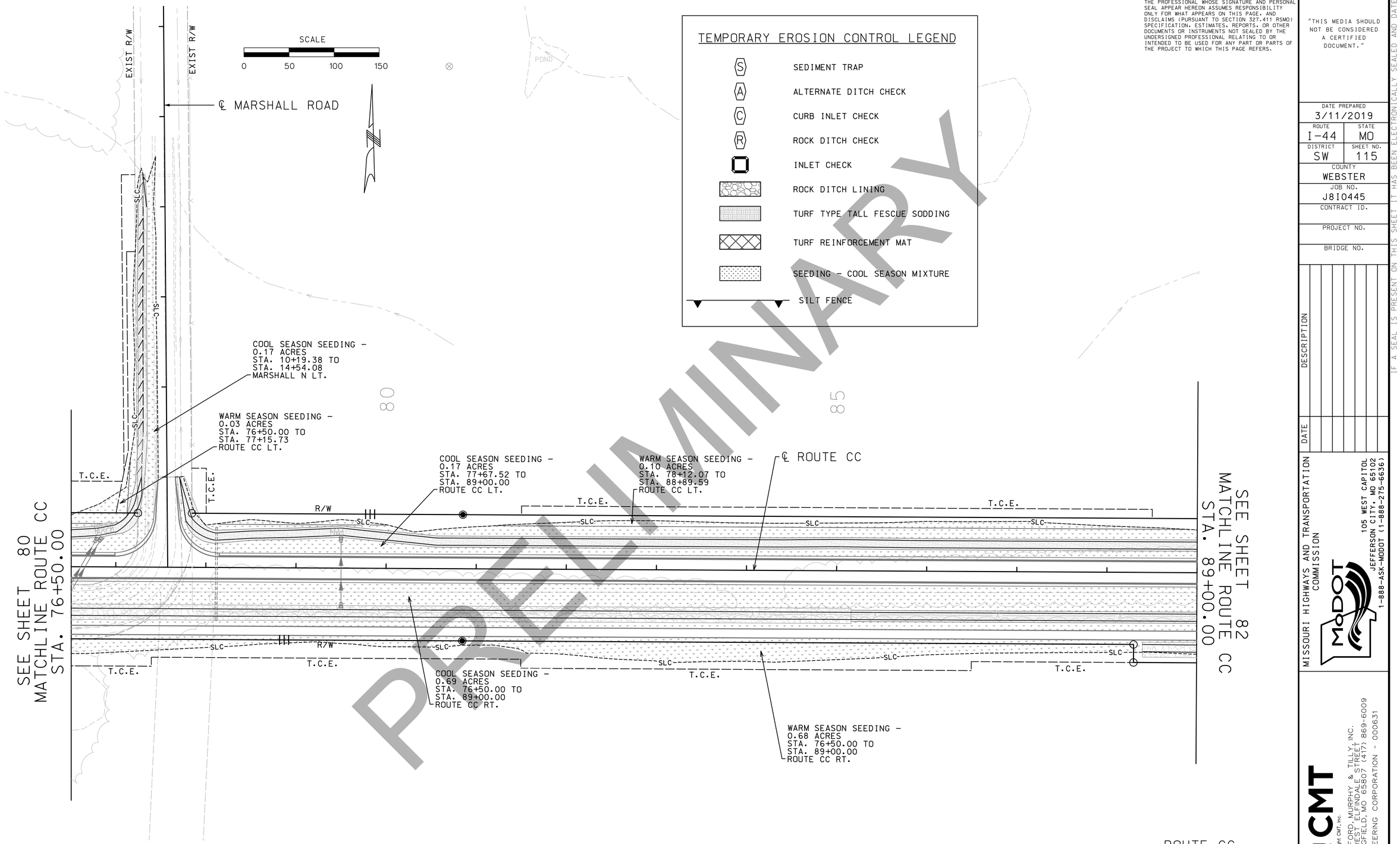
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

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

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TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING - COOL SEASON MIXTURE
- SILT FENCE

PRELIMINARY

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DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 115
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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ROUTE CC

EROSION CONTROL
DURING CONSTRUCTION
SHEET 42 OF 49

SCALE
0 50 100 150

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90 95 100

SEE SHEET 81
MATCHLINE ROUTE CC
STA. 89+00.00

SEE SHEET 83
MATCHLINE ROUTE CC
STA. 101+50.00

℄ ROUTE CC

WARM SEASON SEEDING –
0.12 ACRES
STA. 93+32.13 TO
STA. 101+50.00
ROUTE CC LT.

COOL SEASON SEEDING –
0.77 ACRES
STA. 89+00.00 TO
STA. 101+50.00
ROUTE CC LT.

T.C.E.

SLC

R/W

WARM SEASON SEEDING –
0.75 ACRES
STA. 89+00.00 TO
STA. 101+50.00
ROUTE CC RT.

COOL SEASON SEEDING –
0.74 ACRES
STA. 89+00.00 TO
STA. 101+50.00
ROUTE CC RT.

ROUTE CC

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING – COOL SEASON MIXTURE
- SILT FENCE

PRELIMINARY

EROSION CONTROL
POST-CONSTRUCTION
SHEET 43 OF 49

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	116

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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SCALE
0 50 100 150

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING - COOL SEASON MIXTURE
- SILT FENCE

105

110

COOL SEASON SEEDING -
0.09 ACRES
STA. 101+50.00 TO
STA. 103+07.12
ROUTE CC RT.

COOL SEASON SEEDING -
0.69 ACRES
STA. 101+50.00 TO
STA. 114+00.00
ROUTE CC LT.

WARM SEASON SEEDING -
0.72 ACRES
STA. 101+50.00 TO
STA. 114+00.00
ROUTE CC LT.

℄ ROUTE CC

R/W

T.C.E.

ROUTE CC

COOL SEASON SEEDING -
0.55 ACRES
STA. 103+32.61 TO
STA. 114+00.00
ROUTE CC LT.

COOL SEASON SEEDING -
0.24 ACRES
STA. 10+57.51 TO
STA. 14+00.00
ELM LT.

NOTE
EROSION CONTROL WORK ALONG ELM STREET
TO BE INCLUDED IN ADD ALTERNATE B

WARM SEASON SEEDING -
0.30 ACRES
STA. 103+63.13 TO
STA. 114+00.00
ROUTE CC LT.

WARM SEASON SEEDING -
0.27 ACRES
STA. 101+50.00 TO
STA. 102+78.35
ROUTE CC LT.

ELM ST.

COOL SEASON SEEDING -
0.18 ACRES
STA. 10+55.15 TO
STA. 14+00.00
ELM RT.

WARM SEASON SEEDING -
0.48 ACRES
STA. 10+57.51 TO
STA. 14+00.00
ELM LT.

SEE SHEET 82
MATCHLINE ROUTE CC
STA. 101+50.00

SEE SHEET 84
MATCHLINE ROUTE CC
STA. 114+00.00

SEE SHEET 87
MATCHLINE ELM ST.
STA. 14+00.00

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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 117
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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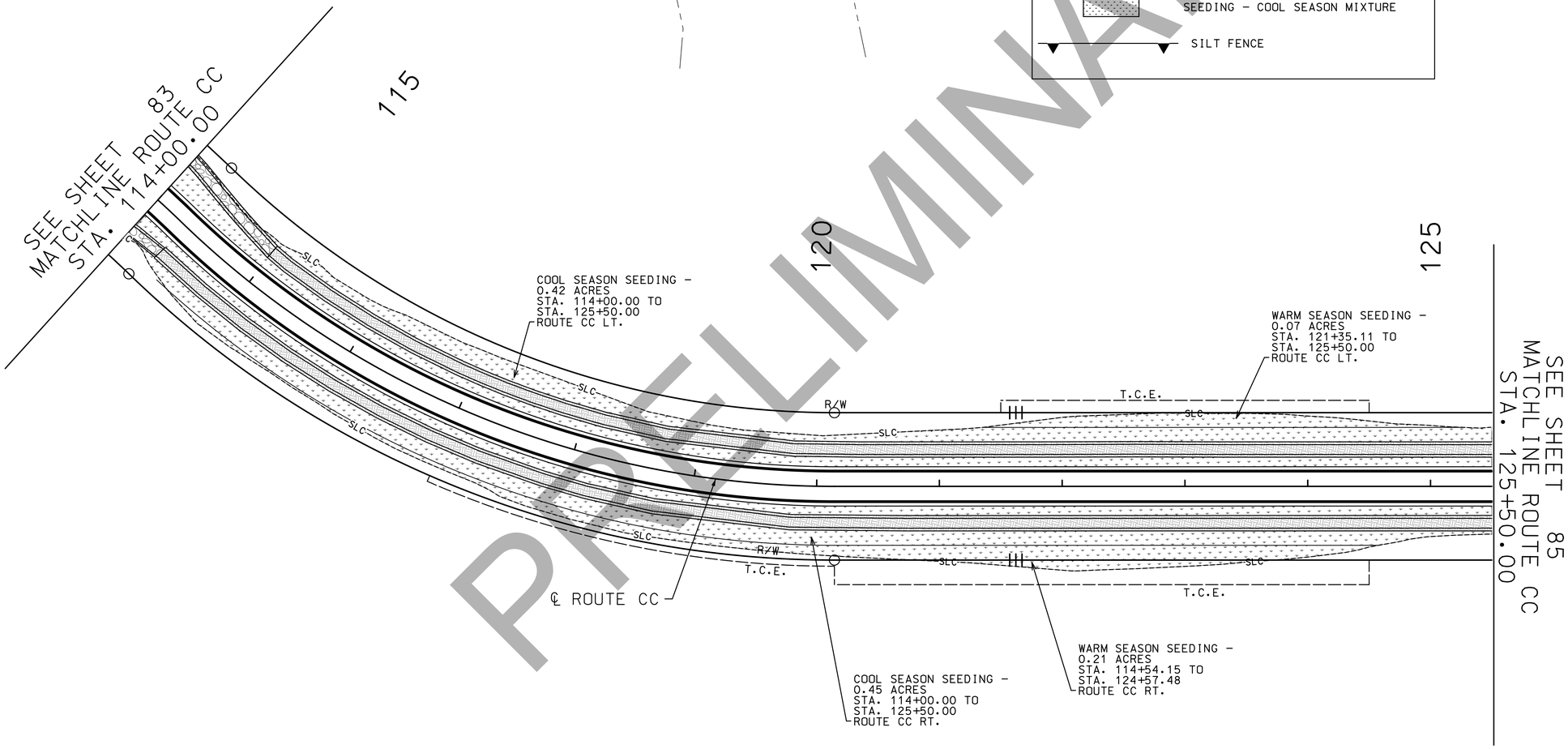
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ROUTE CC

EROSION CONTROL
POST-CONSTRUCTION
SHEET 44 OF 49

SCALE
0 50 100 150



TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING - COOL SEASON MIXTURE
- SILT FENCE

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DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 118
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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

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ROUTE CC

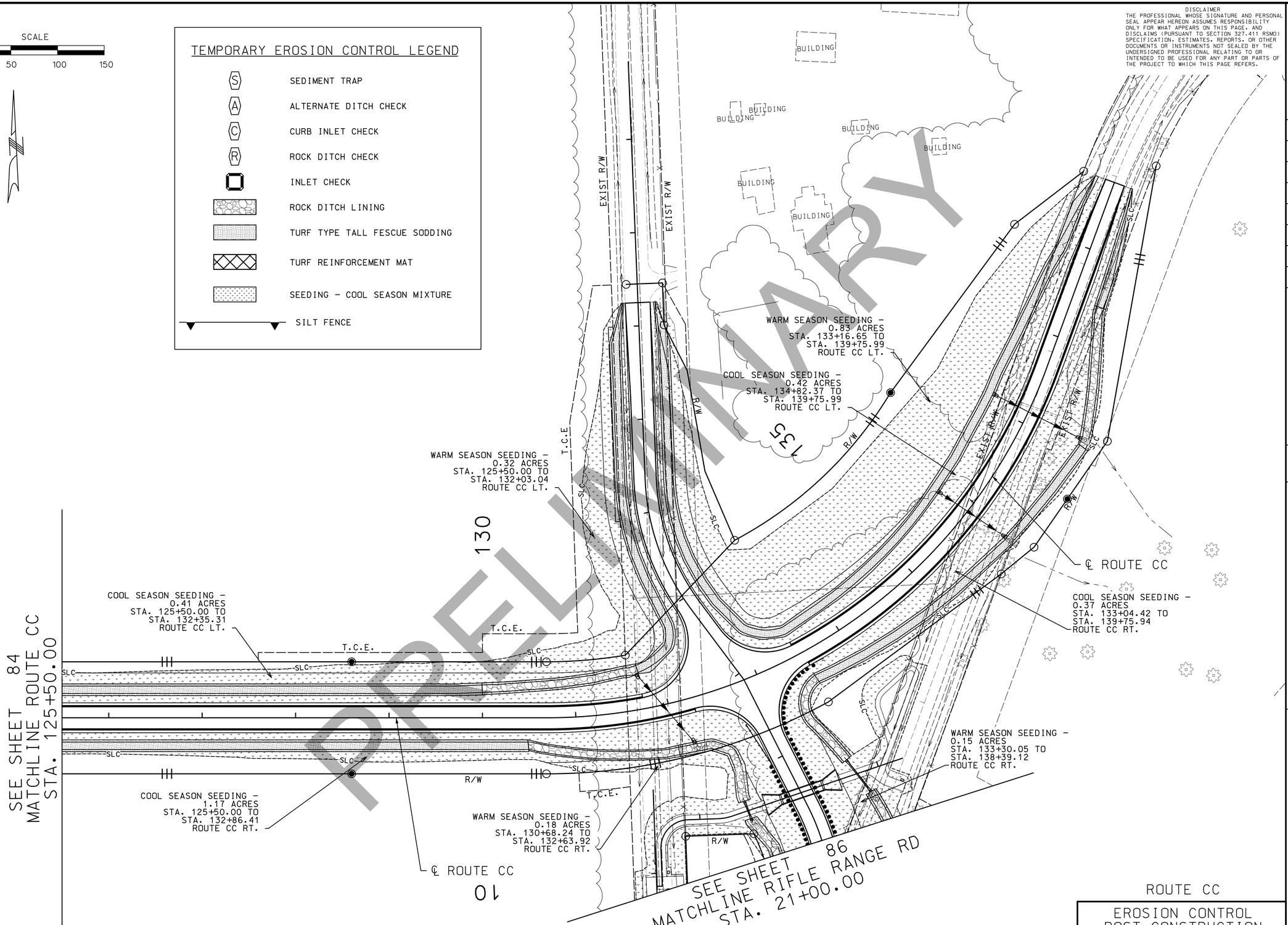
EROSION CONTROL
POST-CONSTRUCTION
SHEET 45 OF 49

SCALE

0 50 100 150

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING - COOL SEASON MIXTURE
- SILT FENCE



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DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	119

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DATE	DESCRIPTION

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ROUTE CC

EROSION CONTROL
POST-CONSTRUCTION
SHEET 46 OF 49

SCALE

0 50 100 150

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING - COOL SEASON MIXTURE
- SILT FENCE

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WARM SEASON SEEDING -
0.17 ACRES
STA. 18+52.10 TO
STA. 21+00.00
RIFLE RANGE RT.

COOL SEASON SEEDING -
0.24 ACRES
STA. 17+10.00 TO
STA. 21+00.00
RIFLE RANGE RT.

R/W

2:1

EXIST. R/W

℄ EXIST. E. HUBBLE DRIVE

EXIST. R/W

SLC

R/W

T.C.E.

SLC

SLC

SLC

WARM SEASON SEEDING -
0.29 ACRES
STA. 16+03.55 TO
STA. 21+00.00
RIFLE RANGE LT.

COOL SEASON SEEDING -
0.23 ACRES
STA. 16+03.55 TO
STA. 21+00.00
RIFLE RANGE LT.

SEE SHEET 85
RIFLE RANGE RD
MATCHLINE
STA. 21+00.00

PRELIMINARY

EAST HUBBLE DRIVE

EROSION CONTROL
POST-CONSTRUCTION
SHEET 47 OF 49

DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	120

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION

DATE

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TEMPORARY EROSION CONTROL LEGEND

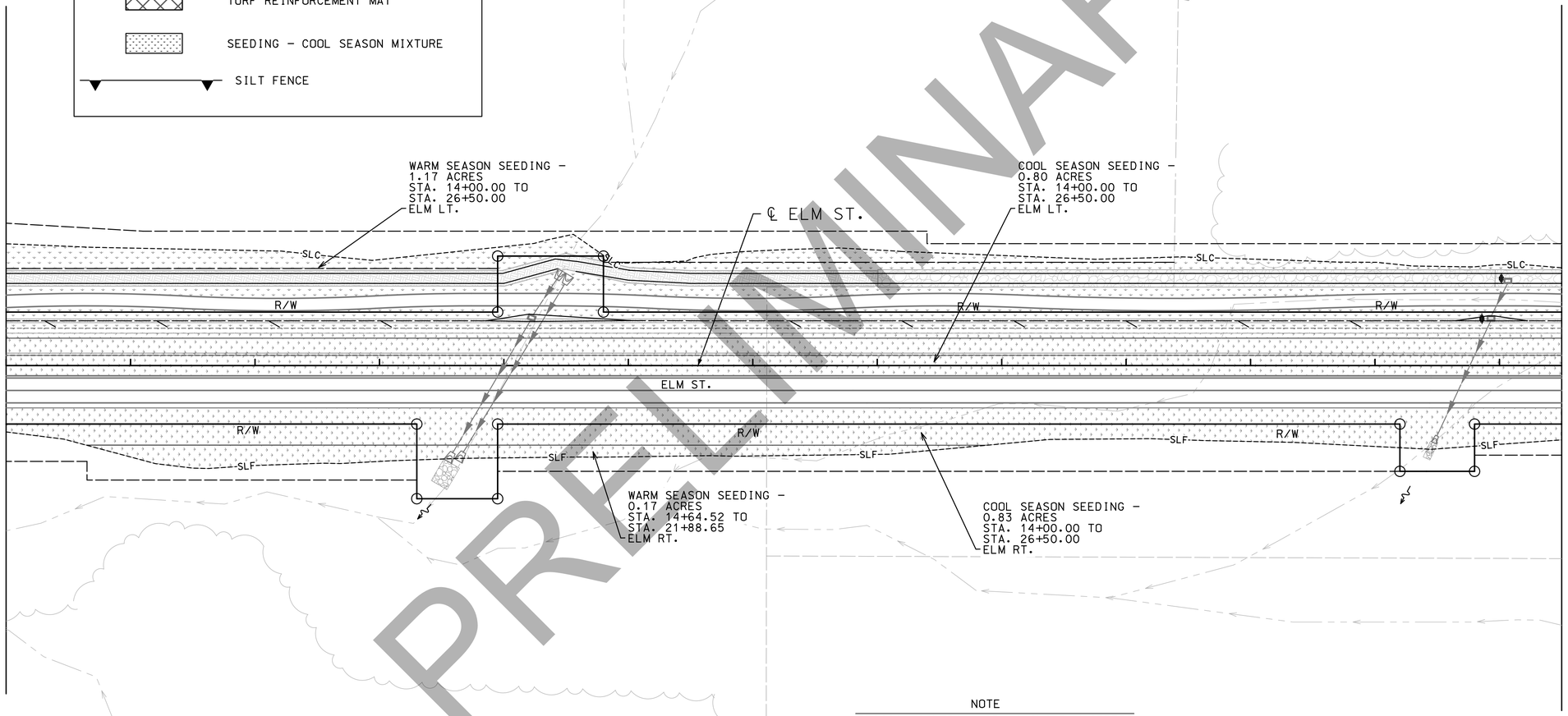
- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING - COOL SEASON MIXTURE
- SILT FENCE

SCALE

0 50 100 150

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PRELIMINARY



NOTE

EROSION CONTROL WORK ALONG ELM STREET TO BE INCLUDED IN ADD ALTERNATE B

ELM STREET

EROSION CONTROL
DURING CONSTRUCTION
SHEET 48 OF 49

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DATE PREPARED: 3/11/2019

ROUTE	STATE
I-44	MO

DISTRICT	SHEET NO.
SW	121

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

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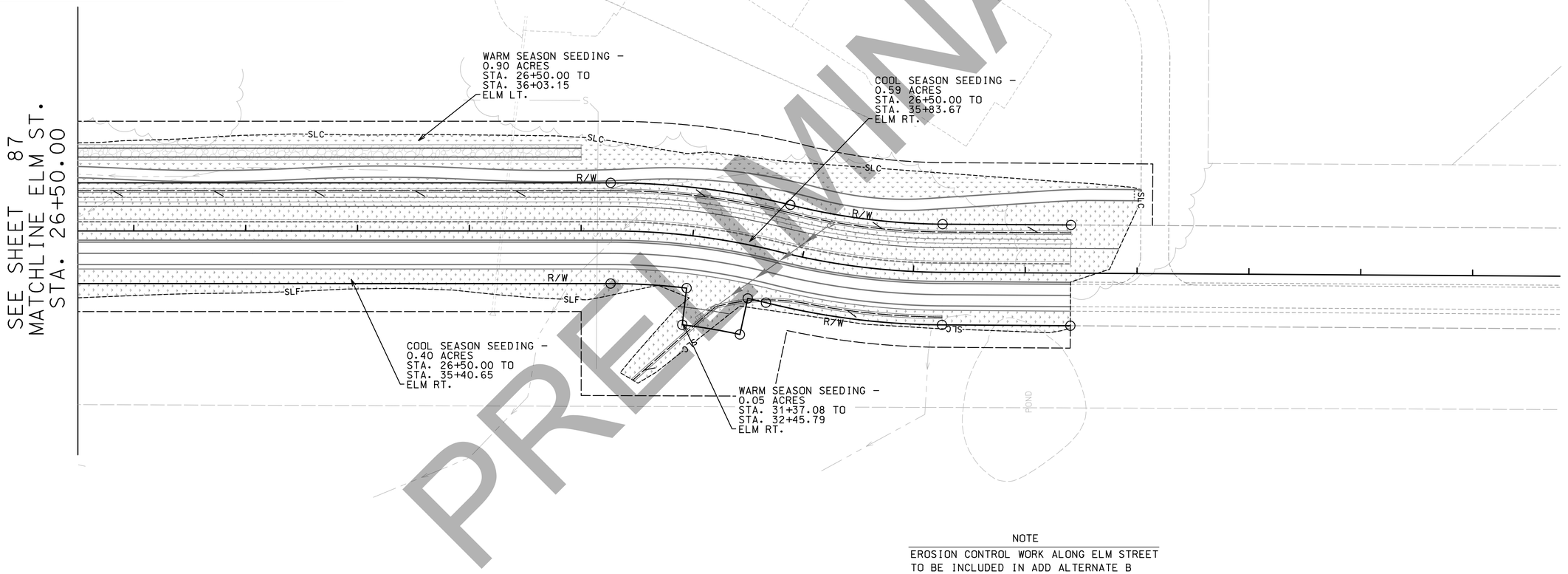
TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- INLET CHECK
- ROCK DITCH LINING
- TURF TYPE TALL FESCUE SODDING
- TURF REINFORCEMENT MAT
- SEEDING - COOL SEASON MIXTURE
- SILT FENCE

SCALE
0 50 100 150



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PRELIMINARY

NOTE
EROSION CONTROL WORK ALONG ELM STREET TO BE INCLUDED IN ADD ALTERNATE B

ELM STREET

EROSION CONTROL
POST-CONSTRUCTION
SHEET 49 OF 49

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DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	122

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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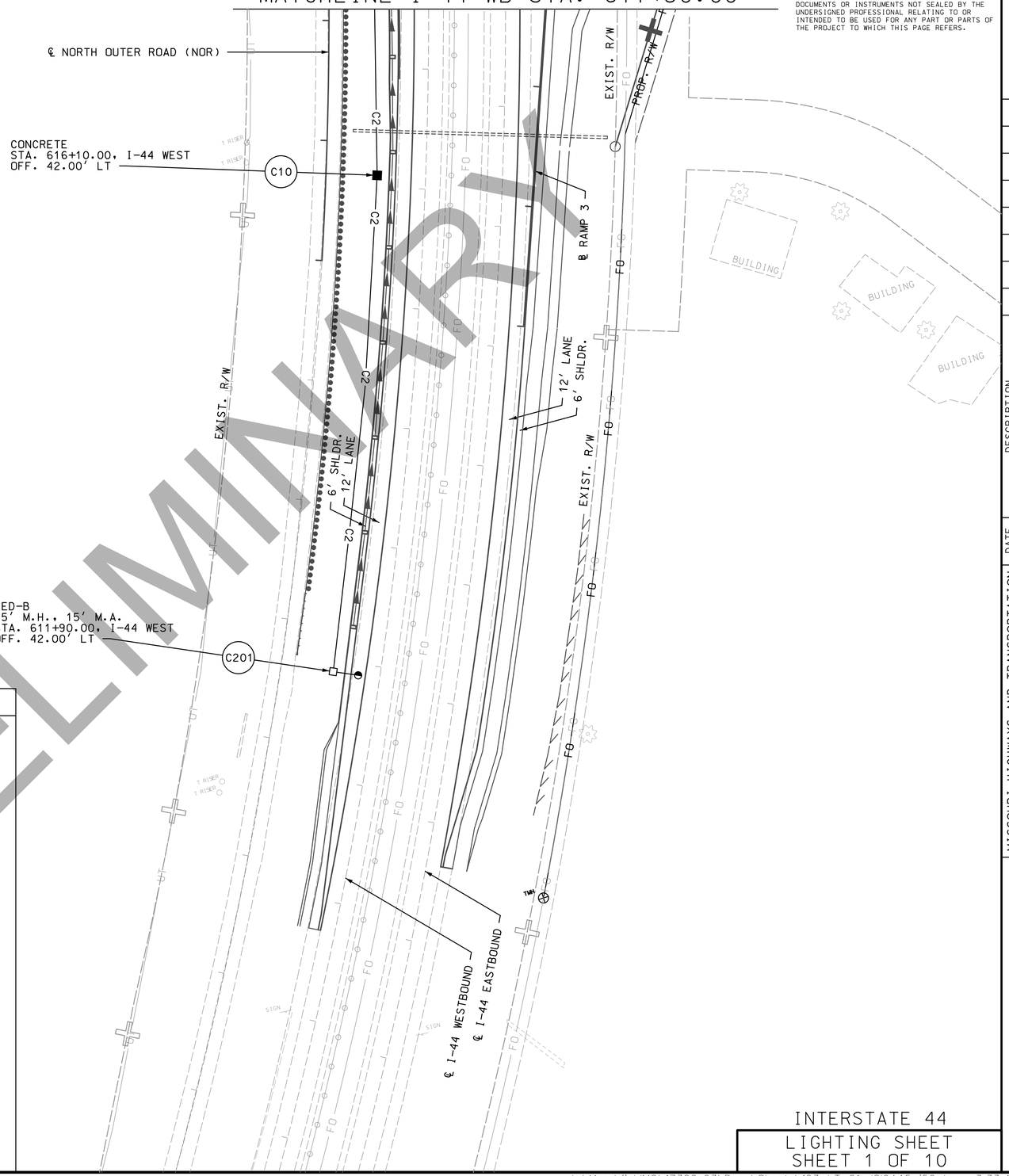
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SCALE

0 50 100 150



SEE SHEET 124
MATCHLINE I-44 WB STA. 617+50.00



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DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	123

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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LIGHTING LEGEND

- LED-C LUMINAIRE
- BRACKET ARM
- BOLT DOWN LIGHT STANDARD
- LED-A LUMINAIRE
- LED-B LUMINAIRE
- 150 WATT UNDERPASS LUMINAIRE
- PULL BOX, TYPE I DRAIN, CONCRETE
- PULL BOX, TYPE II DRAIN, CONCRETE
- PULL BOX, TYPE I DRAIN, PREFORMED
- PULL BOX, TYPE II DRAIN, PREFORMED
- EXISTING PULL BOX, TYPE I DRAIN, CONCRETE
- EXISTING PULL BOX, TYPE II DRAIN, CONCRETE
- EXISTING PULL BOX, TYPE I DRAIN, PREFORMED
- EXISTING PULL BOX, TYPE II DRAIN, PREFORMED
- ✳ USE FOR ALL LIGHITNG PLAN SHEETS

- SERVICE POLE OR PEDESTAL AND POWER SUPPLY
- TRANSFORMER OR SUBSTATION POLE
- BASE MOUNTED LIGHTING CONTROL STATION WITH PAD
- EXISTING BASE MOUNTED CONTROL STATION
- GROUND CONNECTION
- RIGID CONDUIT IN TRENCH
- CAPPED RIGID CONDUIT
- RIGID CONDUIT PUSHED
- EXISTING RIGID CONDUIT
- B B RIGID CONDUIT ON BRIDGE
- M M RIGID CONDUIT IN MEDIAN
- 1 CABLE CONDUIT WITH CIRCUIT NUMBER
- EXISTING CABLE CONDUIT
- EXPOSED CONDUIT ON UNDER SIDE OF BRIDGES. NUMBER OF HATCHES DENOTES NUMBER OF WIRES IN CONDUIT

PRELIMINARY

INTERSTATE 44
LIGHTING SHEET
SHEET 1 OF 10

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SCALE
0 50 100 150

SEE SHEET 125
MATCHLINE I-44 WB STA. 617+50.00

NORTH OUTER ROAD
STA. 626+00.00

CONCRETE
STA. 04+90.00, RAMP 2
OFF. 22.00' RT

℄ RAMP 2

2' SHLDR.
2' SHLDR.
12' LANE
12' LANE

℄ NORTH OUTER ROAD (NOR)

EXISTING 8'X7' CONCRETE
BOX CULVERT WITH EXTENSION

8' SHLDR.
14' LANE
4' SHLDR.

A19 CONCRETE
STA. 10+05.00 RAMP 3
OFF. 22.00' RT

℄ I-44 EASTBOUND

℄ I-44 WESTBOUND

℄ RAMP 3

A15 CONCRETE
STA. 06+65.00 RAMP 3
OFF. 22.00' RT

C9 CONCRETE
STA. 09+70.00, RAMP 2
OFF. 22.00' RT

EXISTING 8'X7' CONCRETE
BOX CULVERT WITH EXTENSION

A303 LED-B
45' M.H., 15' M.A.
STA. 03+15.00, RAMP 3
OFF. 22.00' RT

EXIST. R/W
PROP. R/W

MATCHLINE I-44 WB STA. 617+50.00
SEE SHEET 123

PRELIMINARY

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DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 124
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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
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INTERSTATE 44
LIGHTING SHEET
SHEET 2 OF 10

NORTH OUTER ROAD
STA. 635+00.00

SEE SHEET 126
MATCHLINE I-44 WB STA. 634+50.00

LED-B
45' M.H., 15' M.A.
STA. 55+38.00, ROUTE CC
OFF. 124.00' LT

℄ RAMP 1

CONCRETE
STA. 632+41.00, NOR
OFF. 29.50' RT

LED-B
45' M.H., 15' M.A.
STA. 633+00.00, NOR
OFF. 35.00' LT

ISLAND NOSE
STA. 632+63.34, NOR

CONCRETE
STA. 632+38.00, NOR
OFF. 37.00' LT

LED-B
45' M.H., 15' M.A.
STA. 632+01.50, NOR
OFF. 70.00' LT

CONCRETE
STA. 55+90.00, ROUTE CC
OFF. 70.00' RT

LED-B
45' M.H., 15' M.A.
STA. 630+20.50, NOR
OFF. 63.50' LT

IRRIGATION

LED-B
45' M.H., 15' M.A.
STA. 55+31.00, ROUTE CC
OFF. 104.50' RT

ISLAND NOSE
STA. 629+55.00, NOR

LED-B
45' M.H., 15' M.A.
STA. 629+30.00, NOR
OFF. 28.00' RT

CONTROLLER "C"
240V-4 CIRCUITS
MODOT ROADWAY LIGHTING
STA. 628+75.00, NOR
OFF. 111.00' LT

PAD-MOUNT
TRANSFORMER,
BY OTHERS

2" RIGID STEEL
CONDUIT FROM
UTILITY TO POWER
SUPPLY INCIDENTAL
TO COST OF POWER
SUPPLY (TYP.)

POWER SUPPLY "C"
STA. 628+68.00, NOR
OFF. 103.00' LT

CONCRETE
STA. 629+00.00, NOR
OFF. 30.00' LT

℄ NORTH OUTTER ROAD (NOR)

SCALE
0 50 100 150

LED-B
45' M.H., 15' M.A.
STA. 56+14.50, ROUTE CC
OFF. 63.50' LT

CONCRETE
STA. 56+30.00, ROUTE CC
OFF. 40.50' LT

LED-B
45' M.H., 15' M.A.
STA. 56+90.00, ROUTE CC
OFF. 28.00' LT

CONCRETE
STA. 60+90.00, ROUTE CC
OFF. 72.00' LT

LED-B
45' M.H., 15' M.A.
STA. 60+65.00, ROUTE CC
OFF. 65.00' LT

LED-B
45' M.H., 15' M.A.
STA. 59+62.00, ROUTE CC
OFF. 30.00' LT

WATER

℄ ROUTE CC

IRRIGATION

LED-B
45' M.H., 15' M.A.
STA. 56+05.00, ROUTE CC
OFF. 56.75' RT

LED-B
45' M.H., 15' M.A.
STA. 60+45.00, ROUTE CC
OFF. 58.75' RT

CONCRETE
STA. 0+30.00, RAMP 2
OFF. 26.00' RT

CONCRETE
STA. 629+00.00, NOR
OFF. 23.00' RT

CONCRETE
STA. 15+35.00, RAMP 3
OFF. 32.00' LT

LED-B
45' M.H., 15' M.A.
STA. 13+40.00, RAMP 3
OFF. 20.00' RT

℄ RAMP 2

℄ RAMP 4

CONCRETE
STA. 61+22, ROUTE CC
OFF. 90.00' LT

LED-B
45' M.H., 15' M.A.
STA. 62+00.00, ROUTE CC
OFF. 46.50' RT

LED-B
45' M.H., 15' M.A.
STA. 61+65.00,
ROUTE CC
OFF. 73.00' LT

LED-B
45' M.H., 15' M.A.
STA. 63+00.00, ROUTE CC
OFF. 35.00' LT

CONCRETE
STA. 63+08.00, ROUTE CC
OFF. 35.00' LT

ISLAND NOSE
STA. 62+65.55, ROUTE CC
OFF. 3.00' LT

CONCRETE
STA. 63+07.00, ROUTE CC
OFF. 20.00' RT

CONCRETE
STA. 9+00.00, MARSHALL
OFF. 30.00' RT

POWER SUPPLY/CONTROLLER "A"
240V-4 CIRCUITS
MODOT ROADWAY LIGHTING
120V CIRCUIT FOR CCTV CAMERA
STA. 63+10.00, ROUTE CC
OFF. 90.00' RT

POWER SUPPLY/CONTROLLER "B"

PAD-MOUNTED TRANSFORMER,
BY OTHERS

CONCRETE
STA. 63+10.00, ROUTE CC
OFF. 97.00' RT

LED-B
45' M.H., 15' M.A.
STA. 8+50.00, MARSHALL
OFF. 46.00' RT

LED-B
45' M.H., 15' M.A.
STA. 7+75.00, MARSHALL
OFF. 35.00' LT

CONCRETE
STA. 9+00.00, MARSHALL
OFF. 20.00' LT

CONCRETE
STA. 8+83.00, MARSHALL
OFF. 65.00' LT

℄ MARSHALL

LED-B
45' M.H., 15' M.A.
STA. 61+31.00, ROUTE CC
OFF. 108.00' RT

CONCRETE
STA. 15+45.00, RAMP 3
OFF. 11.00' RT

℄ RAMP 3

MATCHLINE I-44 WB STA. 626+50.00
SEE SHEET 124

NORTH OUTTER ROAD
STA. 626+00.00

NOTES:

SEE SHEET 128 FOR CIRCUITS ON CONTROLLER B.

SEE LANDSCAPE PLAN FOR ADDITIONAL INFORMATION.

SEE ITS PLANS FOR POWER TO CCTV CAMERA.

INTERSTATE 44

LIGHTING SHEET
SHEET 3 OF 10

PRELIMINARY

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DATE PREPARED	3/11/2019
ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	125
COUNTY	WEBSTER
JOB NO.	J8I0445
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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DATE	DESCRIPTION

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

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SEE SHEET 127
MATCHLINE I-44 WB STA. 643+50.00

LED-B
45' M.H., 15' M.A.
STA. 02+40.00, RAMP 1
OFF. 24.00' RT

CONCRETE
STA. 642+30.00, I-44 WEST
OFF. 104.00' RT

℄ RAMP 1

℄ NORTH OUTER ROAD (NOR)

℄ I-44 EASTBOUND

℄ I-44 WESTBOUND

℄ RAMP 4

CONCRETE
STA. 06+25.00, RAMP 1
OFF. 15.00' RT

CONCRETE
STA. 07+50.00, RAMP 4
OFF. 20.00' RT

CONCRETE
STA. 09+97.00, RAMP 1
OFF. 20.00' RT

CONCRETE
STA. 03+68.00, RAMP 4
OFF. 20.00' RT

EXIST. R/W

PROP. R/W

5' SHLDR.
13' LANE
10' SHLDR.
24' LANE
5' SHLDR
5' SHLDR.
25' LANE
10' SHLDR.
2' SHLDR.
2' SHLDR.
12' LANE
12' LANE
4' SHLDR.
4' SHLDR.
7' SHLDR.
16' LANE
3' SHLDR.
7' SHLDR.
16' LANE
3' SHLDR.

NORTH OUTER ROAD
STA. 635+00.00

MATCHLINE I-44 WB STA. 634+50.00
SEE SHEET 125

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SCALE
0 50 100 150

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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 126
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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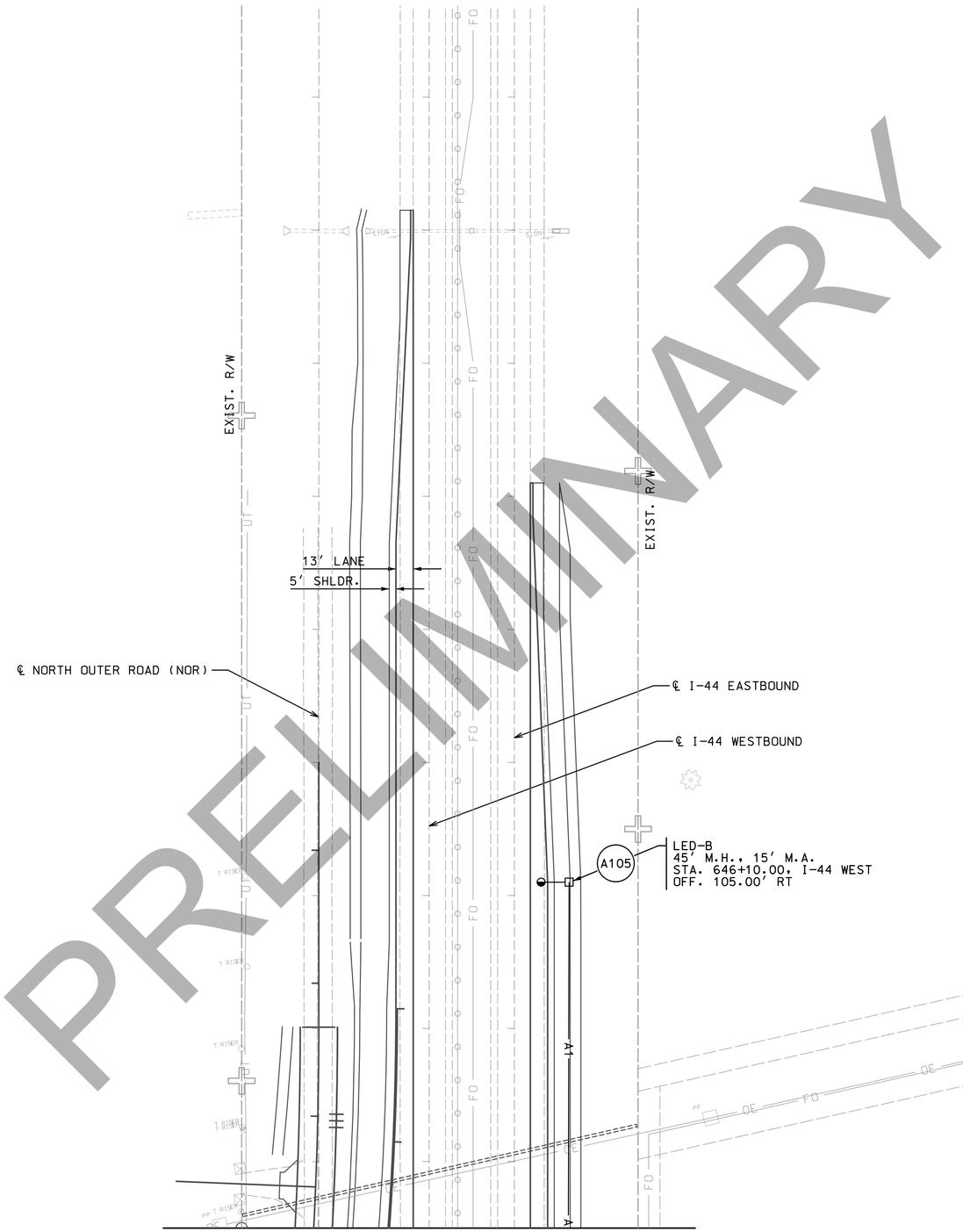
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INTERSTATE 44
LIGHTING SHEET
SHEET 4 OF 10

SCALE

0 50 100 150



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DATE PREPARED: 3/11/2019

ROUTE	STATE
I-44	MO

DISTRICT	SHEET NO.
SW	127

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DATE	DESCRIPTION

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INTERSTATE 44
LIGHTING SHEET
SHEET 5 OF 10

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SCALE
0 50 100 150

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CONCRETE
STA. 57+45.00, ROUTE CC
OFF. 24.00' LT

2-2 IN.CONDUITS
CAST IN CONCRETE
TRAFFIC BARRIER
(TYP.)

CONDUIT IN SAFETY
BARRIER CURB (BRIDGE ITEM)
(CIRCUITS B2, A1, A2)

CONCRETE
STA. 59+10.00, ROUTE CC
OFF. 22.00' LT

CIRCUITS B2, A1, A4, A2
(1) 3" RIGID CONDUIT SLEEVE

CONCRETE
STA. 60+98.00, ROUTE CC
OFF. 48.00' RT

120V POWER TO GROUNDED RECEPTACLE

CONCRETE
STA. 62+25.22, ROUTE CC
OFF. 33.78' LT

240V POWER TO MONUMENT
AND FLAG POLE LIGHTS

CONCRETE
STA. 55+65.00, ROUTE CC
OFF. 55.00' LT

CONCRETE
STA. 55+90.00, ROUTE CC
OFF. 85.00' LT

CONDUIT FOR IRRIGATION WATER

POWER SUPPLY/CONTROLLER "B"
240V-4 CIRCUITS
FOR BRIDGE LIGHTING
120V FOR IRRIGATION & GROUNDED RECEPTACLES
STA. 63+20.00, ROUTE CC
OFF. 89.00' RT

PAD-MOUNTED TRANSFORMER, BY OTHERS

2" RIGID STEEL CONDUIT FROM UTILITY TO POWER SUPPLY IS INCIDENTAL TO COST OF POWER SUPPLY

℄ I-44 WESTBOUND
℄ I-44 EASTBOUND
℄ ROUTE CC
EXIST. R/W
240V POWER TO MONUMENT AND FLAG POLE LIGHTS
BUILDING
ITS
UE
OE
FO
UT
SIGN

CONCRETE
STA. 54+10.58, ROUTE CC
OFF. 36.54' RT.

CONCRETE
STA. 54+33.00, ROUTE CC
OFF. 118.00' RT.

120V POWER TO GROUNDED RECEPTACLE

CONCRETE
STA. 54+50.51, ROUTE CC
OFF. 15.67' RT.

CONCRETE
STA. 54+86.00, ROUTE CC
OFF. 134.00' RT.

POWER TO IRRIGATION CONTROL AND GROUNDED RECEPTACLE

CONCRETE
STA. 55+95.86, ROUTE CC
OFF. 114.15' RT.

CONCRETE
STA. 56+15.42, ROUTE CC
OFF. 84.56' RT.

CONCRETE
STA. 57+45.00, ROUTE CC
OFF. 35.00' RT

2-2 IN.CONDUITS
CAST IN CONCRETE
TRAFFIC BARRIER
(TYP.)

CONDUIT IN SAFETY
BARRIER CURB (BRIDGE ITEM)
(CIRCUITS B2, A1, A2)

CONCRETE
STA. 59+10.00, ROUTE CC
OFF. 33.00' RT

CIRCUIT B1 AND B2
POWER TO IRRIGATION CONTROL AND GROUNDED RECEPTACLE

CONCRETE
STA. 60+41.47, ROUTE CC
OFF. 123.80' RT.

CONCRETE
STA. 15+13.00, RAMP 3
OFF. 22.00' LT

CONCRETE
STA. 61+60.98, ROUTE CC
OFF. 4.75' RT.

CONDUIT FOR IRRIGATION WATER

CONCRETE
STA. 8+90.00, MARSHALL
OFF. 31.00' RT

CONCRETE
STA. 62+05.37, ROUTE CC
OFF. 116.65' RT.

CONCRETE
STA. 63+20.00, ROUTE CC
OFF. 99.00' RT

CONCRETE
STA. 63+25.00, ROUTE CC
OFF. 101.00' RT

BRIDGE MOUNTED DECORATIVE LIGHT POLE (SEE BRIDGE PLANS, BRIDGE ITEM)	
B101	B201
B102	B202
B103	B203
B104	B204

NOTES:

SEE SHEET 125 FOR MODOT CIRCUITS A AND C.

SEE ITS SHEETS FOR POWER TO CCTV CAMERA.

SEE LANDSCAPE PLANS FOR ADDITIONAL IRRIGATION INFORMATION.

WIRING AND CONDUIT REQUIRED FOR GROUNDED RECEPTACLE, FLAG POLE LIGHTS, AND MONUMENT SIGN INSIDE OF ROUNDABOUT ARE INCIDENTAL TO THOSE PAY ITEMS. SEE JSPs.

ROUTE CC

LIGHTING SHEET
SHEET 6 OF 10

PRELIMINARY

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	128

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

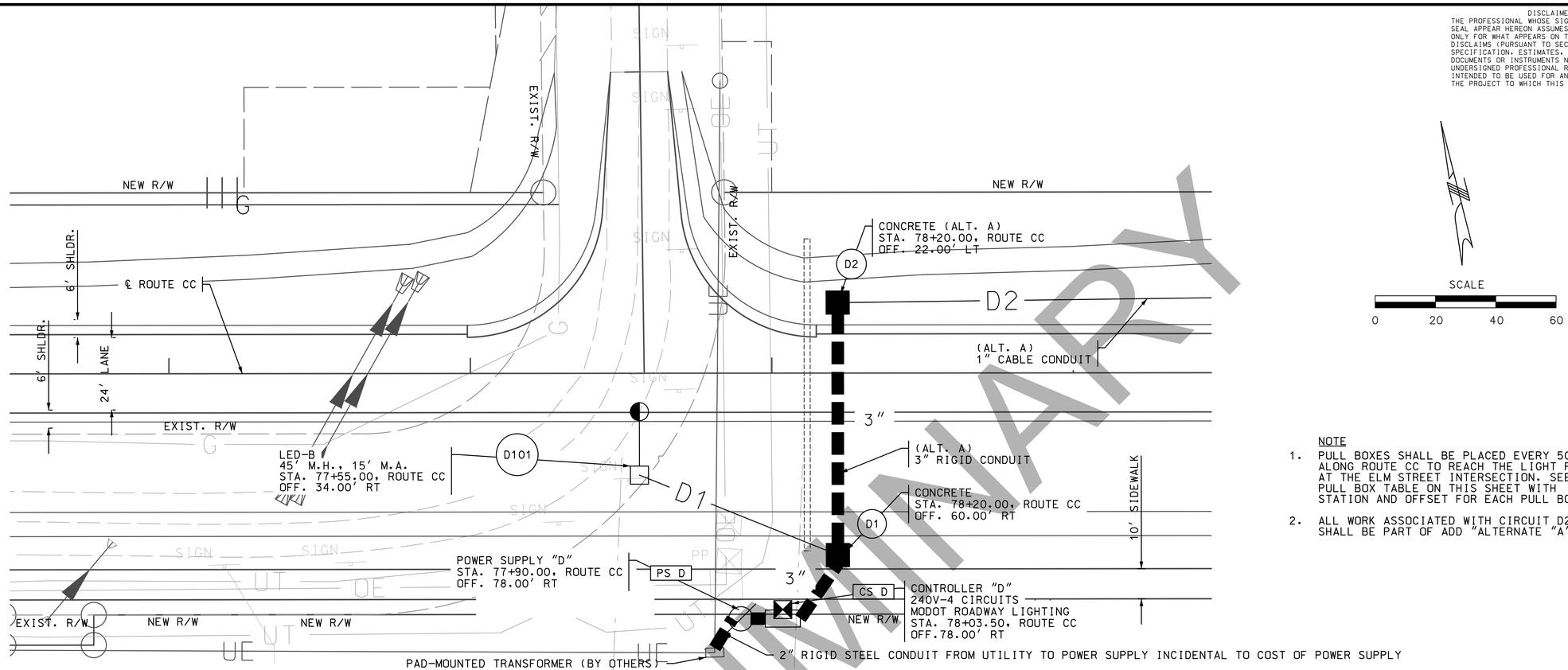
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JEFFERSON CITY, MO 65102
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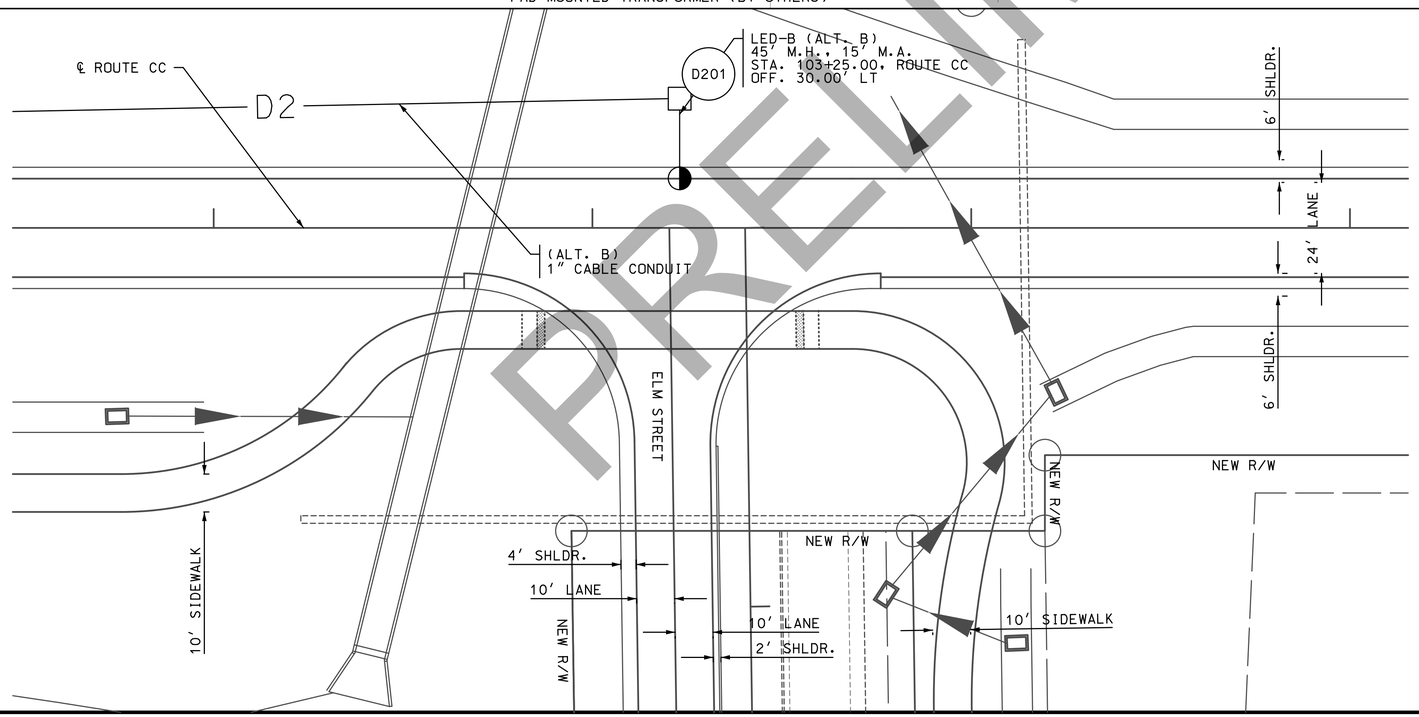
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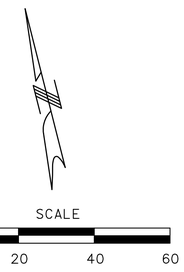
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NOTE

1. PULL BOXES SHALL BE PLACED EVERY 500FT ALONG ROUTE CC TO REACH THE LIGHT POLE AT THE ELM STREET INTERSECTION. SEE PULL BOX TABLE ON THIS SHEET WITH STATION AND OFFSET FOR EACH PULL BOX.
2. ALL WORK ASSOCIATED WITH CIRCUIT D2 SHALL BE PART OF ADD "ALTERNATE "A"





PULL BOX TABLE			
PULL BOX	TYPE	STATION	OFFSET
D3	CONC.	83+20.00	22.00' LT
D4	CONC.	88+20.00	22.00' LT
D5	CONC.	93+20.00	22.00' LT
D6	CONC.	98+20.00	22.00' LT

✳ ALL STATION AND OFFSETS ARE FROM ℄ ROUTE CC

MARSHALL (BASE BID)
ELM ST. (ADD ALT. A)

LIGHTING SHEET
SHEET 7 OF 10

PRELIMINARY

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DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	129

COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

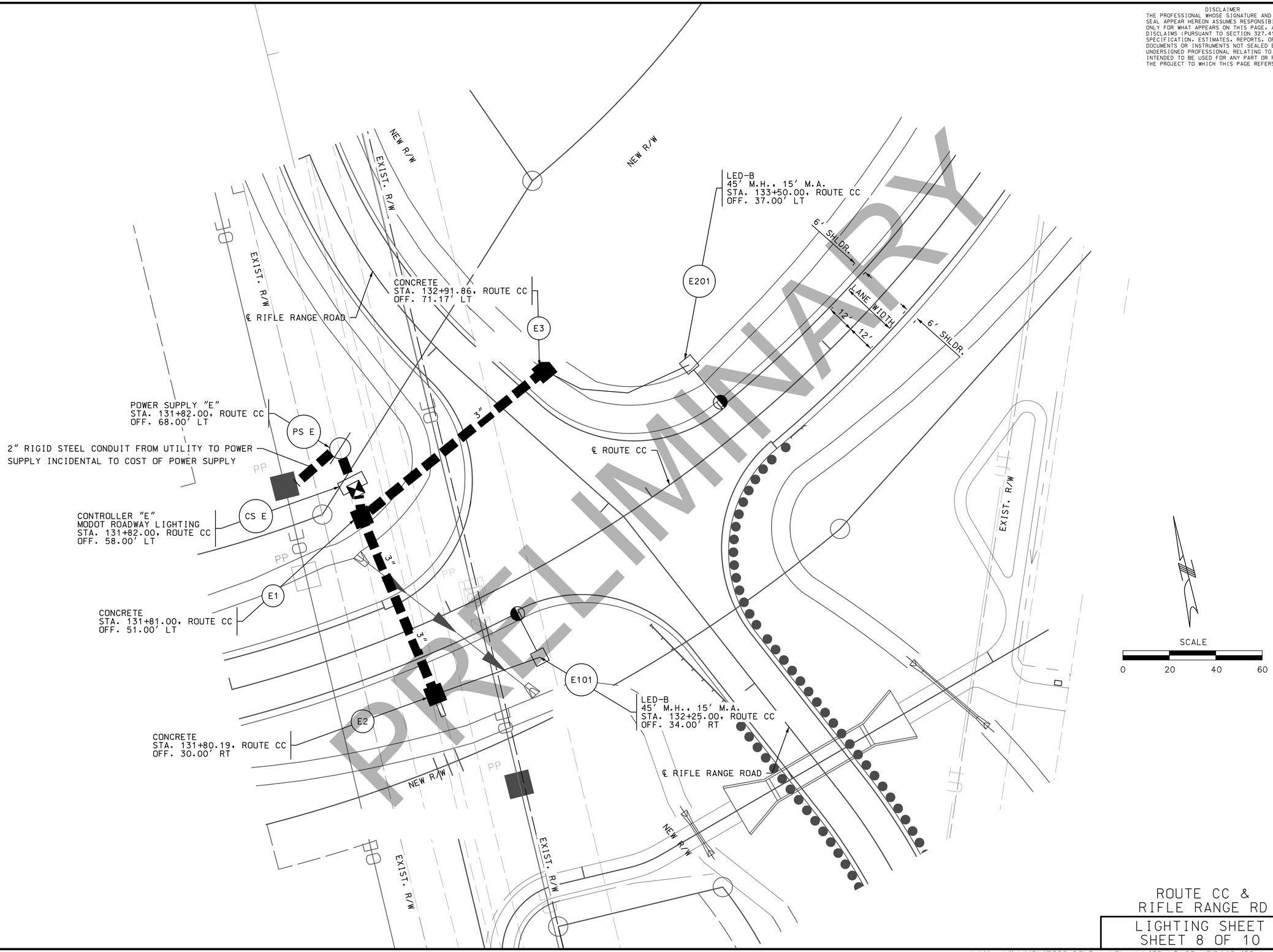
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DESCRIPTION | DATE

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JEFFERSON CITY, MO 65102
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DATE PREPARED: 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	130

COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

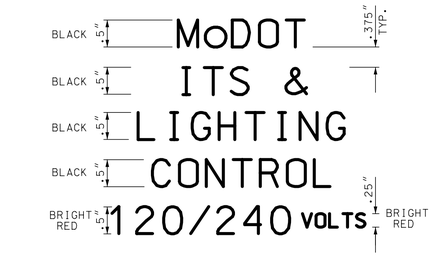
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ROUTE CC & RIFLE RANGE RD

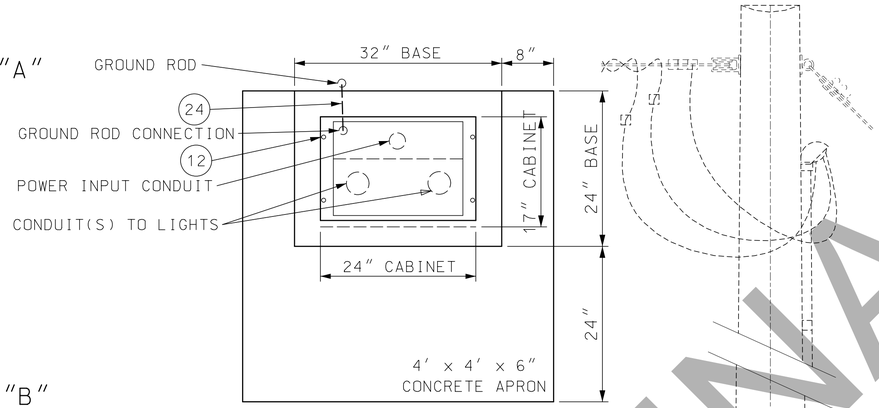
LIGHTING SHEET
SHEET 8 OF 10



LABEL DETAIL
MoDOT POWER SUPPLY/CONTROLLER "A"
(13) (B)



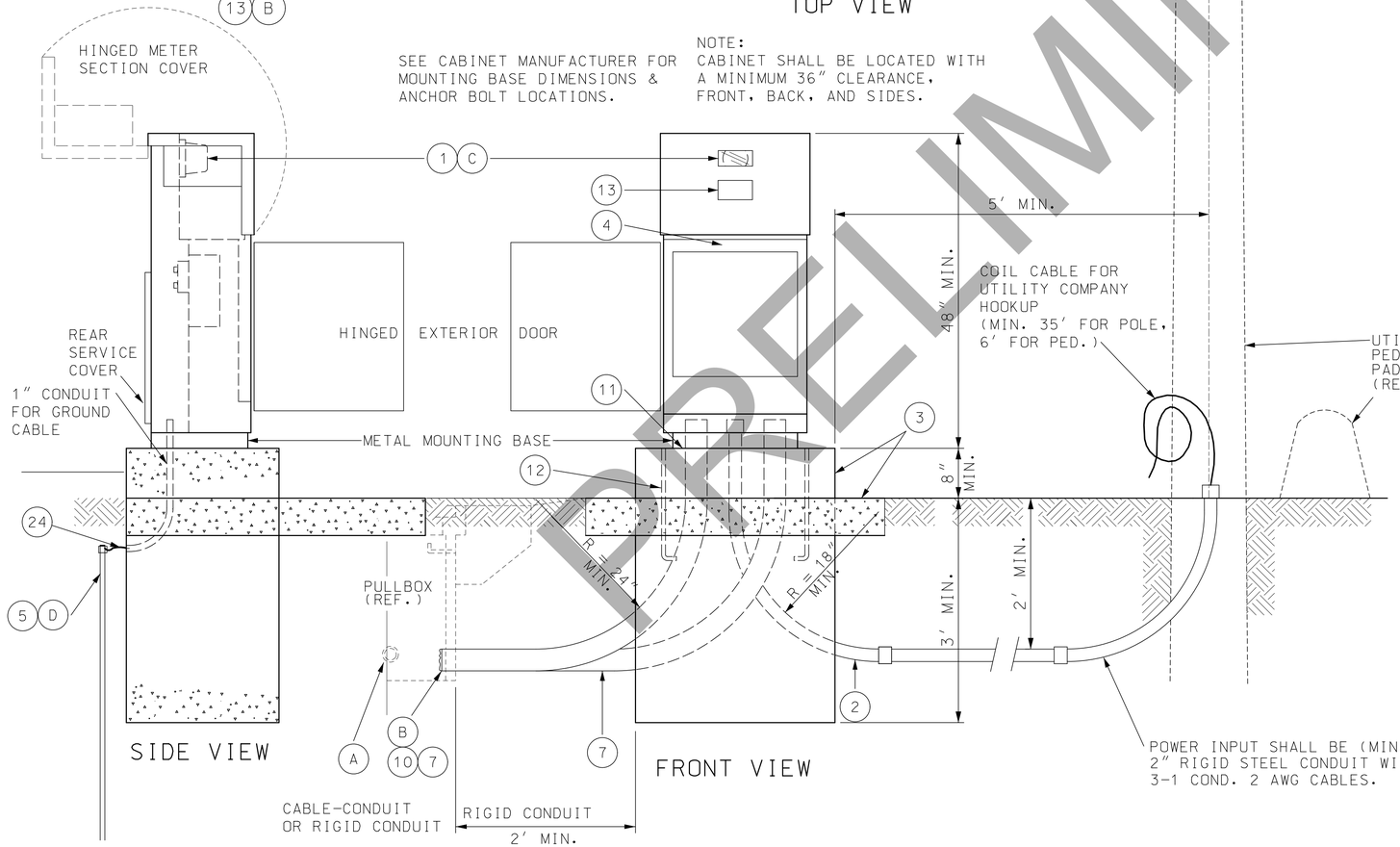
LABEL DETAIL
CITY POWER SUPPLY/CONTROLLER "B"
(13) (B)



TOP VIEW

SEE CABINET MANUFACTURER FOR MOUNTING BASE DIMENSIONS & ANCHOR BOLT LOCATIONS.

NOTE:
CABINET SHALL BE LOCATED WITH A MINIMUM 36" CLEARANCE, FRONT, BACK, AND SIDES.



SIDE VIEW

FRONT VIEW

LOCATED AT:

MODOT POWER SUPPLY/ CONTROLLER "A"
240V 4 CIRCUITS FOR MODOT LIGHTING
120V FOR MODOT ITS CCTV

CITY POWER SUPPLY/ CONTROLLER "B"
240V 4 CIRCUITS FOR CITY BRIDGE MOUNTED DECORATIVE ROADWAY LIGHTING, FLAG POLE AND MONUMENT LIGHTING. 120V FOR CITY IRRIGATION

LIST OF MATERIALS	
ITEM	DESCRIPTION
1	METER SOCKET, 200 AMP
2	RIGID STEEL CONDUIT, 2" MIN. TO UTILITY CO. FACILITIES
3	CLASS B CONCRETE, 0.9 C.Y.±
4	NEMA 4, DUST-TIGHT, WATERTIGHT, CABINET
5	GROUND ROD, 3/4" DIA. X 8' MIN. (MIN. 8' IN SOIL)
7	RIGID CONDUIT TO FIRST PULL BOX (SEE PLANS FOR SIZE)
10	PLIABLE DUCT SEALANT
11	LIFETIME SILICONE CAULK
12	ANCHOR BOLTS, 3/8 - 11 x 18" LONG BOLTS, HOT DIP GALVANIZED. 4 REQUIRED
13	WEATHERPROOF ADHESIVE LABEL, VINYL RAISED LETTERING (OR EQUIVALENT, SEE DETAIL)
24	GROUND WIRE, #2 AWG, MIN.

NOTES

(A) IF CABLE-CONDUIT IS SPECIFIED, THE CONDUIT SHALL BE CUT AWAY FROM CABLES BETWEEN PULL BOX AND CONTROL STATION.

(B) LIGHTING SYSTEM VOLTAGE AS SPECIFIED ON PLANS (120 OR 240 VOLTS). IF LIGHTS ARE TO BE MOUNTED ON SIGNAL POSTS, VOLTAGE MUST BE 120 VOLTS. 240 VOLT LIGHTS ARE NOT TO BE MOUNTED ON OR WIRED THROUGH SIGNAL POSTS, CONDUIT, OR PULL BOXES.

(C) CONTROLLER CABINET WITH POWER SUPPLY SHALL BE ALUMINUM OR STAINLESS STEEL. ALL HARDWARE, HINGES, CATCHES, ETC. SHALL BE STAINLESS STEEL. METER SOCKET AND OTHER EQUIPMENT AND MATERIALS SHALL BE U.L. APPROVED, AND CONFORM TO THE REQUIREMENTS OF THE UTILITY COMPANY OR MUNICIPALITY PROVIDING POWER.

(D) IF SUBSURFACE CONDITIONS EXIST WHICH PROHIBIT THE PLACEMENT OF THE GROUND ROD IN A VERTICAL POSITION, THE ROD MAY BE DRIVEN AT AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES FROM VERTICAL OR BURIED IN A TRENCH AT LEAST 30 IN. DEEP. CONNECTION TO GROUND ROD SHALL BE CADWELDED.

(E) UTILITY COMPANY SHALL DECIDE IF LIGHTNING ARRESTERS ARE TO BE CONNECTED ON THE LOAD OR LINE SIDE OF THE METER. THE UTILITY COMPANY SHALL ALSO DECIDE WHERE THE LIGHTNING ARRESTER SHALL BE MOUNTED.

GENERAL NOTES:

1. ALTERNATE CABINET DIMENSIONS WILL BE ALLOWED AS APPROVED BY THE ENGINEER. INTERIOR CABINET VOLUME SHALL BE EQUAL TO OR GREATER THAN THAT SHOWN ON PLANS AND PROPER CLEARANCES SHALL BE PROVIDED FOR ALL EQUIPMENT. CONCRETE BASE DIMENSIONS SHALL BE MODIFIED TO FIT THE CABINET SUPPLIER AT NO ADDITIONAL COST.
2. PLACEMENT OF ALL ITEMS SHALL BE APPROVED BY THE ENGINEER.
3. CABINET SHALL BE LOCATED AWAY FROM TRAFFIC. TOP MOUNT PHOTO CONTROL SHALL FACE AN OPEN SKY. SIDE MOUNT PHOTO CONTROL SHALL FACE NORTH.
4. SEE PLANS FOR CIRCUIT WIRING; MAXIMUM LOADING PER CIRCUIT IS 7,400 WATTS.
5. SCHEMATIC DIAGRAM SHALL BE MOUNTED ON INSIDE OF CABINET DOOR.
6. THE UTILITY SHALL BE NOTIFIED IN WRITING 30 DAYS PRIOR TO DATE SERVICE WILL BE REQUIRED.
7. ALL CABINET OPENINGS SHALL BE COVERED AND SEALED WITH LIFETIME SILICONE CAULK.
8. ALL MATERIALS REQUIRED EXCLUDING REFERENCE ITEMS AS SHOWN ON DRAWING SHALL BE INCLUDED IN PRICE BID FOR '120/240V COMBINATION BASE MOUNTED POWER SUPPLY AND CONTROL STATION'.
9. CABLE AND CONDUIT FROM POWER SUPPLY ASSEMBLY TO UTILITY COMPANY FACILITIES SHALL BE INCLUDED IN PRICE BID FOR '120/240V COMBINATION BASE MOUNTED POWER SUPPLY AND CONTROL STATION'.

120-240v COMBINATION PAD MOUNTED POWER SUPPLY & LIGHTING CONTROL STATION DUAL METER

LIGHTING SHEET
SHEET 9 OF 10

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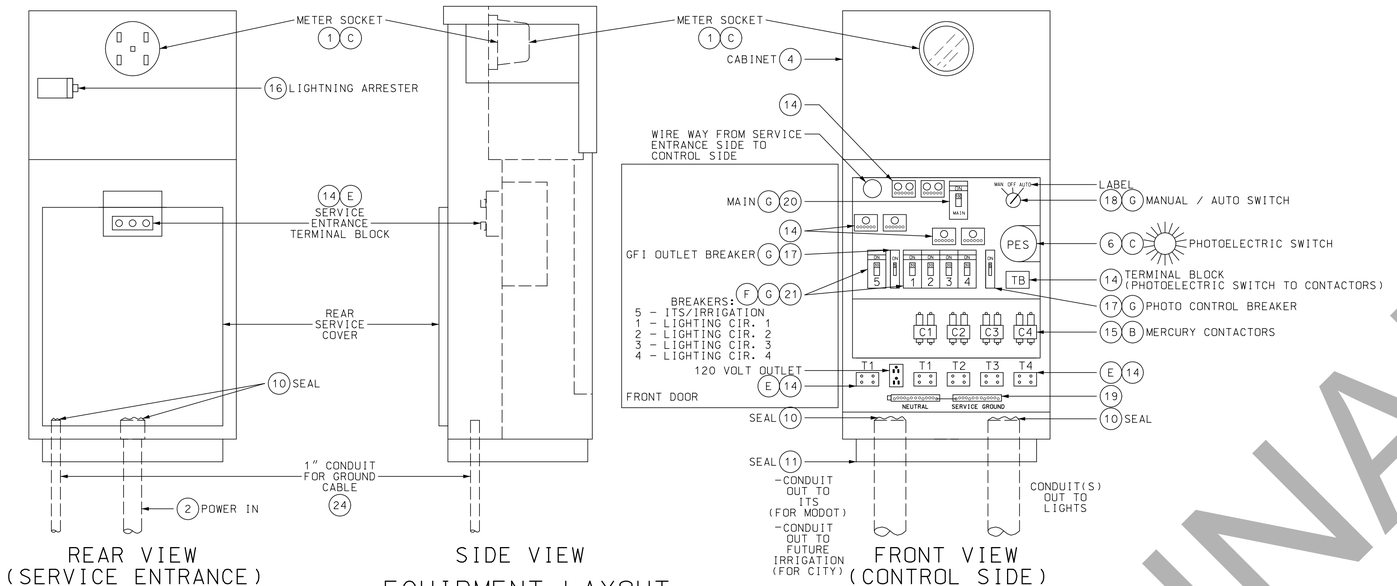
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COUNTY WEBSTER
JOB NO. J8I0445
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BRIDGE NO.

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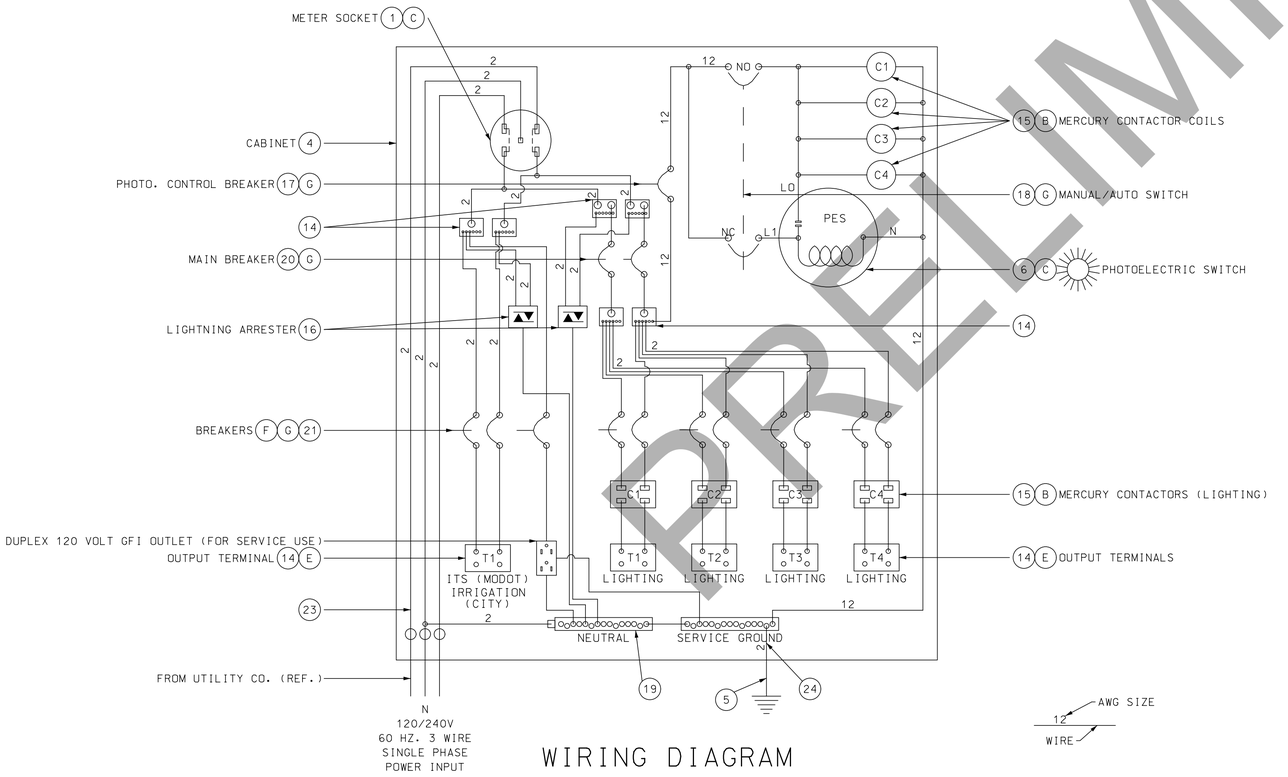
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EQUIPMENT LAYOUT



WIRING DIAGRAM

LOCATED AT:

MODOT POWER SUPPLY/ CONTROLLER "A"

240V 4 CIRCUITS FOR MODOT LIGHTING
120V FOR MODOT ITS CCTV

CITY POWER SUPPLY/ CONTROLLER "B"

240V 4 CIRCUITS FOR CITY BRIDGE MOUNTED DECORATIVE ROADWAY LIGHTING, FLAG POLE AND MONUMENT LIGHTING, 120V FOR CITY IRRIGATION

LIST OF MATERIALS	
ITEM	DESCRIPTION
1	METER SOCKET, 200 AMP, WITH LEVER TEST BYPASS
2	RIGID STEEL CONDUIT, 2" MIN. TO UTILITY CO. FACILITIES
4	NEMA 3R, DUST-TIGHT, WATERTIGHT CABINET
5	GROUND ROD, 3/4" DIA. X 8' MIN. (MIN. 8' IN SOIL)
6	PHOTOELECTRIC SWITCH AND SOCKET, 105/285 V., 1000 WATT
10	PLIABLE SEALANT
11	LIFETIME SILICONE CAULK
14	INSULATED TERMINAL BLOCK
15	2-POLE, 35 AMP, 120V COIL LIGHTING CONTACTOR (MERCURY)
16	2-POLE, 650 VOLT LIGHTNING ARRESTER
17	1-POLE, 15 AMP, TYPE B BREAKER TO PHOTOELECTRIC SWITCH
18	MANUAL-AUTO SWITCH
19	INSULATED GROUNDABLE NEUTRAL, 100 AMP
20	2-POLE, 100 AMP, TYPE A MAIN BREAKER
21	2-POLE, 15 AMP (MIN), TYPE A BREAKERS ✳
22	#12 AWG MIN., 600 V., CONTROL CABLE
23	#2 AWG MIN., 600 V., POWER CABLE ✳
24	#2 AWG MIN., 600 V., GROUND CABLE
✳	SEE PLANS FOR SIZE

NOTES

(B) LIGHTING SYSTEM VOLTAGE AS SPECIFIED ON PLANS (120 OR 240 VOLTS). IF LIGHTS ARE TO BE MOUNTED ON SIGNAL POSTS, VOLTAGE MUST BE 120 VOLTS. 240 VOLT LIGHTS ARE NOT TO BE MOUNTED ON OR WIRED THROUGH SIGNAL POSTS, CONDUIT, OR PULL BOXES.

(C) LOCATE PHOTOELECTRIC SWITCH AT CENTER OF WINDOW.

(E) IF FOR REASONS OF VOLTAGE DROP A WIRE SIZE IS SPECIFIED LARGER THAN #2 AWG, A LARGER TERMINAL BLOCK SHALL BE INSTALLED FOR THAT CIRCUIT.

(F) BREAKER SIZING:

SIZE (AMPS)	240V TOTAL CIRCUIT LOAD (WATTS)	120V TOTAL CIRCUIT LOAD (WATTS)
15	0-2800	0-1390
20	2850-3700	1400-1850
25	3750-4600	1860-2320
30	4650-5500	2330-2780
35	5550-6500	-
40	6550-7400	-

CIRCUIT LOAD INCLUDES LOAD DUE TO LINE LOSS, LAMP, AND BALLAST LOAD.

(G) ALL CIRCUIT BREAKERS SHALL CONFORM TO SECTION 901.4 OF THE STANDARD SPECIFICATIONS.

PRELIMINARY

"MoDOT" & "CITY"
120-240v COMBINATION PAD MOUNTED POWER SUPPLY & LIGHTING CONTROL STATION DUAL METER

LIGHTING SHEET
SHEET 10 OF 10

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JOB NO. J8I0445
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1. STA. 59+55.56, 27.33' RT
2. STA. 59+27.80, 27.33' RT
3. STA. 59+27.80, 38.67' RT
4. STA. 59+55.56, 38.67' RT
5. STA. 59+66.32, 27.91' RT

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PRELIMINARY

MAINTENANCE PARKING PAD

POWER SUPPLY/CONTROLLER "A"
240V-4 CIRCUITS
MODOT ROADWAY LIGHTING
STA. 63+10.00, ROUTE CC
OFF. 90.00' RT

IT CAMERA POLE, 50' M.H.
STA. 59+30.00, ROUTE CC
OFF. 33.00' RT

A16 CONCRETE
STA. 63+01.08, ROUTE CC
OFF. 94.95' RT.

A17 CONCRETE
STA. 61+93.69, ROUTE CC
OFF. 84.13' RT.

A18 CONCRETE
STA. 60+64.48, ROUTE CC
OFF. 75.64' RT.

I1 CLASS 5
626+65.69, I-44 WB
OFF. 33.01' RT

I2 CLASS 5
626+80.85, I-44 WB
OFF. 39.41' RT

I3 CLASS 5
626+81.11, I-44 WB
OFF. 160.20' RT

SCALE
0 50 100 150

INTERSTATE 44

IT SYSTEMS SHEET
SHEET 1 OF 4

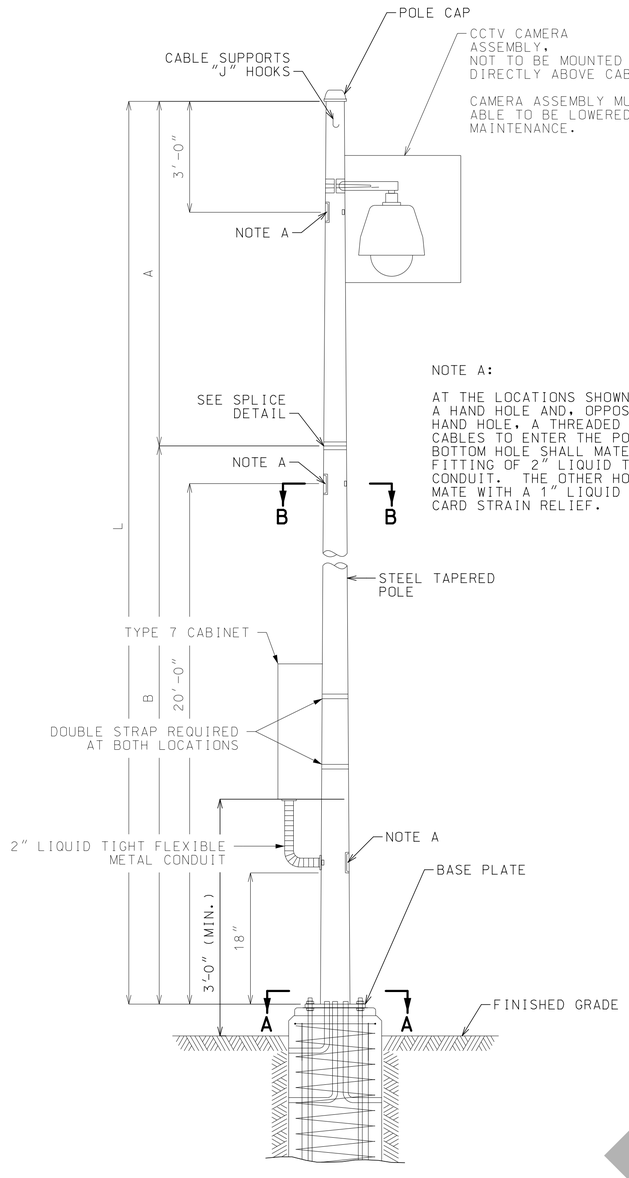
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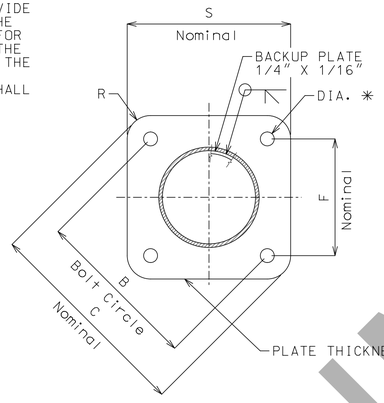
TYPICAL CCTV POLE

NOTE A:

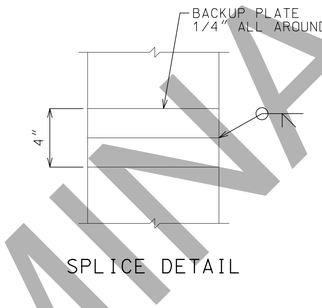
AT THE LOCATIONS SHOWN, PROVIDE A HAND HOLE AND, OPPOSITE THE HAND HOLE, A THREADED HOLE FOR CABLES TO ENTER THE POLE. THE BOTTOM HOLE SHALL MATE WITH THE FITTING OF 2" LIQUID TIGHT CONDUIT. THE OTHER HOLES SHALL MATE WITH A 1" LIQUID TIGHT CARD STRAIN RELIEF.

NOTES:

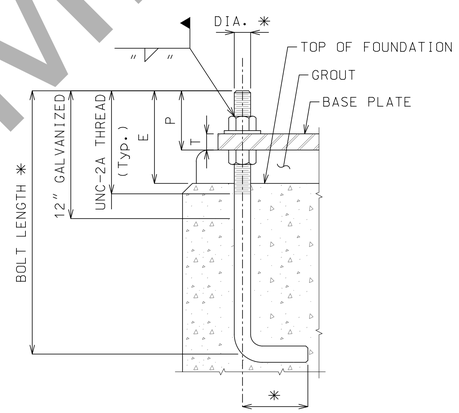
1. DIMENSIONS AND SIZES PROVIDED FOR THE CCTV POLE AND THE POLE BASE PLATE ASSEMBLY ARE FOR BIDDING AND INFORMATIONAL PURPOSES ONLY. POLE MANUFACTURER SHALL DESIGN AND FURNISH THE CCTV POLE AND THE POLE BASE PLATE ASSEMBLY FOR GENERAL CONFORMANCE TO WHAT IS SHOWN AND TO BE COMPATIBLE WITH THE FOUNDATION SPECIFIED. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
2. ANCHOR BOLT QUANTITY, DIAMETER AND EMBEDMENT SHALL BE DESIGNED BY THE POLE MANUFACTURER AND APPROVED BY THE ENGINEER.
3. THE ENGINEER WHOSE SEAL APPEARS ON THIS SHEET TAKES NO RESPONSIBILITY FOR THE DESIGN OF THE CCTV POLE, THE POLE BASE PLATE ASSEMBLY OR THE ANCHOR BOLTS.
4. THE LOCATION OF ERECTION CHANNELS TO BE DETERMINED BY THE POLE MANUFACTURER.
5. ALL CONDUITS AND ANCHOR BOLTS SHALL BE RIGIDLY INSTALLED BEFORE THE CONCRETE IS PLACED. ANCHOR BOLTS SHALL BE SPACED BY MEANS OF A TEMPLATE AT THE TOP OF THE ANCHOR BOLTS, THE CENTER OF WHICH SHALL COINCIDE WITH THE CENTER OF THE FOUNDATION.
6. HIGH STRENGTH BOLTS, NUTS AND WASHERS SHALL CONFORM TO AASHTO M164 OR HIGH STRENGTH BOLTS CONFORMING TO ASTM A193 AND GRADES B5, B6, B7 OR B16 AND NUTS CONFORMING TO ASTM A194 WILL BE PERMITTED.
7. FOR FOUNDATION DETAILS & CCTV POLE LOCATIONS SEE SHEET 2 OF 2.



SECTION A-A



SPLICE DETAIL

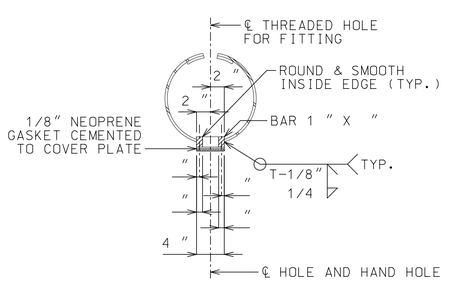


ANCHOR BOLT DETAIL

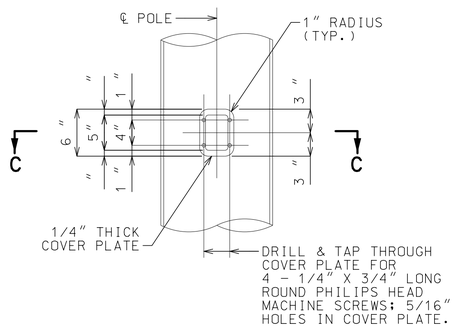
* TO BE FURNISHED BY THE POLE MANUFACTURER

POLE TABLE								
POLE HEIGHT L (FT)	A				B			
	DIA. @ TOP	DIA. @ BOT.	THICKNESS	LENGTH (FT)	DIA. @ TOP	DIA. @ BOT.	THICKNESS	LENGTH (FT)
50	6"	9 1/2"	5/16"	25	9 1/2"	13"	5/16"	25

POLE BASE PLATE ASSEMBLY								
POLE HEIGHT L (FT)	BASE PLATE						ANCHOR BOLTS	
	B	C	F	S	R	T	P	E
50	19 1/2"	25 1/2"	3 3/4"	9 3/4"	3"	2 1/4"	5"	8"



SECTION B-B



HAND HOLE AND COVER DETAIL

CCTV POLE AND ATTACHMENT DETAIL

SHEET 1 OF 2

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

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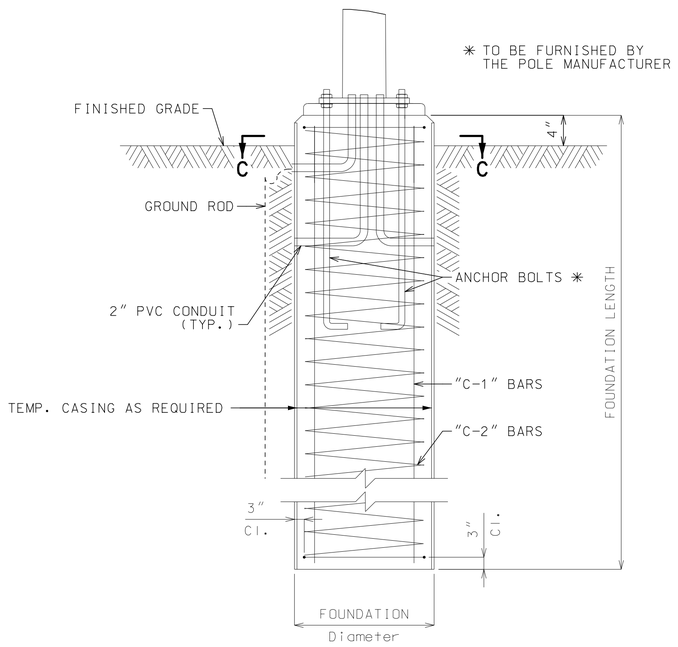
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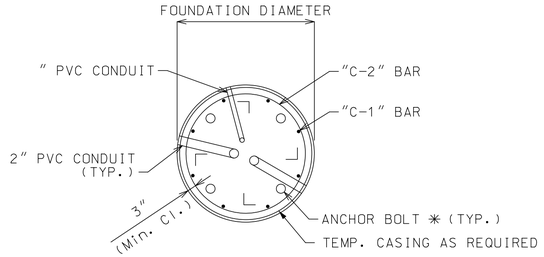
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IT SYSTEMS SHEET
SHEET 2 OF 4

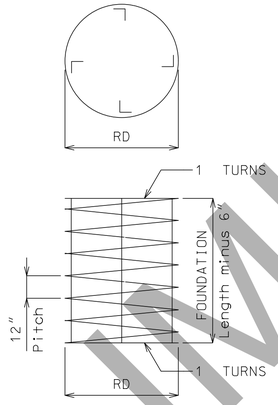
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TYPICAL CCTV POLE FOUNDATION



SECTION C-C



TYPE "C-2" SPIRAL DETAIL

NOTES:

1. CLASS B-2 CONCRETE (DRILLED SHAFTS & ROCK SOCKETS) F'C = 4,000 PSI
   REINFORCING STEEL (GRADE 60) FY = 60,000 PSI
2. INTEGRITY TESTING ON COMPLETED DRILLED SHAFTS FOR CCTV POLE FOUNDATIONS SHALL NOT BE REQUIRED.
3. ALL FOUNDATIONS SHALL CONTAIN A 3/4" DIAMETER COPPER CLAD GROUND ROD.
4. TEMPORARY STEEL CASING MAY BE REQUIRED IN EACH SHAFT TO PREVENT SOIL COLLAPSE.
5. GROUND ROD SHALL HAVE A MINIMUM OF 5' EARTH CONTACT, EXCEPT IN ROCK.
6. DRILLING SLURRY, IF USED, SHALL REQUIRE DESANDING.
7. THE DRILLED SHAFT FOUNDATION (EXCEPT ANCHOR BOLTS) IS DESIGNED IN ACCORDANCE WITH THE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS AND INTERIMS THRU 2005 AND ACI 318-05.
8. FOR BOLT CIRCLE DIMENSIONS & ANCHOR BOLT DETAIL SEE SHEET 1 OF 2.
9. THE FOLLOWING NON-FACTORED BASE REACTIONS WERE USED TO DESIGN THE DRILLED SHAFTS:

BASE REACTIONS			
POLE HEIGHT (FT)	BASE SHEAR (KIPS)	AXIAL FORCE (KIPS)	OVERTURNING MOMENT (K-FT)
50	0.80	3.00	20.5

DRILLED SHAFT AND REINFORCEMENT SCHEDULE									
I.D.	POLE HEIGHT (FT)	FOUNDATION LENGTH	FOUNDATION DIAMETER	"C-1" BARS			✳✳ "C-2" BARS		
				NO.	SIZE	LENGTH	SIZE	RD	LENGTH
CCTV (1)	50	14'-0"	2'-6"	8	#9	13'-6"	#4	2'-0"	102'-8"

✳✳ FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.

NOTES:

10. IF ROCK IS ENCOUNTERED, A ROCK SOCKET SHALL BE USED. THE ROCK SOCKET SHALL BE DRILLED TO THE FOUNDATION LENGTH OR SHALL TERMINATE 3.5' INTO STRONG ROCK OR 5.0' INTO POOR ROCK, WHICHEVER IS LESS. THE MINIMUM FOUNDATION LENGTH WHEN ROCK IS ENCOUNTERED SHALL BE 6.0'.
11. FOUNDATION DESIGN IS APPLICABLE FOR COHESIVE SOILS WITH C $\geq$ 1 KSF.
12. A SPREAD FOOTING MAY BE USED IN LIEU OF A DRILLED SHAFT WITH NO CHANGE IN COST. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY WORK RELATED TO CHANGING THE DRILLED SHAFT TO A SPREAD FOOTING.

CCTV POLE LOCATIONS		
I.D.	LOCATION	POLE HEIGHT (FT)
CCTV (1)	ROUTE CC AT INTERSTATE 44	50

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THE BORING DATA FOR FOUNDATIONS INDICATED, AS WELL AS ANY OTHER BORING LOGS OR OTHER FACTUAL RECORDS OF SUBSURFACE DATA AND INVESTIGATIONS PERFORMED BY THE DEPARTMENT FOR THE DESIGN OF THE PROJECT, ARE SHOWN ON SPECIAL SHEET NO. 7, OR WILL BE AVAILABLE FROM THE PROJECT CONTACT UPON WRITTEN REQUEST. NO GREATER SIGNIFICANCE OR WEIGHT SHOULD BE GIVEN TO THE BORING DATA DEPICTED ON THE PLAN SHEETS THAN IS GIVEN TO THE SUBSURFACE DATA AVAILABLE FROM THE DISTRICT OR ELSEWHERE.

THE COMMISSION DOES NOT REPRESENT OR WARRANT THAT ANY SUCH BORING DATA ACCURATELY DEPICTS THE CONDITIONS TO BE ENCOUNTERED IN CONSTRUCTING THIS PROJECT. A CONTRACTOR ASSUMES ALL RISKS IT MAY ENCOUNTER IN BASING ITS BID PRICES, TIME OR SCHEDULE OF PERFORMANCE ON THE BORING DATA DEPICTED HERE OR THOSE AVAILABLE FROM THE DISTRICT, OR ON ANY OTHER DOCUMENTATION NOT EXPRESSLY WARRANTED, WHICH THE CONTRACTOR MAY OBTAIN FROM THE COMMISSION.

CCTV POLE AND FOUNDATION DETAIL

SHEET 2 OF 2

PRELIMINARY

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

IT SYSTEMS SHEET
SHEET 3 OF 4

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DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 135
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

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PRELIMINARY

CAT-5E

CCTV

FIELD TERMINAL CABINET, TYPE 7

CISCO IE-3000-8TC

TX
RX
TX
RX

RACK-MOUNTED INTERCONNECT CENTER

BLUE/BLUE
BLUE/ORANGE
BLUE/GREEN
BLUE/BROWN
BLUE/SLATE
BLUE/WHITE

BLUE TUBE

ORANGE TUBE

12-FIBER DISTRIBUTION CABLE TO LIGHTCORE CONNECTION

KEY

MI170N123.4C	DEVICE IDENTIFIER
CCTV	CCTV CAMERA
CCTV	EXISTING CCTV CAMERA
DMS	DYNAMIC MESSAGE SIGN
DMS	EXISTING DYNAMIC MESSAGE SIGN
	SM PATCH THROUGH FIBER OPTIC JUMPER
	SM EQUIPMENT CONNECTION FIBER OPTIC JUMPER
	SM FIBER OPTIC PIGTAIL
	MM PATCH THROUGH FIBER OPTIC JUMPER
	MM EQUIPMENT CONNECTION FIBER OPTIC JUMPER
	MM FIBER OPTIC PIGTAIL
	BARE FIBER LEFT COILED IN SPLICE TRAY
	EXISTING/PROPOSED FUSION SPLICE
	PATCH PANEL MODULE
	WIRELESS LINK

NOTE: DASHED LINES DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

NOTES

1. MAXIMUM SPLICE LOSS SHALL BE 0.1 dB
2. NO INTERMEDIATE SPLICES ALLOWED
3. ALL SPLICES SHALL BE FUSION SPLICES

DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 136
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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IT SYSTEMS SHEET
SHEET 4 OF 4

SCALE
0 50 100 150

SEE SHEET 138
MATCHLINE I-44 WB STA. 617+50.00

615

℄ NOR

℄ EB I-44

℄ WB I-44

R/W

EXIST. R/W

EXIST. R/W

EXIST. R/W

BUILDING

BUILDING

BUILDING

BUILDING

BUILDING

BUILDING

EXIT
50
M.P.H.
80
W13-2
48" X 60"
613+65 RT
(EB I-44)

WEST
44
MILE
102
.6
D10-5
(UIP)
SIGN

WEST
44
MILE
102
.6
D10-5
(UIP)
SIGN

NOTE: SEE SHEET 151 FOR CONTINUATION OF INTERSTATE AND NORTH OUTER ROAD SIGNING

PRELIMINARY

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DISTRICT: SW | SHEET NO.: 137
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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INTERSTATE 44
SIGNING SHEET
SHEET 1 OF 47

L:\MarshfieldMO\17322-03\Draw\Sheets\137_SN_01_J8I0445_I50.dgn 3:35:17 PM 3/11/2019

SCALE
0 50 100 150

SEE SHEET 139
MATCHLINE I-44 WB STA. 626+50.00

NORTH OUTER ROAD
STA. 626+00.00

625

620

EXIST. R/W

℄ RAMP 2

℄ NOR

℄ WB I-44

℄ EB I-44

R/W

(R-BY OTHERS)

(R-BY OTHERS)

(R-BY OTHERS)

(R-BY OTHERS)

3 W3-2
36" X 36"
626+00 RT
(NOR)

(a) W2-6
36" X 36"
(b) W16-17P
36" X 12"
(c) W13-1P
24" X 24"
621+00 RT
(NOR)

ROUNDABOUT
15 M.P.H.

1 WEST 44 MILE 102.8
D10-5
18" X 60"
STA. 614+11
(WB I-44)

2

75 W3-2
48" X 48"
10+42 RT
(RAMP 3)

℄ RAMP 3

76 77

(a) W2-6
48" X 48"
(b) W16-17P
48" X 18"
(c) W13-1P
30" X 30"
7+66 RT & LT
(RAMP 3)

ROUNDABOUT
15 M.P.H.

78

EXIT 103
E5-1a
72" X 84"
619+90 RT
(WB I-44)

79 WEST 44 MILE 102.8
D10-5
18" X 60"
STA. 614+11
(WB I-44)

MATCHLINE I-44 WB STA. 617+50.00
SEE SHEET 137

PRELIMINARY

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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 138
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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INTERSTATE 44
SIGNING SHEET
SHEET 2 OF 47

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PRELIMINARY

SEE SHEET 140
MATCHLINE I-44 WB STA. 634+50.00

NORTH OUTER ROAD
STA. 635+00.00

North Outer Road West
West 44
North Outer Road/
CC East/To East 44

SPEED LIMIT 40
R2-1
36" X 48"
634+26 RT
(NOR)

WRONG WAY
R5-1a
42" X 30"
10+93 RT & LT
(RAMP 1)

CC Marshall Rd
NORTH
Brinkley Rd
Marshall Rd
SOUTH

D1-3d
108" X 72"
10+93 RT
(RAMP 1)

℄ EB I-44

EXIST. R/W

WEST
CC TO 44
N Outer Rd

D1-1e
84" X 42"
60+39 LT
(RTE CC)

EAST
44
Rolla

D1-1e
84" X 48"
62+11 LT
(RTE CC)

CC
N Marshall Road

D1-3d
108" X 84"
633+80 LT
(NOR)

DO NOT ENTER
R5-1
36" X 36"
12+93 RT & LT
(RAMP 1)

℄ RAMP 1

℄ NOR

a) R4-7
24" X 30"
b) OM1-3
18" X 18"
632+18 LT
(NOR)

YIELD
R1-2
48" X 48" X 48"

a) R4-7
24" X 30"
b) OM1-3
18" X 18"
56+54 RT
(RTE CC)

D1-1d
84" X 24"
632+11 RT
(NOR)

EAST
N Outer Rd

632+19 LT
(NOR)

632+07 LT
(NOR)

13+53 RT
(RAMP 1)

13+64 LT
(RAMP 1)

56+30 LT
(RTE CC)

56+15 LT
(RTE CC)

North Outer Road East
North Outer Road West
West 44

D1-3d
108" X 60"
57+30 LT
(RTE CC)

a) R4-7
24" X 30"
b) OM1-3
18" X 18"
59+99 LT
(RTE CC)

℄ RTE CC

a) R6-1R
36" X 12"
(b) R6-4
30" X 24"

ONE WAY

a) R6-1R
36" X 12"
(b) R6-4
30" X 24"

62+24 RT
(RTE CC)

62+01 RT
(RTE CC)

R1-2
48" X 48" X 48"

BUILDING

a) R4-7
24" X 30"
b) OM1-3
18" X 18"
62+60 LT
(RTE CC)

SEE SHEET 143
ROUTE CC
MATCHLINE
STA. 64+00.00

YIELD
R1-2
48" X 48" X 48"

3+59 LT
(E_RBT)

2+86 LT
(E_RBT)

1+95 LT
(E_RBT)

1+24 LT
(E_RBT)

9+31 RT
(MARSHALL)

9+43 RT
(MARSHALL)

East CC
East 44
North Outer Road/
CC North/To West 44

D1-3d
108" X 84"
8+83 RT
(MARSHALL)

(a) W11-2
36" X 36"
(b) W16-7P
30" X 18"
9+12 RT
(MARSHALL)

℄ S MARSHALL

Welcome to
Marshfield
120" X 48"
2+14 RT
(RTE CC)

3+29
(W_RBT)

2+37
(W_RBT)

1+62
(W_RBT)

0+40
(W_RBT)

WEST
N Outer Rd

D1-1d
84" X 24"
630+03 RT
(NOR)

629+98 LT
(NOR)

629+72 RT
(NOR)

(a) W11-2
36" X 36"
(b) W16-7P
30" X 18"

a) R4-7
24" X 30"
b) OM1-3
18" X 18"
629+63 LT
(NOR)

629+50 RT
(NOR)

630+05 RT
(NOR)

YIELD
R1-2
48" X 48" X 48"

(a) W11-2
48" X 48"
(b) W16-7P
30" X 18"
0+33 LT
(RAMP 2)

EAST
CC TO 44
Marshall Rd

D1-1e
96" X 42"
56+15 RT
(RTE CC)

WEST
44
Springfield

D1-1e
72" X 42"
0+27 LT
(RAMP 2)

WEST 44
MILE 103.0

D10-5
18" X 60"
STA. 629+27.41
(WB I-44)

Marshall Road
East CC
East 44

D1-3d
108" X 84"
59+21 RT
(RTE CC)

℄ RAMP 2

℄ WB I-44

EXIST. R/W

WRONG WAY
R5-1a
42" X 30"
12+92 RT & LT
(RAMP 3)

(R) SIGN

YIELD
R1-2
48" X 48" X 48"

60+41 RT
(RTE CC)

60+24 RT
(RTE CC)

15+45 LT
(RAMP 3)

15+46 RT
(RAMP 3)

DO NOT ENTER
R5-1
36" X 36"
14+92 RT & LT
(RAMP 3)

WEST 44
MILE 103.0

D10-5
18" X 60"
STA. 629+27.41
(WB I-44)

℄ RAMP 3

EXIST. R/W

Welcome to
Marshfield
120" X 48"
1+70 LT
(E RBT)

15+22 RT
(RAMP 3)

9+32 LT
(MARSHALL)

DO NOT ENTER
R5-1
36" X 36"
3+11 RT & LT
(RAMP 3A)

(a) W11-2
48" X 48"
(b) W16-7P
30" X 18"

℄ RAMP 3A

S Marshall Road

D1-1d
84" X 24"
9+40 LT
(MARSHALL)

a) R4-7
24" X 30"
b) OM1-3
18" X 18"
8+89 LT
(MARSHALL)

S Marshall Road

D1-1d
84" X 24"
9+40 LT
(MARSHALL)

Brinkley Rd
SOUTH
CC Marshall Rd
Brinkley Rd
NORTH

D1-3d
108" X 72"
12+92 RT
(RAMP 3)

SPEED LIMIT 40
R2-1
36" X 48"
627+36 LT
(NOR)

East 44
North Outer Road/
CC East/To West 44
North Outer Road East

D1-3d
108" X 84"
628+22 RT
(NOR)

MATCHLINE I-44 WB STA. 626+50.00
SEE SHEET 138

MATCHLINE MARSHALL ROAD
STA. 6+50.00, SEE SHEET 142

NORTH OUTER ROAD
STA. 626+00.00

SCALE
0 50 100 150

ROUTE CC
SIGNING SHEET
SHEET 3 OF 47

DATE PREPARED	
3/11/2019	
ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	139
COUNTY	
WEBSTER	
JOB NO.	
J8I0445	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE

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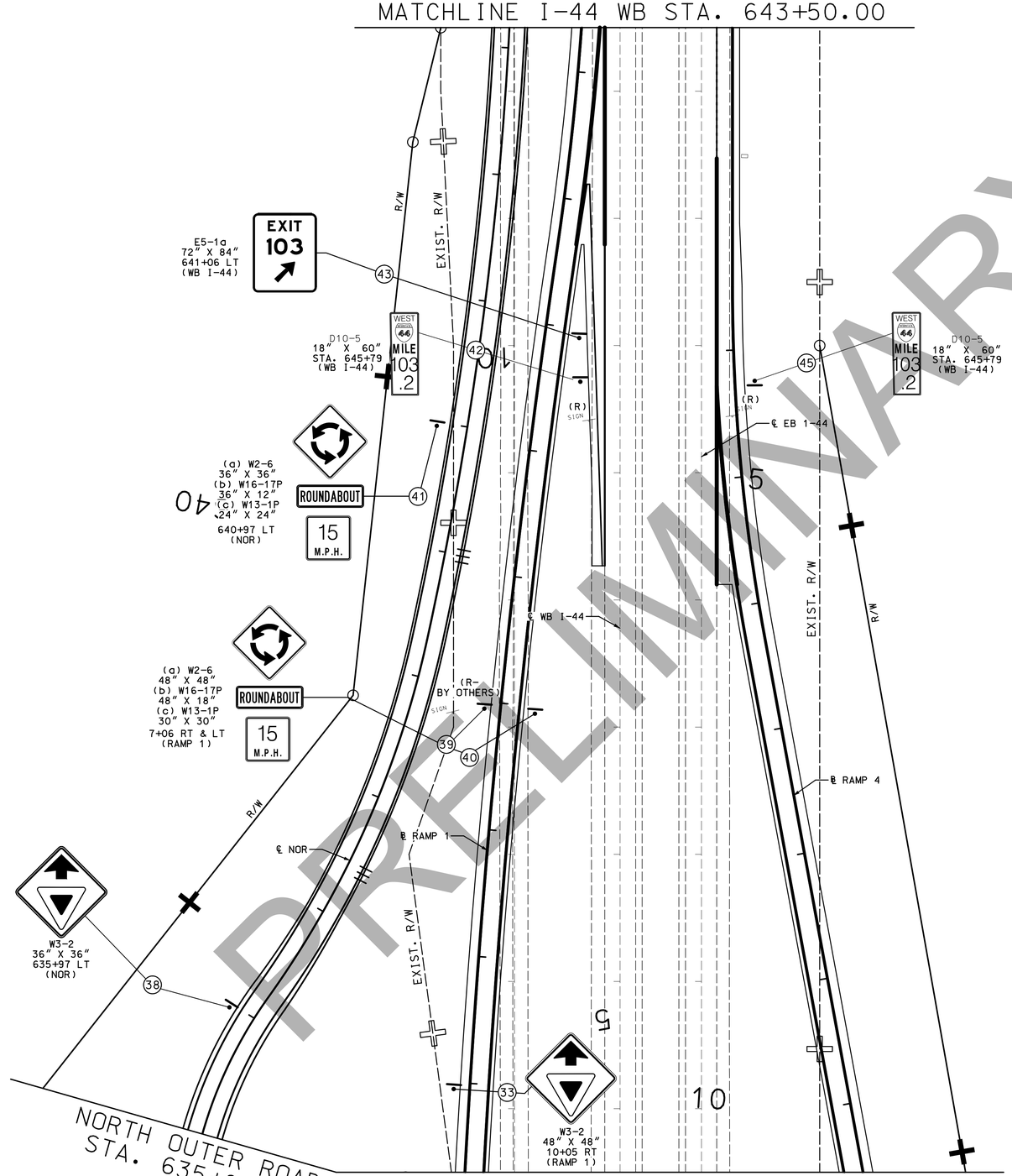
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SCALE

0 50 100 150

SEE SHEET 141

MATCHLINE I-44 WB STA. 643+50.00



MATCHLINE I-44 WB STA. 634+50.00

SEE SHEET 139

PRELIMINARY

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DATE PREPARED: 3/11/2019

ROUTE	STATE
I-44	MO

DISTRICT	SHEET NO.
SW	140

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

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INTERSTATE 44

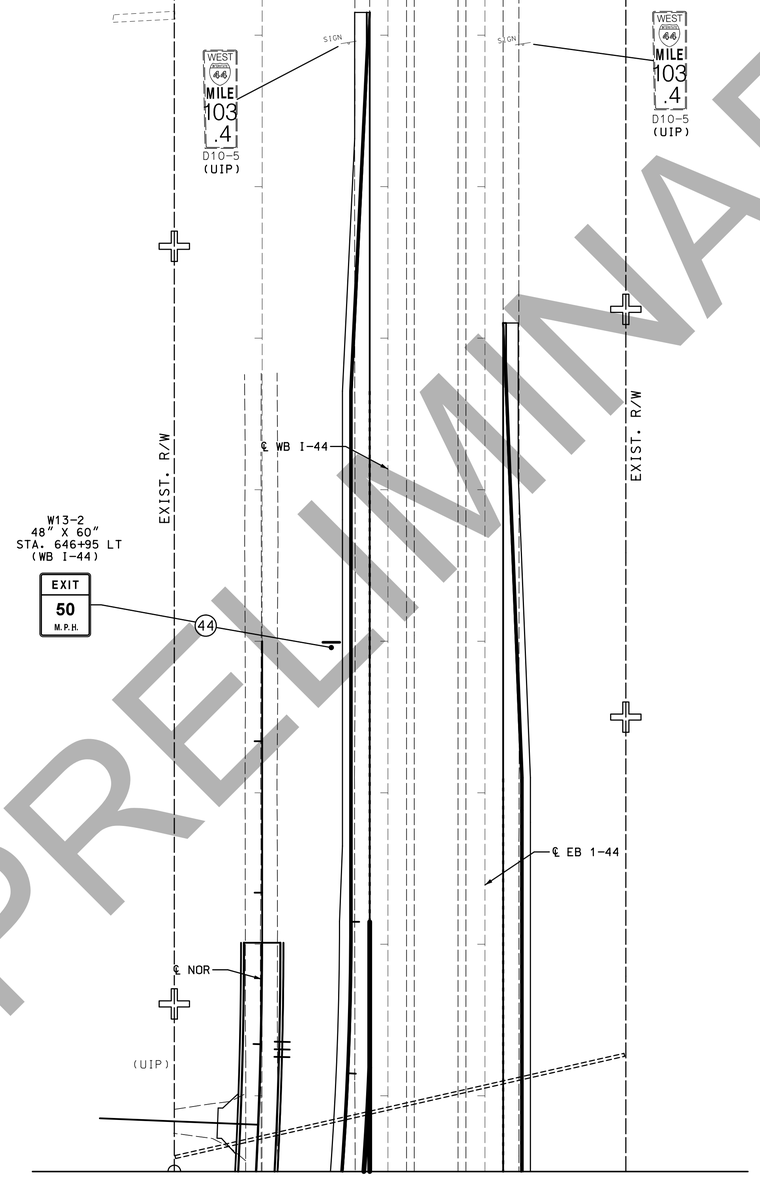
SIGNING SHEET
SHEET 4 OF 47

SCALE

0 50 100 150

NOTE: SEE SHEET 152 FOR CONTINUATION OF INTERSTATE AND NORTH OUTER ROAD SIGNING

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MATCHLINE I-44 WB STA. 643+50.00
SEE SHEET 141

PRELIMINARY

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3/11/2019

ROUTE	STATE
I-44	MO

DISTRICT	SHEET NO.
SW	141

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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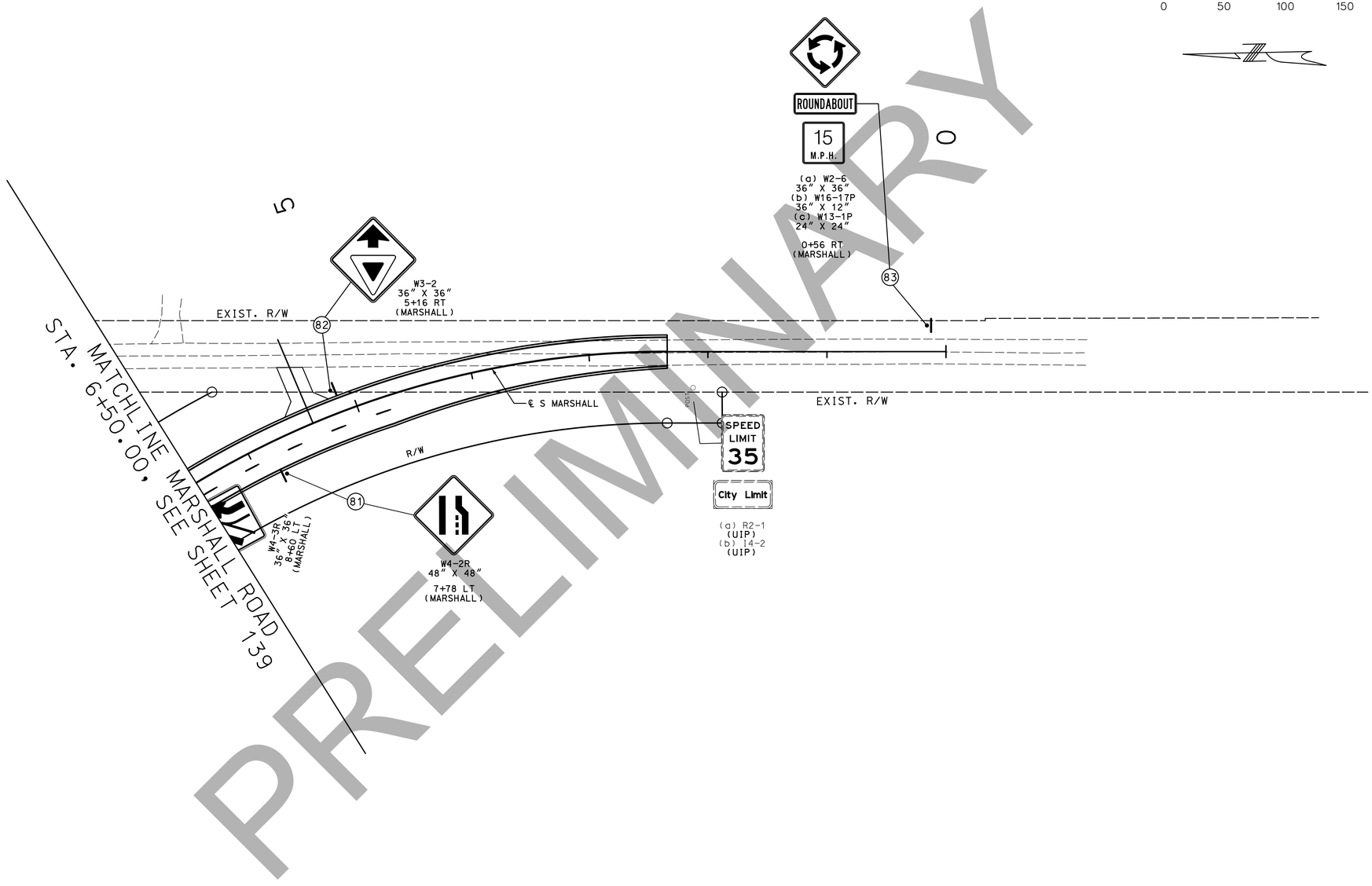
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INTERSTATE 44
SIGNING SHEET
SHEET 5 OF 47

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SCALE
0 50 100 150



PRELIMINARY

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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 142
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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MARSHALL
SIGNING SHEET
SHEET 6 OF 47

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SCALE
0 50 100 150

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

BUILDING

East 44
North Outer Road/
CC North/To West 44
Marshall Road

D1-3d
96" X 84"
64+10 LT
(RTE CC)

BUILDING

WELL

BUILDING

W3-2
36" X 36"
66+14 LT
(RTE CC)

ROUNDABOUT
15 M.P.H.

(a) W2-6
36" X 36"
(b) W16-17P
36" X 12"
(c) W13-1P
24" X 24"
71+14 LT
(RTE CC)

95 70 75

88 90 91

R/W R/W

℄ RTE CC

10

SEE SHEET 139
MATCHLINE ROUTE CC
STA. 64+00.00

SEE SHEET 144
MATCHLINE ROUTE CC
STA. 76+50.00

EXIST. R/W

SIGN SIGN SIGN SIGN SIGN SIGN

93 89

R/W R/W

(R-BY OTHERS)

W1-8
(R)

CC
M1-5a
30" X 24"
65+31 RT
(RTE CC)

SPEED LIMIT 40
R2-1
36" X 48"
68+31 RT
(RTE CC)

W1-8
(R)

PRELIMINARY

ROUTE CC
SIGNING SHEET
SHEET 7 OF 47

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	143

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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)

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SPRINGFIELD, MO 65807 (417) 869-6009
ENGINEERING CORPORATION - 000631

L:\MarshfieldMO\17322-03\Draw\Sheets\143_SN_07_J8I0445_I50.dgn 3:35:44 PM 3/11/2019

SCALE
0 50 100 150

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15

EXIST. R/W

EXIST. R/W

℄ N MARSHALL

80

85

(a) D3-1
36" X 12"
(DOUBLE SIDED)
(b) R1-1
36" X 36"
10+89 LT
(N MARSHALL)

N Marshall Rd

STOP

92

PROP. R/W

SIGN

SIGN

W1-8
(R)

W1-8
(R)

SIGN

SIGN

SIGN

SEE SHEET 143
MATCHLINE ROUTE CC
STA. 76+50.00

R/W

℄ RTE CC

R/W

SEE SHEET 145
MATCHLINE ROUTE CC
STA. 89+00.00

PRELIMINARY

ROUTE CC

SIGNING SHEET
SHEET 8 OF 47

DATE PREPARED	3/11/2019
ROUTE	I-44
STATE	MO
DISTRICT	SW
SHEET NO.	144
COUNTY	WEBSTER
JOB NO.	J8I0445
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

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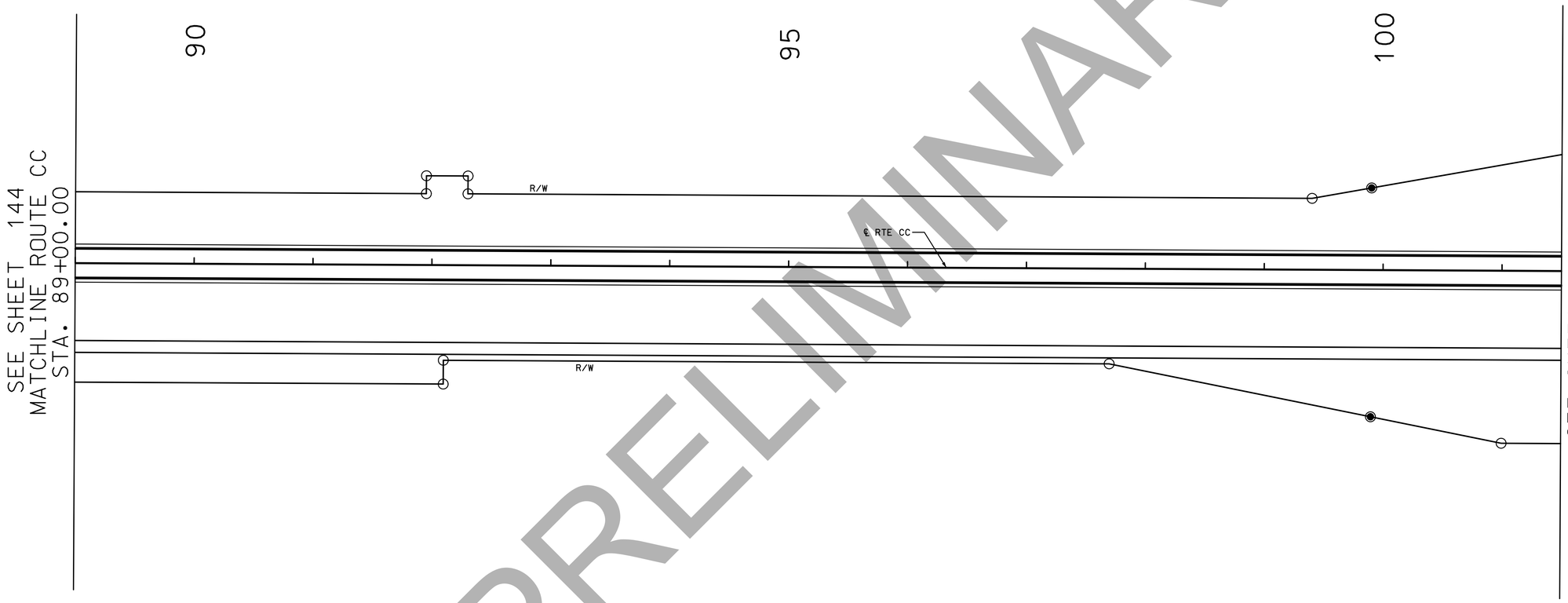
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NOTE: NO PROPOSED WORK ON THIS SHEET



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SIGNING SHEET
SHEET 9 OF 47

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DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	145

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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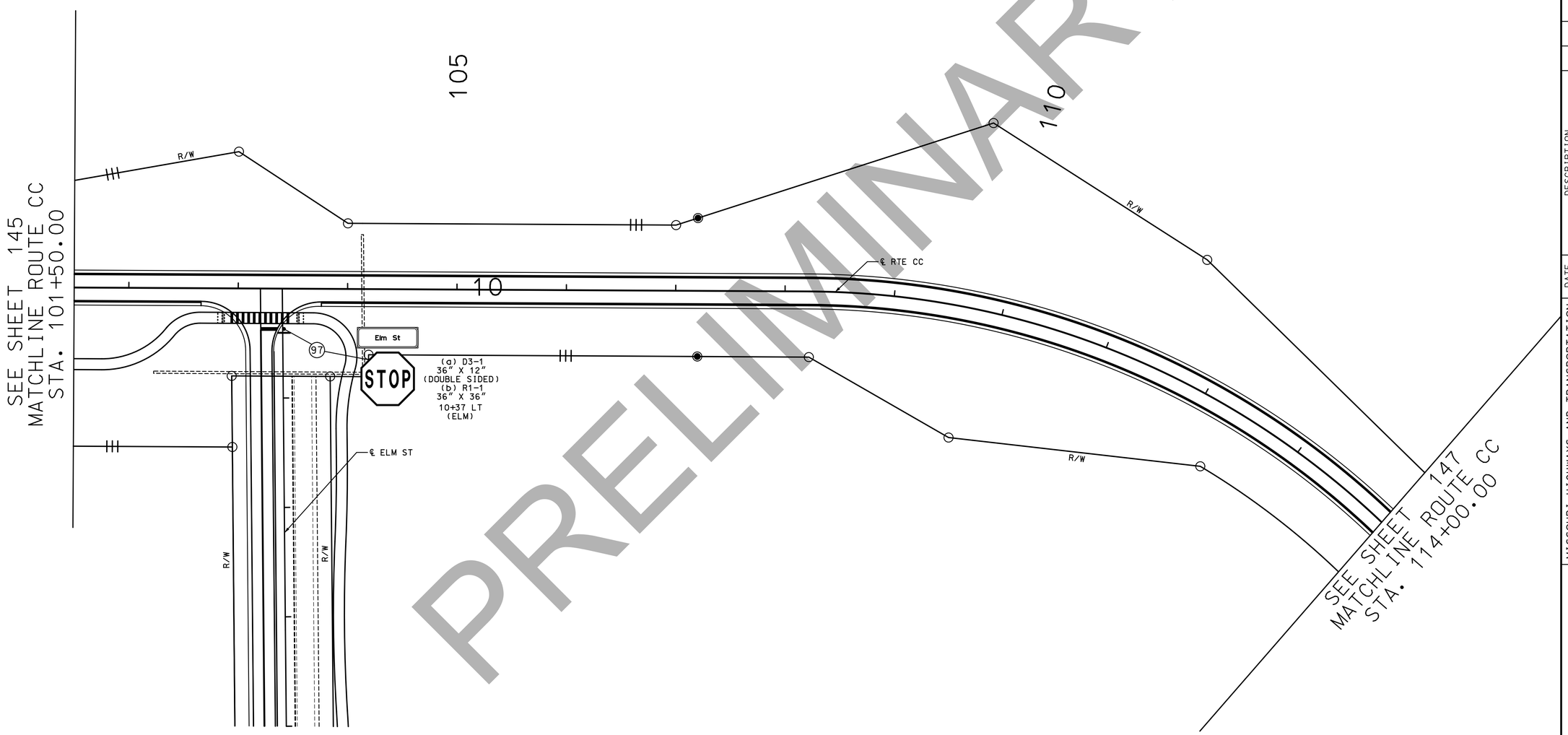
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NOTE: ALL SIGNS ON ELM STREET ARE PART OF ADD ALTERNATIVE B.
NO PROPOSED SIGNS ON ELM STREET EXTENSION.

ROUTE CC

SIGNING SHEET
SHEET 10 OF 47

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DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	146

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

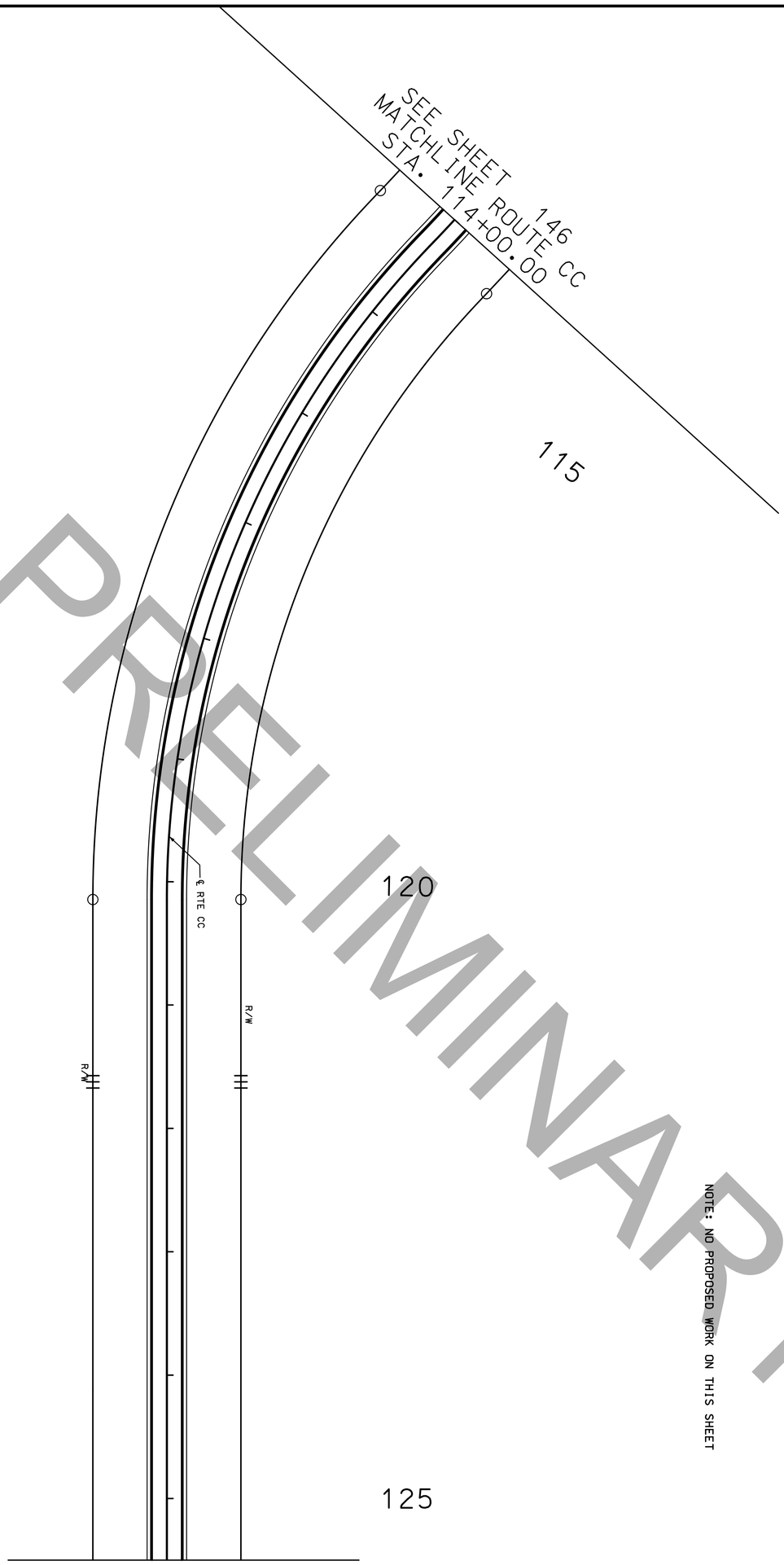
DESCRIPTION	DATE

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SHEET 11 OF 47

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DATE	DESCRIPTION

BRIDGE NO.
PROJECT NO.
CONTRACT ID.
JOB NO. J8I0445
COUNTY WEBSTER
DISTRICT SW
ROUTE I-44
STATE MO
SHEET NO. 147
DATE PREPARED 3/11/2019

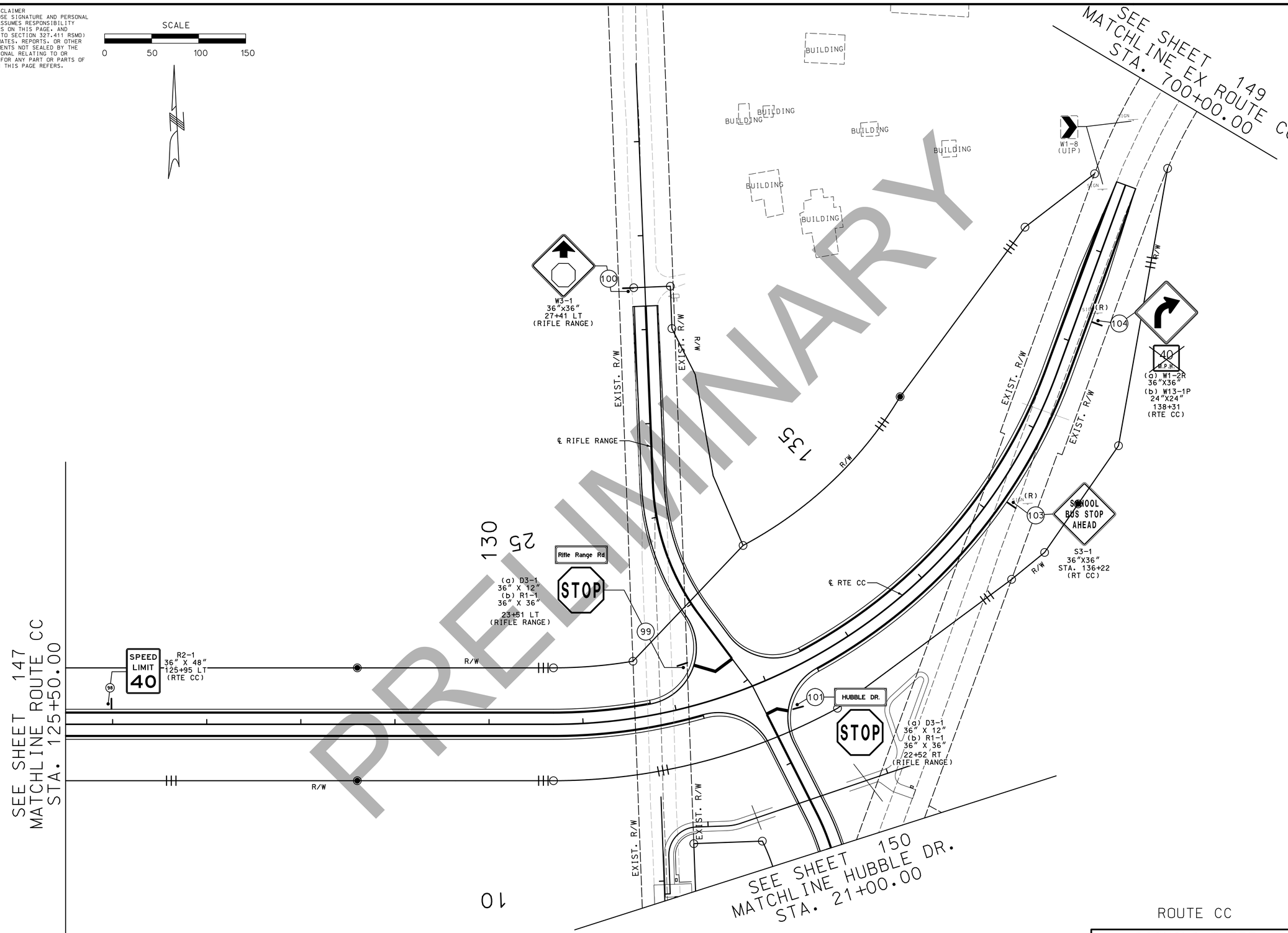
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DATE PREPARED	3/11/2019
ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	148
COUNTY	WEBSTER
JOB NO.	J8I0445
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

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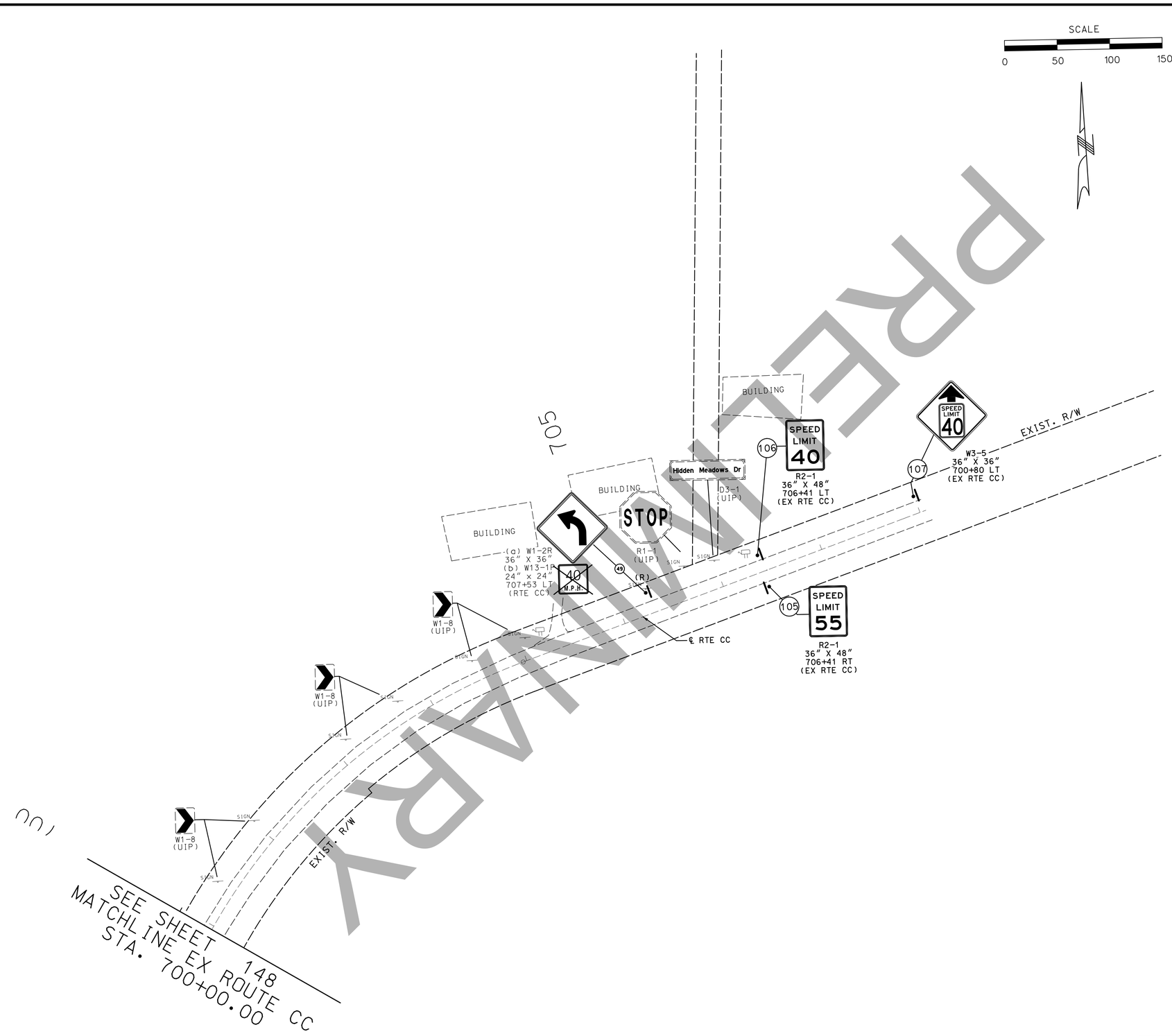
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SIGNING SHEET
SHEET 12 OF 47



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DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	149

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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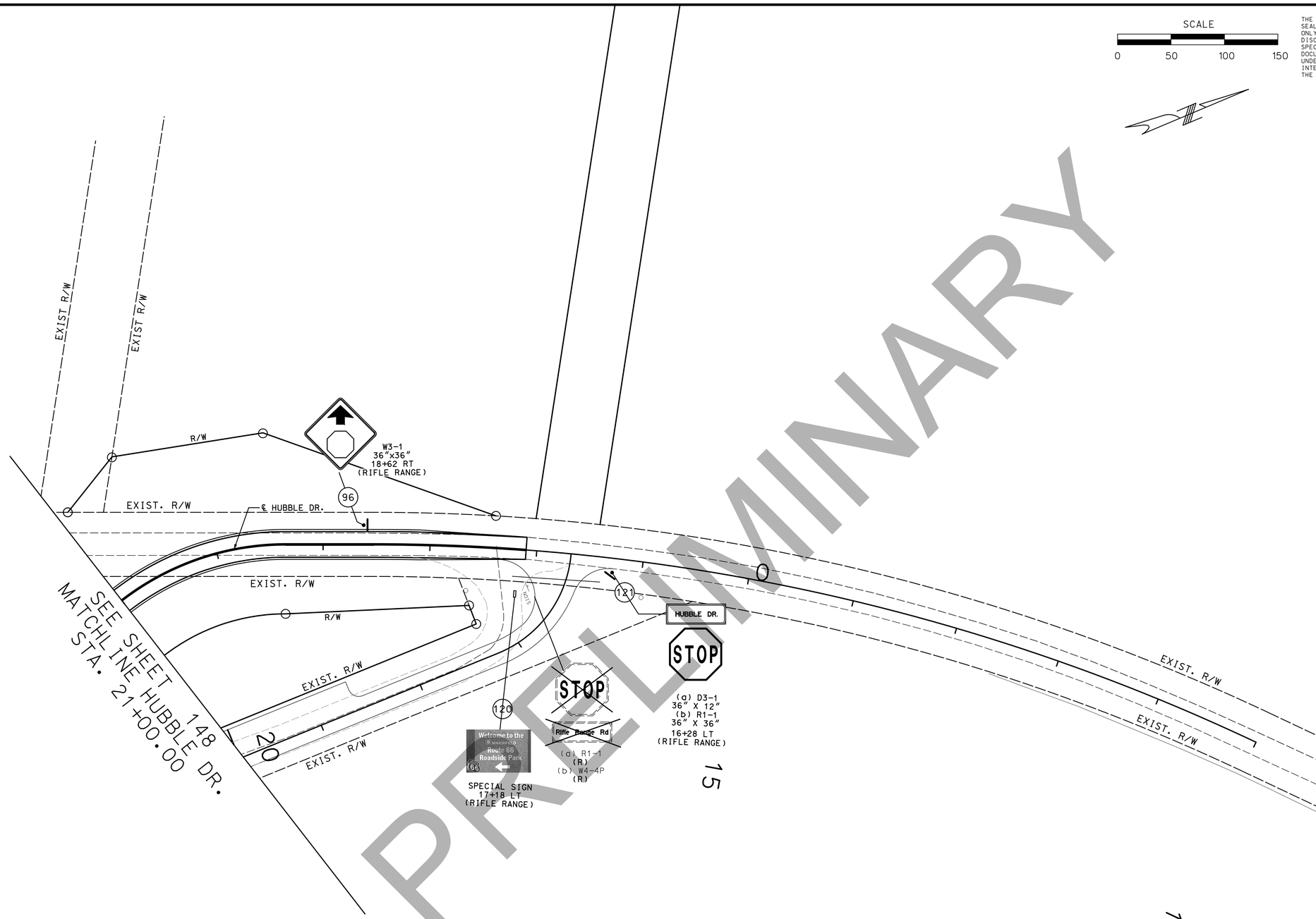
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SIGNING SHEET
SHEET 13 OF 47

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DATE PREPARED: 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	150

COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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HUBBLE DR.

SIGNING SHEET
SHEET 14 OF 47

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PRELIMINARY

EXIT 100
38 W
Marshfield
1 MILE
E1-1
WB I-44 (UIP)

CITY LIMIT
Marshfield
I4-2a
WB I-44
(UIP)

WEST 44
MILE
102
.2
D10-5
EB/WB I-44
(UIP)

W3-1
NOR
(UIP)

35
M.P.H.
(a) W1-2R
NOR (UIP)
(b) W13-1P
NOR
(UIP)

SPEED LIMIT 40
R2-1
36" X 48"
STA 598+50 RT
NOR

SPEED LIMIT 50
R2-1
NOR
(R)

GAS - EXIT 100
WB I-44
(UIP)

SPEED LIMIT 70
R2-1
48" X 60"
STA 605+19 LT
WB I-44

109
110
111
113

EXIT 103
CC
Marshall Rd
1 MILE
E1-1
216" X 132"
PLACE SIGN ONE MILE PRIOR TO EXIT
RAMP ON EASTBOUND I-44
STA 561+85 RT

WEST 44
MILE
102
.4
D10-5
EB/WB I-44
(UIP)

EXIT 103
CC
Marshall Rd
E1-1
216" X 132"
STA. 610+65 RT
EB I-44

R/W
R/W

SCALE
0 200 400 600 800 1000

I-44

SIGNING SHEET
SHEET 15 OF 47

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DATE PREPARED
3/11/2019
ROUTE I-44
STATE MO
DISTRICT SW
SHEET NO. 151
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION
DATE

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JEFFERSON CITY, MO 65102
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SCALE
0 200 400 600 800 1000

PRELIMINARY

EXIT 103
CC
Marshall Rd
E1-1
216" X 132"
STA. 651+11 LT
WB I-44

SPEED LIMIT 40
R2-1
36" X 48"
STA 647+66.00 LT
NOR

SPEED LIMIT 50
R2-1
36" X 48"
STA 647+66.00 RT
NOR

SPEED LIMIT 70
R2-1
48" X 60"
STA 664+09 RT
EB I-44

CC	3
Springfield	29
Joplin	98

D2-3
108" X 60"
STA. 800+19 LT
WB I-44

EXIT 103
CC
Marshall Rd
1 MILE
E1-1
216" X 132"
STA 694+59
WB I-44

Sparkle Brooke Rd/ Sampson Rd	3
Rolla	81
St. Louis	187

D2-3
156" X 72"
STA. 674+09 RT
EB I-44

114 115 116 117 118 119 108

R/W
EXIST. R/W
EXIST. R/W
R/W

I-44

SIGNING SHEET
SHEET 16 OF 47

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	152

COUNTY
WEBSTER
JOB NO.
J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION
DATE

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SIGNS					PIPE POST					STRUCTURAL STEEL POSTS						BACKING BARS 2" X 3/8" BARS @ 2.55 LBS PER LIN FT				TOTAL ITEM NO. 903-12.10	U-CHANNEL POST ITEM NO. 903-12.50	WOOD POSTS			PERF. STEEL SQ.	BREAKAWAY ASSEMBLY	CONC FTG'S EMBD	CONC FTG'S BOLT DOWN	HORZ CLEAR IF NOT STD	DELINEATORS, MILEPOSTS, CONDUIT, CONDUCTOR CABLE, TRENCHING AND BACKFILLING. CONTROL STATION, PULL BOXES AND OTHER REQUIRED ITEMS.
SIGN NO.	STATION	SIGN DTL. SHT. NO.	LOCATION	SIGN SIZE	PIPE SIZE	POST NO. 1	POST NO. 2	LBS PER FT	TOTAL ITEM NO. 903-12.20	POST DES NO.	POST NO. 1	POST NO. 2	POST NO. 3	LBS PER FT	TOTAL	NO. EACH	LGTH IN.	TOTAL LIN FT	TOTAL LBS			4"X4" ITEM NO. 903-12.60	4"X6" ITEM NO. 903-12.61	6"X6" ITEM NO. 903-12.62	POSTS ITEM NO. 903-12.70	ANCHOR SLEEVE ITEM NO. 903-12.71	ITEM NO. 903-12.40	ITEM NO. 903-10.10	ITEM NO. 903-10.20		
					IN.				LBS		LIN FT	LIN FT	LIN FT		LBS	EACH	IN.	LIN FT	LBS	LBS	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	CU YDS	CU YDS		
1	614+11		I-44	18"X60"																					16.00	3.00					
2	621+00		NOR	ASSM.																					19.00	3.00	1.00				
3	626+00		NOR	36"X36"	2	14.50		9	130.50																						
4	627+36		NOR	36"X48"																					17.00	3.00					
5	628+22		NOR	108"X84"						2	21.25	23.50		15	671.25												0.54			
6	629+63		NOR	ASSM.																					14.00	3.00					
7	629+72		NOR	ASSM.																					14.00	3.00					
8	629+98		NOR	ASSM.																					14.00	3.00					
9	629+90		NOR	48"	4	14.00		9	126																						
10	630+05		NOR	48"	4	15.00		9	135																						
11	0+33		RAMP 2	ASSM.	4	17.00		9	153																						
12	629+27		I-44	18"X60"																					17.00	3.00					
13	630+03		NOR	84"X24"																					24.75	6.00					
14	0+27		RAMP 2	72"X42"																					28.00	6.00	1.00				
15	56+15		ROUTE CC	96"X42"																					30.50	6.00	1.00				
16	8+60		MARSHALL	36"X36"	4	12.50		9	113																						
17	0+10		W RBT	ASSM.																					14.00	3.00					
18	1+62		W RBT	ASSM.																					14.00	3.00					
19	3+29		W RBT	ASSM.																					14.00	3.00					
20	2+37		W RBT	ASSM.																					14.00	3.00					
21	56+54		ROUTE CC	ASSM.																					13.00	3.00					
22	57+30		ROUTE CC	108"X60"						2	20.50	18.75		9	353.25													0.54			
23	56+15		ROUTE CC	48"	4	17.00		9	153																						
24	56+30		ROUTE CC	48"	4	16.00		9	144																						
25	13+64		RAMP 1	48"	4	14.00		9	126																						
26	13+53		RAMP 1	48"	4	14.00		9	126																						
27	632+07		NOR	48"	4	16.00		9	144																						
28	632+19		NOR	48"	4	15.00		9	135																						
29	632+11		NOR	84"X24"																											
30	632+57		NOR	ASSM.																					13.00	3.00					
31	12+93		RAMP 1	36"X36"																					28.00	6.00					
32	12+93		RAMP 1	36"X36"																					28.00	6.00					
33	10+05		RAMP 1	48"X48"	4	14.00		9	126																						
34	633+80		NOR	108"X84"						2	23.00	21.00		15	660.00										14.00	3.00		0.54			
35	634+26		NOR	36"X48"																					14.00	3.00					
36	10+98		RAMP 1	42"X30"																					14.00	3.00					
37	10+98		RAMP 1	42"X30"																					14.00	3.00					
38	635+97		NOR	36"X36"																					14.00	3.00					
39	7+06		RAMP 1	ASSM.																					19.00	3.00	1.00				
40	7+06		RAMP 1	ASSM.																					19.00	3.00	1.00				
41	640+97		NOR	ASSM.																					19.00	3.00	1.00				
42	645+79		I-44	18"X60"																					16.00	3.00					
43	641+06		I-44	72"X84"																					37.00	6.00	1.00				
44	646+95		I-44	48"X60"																					32.00	6.00					
45	645+79		I-44	18"X60"																					16.00	3.00					
46	0+31		RAMP 4	72"X42"																					28.50	6.00	1.00				
47	60+39		ROUTE CC	84"X42"						1	21.00	20.00		9	369.00													0.54			
48	59+99		ROUTE CC	ASSM.																					13.00	3.00					
49	707+53		EX ROUTE CC	ASSM.																					14.00	3.00					
50	59+21		ROUTE CC	108"X84"						2	22.00	21.00		15	645.00													0.54			
51	60+41		ROUTE CC	48"	4	17.00'		9	153																						
52	60+24		ROUTE CC	48"	4	16.00'		9	144																						
53	15+45		RAMP 3	48"	4	17.00'		9	153																						
54	15+46		RAMP 3	48"	4	17.00'		9	153																						
55	1+24		E RBT	ASSM.																					14.00	3.00					
56	3+59		E RBT	ASSM.																					14.00	3.00					
57	2+86		E RBT	ASSM.																					14.00	3.00					
58	1+95		E RBT	ASSM.																					14.00	3.00					
59	9+31		MARSHALL	48"	4	17.00'		9	153																						
60	9+43		MARSHALL	48"	4	17.00'		9	153																						
61	9+12		MARSHALL	ASSM.																					17.00	3.00					
				SUBTOTAL					2394.50						2699										688.75	138	8	2.70			

PRELIMINARY

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

DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	153

COUNTY: WEBSTER
JOB NO.: J8I0445
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)

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1631 WEST ELFINDALE STREET
SPRINGFIELD, MO 65807 (417) 869-6009
ENGINEERING CORPORATION - 000631

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SIGNS					PIPE POST					STRUCTURAL STEEL POSTS						BACKING BARS 2" X 3/8" BARS @ 2.55 LBS PER LIN FT				TOTAL ITEM NO. 903-12.10	U-CHANNEL POST ITEM NO. 903-12.50	WOOD POSTS			PERF. STEEL SQ.		BREAKAWAY ASSEMBLY ITEM NO. 903-12.40	CONC FTG'S EMBD ITEM NO. 903-10.10	CONC FTG'S BOLT DOWN ITEM NO. 903-10.20	HORZ CLEAR IF NOT STD	DELINEATORS, MILEPOSTS, CONDUIT, CONDUCTOR CABLE, TRENCHING AND BACKFILLING. CONTROL STATION, PULL BOXES AND OTHER REQUIRED ITEMS.
SIGN NO.	STATION	SIGN DTL. SHT. NO.	LOCATION	SIGN SIZE	PIPE SIZE	POST NO. 1	POST NO. 2	LBS PER FT	TOTAL ITEM NO. 903-12.20	POST DES NO.	POST NO. 1	POST NO. 2	POST NO. 3	LBS PER FT	TOTAL	NO. EACH	LGTH	TOTAL	TOTAL			4"X4" ITEM NO. 903-12.60	4"X6" ITEM NO. 903-12.61	6"X6" ITEM NO. 903-12.62	POSTS ITEM NO. 903-12.70	ANCHOR SLEEVE ITEM NO. 903-12.71					
					IN.	LIN FT	LIN FT		LBS		LIN FT	LIN FT	LIN FT		LBS		IN.	LIN FT	LBS	LBS	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	CU YDS	CU YDS		
62	15+22		RAMP 3	ASSM.	4	14.00		9	126																					
63	9+32		MARSHALL	ASSM.																					13.00	3.00					
64	3+11		RAMP 3A	36"X36"	4	14.75		9	133																					
65	3+11		RAMP 3A	36"X36"	4	13.75		9	124																					
66	9+40		MARSHALL	84"X24"																					24.75	6.00					
67	8+89		MARSHALL	ASSM.																					13.00	3.00					
68	8+83		MARSHALL	108"X84"						1	19.25	19.25		9	346.50													0.54			
69	14+92		RAMP 3	36"X36"	4	15.00		9	135																					
70	14+92		RAMP 3	36"X36"	4	16.00		9	144																					
71	629+27		I-44	18"X60"																					17.00	3.00					
72	9+40		MARSHALL	84"X24"																					23.50	6.00					
73	12+92		RAMP 3	42"X30"																					15.00	3.00					
74	12+92		RAMP 3	42"X30"																					15.00	3.00					
75	10+42		RAMP 3	48"X48"																					15.00	3.00					
76	7+66		RAMP 3	ASSM.																					20.00	3.00	1.00				
77	7+66		RAMP 3	ASSM.																					20.00	3.00	1.00				
78	619+90		I-44	72"X84"																					33.00	6.00	1.00				
79	614+11		I-44	18"X60"																					16.00	3.00					
80	613+65		I-44	48"X60"																					34.00	6.00					
81	7+78		MARSHALL	48"X48"																					32.00	6.00					
82	5+16		MARSHALL	36"X36"																					16.00	3.00					
83	0+56		MARSHALL	ASSM.																					17.00	3.00	1.00				
84	62+24		ROUTE CC	48"	4	16.00		9	144																					
85	62+07		ROUTE CC	48"	4	17.00		9	153																					
86	62+11		ROUTE CC	84"X48"						2	18.00	18.00		9	324.00													0.54			
87	62+60		ROUTE CC	ASSM.																					13.00	3.00					
88	64+10		ROUTE CC	96"X84"						2	19.00	18.50		9	337.50													0.54			
89	68+31		ROUTE CC	36"X48"																					16.00	3.00					
90	66+14		ROUTE CC	36"X36"																					16.00	3.00					
91	71+14		ROUTE CC	ASSM.																					18.00	3.00	1.00				
92	10+89		MARSHALL	ASSM.	4	16.00		9	144																					
93	65+31		ROUTE CC	30"X24"																					16.00	3.00					
94*	55+12		ROUTE CC	144"X36"						3	12.00	12.00		18	432.00												2.00	0.73			
95*	61+11		ROUTE CC	144"X36"						3	12.00	12.00		18	432.00												2.00	0.73			
96	18+62		HUBBLE DR	36"X36"																					14.00	3.00					
97**	10+37		ELM	ASSM.																					15.00	3.00					
98	125+95		ROUTE CC	36"X48"																					14.00	3.00					
99	23+51		RIFLE RANGE	ASSM.																					13.00	3.00					
100	27+41		RIFLE RANGE	36"X36"																					14.00	3.00					
101	22+52		RIFLE RANGE	ASSM.																					16.00	3.00					
102	10+93		RAMP 1	108"X72"						2	15.33	16.25		9	284.25																
103	136+22		ROUTE CC	36"X36"																					16.00	3.00					
104	138+31		ROUTE CC	ASSM.																					17.00	3.00					
105	706+41		EX ROUTE CC	36"X48"																					15.00	3.00					
106	706+41		EX ROUTE CC	36"X48"																					14.00	3.00					
107	700+80		EX ROUTE CC	36"X36"																					16.00	3.00					
108	674+09		I-44	156"X72"						3	16.00	16.25		26	838.50																
109	561+85		I-44	ASSM.						3	22.50	22.50		26	1170.0													0.54			
110	594+75		I-44	48"X60"																					32.00	6.00					
111	598+50		NOR	48"X60"																					32.00	6.00					
112	12+92		RAMP 3	108"X72"						1	16.00	17.75		9	303.75																
113	610+65		I-44	ASSM.						3	22.50	22.50		26	1170.0													0.54			
114	651+11		I-44	ASSM.						3	22.50	22.50		26	1170.0													0.54			
115	800+19		I-44	108"X60"						1	16.00	17.75		9	303.75													0.54			
116	664+09		I-44	48"X60"																					32.00	6.00					
117	647+66		NOR	36"X48"																					32.00	6.00					
118	647+66		NOR	36"X48"																					32.00	6.00					
119	694+59		I-44	ASSM.						3	22.50	22.50		26	1170.0													0.54			
120	17+11		RIFLE RANGE	72"X48"	3	9.80	9.80	9	176.4																					
121	694+59		RIFLE RANGE	ASSM.																					13.00	3.00					
				ALT A SUBTOTAL											864												4	1.46			
				ALT B SUBTOTAL																					15	3					
				SUBTOTAL					1538						7418.3										725.25	141	5	4.32			
				TOTAL					3932.9						10117.3										1412	279	13	7.02			

* = ADD ALTERNATE A
** = ADD ALTERNATE B

PRELIMINARY

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

DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 154
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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)

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D-29
SIGNING SHEET
SHEET 18 OF 47

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE: D10-5	W2-6	W2-6	W16-17P	W16-17P	W13-1P	W13-1P	W3-2	R2-1	R4-7	OM1-3	W11-2	W11-2	W16-7P	W16-7P	R1-2	R6-1R	R6-4	R5-1	R5-1A	D1-1D	D1-3D	D1-3D	D1-1E	D1-1E	W4-3R	W3-2	E5-1A	W13-2	D1-3E	W1-2R
			SIGN DESCRIPTION, SIZES & NUMBER OF EACH: MILE MARKER 18"X60"	CIRCULAR INTERSECTION 36"X36"	CIRCULAR INTERSECTION 48"X48"	ROUNDABOUT 36"X12"	ROUNDABOUT 48"X18"	15 M.P.H. 24"X24"	15 M.P.H. 30"X30"	YIELD AHEAD 36"X36"	SPEED LIMIT 36"X48"	KEEP RIGHT SYMBOL 24"X30"	OBSTRUCTIONS WITHIN ROADWAY 18"X18"	PEDESTRIAN CROSSING 36"X36"	PEDESTRIAN CROSSING 48"X48"	ARROW TO LOWER LEFT 36"X12"	ARROW TO LOWER LEFT 30"X18"	YIELD 48"	ONE WAY RIGHT 36"X12"	DOUBLE CHEVRON 30"X24"	DO NOT ENTER 36"X36"	WRONG WAY 42"X30"	EXIT DESTINATION 84"X24"	EXIT DESTINATION 108"X84"	EXIT DESTINATION 132"X12"	EXIT DESTINATION 72"X42"	EXIT DESTINATION 96"X42"	LANE ADDED 36"X36"	YIELD AHEAD 48"X48"	EXIT GORE WITH NUMBER 72"X84"	ADVISORY EXIT 48"X60"	EXIT DESTINATION 84"X60"	CURVE 36"X36"
1	614+11	I-44	1																														
2	621+00	NOR						1						1		1																	
3	626+00	NOR								1																							
4	627+36	NOR									1																						
5	628+22	NOR																						1									
6	629+63	NOR										1	1																				
7	629+72	NOR												1			1																
8	629+98	NOR												1			1																
9	629+90	NOR																1															
10	630+05	NOR																1															
11	0+33	RAMP 2													1		1																
12	629+27.41	I-44	1																														
13	630+03	NOR																					1										
14	0+27	RAMP 2																								1							
15	56+15	ROUTE CC																									1						
16	8+60	MARSHALL																										1					
17	0+10	W RBT																	1	1													
18	1+62	W RBT																	1	1													
19	3+29	W RBT																	1	1													
20	2+37	W RBT																	1	1													
21	56+54	ROUTE CC										1	1																				
22	57+30	ROUTE CC																							1								
23	56+15	ROUTE CC																1															
24	56+30	ROUTE CC																1															
25	13+64	RAMP 1																1															
26	13+53	RAMP 1																1															
27	632+07	NOR																1															
28	632+19	NOR																1															
29	632+11	NOR																					1										
30	632+57	NOR										1	1																				
31	12+93	RAMP 1																			1												
32	12+93	RAMP 1																			1												
33	10+05	RAMP 1																										1					
34	633+80	NOR																						1									
35	634+26	NOR									1																						
36	10+93	RAMP 1																				1											
37	10+93	RAMP 1																				1											
38	635+97	NOR								1																							
39	7+06	RAMP 1			1		1		1																								
40	7+06	RAMP 1			1		1		1																								
41	640.97	NOR		1		1		1																									
42	645+79	I-44	1																														
43	641+06	I-44																												1			
44	646+95	I-44																													1		
45	645+79	I-44	1																														
46	0+31	RAMP 4																								1							
47	60+39	ROUTE CC																														1	
48	59+99	ROUTE CC										1	1																				
49	707+53	EXIST. ROUTE CC						1																									1
50	59+21	ROUTE CC																						1									
51	60+41	ROUTE CC																1															
52	60+24	ROUTE CC																1															
53	15+45	RAMP 3																1															
54	15+46	RAMP 3																1															
55	2+37	E RBT																	1	1													
56	3+59	E RBT																	1	1													
57	2+86	E RBT																	1	1													
58	1+95	E RBT																	1	1													
59	9+31	MARSHALL																1															
60	9+43	MARSHALL																1															
61	9+12	MARSHALL													1		1																

CONTINUES ON NEXT SHEET

PRELIMINARY

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

DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 155
COUNTY: WEBSTER
JOB NO.: J8I0445
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)

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SPRINGFIELD, MO 65807 (417) 869-6009
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STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE	D10-5	W2-6	W2-6	W16-17P	W16-17P	W13-1P	W13-1P	W3-2	R2-1	R4-7	OM1-3	W11-2	W11-2	W16-7P	W16-7P	R1-2	R6-1R	R6-4	R5-1	R5-1A	D1-1D	D1-3D	D1-3D	D1-1E	D1-1E	W4-3R	W3-2	E5-1A	W13-2	D1-3E	W1-2R	D1-1D	W4-2R	D1-1E	D1-3D	D3-1	R1-1		W3-1	W4-4P	S3-1	D1-3D	W3-5	D2-3	E1-1	E1-5P	D2-3	R2-1
			SIGN DESCRIPTION, SIZES & NUMBER OF EACH	MILE MARKER 18"X60"	CIRCULAR INTERSECTION 36"X36"	CIRCULAR INTERSECTION 48"X48"	ROUNDABOUT 36"X12"	ROUNDABOUT 48"X18"	15 M.P.H. 24"X24"	15 M.P.H. 30"X30"	YIELD AHEAD 36"X36"	SPEED LIMIT 36"X48"	KEEP RIGHT SYMBOL 24"X30"	OBSTRUCTIONS WITHIN ROADWAY 18"X30"	PEDESTRIAN CROSSING 36"X36"	PEDESTRIAN CROSSING 48"X48"	ARROW LEFT 36"X12"	ARROW TO LOWER LEFT 30"X18"	YIELD 48"	ONE WAY RIGHT 36"X12"	DOUBLE CHEVRON 30"X24"	DO NOT ENTER 36"X36"	WRONG WAY 42"X30"	EXIT DESTINATION 84"X24"	EXIT DESTINATION 108"X84"	EXIT DESTINATION 132"X72"	EXIT DESTINATION 72"X42"	EXIT DESTINATION 96"X42"	LANE ADDED 36"X36"	YIELD AHEAD 48"X48"	EXIT GORE WITH NUMBER 72"X84"	ADVISORY EXIT 48"X60"	EXIT DESTINATION 84"X60"	CURVE 36"X36"	EXIT DESTINATION 108"X84"	LANE ENDS 48"X48"	EXIT DESTINATION 84"X60"	EXIT DESTINATION 96"X84"	STREET NAME 36"X12"	STOP 36"X36"	SPECIAL	STOP AHEAD 36"X36"	CROSS TRAFFIC DOES NOT STOP 30"X18"	SCHOOL BUS STOP AHEAD 36"X36"	EXIT DESTINATION 108"X72"	REDUCE SPEED AHEAD 36"X36"	DISTANCE 156"X72"	ADVANCED GUIDE 216"X132"	EXIT HAT 108"X30"	DISTANCE 108"X60"	SPEED LIMIT 48"X60"
62	15+22	RAMP 3														1		1																																	
63	9+32	MARSHALL													1			1																																	
64	3+11	RAMP 3A																				1																													
65	3+11	RAMP 3A																				1																													
66	9+40	MARSHALL																						1																											
67	8+89	MARSHALL											1	1																																					
68	8+83	MARSHALL																																	1																
69	14+66	RAMP 3																				1																													
70	14+66	RAMP 3																				1																													
71	629+27.41	I-44		1																																														
72	9+40	MARSHALL																						1																											
73	12+92	RAMP 3																					1																											
74	12+92	RAMP 3																					1																											
75	10+42	RAMP 3																												1																			
76	7+66	RAMP 3			1		1		1																																								
77	7+66	RAMP 3			1		1		1																																								
78	619+90	I-44																													1																		
79	614+11	I-44		1																																													
80	613+65	I-44																														1																	
81	7+78	MARSHALL																																				1												
82	5+16	MARSHALL			1																																												
83	0+56	MARSHALL			1			1			1																																						
84	62+24	ROUTE CC																	1																																
85	62+07	ROUTE CC																	1																																
86	62+11	ROUTE CC																																				1												
87	62+60	ROUTE CC											1	1																																				
88	64+10	ROUTE CC																																					1												
89	68+31	ROUTE CC										1																																						
90	66+14	ROUTE CC									1																																								
91	71+14	ROUTE CC		1		1		1																																									
92	10+89	N MARSHALL																																									1	1									
93	65+31	ROUTE CC											1																																					
94	55+12	ROUTE CC																																										1								
95	61+11	ROUTE CC																																										1								
96	18+62	HUBBLE DR																																										1							
97	10+37	ELM																																										1	1									
98	125+95	ROUTE CC										1																																						
99	23+51	RIFLE RANGE																																										1			1					
100	27+41	RIFLE RANGE																																												1					
101	22+52	RIFLE RANGE																																									1	1									
102	10+93	RAMP 1																																												1					
103	136+22	ROUTE CC																																												1					
104	138+31	ROUTE CC							1																																									
105	706+41	EXIST. ROUTE CC										1																																						
106	706+41	EXIST. ROUTE CC										1																																						
107	700+80	EXIST. ROUTE CC																																													1				
108	674+09	I-44																																														1			
109	561+85	I-44																																														1	1		
110	594+75	I-44																															1																
111	598+50	NOR																															1																
112	12+92	RAMP 3																																												1				
113	610+65	I-44																																													1	1		
114	651+11	I-44																																														1	1		
115	800+19	I-44																																															1	
116	664+09	I-44																															1																
117	647+66	NOR																																															1
118	647+66	NOR																																															1
119	694+15	I-44																																														1	1		
120	17+11	RIFLE RANGE																																										1					
121	694+15	RIFLE RANGE																																										1		1			

PRELIMINARY

* ALL SIGNS ON ELM STREET ARE PART OF ADD ALTERNATIVE B.
NO PROPOSED SIGNS ON ELM STREET EXTENSION.

SEE NEXT SHEET FOR TOTALS

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

DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 156
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE | DESCRIPTION

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

CMT
CRAWFORD, MURPHY & TILLY, INC.
1631 WEST ELFINDALE STREET
SPRINGFIELD, MO 65807 (417) 869-6009
ENGINEERING CORPORATION - 000631
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IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

L:\MarshfieldMO\17322-03\Draw\Sheets\155-157_SN_19-21_J810445_15_D30.dgn 3:36:31 PM 3/11/2019

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET				
			SIZE (SQFT)	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL SPECIAL EA ITEM NO. 9039902
1, 12, 42, 45, 71, 79 - D10-5		6	7.5	45.0			
49, 104 - W1-2R		2	9	18.0			
41, 82, 83, 91 - W2-6 36"X36"		4	9	36.0			
39, 40, 76, 77 - W2-6 48"X48"		4	16	64.0			
96 - W3-1		1	9	9.0			
3, 38, 90 - W3-2 36"X36"		3	9	27.0			
33, 75 - W3-2 48"48"		2	16	32.0			
107 - W3-5		1	9	9.0			
81 - W4-2R		1	16	16.0			
16 - W4-3R		1	9	9.0			
99, 121 - W4-4P		2	4.5	9.0			
2, 7, 8, 61, 63 - W11-2 36"X36"		5	9	45.0			
11, 62 - W11-2 48"X48"		2	16	32.0			
2, 41, 49, 83, 91, 104 - W13-1P 24"X24"		6	4	24.0			
39, 40, 76, 77 - W13-1P 30"X30"		4	6.25	25.0			
44, 80, 110, 111, 116 - W13-2		5	20	100.0			
7, 8, 11, 61, 62, 63 - W16-7P 30"X18"		6	3.75	22.5			
2 - W16-7P 36"X12"		1	3	3.0			
41, 83, 91, - W16-17P 36"X12"		3	3	9.0			
39, 40, 76, 77 - W16-17P 48"X18"		4	6	24.0			
92, 97*, 99, 101, 121 - R1-1		5	9	45.0			
9, 10, 23, 24, 25, 26, 27, 28, 51, 52, 53, 54, 59, 60, 84, 85 - R1-2		16	6.93	110.9			
4, 35, 89, 98, 105, 106 - R2-1 36"X48"		6	12	72.0			
117, 118 - R2-1 48"X60"		2	20	40.0			
6, 21, 30, 48, 67, 87, 93 - R4-7		7	5	35.0			
31, 32, 64, 65, 69, 70 - R5-1		6	9	54.0			
36, 37, 73, 74 - R5-1A		4	8.75	35.0			
17, 18, 19, 20, 55, 56, 57, 58 - R6-1R		8	3	24.0			
17, 18, 19, 20, 55, 56, 57, 58 - R6-4		8	5	40.0			
6, 21, 30, 48, 67, 87 - OM1-3		6	2.25	13.5			
100, 103 - S3-1		2	9	18.0			
13, 29, 66, 72 - D1-1D 84"X24"		4	14	56.0			
68 - D1-1D 108"X84"		1	63			63.0	
88 - D1-3D 96"X84"		1	56			56.0	
102, 112 - D1-3D 108"X72"		2	54			108.0	
5, 34, 50 - D1-3D 108"X84"		3	63			189.0	
22 - D1-3D 132"X72"		1	66			66.0	
14, 46 - D1-1E 72"X42"		2	21	42.0			
15 - D1-1E 96"X42"		1	28	28.0			
86 - D1-1E 84"X60"		1	35			35.0	
47 - D1-3E		1	35			35.0	
115 - D2-3 108"X60"		1	45			45.0	
108 - D2-3 156"X72"		1	78			78.0	
92, 97**, 101 - D3-1		3	3	9.0			
109, 113, 114, 119 - E1-1		4	198			792.0	
109, 113, 114, 119 - E1-5P		4	37.5			150.0	
43, 78 - E5-1A		2	42	84.0			
94*, 95* - ROUNDABOUT SPECIAL		2	68.8				2
120 - WAYFINDING SPECIAL		1	24.0	24.0			
ALT A SUBTOTAL		2					2
ALT B SUBTOTAL		2		12			
TOTAL		164		1277		1617.5	

* = ADD ALTERNATE A
** = ADD ALTERNATE B

PRELIMINARY

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DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 157
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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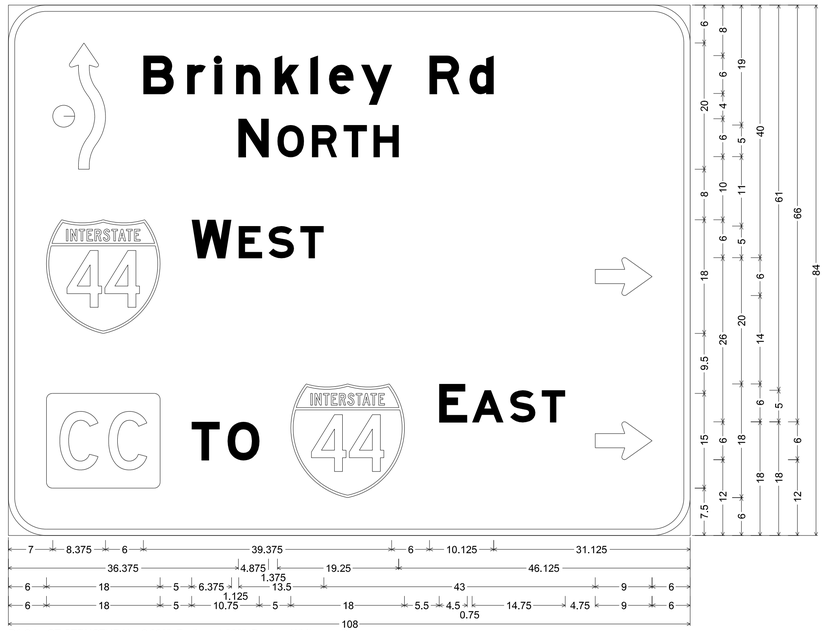
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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SPRINGFIELD, MO 65807 (417) 869-6009
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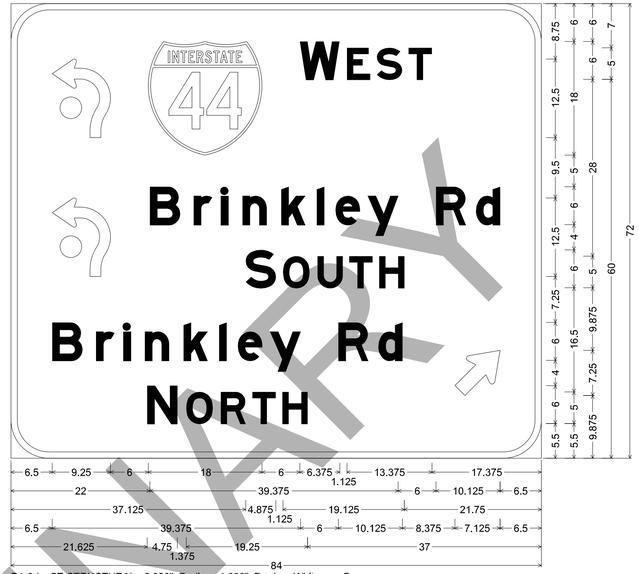
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5



D1-3d ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
[ ] E Mod; [Brinkley Rd] E Mod; [NORTH] E Mod; [WEST] E Mod; Standard Arrow Custom 9.000" X 6.000" 0°; [TO] E Mod;
[EAST] E Mod; Standard Arrow Custom 9.000" X 6.000" 0°;
Table of letter and object lefts.

7.000	**B** 21.375	**r** 28.375	**l** 32.625	**n** 36.125	**k** 42.250	**l** 47.875	**e** 50.750	**y** 55.875	**R** 66.750	**d** 73.000	
N 36.375	**O** 42.625	**R** 48.125	**T** 53.125	**H** 57.875							
6.000	**W** 29.000	**E** 36.500	**S** 41.250	**T** 46.250	93.000						
CC 6.000	**T** 29.000	**O** 34.750	44.750	**E** 68.250	**A** 73.500	**S** 79.500	**T** 84.500	93.000			

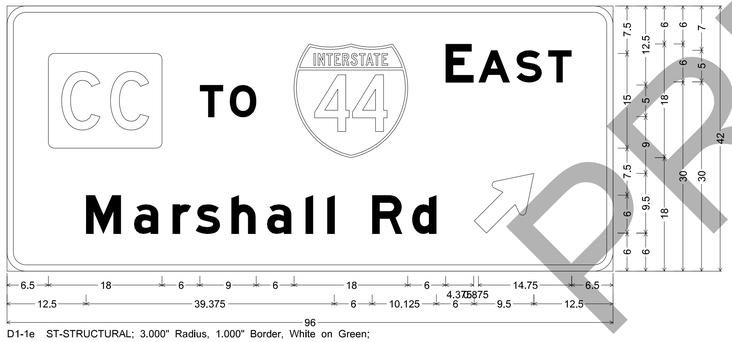


D1-3d ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
[WEST] E Mod; [ ] E Mod; [Brinkley Rd] E Mod; [SOUTH] E Mod; [Brinkley Rd] E Mod;
[NORTH] E Mod; Standard Arrow Custom 9.000" X 6.000" 45°;
Table of letter and object lefts.

6.500	21.750	**W** 45.750	**E** 53.250	**S** 58.000	**T** 63.000						
6.500	**B** 22.000	**r** 28.875	**l** 33.250	**n** 36.625	**k** 42.750	**l** 48.375	**e** 51.375	**y** 56.500	**R** 67.375	**d** 73.625	
S 37.125	**O** 43.125	**U** 48.500	**T** 53.625	**H** 58.250							
B 6.500	**r** 13.500	**l** 17.750	**n** 21.250	**k** 27.375	**l** 33.000	**e** 35.875	**y** 41.000	**R** 51.875	**d** 58.125	70.375	
N 21.625	**O** 27.750	**R** 33.250	**T** 38.250	**H** 43.000							

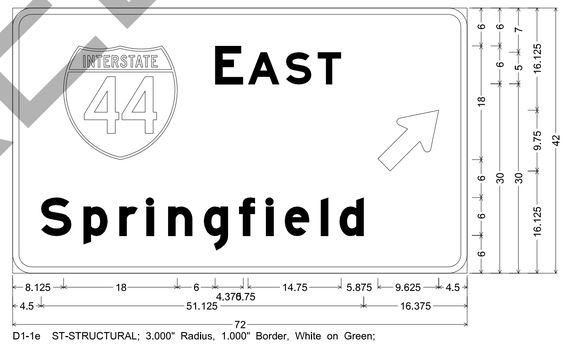
22

15



D1-1e ST-STRUCTURAL; 3.000" Radius, 1.000" Border, White on Green;
[TO] E Mod; [EAST] E Mod; [Marshall Rd] E Mod; Standard Arrow Custom 12.000" X 7.125" 45°;
Table of letter and object lefts.

CC 6.500	**T** 30.500	**O** 35.250	45.500	**E** 69.500	**A** 74.750	**S** 80.750	**T** 85.750
M 12.500	**a** 20.125	**r** 26.250	**s** 29.875	**h** 35.500	**a** 41.250	**l** 47.250	**l** 50.750	**R** 57.875	**d** 64.125	74.000



D1-1e ST-STRUCTURAL; 3.000" Radius, 1.000" Border, White on Green;
[EAST] E Mod; [Springfield] E Mod; Standard Arrow Custom 12.250" X 7.125" 45°;
Table of letter and object lefts.

8.125	**E** 32.125	**A** 37.250	**S** 43.375	**T** 48.375	57.875
S 4.500	**p** 11.250	**r** 16.875	**l** 21.250	**n** 24.625	**g** 30.250	**f** 35.875	**l** 40.125	**e** 43.125	**l** 48.875	**d** 51.750

14



D1-1d ST-STRUCTURAL; 3.000" Radius, 1.000" Border, White on Green;
[Brinkley Rd] E Mod; [SOUTH] E Mod; Standard Arrow Custom 9.000" X 6.000" 45°;
Table of letter and object lefts.

B 7.625	**r** 14.625	**l** 18.875	**n** 22.375	**k** 28.500	**l** 34.125	**e** 37.125	**y** 42.125	**R** 53.000	**d** 59.375	69.125
S 22.875	**O** 28.750	**U** 34.250	**T** 39.250	**H** 44.000						

13

PRELIMINARY

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	158

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

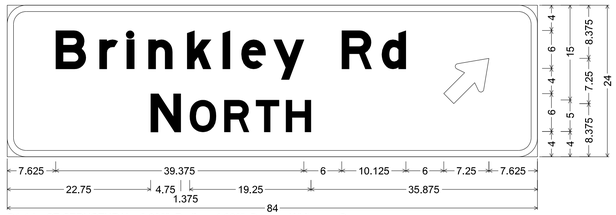
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D-31
SIGNING SHEET
SHEET 22 OF 47

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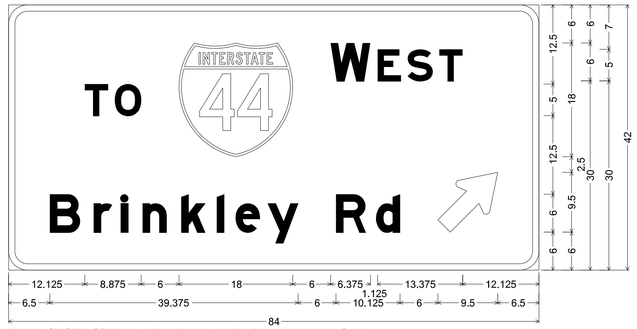


D1-1d ST-STRUCTURAL; 3.000" Radius, 1.000" Border, White on Green;
[Brinkley Rd] E Mod; [NORTH] E Mod; Standard Arrow Custom 9.000" X 6.000" 45°;
Table of letter and object lefts.

B	r	l	n	k	l	e	y	R	d	
7.625	14.625	18.875	22.375	28.500	34.125	37.125	42.125	53.000	59.375	69.125

N	O	R	T	H
22.750	28.875	34.375	39.375	44.125

29

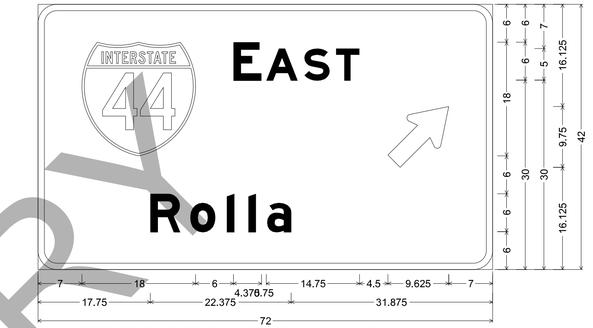


D1-1e ST-STRUCTURAL; 3.000" Radius, 1.000" Border, White on Green;
[TO] E Mod; [WEST] E Mod; [Brinkley Rd] E Mod; Standard Arrow Custom 12.000" X 7.125" 45°;
Table of letter and object lefts.

T	O		W	E	S	T
12.125	16.875	27.000	51.000	58.500	63.250	68.250

B	r	l	n	k	l	e	y	R	d	
6.500	13.500	17.750	21.250	27.375	33.000	35.875	41.000	51.875	58.125	68.000

47

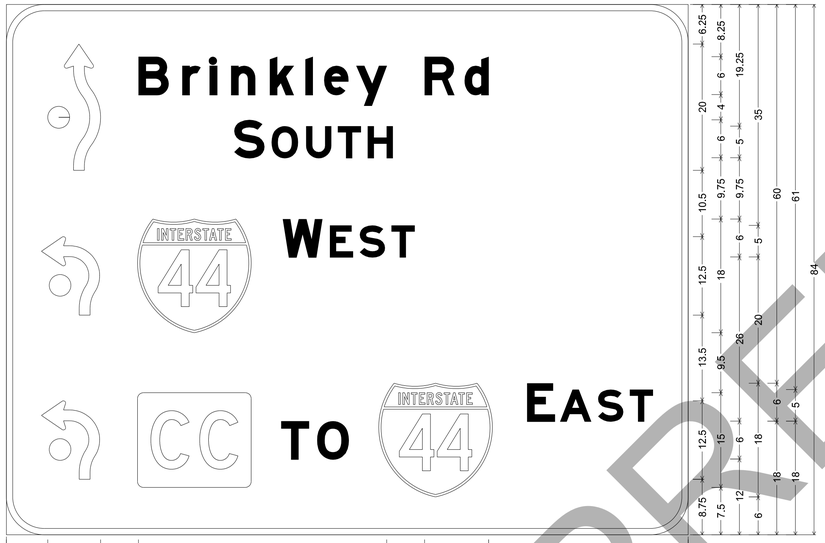


D1-1e ST-STRUCTURAL; 3.000" Radius, 1.000" Border, White on Green;
[EAST] E Mod; [Rolla] E Mod; Standard Arrow Custom 12.250" X 7.125" 45°;
Table of letter and object lefts.

	E	A	S	T	
7.000	31.000	36.125	42.250	47.250	55.375

R	o	l	l	a
17.750	24.125	29.875	33.375	36.250

46



D1-3d ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
[ ] E Mod; [Brinkley Rd] E Mod; [SOUTH] E Mod; [WEST] E Mod; [ ] E Mod; [TO] E Mod; [EAST] E Mod;
Table of letter and object lefts.

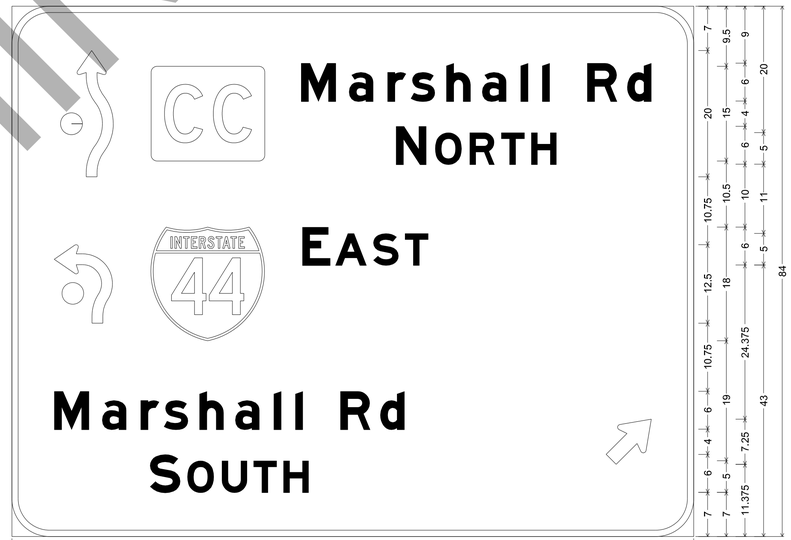
	B	r	l	n	k	l	e	y	R	d
6.500	20.875	27.875	32.125	35.625	41.750	47.375	50.375	55.375	66.250	72.625

S	O	U	T	H
36.125	42.000	47.500	52.500	57.250

		W	E	S	T
5.500	20.750	43.750	51.250	56.000	61.000

		T	O		E	A	S	T
5.500	20.750	43.500	49.250	59.000	82.500	87.750	93.750	98.750

34



D1-3d ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
[ ] E Mod; [Marshall Rd] E Mod; [NORTH] E Mod; [EAST] E Mod; [ ] E Mod; [Marshall Rd] E Mod; [SOUTH] E Mod;
Standard Arrow Custom 9.000" X 6.000" 45°;
Table of letter and object lefts.

	CC	M	a	r	s	h	a	l	l	R	d
7.750	22.125	45.875	53.375	59.500	63.125	68.875	74.500	80.625	84.000	91.125	97.500

N	O	R	T	H
60.875	67.000	72.500	77.500	82.250

		E	A	S	T
6.750	22.000	46.000	51.250	57.250	62.250

M	a	r	s	h	a	l	l	R	d	
6.750	14.250	20.375	24.125	29.750	35.375	41.500	44.875	52.000	58.375	94.125

S	O	U	T	H
21.875	27.750	33.250	38.250	43.000

50

PRELIMINARY

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DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 159
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

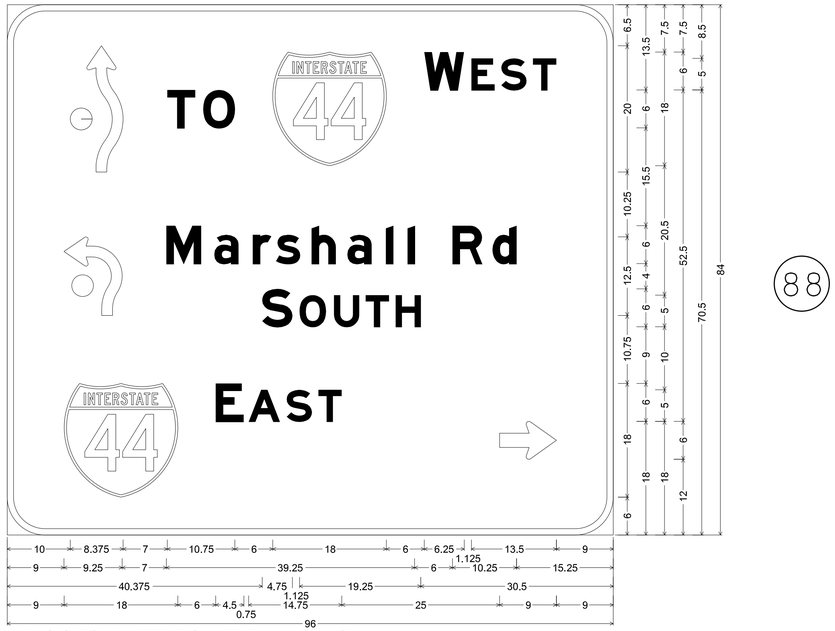
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D-31
SIGNING SHEET
SHEET 23 OF 47

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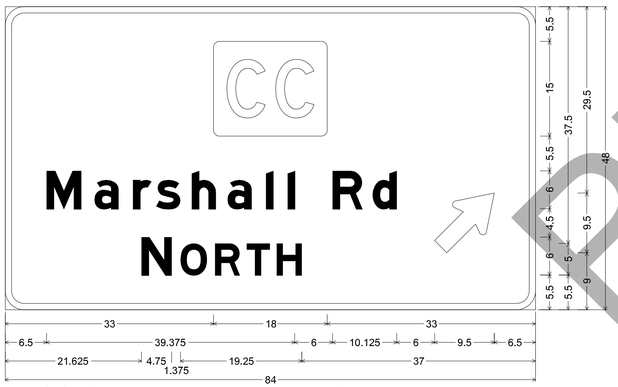
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[ ] E Mod; [TO] E Mod; [WEST] E Mod; [Marshall Rd] E Mod; [SOUTH] E Mod; [EAST] E Mod;
Standard Arrow Custom 9.000" X 6.000" 0°;
Table of letter and object lefts.

10.000	T 25.375	O 31.000	42.125	W 66.125	E 73.500	S 78.250	T 83.250
9.000	M 25.250	a 32.750	r 38.875	s 42.625	h 48.250	a 53.875	l 60.000	l 63.375	R 70.500	d 76.875
S 40.375	O 46.250	U 51.750	T 56.750	H 61.500			
9.000	E 33.000	A 38.250	S 44.250	T 49.250	78.000		



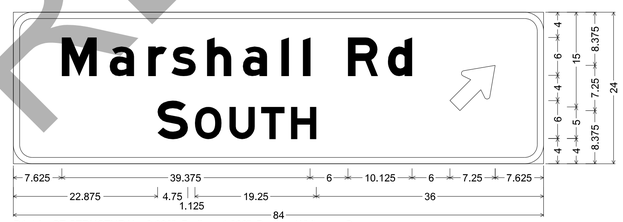
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[ ] E Mod; [EAST] E Mod; [ ] E Mod; [TO] E Mod; [WEST] E Mod; [Marshall Rd] E Mod; [NORTH] E Mod;
Standard Arrow Custom 9.000" X 6.000" 0°;
Table of letter and object lefts.

7.750	23.125	E 47.125	A 52.375	S 58.375	T 63.375	
6.750	T 23.000	O 28.625	39.750	W 63.750	E 71.125	S 75.875	T 80.875
CC 6.750	M 30.750	a 38.375	r 44.500	s 48.125	h 53.750	a 59.375	l 65.500	l 69.000	R 76.125	d 82.375	92.250
N 45.750	O 52.000	R 57.500	T 62.500	H 67.250							



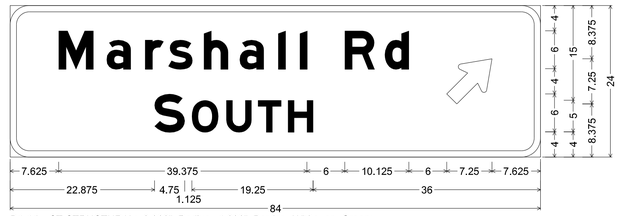
D1-1e ST-STRUCTURAL; 3.000" Radius, 1.000" Border, White on Green;
[Marshall Rd] E Mod; [NORTH] E Mod; Standard Arrow Custom 12.000" X 7.125" 45°;
Table of letter and object lefts.

CC 33.000											
M 6.500	a 14.125	r 20.250	s 23.875	h 29.500	a 35.250	l 41.250	l 44.750	R 51.875	d 58.125	68.000	
N 21.625	O 27.750	R 33.250	T 38.250	H 43.000							



D1-1d ST-STRUCTURAL; 3.000" Radius, 1.000" Border, White on Green;
[Marshall Rd] E Mod; [SOUTH] E Mod; Standard Arrow Custom 9.000" X 6.000" 45°;
Table of letter and object lefts.

M 7.625	a 15.250	r 21.375	s 25.000	h 30.625	a 36.375	l 42.500	l 45.875	R 53.000	d 59.375	69.125
S 22.875	O 28.750	U 34.250	T 39.250	H 44.000						



D1-1d ST-STRUCTURAL; 3.000" Radius, 1.000" Border, White on Green;
[Marshall Rd] E Mod; [SOUTH] E Mod; Standard Arrow Custom 9.000" X 6.000" 45°;
Table of letter and object lefts.

M 7.625	a 15.250	r 21.375	s 25.000	h 30.625	a 36.375	l 42.500	l 45.875	R 53.000	d 59.375	69.125
S 22.875	O 28.750	U 34.250	T 39.250	H 44.000						

PRELIMINARY

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DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 160
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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PRELIMINARY



D2-3 ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
[Sparkle Brook Rd] E Mod; [Sampson Rd] E Mod; [3] E Mod; [Rolla] E Mod; [81] E Mod; [St Louis] E Mod; [187] E Mod;
Table of letter and object lefts.

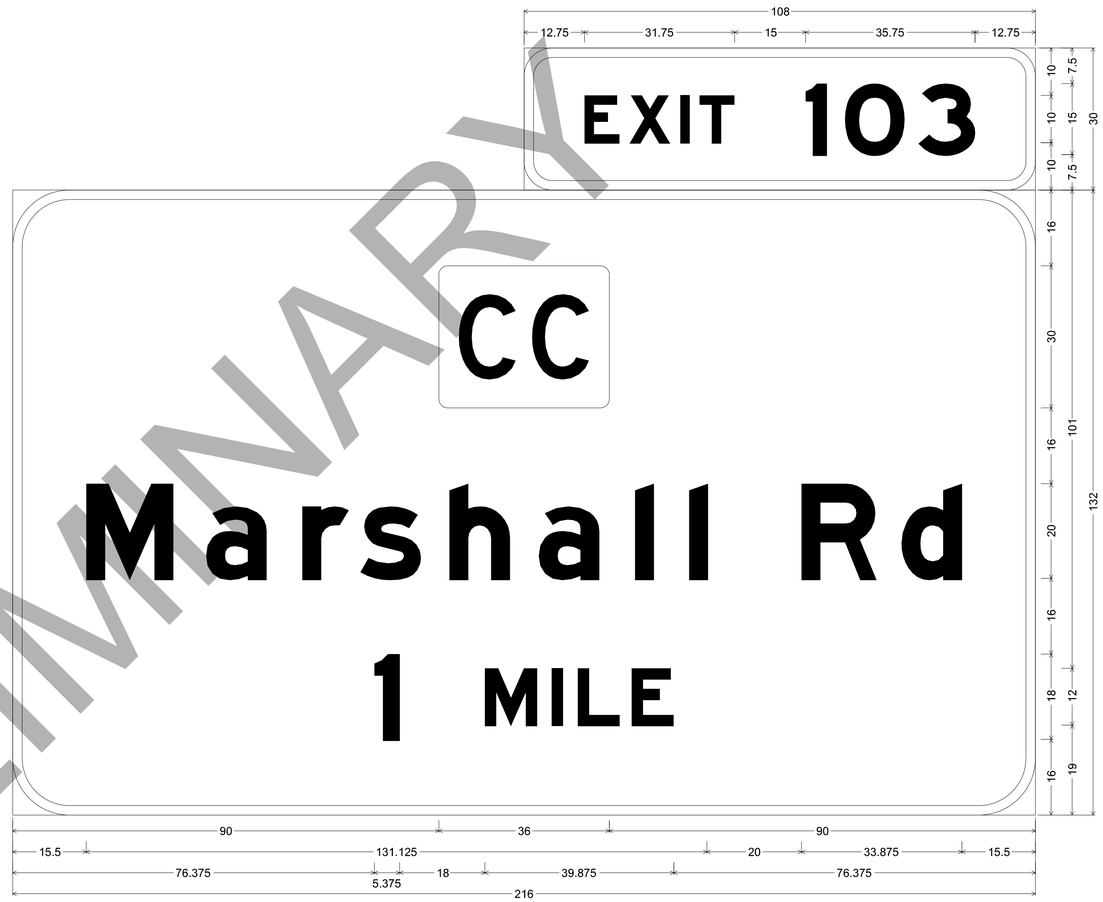
S	p	a	r	k	l	e	B	r	o	o	k	R	d	3	
9.000	18.000	24.750	33.000	38.750	46.250	50.125	63.250	72.500	77.625	84.625	92.250	105.375	113.750	140.625	

S	a	m	p	s	o	n	R	d
9.000	17.250	25.375	36.875	43.625	50.375	58.125	71.125	79.625

R	o	l	l	a	8	l	
9.000	17.500	25.125	29.750	33.750	136.125	144.625	

S	t	L	o	u	l	s	l	8	7	
9.000	17.125	28.625	36.125	43.875	52.000	55.750	128.125	132.625	140.625	

108



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [103] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
[Marshall Rd] E Mod; [1] E Mod; [MILE] E Mod;
Table of letter and object lefts.

E	X	I	T	1	O	3
12.750	22.250	33.000	37.000	59.500	67.750	83.250

90.000

M	a	r	s	h	a	l	l	R	d	
15.500	40.875	61.125	73.375	92.250	111.125	131.375	142.875	166.625	187.750	

1	M	I	L	E
76.375	99.750	113.875	119.375	130.750

109

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

DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	161

COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

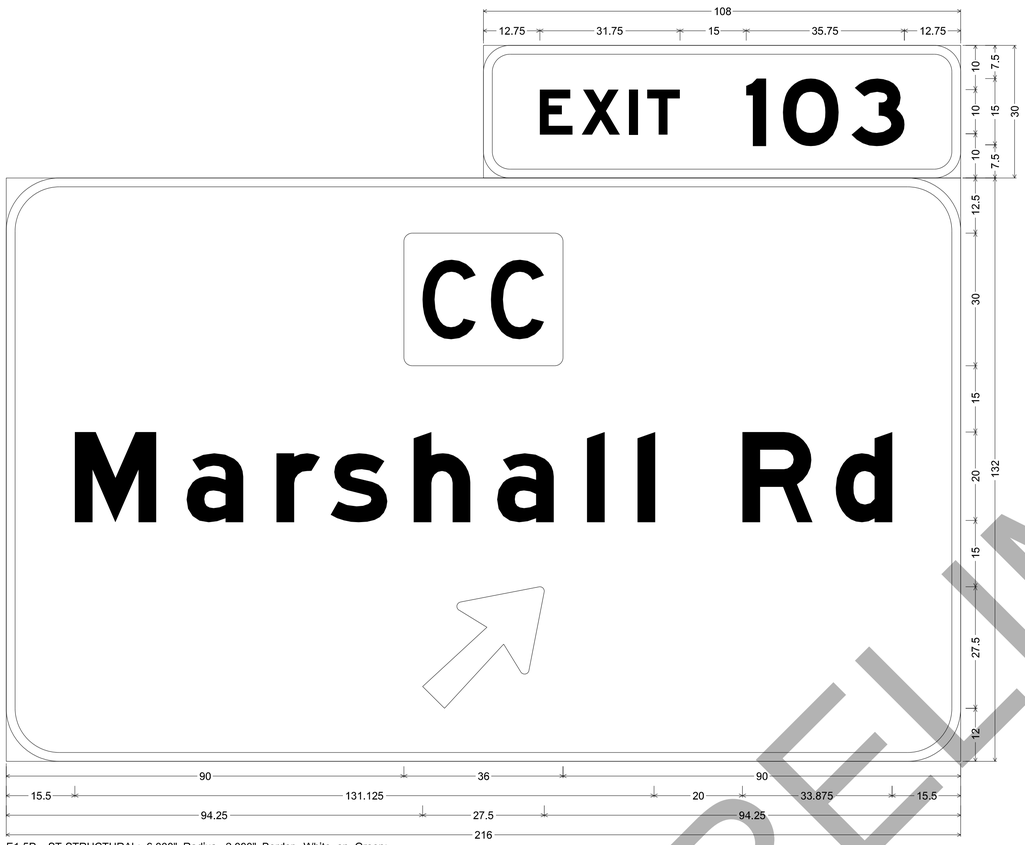
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JEFFERSON CITY, MO 65102
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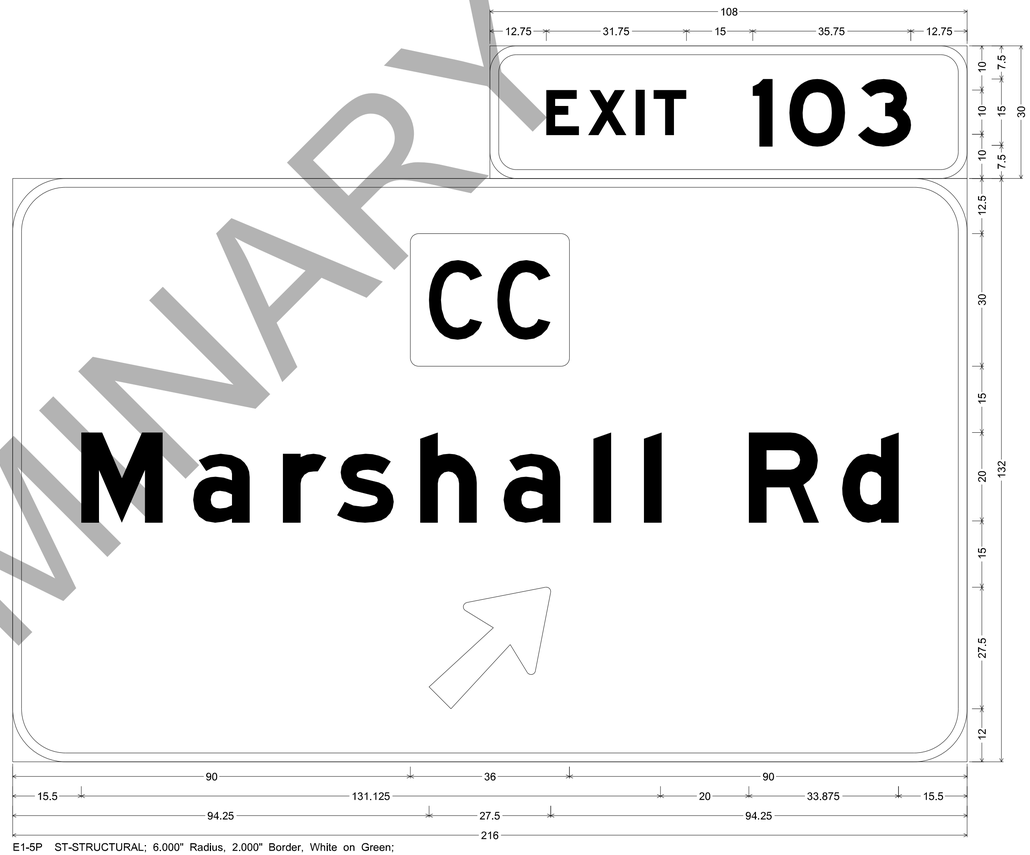
PRELIMINARY



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [103] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
[Marshall Rd] E Mod; Arrow 160 - 35.000" 45°;
Table of letter and object lefts.

E	**X**	**I**	**T**	**I**	**O**	**3**	
12.750	22.250	33.000	37.000	59.500	67.750	83.250	
90.000							
M	**a**	**r**	**s**	**h**	**a**	**I**	**I**	**R**	**d**
15.500	40.875	61.125	73.375	92.250	111.125	131.375	142.875	166.625	187.750
94.250									

113



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [103] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
[Marshall Rd] E Mod; Arrow 160 - 35.000" 45°;
Table of letter and object lefts.

E	**X**	**I**	**T**	**I**	**O**	**3**	
12.750	22.250	33.000	37.000	59.500	67.750	83.250	
90.000							
M	**a**	**r**	**s**	**h**	**a**	**I**	**I**	**R**	**d**
15.500	40.875	61.125	73.375	92.250	111.125	131.375	142.875	166.625	187.750
94.250									

114

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

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	162

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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D-31
SIGNING SHEET
SHEET 26 OF 47

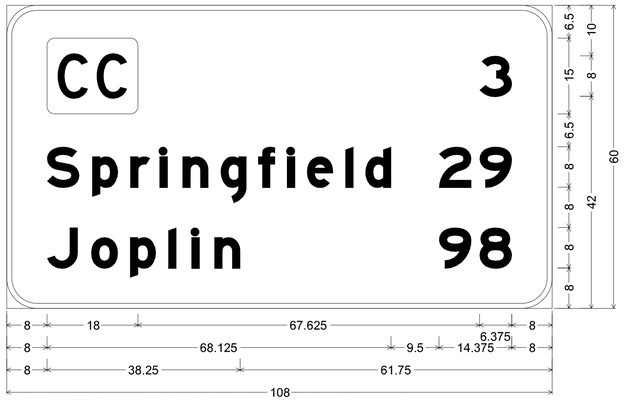
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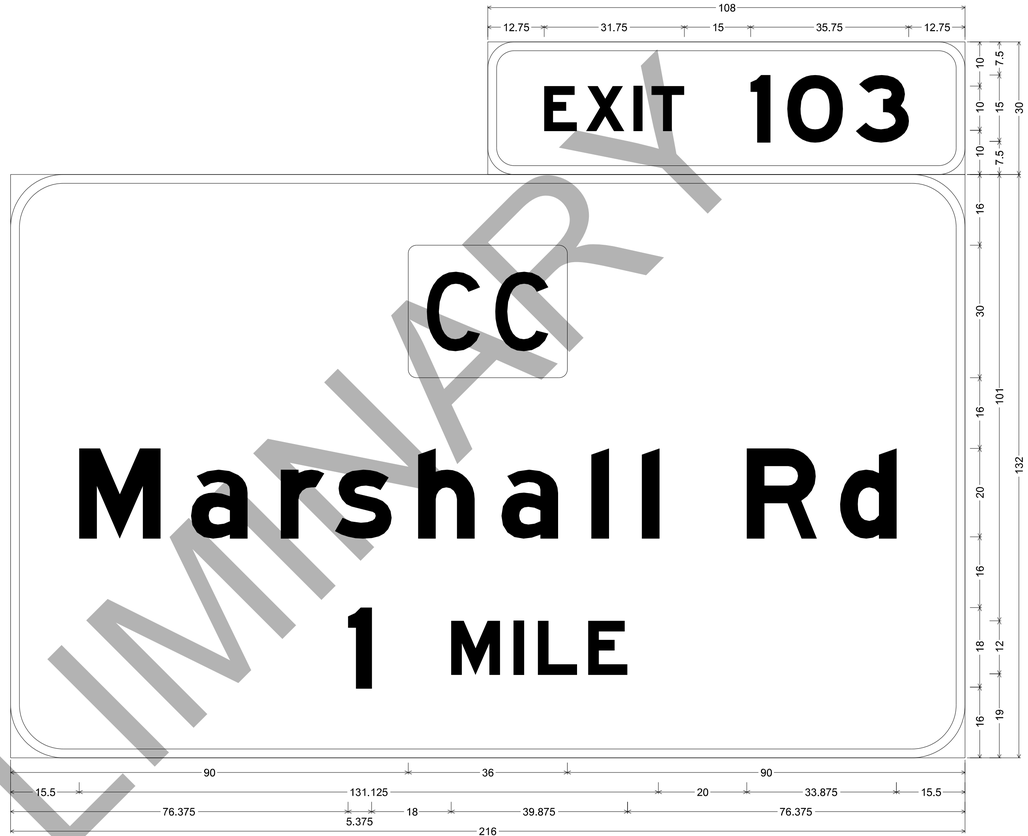
115



D2-3 ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
Rounded Rectangle 1.500" Radius;
[3] E Mod; [Springfield] E Mod; [29] E Mod; [Joplin] E Mod; [98] E Mod;
Table of letter and object lefts.

□ 8.000	**3** 93.625

S 8.000	**p** 16.875	**r** 24.500	**i** 30.250	**n** 34.750	**g** 42.375	**f** 49.750	**i** 55.500	**e** 59.500	**l** 67.000	**d** 71.000	
	2 85.625	**9** 93.625									
J 8.000	**o** 16.750	**p** 24.500	**l** 32.000	**i** 36.500	**n** 41.125	**9** 85.625	**8** 93.625				



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [103] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
[Marshall Rd] E Mod; [1] E Mod; [MILE] E Mod;
Table of letter and object lefts.

E 12.750	**X** 22.250	**I** 33.000	**T** 37.000	**l** 59.500	**O** 67.750	**3** 83.250	
□ 90.000							
M 15.500	**a** 40.875	**r** 61.125	**s** 73.375	**h** 92.250	**a** 111.125	**l** 131.375	**l** 142.875	**R** 166.625	**d** 187.750
I 76.375	**M** 99.750	**I** 113.875	**L** 119.375	**E** 130.750					

119

DATE PREPARED	3/11/2019
ROUTE	I-44
STATE	MO
DISTRICT	SW
SHEET NO.	163
COUNTY	WEBSTER
JOB NO.	J8I0445
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

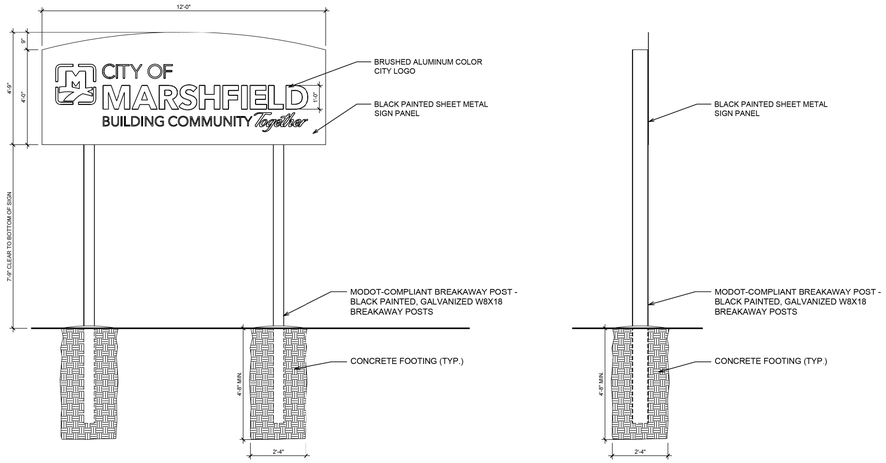
DESCRIPTION | DATE

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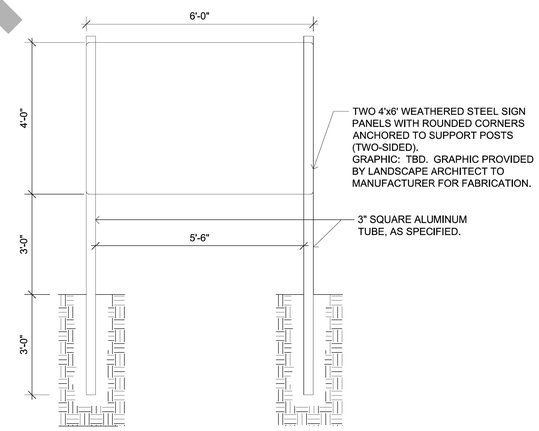
D-31
SIGNING SHEET
SHEET 27 OF 47

94 & 95





120



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DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	164

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

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MoDOT

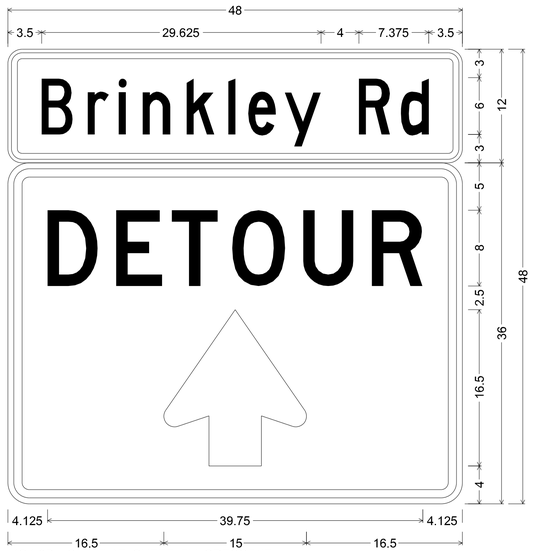
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D-31

SIGNING SHEET
SHEET 28 OF 47

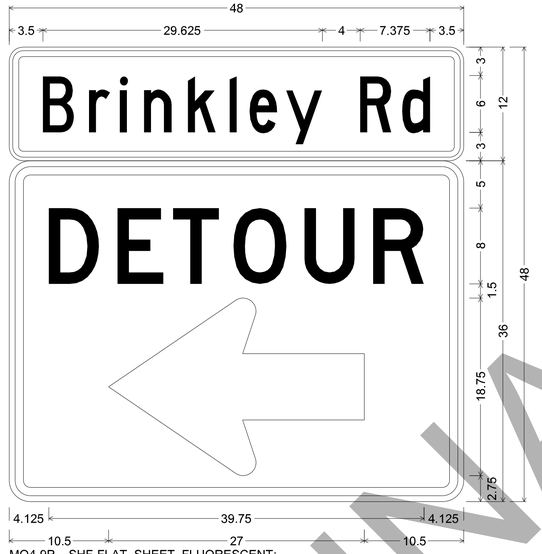


MO4-9P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.625" Border, 0.375" Indent, Black on Orange;
[Brinkley Rd] C 90% spacing;
MO4-9-48 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
[DETOUR] D;
Table of letter and object lefts.

B	r	i	n	k	l	e	y	R	d
3.500	8.375	11.750	14.250	18.875	23.125	25.375	29.250	37.125	41.500

D	E	T	O	U	R
4.125	11.375	17.250	23.625	31.250	38.500

⇳ 16.500

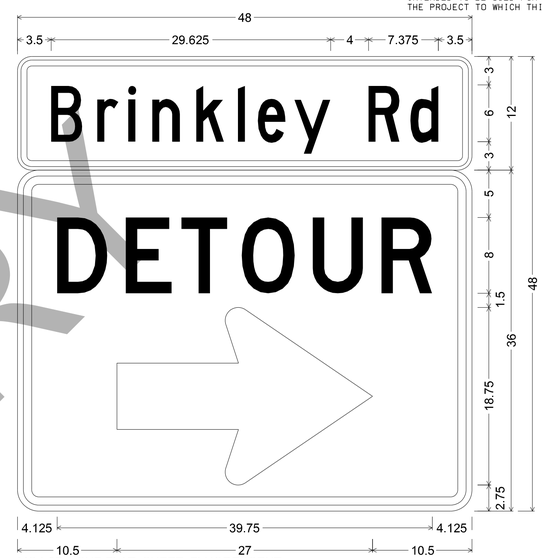


MO4-9P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.625" Border, 0.375" Indent, Black on Orange;
[Brinkley Rd] C 90% spacing;
MO4-9L-48 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
[DETOUR] D; Standard Arrow Custom 27.000" X 18.750" 180°;
Table of letter and object lefts.

B	r	i	n	k	l	e	y	R	d
3.500	8.375	11.750	14.250	18.875	23.125	25.375	29.250	37.125	41.500

D	E	T	O	U	R
4.125	11.375	17.250	23.625	31.250	38.500

⇦ 10.500



MO4-9P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.625" Border, 0.375" Indent, Black on Orange;
[Brinkley Rd] C 90% spacing;
MO4-9R-48 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
[DETOUR] D; Standard Arrow Custom 27.000" X 18.750" 0°;
Table of letter and object lefts.

B	r	i	n	k	l	e	y	R	d
3.500	8.375	11.750	14.250	18.875	23.125	25.375	29.250	37.125	41.500

D	E	T	O	U	R
4.125	11.375	17.250	23.625	31.250	38.500

⇨ 10.500

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DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	165

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

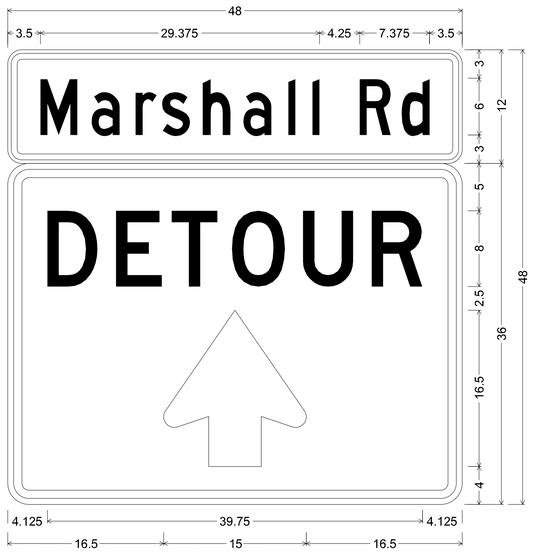
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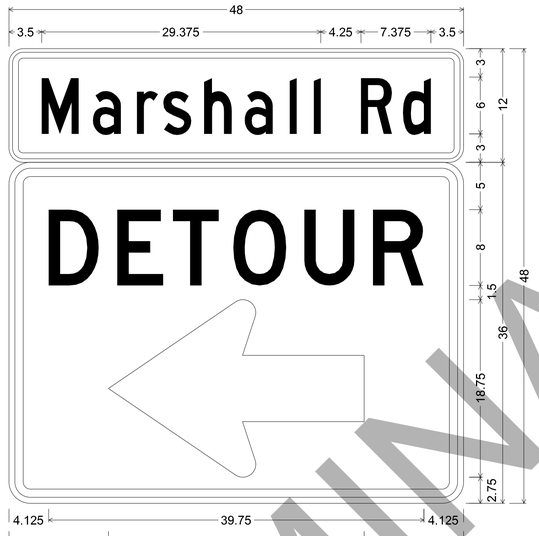


MO4-9P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.625" Border, 0.375" Indent, Black on Orange;
[Marshall Rd] C 90% spacing;
MO4-9-48 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
[DETOUR] D;
Table of letter and object lefts.

M	a	r	s	h	a	l	l	R	d
3.500	8.875	13.500	16.250	20.625	24.875	29.500	32.125	37.125	41.625

D	E	T	O	U	R
4.125	11.375	17.250	23.625	31.250	38.500

16.500

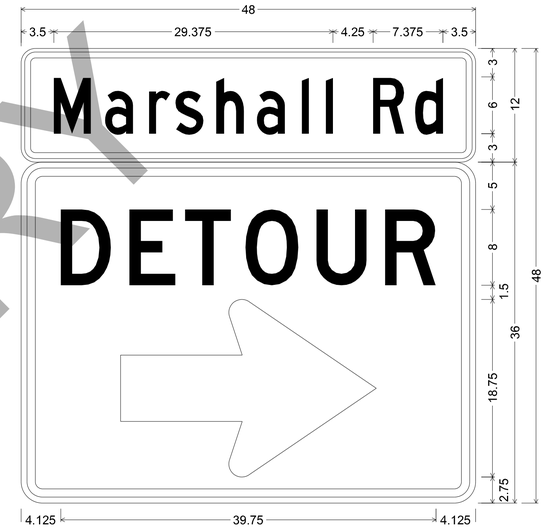


MO4-9P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.625" Border, 0.375" Indent, Black on Orange;
[Marshall Rd] C 90% spacing;
MO4-9L-48 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
[DETOUR] D; Standard Arrow Custom 27.000" X 18.750" 180°;
Table of letter and object lefts.

M	a	r	s	h	a	l	l	R	d
3.500	8.875	13.500	16.250	20.625	24.875	29.500	32.125	37.125	41.625

D	E	T	O	U	R
4.125	11.375	17.250	23.625	31.250	38.500

10.500



MO4-9P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.625" Border, 0.375" Indent, Black on Orange;
[Marshall Rd] C 90% spacing;
MO4-9R-48 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
[DETOUR] D; Standard Arrow Custom 27.000" X 18.750" 0°;
Table of letter and object lefts.

M	a	r	s	h	a	l	l	R	d
3.500	8.875	13.500	16.250	20.625	24.875	29.500	32.125	37.125	41.625

D	E	T	O	U	R
4.125	11.375	17.250	23.625	31.250	38.500

10.500

PRELIMINARY

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

DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 166
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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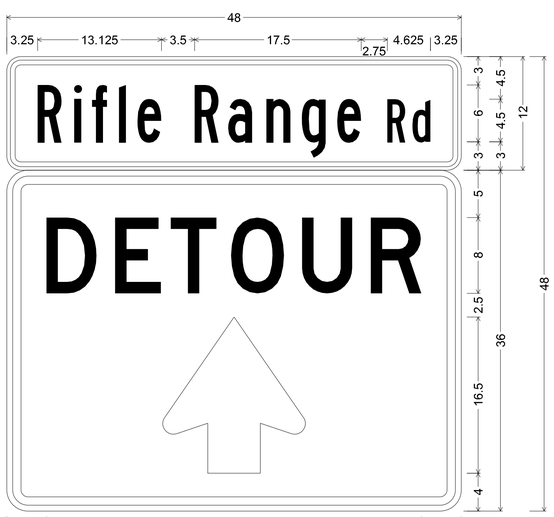
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PRELIMINARY



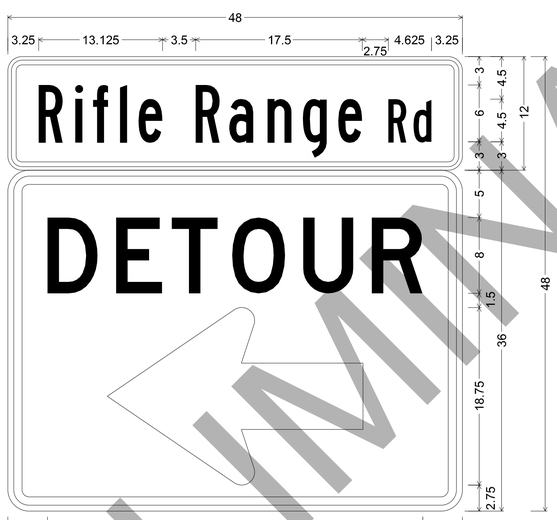
MO4-9P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.500" Border, 0.375" Indent, Black on Orange;
[Rifle Range] B 90% spacing; [Rd] B 90% spacing;
MO4-9-48 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
[DETOUR] D;
Table of letter and object lefts.

R	i	f	l	e	R	a	n	g	e
3.250	7.125	9.000	11.875	13.750	19.875	23.375	27.375	31.125	34.875

R	d
40.125	42.875

D	E	T	O	U	R
4.125	11.375	17.250	23.625	31.250	38.500

16.500



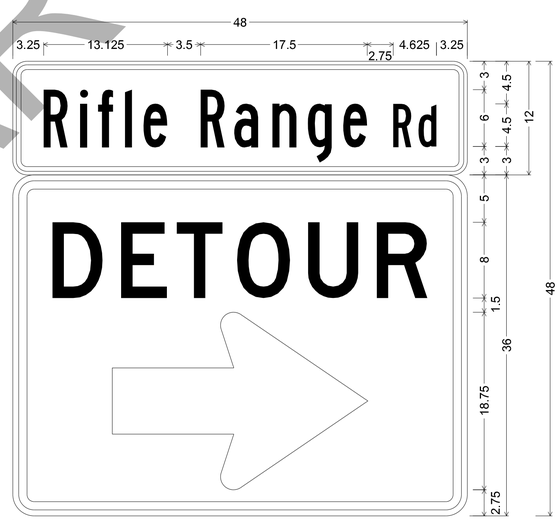
MO4-9P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.500" Border, 0.375" Indent, Black on Orange;
[Rifle Range] B 90% spacing; [Rd] B 90% spacing;
MO4-9L-48 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
[DETOUR] D; Standard Arrow Custom 27.000" X 18.750" 180°;
Table of letter and object lefts.

R	i	f	l	e	R	a	n	g	e
3.250	7.125	9.000	11.875	13.750	19.875	23.375	27.375	31.125	34.875

R	d
40.125	42.875

D	E	T	O	U	R
4.125	11.375	17.250	23.625	31.250	38.500

10.500



MO4-9P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.500" Border, 0.375" Indent, Black on Orange;
[Rifle Range] B 90% spacing; [Rd] B 90% spacing;
MO4-9R-48 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
[DETOUR] D; Standard Arrow Custom 27.000" X 18.750" 0°;
Table of letter and object lefts.

R	i	f	l	e	R	a	n	g	e
3.250	7.125	9.000	11.875	13.750	19.875	23.375	27.375	31.125	34.875

R	d
40.125	42.875

D	E	T	O	U	R
4.125	11.375	17.250	23.625	31.250	38.500

10.500

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	167

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

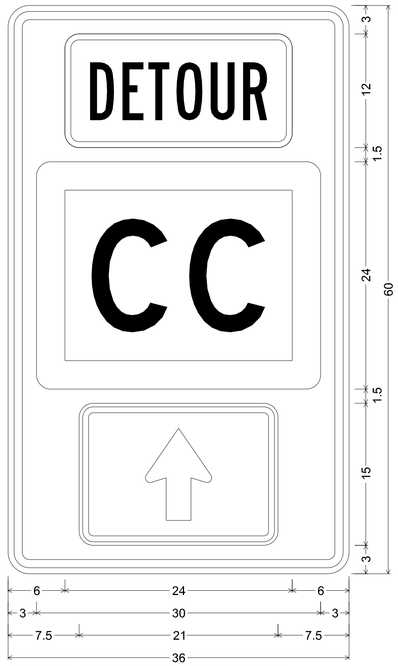
DESCRIPTION	DATE

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

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ENGINEERING CORPORATION - 000631

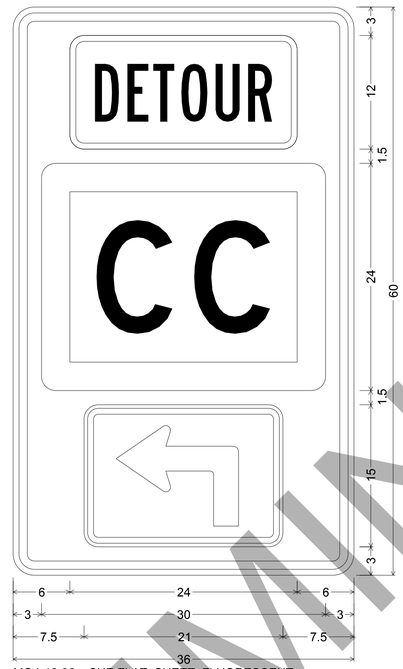
D-31
SIGNING SHEET
SHEET 31 OF 47

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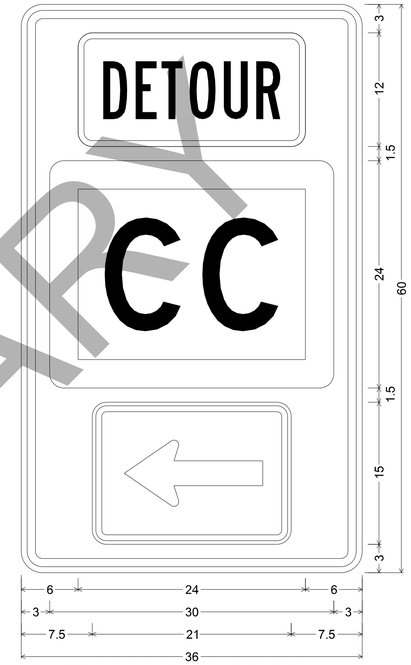
MO4-12-36 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

W	6.000
CC	3.000
D	7.500



MO4-12-36 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

W	6.000
CC	3.000
D	7.500



MO4-12-36 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

W	6.000
CC	3.000
D	7.500

PRELIMINARY

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DATE PREPARED: 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	168

COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

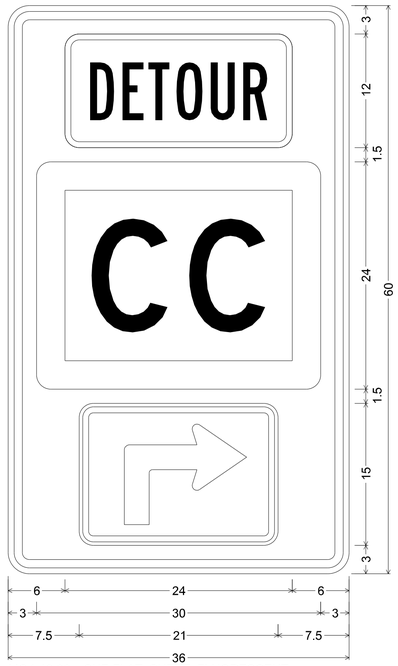
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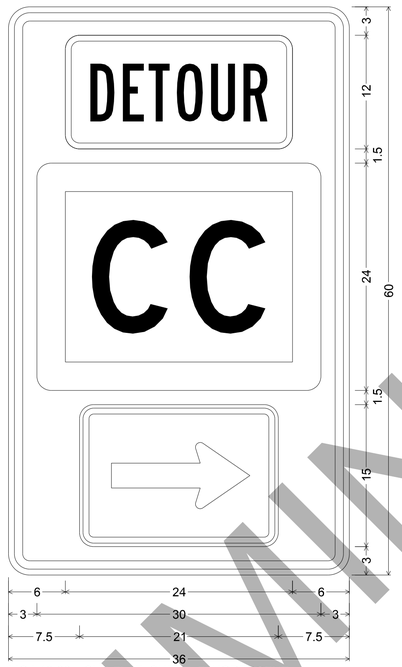
D-31
SIGNING SHEET
SHEET 32 OF 47

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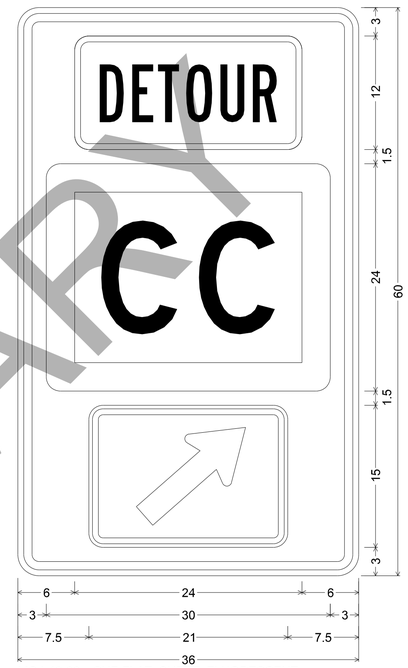
MO4-12-36 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

W	6.000
C	3.000
D	7.500



MO4-12-36 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

W	6.000
C	3.000
D	7.500



MO4-12-36 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

W	6.000
C	3.000
D	7.500

PRELIMINARY

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

DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 169
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

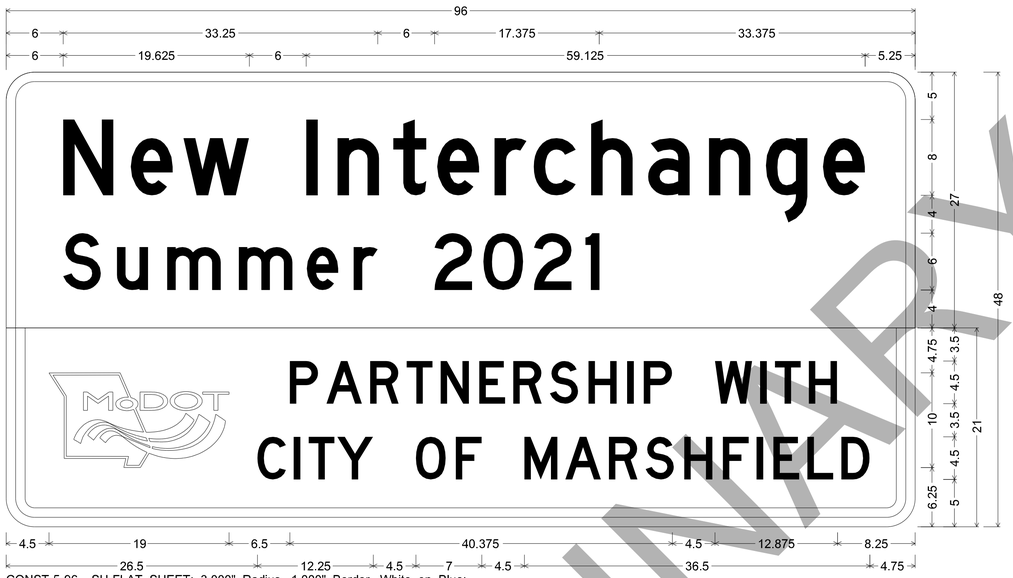
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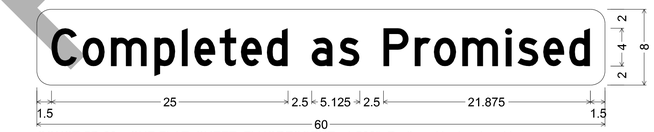
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CONST-5-96 SH-FLAT SHEET; 3.000" Radius, 1.000" Border, White on Blue;
[New Interchange] D 75% spacing; [Summer 2021] D;
3.000" Radius, 1.000" Border, 1.000" Indent, Blue on White;
[PARTNERSHIP WITH] D; [CITY OF MARSHFIELD] D;
Table of letter and object lefts.

N	e	w	l	n	t	e	r	c	h	a	n	g	e		
6.000	13.125	18.750	31.625	35.000	40.875	45.500	51.625	55.750	61.750	67.750	74.250	80.250	86.250		
S	u	m	m	e	r	2	0	2	1						
6.000	11.750	17.000	24.625	31.750	36.750	45.250	50.375	55.750	61.125						
	P	A	R	T	N	E	R	S	H	I	P	W	I	T	H
4.500	30.000	33.875	38.375	42.250	45.875	50.000	53.500	57.375	61.500	65.625	67.375	74.875	79.625	81.125	84.750
C	I	T	Y	O	F	M	A	R	S	H	F	I	E	L	D
26.500	30.375	32.000	35.000	43.250	47.500	54.750	59.000	63.625	67.500	71.625	75.625	79.250	81.000	84.625	88.250



CONST-5P-60 SHF-FLAT SHEET FLUORESCENT; 1.500" Radius, No border, Yellow;
[Completed as Promised] Black D 65% spacing;
Table of letter and object lefts.

C	o	m	p	l	e	t	e	d	a	s	
1.500	4.875	7.875	12.375	15.375	16.625	19.375	21.500	24.250	29.000	31.875	
	P	r	o	m	i	s	e	d			
	36.625	39.875	41.875	44.875	49.500	50.750	53.500	56.250			

PRELIMINARY

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

DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 170
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

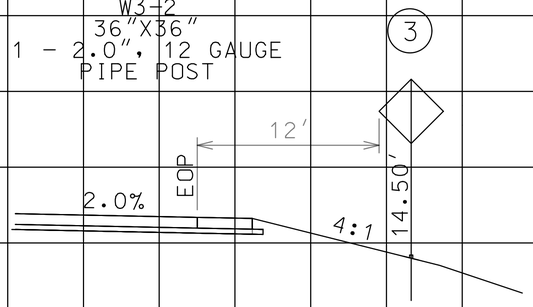
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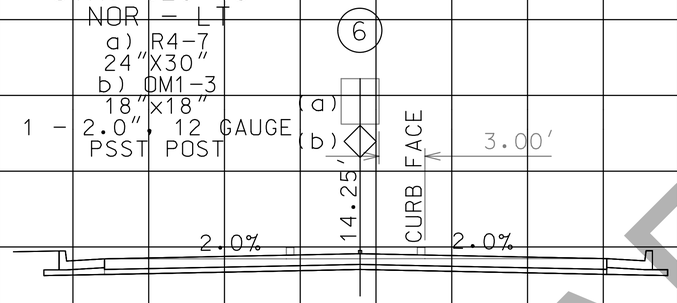
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PRELIMINARY

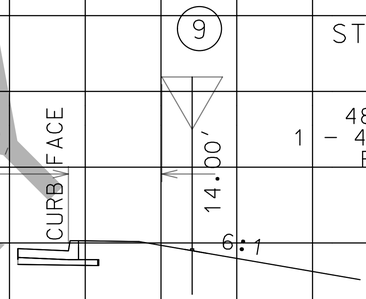
3
STA. 626+00
NOR - RT
W3-2
36"X36"
1 - 2.0", 12 GAUGE
PIPE POST



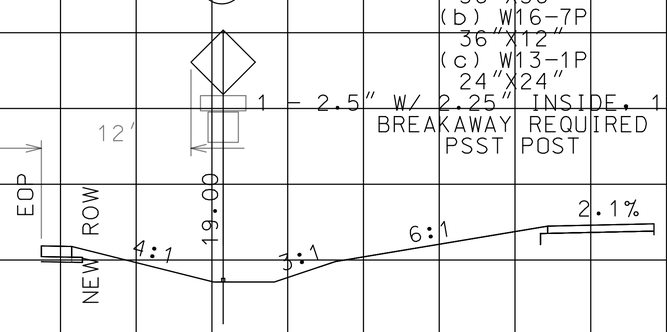
6
STA. 629+63
NOR - LT
a) R4-7
24"X30"
b) OM1-3
18"x18"
1 - 2.0", 12 GAUGE
PSST POST



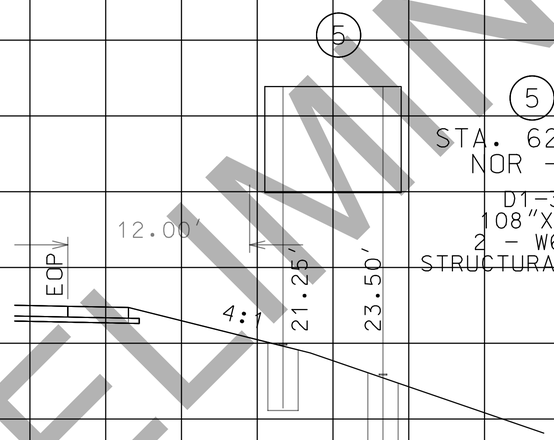
9
STA. 629+90
NOR - RT
R1-2
48"X48"
1 - 4.0", 12 GAUGE
PIPE POST



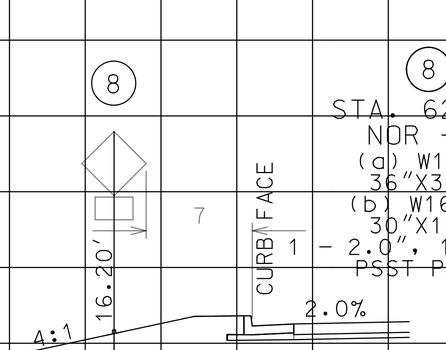
2
STA. 621+00
NOR - RT
(a) W11-2
36"X36"
(b) W16-7P
36"X12"
(c) W13-1P
24"X24"
1 - 2.5" W/ 2.25" INSIDE, 12 GAUGE
BREAKAWAY REQUIRED
PSST POST



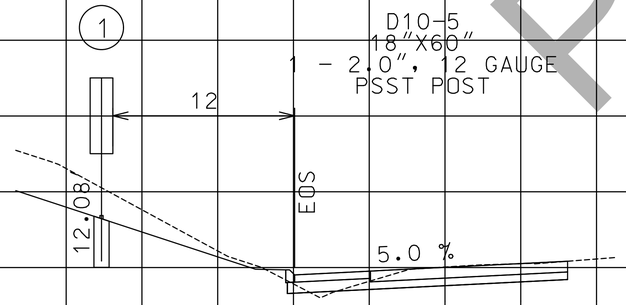
5
STA. 628+22
NOR - LT
D1-3d
108"X84"
2 - W6x15
STRUCTURAL POSTS



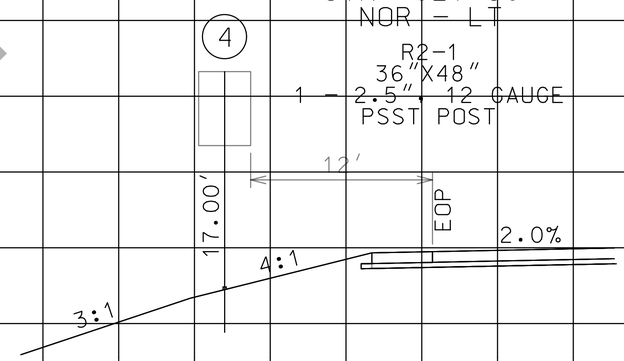
8
STA. 629+98
NOR - LT
(a) W11-2
36"X36"
(b) W16-7P
30"X18"
1 - 2.0", 12 GAUGE
PSST POST



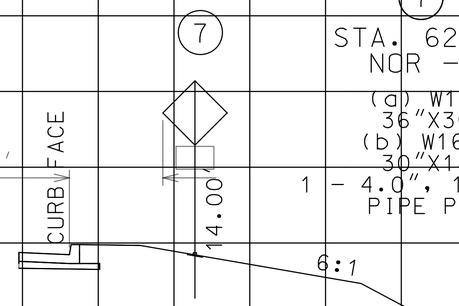
1
STA. 614+11
WB I-44
D10-5
18"X60"
1 - 2.0", 12 GAUGE
PSST POST



4
STA. 627+36
NOR - LT
R2-1
36"X48"
1 - 2.5", 12 GAUGE
PSST POST



7
STA. 629+72
NOR - RT
(a) W11-2
36"X36"
(b) W16-7P
30"X18"
1 - 4.0", 12 GAUGE
PIPE POST



SIGNING SHEET
SHEET 35 OF 47

DESCRIPTION | DATE

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

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SPRINGFIELD, MO 65807 (417) 869-6009
ENGINEERING CORPORATION - 000631

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DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 171
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

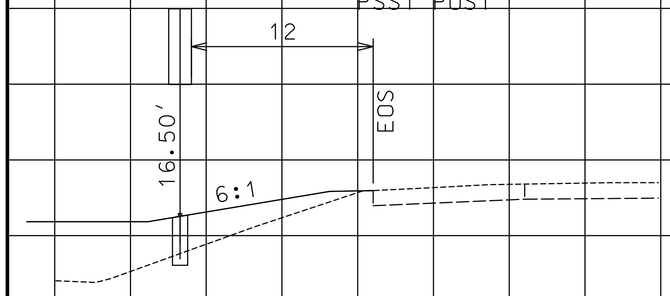
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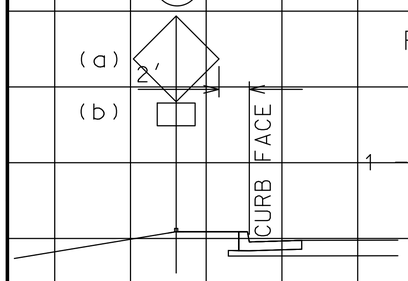
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PRELIMINARY

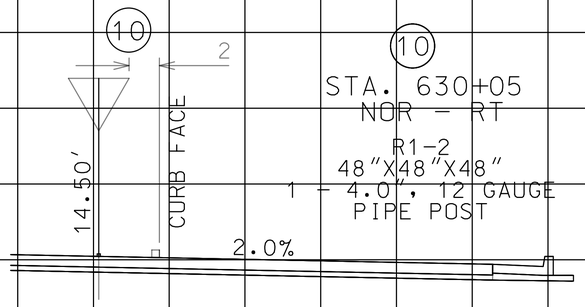
(12)
STA. 629+27.41
WB I-44
D10-5
18"X60"
1 - 2.0", 12 GAUGE
PSST POST



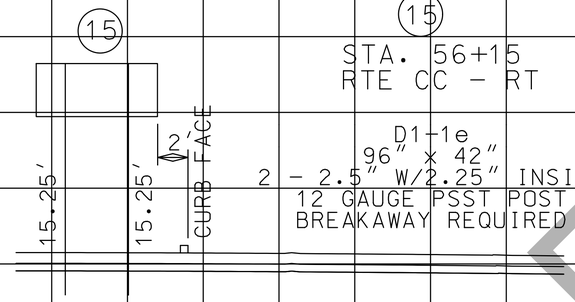
(11)
STA. 0+33
RAMP 2 - LT
(a) W11-2
48"X48"
(b) W16-7P
30"X18"
1 - 4.0", 12 GAUGE
PIPE POST



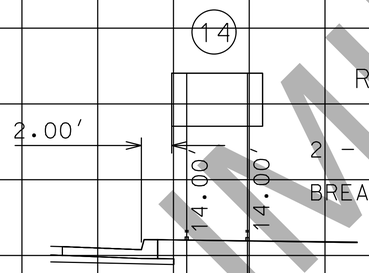
(10)
STA. 630+05
NOR - RT
R1-2
48"X48"X48"
1 - 4.0", 12 GAUGE
PIPE POST



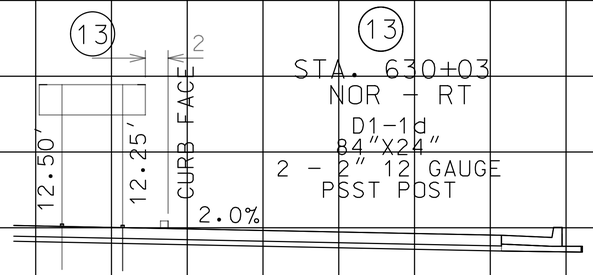
(15)
STA. 56+15
RTE CC - RT
D1-1e
96" x 42"
2 - 2.5" W/2.25" INSIDE
12 GAUGE PSST POST
BREAKAWAY REQUIRED



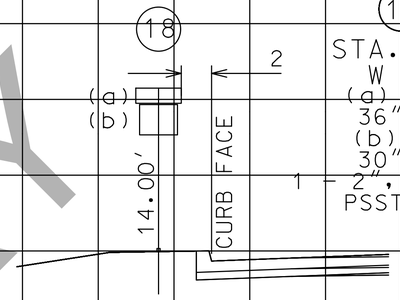
(14)
STA. 0+27
RAMP 2 - RT
D1-1e
72"X42"
2 - 2.5", 12 GAUGE
PSST POST
BREAKAWAY REQUIRED



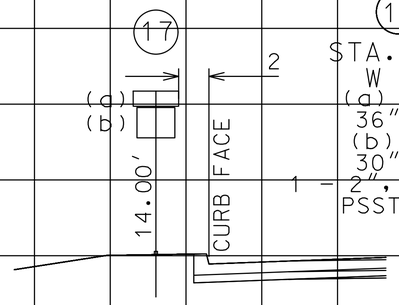
(13)
STA. 630+03
NOR - RT
D1-1a
84"X24"
2 - 2" 12 GAUGE
PSST POST



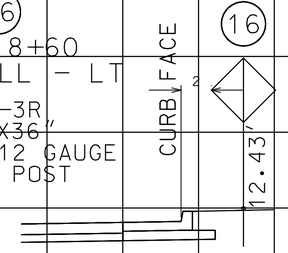
(18)
STA. 1+62
W RBT
(a) R6-1R
36"X12"
(b) R6-4
30"X24"
1 - 2", 12 GAUGE
PSST POST



(17)
STA. 0+10
W RBT
(a) R6-1R
36"X12"
(b) R6-4
30"X24"
1 - 2", 12 GAUGE
PSST POST



(16)
STA. 8+60
MARSHALL - LT
W4-3R
36"X36"
1 - 4" 12 GAUGE
PIPE POST



SIGNING SHEET
SHEET 36 OF 47

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	172

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

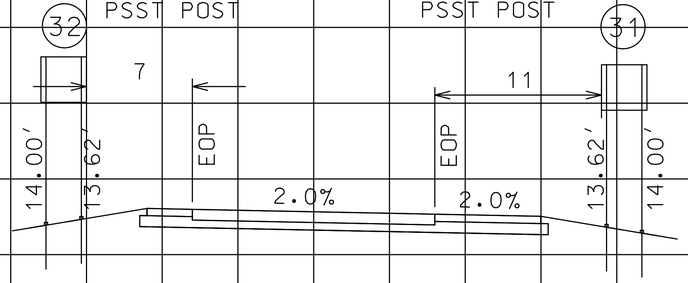
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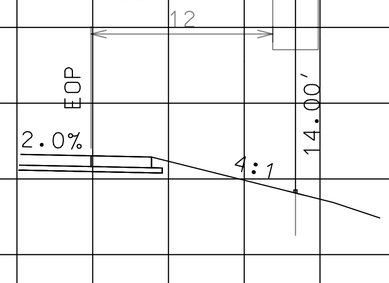
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

32
STA. 12+93
RAMP 1 – LT
R5-1
36"X36"
2 – 2.0", 12 GAUGE
PSST POST

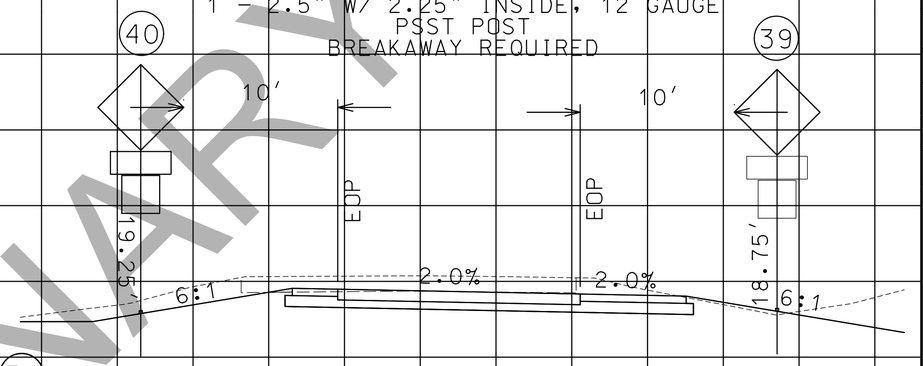


31
STA. 12+93
RAMP 1 – RT
R5-1
36"X36"
2 – 2.0", 12 GAUGE
PSST POST

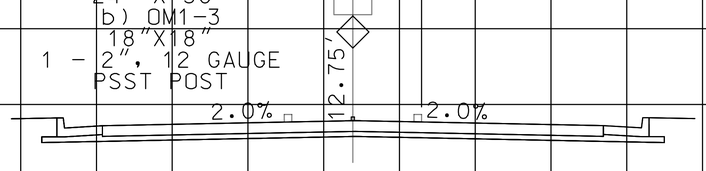
35
STA. 634+26
NOR – LT
R2-1
36" X 48"
1 – 2.5", 12 GAUGE
PSST POST



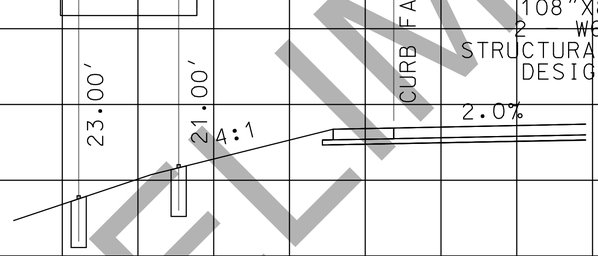
40
39
STA. 7+06
RAMP 1 – LT & RT
(a) W2-6
48"X48"
(b) W16-17P
48"X18"
(c) W13-1P
30"X30"
1 – 2.5" W/ 2.25" INSIDE, 12 GAUGE
PSST POST
BREAKAWAY REQUIRED



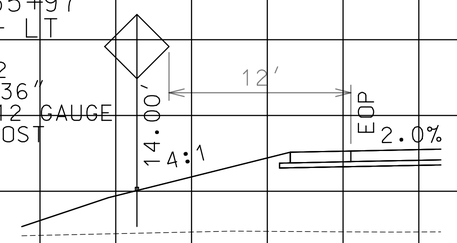
30
STA. 632+57
NOR – RT
a) R4-7
24" X 30"
b) OM1-3
18"X18"
1 – 2", 12 GAUGE
PSST POST



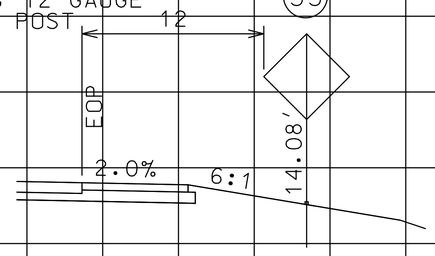
34
STA. 633+80
NOR – LT
D1-3d
108"X84"
2 – W6x15
STRUCTURAL POSTS
DESIGN 2



38
38
STA. 635+97
NOR – LT
W3-2
36" X 36"
1 – 2.0", 12 GAUGE
PSST POST

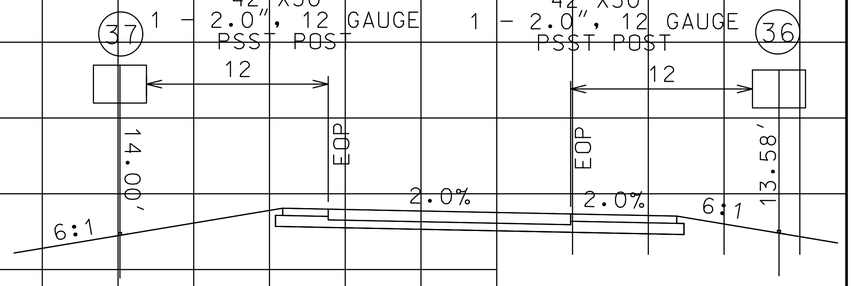


33
STA. 10+05
RAMP 1 – RT
W3-2
48"X48"
1 – 4.0", 12 GAUGE
PIPE POST

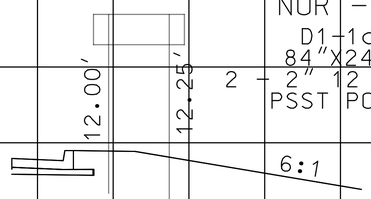


37
STA. 10+93
RAMP 1 – LT
R5-1a
42"X30"
1 – 2.0", 12 GAUGE
PSST POST

36
STA. 10+93
RAMP 1 – RT
R5-1a
42"X30"
1 – 2.0", 12 GAUGE
PSST POST



29
STA. 632+11
NOR – RT
D1-1d
84"X24"
2 – 2" 12 GAUGE
PSST POST



PRELIMINARY

SIGNING SHEET
SHEET 38 OF 47

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	174

COUNTY
WEBSTER

JOB NO.
J8I0445

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)

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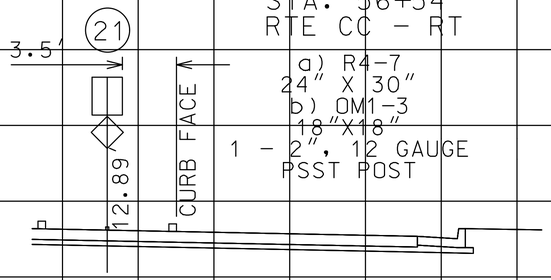
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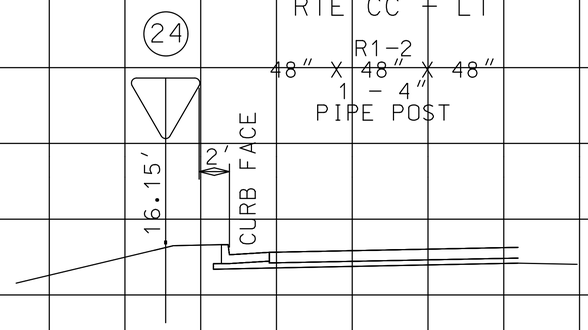
21
STA. 56+54
RTE CC – RT

a) R4-7
24" X 30"
b) OM1-3
18"X18"
1 – 2", 12 GAUGE
PSST POST



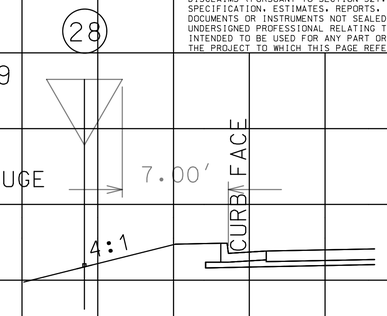
24
STA. 56+30
RTE CC – LT

R1-2
48" X 48" X 48"
1 – 4"
PIPE POST

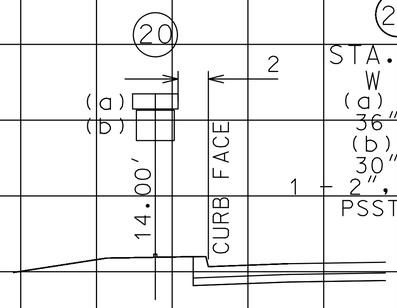


28
STA. 632+19
NOR – LT

R1-2
48"X48"X48"
1 – 4.0", 12 GAUGE
PIPE POST

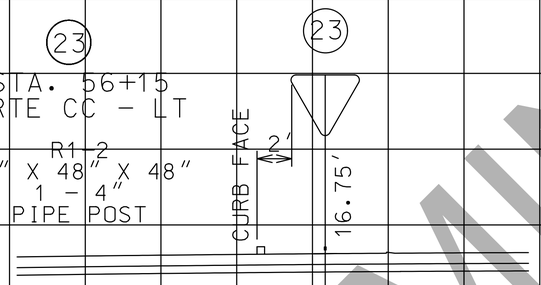


20
STA. 2+37
W RBT
(a) R6-1R
36"X12"
(b) R6-4
30"X24"
1 – 2", 12 GAUGE
PSST POST



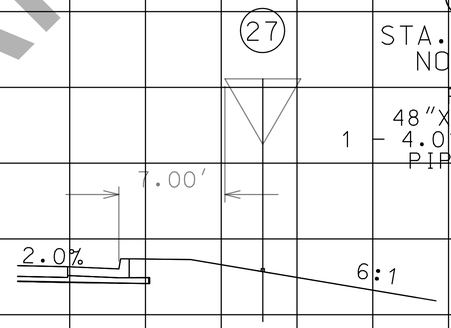
23
STA. 56+15
RTE CC – LT

R1-2
48" X 48" X 48"
1 – 4"
PIPE POST

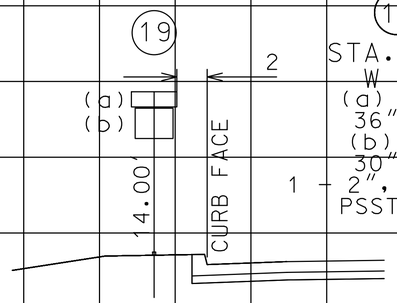


27
STA. 632+07
NOR – LT

R1-2
48"X48"X48"
1 – 4.0", 12 GAUGE
PIPE POST

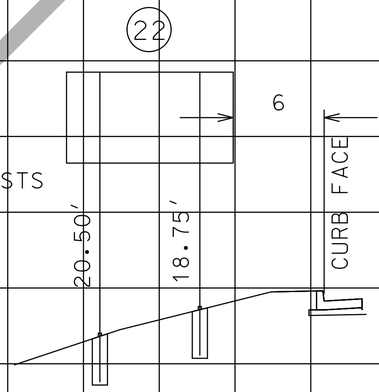


19
STA. 3+29
W RBT
(a) R6-1R
36"X12"
(b) R6-4
30"X24"
1 – 2", 12 GAUGE
PSST POST



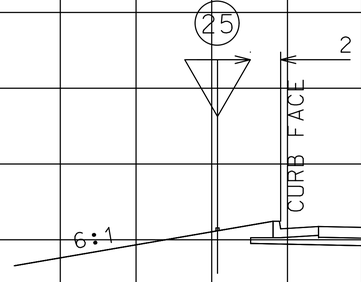
22
STA. 57+30
RTE CC – LT

D1-3d 132" X 72"
2 – W6X9 STRUCTURAL POSTS
DESIGN NUMBER 2



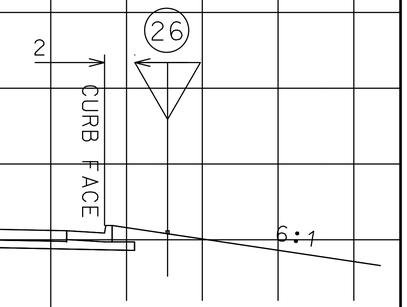
25
STA. 13+64
RAMP 1 – LT

R1-2
48"X48"X48"
1 – 4.0", 12 GAUGE
PIPE POST



26
STA. 13+53
RAMP 1 – RT

R1-2
48"X48"X48"
1 – 4.0", 12 GAUGE
PIPE POST



SIGNING SHEET
SHEET 37 OF 47

DATE PREPARED	3/11/2019
ROUTE	I-44
STATE	MO
DISTRICT	SW
SHEET NO.	173
COUNTY	WEBSTER
JOB NO.	J8I0445
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE

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JEFFERSON CITY, MO 65102
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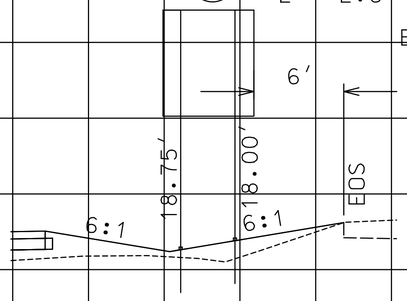
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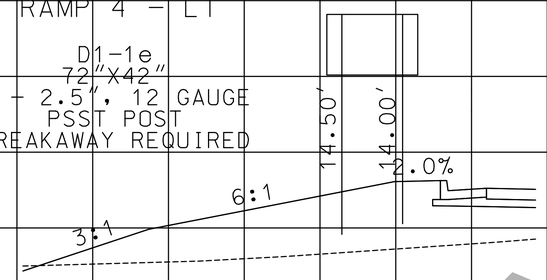
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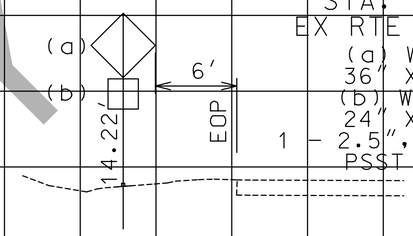
(43)
STA. 641+06
WB I-44 - LT
E5-1a
72"X84"
2 - 2.5" W/ 2.25" INSIDE, 12 GAUGE
PSST POST
BREAKAWAY REQUIRED



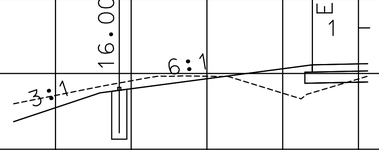
(46)
STA. 0+31
RAMP 4 - LT
D1-1e
72"X42"
2 - 2.5", 12 GAUGE
PSST POST
BREAKAWAY REQUIRED



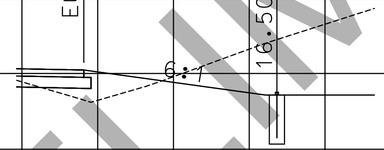
(49)
STA. 707+53
EX RTE CC - LT
(a) W1-2R
36" X 36"
(b) W13-1P
24" X 24"
1 - 2.5", 12 GAUGE
PSST POST



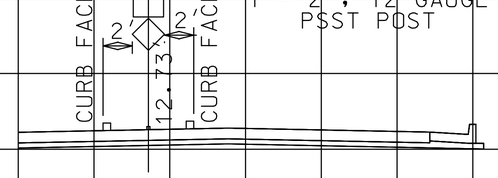
(42)
STA. 645+79
WB I-44
D10-5
18"X60"
1 - 2.0", 12 GAUGE
PSST POST



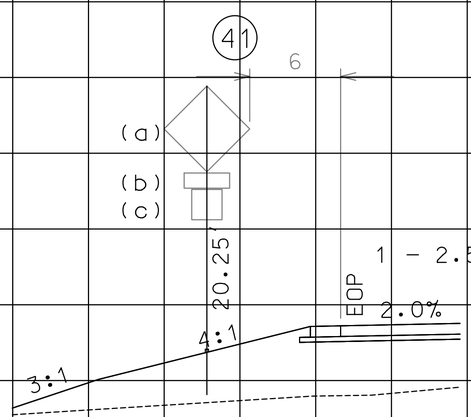
(45)
STA. 645+79
WB I-44
D10-5
18"X60"
1 - 2.0", 12 GAUGE
PSST POST



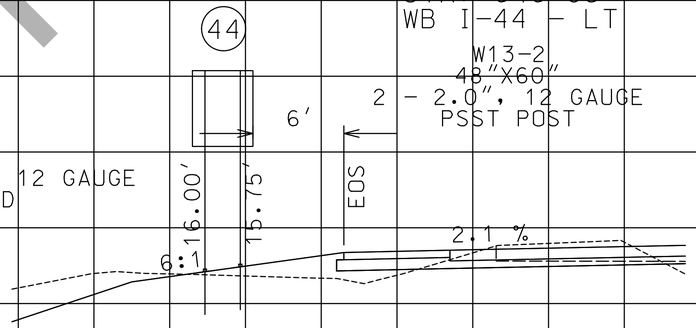
(48)
STA. 59+99
RTE CC - LT
a) R4-7
24" X 30"
b) OM1-3
18"X18"
1 - 2", 12 GAUGE
PSST POST



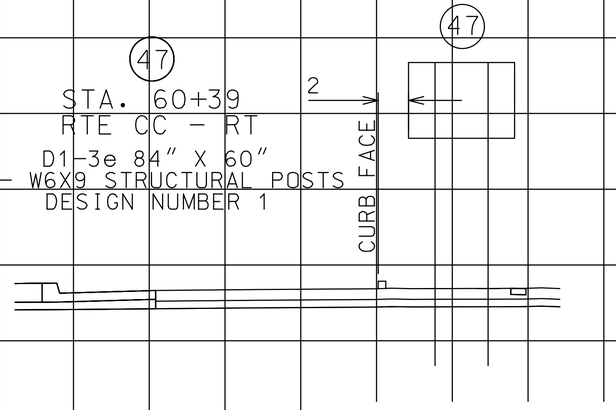
(41)
STA. 640+97
NOR - LT
(a) W2-6
36"X36"
(b) W16-17P
36"X12"
(c) W13-1P
24"X24"
1 - 2.5" W/ 2.25" INSIDE, 12 GAUGE
BREAKAWAY REQUIRED
PSST POST



(44)
STA. 646+95
WB I-44 - LT
W13-2
48"X60"
2 - 2.0", 12 GAUGE
PSST POST



(47)
STA. 60+39
RTE CC - RT
D1-3e 84" X 60"
2 - W6X9 STRUCTURAL POSTS
DESIGN NUMBER 1



SIGNING SHEET
SHEET 39 OF 47

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	175

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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JEFFERSON CITY, MO 65102
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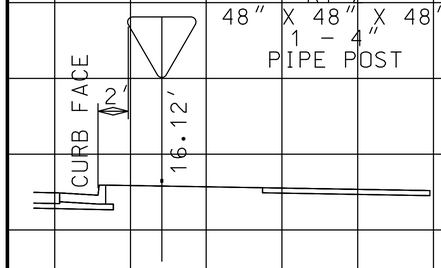
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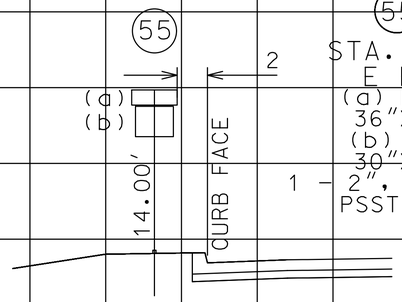
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

PRELIMINARY

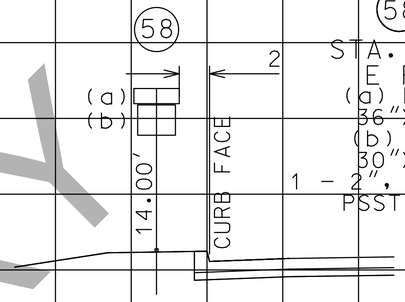
(52)
STA. 60+24
RTE CC – RT
R1–2
48" X 48" X 48"
1 – 4"
PIPE POST



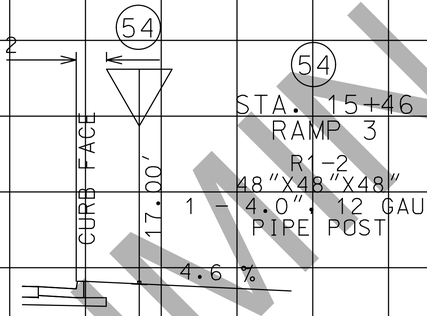
(55)
STA. 1+24
E RBT
(a) R6–1R
36"X12"
(b) R6–4
30"X24"
1 – 2", 12 GAUGE
PSST POST



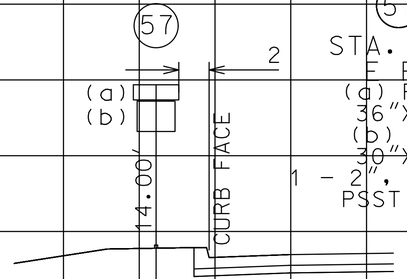
(58)
STA. 1+95
E RBT
(a) R6–1R
36"X12"
(b) R6–4
30"X24"
1 – 2", 12 GAUGE
PSST POST



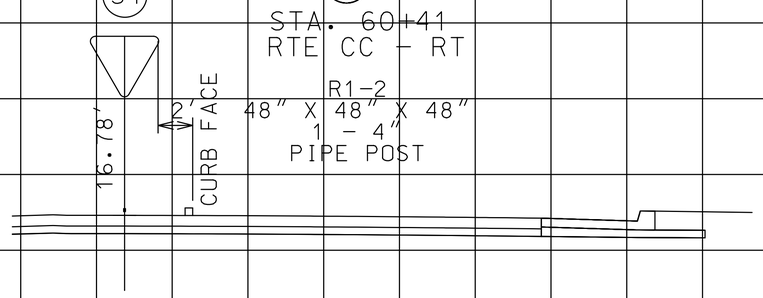
(54)
STA. 15+46
RAMP 3
R1–2
48"X48"X48"
1 – 4.0", 12 GAUGE
PIPE POST



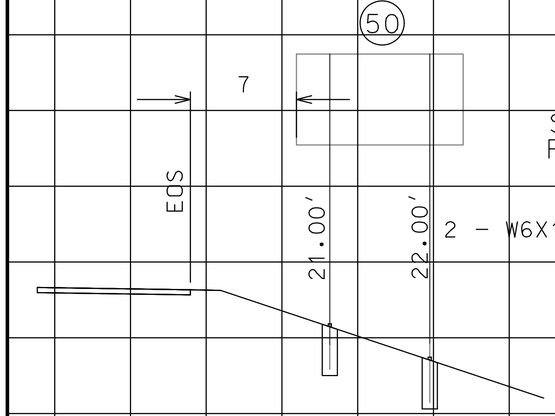
(57)
STA. 2+86
E RBT
(a) R6–1R
36"X12"
(b) R6–4
30"X24"
1 – 2", 12 GAUGE
PSST POST



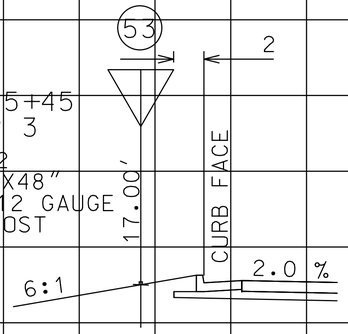
(51)
STA. 60+41
RTE CC – RT
R1–2
48" X 48" X 48"
1 – 4"
PIPE POST



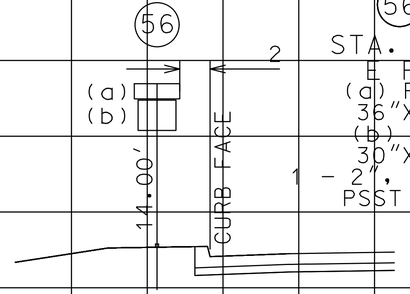
(50)
STA. 59+21
RTE CC – RT
D1–3d
108" X 84"
2 – W6X15 STRUCTURAL POSTS
DESIGN 2



(53)
STA. 15+45
RAMP 3
R1–2
48"X48"X48"
1 – 4.0", 12 GAUGE
PIPE POST



(56)
STA. 3+59
E RBT
(a) R6–1R
36"X12"
(b) R6–4
30"X24"
1 – 2", 12 GAUGE
PSST POST



SIGNING SHEET
SHEET 40 OF 47

DATE	DESCRIPTION

DATE PREPARED
3/11/2019

ROUTE	STATE
I–44	MO
DISTRICT	SHEET NO.
SW	176

COUNTY
WEBSTER

JOB NO.
J8I0445

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)

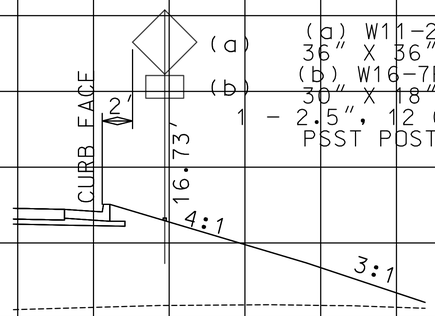
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PRELIMINARY

61
STA. 9+12
MARSHALL – RT

(a) W11-2
36" X 36"
(b) W16-7P
30" X 18"
1 – 2.5", 12 GAUGE
PSST POST



65
STA. 3+11
RAMP 3A – RT

R5-1
36"X36"
1 – 4.0", 12 GAUGE
PIPE POST

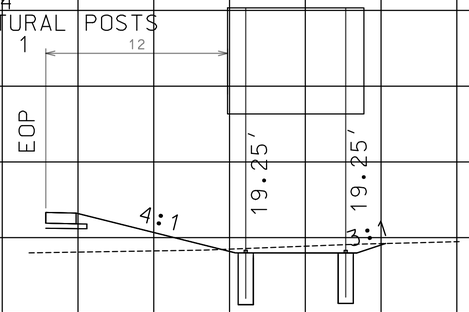
64
STA. 3+11
RAMP 3A – RT

R5-1
36"X36"
1 – 4.0", 12 GAUGE
PIPE POST



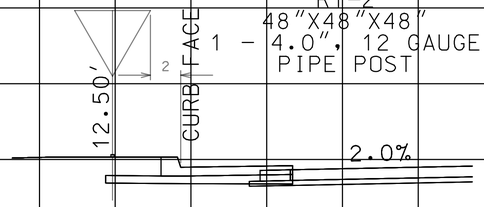
68
STA. 8+83
MARSHALL – LT

D1-1d
108"X84"
2 – W6X9 STRUCTURAL POSTS
DESIGN 1



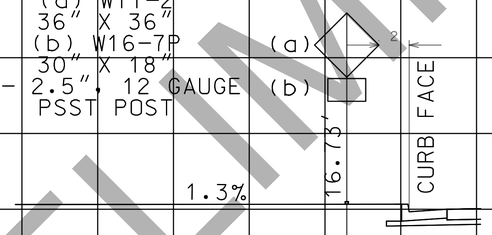
60
STA. 9+43
MARSHALL – RT

R1-2
48"X48"X48"
1 – 4.0", 12 GAUGE
PIPE POST



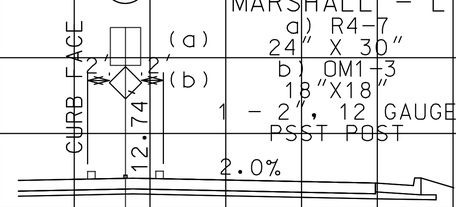
63
STA. 9+32
MARSHALL – LT

(a) W11-2
36" X 36"
(b) W16-7P
30" X 18"
1 – 2.5", 12 GAUGE
PSST POST



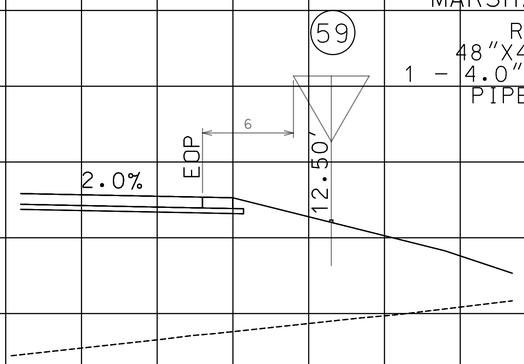
67
STA. 8+89
MARSHALL – LT

a) R4-7
24" X 30"
b) OM1-3
18"X18"
1 – 2", 12 GAUGE
PSST POST



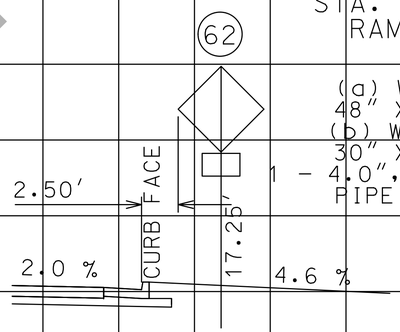
59
STA. 9+31
MARSHALL – RT

R1-2
48"X48"X48"
1 – 4.0", 12 GAUGE
PIPE POST



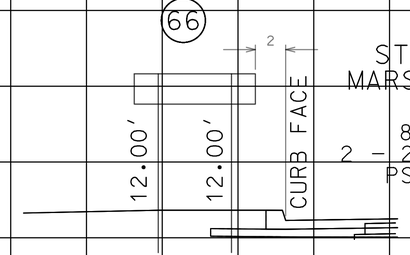
62
STA. 15+22
RAMP 3

(a) W11-2
48" X 48"
(b) W16-7P
30" X 18"
1 – 4.0", 12 GAUGE
PIPE POST



66
STA. 9+40
MARSHALL – LT

D1-1d
84"X24"
2 – 2" 12 GAUGE
PSST POST



SIGNING SHEET
SHEET 41 OF 47

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DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 177
COUNTY WEBSTER
JOB NO. J8I0445
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)

CMT
CRAWFORD, MURPHY & TILLY, INC.
1631 WEST ELFINDALE STREET
SPRINGFIELD, MO 65807 (417) 869-6009
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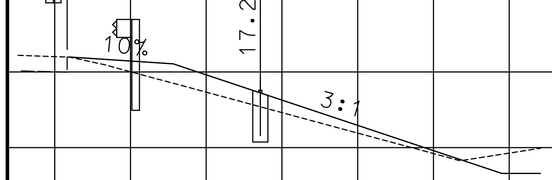
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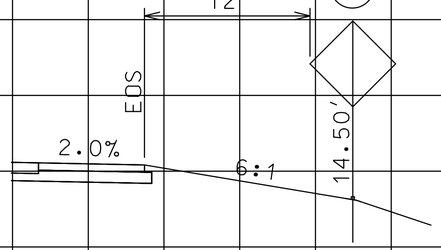
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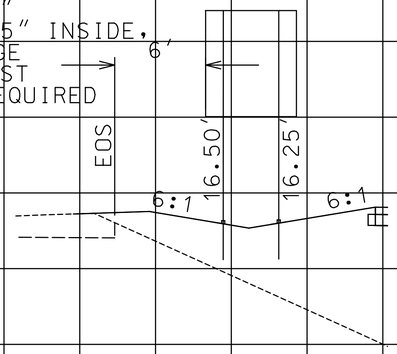
(71)
STA. 629+27.41
WB I-44
D10-5
18"X60"
1 - 2.0", 12 GAUGE
PSST POST



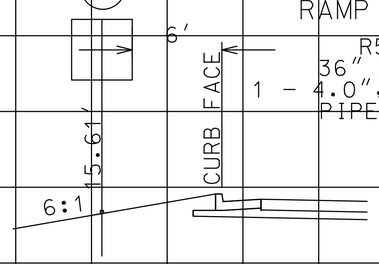
(75)
STA. 10+42
RAMP 3 - RT
W3-2
48" X 48"
1 - 4.0", 12 GAUGE
PIPE POST



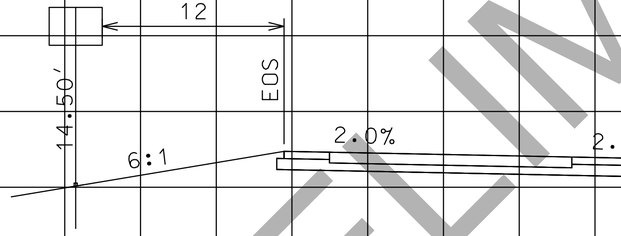
(78)
STA. 619+90
WB I-44 - RT
E5-1a
72"X84"
2 - 2.5" WY 2.25" INSIDE,
12 GAUGE
PSST POST
BREAKAWAY REQUIRED



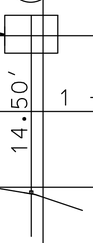
(70)
STA. 14+66
RAMP 3 - LT
R5-1
36" X 36"
1 - 4.0", 12 GAUGE
PIPE POST



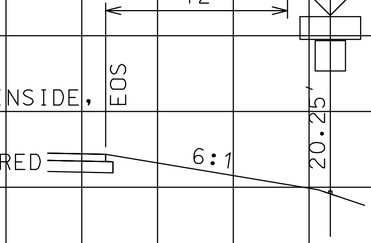
(73)
STA. 12+92
RAMP 3 - RT
R5-1a
42" X 30"
1 - 2.0", 12 GAUGE
PSST POST



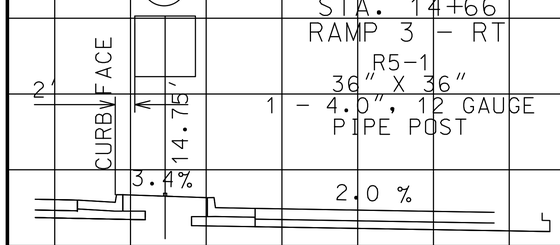
(74)
STA. 12+92
RAMP 3 - RT
R5-1a
42" X 30"
1 - 2.0", 12 GAUGE
PSST POST



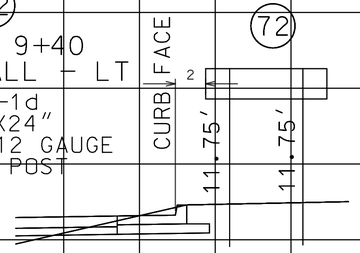
(77)
STA. 7+66
RAMP 3 - RT
(a) W2-6
48" X 48"
(b) W16-17P
48" X 18"
(c) W13-1P
30"X30"
1 - 2.5" W/ 2.25" INSIDE,
12 GAUGE
PSST POST
BREAKAWAY REQUIRED



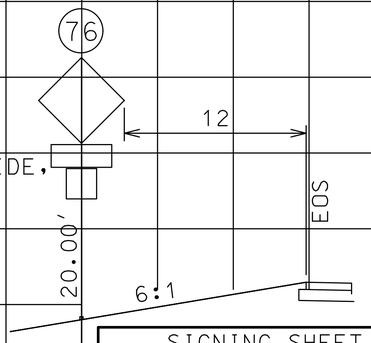
(69)
STA. 14+66
RAMP 3 - RT
R5-1
36" X 36"
1 - 4.0", 12 GAUGE
PIPE POST



(72)
STA. 9+40
MARSHALL - LT
D1-1d
84"X24"
2 - 2" 12 GAUGE
PSST POST



(76)
STA. 7+66
RAMP 3 - LT
(a) W2-6
48" X 48"
(b) W16-17P
48" X 18"
(c) W13-1P
30"X30"
1 - 2.5" W/ 2.25" INSIDE,
12 GAUGE
PSST POST
BREAKAWAY REQUIRED



SIGNING SHEET
SHEET 42 OF 47

DATE	DESCRIPTION

DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 178
COUNTY: WEBSTER
JOB NO.: J8I0445
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)

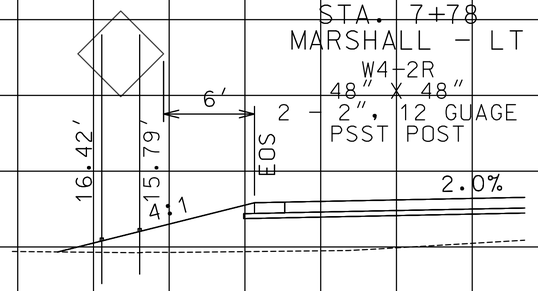
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SPRINGFIELD, MO 65807 (417) 869-6009
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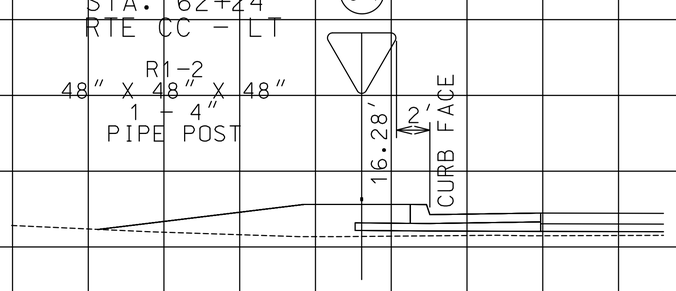
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

PRELIMINARY

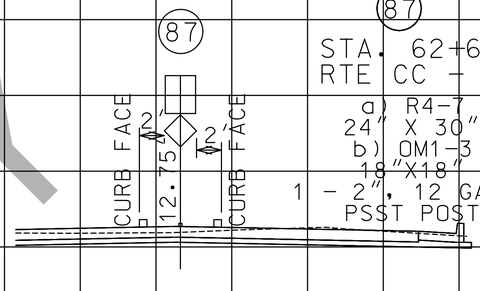
(81)
STA. 7+78
MARSHALL – LT
W4-2R
48" X 48"
2 – 2", 12 GUAGE
PSST POST



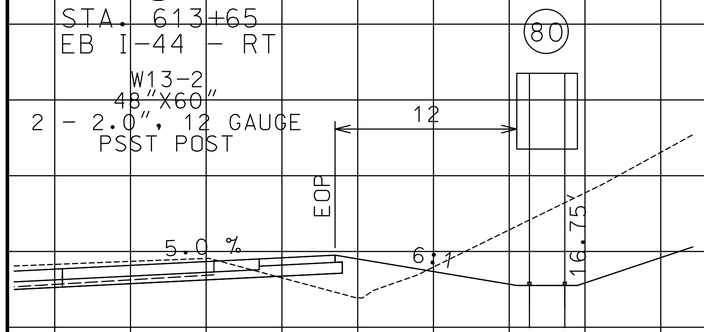
(84)
STA. 62+24
RTE CC – LT
R1-2
48" X 48" X 48"
1 – 4"
PIPE POST



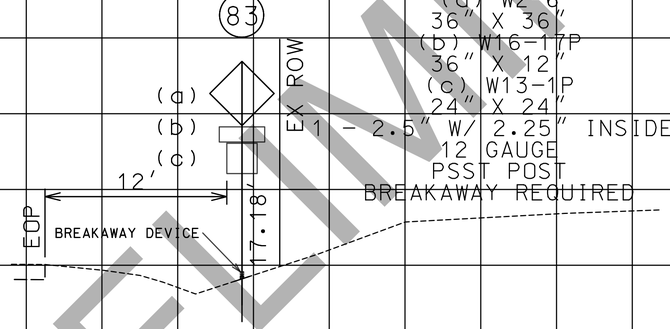
(87)
STA. 62+60
RTE CC – LT
a) R4-7
24" X 30"
b) OM1-3
18"X18"
1 – 2", 12 GAUGE
PSST POST



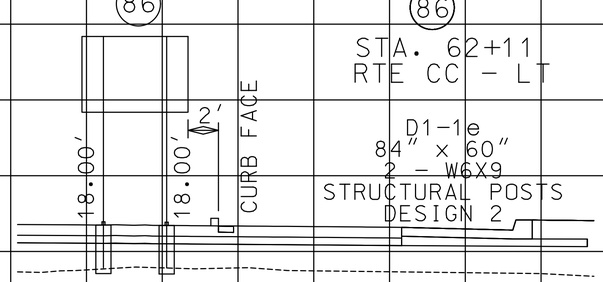
(80)
STA. 613+65
EB I-44 – RT
W13-2
48"X60"
2 – 2.0", 12 GAUGE
PSST POST



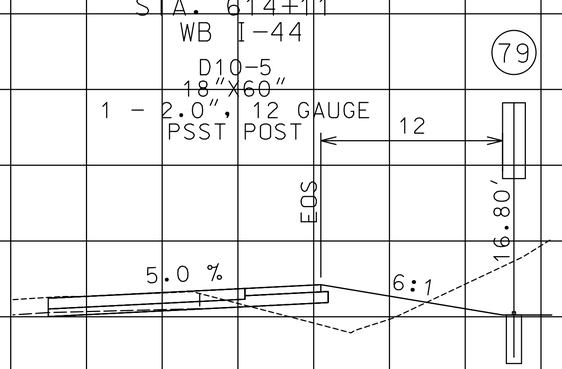
(83)
STA. 0+56
MARSHALL – RT
(a) W2-6
36" X 36"
(b) W16-17P
36" X 12"
(c) W13-1P
24" X 24"
1 – 2.5" W/ 2.25" INSIDE,
12 GAUGE
PSST POST
BREAKAWAY REQUIRED



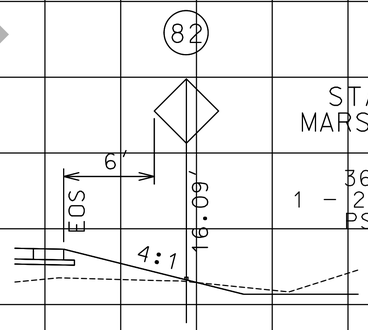
(86)
STA. 62+11
RTE CC – LT
D1-1e
84" x 60"
2 – W6X9
STRUCTURAL POSTS
DESIGN 2



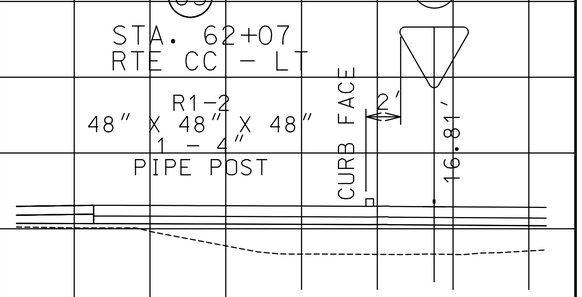
(79)
STA. 614+11
WB I-44
D10-5
18"X60"
1 – 2.0", 12 GAUGE
PSST POST



(82)
STA. 5+16
MARSHALL – RT
W2-6
36" X 36"
1 – 2", 12 GAUGE
PSST POST



(85)
STA. 62+07
RTE CC – LT
R1-2
48" X 48" X 48"
1 – 4"
PIPE POST



SIGNING SHEET
SHEET 43 OF 47

DATE PREPARED	
3/11/2019	
ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	179
COUNTY	
WEBSTER	
JOB NO.	
J8I0445	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

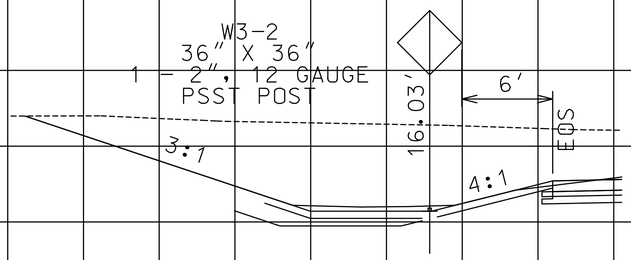
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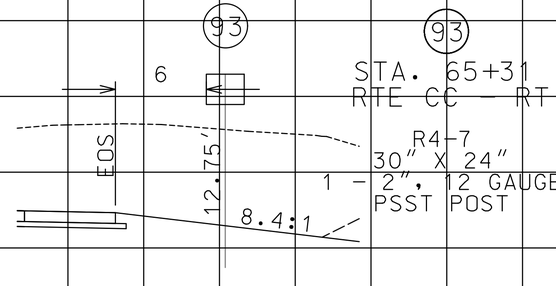
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

PRELIMINARY

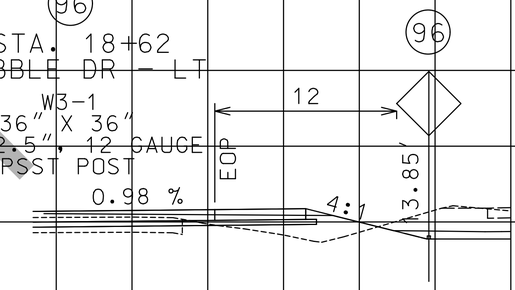
(90)
STA. 66+14
RTE CC – LT



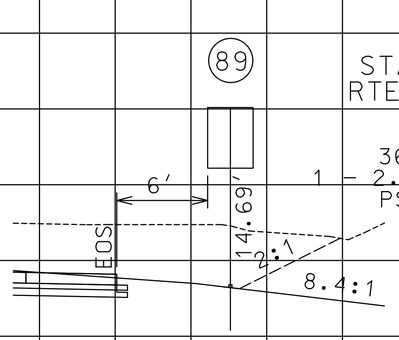
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STA. 65+31
RTE CC – RT



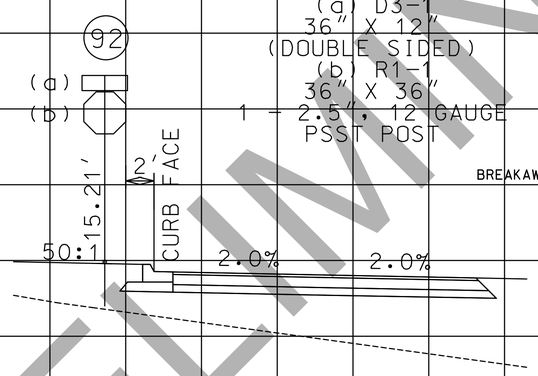
(96)
STA. 18+62
HUBBLE DR – LT



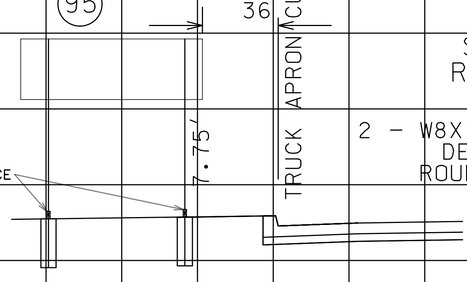
(89)
STA. 68+31
RTE CC – RT



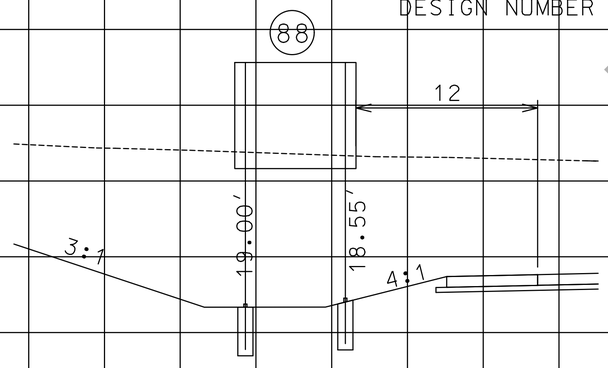
(92)
STA. 10+89
N MARSHALL – LT



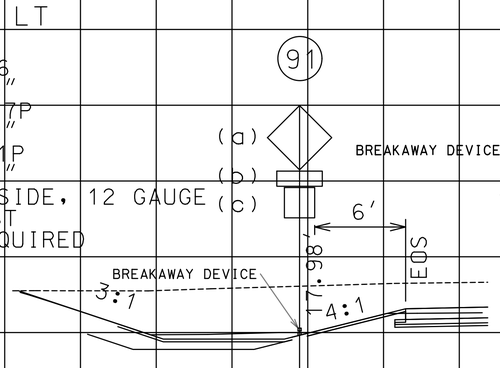
(95)
STA. 61+11
RTE CC – RT



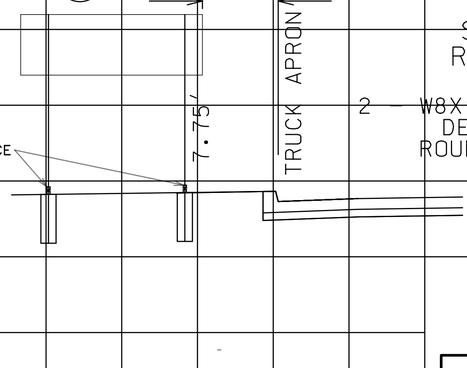
(88)
STA. 64+10
RTE CC – LT



(91)
STA. 71+14
RTE CC – LT



(94)
STA. 55+12
RTE CC – LT



SIGNING SHEET
SHEET 44 OF 47

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	180

COUNTY
WEBSTER

JOB NO.
J8I0445

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)

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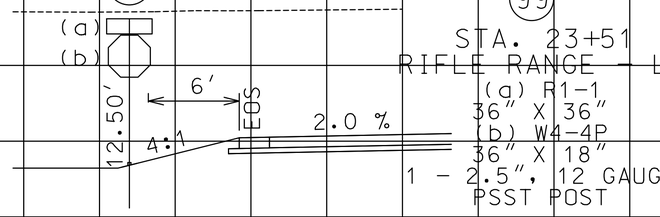
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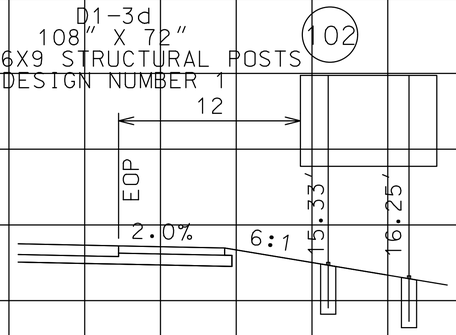
99

STA. 23+51
RIFLE RANGE – LT
(a) R1-1
36" X 36"
(b) W4-4P
36" X 18"
1 – 2.5", 12 GAUGE
PSST POST



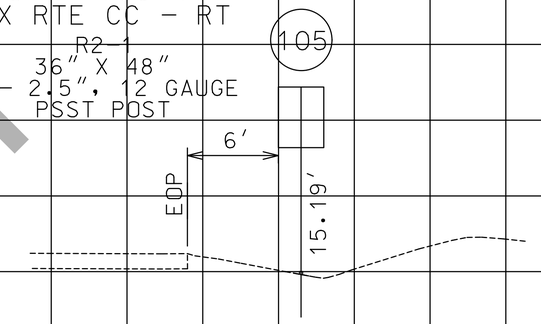
102

STA. 10+93 RT
RAMP 1 – RT
D1-3d
108" X 72"
2 – W6X9 STRUCTURAL POSTS
DESIGN NUMBER 1



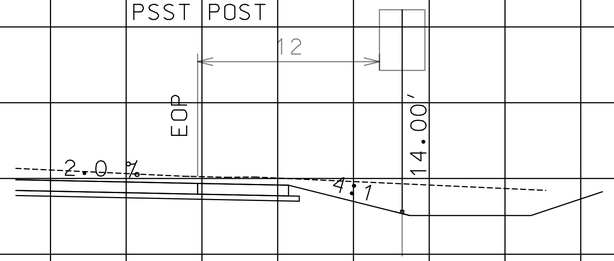
105

STA. 706+41
EX RTE CC – RT
R2-1
36" X 48"
1 – 2.5", 12 GAUGE
PSST POST



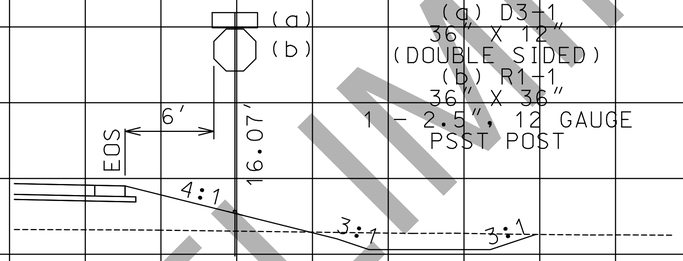
98

STA. 125+95
RTE CC – LT
R2-1
36" X 48"
1 – 2.5", 12 GAUGE
PSST POST



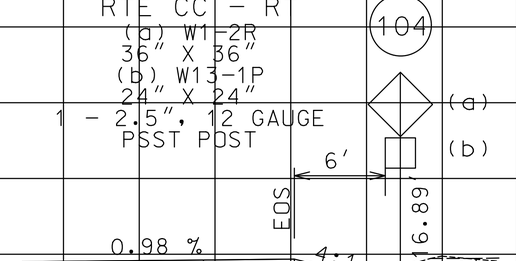
101

STA. 22+52
RIFLE RANGE – RT
(a) D3-1
36" X 12"
(DOUBLE SIDED)
(b) R1-1
36" X 36"
1 – 2.5", 12 GAUGE
PSST POST



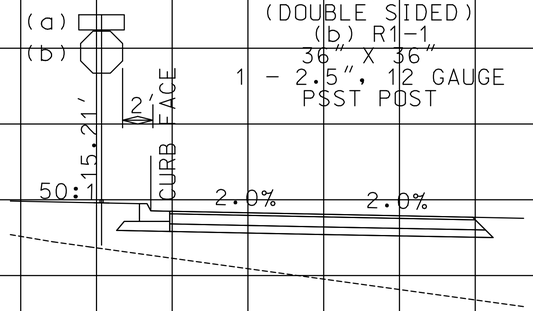
104

STA. 138+31
RTE CC – RT
(a) W1-2R
36" X 36"
(b) W13-1P
24" X 24"
1 – 2.5", 12 GAUGE
PSST POST



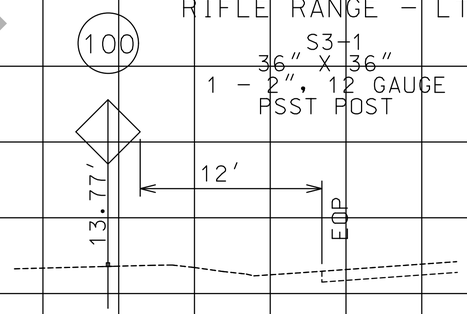
97

STA. 10+37
ELM – LT
(a) D3-1
36" X 12"
(DOUBLE SIDED)
(b) R1-1
36" X 36"
1 – 2.5", 12 GAUGE
PSST POST



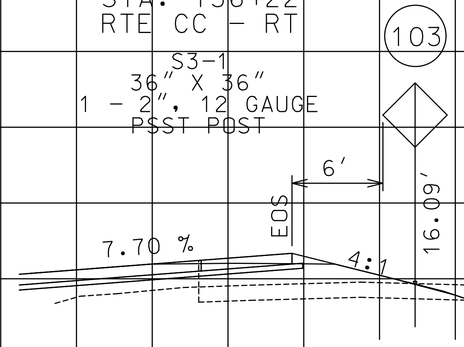
100

STA. 27+41
RIFLE RANGE – LT
S3-1
36" X 36"
1 – 2", 12 GAUGE
PSST POST



103

STA. 136+22
RTE CC – RT
S3-1
36" X 36"
1 – 2", 12 GAUGE
PSST POST



PRELIMINARY

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	181

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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SIGNING SHEET
SHEET 45 OF 47

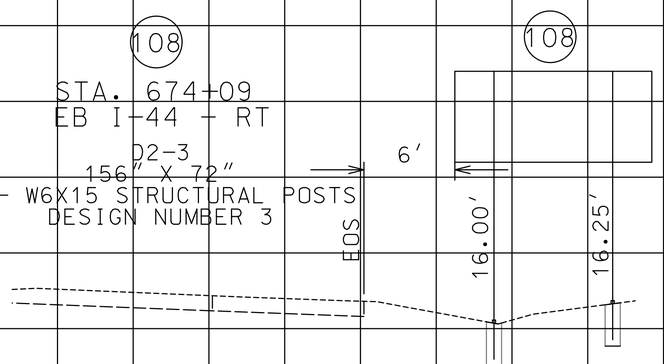
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108

STA. 674+09
EB I-44 - RT

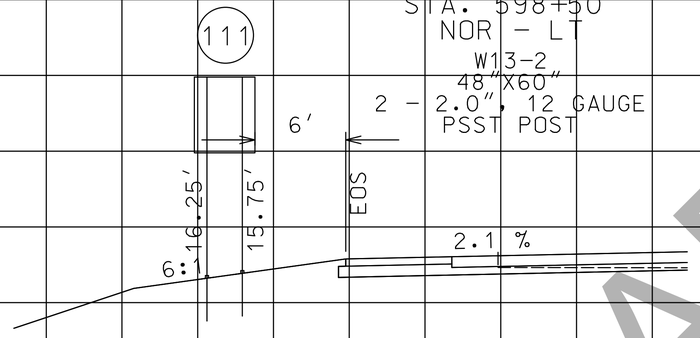
D2-3
156" X 72"
2 - W6X15 STRUCTURAL POSTS
DESIGN NUMBER 3



111

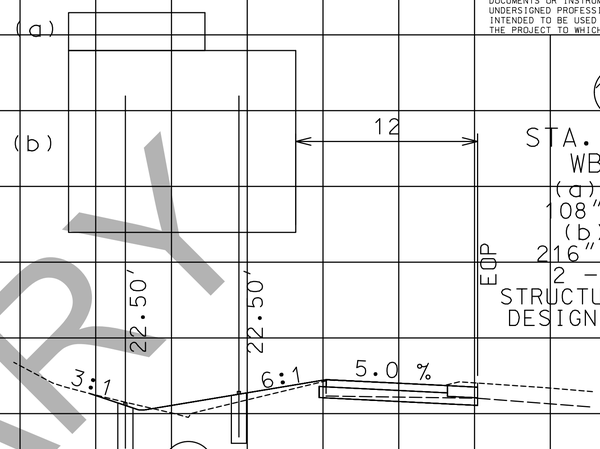
STA. 598+50
NOR - LT

W13-2
48"X60"
2 - 2.0", 12 GAUGE
PSST POST



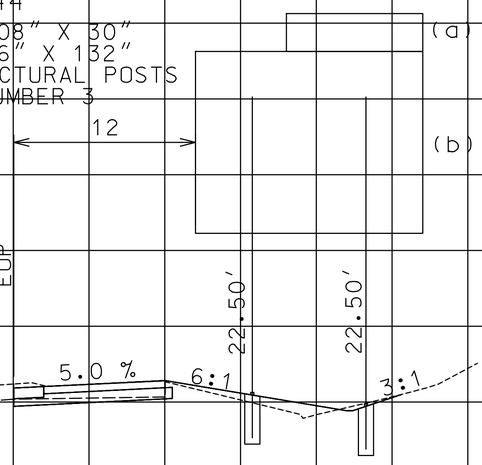
114

STA. 651+11
WB I-44
(a) E1-5P
108" X 30"
(b) E1-1
216" X 132"
2 - W6X26
STRUCTURAL POSTS
DESIGN NUMBER 3



113

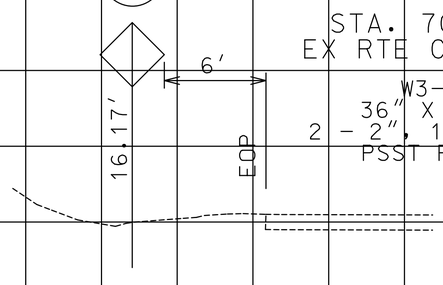
STA. 610+65
WB I-44
(a) E1-5P 108" X 30"
(b) E1-1 216" X 132"
2 - W6X26 STRUCTURAL POSTS
DESIGN NUMBER 3



107

STA. 700+80
EX RTE CC - LT

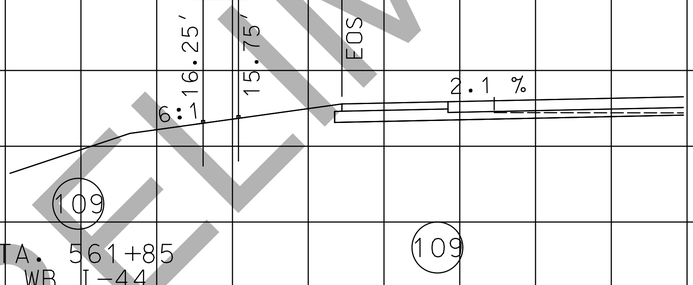
W3-5
36" X 36"
2 - 2", 12 GAUGE
PSST POST



110

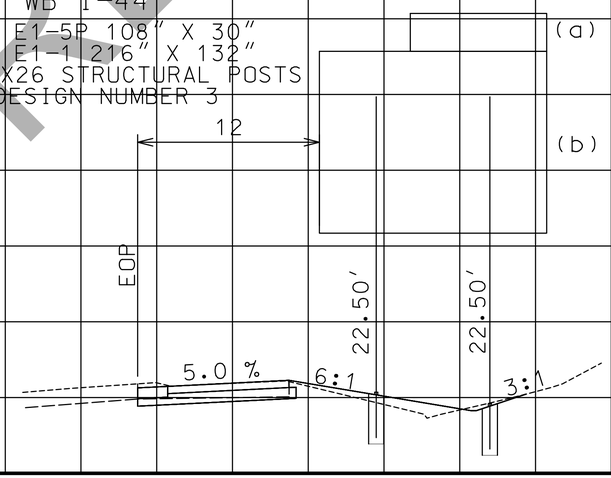
STA. 594+75
WB I-44 - LT

W13-2
48"X60"
2 - 2.0", 12 GAUGE
PSST POST



109

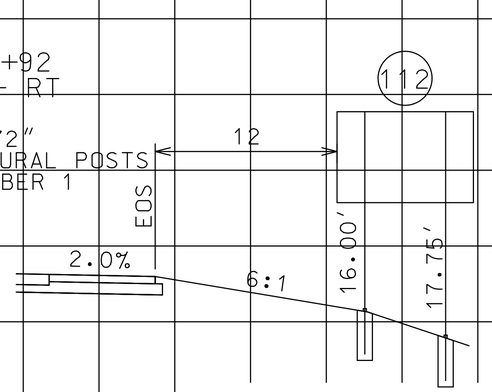
STA. 561+85
WB I-44
(a) E1-5P 108" X 30"
(b) E1-1 216" X 132"
2 - W6X26 STRUCTURAL POSTS
DESIGN NUMBER 3



112

STA. 12+92
RAMP 3 - RT

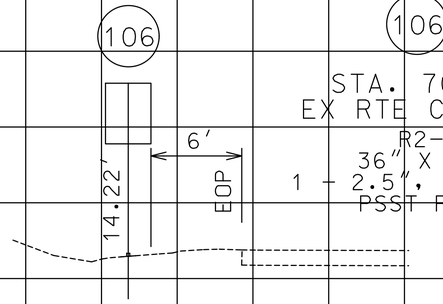
D1-3d
108" X 72"
2 - W6X9 STRUCTURAL POSTS
DESIGN NUMBER 1



106

STA. 706+41
EX RTE CC - LT

R2-1
36" X 48"
1 - 2.5", 12 GAUGE
PSST POST



PRELIMINARY

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

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	182

COUNTY
WEBSTER

JOB NO.
J8I0445

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)

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SIGNING SHEET
SHEET 46 OF 47

L:\MarshfieldMO\17322-03\Draw\Sheets\171-183_SN_35-47_J8I0445_15_Sections.dgn 3:37:14 PM 3/11/2019

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DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	183

COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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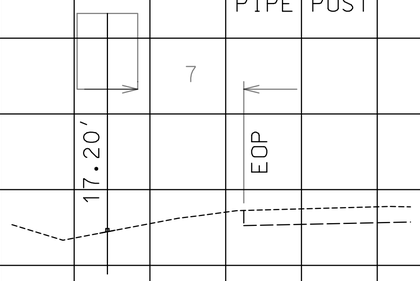
DATE | DESCRIPTION

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

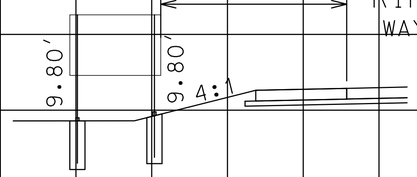
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PRELIMINARY

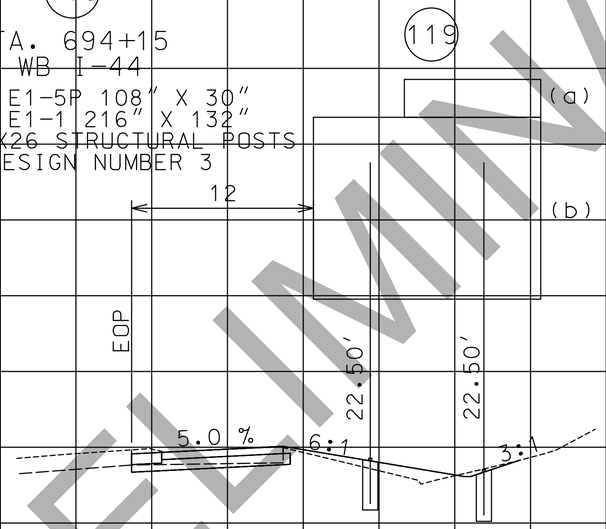
117
STA. 647+66
NOR - LT
R2-1
48"x60"
1 - 4.0", 12 GAUGE
PIPE POST



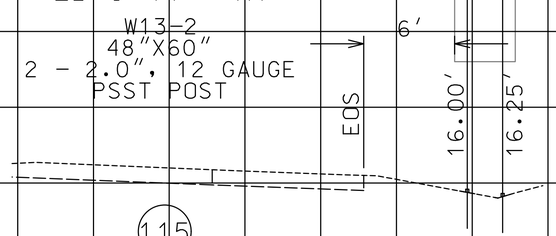
120
STA. 17+11
RIFLE RANGE - LT
WAYFINDING SPECIAL
72" X 48"
2 - 3"
PIPE POST



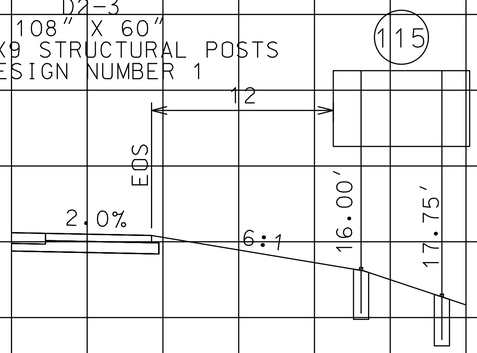
119
STA. 694+15
WB I-44
(a) E1-5P 108" X 30"
(b) E1-1 216" X 132"
2 - W6X26 STRUCTURAL POSTS
DESIGN NUMBER 3



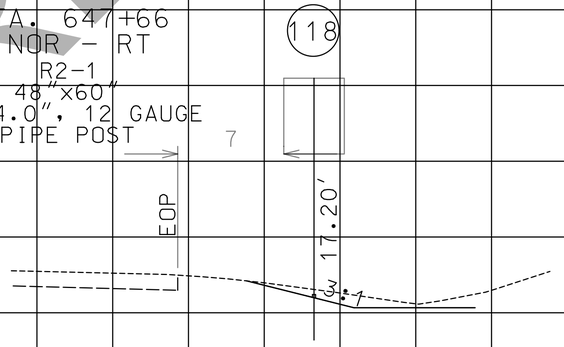
116
STA. 664+09
EB I-44 - RT
W13-2
48"X60"
2 - 2.0", 12 GAUGE
PSST POST



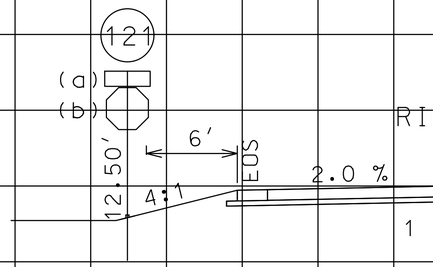
115
STA. 800+19
I-44 - RT
D2-3
108" X 60"
2 - W6X9 STRUCTURAL POSTS
DESIGN NUMBER 1



118
STA. 647+66
NOR - RT
R2-1
48"x60"
1 - 4.0", 12 GAUGE
PIPE POST



121
STA. 17+19
RIFLE RANGE - LT
(a) R1-1
36" X 36"
(b) W4-4P
36" X 18"
1 - 2.5", 12 GAUGE
PSST POST



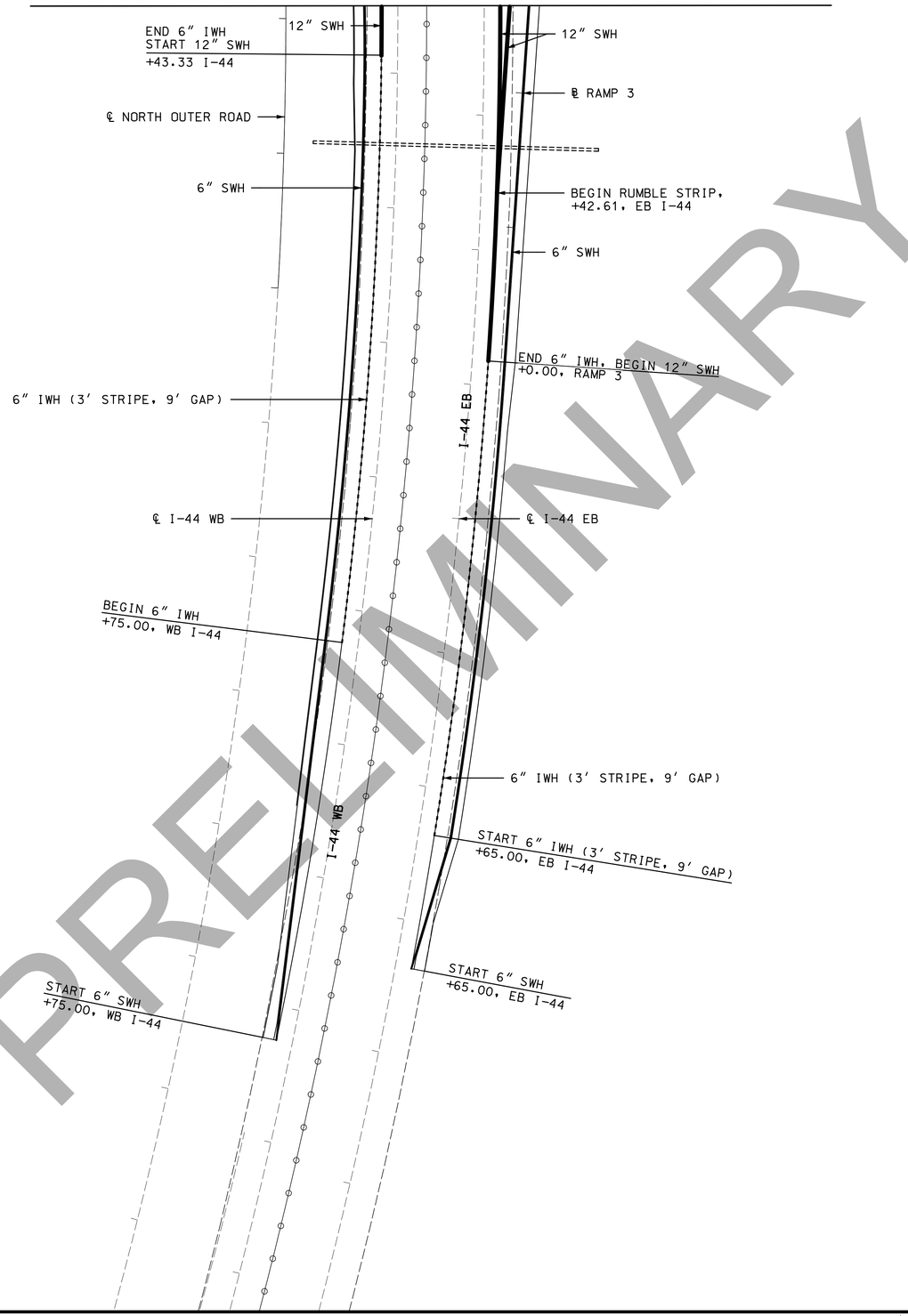
SIGNING SHEET
SHEET 47 OF 47

SCALE

0 50 100 150

SEE SHEET 185

MATCHLINE I-44 WB STA. 617+50.00



PRELIMINARY

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

DATE PREPARED: 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	184

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

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

DESCRIPTION	DATE

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

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SPRINGFIELD, MO 65807 (417) 869-6009
ENGINEERING CORPORATION - 000631

STRIPING KEY

S – SOLID

I – INTERMITTENT (10' STRIPE, 30' GAP UNLESS NOTED OTHERWISE)

D – DOUBLE

W – WHITE

Y – YELLOW

T – PREFORMED THERMOPLASTIC PAVEMENT MARKING

H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

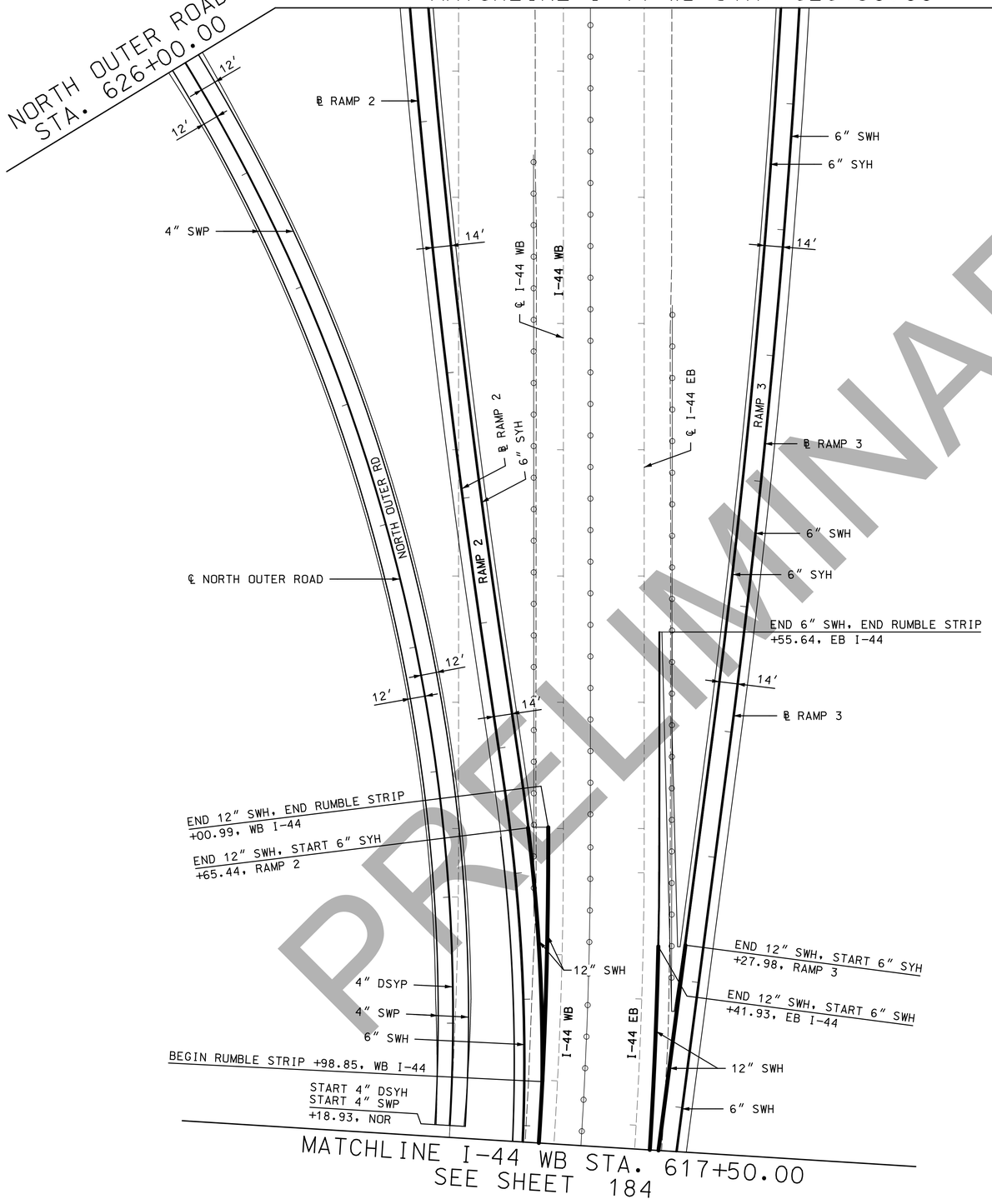
NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

I-44

PAVEMENT MARKING
SHEET 1 OF 15

SCALE
0 50 100 150

SEE SHEET 186
MATCHLINE I-44 WB STA. 626+50.00



MATCHLINE I-44 WB STA. 617+50.00
SEE SHEET 184

PRELIMINARY

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H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS
P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL
↑ STRAIGHT ARROW
↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

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

DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 185
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

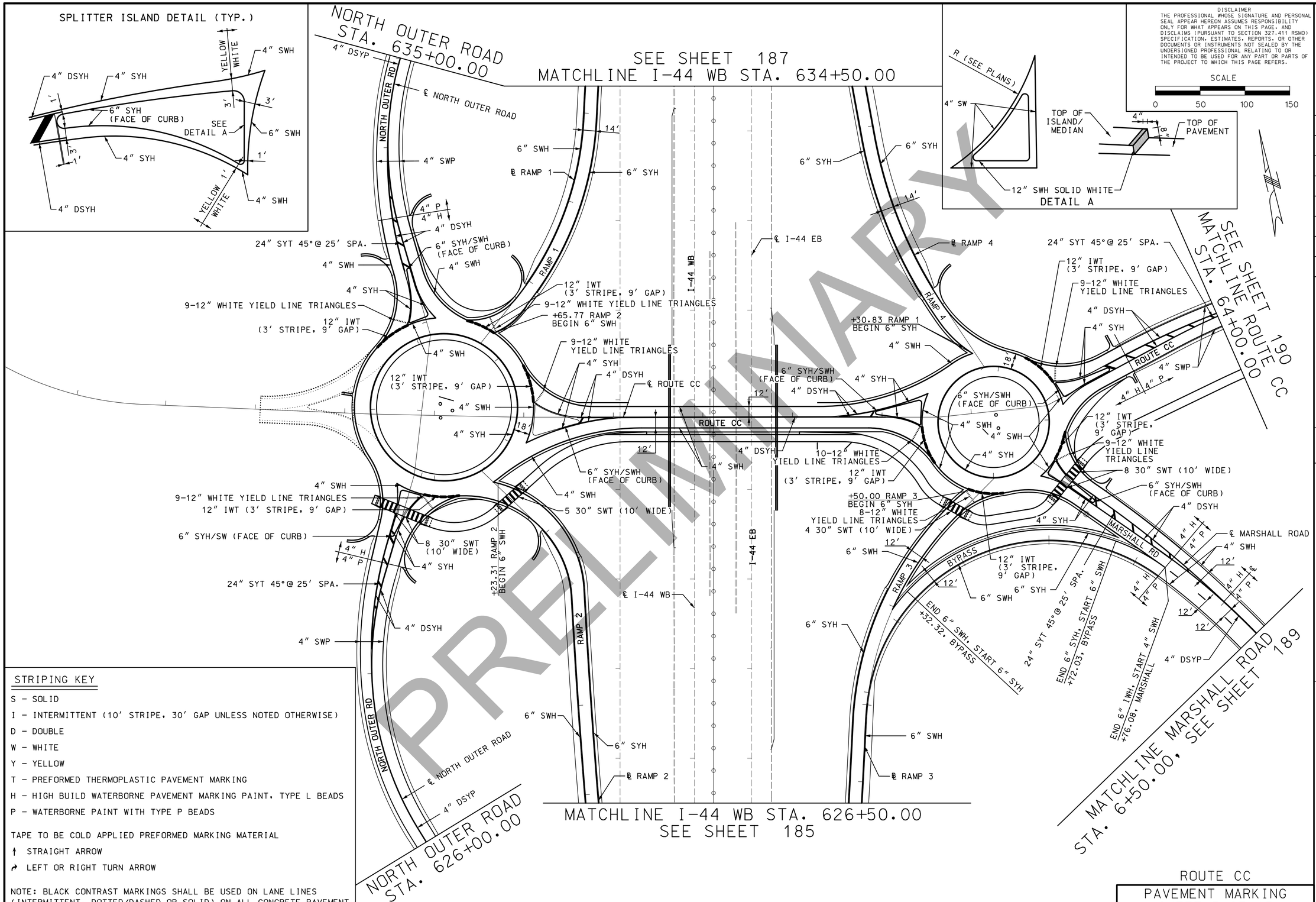
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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I-44
PAVEMENT MARKING
SHEET 2 OF 15

L:\MarshfieldMO\17322-03\Draw\Sheets\185_PM_02_J8I0445_i50.dgn 3:37:25 PM 3/11/2019



STRIPING KEY

S – SOLID

I – INTERMITTENT (10' STRIPE, 30' GAP UNLESS NOTED OTHERWISE)

D – DOUBLE

W – WHITE

Y – YELLOW

T – PREFORMED THERMOPLASTIC PAVEMENT MARKING

H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

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SCALE
0 50 100 150

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

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	186

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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ROUTE CC
PAVEMENT MARKING
SHEET 3 OF 15

SCALE
0 50 100 150

SEE SHEET 188
MATCHLINE I-44 WB STA. 643+50.00

6" IWH (3' STRIPE, 9' GAP)

START 6" IWH (3' STRIPE, 9' GAP) END 12" SWH
+47.13, I-44

END 6" SWH & 6" SYH START 12" SWH
+79.38, I-44

12" SWH

NORTH OUTER RD

RAMP 1

I-44 WB

I-44 EB

END RUMBLE STRIP
+72.42, RAMP 4
+68.07, I-44

℄ NORTH OUTER ROAD

12'

14'

BEGIN 6" SWH, BEGIN RUMBLE STRIP
+26.79, I-44

12'

BEGIN 12" SWH, BEGIN RUMBLE STRIP
+12.13, I-44

12" SWH

℄ RAMP 4

RAMP 4

4" DSYP

4" SWP

6" SYH
6" SWH

14'

℄ NORTH OUTER ROAD

4" SWP

℄ RAMP 1

6" SWH
6" SYH

℄ I-44 WB

℄ I-44 EB

12'

12'

℄ RAMP 4

6" SWH

4" DSYP

NORTH OUTER ROAD
STA. 635+00.00

MATCHLINE I-44 WB STA. 634+50.00
SEE SHEET 186

PRELIMINARY

STRIPING KEY

S - SOLID

I - INTERMITTENT (10' STRIPE, 30' GAP UNLESS NOTED OTHERWISE)

D - DOUBLE

W - WHITE

Y - YELLOW

T - PREFORMED THERMOPLASTIC PAVEMENT MARKING

H - HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P - WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

I-44

PAVEMENT MARKING
SHEET 4 OF 15

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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 187
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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)

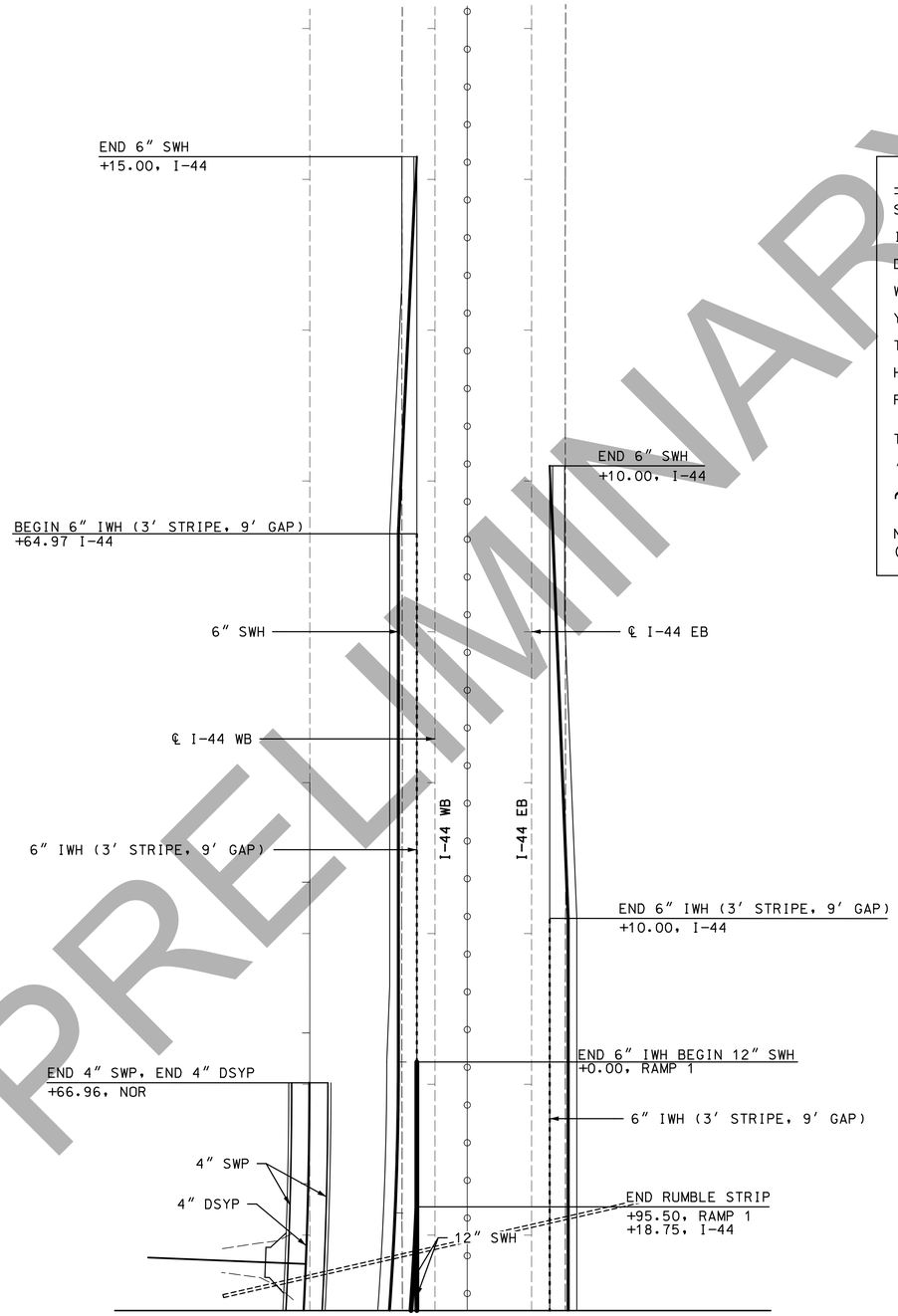
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SCALE

0 50 100 150



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MATCHLINE I-44 WB STA. 643+50.00
SEE SHEET 187

STRIPING KEY

S - SOLID

I - INTERMITTENT (10' STRIPE, 30' GAP UNLESS NOTED OTHERWISE)

D - DOUBLE

W - WHITE

Y - YELLOW

T - PREFORMED THERMOPLASTIC PAVEMENT MARKING

H - HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P - WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

PRELIMINARY

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

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	188

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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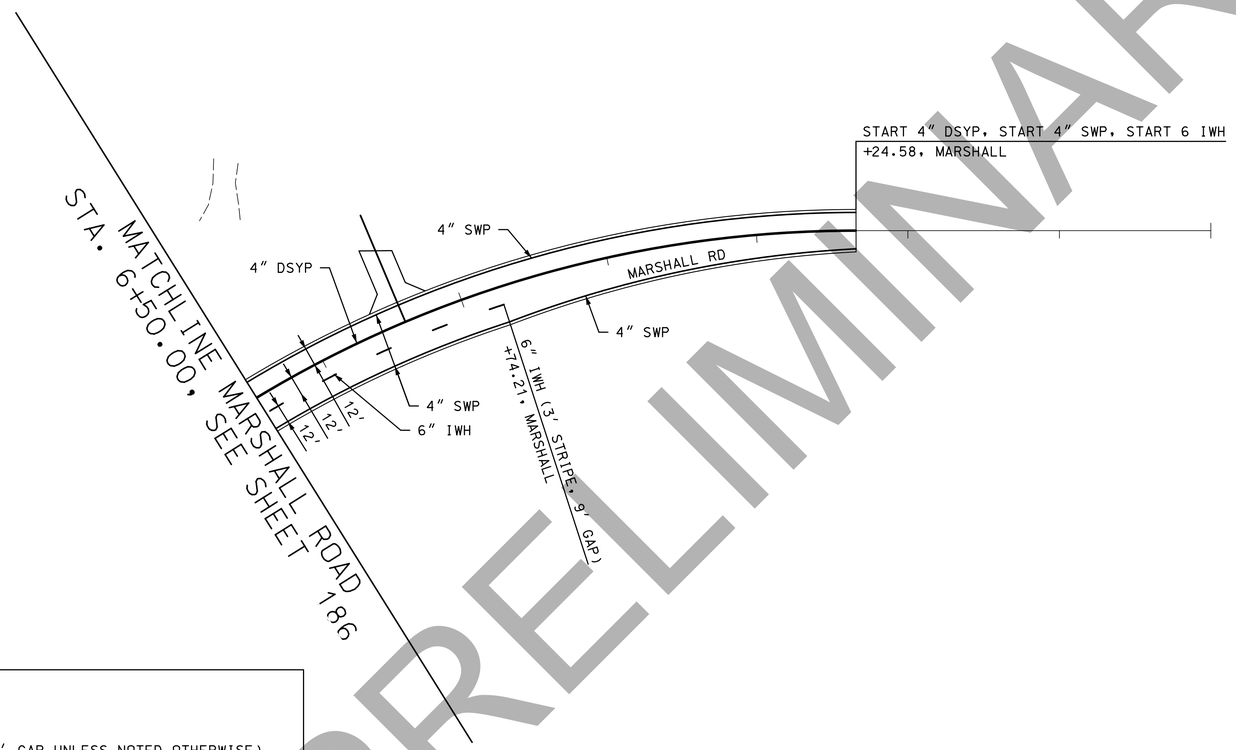
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I-44

PAVEMENT MARKING
SHEET 5 OF 15

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SCALE
0 50 100 150



PRELIMINARY

STRIPING KEY

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D – DOUBLE
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Y – YELLOW
T – PREFORMED THERMOPLASTIC PAVEMENT MARKING
H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS
P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL
↑ STRAIGHT ARROW
↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

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

DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 189
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

MARSHALL
PAVEMENT MARKING
SHEET 6 OF 15

STRIPING KEY

S – SOLID

I – INTERMITTENT (10′ STRIPE, 30′ GAP UNLESS NOTED OTHERWISE)

D – DOUBLE

W – WHITE

Y – YELLOW

T – PREFORMED THERMOPLASTIC PAVEMENT MARKING

H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P – WATERBORNE PAINT WITH TYPE P BEADSN

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

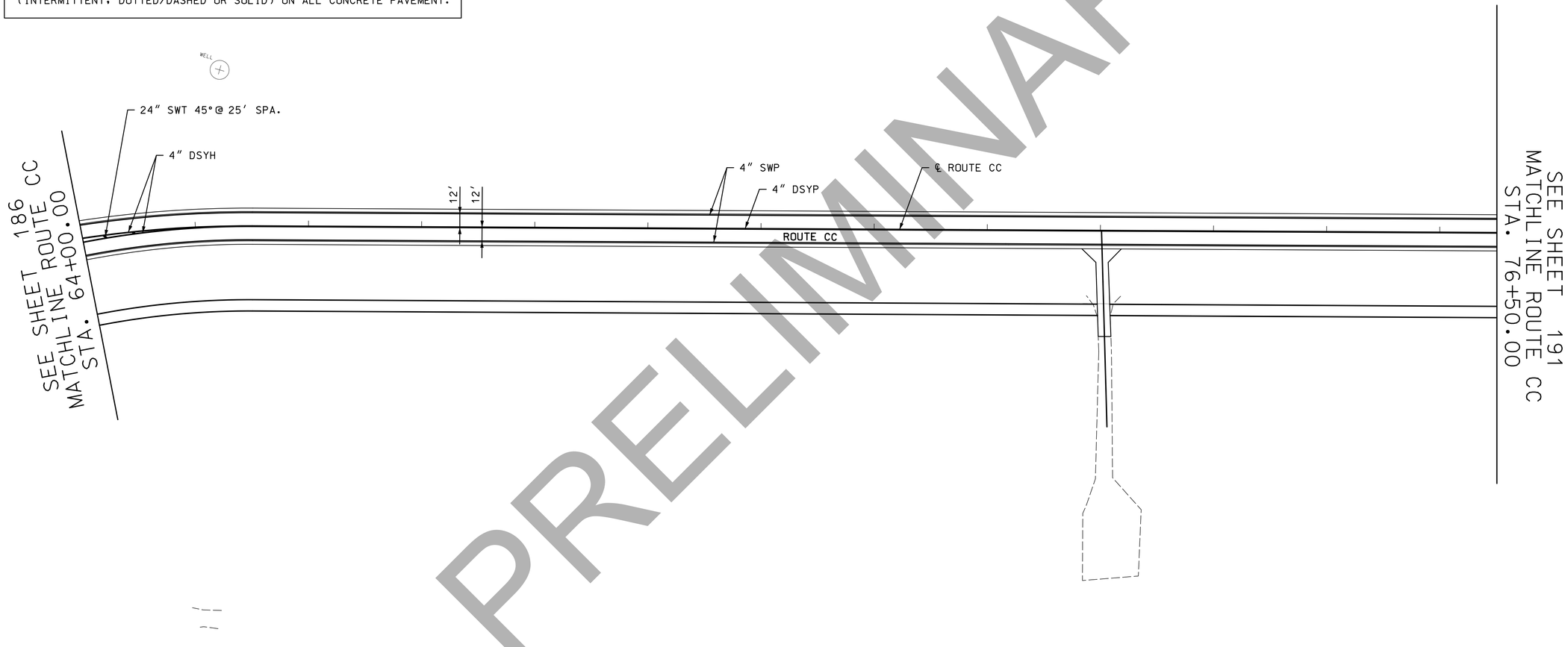
↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

SCALE

0 50 100 150

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PRELIMINARY

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

DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	190

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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ROUTE CC

PAVEMENT MARKING
SHEET 7 OF 15

STRIPING KEY

S – SOLID

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↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

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SCALE

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PRELIMINARY

℄ N MARSHALL

SEE SHEET 190
MATCHLINE ROUTE CC
STA. 76+50.00

+49.35, N MARSHALL

24″ SWT

4″ SWP

4″ SWP

BEGIN 4″ DSYP
+70.00, N MARSHALL

4″ SWP

4″ DSYP

ROUTE CC

℄ ROUTE CC

SEE SHEET 192
MATCHLINE ROUTE CC
STA. 89+00.00

ROUTE CC

PAVEMENT MARKING
SHEET 8 OF 15

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

DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	191

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102
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W – WHITE

Y – YELLOW

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P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

SCALE

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

SEE SHEET 191
MATCHLINE ROUTE CC
STA. 89+00.00

4″ SWP

4″ DSYP

ROUTE CC

℄ ROUTE CC

SEE SHEET 193
MATCHLINE ROUTE CC
STA. 101+50.00

ROUTE CC

PAVEMENT MARKING
SHEET 9 OF 15

PRELIMINARY

DATE PREPARED	3/11/2019
ROUTE	I-44
STATE	MO
DISTRICT	SW
SHEET NO.	192
COUNTY	WEBSTER
JOB NO.	J8I0445
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

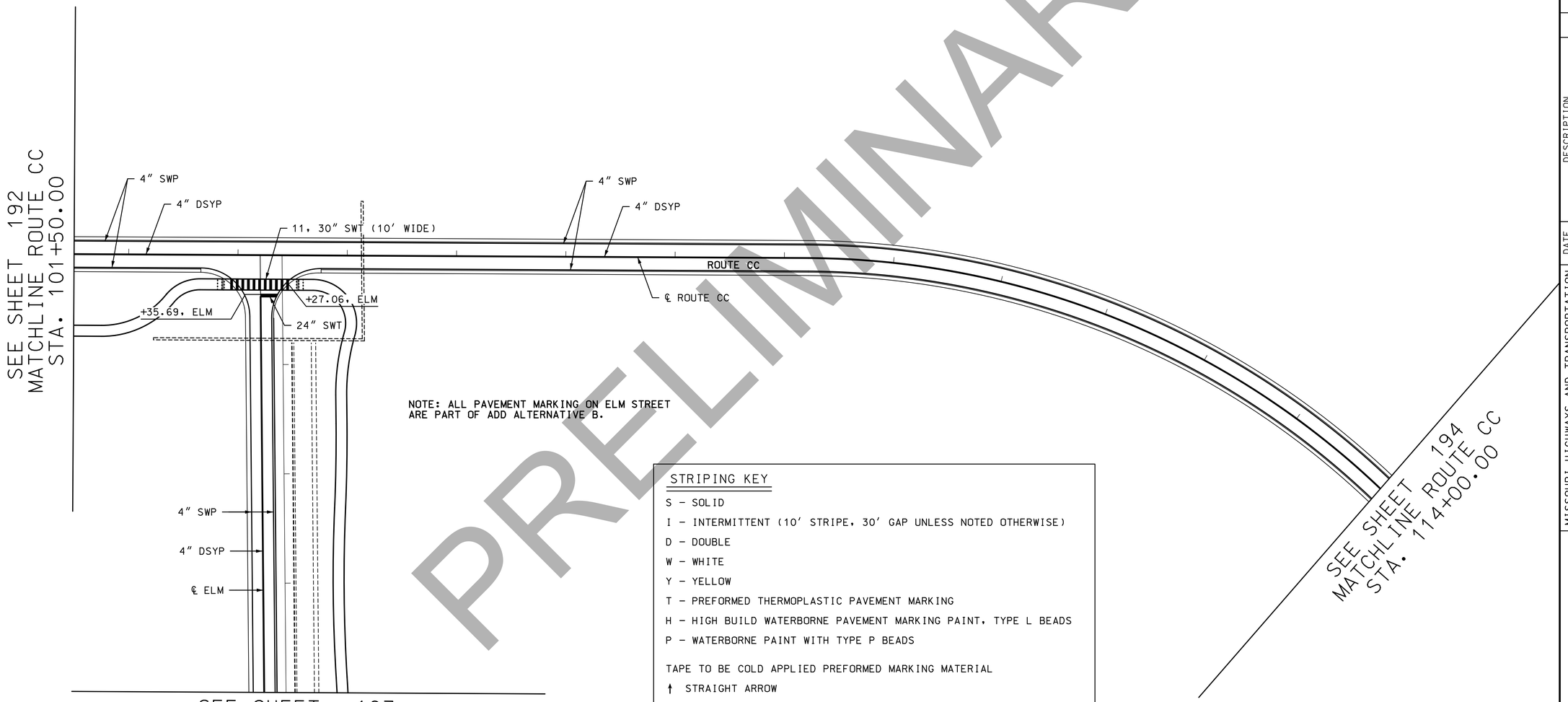
DESCRIPTION | DATE

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NOTE: ALL PAVEMENT MARKING ON ELM STREET ARE PART OF ADD ALTERNATIVE B.

STRIPING KEY

S – SOLID

I – INTERMITTENT (10' STRIPE, 30' GAP UNLESS NOTED OTHERWISE)

D – DOUBLE

W – WHITE

Y – YELLOW

T – PREFORMED THERMOPLASTIC PAVEMENT MARKING

H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

PRELIMINARY

ROUTE CC

PAVEMENT MARKING
SHEET 10 OF 15

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DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	193

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

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

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L:\MarshfieldMO\17322-03\Draw\Sheets\193_PM_10_J8I0445_I50.dgn 3:38:02 PM 3/11/2019

STRIPING KEY

S – SOLID

I – INTERMITTENT (10′ STRIPE, 30′ GAP UNLESS NOTED OTHERWISE)

D – DOUBLE

W – WHITE

Y – YELLOW

T – PREFORMED THERMOPLASTIC PAVEMENT MARKING

H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

SCALE

0 50 100 150

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PRELIMINARY

SEE SHEET 193
MATCHLINE ROUTE CC
STA. 114+00.00

4" SWP

4" DSYP

ROUTE CC

℄ ROUTE CC

SEE SHEET 195
MATCHLINE ROUTE CC
STA. 125+50.00

ROUTE CC

PAVEMENT MARKINGS
SHEET 11 OF 15

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DATE PREPARED: 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	194

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

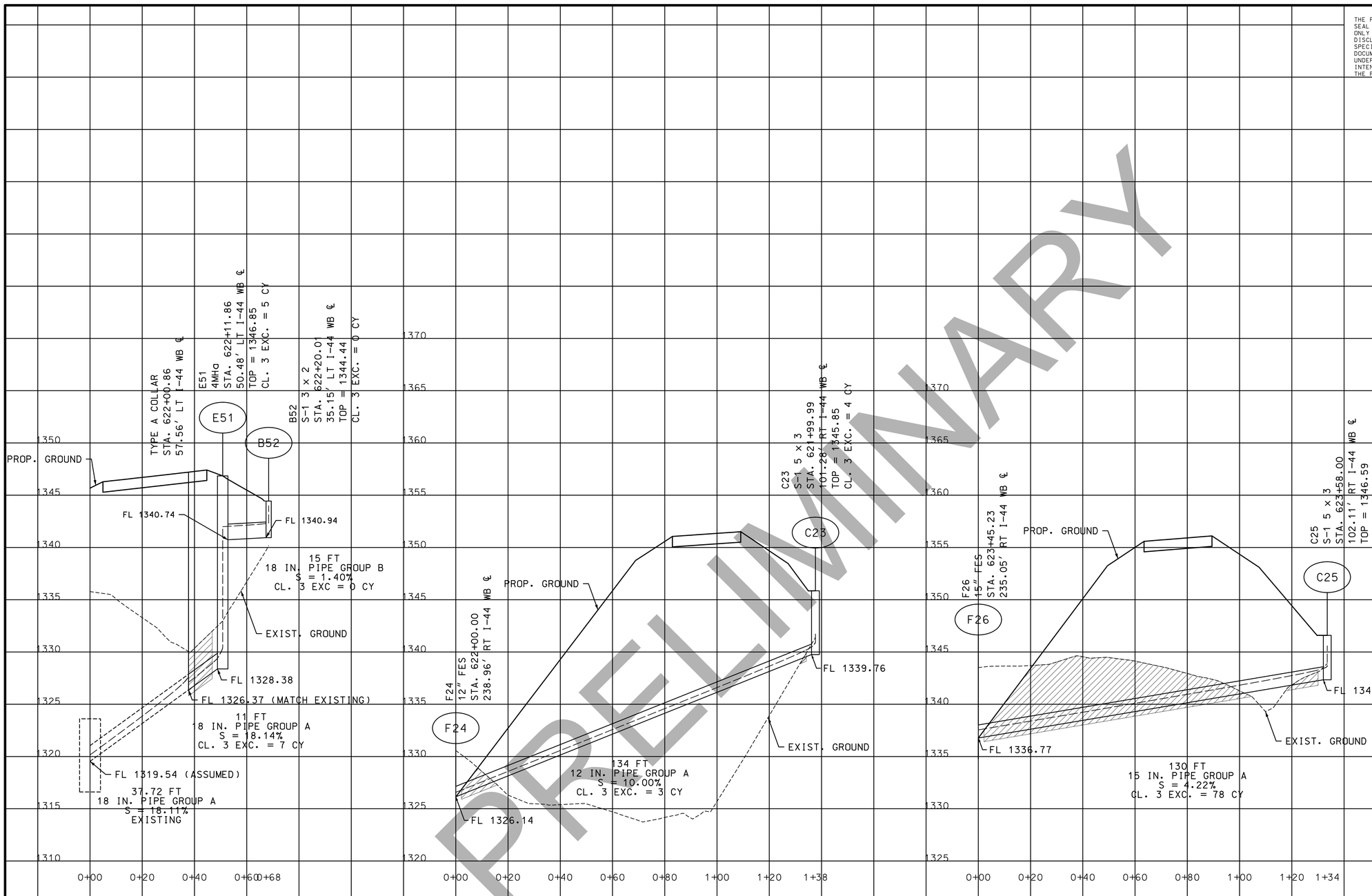
BRIDGE NO.:

DATE	DESCRIPTION

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DRAINAGE LEGEND

- (A) PRECAST CONCRETE DROP INLET 4FT X 2FT WITH CURVED VANE GRATE AND FRAME (4FT X 2FT) (TYPE A)
- (B) PRECAST CONCRETE DROP INLET 3FT X 2FT WITH GRATE AND BEARING PLATE 3FT X 2FT (TYPE S-1)
- (C) PRECAST CONCRETE DROP INLET 5FT X 3FT WITH GRATE AND BEARING PLATE 5FT X 3FT (TYPE S-1)
- (D) PRECAST CONCRETE DROP INLET 2FT X 2FT WITH CURVED VANE GRATE AND FRAME (2FT X 2FT) (TYPE D)
- (E) PRECAST CONCRETE MANHOLE WITH MANHOLE FRAME AND COVER, TYPE 4
- (F) GROUP A FLARED END SECTION
- (S) SPECIAL INLET NO. 1

NOTE:
STATION, OFFSET, AND ELEVATIONS OF STRUCTURES ARE GIVEN TO THE CENTER OF THE STRUCTURE OR DOWNSTREAM END OF FLARED END SECTIONS.

CULVERT SECTIONS
SHEET 1 OF 16

PRELIMINARY

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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 199
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

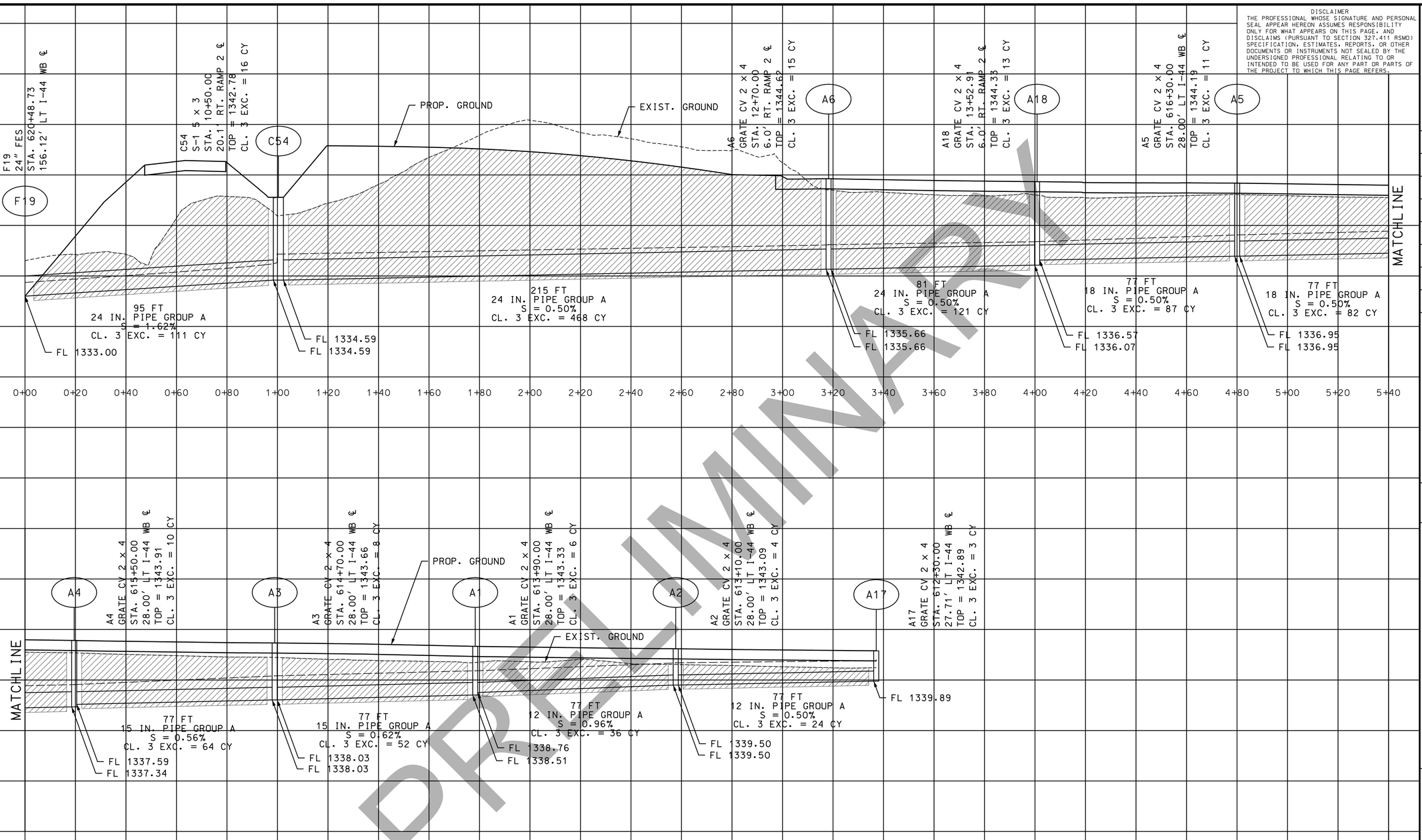
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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 200
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.: 1564.98
PROJECT NO.:
BRIDGE NO.:

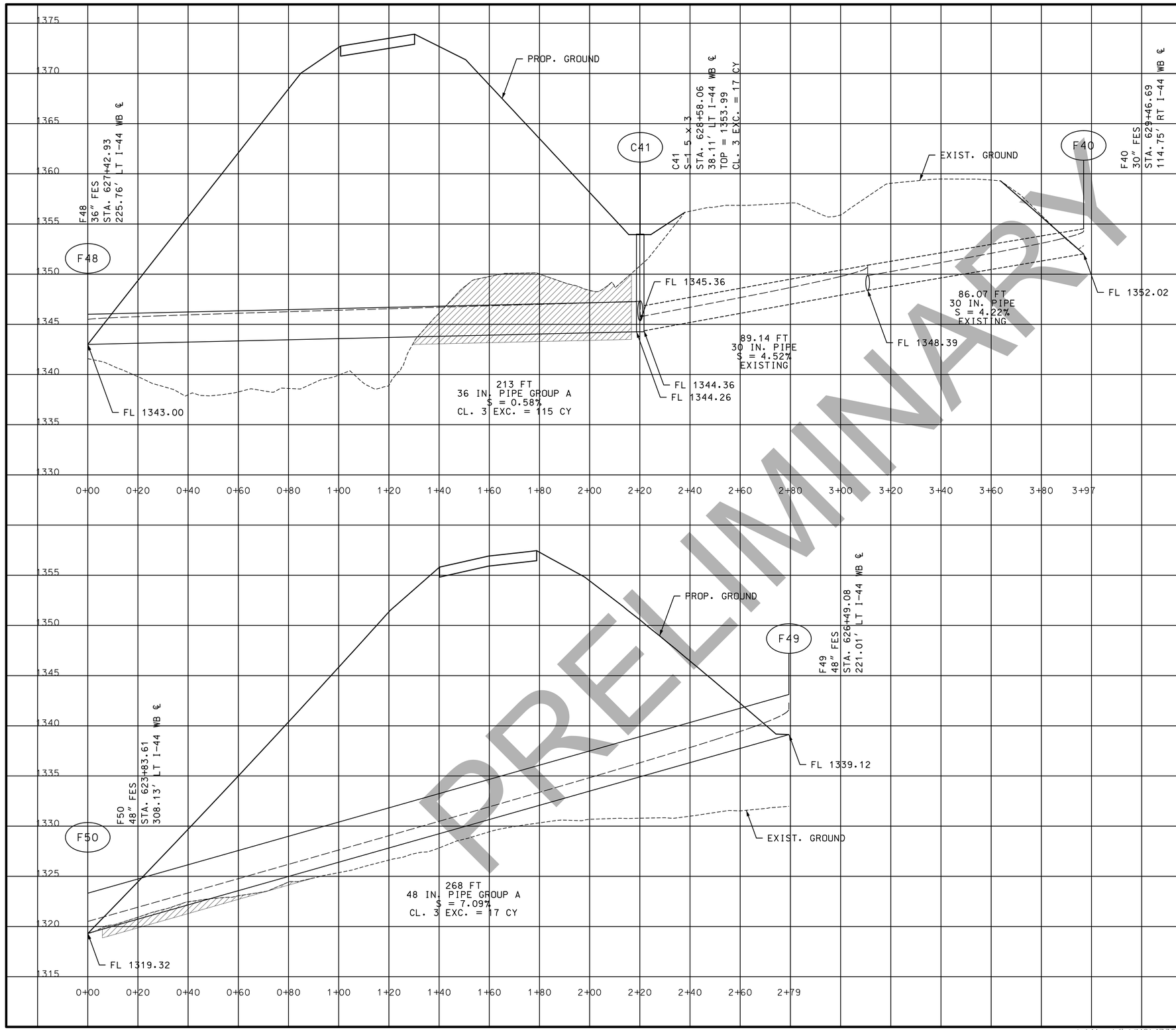
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CULVERT SECTIONS
SHEET 2 OF 16



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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 201
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION
DATE

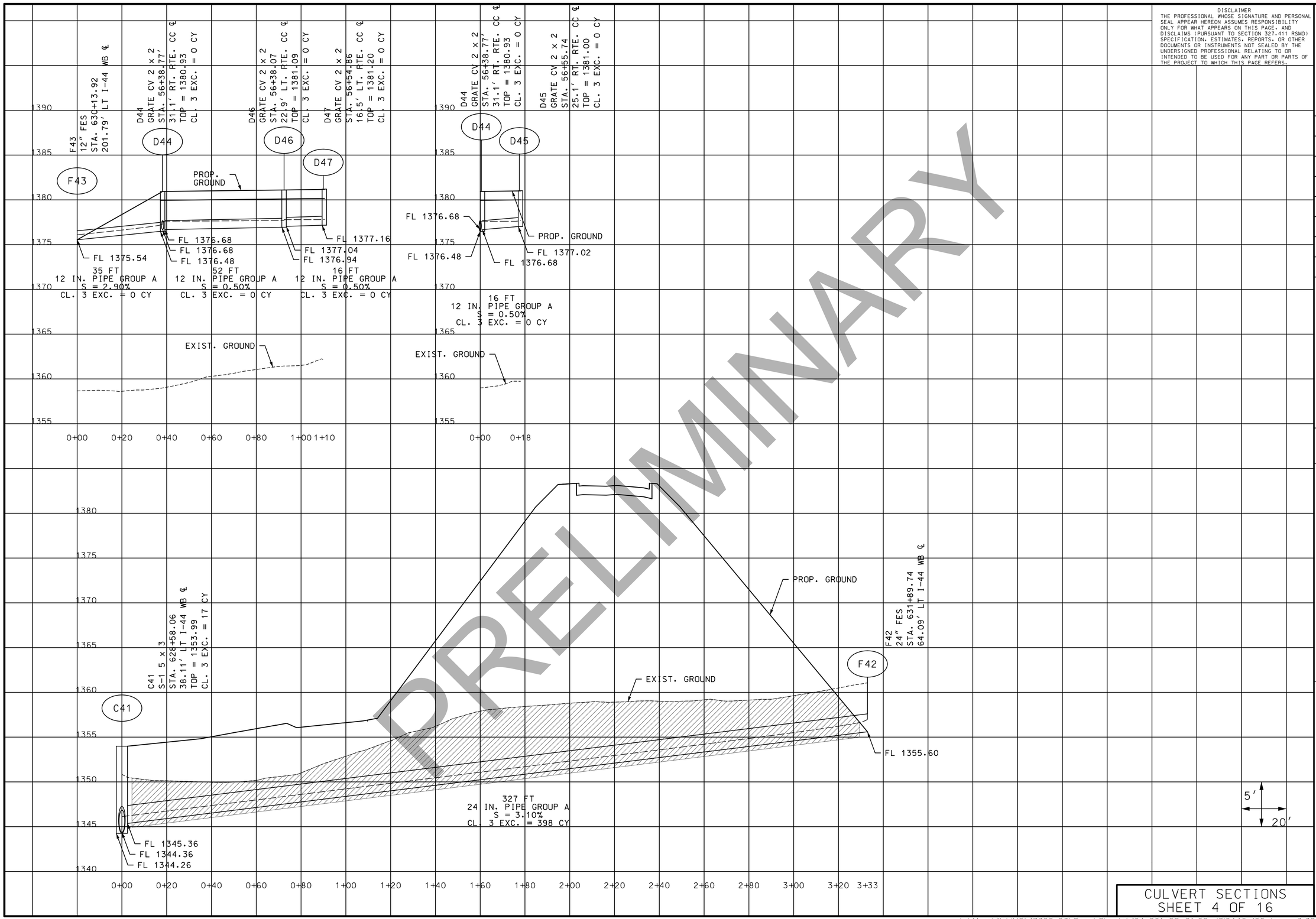
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CULVERT SECTIONS
SHEET 3 OF 16

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DISTRICT: SW | SHEET NO.: 202
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

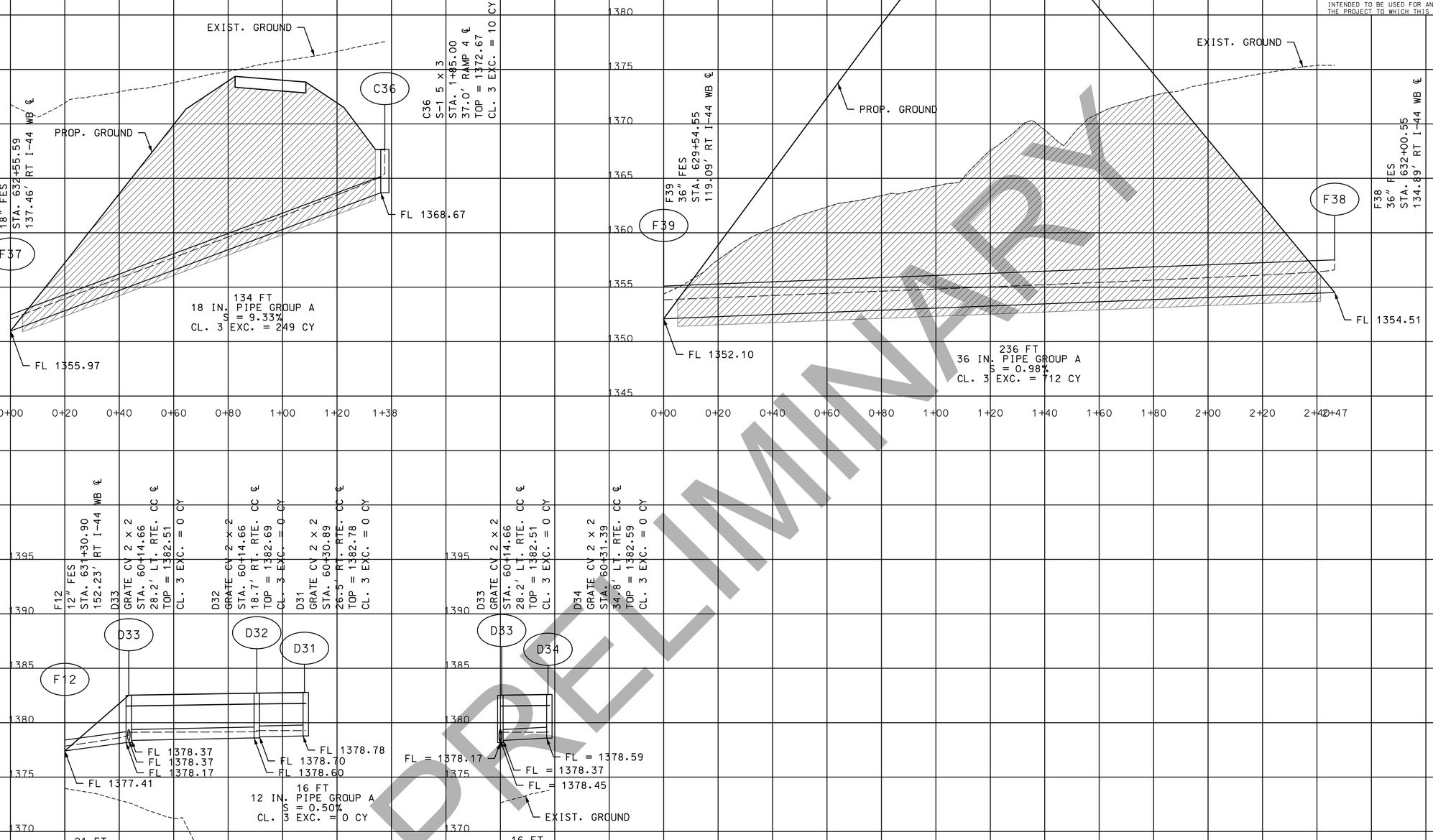
DESCRIPTION
DATE

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CULVERT SECTIONS
SHEET 4 OF 16



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DISTRICT SW | SHEET NO. 203
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

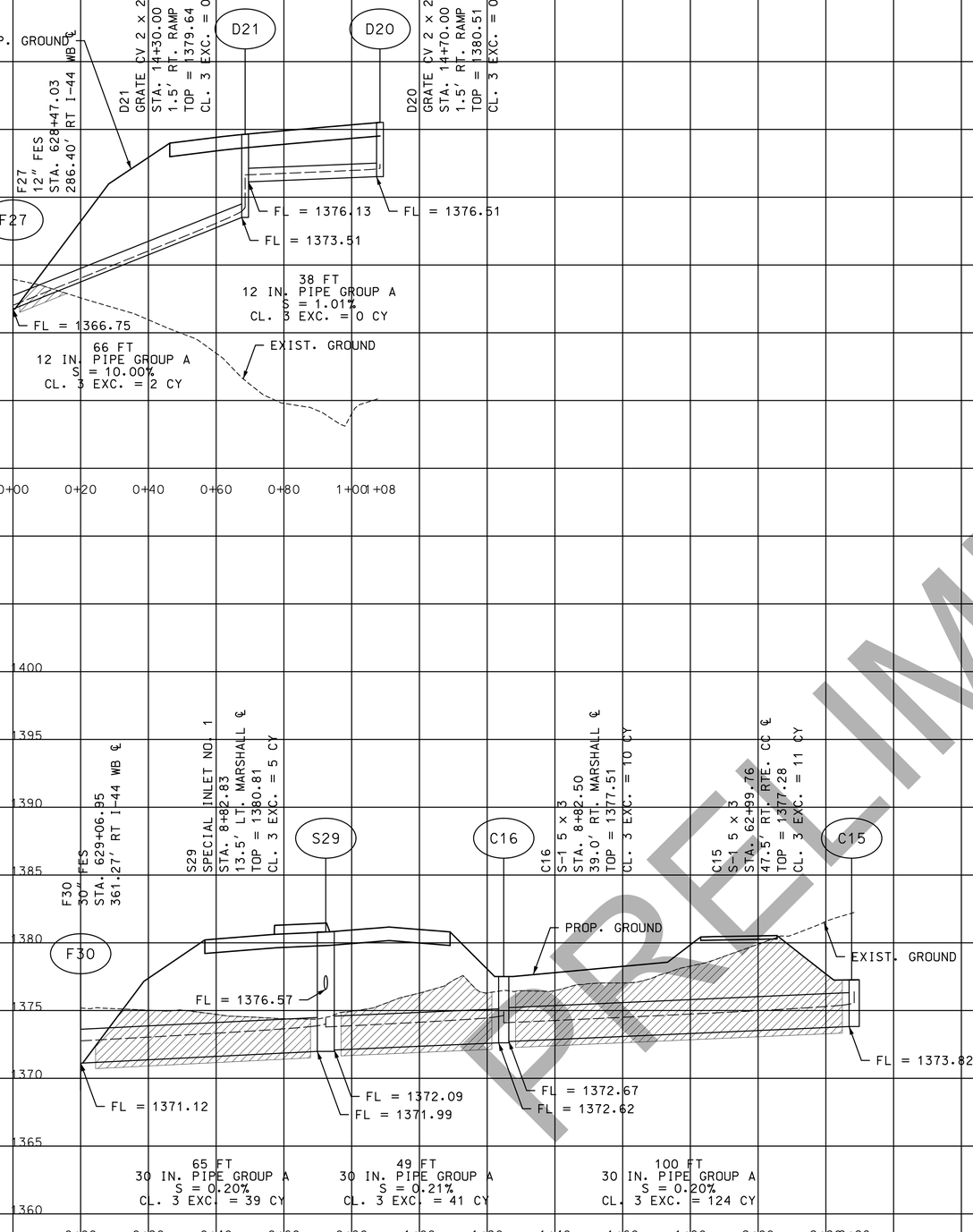
DESCRIPTION | DATE

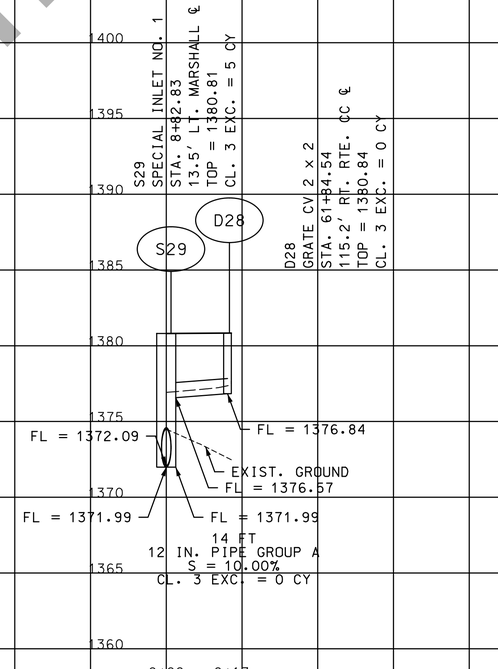
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CULVERT SECTIONS
SHEET 5 OF 16





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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 204
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

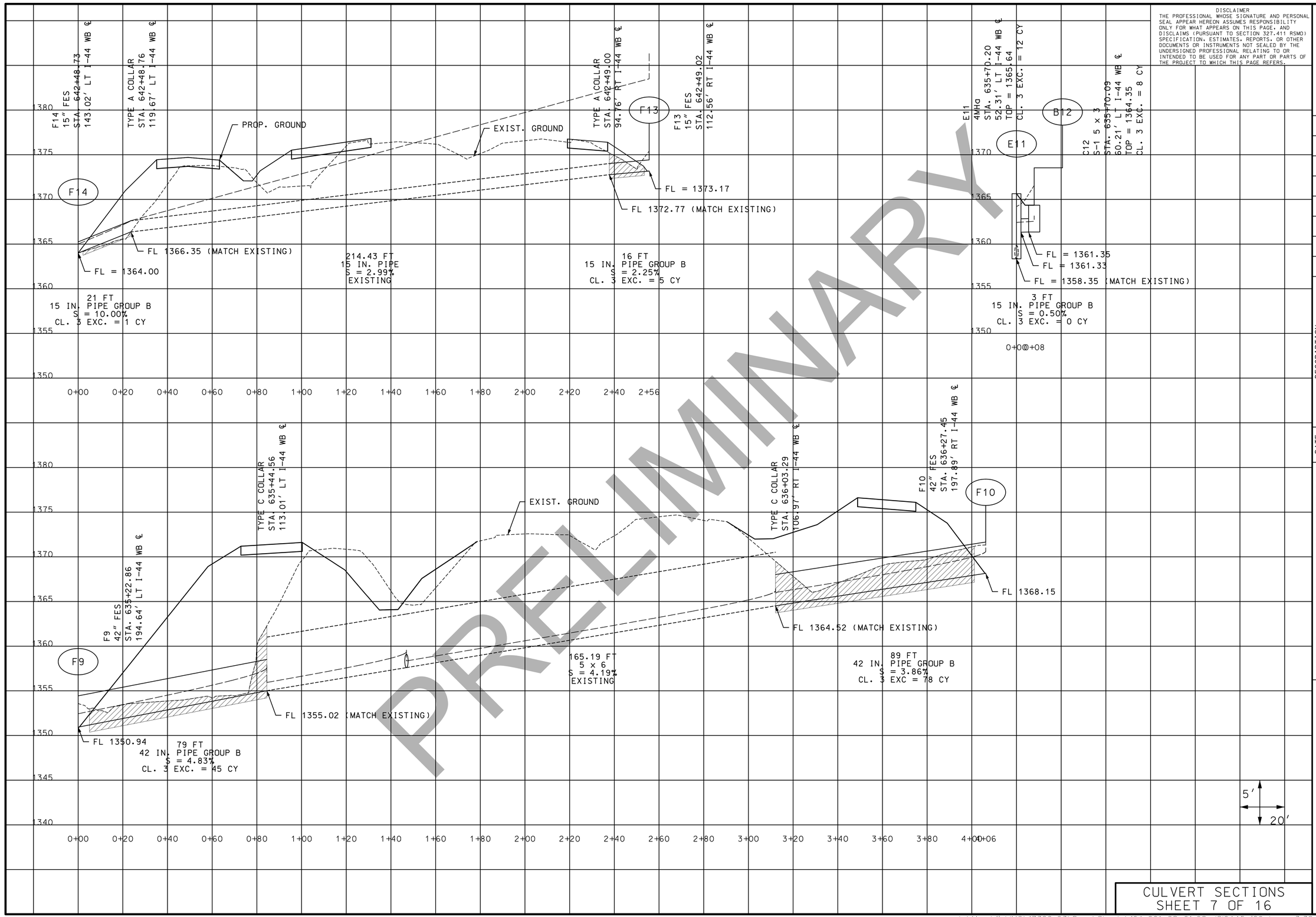
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5'
20'

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CULVERT SECTIONS
SHEET 6 OF 16



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DATE PREPARED
3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	205

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

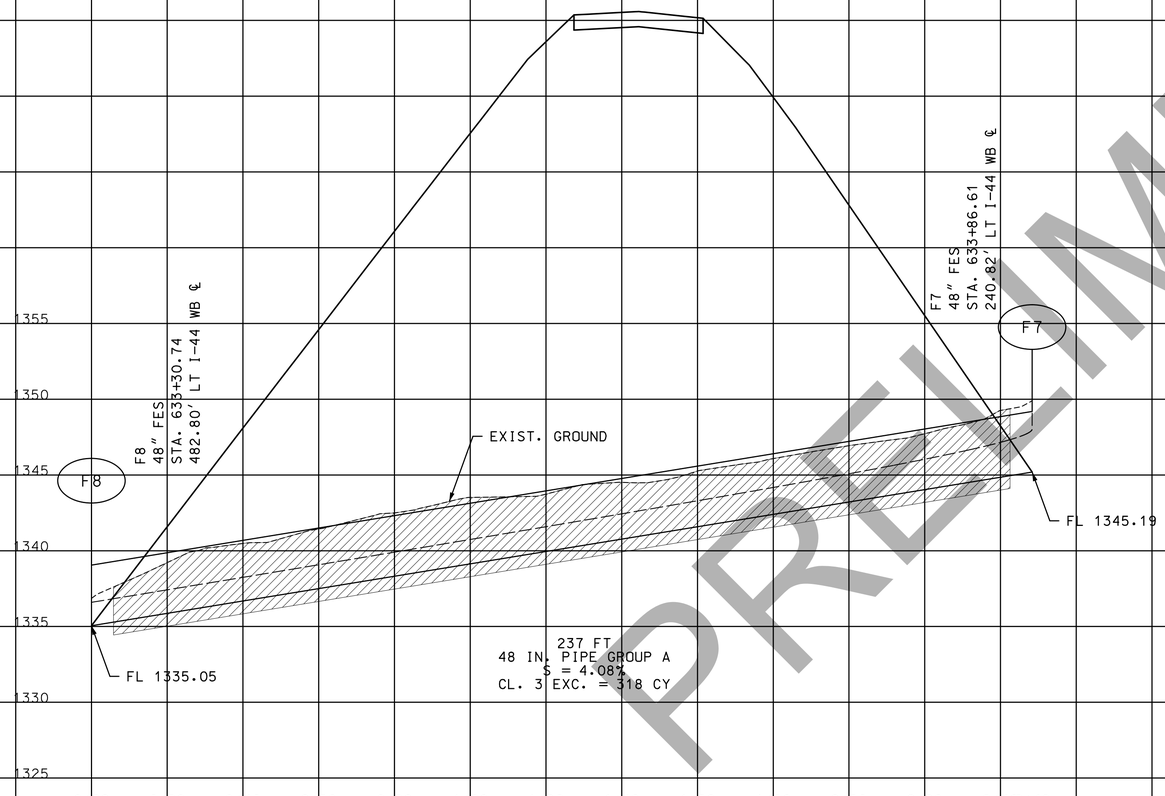
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CULVERT SECTIONS
SHEET 7 OF 16



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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 206
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

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CULVERT SECTIONS
SHEET 8 OF 16

STRIPING KEY

S – SOLID

I – INTERMITTENT (10′ STRIPE, 30′ GAP UNLESS NOTED OTHERWISE)

D – DOUBLE

W – WHITE

Y – YELLOW

T – PREFORMED THERMOPLASTIC PAVEMENT MARKING

H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

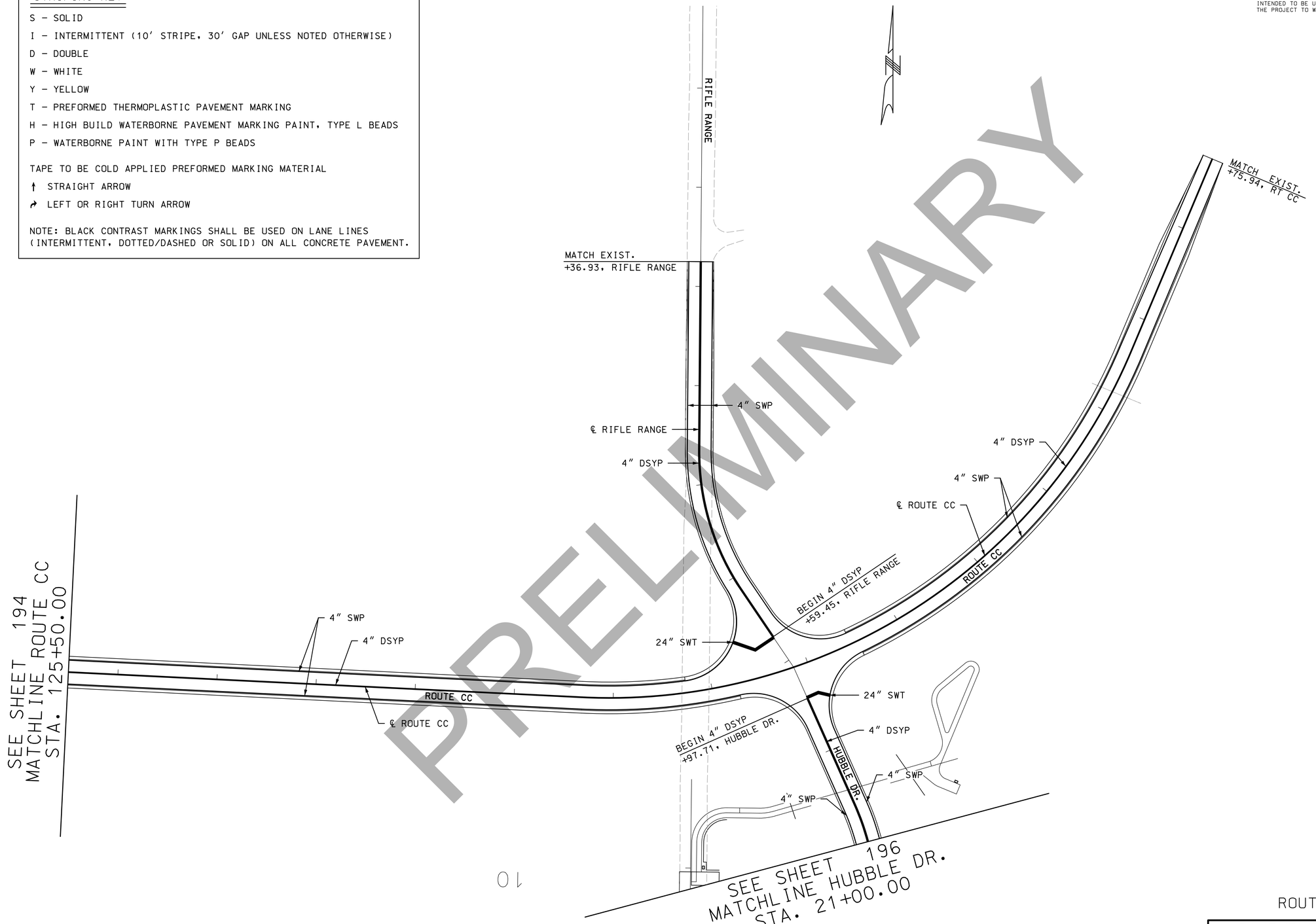
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SCALE

0 50 100 150

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DATE PREPARED: 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	195

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

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ROUTE CC

PAVEMENT MARKING
SHEET 12 OF 15

SCALE

0 50 100 150



STRIPING KEY

S – SOLID

I – INTERMITTENT (10' STRIPE, 30' GAP UNLESS NOTED OTHERWISE)

D – DOUBLE

W – WHITE

Y – YELLOW

T – PREFORMED THERMOPLASTIC PAVEMENT MARKING

H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

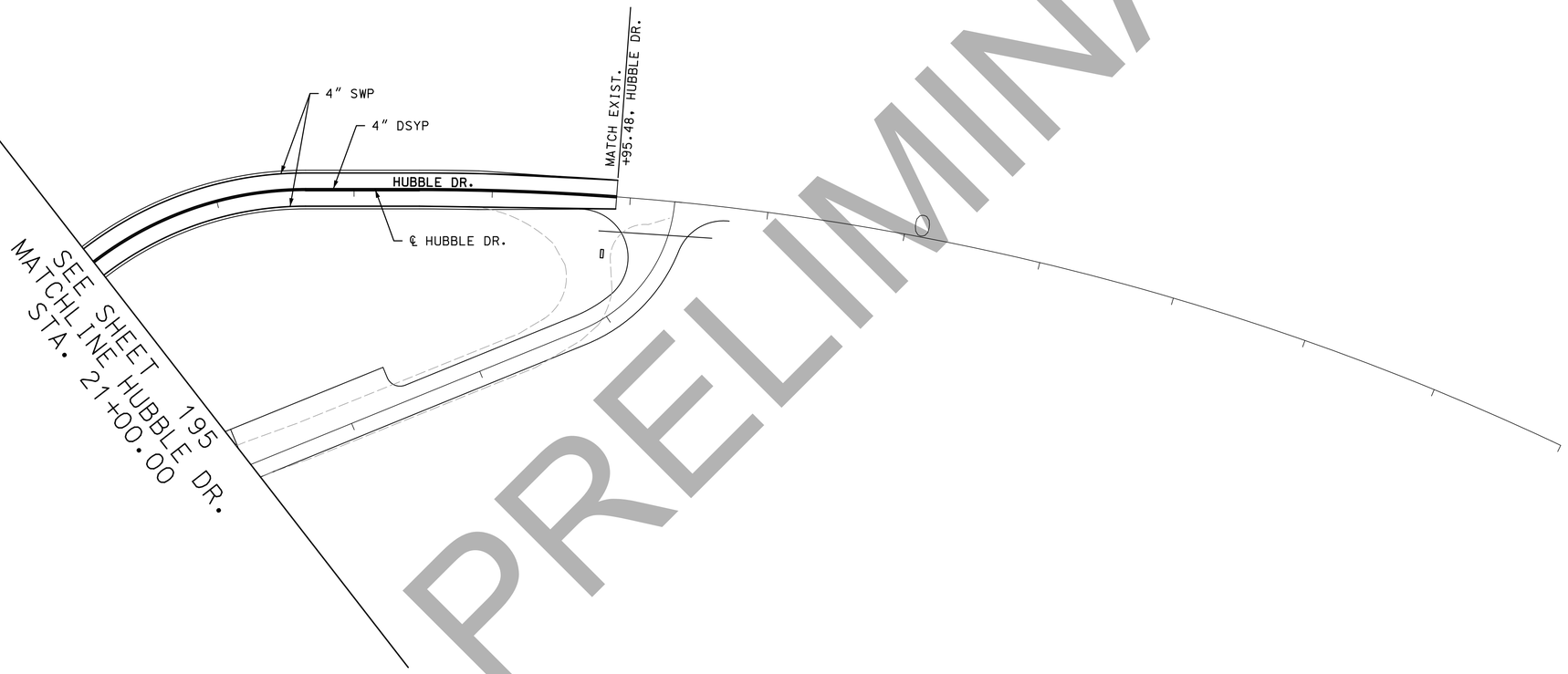
P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.



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DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	196

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DATE	DESCRIPTION

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RIFLE RANGE
PAVEMENT MARKING
SHEET 13 OF 15

SCALE

0 50 100 150

STRIPING KEY

S – SOLID

I – INTERMITTENT (10′ STRIPE, 30′ GAP UNLESS NOTED OTHERWISE)

D – DOUBLE

W – WHITE

Y – YELLOW

T – PREFORMED THERMOPLASTIC PAVEMENT MARKING

H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

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SEE SHEET 193
MATCHLINE ELM ST.
STA. 14+00.00

SEE SHEET 198
MATCHLINE ELM ST.
STA. 26+50.00

℄ ELM

ELM

4″ DSYP

4″ SWP

NOTE

PAVEMENT MARKING WORK ALONG ELM STREET TO BE INCLUDED IN ADD ALTERNATE B

ELM

PAVEMENT MARKING
SHEET 14 OF 15

PRELIMINARY

DATE PREPARED 3/11/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	197

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

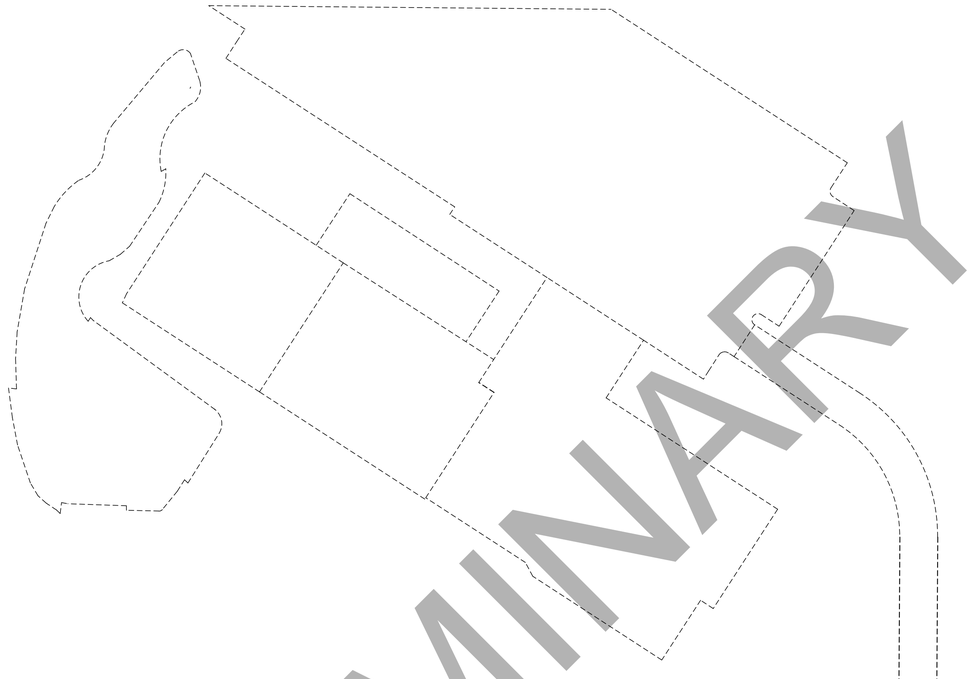
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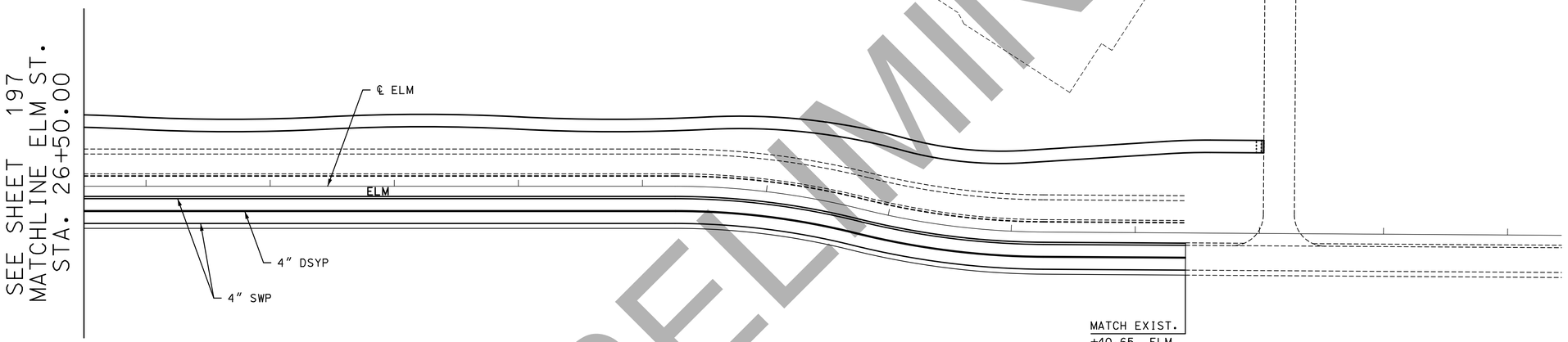
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JEFFERSON CITY, MO 65102
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SCALE

0 50 100 150





NOTE

PAVEMENT MARKING WORK ALONG ELM STREET TO BE INCLUDED IN ADD ALTERNATE B

STRIPING KEY

S – SOLID

I – INTERMITTENT (10' STRIPE, 30' GAP UNLESS NOTED OTHERWISE)

D – DOUBLE

W – WHITE

Y – YELLOW

T – PREFORMED THERMOPLASTIC PAVEMENT MARKING

H – HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS

P – WATERBORNE PAINT WITH TYPE P BEADS

TAPE TO BE COLD APPLIED PREFORMED MARKING MATERIAL

↑ STRAIGHT ARROW

↱ LEFT OR RIGHT TURN ARROW

NOTE: BLACK CONTRAST MARKINGS SHALL BE USED ON LANE LINES (INTERMITTENT, DOTTED/DASHED OR SOLID) ON ALL CONCRETE PAVEMENT.

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DATE PREPARED 3/11/2019

ROUTE I-44 | STATE MO

DISTRICT SW | SHEET NO. 198

COUNTY WEBSTER

JOB NO. J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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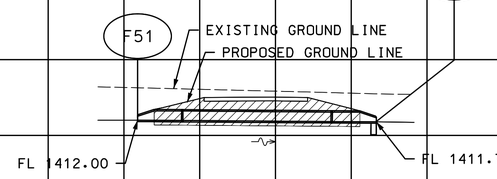
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ELM

PAVEMENT MARKING
SHEET 15 OF 15

F51
STA. 72+86.17
49.71' RT RTE. CC ℄
15" FES

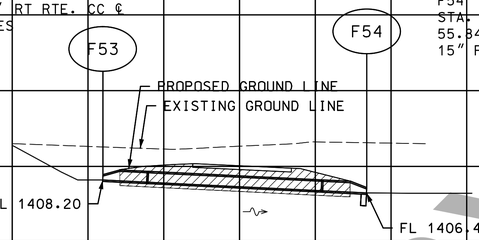
F52
STA. 73+17.50
50.06' RT RTE. CC ℄
15" FES



15" x 20' GROUP 'B' PIPE
S = 0.65%
CL. 3 EXC. = 14 CY

F53
STA. 75+58.87
82.51' RT RTE. CC ℄
15" FES

F54
STA. 75+81.35
55.84' RT RTE. CC ℄
15" FES



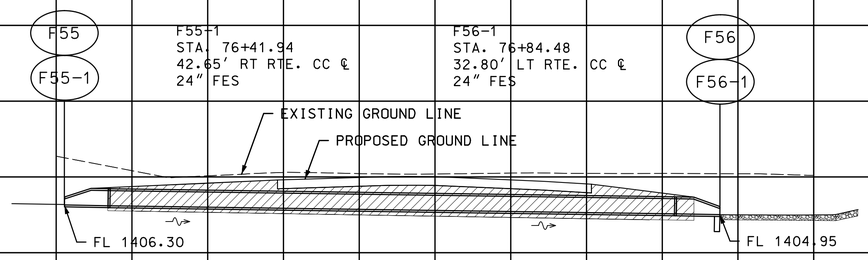
15" x 24' GROUP 'A' PIPE
S = 4.91%
CL. 3 EXC. = 15 CY

F55
STA. 76+37.21
42.66' RT RTE. CC ℄
24" FES

F55-1
STA. 76+41.94
42.65' RT RTE. CC ℄
24" FES

F56
STA. 76+79.29
32.31' LT RTE. CC ℄
24" FES

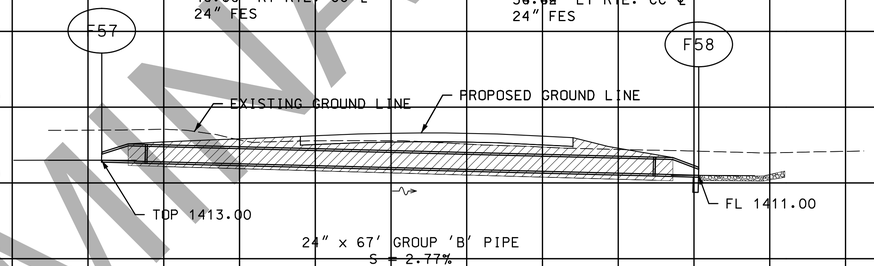
F56-1
STA. 76+84.48
32.80' LT RTE. CC ℄
24" FES



2 x 24" x 75' GROUP 'B' PIPE
S = 1.8%
CL. 3 EXC. = 118 CY

F57
STA. 79+50.18
46.00' RT RTE. CC ℄
24" FES

F58
STA. 79+49.88
36.62' LT RTE. CC ℄
24" FES

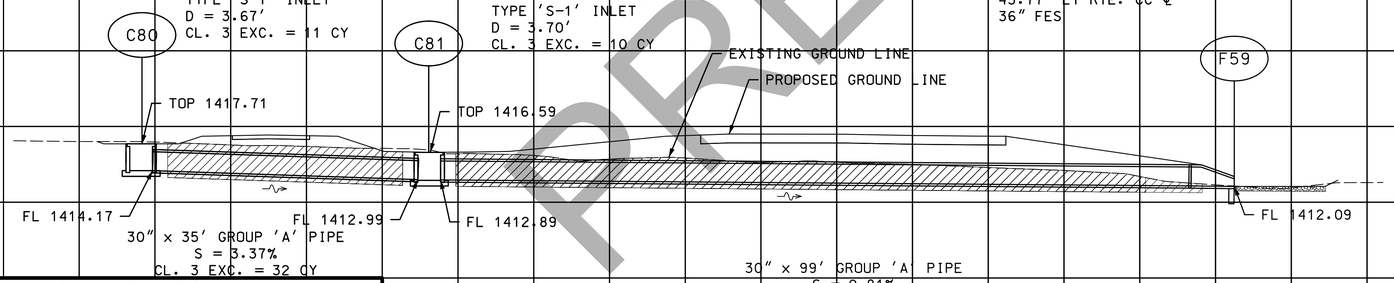


24" x 67' GROUP 'B' PIPE
S = 2.77%
CL. 3 EXC. = 57 CY

C80
STA. 91+53.84
86.81' RT RTE. CC ℄
5'x3' PRECAST DROP INLET
TYPE 'S-1' INLET
D = 3.67'
CL. 3 EXC. = 11 CY

C81
STA. 91+60.23
51.16' RT RTE. CC ℄
5'x3' PRECAST DROP INLET
TYPE 'S-1' INLET
D = 3.70'
CL. 3 EXC. = 10 CY

F59
STA. 92+07.68
43.77' LT RTE. CC ℄
36" FES

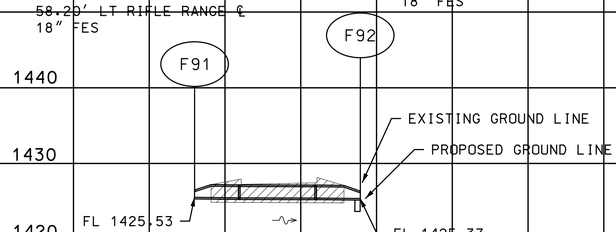


30" x 35' GROUP 'A' PIPE
S = 3.37%
CL. 3 EXC. = 32 CY

30" x 99' GROUP 'A' PIPE
S = 0.81%
CL. 3 EXC. = 74 CY

F91
STA. 21+75.22
58.20' LT RIFLE RANGE ℄
18" FES

F92
STA. 21+53.32
60.24' RT RTE. CC ℄
18" FES



18" x 10' GROUP 'A' PIPE
S = 0.03%
CL. 3 EXC. = 8 CY

10'

DRAINAGE LEGEND

- (A) PRECAST CONCRETE DROP INLET 4FT X 2FT WITH CURVED VANE GRATE AND FRAME (4FT X 2FT) (TYPE A)
- (B) PRECAST CONCRETE DROP INLET 3FT X 2FT WITH GRATE AND BEARING PLATE 3FT X 2FT (TYPE S-1)
- (C) PRECAST CONCRETE DROP INLET 5FT X 3FT WITH GRATE AND BEARING PLATE 5FT X 3FT (TYPE S-1)
- (D) PRECAST CONCRETE DROP INLET 2FT X 2FT WITH CURVED VANE GRATE AND FRAME (2FT X 2FT) (TYPE D)
- (E) PRECAST CONCRETE MANHOLE WITH MANHOLE FRAME AND COVER, TYPE 4
- (F) GROUP A FLARED END SECTION
- (S) SPECIAL INLET NO. 1

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ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 162
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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JEFFERSON CITY, MO 65102
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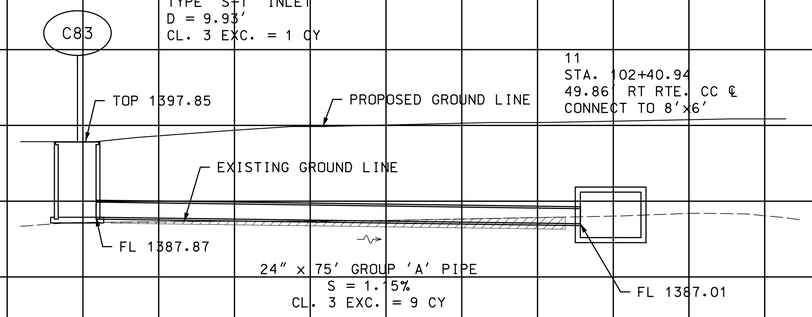
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CULVERT SECTIONS
SHEET 9 OF 16

C83
STA. 101+74.51
49.75' RT RTE. CC ℄
5'x3' PRECAST DROP INLET
TYPE 'S-1' INLET
D = 9.93'
CL. 3 EXC. = 1 CY

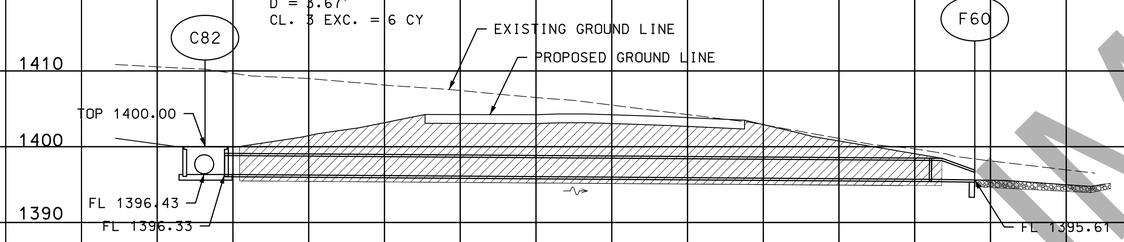
11
STA. 102+40.94
49.86' RT RTE. CC ℄
CONNECT TO 8'x6'



24" x 75' GROUP 'A' PIPE
S = 1.5%
CL. 3 EXC. = 9 CY

C82
STA. 104+22.41
43.45' RT RTE. CC ℄
5'x3' PRECAST DROP INLET
TYPE 'S-1' INLET
D = 3.67'
CL. 3 EXC. = 6 CY

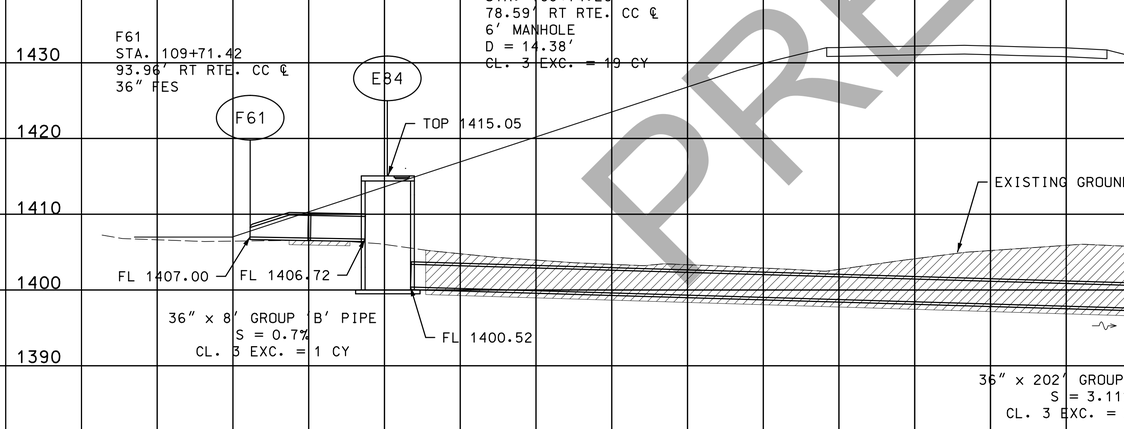
F60
STA. 103+72.95
45.22' LT RTE. CC ℄
30" FES



30" x 93' GROUP 'A' PIPE
S = 0.76%
CL. 3 EXC. = 144 CY

E84
STA. 109+74.20
78.59' RT RTE. CC ℄
6' MANHOLE
D = 14.38'
CL. 3 EXC. = 19 CY

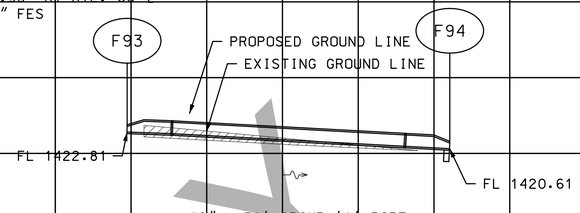
F61
STA. 109+71.42
93.96' RT RTE. CC ℄
36" FES



36" x 8' GROUP 'B' PIPE
S = 0.7%
CL. 3 EXC. = 1 CY

F93
STA. 21+55.25
58.93' RT RTE. CC ℄
18" FES

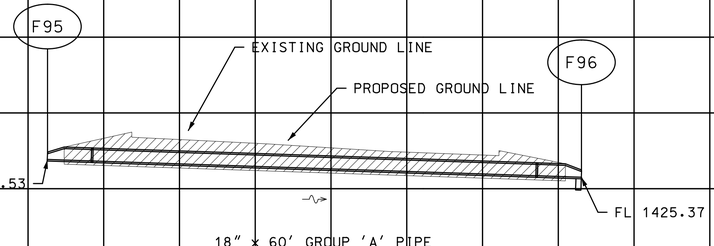
F94
STA. 21+26.73
67.95' RT RTE. CC ℄
18" FES



18" x 31' GROUP 'A' PIPE
S = 4.91%
CL. 3 EXC. = 5 CY

F95
STA. 17+16.39
25.43' LT RTE. CC ℄
18" FES

F96
STA. 16+44.23
23.67' LT RTE. CC ℄
18" FES



18" x 60' GROUP 'A' PIPE
S = 4.91%
CL. 3 EXC. = 40 CY

F62
STA. 190+54.91
132.92' LT RTE. CC ℄
36" FES

36" x 202' GROUP 'B' PIPE
S = 3.11%
CL. 3 EXC. = 315 CY

CULVERT SECTIONS
SHEET 10 OF 16

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DISTRICT SW | SHEET NO. 163
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

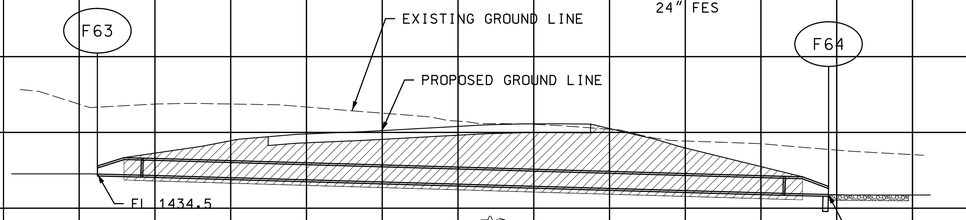
DESCRIPTION | DATE

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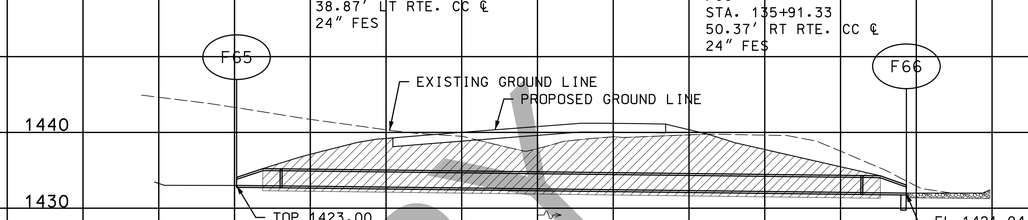
F63
STA. 131+71.79
38.40' RT RTE. CC ℄
24" FES



F64
STA. 132+17.13
48.11' RT RTE. CC ℄
24" FES

F65
STA. 135+85.79
38.87' LT RTE. CC ℄
24" FES

F66
STA. 135+91.33
50.37' RT RTE. CC ℄
24" FES

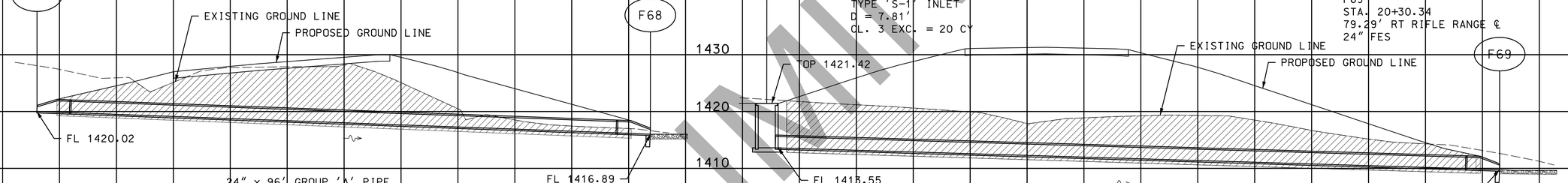


F67
STA. 137+15.15
42.63' LT RTE. CC ℄
24" FES

F68
STA. 137+11.60
63.85' RT RTE. CC ℄
24" FES

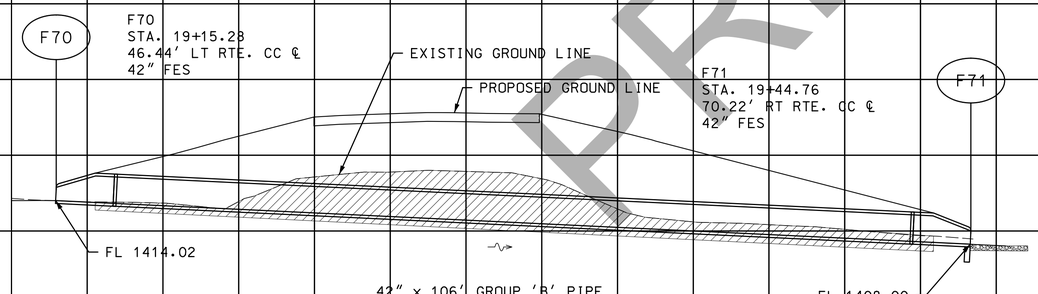
C87
STA. 20+39.47
49.23' LT RIFLE RANGE ℄
5'x3' PRECAST DROP INLET
TYPE 'S-1' INLET
D = 7.81'
CL. 3 EXC. = 20 CY

F69
STA. 20+30.34
79.29' RT RIFLE RANGE ℄
24" FES



F70
STA. 19+15.28
46.44' LT RTE. CC ℄
42" FES

F71
STA. 19+44.76
70.22' RT RTE. CC ℄
42" FES



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DISTRICT: SW | SHEET NO.: 164
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.
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BRIDGE NO.

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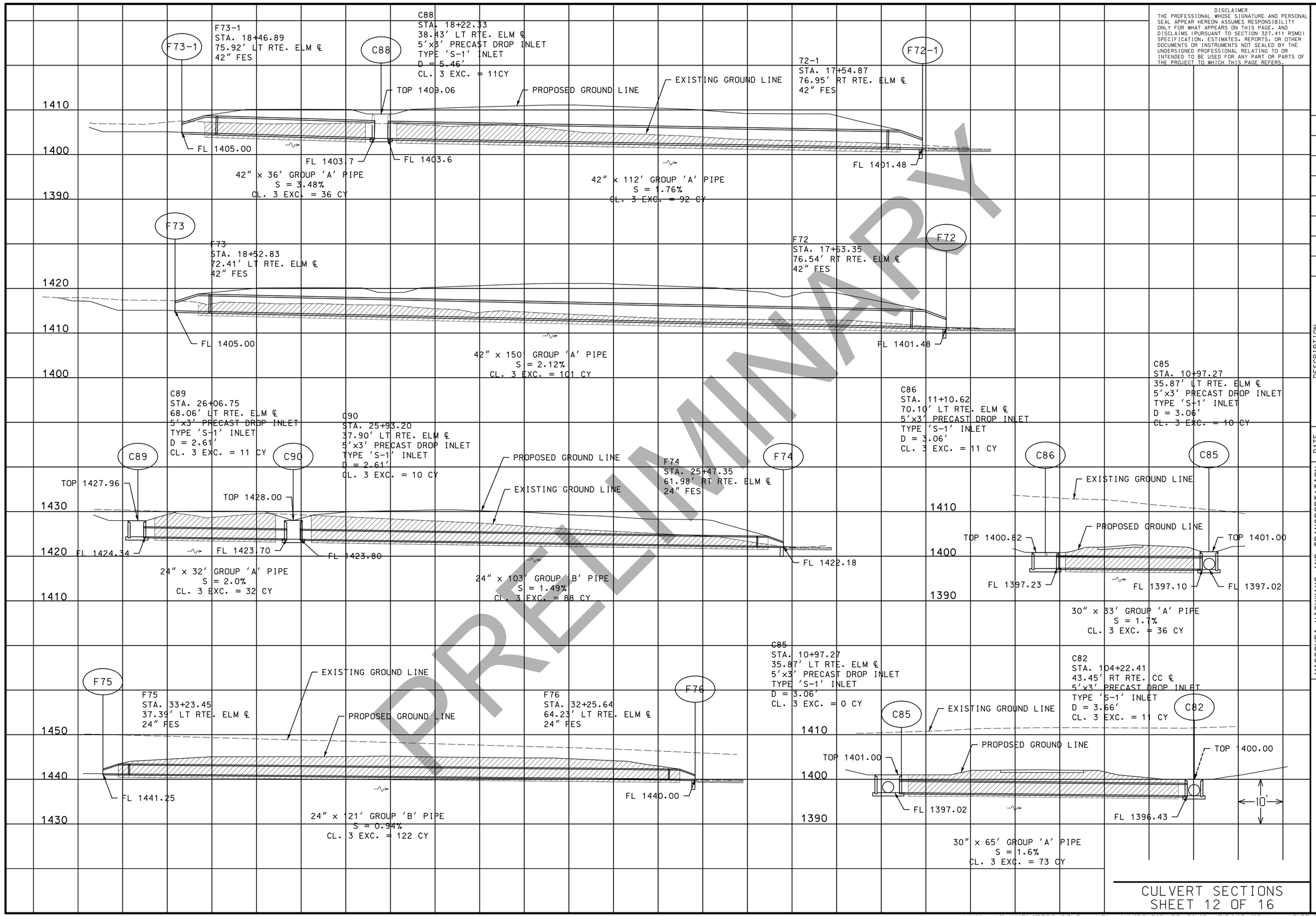
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10'

CULVERT SECTIONS
SHEET 11 OF 16



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ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
SW	165

COUNTY
WEBSTER

JOB NO.
J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

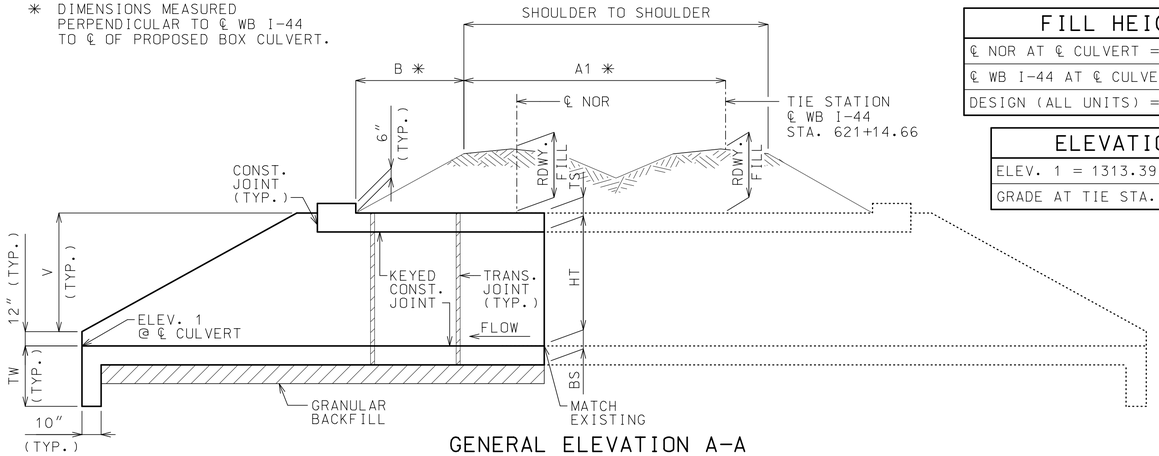
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CULVERT SECTIONS
SHEET 12 OF 16

SINGLE (8′x7′) CONCRETE BOX CULVERT



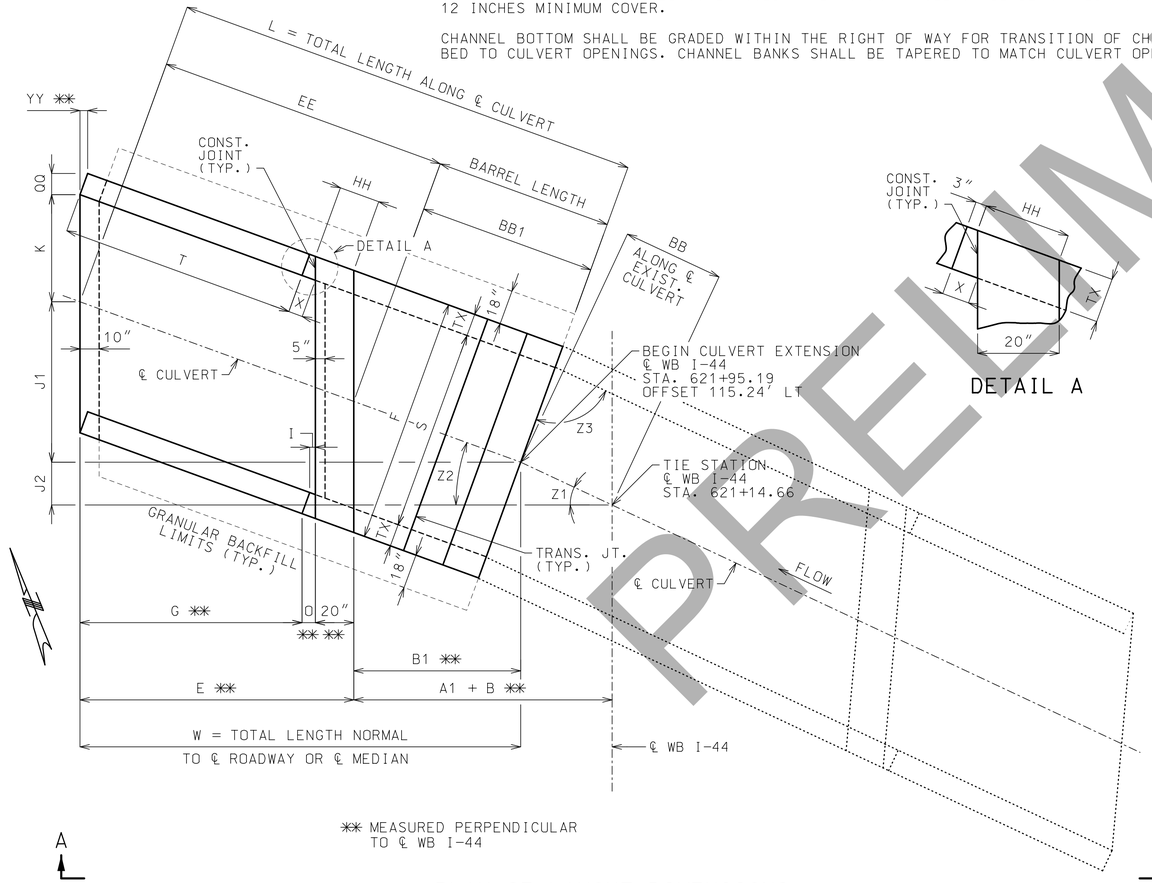
GENERAL ELEVATION A–A

CONSTRUCTION JOINT KEY NOT SHOWN FOR CLARITY, SEE STANDARD PLANS FOR DETAILS

IF UNSUITABLE MATERIAL IS ENCOUNTERED, EXCAVATION OF UNSUITABLE MATERIAL AND FURNISHING AND PLACING OF GRANULAR BACKFILL SHALL BE IN ACCORDANCE WITH SEC 206.

IF ANY PART OF THE BARREL IS EXPOSED, THE ROADWAY FILL SHALL BE WARPED TO PROVIDE 12 INCHES MINIMUM COVER.

CHANNEL BOTTOM SHALL BE GRADED WITHIN THE RIGHT OF WAY FOR TRANSITION OF CHANNEL BED TO CULVERT OPENINGS. CHANNEL BANKS SHALL BE TAPERED TO MATCH CULVERT OPENINGS.



PLAN OF LAYOUT DIMENSIONS

DETAIL A

FILL HEIGHTS
℄ NOR AT ℄ CULVERT = 21.51 FT
℄ WB I-44 AT ℄ CULVERT = 21.06 FT
DESIGN (ALL UNITS) = 22 FT

ELEVATIONS
ELEV. 1 = 1313.39
GRADE AT TIE STA. = 1346.92

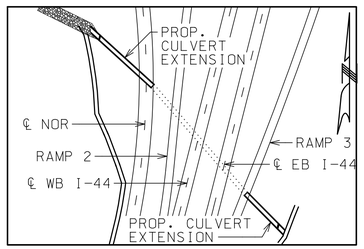
ESTIMATED QUANTITIES		TOTAL
CLASS 4 EXCAVATION	CU. YARD	260
CLASS B-1 CONCRETE (CULVERTS)	CU. YARD	167.1
REINFORCING STEEL (CULVERTS)	POUND	29,260

LAYOUT DIMENSIONS

VARIABLE	EQUATION	DIM.	VARIABLE	EQUATION	DIM.
S	---	8′-0″	O	I + YY	6 7/8″
HT	---	7′-0″	T	G(SEC Z2)	15′-8 1/4″
TS	---	11″	V	HT + TS − 12″	6′-11″
BS	---	12″	W	B1 + E	144′-0 1/8″
TX	---	9″	X	3″ + TX(TAN Z2)	7 7/8″
A1	---	147′-1 3/8″	Z1	SKEW ANGLE (EXIST. BOX)	34°56′50″
B	---	96′-0 3/4″	Z2	SKEW ANGLE (PROP. EXT.)	28°9′58″
B1	---	127′-11 1/4″	Z3	SKEW ANGLE (CUT LINE)	83°13′8″
E	G + O + 20″	16′-0 7/8″	BB	---	140′-7 1/4″
F	S + 2TX	9′-6″	BB1	---	145′-1 3/8″
G	2V	13′-10″	EE	E(SEC Z2)	18′-2 3/4″
I	3″(COS Z2)	2 5/8″	HH	20″(SEC Z2)	22 5/8″
J1	(W)(TAN Z2)	77′-1 1/4″	QQ	TX(COS Z2)	7 7/8″
J2	(A1 + B − B1)(TAN Z1)	80′-6 3/8″	YY	TX(SIN Z2)	4 1/4″
K	S(SEC Z2)/2	4′-6 1/2″	TW	MAX {3′-4″ OR (BS+12″)}	3′-4″
L	EE + BB1	163′-4 1/4″			

FILL HEIGHTS ARE MEASURED FROM THE TOP OF THE TOP SLAB TO THE TOP OF THE EARTH FILL OR ROADWAY.

HYDROLOGIC DATA
DRAINAGE AREA = 0.6 SQ. MILES
DESIGN FLOOD FREQUENCY = 100 YEARS
DESIGN FLOOD DISCHARGE = 990 CFS
DESIGN FLOOD (D.F.) ELEVATION = 1337.7
BASE FLOOD (100 YEAR)
ESTIMATED BACKWATER = 1.82 FT
OUTLET VELOCITY = 24.6 FT/S
ROADWAY OVERTOPPING
OVERTOPPING FLOOD DISCHARGE = N/A
OVERTOPPING FLOOD FREQUENCY = >500 YEARS
>500 FLOOD ELEVATION = 1346.6



LOCATION SKETCH

GENERAL NOTES:

DESIGN SPECIFICATIONS:
2010 AASHTO LRFD BRIDGE DESIGN SPECFICATIONS AND 2010 INTERIM REVISIONS

DESIGN LOADING:
VEHICULAR = HL-93 MINUS LANE LOAD, EARTH = 120 LB/CF
EQUIVALENT FLUID PRESSURE = 30 LB/CF (MIN.), 60 LB/CF (MAX.)

DESIGN UNIT STRESSES:
CLASS B-1 CONCRETE (BOX CULVERT) f′c = 4,000 PSI
REINFORCING STEEL (GRADE 60) fy = 60,000 PSI

MISCELLANEOUS:
DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

WHEN ALTERNATE PRECAST CONCRETE BOX CULVERT SECTIONS ARE USED, THE MINIMUM DISTANCE FROM INSIDE FACE OF HEADWALLS TO PRECAST SECTIONS MEASURED ALONG THE SHORTEST WALL SHALL BE 3 FEET. REINFORCEMENT AND DIMENSIONS FOR WINGS AND HEADWALLS SHALL BE IN ACCORDANCE WITH MISSOURI STANDARD PLANS.

MODOT CONSTRUCTION PERSONNEL WILL INDICATE THE TYPE OF BOX CULVERT CONSTRUCTED:
☐ PRECAST CONCRETE BOX USED
☐ CAST-IN-PLACE CONCRETE BOX USED

TRAFFIC HANDLING:
SEE TRAFFIC CONTROL PLANS.

B.M.
CONTROL POINT #21
N:558060.8102 E:1521693.0123
EL. 1364.24
STA. 632+35.09, 93.70′ LT.
(WEST BOUND I-44)
MAG NAIL W/PLASTIC SHINER IN ASPHALT

STD. 703.12
STD. 703.17
STD. 703.37
STD. 703.38

CULVERT: I-44
TIE STATION 621+14.66

CULVERT SECTIONS
SHEET 13 OF 16

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

DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 211
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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

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PRELIMINARY

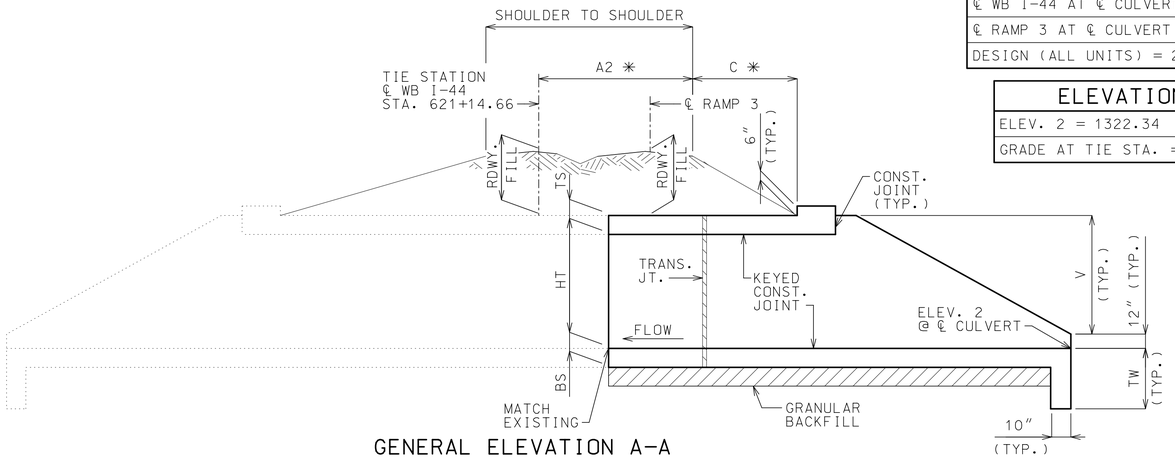
SINGLE (8'x7') CONCRETE BOX CULVERT

✳ DIMENSIONS MEASURED PERPENDICULAR TO ℄ WB I-44 TO ℄ OF PROPOSED BOX CULVERT.

FILL HEIGHTS
℄ WB I-44 AT ℄ CULVERT = 21.07 FT
℄ RAMP 3 AT ℄ CULVERT = 20.93 FT
DESIGN (ALL UNITS) = 22 FT

ELEVATIONS
ELEV. 2 = 1322.34
GRADE AT TIE STA. = 1346.92

ESTIMATED QUANTITIES		TOTAL
CLASS 4 EXCAVATION	CU. YARD	185
CLASS B-1 CONCRETE (CULVERTS)	CU. YARD	106.2
REINFORCING STEEL (CULVERTS)	POUND	18,440



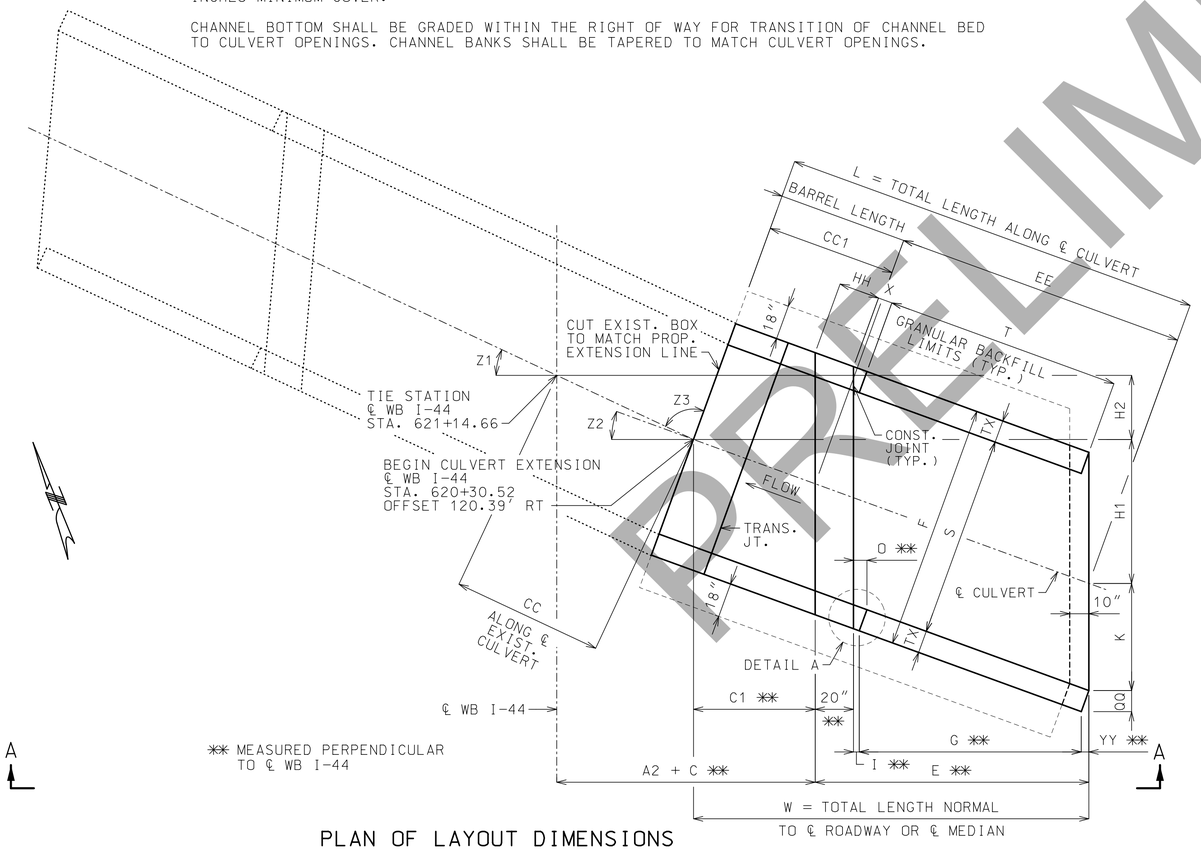
GENERAL ELEVATION A-A

CONSTRUCTION JOINT KEY NOT SHOWN FOR CLARITY, SEE STANDARD PLANS FOR DETAILS.

IF UNSUITABLE MATERIAL IS ENCOUNTERED, EXCAVATION OF UNSUITABLE MATERIAL AND FURNISHING AND PLACING OF GRANULAR BACKFILL SHALL BE IN ACCORDANCE WITH SEC 206.

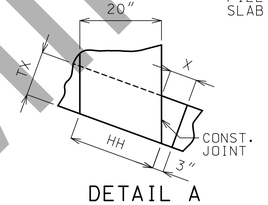
IF ANY PART OF THE BARREL IS EXPOSED, THE ROADWAY FILL SHALL BE WARPED TO PROVIDE 12 INCHES MINIMUM COVER.

CHANNEL BOTTOM SHALL BE GRADED WITHIN THE RIGHT OF WAY FOR TRANSITION OF CHANNEL BED TO CULVERT OPENINGS. CHANNEL BANKS SHALL BE TAPERED TO MATCH CULVERT OPENINGS.



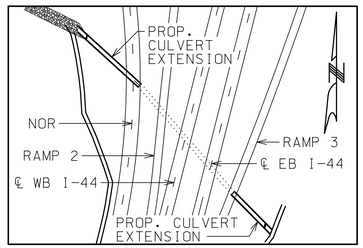
✳✳ MEASURED PERPENDICULAR TO ℄ WB I-44

PLAN OF LAYOUT DIMENSIONS



DETAIL A

HYDROLOGIC DATA
DRAINAGE AREA = 0.6 SQ. MILES
DESIGN FLOOD FREQUENCY = 100 YEARS
DESIGN FLOOD DISCHARGE = 990 CFS
DESIGN FLOOD (D.F.) ELEVATION = 1337.7
BASE FLOOD (100 YEAR)
ESTIMATED BACKWATER = 1.82 FT
OUTLET VELOCITY = 24.6 FT/S
ROADWAY OVERTOPPING
OVERTOPPING FLOOD DISCHARGE = N/A
OVERTOPPING FLOOD FREQUENCY = >500 YEARS
>500 FLOOD ELEVATION = 1346.6



LOCATION SKETCH

LAYOUT DIMENSIONS

VARIABLE	EQUATION	DIM.	VARIABLE	EQUATION	DIM.
S	---	8'-0"	O	I + YY	7 1/4"
HT	---	7'-0"	T	G(SEC Z2)	16'-2"
TS	---	11"	V	HT + TS - 12"	6'-11"
BS	---	12"	W	C1 + E	90'-8 1/2"
TX	---	9"	X	3" + TX(TAN Z2)	8 1/2"
A2	---	133'-10"	Z1	SKEW ANGLE (EXIST. BOX)	34°56'50"
C	---	61'-2"	Z2	SKEW ANGLE (PROP. EXT.)	31°8'49"
C1	---	74'-7 1/4"	Z3	SKEW ANGLE (CUT LINE)	86°11'59"
E	G + O + 20"	16'-1 1/4"	CC	---	146'-10 1/2"
F	S + 2TX	9'-6"	CC1	---	87'-2 1/8"
G	2V	13'-10"	EE	E(SEC Z2)	18'-9 3/4"
H1	(W)(TAN Z2)	54'-9 7/8"	HH	20"(SEC Z2)	23 3/8"
H2	(A2 + C - C1)(TAN Z1)	84'-1 5/8"	QQ	TX(COS Z2)	7 3/4"
I	3"(COS Z2)	2 5/8"	YY	TX(SIN Z2)	4 5/8"
K	S(SEC Z2)/2	4'-8 1/8"	TW	MAX {3'-4" OR (BS+12")}	3'-4"
L	EE + CC1	105'-11 7/8"			

FILL HEIGHTS ARE MEASURED FROM THE TOP OF THE TOP SLAB TO THE TOP OF THE EARTH FILL OR ROADWAY.

GENERAL NOTES:

DESIGN SPECIFICATIONS:
2010 AASHTO LRFD BRIDGE DESIGN SPECFICATIONS AND 2010 INTERIM REVISIONS

DESIGN LOADING:
VEHICULAR = HL-93 MINUS LANE LOAD, EARTH = 120 LB/CF
EQUIVALENT FLUID PRESSURE = 30 LB/CF (MIN.), 60 LB/CF (MAX.)

DESIGN UNIT STRESSES:
CLASS B-1 CONCRETE (BOX CULVERT) f'c = 4,000 PSI
REINFORCING STEEL (GRADE 60) fy = 60,000 PSI

MISCELLANEOUS:
DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

WHEN ALTERNATE PRECAST CONCRETE BOX CULVERT SECTIONS ARE USED, THE MINIMUM DISTANCE FROM INSIDE FACE OF HEADWALLS TO PRECAST SECTIONS MEASURED ALONG THE SHORTEST WALL SHALL BE 3 FEET. REINFORCEMENT AND DIMENSIONS FOR WINGS AND HEADWALLS SHALL BE IN ACCORDANCE WITH MISSOURI STANDARD PLANS.

MODOT CONSTRUCTION PERSONNEL WILL INDICATE THE TYPE OF BOX CULVERT CONSTRUCTED:
☐ PRECAST CONCRETE BOX USED
☐ CAST-IN-PLACE CONCRETE BOX USED

TRAFFIC HANDLING:
SEE TRAFFIC CONTROL PLANS.

B.M.
CONTROL POINT #21
N:558060.8102 E:1521693.0123
EL. 1364.24
STA. 632+35.09, 93.70' LT.
(WEST BOUND I-44)
MAG NAIL W/PLASTIC SHINER IN ASPHALT

STD. 703.12
STD. 703.17
STD. 703.37
STD. 703.38

CULVERT: I-44
TIE STATION 621+14.66

CULVERT SECTIONS
SHEET 14 OF 16

PRELIMINARY

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

DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 212
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

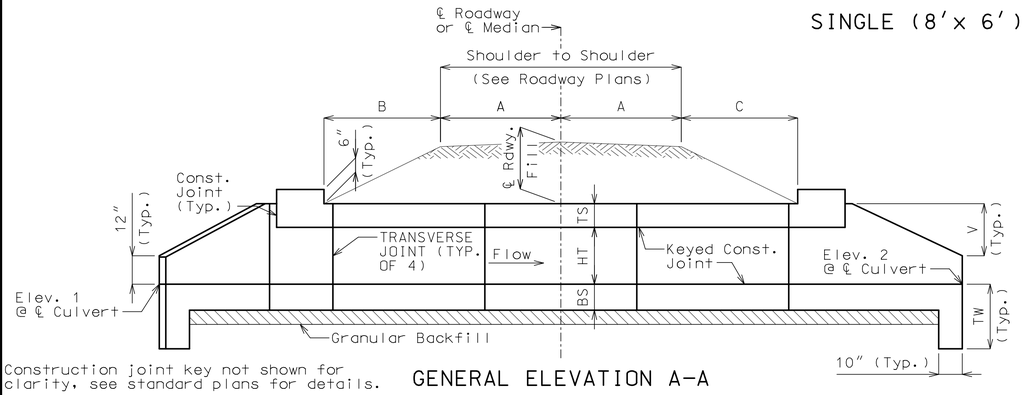
DESCRIPTION | DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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SPRINGFIELD, MO 65807 (417) 869-6009
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SINGLE (8′x 6′) CONCRETE BOX CULVERT

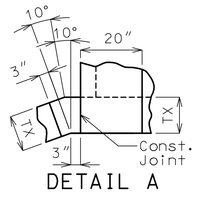


GENERAL ELEVATION A–A

Construction joint key not shown for clarity, see standard plans for details.

If any part of the barrel is exposed, the roadway fill shall be warped to provide 12 inches minimum cover. (Roadway Item)

If unsuitable material is encountered, excavation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.



DETAIL A

SEE STANDARD PLANS FOR SPACING OF REINFORCEMENT & ADDITIONAL DETAILS.

Layout Dimensions

Var.	Equation	Dim.	Var.	Equation	Dim.	Var.	Equation	Dim.
S	– – –	8′-0″	C	– – –	49′-1″	Q	TX(cos 20°)	0′-8″
HT	– – –	6′-0″	D	R + M + N + 20″	13′-9″	R	P(cos 20°)	11′-4″
TS	SEE MEMBER THICKNESS TABLE	0′-8″	E	G + 23″	13′-3″	U	(R + M)(tan 20°)	4′-3″
BS	SEE MEMBER THICKNESS TABLE	0′-9″	F	S + 2TX	9′-4″	V	HT + TS – 12″	5′-8″
TX	SEE MEMBER THICKNESS TABLE	0′-8″	G	2V	11′-4″	W	2A + B + C + D + E	203′-1″
A	– – –	15′-6″	M	N(cos 20°)	0′-4″	Y	TX(sin 20°)	0′-3″
B	– – –	96′-0″	N	3″ + TX(tan 10°)	0′-4″	KK	S/2 + U	8′-3″
			P	2V(sec 20°)	12′-1″	TW	Max{3′-4″ or (BS + 12″)}	3′-4″

Hydrologic Data

Drainage Area = 0.23 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 365 cfs
Design Flood (D.F.) Elevation = 1391.56
Base Flood (100-year)
Base Flood Elevation = 1393.11
Base Flood Discharge = 420 cfs
Estimated Backwater = 1.61 ft
Outlet Velocity = 12.90 ft/s
Roadway Overtopping
Overtopping Flood Discharge = 880 cfs
Overtopping Flood Frequency = >100 years
>100 Flood Elevation = 1401.10

Elevations

Upstream (Elev. 1) = 1385.54
Downstream (Elev. 2) = 1384.27
Rr. Gr. at Tie Sta. = 1402.28

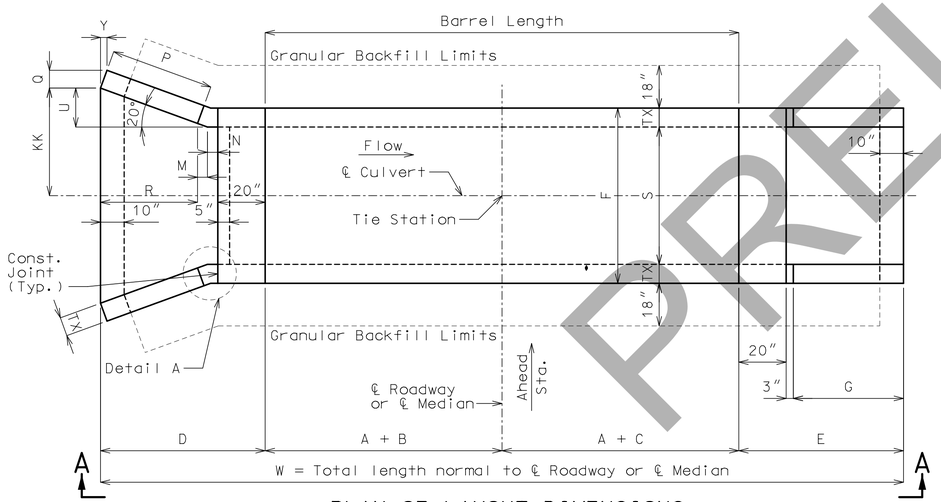
Fill Heights

℄ Rdwy at ℄ Culvert = 10.70 ft
Design (All units) = 12 ft

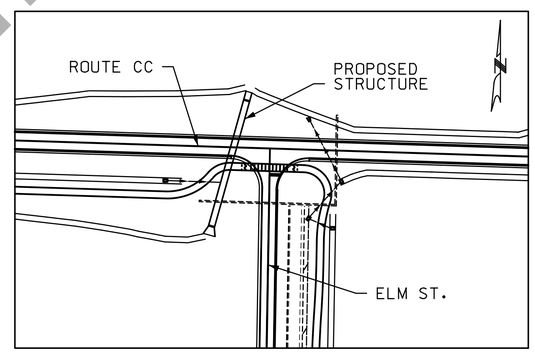
Dimensions are based on end units.
Fill heights are measured from the top of top slab to the top of earth fill or roadway.

Estimated Quantities

		TOTAL
Class 4 Excavation	cu. yard	194
Class B-1 Concrete (Culverts-Bridge)	cu. yard	155.9
Reinforcing Steel (Culverts-Bridge)	pound	28,590



PLAN OF LAYOUT DIMENSIONS



LOCATION SKETCH

General Notes:

Design Specifications:
2010 AASHTO LRFD Bridge Design Specifications and 2010 Interim Revisions

Design Loading:
Vehicular = HL-93 minus lane load, Earth = 120 lb/cf
Equivalent Fluid Pressure = 30 lb/cf (min.), 60 lb/cf (max.)

Design Unit Stresses:
Class B-1 Concrete (Box Culvert) f′c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

Miscellaneous:
MoDOT Construction personnel will indicate the type of box culvert constructed:
☐ Precast Concrete Box used
☐ Cast-in-Place Concrete Box used

When alternate precast concrete box sections are used, the minimum distance from inside face of headwalls to precast sections measured along the shortest wall shall be 3 feet. Reinforcement and dimensions for wings and headwalls shall be in accordance with Missouri Standard Plans.

Channel bottom shall be graded within the right of way for transition of channel bed to culvert openings. Channel banks shall be tapered to match culvert openings. (Roadway Item)

Traffic Handling:
Structure to be closed during construction. Traffic to be maintained on detour during construction. See roadway plans for traffic control.

B.M.
Control Point #20 buried rebar South of South Outer Road and East of Route MM: N 1087913.669 E 629341.047, Elev. 806.741

STD. 703.11
STD. 703.16
STD. 703.17
STD. 703.37
STD. 706.35

CULVERT–BRIDGE: ROUTE CC
TIE STA. 102+68.99

CULVERT SECTIONS
SHEET 15 OF 16

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

PRELIMINARY

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THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

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DATE PREPARED: 3/11/2019
ROUTE: I-44 | STATE: MO
DISTRICT: SW | SHEET NO.: 213
COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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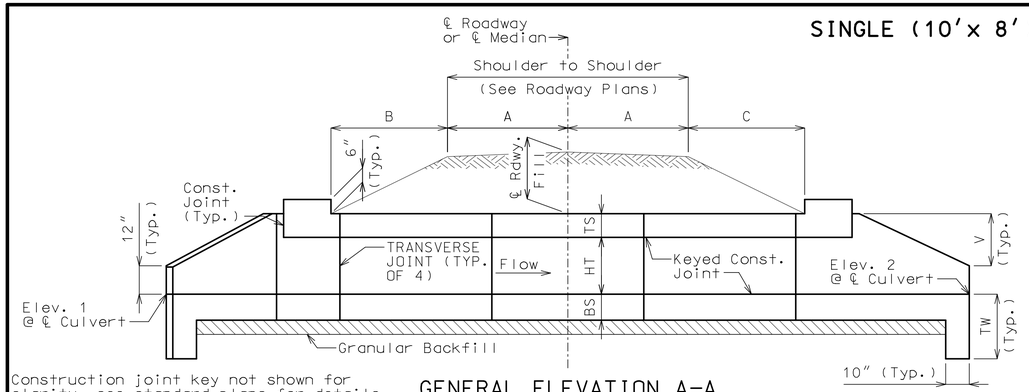
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SPRINGFIELD, MO 65807 (417) 869-6009
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SINGLE (10′× 8′) CONCRETE BOX CULVERT

SEE STANDARD PLANS FOR SPACING OF REINFORCEMENT & ADDITIONAL DETAILS.

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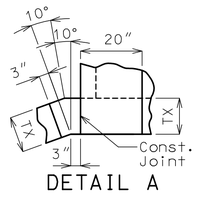


GENERAL ELEVATION A–A

Construction joint key not shown for clarity, see standard plans for details.

If any part of the barrel is exposed, the roadway fill shall be warped to provide 12 inches minimum cover. (Roadway Item)

If unsuitable material is encountered, excavation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.



DETAIL A

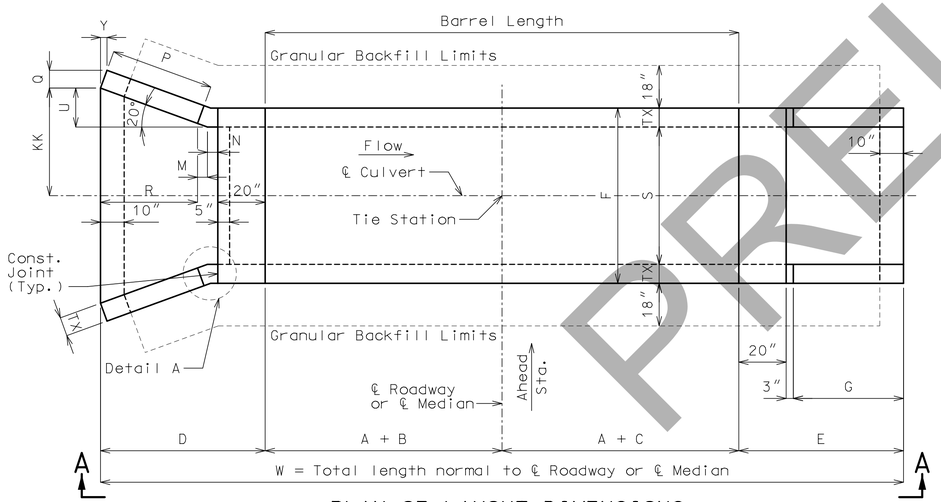
Layout Dimensions								
Var.	Equation	Dim.	Var.	Equation	Dim.	Var.	Equation	Dim.
S	– – –	10′-0″	C	– – –	22′-8″	Q	TX(cos 20°)	0′-8″
HT	– – –	8′-0″	D	R + M + N + 20″	18′-4″	R	P(cos 20°)	16′-0″
TS	SEE MEMBER THICKNESS TABLE	1′-0″	E	G + 23″	17′-11″	U	(R + M)(tan 20°)	5′-11″
BS	SEE MEMBER THICKNESS TABLE	0′-11″	F	S + 2TX	11′-4″	V	HT + TS – 12″	8′-0″
TX	SEE MEMBER THICKNESS TABLE	0′-8″	G	2V	16′-0″	W	2A + B + C + D + E	107′-3″
A	– – –	14′-0″	M	N(cos 20°)	0′-4″	Y	TX(sin 20°)	0′-3″
B	– – –	20′-4″	N	3″ + TX(tan 10°)	0′-4″	KK	S/2 + U	10′-11″
			P	2V(sec 20°)	17′-0″	TW	Max{3′-4″ or (BS + 12″)}	3′-4″

Elevations
Upstream (Elev. 1) = 1427.66
Downstream (Elev. 2) = 1425.92
Pr. Gr. at Tie Sta. = 1426.81

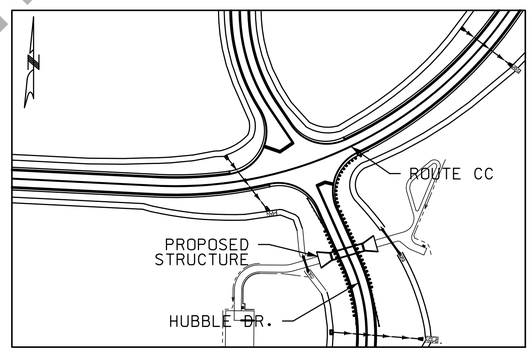
Fill Heights
℄ Rdwy at ℄ Culvert = 2.17 ft
Design (All units) = 2 ft

Dimensions are based on end units.
Fill heights are measured from the top of top slab to the top of earth fill or roadway.

Estimated Quantities		TOTAL
Class 4 Excavation	cu. yard	145
Class B-1 Concrete (Culverts-Bridge)	cu. yard	116.9
Reinforcing Steel (Culverts-Bridge)	pound	20,260



PLAN OF LAYOUT DIMENSIONS



LOCATION SKETCH

General Notes:

Design Specifications:
2010 AASHTO LRFD Bridge Design Specifications and 2010 Interim Revisions

Design Loading:
Vehicular = HL-93 minus lane load, Earth = 120 lb/cf
Equivalent Fluid Pressure = 30 lb/cf (min.), 60 lb/cf (max.)

Design Unit Stresses:
Class B-1 Concrete (Box Culvert) f′c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

Miscellaneous:
MoDOT Construction personnel will indicate the type of box culvert constructed:
☐ Precast Concrete Box used
☐ Cast-in-Place Concrete Box used

When alternate precast concrete box sections are used, the minimum distance from inside face of headwalls to precast sections measured along the shortest wall shall be 3 feet. Reinforcement and dimensions for wings and headwalls shall be in accordance with Missouri Standard Plans.

Channel bottom shall be graded within the right of way for transition of channel bed to culvert openings. Channel banks shall be tapered to match culvert openings. (Roadway Item)

Traffic Handling:
Structure to be closed during construction. Traffic to be maintained on detour during construction. See roadway plans for traffic control.

B.M.
Control Point #20 buried rebar South of South Outer Road and East of Route MM: N 1087913.669 E 629341.047, Elev. 806.741

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

CULVERT–BRIDGE: HUBBLE DR.
TIE STA. 21+55.93

STD. 703.11
STD. 703.16
STD. 703.17
STD. 703.37
STD. 706.35

CULVERT SECTIONS
SHEET 16 OF 16

PRELIMINARY

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

DATE PREPARED 3/11/2019
ROUTE I-44 | STATE MO
DISTRICT SW | SHEET NO. 214
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

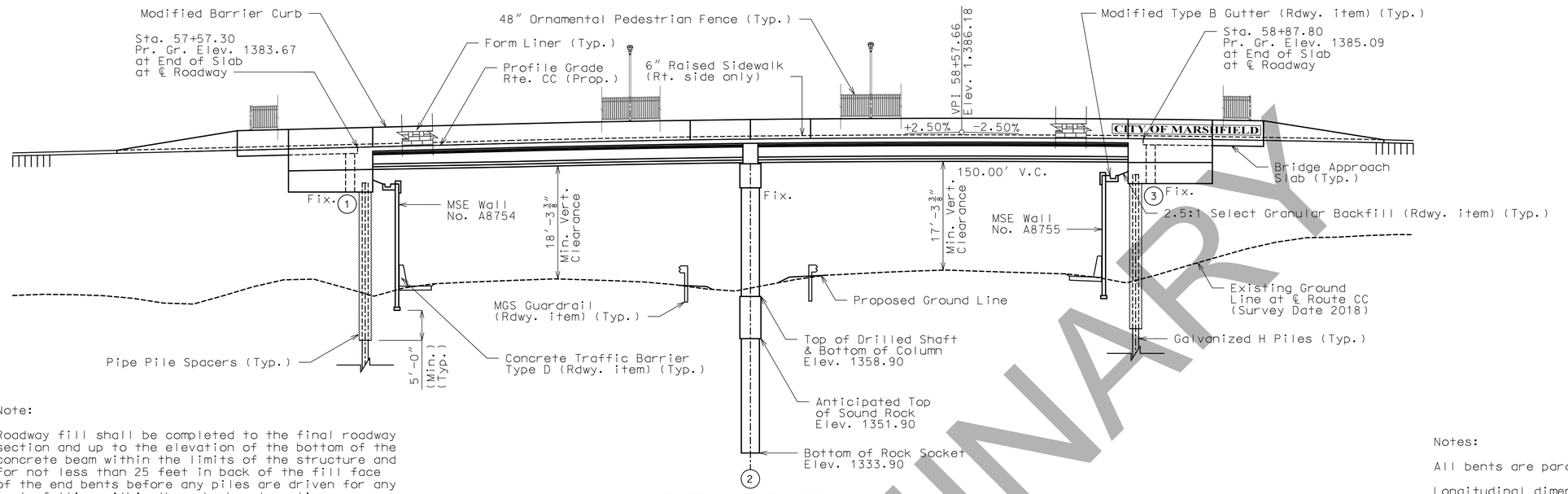
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SEC/SUR 34 TWP 31N RGE 18W

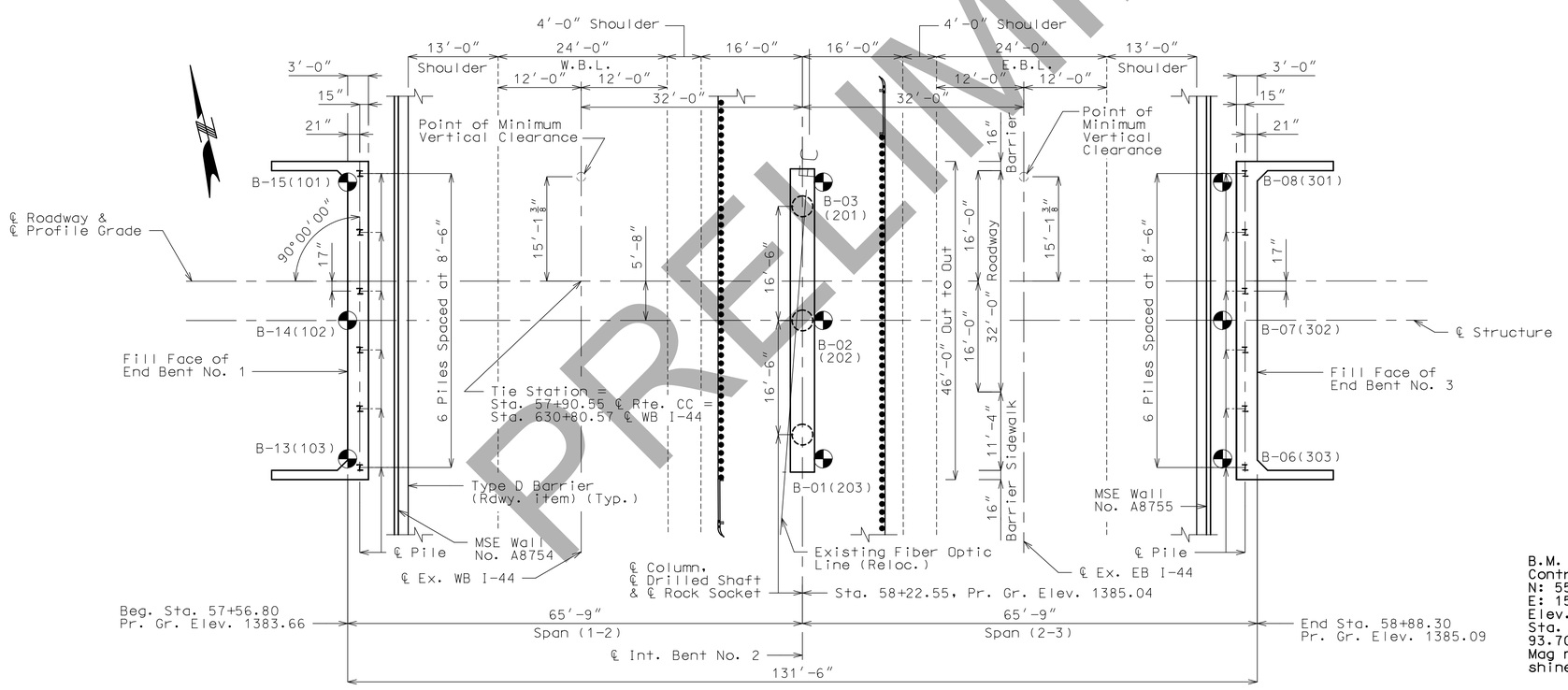
(64′-64′) PRESTRESSED CONCRETE NU-GIRDER SPANS



GENERAL ELEVATION

Note:

Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.



PLAN

Notes:

All bents are parallel.

Longitudinal dimensions are measured horizontal.

For General Notes, Estimated Quantities, Location Sketch, and Foundation Data, see Sheet No. 2.

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet(s) No. 29 thru 33 or will be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

B.M.	B.M.
Control Point #21	Control Point #23
N: 558060.8102	N: 557808.1075
E: 1521693.0123	E: 15236070.1773
Elev. 1364.24	Elev. 1418.41
Sta. 632+35.09	Sta. 633+27.19
93.70′ Lt. (WB I-44)	1239.43′ Rt. (EB I-44)
Mag nail w/ plastic shiner in asphalt	Mag nail w/ plastic shiner in asphalt

GENERAL PLAN AND ELEVATION

BRIDGE: ROUTE CC OVER I-44

ROUTE CC OVER I-44
ABOUT 2 MILES NORTHEAST OF ROUTE 38
TIE STATION 57+90.55 ROUTE CC

STD. 609.00
STD. 617.10
STD. 706.35

Designed Sept 2018
Detailed Dec 2018
Checked Dec 2018

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

Sheet No. 1 of 33

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DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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PRELIMINARY

L:\MarshfieldMO\17322-03\Draw\Sheets\Structures\A8753 - RTE CC OVER I-44\B_A8753_001_J8I0445_GENERAL PLAN AND ELEVATION.dgn 10:08:06 AM 1/30/2019

Estimated Quantities

Item		Substr.	Superstr.	Total
Bridge Approach Slab (Minor Road)	sq. yard		205	205
Ornamental Pedestrian Fence (48 in.)	linear foot		332	332
Drilled Shafts (4 ft. 0 in. Dia.)	linear foot	21.0		21.0
Rock Sockets (3 ft. 6 in. Dia.)	linear foot	54.0		54.0
Video Camera Inspection	each	3		3
Foundation Inspection Holes	linear foot	84.0		84.0
Sonic Logging Testing	each	3		3
Galvanized Structural Steel Piles (10 in.)	linear foot	348		348
Dynamic Pile Testing	each	2		2
Pile Point Reinforcement	each	12		12
Class B Concrete (Substructure)	cu. yard	78.2		78.2
Aesthetic Concrete Stain	lump sum		1	1
✳ Modified Barrier Curb	linear foot		341	341
Slab on Concrete NU-Girder	sq. yard		667	667
Sidewalk (Bridges)	sq. foot		1,933	1,933
Form Liners	sq. yard		129	129
Stamped Concrete Pattern	sq. foot		484	484
NU 35, Prestressed Concrete NU-Girder	linear foot		641	641
Conduit System on Structure	lump sum		1	1
Reinforcing Steel (Epoxy Coated)	pound	18,610		18,610
Vertical Drain at End Bents	each	2		2
Laminated Neoprene Bearing Pad	each		10	10
Laminated Neoprene Bearing Pad (Tapered)	each		10	10
Pipe Pile Spacers	each	12		12
Dimensional Letter Signage	lump sum		1	1

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

✳ Modified Barrier Curb shall be cast-in-place.

All concrete and reinforcing steel in sidewalk will be considered completely covered by the contract unit price for Sidewalk (Bridges).

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

Estimated Quantities for Slab on Concrete NU-Girder

Item		Total
Class B-2 Concrete	cu. yard	193.5
Reinforcing Steel (Epoxy Coated)	pound	51,230

Notes:

The table of Estimated Quantities for Slab on Concrete NU-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversly from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Slab shall be cast-in-place with conventional forms or stay-in-place corrugated steel forms between the exterior and interior girder under the sidewalk. Precast prestressed panels will not be permitted between these girders. Prestressed panels are permitted between all other girders.

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of girder flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the girder flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for girder loading.

Class B-2 Concrete quantity is based on minimum top flange thickness and minimum joint material thickness.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Concrete NU-Girder.

General Notes:

Design Specifications:

2012 AASHTO LRFD Bridge Design Specifications
(6TH Ed.) and 2013 Interim Revisions
Seismic Design Category = A

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
Superstructure: Simply-Supported, Non-Composite for dead load.
Continuous Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure, except Drilled Shafts & Rock Sockets)	f'c = 3,000 psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed NU Girders and Modified Barrier Curb)	f'c = 4,000 psi
Class B-1 Concrete (Modified Barrier Curb)	f'c = 4,000 psi
Reinforcing Steel (Grade 60)	fy = 60,000 psi
Steel Pile (ASTM A709 Grade 50)	fy = 50,000 psi

For precast prestressed NU Girder stresses, see Sheets No. 12 & 13.

For precast prestressed panel stresses, see Sheet No. 15.

Neoprene Pads:

Laminated Neoprene Bearing Pads (Tapered) shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown

Traffic Handling:

Traffic to be maintained on other routes during construction. See roadway plans for traffic control.

Vertical clearance for Interstate 44 traffic during construction shall be 15'-6" minimum over a 24'-0" wide horizontal opening of the roadway in each direction.

Miscellaneous:

MoDOT Construction personnel will indicate the type of joint filler option used under the precast panels for this structure:

☐ Constant Joint Filler
☐ Variable Joint Filler

MoDOT Construction Personnel: Indicate in field and on bridge plans for future work the exact loaction of buried conduit at ends of bridge that are capped and not immediately used.

Foundation Data

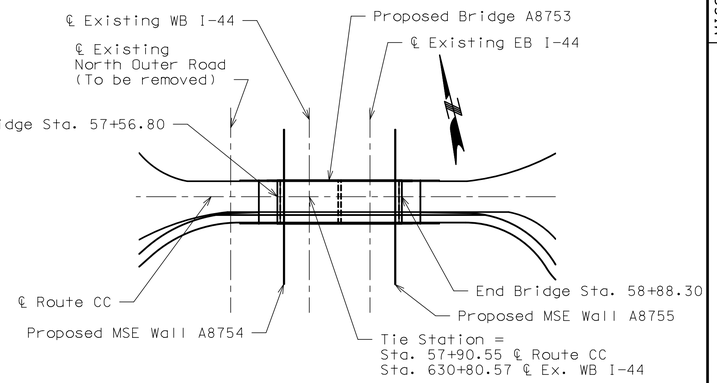
Type	Design Data		Bent Number 1	2	3
Load Bearing Pile	Pile Type and Size		HP 10x57	–	HP 10x57
	Number	ea	6	–	6
	Approximate Length per Each	ft	27	–	31
	Pile Point Reinforcement	ea	All	–	All
	Min. Galvanized Penetration (Elev.)	ft	Full Length	–	Full Length
	Pile Driving Verification Method		DT	–	DT
	Minimum Nominal Axial Compressive Resistance	kip	427	–	427
	Hammer Energy Required	ft-lb	13,700	–	13,700
Rock Socket	Number	ea	–	3	–
	Foundation Material		–	Weak Rock	–
	Elevation Range	ft	–	1351-1325	–
	Design Side Friction Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	–	9.4	–

Notes:

DT = Dynamic Testing

Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor

Minimum Nominal Axial Compressive Resistance (Side Resistance) = Maximum Factored Loads/Resistance Factor



LOCATION SKETCH

PRELIMINARY

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DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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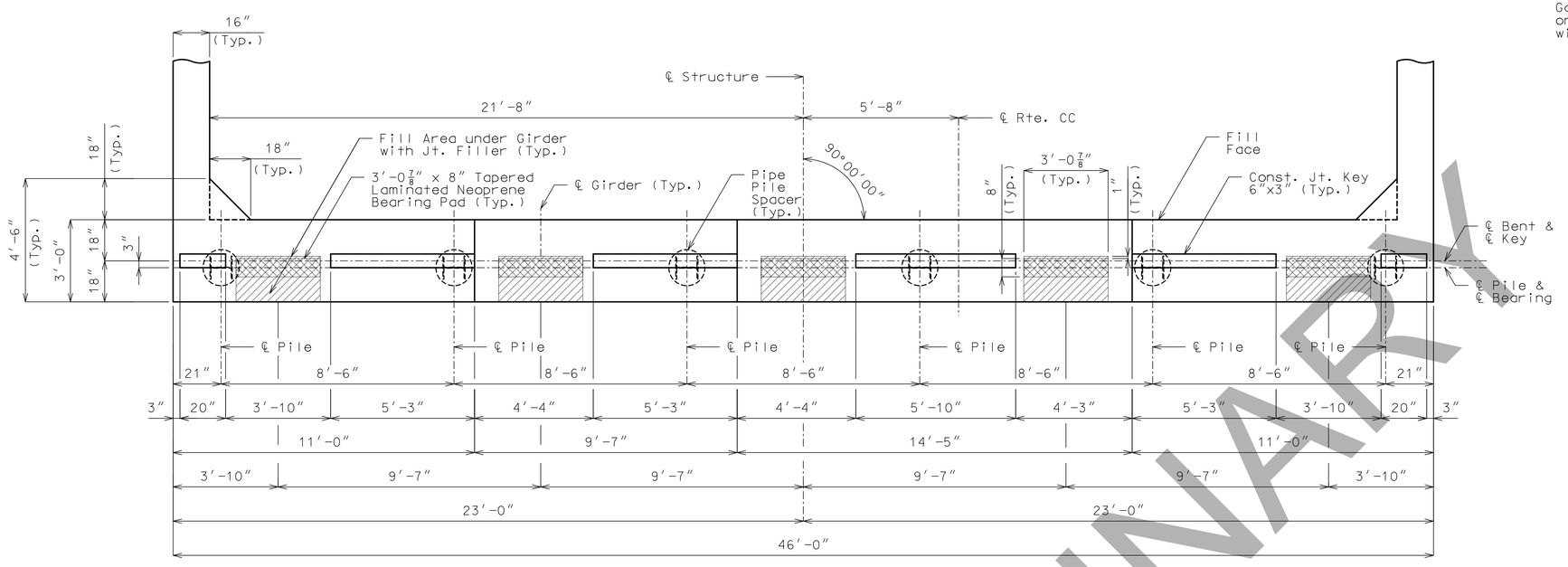
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Detailed Dec 2018
Checked Dec 2018

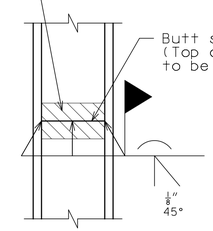
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GENERAL NOTES AND QUANTITIES

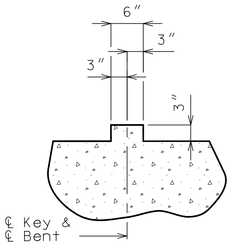


PLAN OF BEAM SHOWING DIMENSIONS

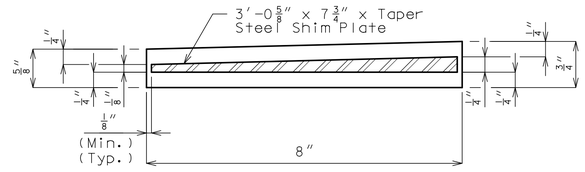
Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.



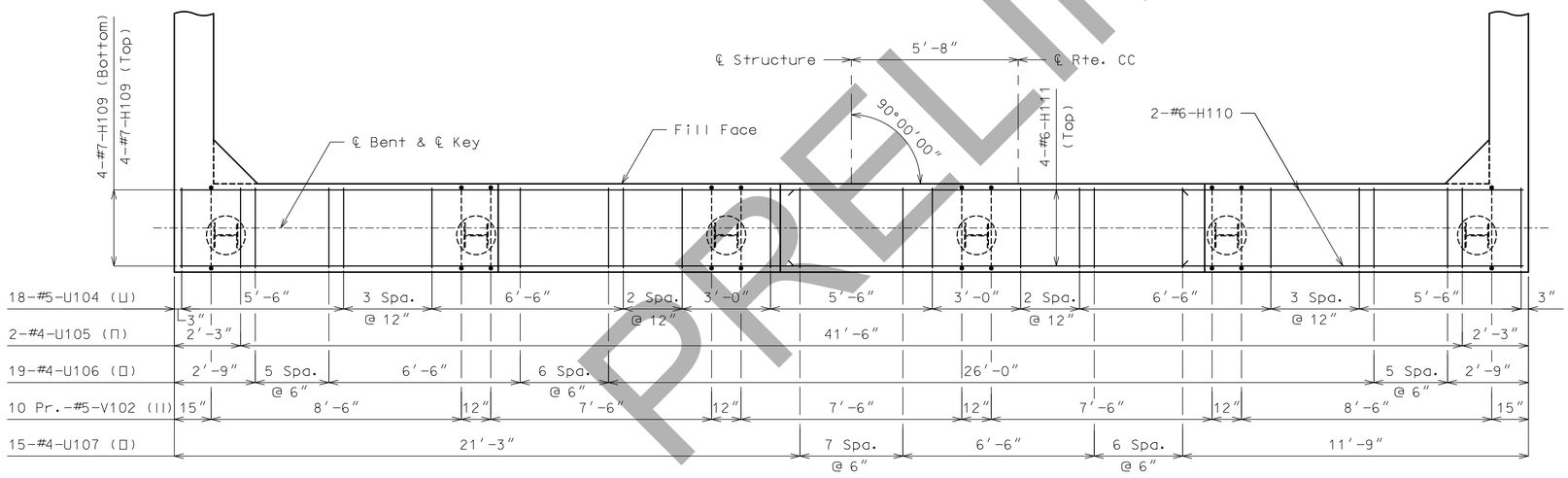
STEEL PILE SPLICE
(If required)



TYPICAL SECTION THRU KEY



DETAIL OF LAMINATED NEOPRENE BEARING PADS (TAPERED) AT END BENT NO. 1



PLAN OF BEAM SHOWING REINFORCEMENT
(Keys not shown for clarity)

Notes:

For Details of End Bent No. 1 not shown, see Sheets No. 4 and 5.

Reinforcing steel shall be shifted to clear piles, U bars shall clear piles by at least 1 1/2".

For Details of Vertical Drain at End Bents, see Sheet No. 6.

PRELIMINARY

DETAILS OF END BENT NO. 1

Detailed Dec 2018
Checked Dec 2018

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

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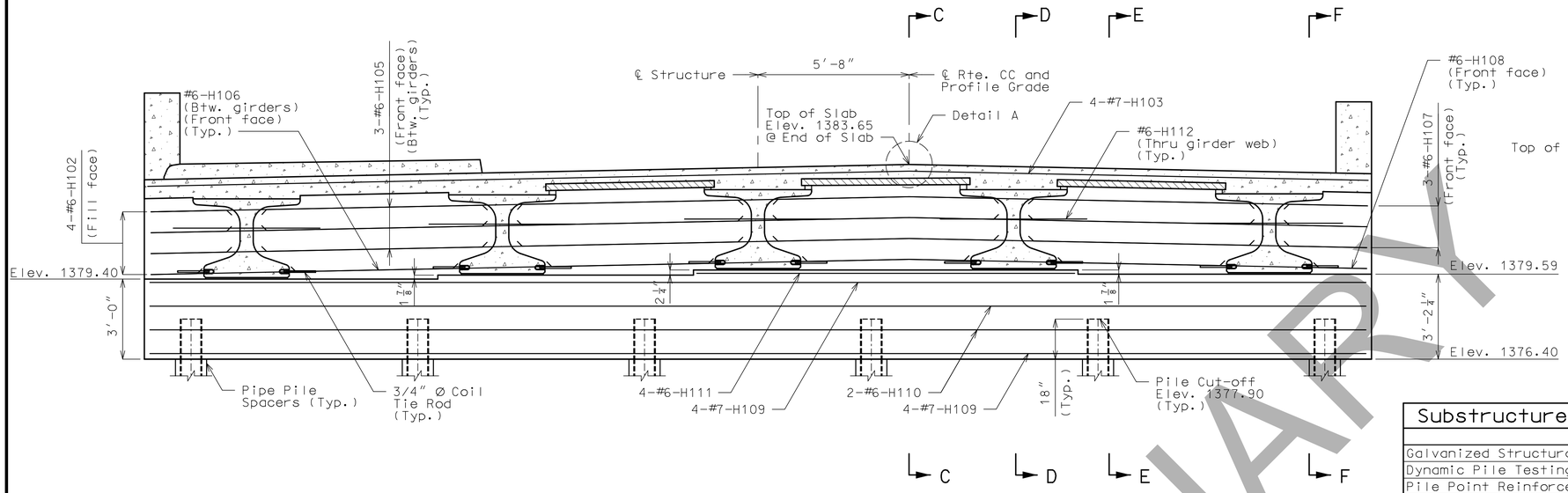
DATE PREPARED	1/30/2019
ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
BR	3
COUNTY	WEBSTER
JOB NO.	J8I0445
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A8753

DESCRIPTION | DATE

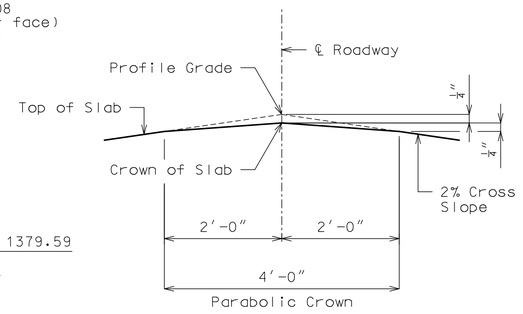
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SECTION NEAR END BENT

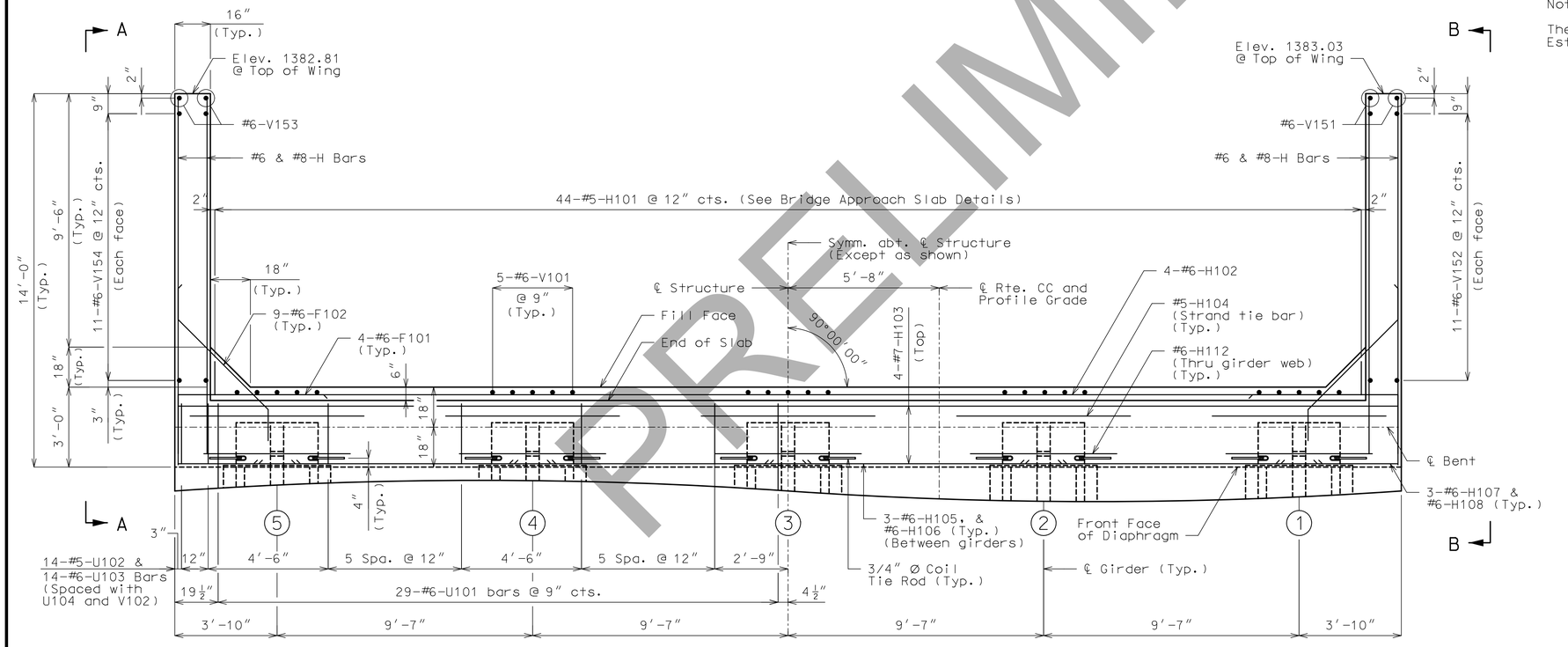


DETAIL A

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Galvanized Structural Steel Pile (10 in.)	linear foot	162
Dynamic Pile Testing	each	1
Pile Point Reinforcement	each	6
Class B Concrete (Substructure)	cu. yard	20.1
Pipe Pile Spacers	each	6

Note:

These quantities are included in the Estimated Quantities table on Sheet No. 2.



PART PLAN

Notes:

Keys not shown in Section Near End Bent for clarity.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

For location of Coil Tie Rods and #5-H104 (Strand Tie Bar), see Sheets No. 12 and 13.

For Details of End Bent No. 1 not shown, see Sheets No. 3 & 5.

For Details of Vertical Drain at End Bents, see Sheet No. 6.

For Sections C-C, D-D, E-E, & F-F, see Sheet No. 5.

Reinforcing steel shall be shifted to clear piles, U bars shall clear piles by at least 1 1/2″.

Strands at end of girders shall be field bent or, if necessary, cut in field to maintian 1 1/2″ minimum clearance to fill face of end bent.

For Elevations A-A & B-B see Sheet No. 5.

The #6-F102 bars shall be bent in the field to clear girders.

For reinforcement of the Modified Barrier Curb, see Sheets No. 20 thru 22.

For Details of Bridge Approach Slab, see Sheet No. 25.

DETAILS OF END BENT NO. 1

Detailed Dec 2018
Checked Dec 2018

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DISTRICT BR | SHEET NO. 4
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

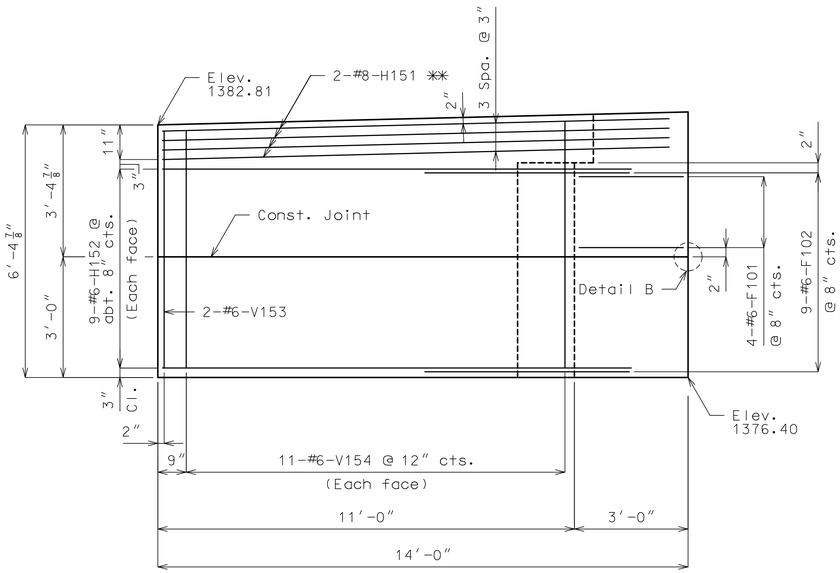
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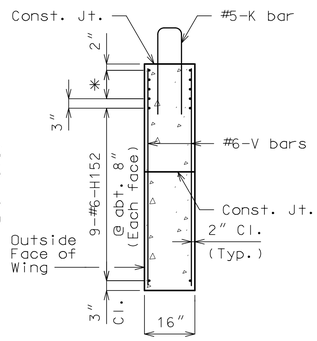
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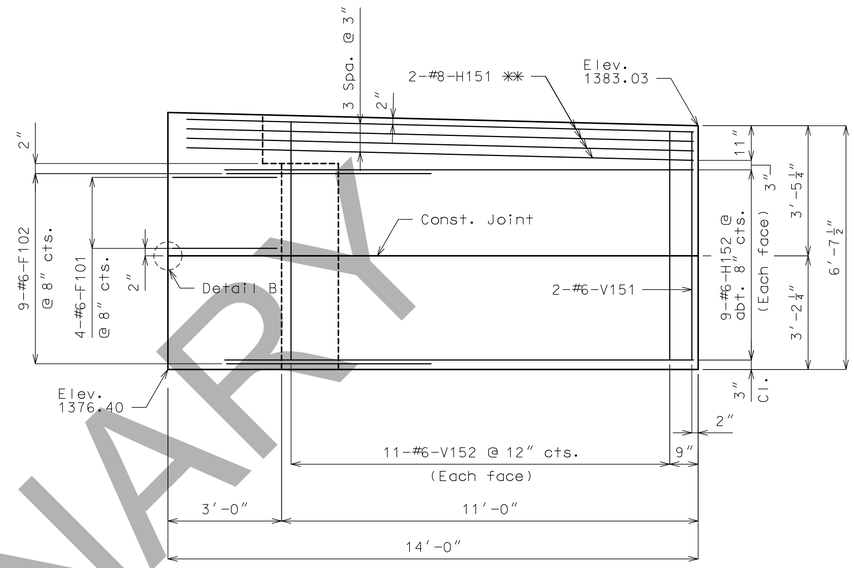
ELEVATION A-A



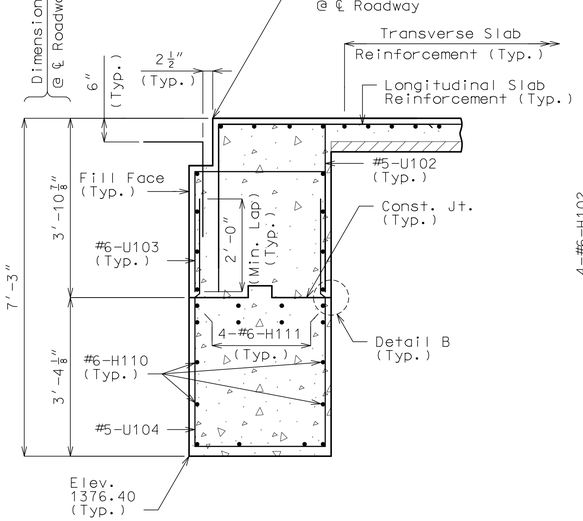
TYPICAL SECTION THRU WING

* #8-H bars @ 3" cts. (Each face) (Place with grade)

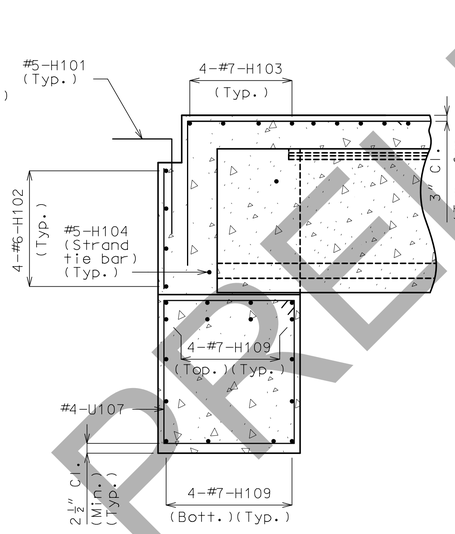
** Placed with grade



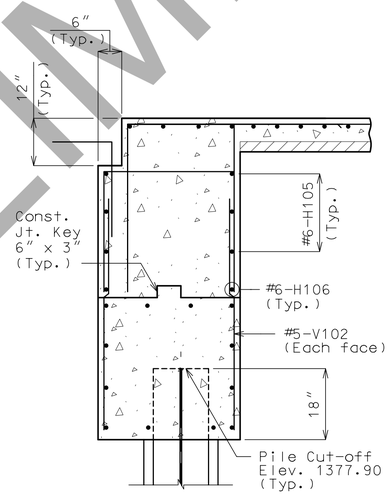
ELEVATION B-B



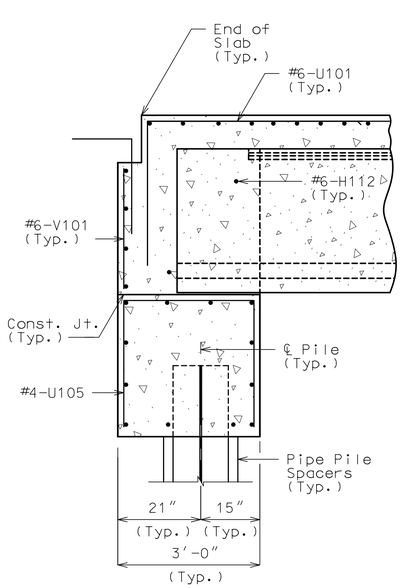
SECTION C-C



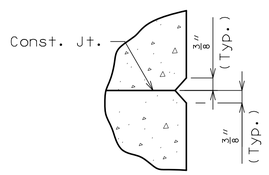
SECTION D-D



SECTION E-E



SECTION F-F



DETAIL B

Notes:

For Details of End Bent No. 1 not shown, see Sheets No. 3 & 4.

The #6-F102 bars shall be bent in field to clear girders.

For Details and Reinforcement of the Modified Barrier Curb, see Sheet No. 22.

For Details of Vertical Drain at End Bents, see Sheet No. 6.

For location of #5-H104 (Strand tie bar), see Sheet No. 12 and 13.

For location of Elevations A-A and B-B, see Sheet No. 4.

For location of Sections C-C, D-D, E-E, & F-F see Sheet No. 4.

For Details of Bridge Approach Slab, see Sheet No. 25.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

DETAILS OF END BENT NO. 1

Detailed Dec 2018
Checked Dec 2018

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

PRELIMINARY

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DATE PREPARED 1/30/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
BR	5

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

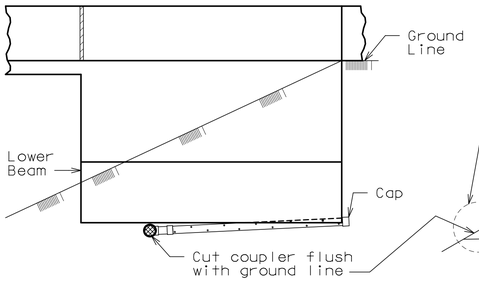
BRIDGE NO.: A8753

DESCRIPTION	DATE

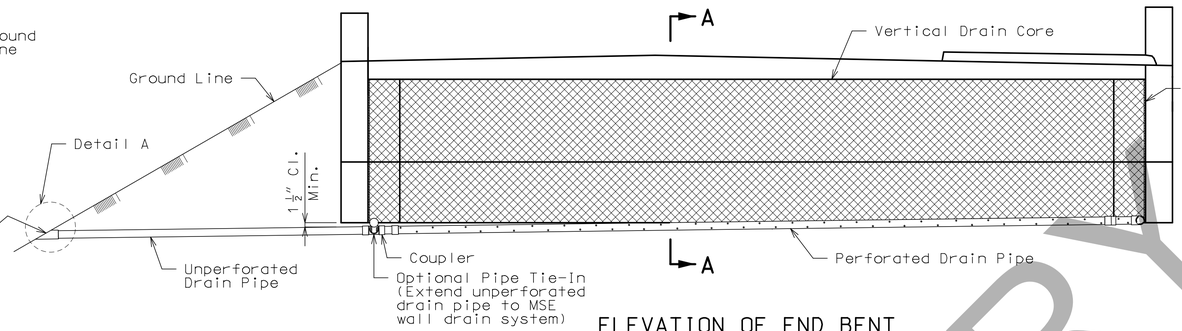
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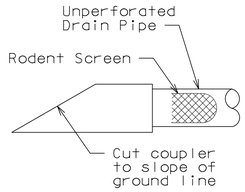
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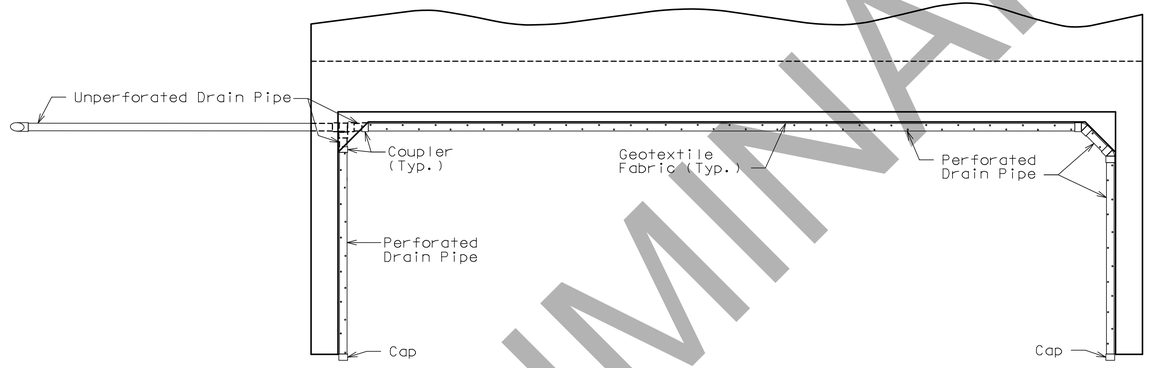
ELEVATION OF WING



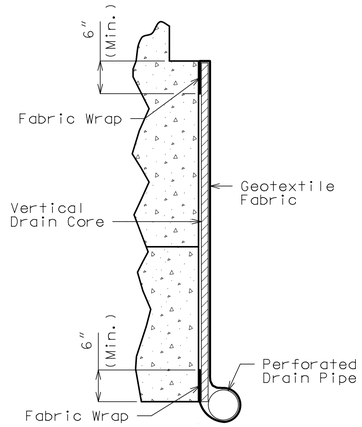
ELEVATION OF END BENT



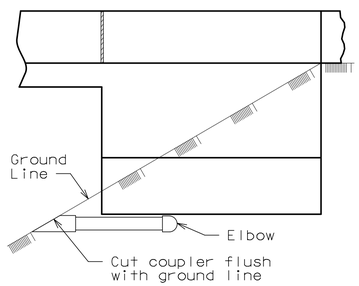
DETAIL A



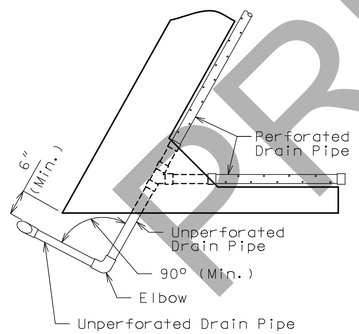
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN

Note: Tie Unperforated Drain Pipe into Type B (Modified) Gutter located behind MSE Walls A8754 and A8755.

Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

At the contractor's option, drain pipe shall be placed at fill face of end bent and inside face of wings and shall be connected to MSE wall drainage system. Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent. Plain pipe shall be used to connect to MSE wall drainage system.

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)

PRELIMINARY

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ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 6
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

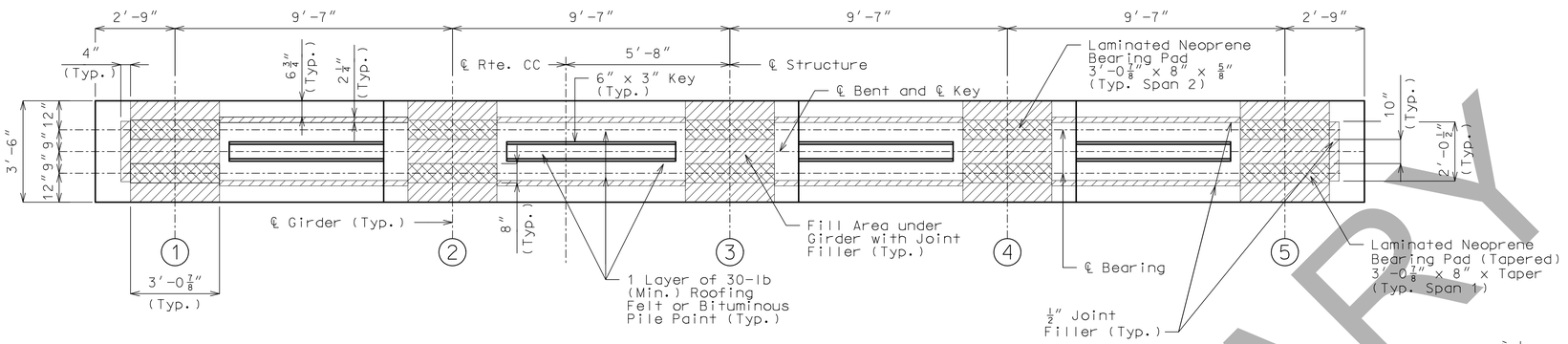
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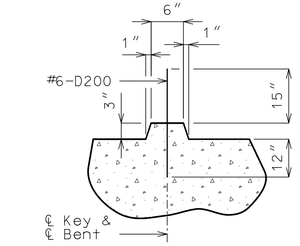
Detailed Dec 2018
Checked Dec 2018

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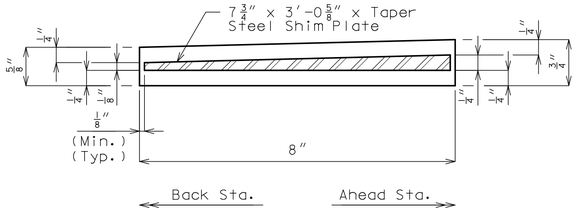


PLAN OF BEAM SHOWING BEARINGS

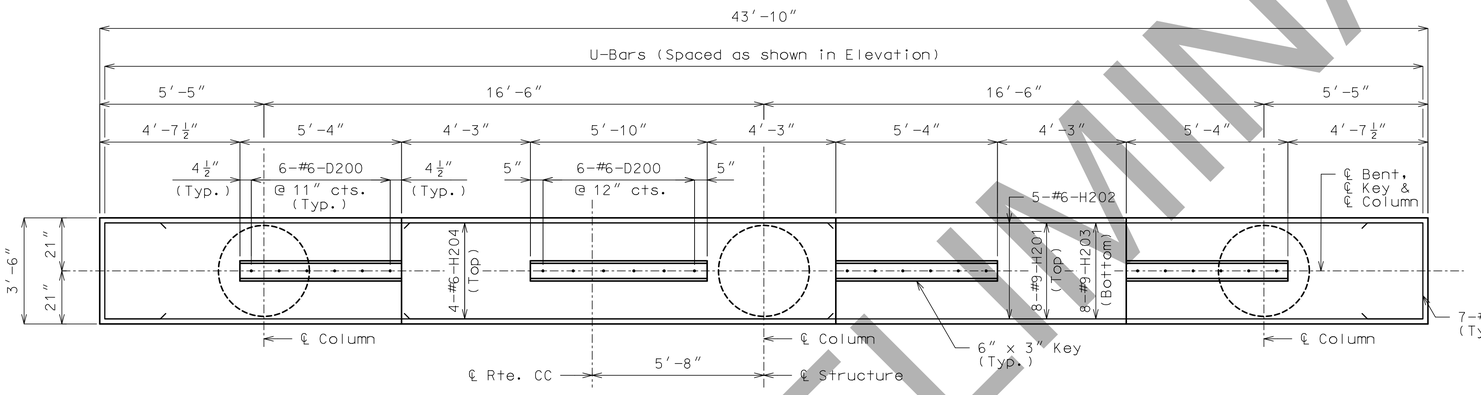
Note: Drilled shafts and rock sockets not shown for clarity.



DETAIL OF KEY

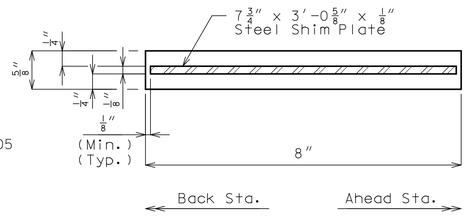


DETAIL OF LAMINATED NEOPRENE BEARING PADS (TAPERED) AT INT. BENT NO. 2 (SPAN 1)



PLAN OF BEAM SHOWING REINFORCEMENT

Note: Drilled shafts and rock sockets not shown for clarity.



DETAIL OF LAMINATED NEOPRENE BEARING PADS AT INT. BENT NO. 2 (SPAN 2)

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Drilled Shafts (4 ft. 0 in. Diameter)	linear foot	21
Rock Sockets (3 ft. 6 in. Diameter)	linear foot	54
Video Camera Inspection	each	3
Foundation Inspection Holes	linear foot	84
Sonic Logging Testing	each	3
Class B Concrete (Substructure)	cu. yard	38.0
Reinforcing Steel (Epoxy Coated)	pounds	18,610

Note:

These quantities are included in the estimated quantities table on Sheet No. 2.

Notes:

For Details of Intermediate Bent No. 2 not shown, see Sheet No. 8.

For steps 2″ or more use 2 1/4″ x 1/2″ joint filler up vertical face.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Dec 2018
Checked Dec 2018

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

Sheet No. 7 of 33

PRELIMINARY

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DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 7
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

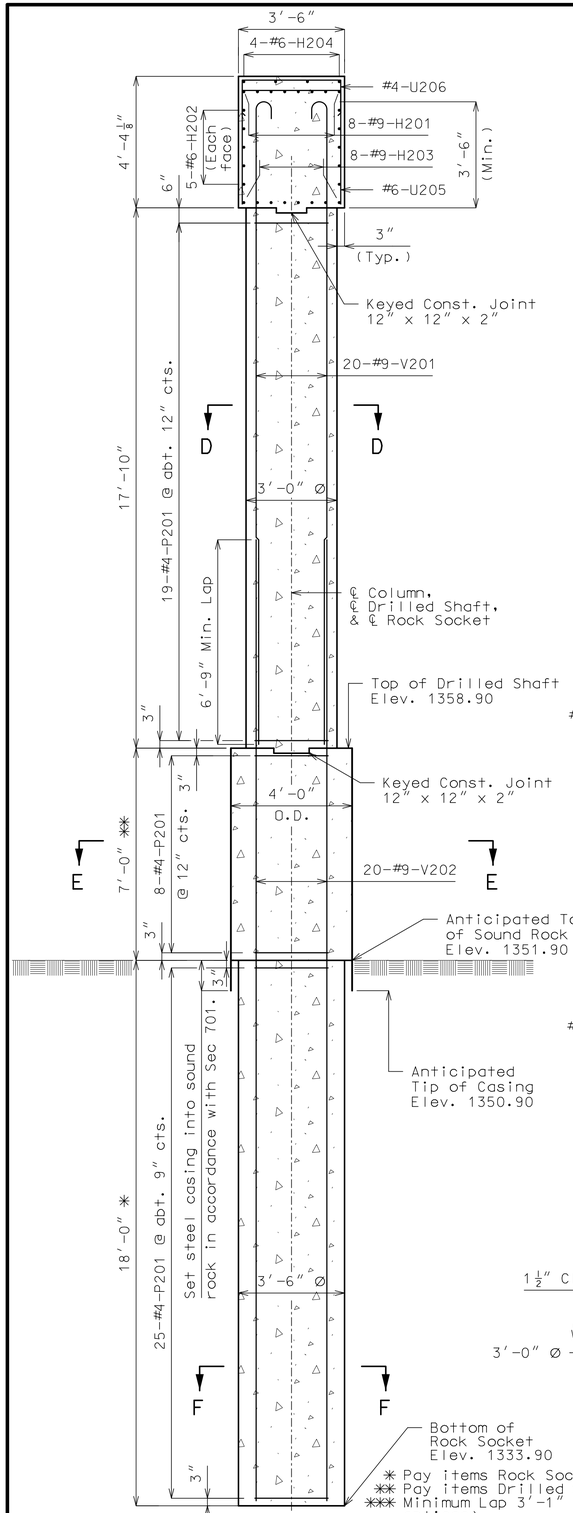
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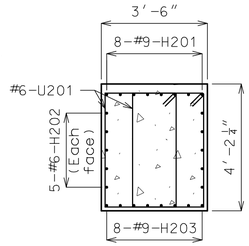
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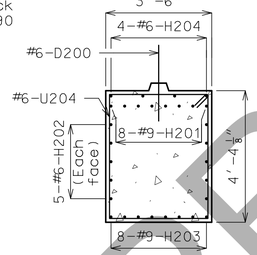
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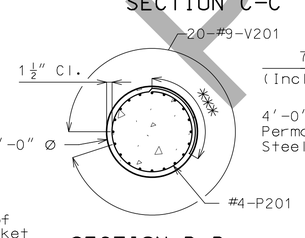
SECTION B-B



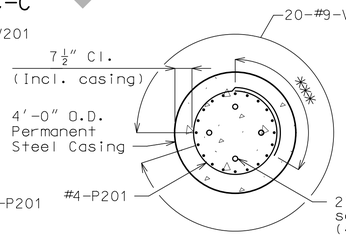
SECTION A-A



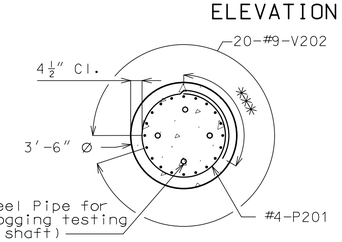
SECTION C-C



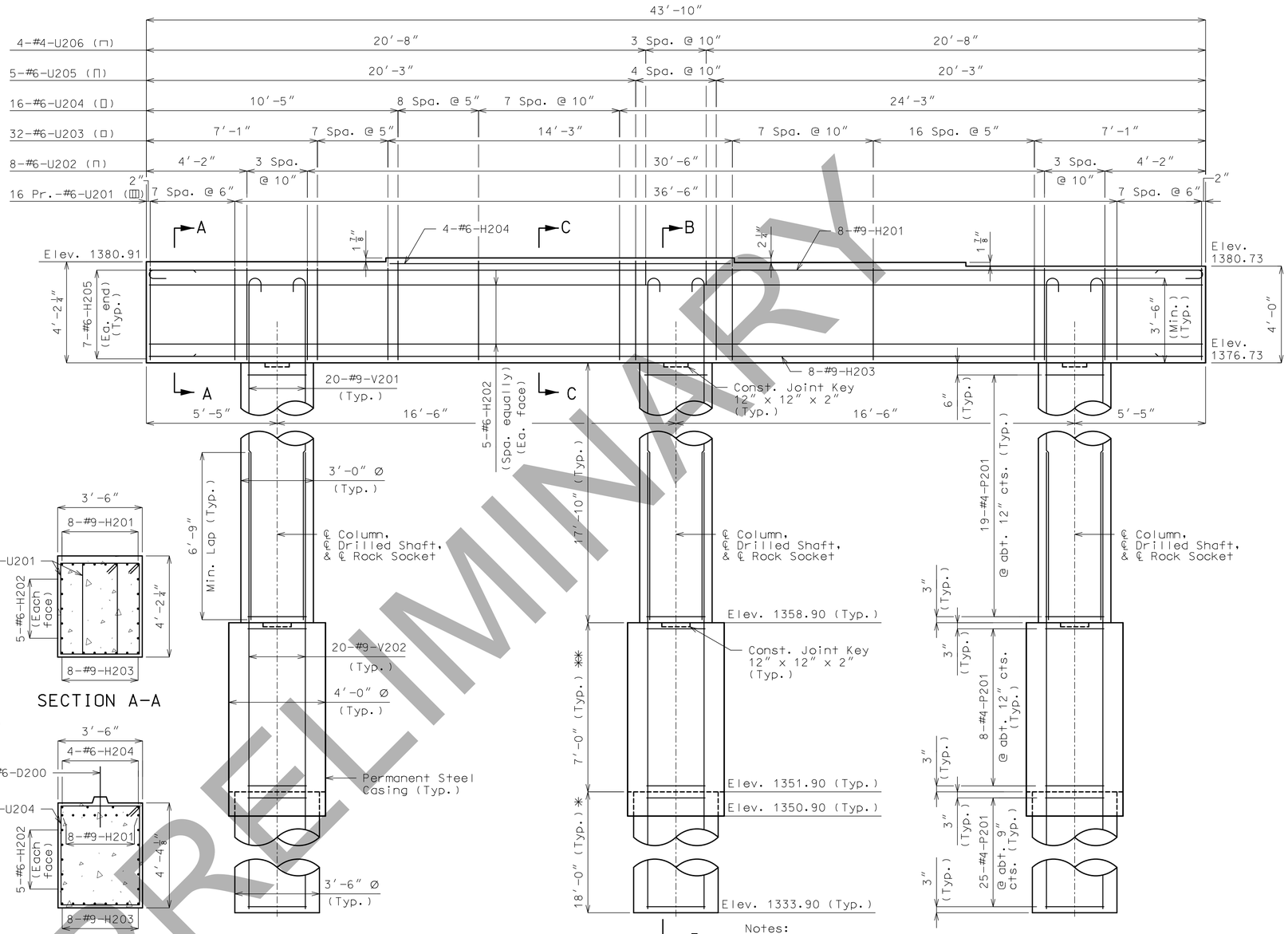
SECTION D-D



SECTION E-E



SECTION F-F



ELEVATION

DETAILS OF INTERMEDIATE BENT NO. 2

* Pay items Rock Socket (3′-6″ diameter)
** Pay items Drilled Shaft (4′-0″ diameter)
*** Minimum Lap 3′-1″ (Stagger adjacent bar splices)

Notes:

An additional 4 feet has been added to V202 lengths and an additional 18 #4-P201 bars have been added in the quantities, if required, for possible change in drilled shaft or rock socket lengths. The additional V-bar length shall be cut off or included in the reinforcement lap if not required. The additional P-bars shall be spaced similarly to that shown in elevation, if required, or to a lesser spacing if not required, but not less than 6″ cts.

Sonic logging testing shall be performed on all drilled shafts and rock sockets.

Permanent steel casing shall be in accordance with Sec 701.

The cost of any required excavation to the top of the drilled shafts will be considered completely covered by the contract unit price for other items.

For steps 2″ or more, use 2 1/4″ x 1/2″ joint filler up vertical face.

At the contractor's option, the hooks of V-Bars embedded in the beam cap may be oriented inward or outward for Seismic Category A. Bending the hook outward, away from the column core, is not allowed for Seismic Category B, C, or D.

Key not shown in elevation for clarity.

Detailed Dec 2018
Checked Dec 2018

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

Sheet No. 8 of 33

PRELIMINARY

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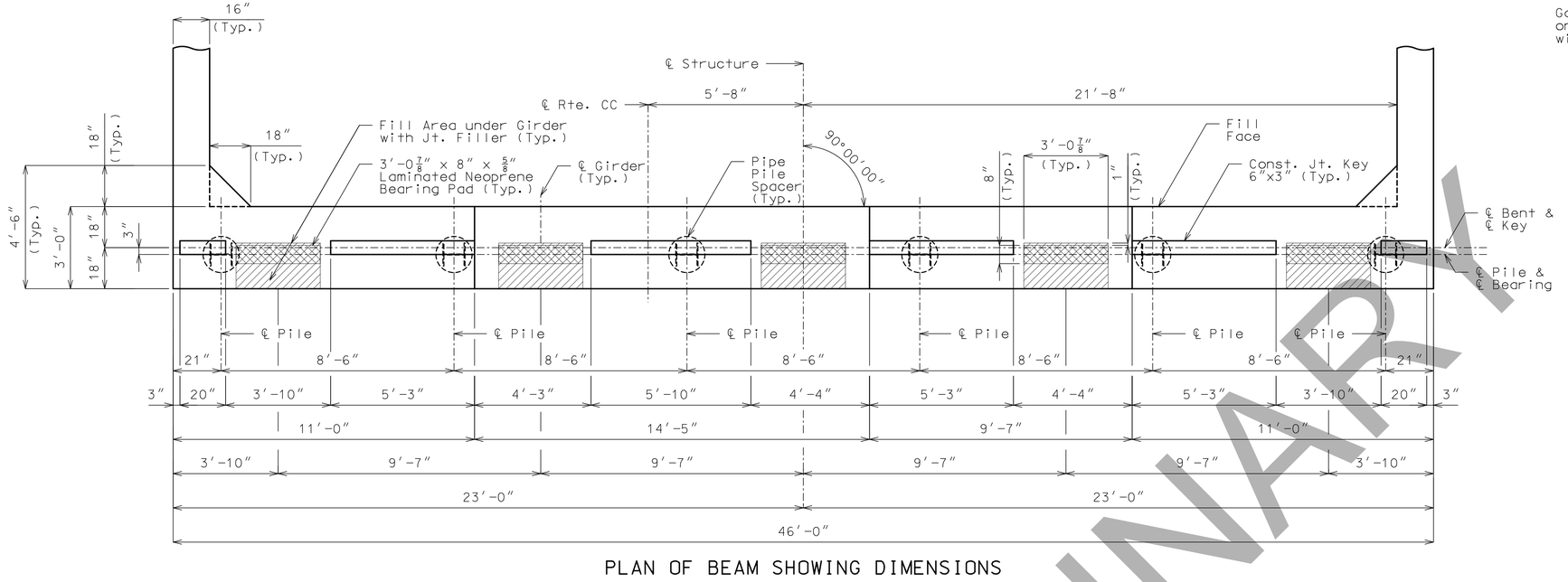
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DISTRICT BR | SHEET NO. 8
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

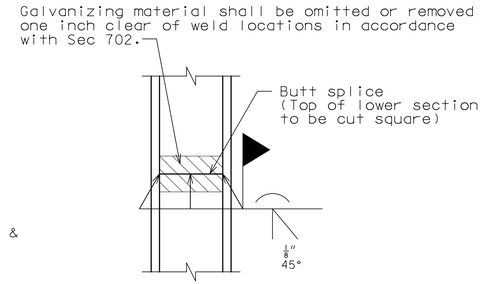
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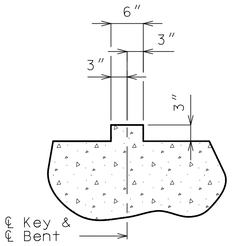
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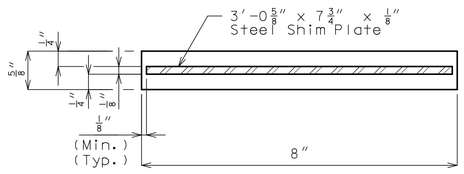
PLAN OF BEAM SHOWING DIMENSIONS



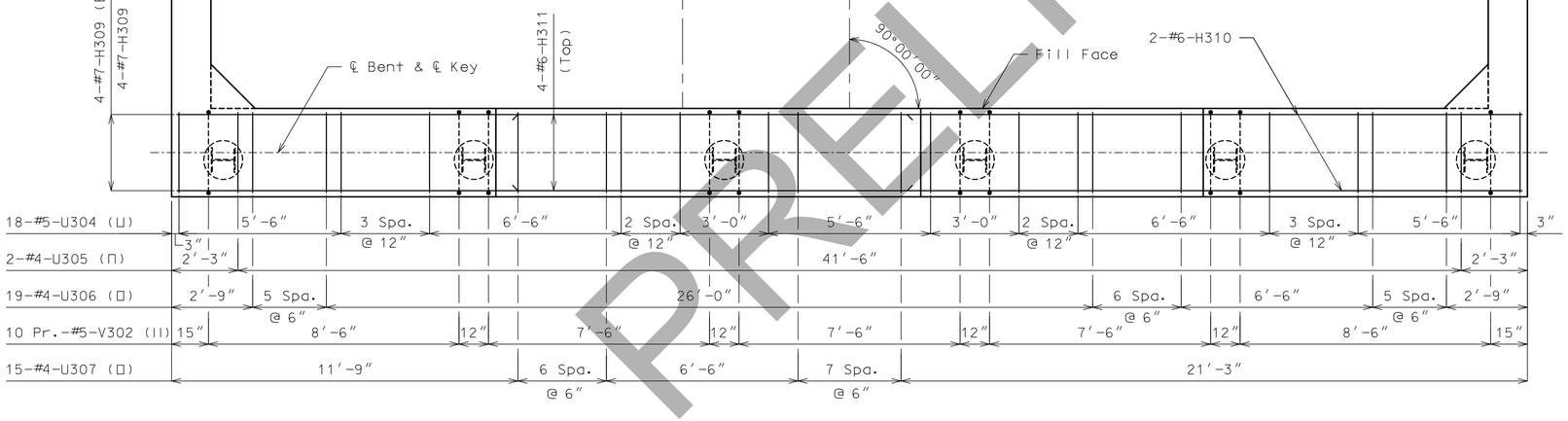
STEEL PILE SPLICE
(If required)



TYPICAL SECTION THRU KEY



DETAIL OF LAMINATED NEOPRENE BEARING PADS AT END BENT NO. 3



PLAN OF BEAM SHOWING REINFORCEMENT
(Keys not shown for clarity)

Notes:

For Details of End Bent No. 3 not shown, see Sheets No. 10 and 11.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2″.

For Details of Vertical Drain at End Bents, see Sheet No. 6.

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DATE PREPARED 1/30/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
BR	9

COUNTY: WEBSTER
JOB NO.: J8I0445
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8753

DESCRIPTION | DATE

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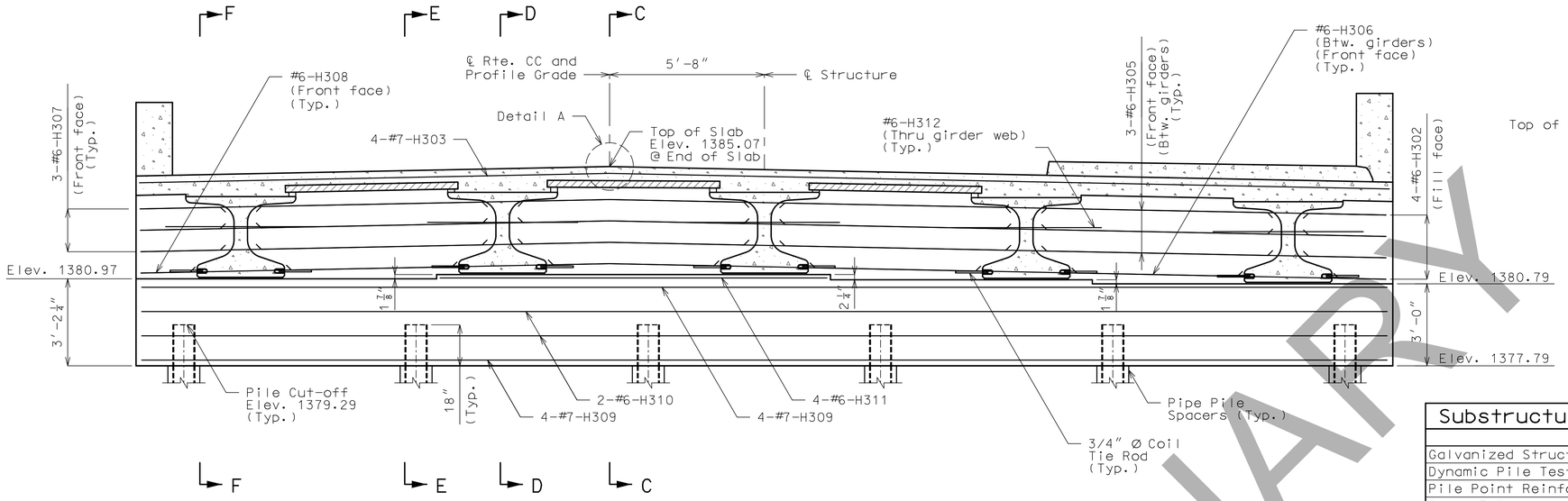
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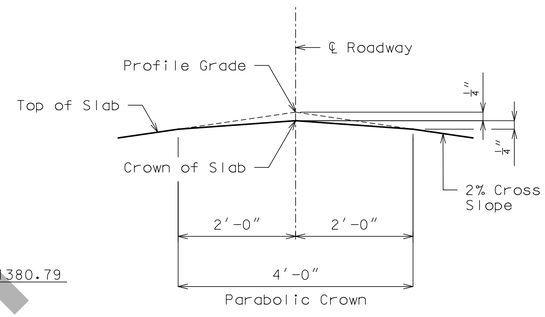
DETAILS OF END BENT NO. 3

Detailed Dec 2018
Checked Dec 2018

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SECTION NEAR END BENT

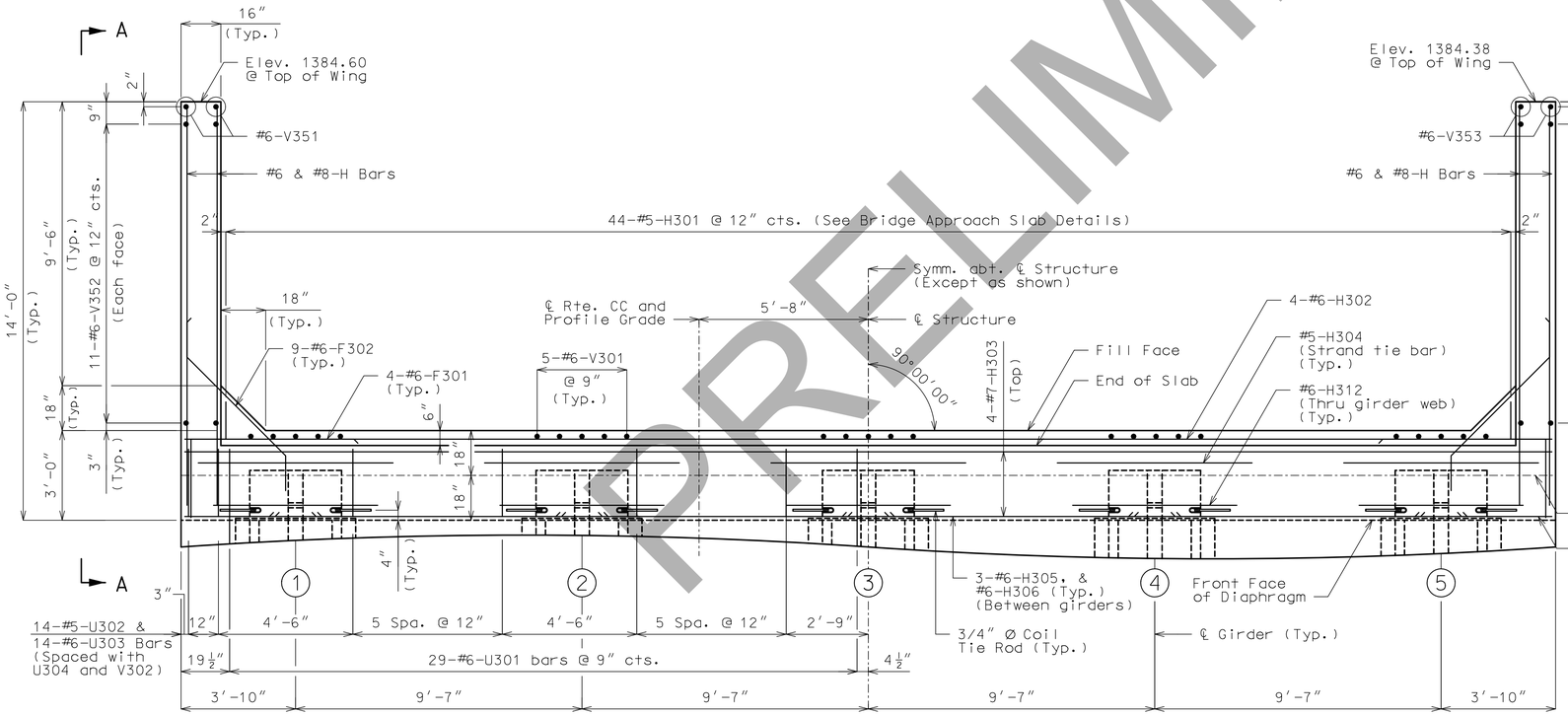


DETAIL A

Substructure Quantity Table for Bent No. 3		
Item		Quantity
Galvanized Structural Steel Pile (10 in.)	linear foot	186
Dynamic Pile Testing	each	1
Pile Point Reinforcement	each	6
Class B Concrete (Substructure)	cu. yard	20.1
Pipe Pile Spacers	each	6

Note:

These quantities are included in the Estimated Quantities table on Sheet No. 2.



PART PLAN

Notes:

Keys not shown in Section Near End Bent for clarity.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

For location of Coil Tie Rods and #5-H304 (Strand Tie Bar), see Sheets No. 12 and 13.

For Details of End Bent No. 3 not shown, see Sheets No. 9 & 11.

For Details of Vertical Drain at End Bents, see Sheet No. 6.

For Elevations A-A & B-B see Sheet No. 11.

For Sections C-C, D-D, E-E, & F-F, see Sheet No. 11.

Reinforcing steel shall be shifted to clear piles, U bars shall clear piles by at least 1 1/2".

Strands at end of girders shall be field bent or, if necessary, cut in field to maintian 1 1/2" minimum clearance to fill face of end bent.

The #6-F302 bars shall be bent in the field to clear girders.

For reinforcement of the Modified Barrier Curb, see Sheets No. 20 thru 22.

For Details of Bridge Approach Slab, see Sheet No. 25.

DETAILS OF END BENT NO. 3

Detailed Dec 2018
Checked Dec 2018

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

Sheet No. 10 of 33

PRELIMINARY

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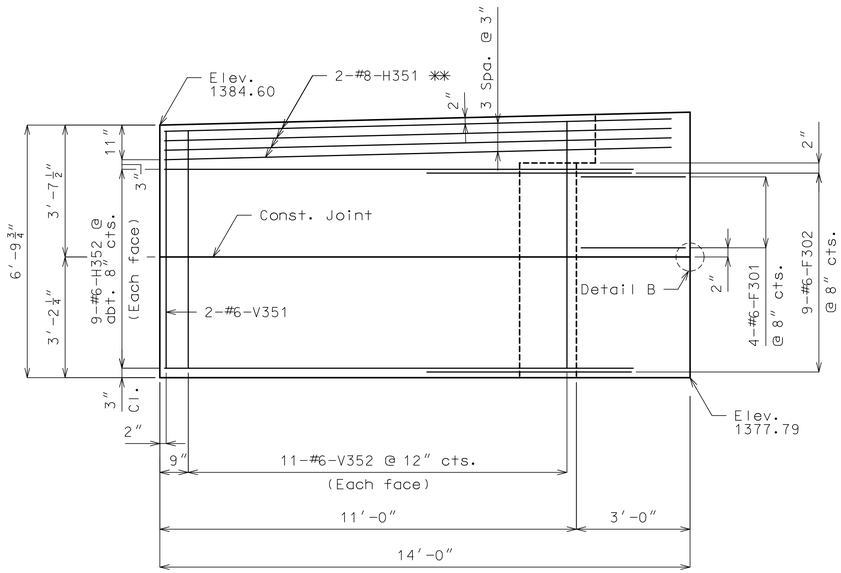
DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 10
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

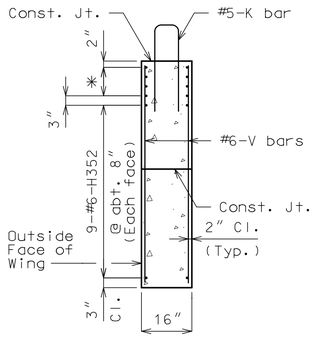
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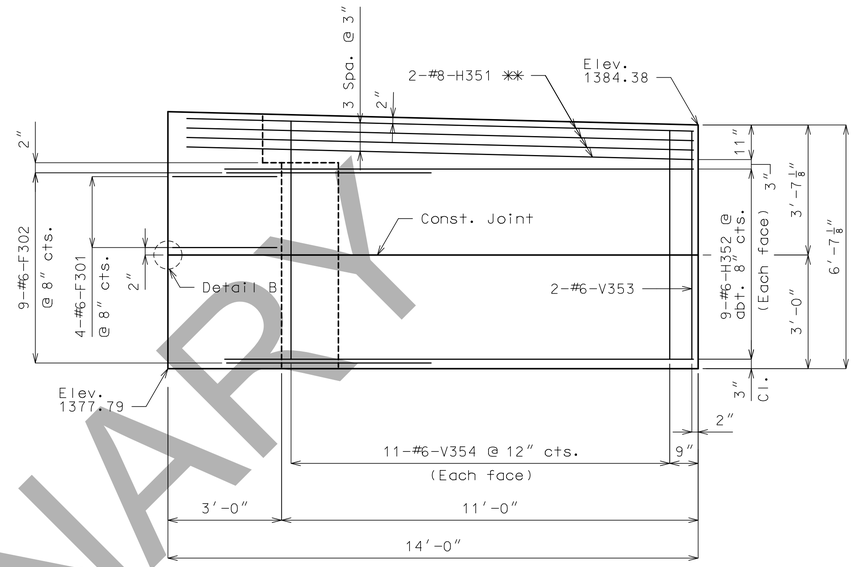
ELEVATION A-A



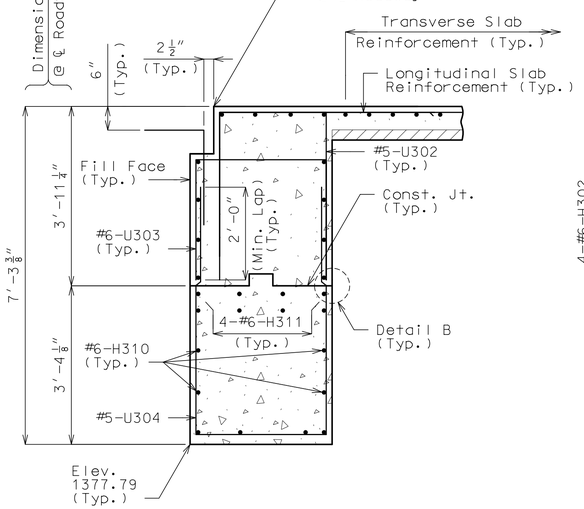
TYPICAL SECTION THRU WING

* #8-H bars @ 3" cts. (Each face) (Place with grade)

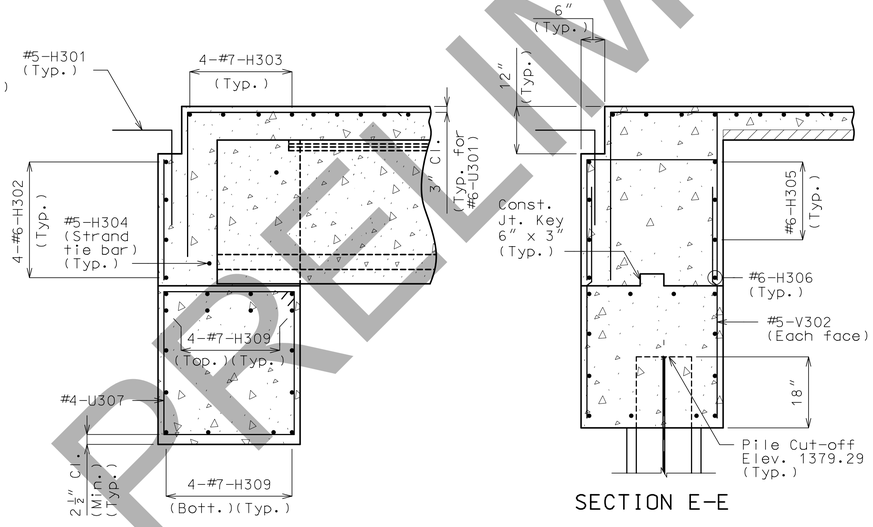
** Placed with grade



ELEVATION B-B

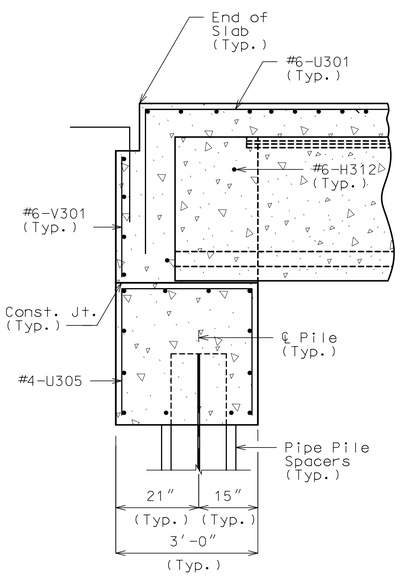


SECTION C-C

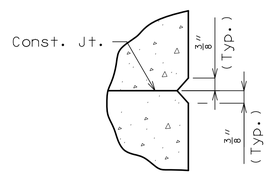


SECTION D-D

SECTION E-E



SECTION F-F



DETAIL B

Notes:

For Details of End Bent No. 3 not shown, see Sheets No. 9 & 10.

The #6-F302 bars shall be bent in field to clear girders.

For Details and Reinforcement of the Modified Barrier Curb, see Sheet No. 22.

For Details of Vertical Drain at End Bents, see Sheet No. 6.

For location of #5-H304 (Strand tie bar), see Sheet No. 12 and 13.

For location of Elevations A-A and B-B, see Sheet No. 10.

For location of Sections C-C, D-D, E-E, & F-F see Sheet No. 10.

For Details of Bridge Approach Slab, see Sheet No. 25.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

DETAILS OF END BENT NO. 3

Detailed Dec 2018
Checked Dec 2018

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

PRELIMINARY

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DATE PREPARED 1/30/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
BR	11

COUNTY: WEBSTER

JOB NO.: J8I0445

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A8753

DATE	DESCRIPTION

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Concrete for prestressed girders shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

(+) indicates prestressing strand.

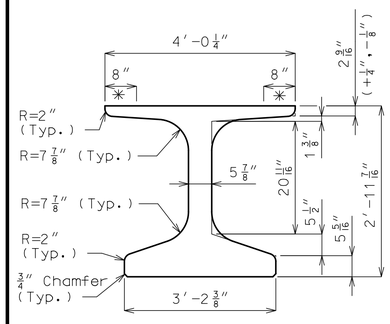
Use 30 strands with an initial prestress force of 1318 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

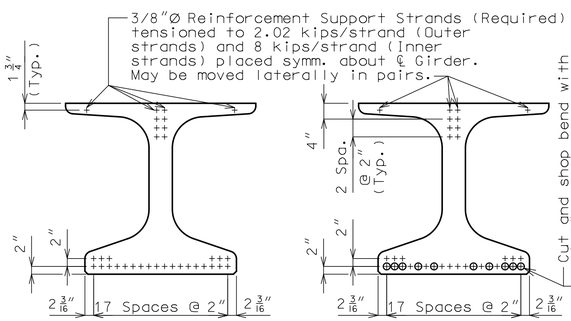
Fabricator shall be responsible for location and design of lifting devices.

✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown for precast panel locations. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion and edges near CIP slab locations shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

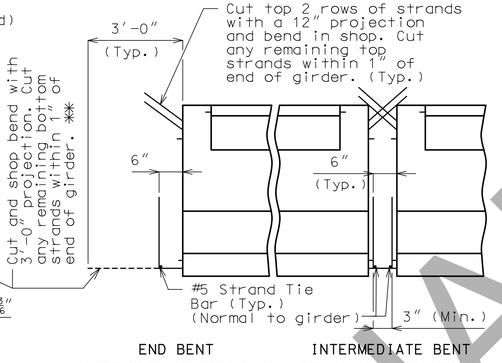


DIMENSIONS



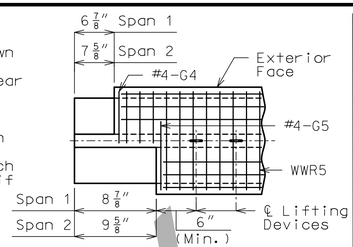
℄ GIRDER END OF GIRDER

STRAND ARRANGEMENTS

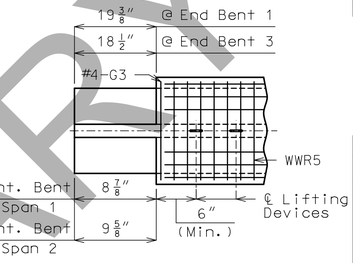


END BENT INTERMEDIATE BENT

STRAND DETAILS AT GIRDER ENDS



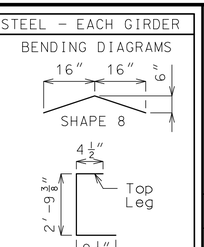
LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT (ROTATE 180° FOR RIGHT EXTERIOR)



INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

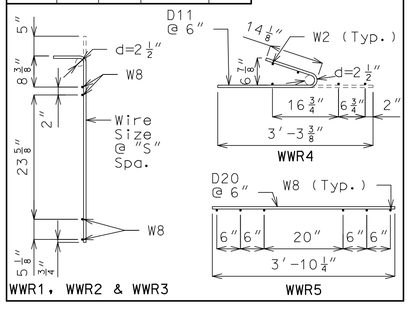
BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
85	3 G1	2'-10"	8	
12	6 G2	3'-8"	11	
2	4 G3	3'-10 1/4"	20	
2	4 G4	2'-1"	20	
2	4 G5	2'-8 1/8"	20	

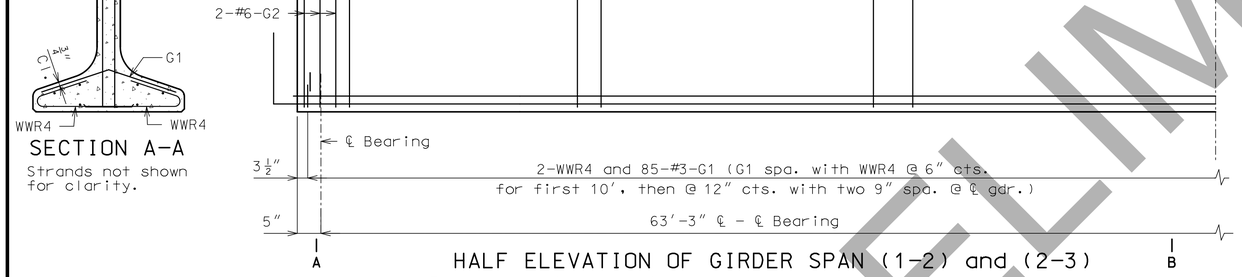


G4 and G5 not required for interior girders. G3 not required for exterior girders of intermediate spans. Half no. of G3, G4 and G5 not required for ext. girders of end spans.

WELDED WIRE REINFORCEMENT - EACH GIRDER				
MARK	WIRE SIZE	S	L	J
WWR1	D31	4"	8'-4"	8"
WWR2	D31	8"	10'-8"	16"
WWR3	D31	16"	22'-0"	

BENDING DIAGRAMS



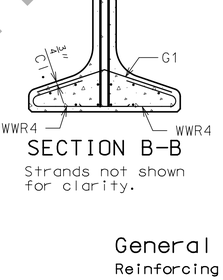


SECTION A-A

Strands not shown for clarity.

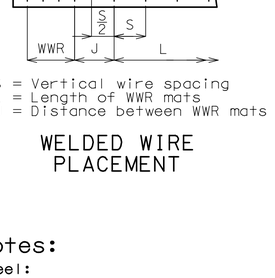
HALF ELEVATION OF GIRDER SPAN (1-2) and (2-3)

Exterior and interior girders are the same, except for coil ties and top flange blockout. Reinforcement support strands not shown for clarity.



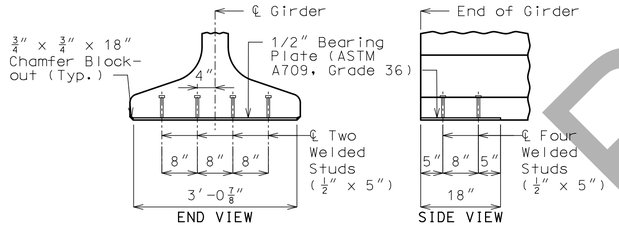
SECTION B-B

Strands not shown for clarity.



S = Vertical wire spacing
L = Length of WWR mats
J = Distance between WWR mats

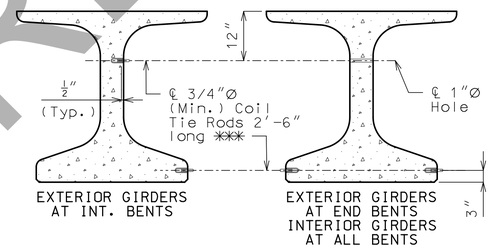
WELDED WIRE PLACEMENT



BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

✳✳✳ Length of coil tie rods at exterior face of exterior girders at end bents = 2'-3".

General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1", unless otherwise shown.

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221. WWR shall not be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheets No. 3, 9 & 14.

For Girder Camber Diagram, see Sheet No. 16.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

PRESTRESSED NU-GIRDER DETAILS

Detailed Dec 2018
Checked Dec 2018

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

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

DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 12
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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

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

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1631 WEST ELFINDALE STREET
SPRINGFIELD, MO 65807 (417) 869-6009
ENGINEERING CORPORATION - 000631

PRELIMINARY

Concrete for prestressed girders shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

(+) indicates prestressing strand.

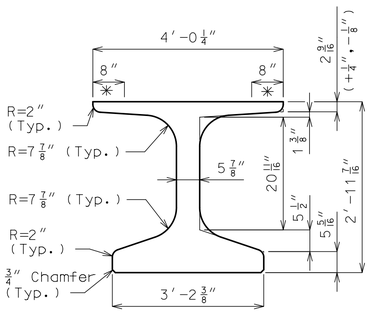
Use 30 strands with an initial prestress force of 1318 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

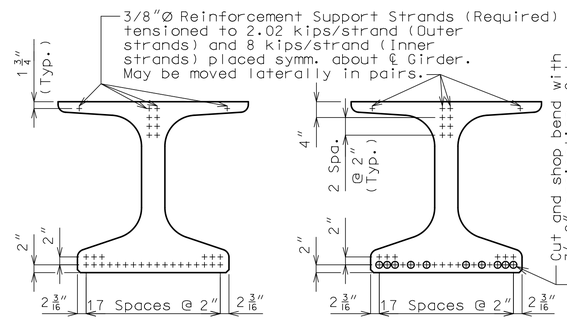
Fabricator shall be responsible for location and design of lifting devices.

✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown for precast panel locations. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion and edges near CIP slab locations shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

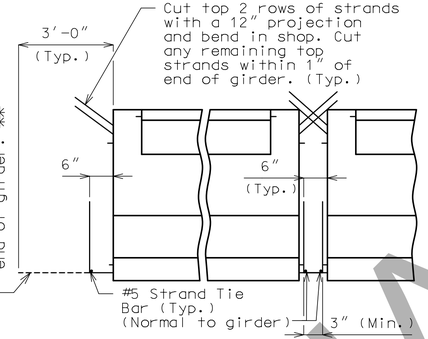


DIMENSIONS



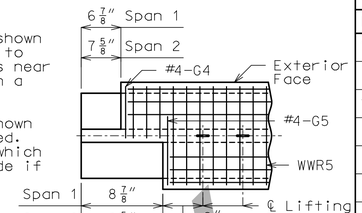
℄ GIRDER END OF GIRDER

STRAND ARRANGEMENTS

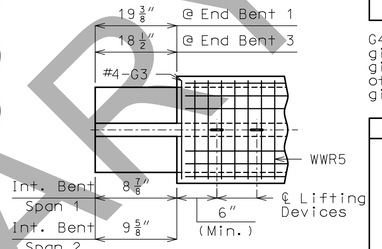


END BENT INTERMEDIATE BENT

STRAND DETAILS AT GIRDER ENDS



LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT (ROTATE 180° FOR RIGHT EXTERIOR)

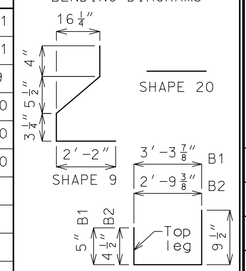


INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

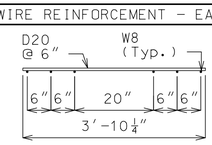
BILL OF REINFORCING STEEL - EACH GIRDER			
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE
158	5 B1	4'-4"	11
12	6 B2	3'-8"	11
170	4 D1	4'-0"	9
2	4 G3	3'-10 1/4"	20
2	4 G4	2'-1"	20
2	4 G5	2'-8 1/8"	20

BENDING DIAGRAMS



G4 and G5 not required for interior girders. G3 not required for exterior girders of intermediate spans. Half no. of G3, G4 and G5 not required for ext. girders of end spans.

WELDED WIRE REINFORCEMENT - EACH GIRDER



WWR5

General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

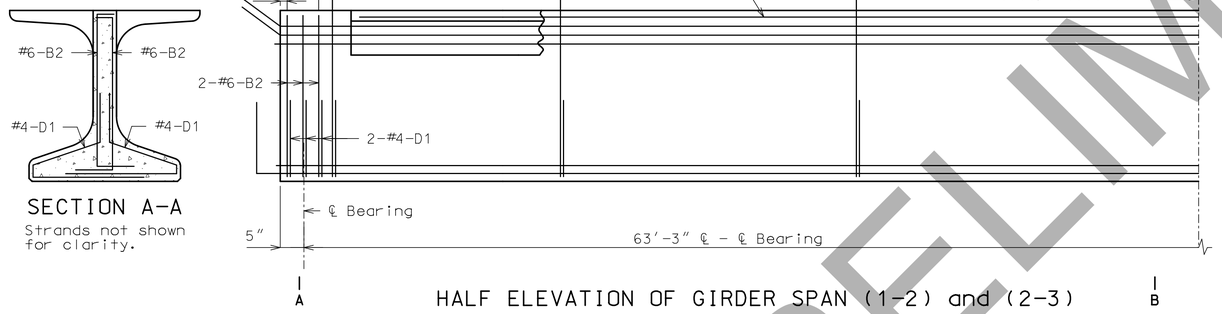
Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheets No. 3, 9 & 14.

For Girder Camber Diagram, see Sheet No. 16.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

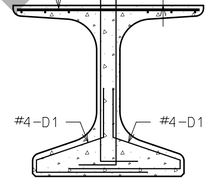


HALF ELEVATION OF GIRDER SPAN (1-2) and (2-3)

Exterior and interior girders are the same, except for coil ties and top flange blockout. Reinforcement support strands not shown for clarity.

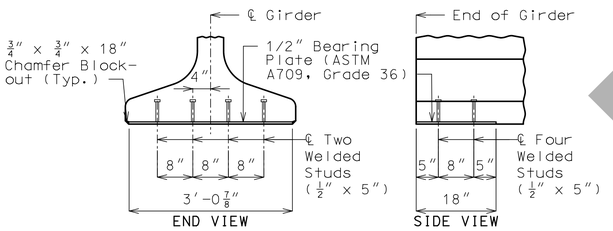
SECTION A-A

Strands not shown for clarity.



SECTION B-B

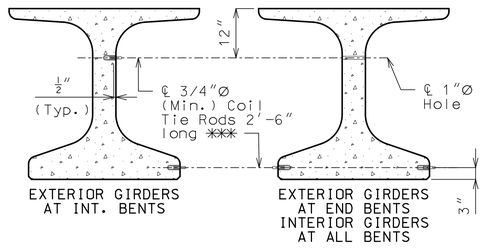
Strands not shown for clarity.



BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

✳✳✳ Length of coil tie rods at exterior face of exterior girders at end bents = 2'-3".

ALTERNATE BAR REINFORCING STEEL DETAILS

Detailed Dec 2018
Checked Dec 2018

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

PRELIMINARY

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

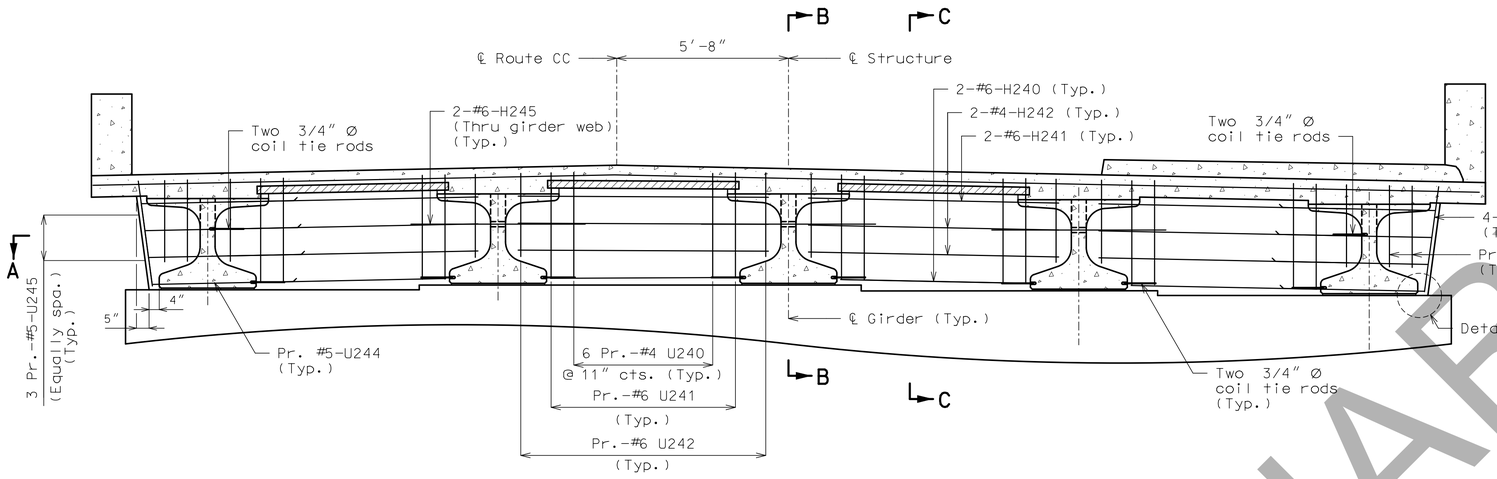
DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 13
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

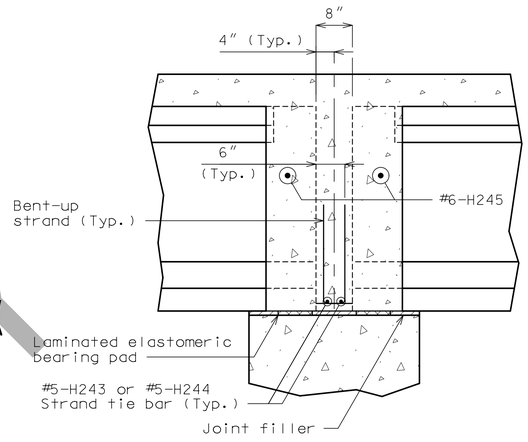
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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

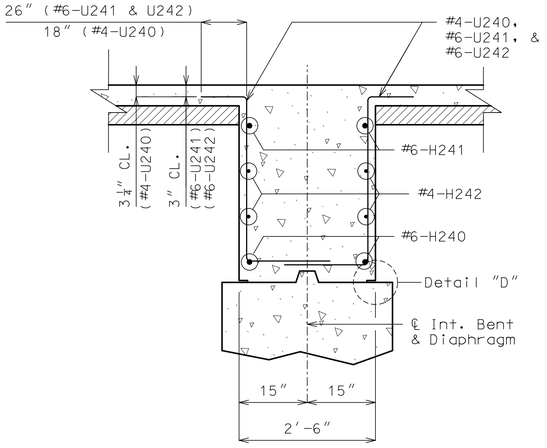
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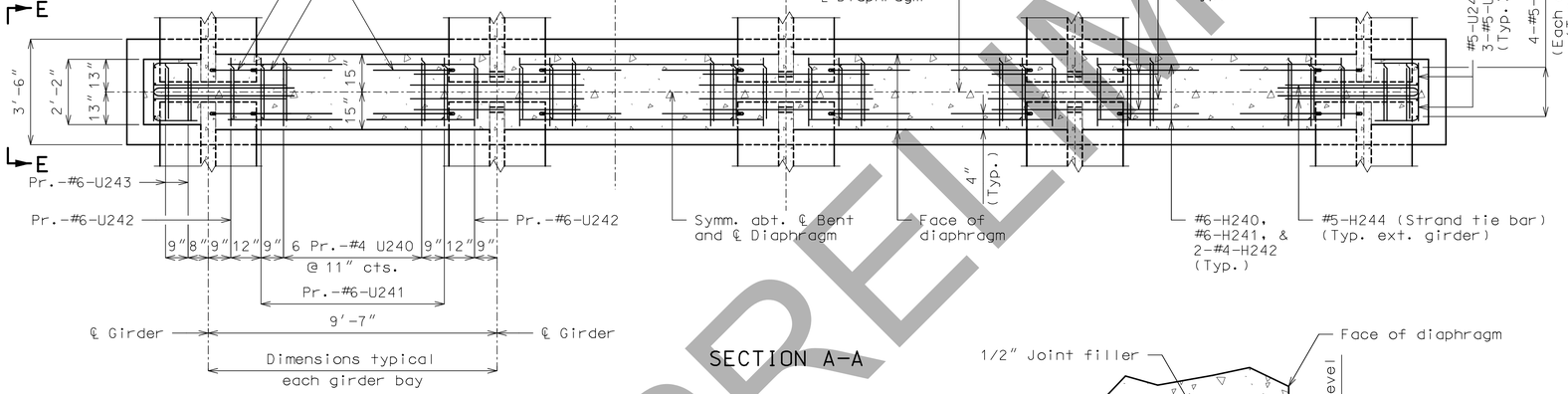
SECTION NEAR INTERMEDIATE BENT



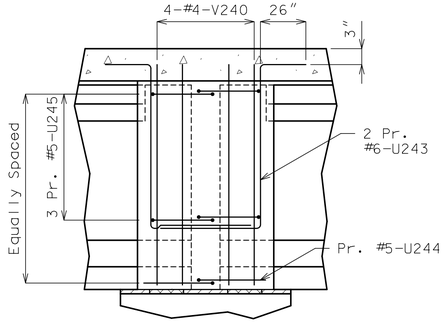
SECTION B-B
(Dimensions parallel to ℄ Roadway)



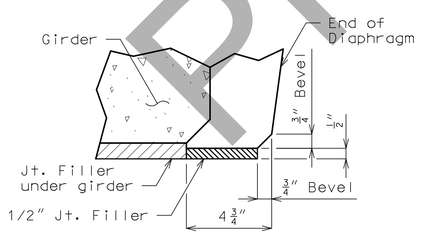
SECTION C-C



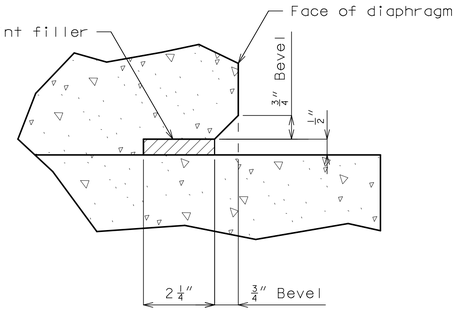
SECTION A-A



SECTION E-E



DETAIL F



DETAIL D

Notes:

For location of #5-H243 & #5-H244 (Strand tie bars), #6-H245 and coil tie rods, see Sheets No. 12 and 13.

Diaphragms at intermediate bents shall be built vertical.

DETAILS OF CONCRETE DIAPHRAGMS AT INTERMEDIATE BENT NO. 2

Detailed Dec 2018
Checked Dec 2018

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

Sheet No. 14 of 33

PRELIMINARY

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

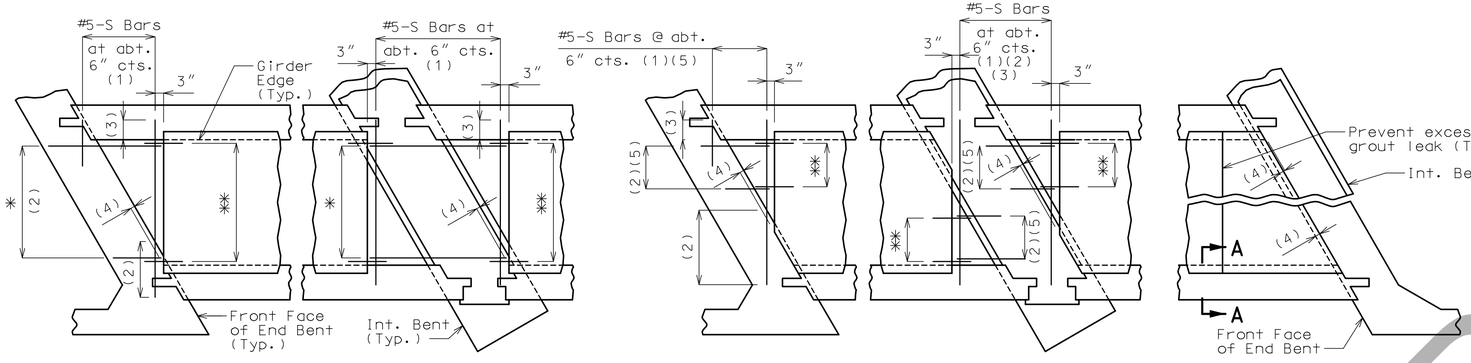
DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 14
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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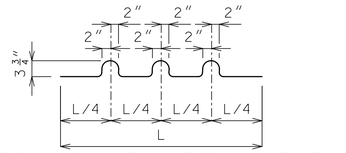
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SQUARED END PANELS OR TRUNCATED END PANELS

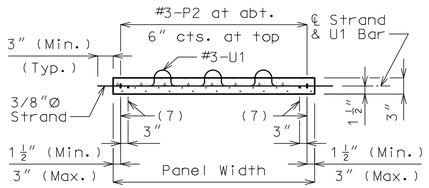
PLAN SHOWING PANELS PLACEMENT

* #5-S Bars at abt. 9" cts. (1)
** #3-P1 at 12" cts. (End panels only)

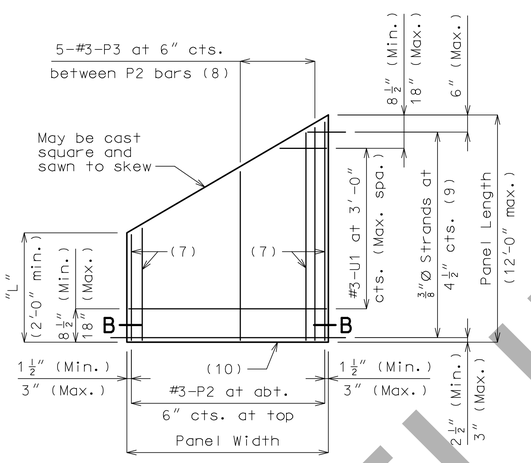


BENDING DIAGRAM FOR U1 BAR

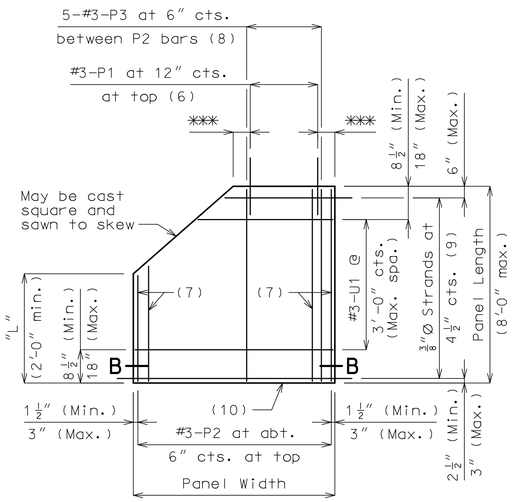
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



SECTION B-B

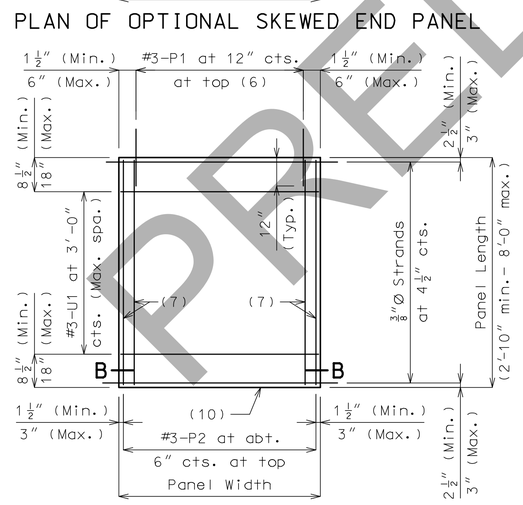


PLAN OF OPTIONAL SKEWED END PANEL



PLAN OF OPTIONAL TRUNCATED END PANEL

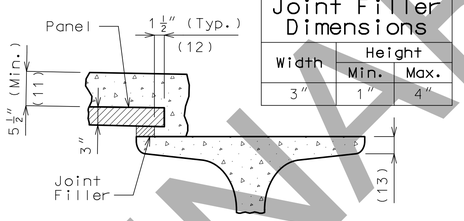
*** 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL

SKEWED END PANELS

Joint Filler Dimensions		
Width	Height	
	Min.	Max.
3"	1"	4"



SECTION A-A

Reference Notes:

Plan of Panels Placement:

(1) S-bars shown are bottom steel in slab between panels and used with squared and truncated end panels only.

(2) Extend S-bars 18 inches beyond the front face of end bents and int. bents for squared and truncated end panels only.

(3) Extend S-bars 9 inches beyond edge of girder (Typ.).

(4) End panels shall be dimensioned 1/2" min. to 1 1/2" max. from the inside face of diaphragm.

(5) For truncated end panels, use a min. of #5-S bars at 6" crossings in openings, or min. 4x4-W7xW7.

Plans of Panels:

(6) For end panels only, P1 bars shall be 2'-0" in length and embedded 12". P1 bars will not be required for panels at squared integral end bents.

(7) #3-P2 bars near edge of panel at bottom (under strands).

(8) Use #3-P3 bars if panel is skewed 45° or greater.

(9) Any strand 2'-0" or shorter shall have a #4 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be debonded at the fabricator's option.

(10) Optional 1/2" x 45° Chamfer one or both sides at bottom.

Section A-A:

(11) Slab thickness over prestressed panels varies due to girder camber. In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.

(12) Contractor shall ensure proper consolidation under and between panels.

(13) At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.

General Notes:

Prestressed Panels:

Concrete for prestressed panels shall be Class A-1 with f'c = 6,000 psi, f'ci = 4,000 psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of 1/8" perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength, uncoated, seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq.in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq in./ft, with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction:
#3-P2 bars at 16 inches.
WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be 2'-0".

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:

Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073.

Use Slab Haunching Diagram on Sheet No. 16 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness to within tolerances.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/4 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

Joint filler shall be glued to the girder. When thickness exceeds 1 1/2 inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.

Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

PRELIMINARY

DETAILS OF PRESTRESSED PANELS

Detailed Dec 2018
Checked Dec 2018

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

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JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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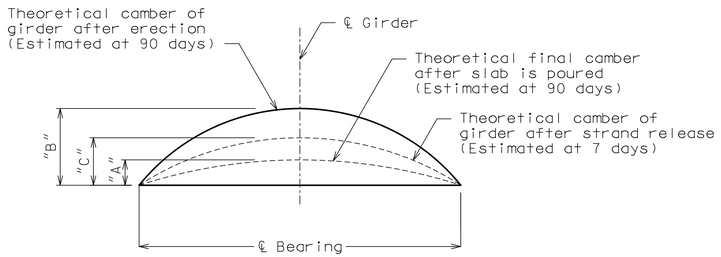
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Theoretical Bottom of Slab Elevations at ℄ of Girder (Prior to forming of slab)(Estimated at 90 days)

	Span (1-2) 63′-3″ ℄ Brg. to ℄ Brg.					Span (2-3) 63′-3″ ℄ Brg. to ℄ Brg.				
	℄ Brg.	0.25	0.50	0.75	℄ Brg.	℄ Brg.	0.25	0.50	0.75	℄ Brg.
Girder No. 1	1382.72	1383.17	1383.56	1383.86	1384.05	1384.07	1384.25	1384.32	1384.28	1384.13
Girder No. 2	1382.92	1383.36	1383.76	1384.05	1384.24	1384.26	1384.44	1384.52	1384.47	1384.32
Girder No. 3	1382.88	1383.33	1383.72	1384.02	1384.21	1384.22	1384.41	1384.48	1384.44	1384.28
Girder No. 4	1382.69	1383.14	1383.53	1383.83	1384.01	1384.03	1384.22	1384.29	1384.25	1384.09
Girder No. 5	1382.50	1382.94	1383.34	1383.63	1383.82	1383.84	1384.02	1384.09	1384.05	1383.90

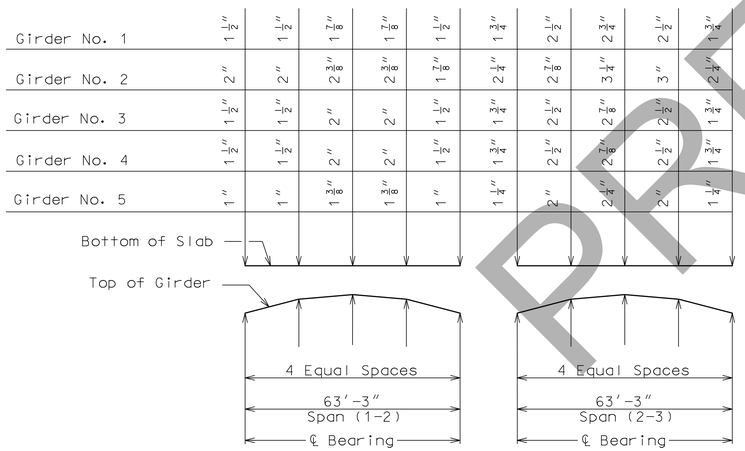
Elevations are based on a constant slab thickness of 8 1/2″ and include allowance for theoretical dead load deflections due to weight of slab (including precast panel), barrier curb, sidewalk and fencing.



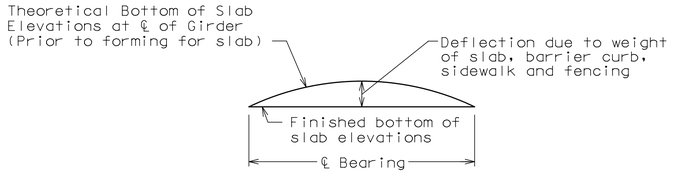
GIRDER CAMBER DIAGRAM

Conversion factors for girder camber (Estimated at 90 days)
0.25 pt. = 0.7125 X 0.5 pt.

Girder	Span (1-2) "A"	Span (1-2) "B"	Span (1-2) "C"	Span (2-3) "A"	Span (2-3) "B"	Span (2-3) "C"
Ext. Girder	1″	1 3/4″	1″	1″	1 3/4″	1″
Int. Girder	1″			1″		



THEORETICAL SLAB HAUNCHING DIAGRAM



TYPICAL SLAB ELEVATIONS DIAGRAM

Notes:

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness an adjustment of the slab haunches, an increase in the slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete NU-Girder.

PRELIMINARY

TBOS, HAUNCHING AND CAMBER

Detailed Dec 2018
Checked Dec 2018

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

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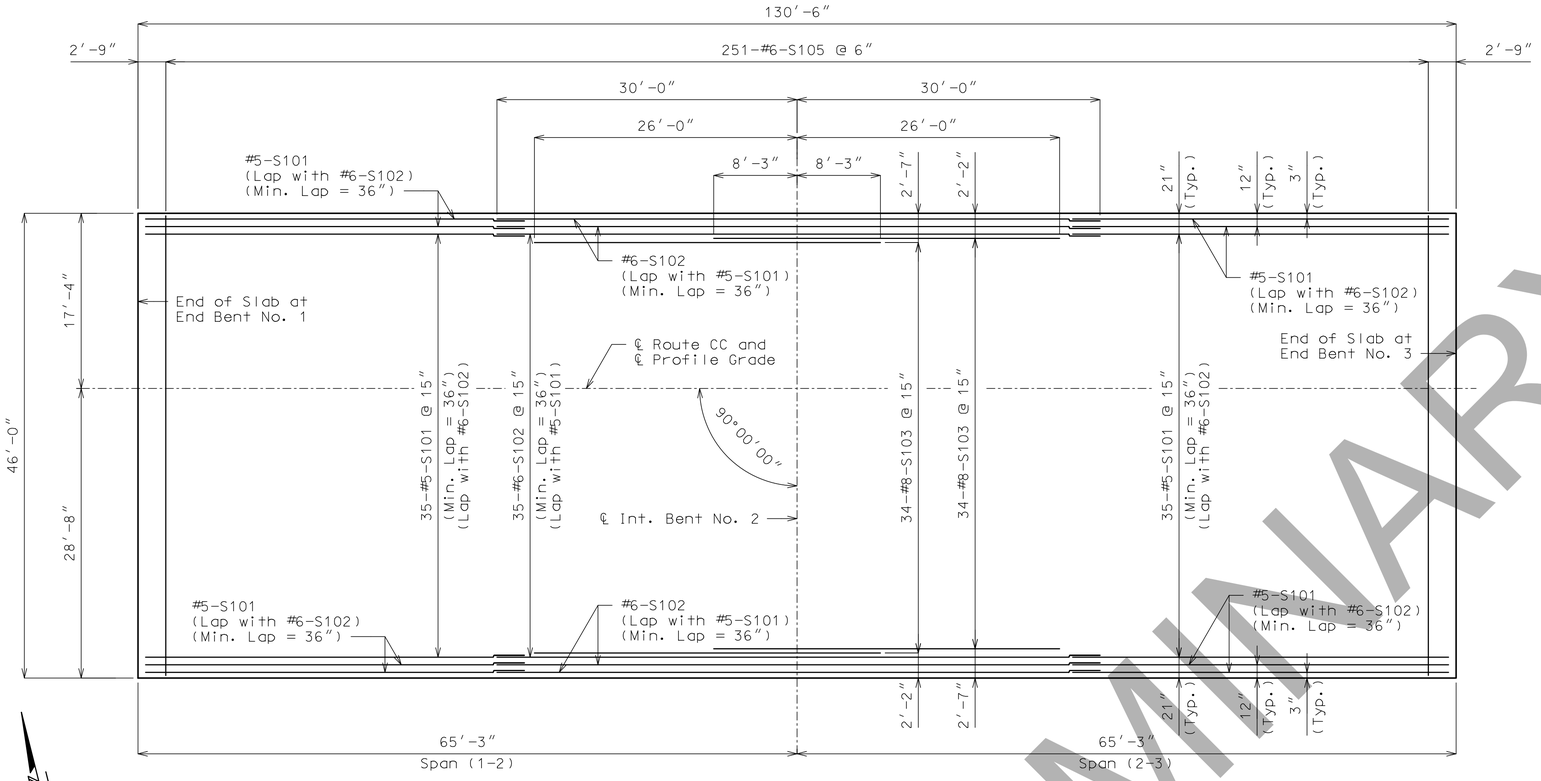
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DISTRICT BR | SHEET NO. 16
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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PLAN OF TOP SLAB REINFORCEMENT

Notes:

Longitudinal dimensions shown are horizontal.

For Section Thru Slab and Pouring Sequence, see Sheet No. 19.

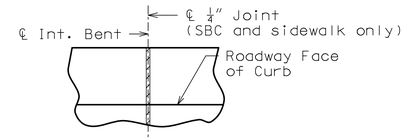
For Details of Bottom Slab Reinforcement, see Sheet No. 18.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations see Sheet No. 16.

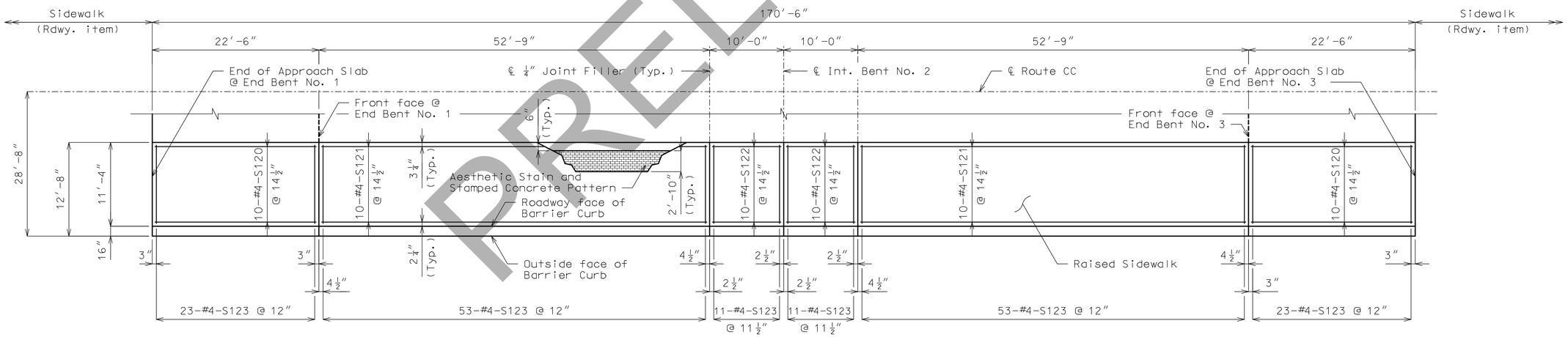
For Details of Precast Prestressed Panels, see Sheet No. 15.

For Details and Reinforcement of Barrier Curb not shown, see Sheets No. 20 thru 22.

See Special Provisions for requirements of Stamped Concrete Pattern.



PART PLAN SHOWING
SBC JOINT AT INT. BENT



PLAN OF SIDEWALK REINFORCING
Note: Joints in Sidewalk to match joints in Barrier Curb.

DETAILS OF TOP SLAB AND SIDEWALK REINFORCEMENT

Detailed Dec 2018
Checked Dec 2018

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

Sheet No. 17 of 33

PRELIMINARY

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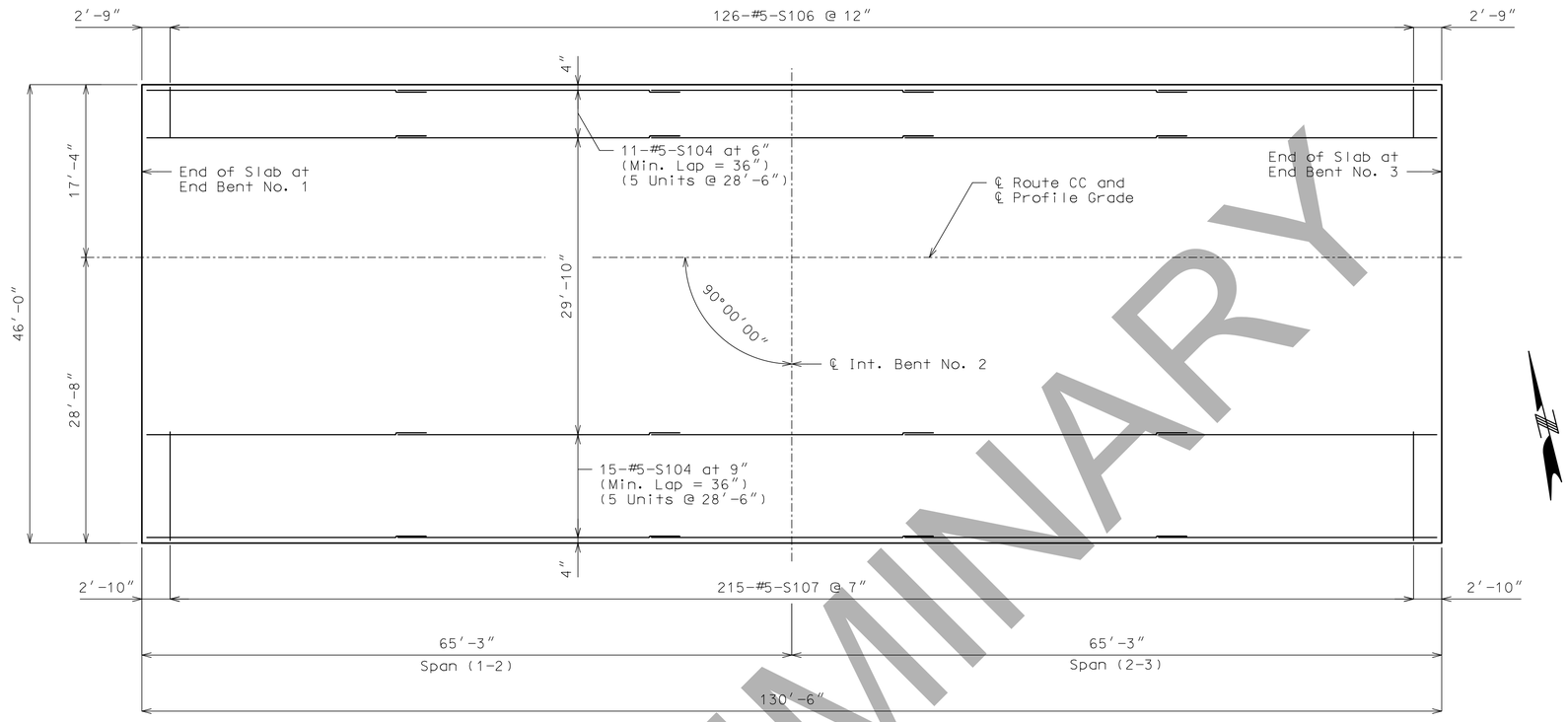
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PLAN OF BOTTOM SLAB REINFORCEMENT

PRELIMINARY

Notes:

Longitudinal dimensions shown are horizontal.

For Section Thru Slab and Pouring Sequence, see Sheet No. 19.

For Details of Top Slab and Sidewalk Reinforcement, see Sheet No. 17.

For Girder Camber Diagram, Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations see Sheet No. 16.

For Details of Precast Prestressed Panels, see Sheet No. 15.

For Details and Reinforcement of Barrier Curb not shown, see Sheets No. 20 thru 22.

DETAILS OF BOTTOM SLAB REINFORCEMENT

Detailed Dec 2018
Checked Dec 2018

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

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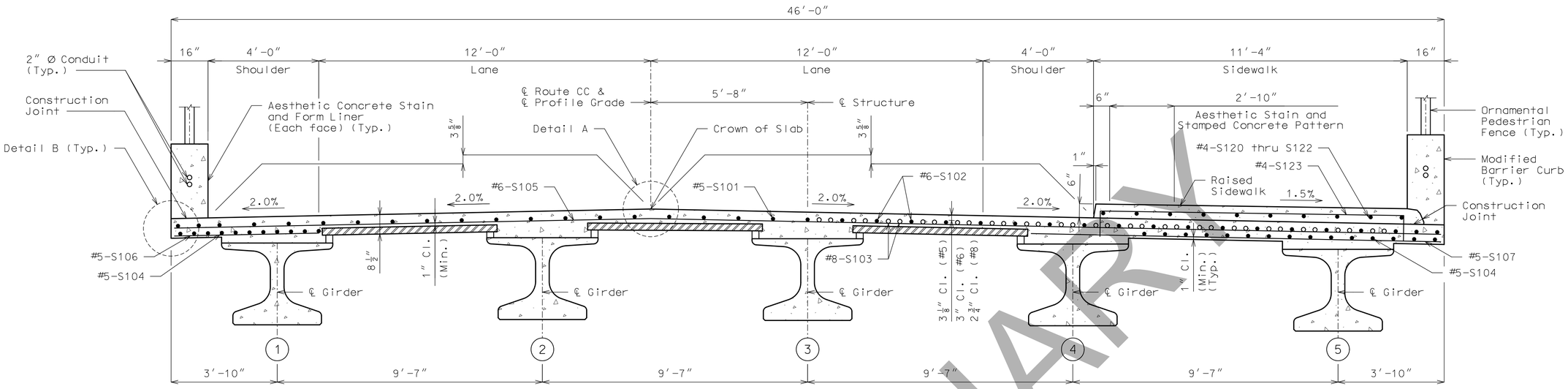
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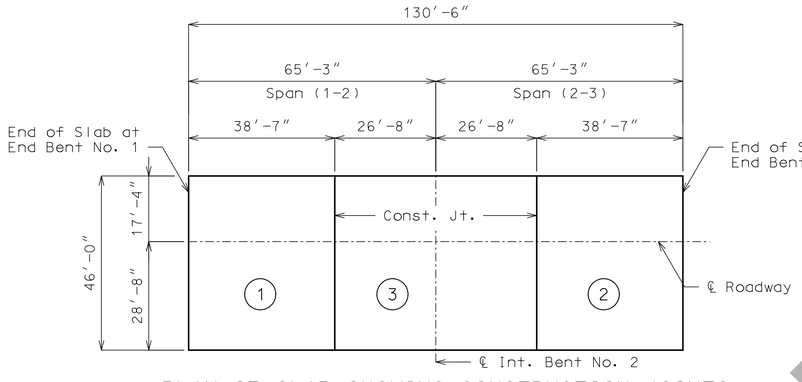
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HALF SECTION NEAR ℄ SPAN

HALF SECTION NEAR INTERMEDIATE BENT

SECTION THRU SLAB



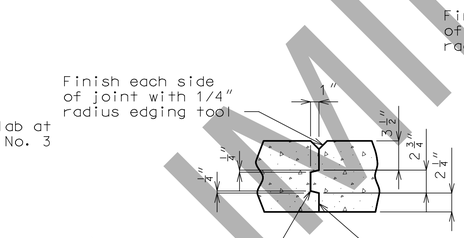
PLAN OF SLAB SHOWING CONSTRUCTION JOINTS

Note: Longitudinal slab dimensions are measured horizontally.

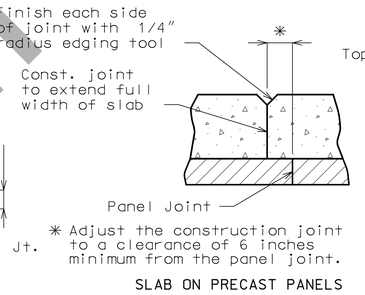
	Sequence of Pours			Min. Rate of Pour Cu. Yds./Hr.
	Direction			With Retarder
Basic Sequence	1	2	3	25
	Either Direction			
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate "A" Pours	1		3+2	25
	End to 3		1 to End	
Alternate "B" Pours	1 + 3 + 2			35
	End to End			

The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bent and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.



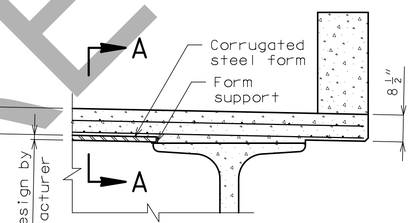
FULL DEPTH SLAB



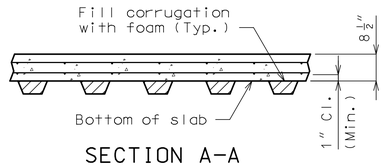
* Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.

SLAB ON PRECAST PANELS

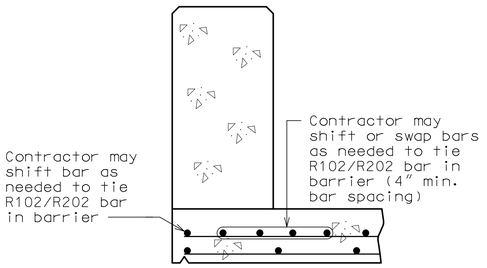
SLAB CONSTRUCTION JOINT DETAILS



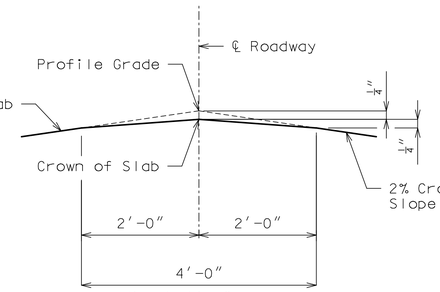
CORRUGATED STEEL FORMS



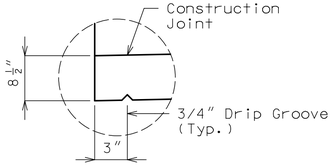
SECTION A-A



OPTIONAL SHIFTING TOP BARS AT BARRIER



DETAIL A



DETAIL B

Notes:

For reinforcement of Barrier Curb not shown, see Sheets No. 20 thru 22.

For Plan of Top Slab and Sidewalk reinforcing, see Sheet No. 17.

For Plan of Bottom Slab reinforcing, see Sheet No. 18.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 16.

For Details of Precast Panels, see Sheet No. 15.

For Ornamental Pedestrian Fencing Details, see Sheet No. 24.

For Conduit Details, see Sheet No. 23.

DETAILS OF SLAB REINFORCING

Detailed Dec 2018
Checked Dec 2018

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

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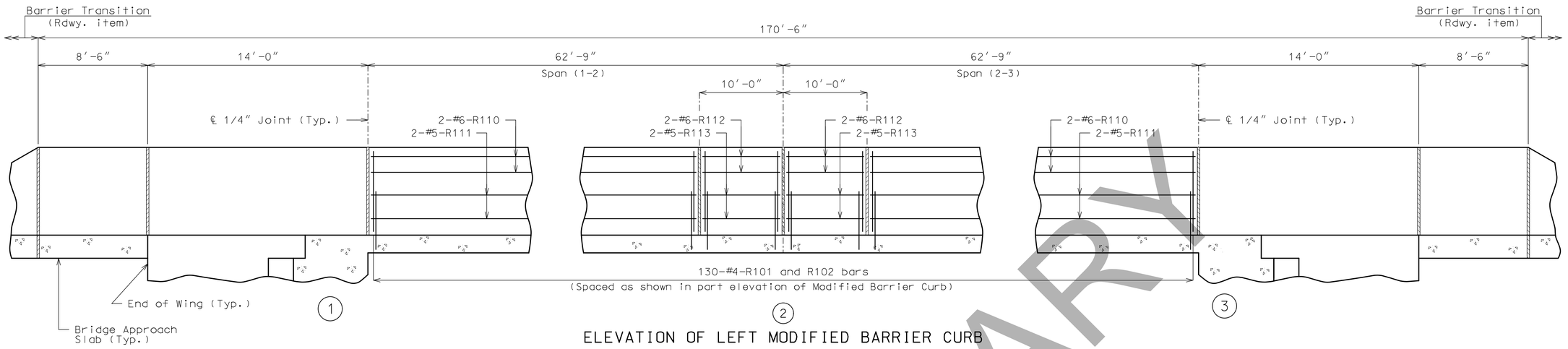
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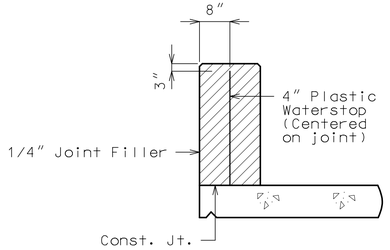


ELEVATION OF LEFT MODIFIED BARRIER CURB

Notes:

Ornamental Pedestrian Fence not shown for clarity.

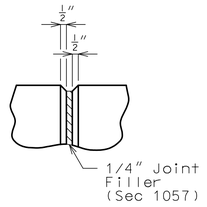
Longitudinal dimensions are horizontal.



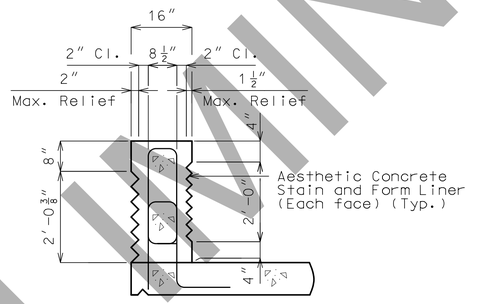
WATERSTOP DETAIL

Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on all lower joints only.

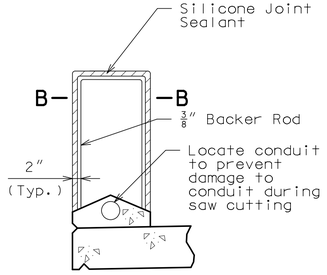
Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Modified Barrier Curb.



PART ELEVATION AT FORMED JOINT

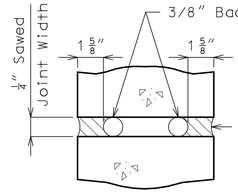


FORM LINER DETAILS

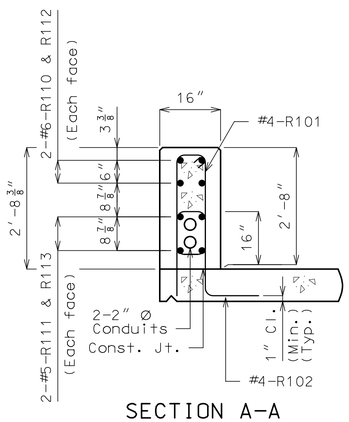


SECTION THRU SAW CUT JOINT

(Use when conduit is required)

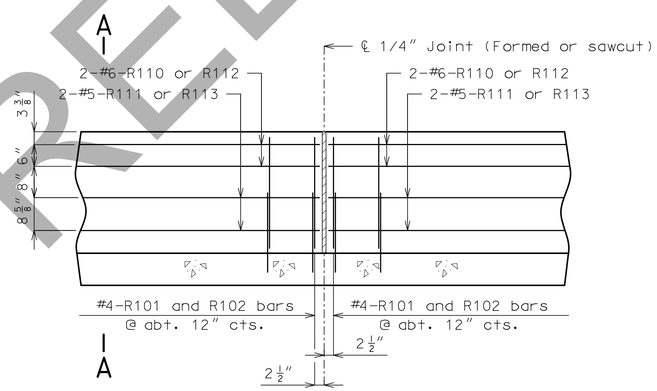


SECTION B-B



SECTION A-A

The cross-sectional area above the slab is 3.57 sq. ft.



PART ELEVATION OF LEFT MODIFIED BARRIER CURB

Notes:

Top of Modified Barrier Curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of Modified Barrier Curb shall have either a 1/2 inch radius or a 3/8 inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Modified Barrier Curb per linear foot.

Concrete in the Modified Barrier Curb shall be Class B-1.

Measurement of Modified Barrier Curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of Approach Slab to end of Approach Slab.

Except for Section A-A, conduit is not shown for clarity.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with saw cut joints.

For Ornamental Pedestrian Fencing Details, see Sheet No. 24.

For Conduit and Form Liner Details, see Sheet No. 23.

DETAILS OF LEFT MODIFIED BARRIER CURB

Detailed Dec 2018
Checked Dec 2018

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

PRELIMINARY

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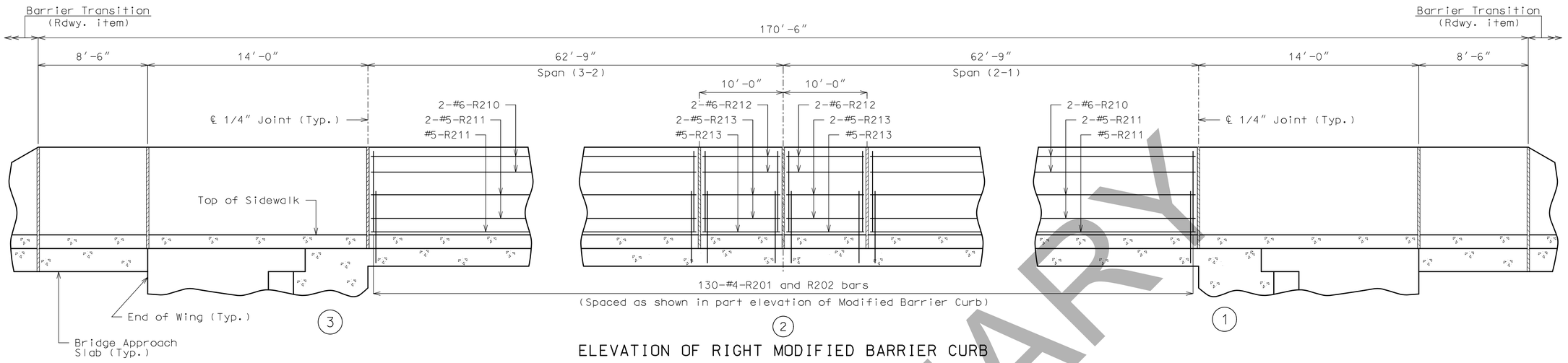
DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 20
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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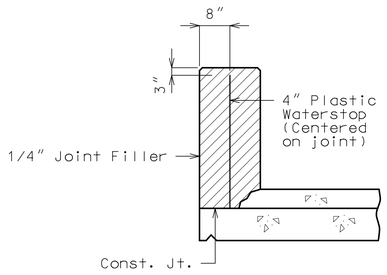


ELEVATION OF RIGHT MODIFIED BARRIER CURB

Notes:

Ornamental Pedestrian Fence not shown for clarity.

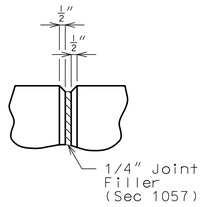
Longitudinal dimensions are horizontal.



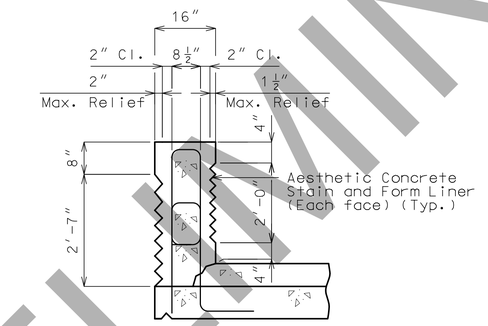
WATERSTOP DETAIL

Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on all lower joints only.

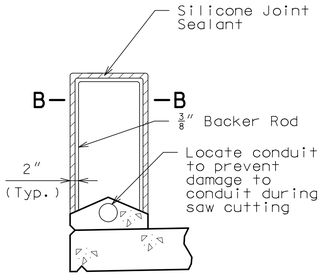
Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Modified Barrier Curb.



PART ELEVATION AT FORMED JOINT

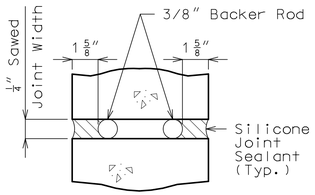


FORM LINER DETAILS

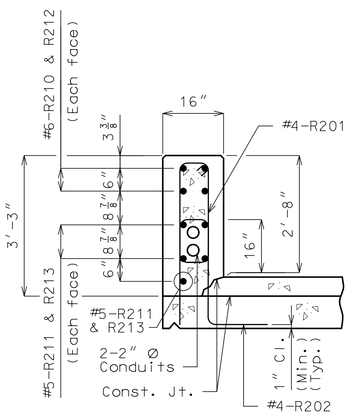


SECTION THRU SAW CUT JOINT

(Use when conduit is required)

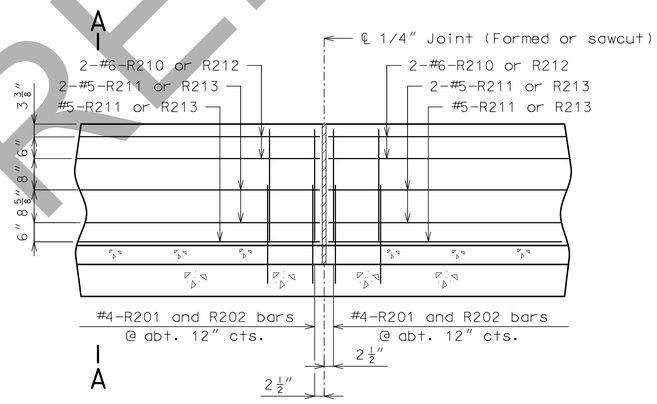


SECTION B-B



SECTION A-A

The cross-sectional area above the slab is 4.31 sq. ft.



PART ELEVATION OF RIGHT MODIFIED BARRIER CURB

Notes

Top of Modified Barrier Curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of Modified Barrier Curb shall have either a 1/2 inch radius or a 3/8 inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Modified Barrier Curb per linear foot.

Concrete in the Modified Barrier Curb shall be Class B-1.

Measurement of Modified Barrier Curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of Approach Slab to end of Approach Slab.

Except for Section A-A, conduit is not shown for clarity.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with saw cut joints.

For Ornamental Pedestrian Fencing Details, see Sheet No. 24.

For Conduit and Form Liner Details, see Sheet No. 23.

DETAILS OF RIGHT MODIFIED BARRIER CURB

Detailed Dec 2018
Checked Dec 2018

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

PRELIMINARY

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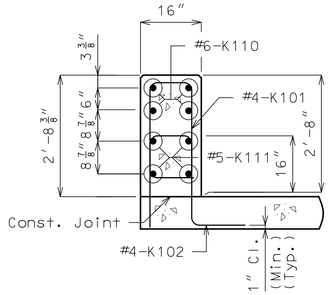
DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 21
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

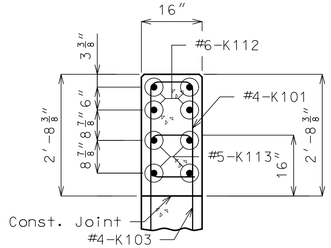
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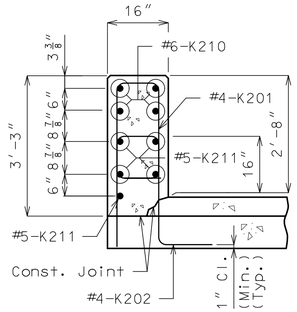
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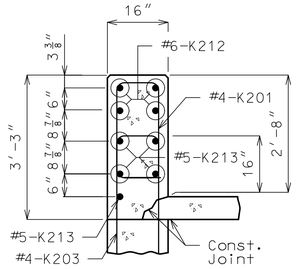
SECTION A-A



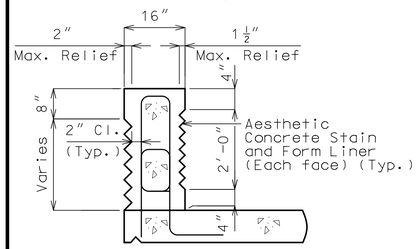
SECTION B-B



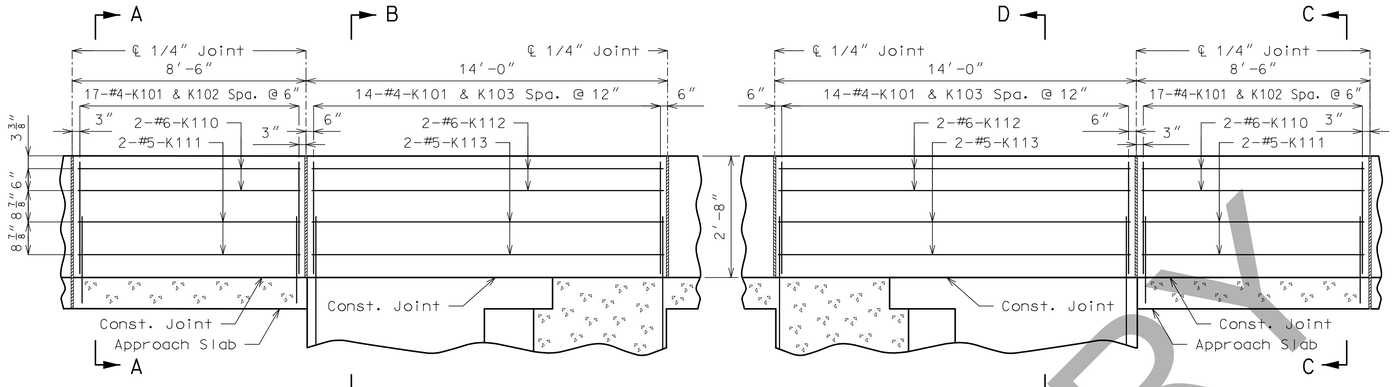
SECTION E-E



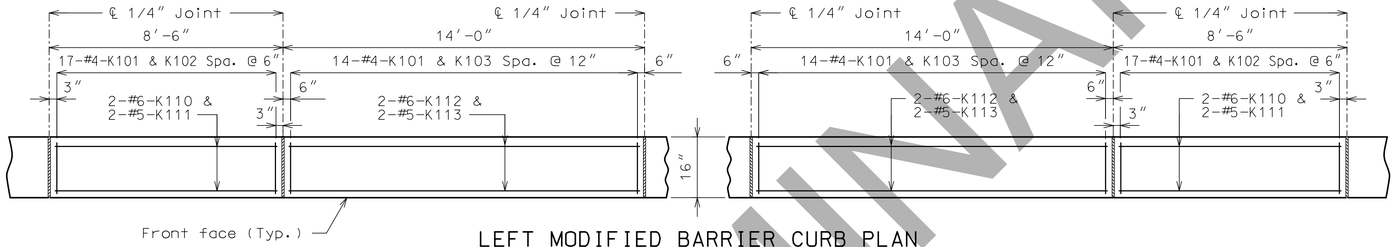
SECTION F-F



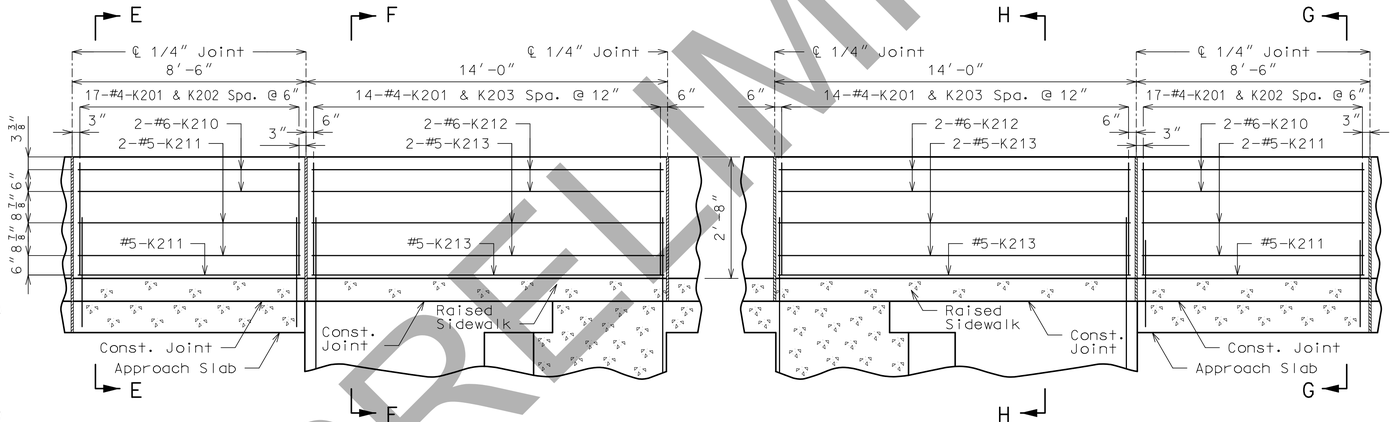
FORM LINER DETAILS



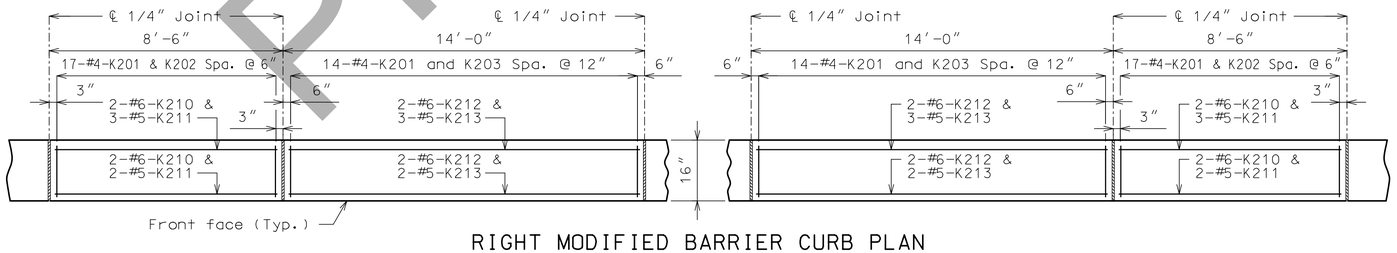
LEFT MODIFIED BARRIER CURB ELEVATION



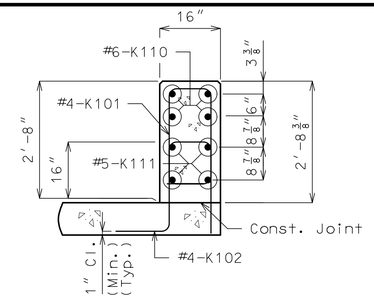
LEFT MODIFIED BARRIER CURB PLAN



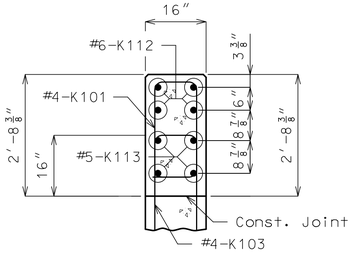
RIGHT MODIFIED BARRIER CURB ELEVATION



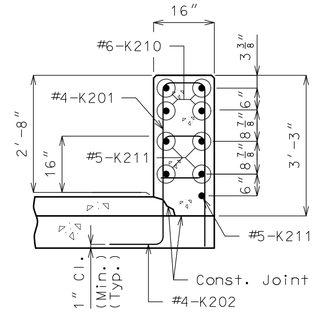
RIGHT MODIFIED BARRIER CURB PLAN



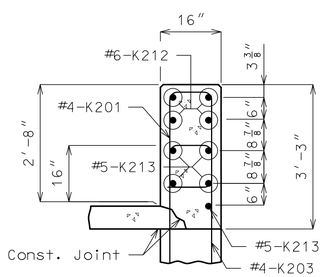
SECTION C-C



SECTION D-D



SECTION G-G



SECTION H-H

Note:

Conduit not shown for clarity, see Sheet No. 23 for details. For Form Liner details, see Sheet No. 23.

Pedestrian Fence not shown for clarity, see Sheet No. 24 for details.

PRELIMINARY

DETAILS OF MODIFIED BARRIER CURB AT END BENTS

Detailed Dec 2018
Checked Dec 2018

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

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

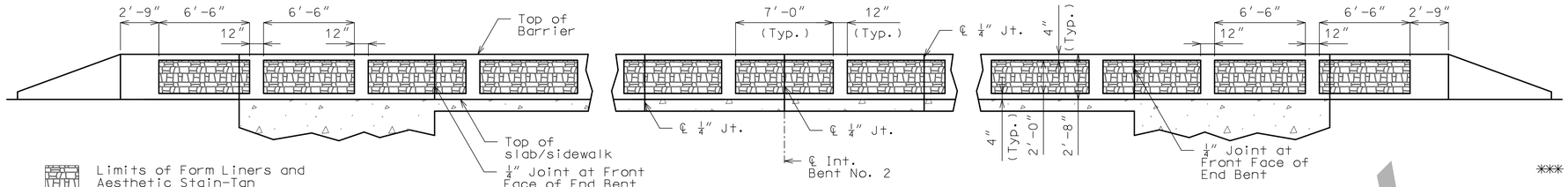
DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 22
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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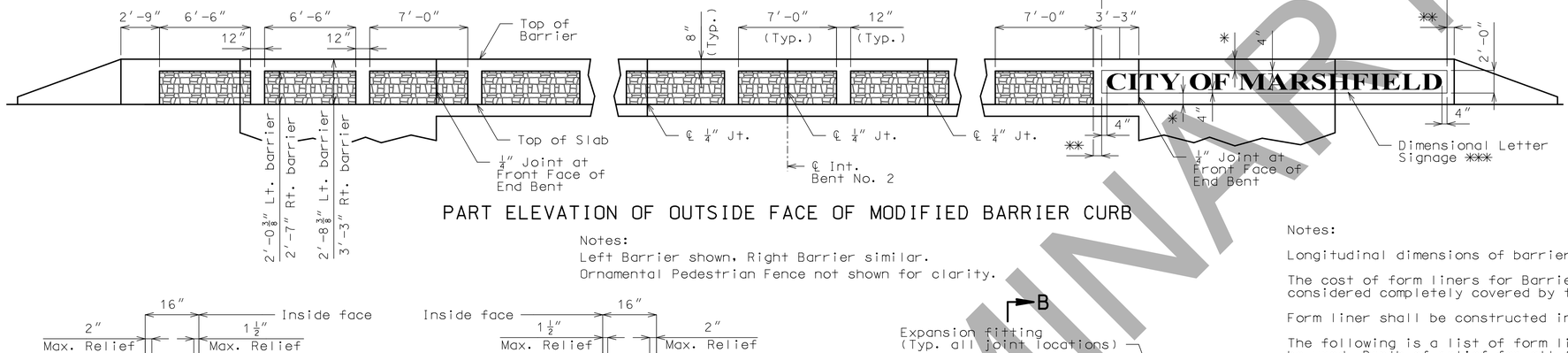
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PART ELEVATION OF INSIDE FACE OF MODIFIED BARRIER CURB

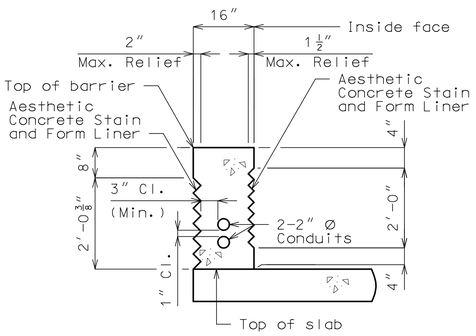
Notes:
Left Barrier shown, Right Barrier similar.
Ornamental Pedestrian Fence not shown for clarity.



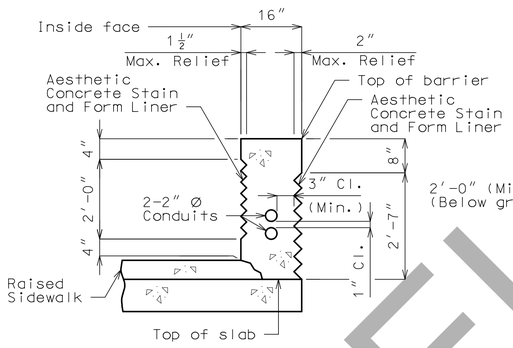
PART ELEVATION OF OUTSIDE FACE OF MODIFIED BARRIER CURB

Notes:
Left Barrier shown, Right Barrier similar.
Ornamental Pedestrian Fence not shown for clarity.

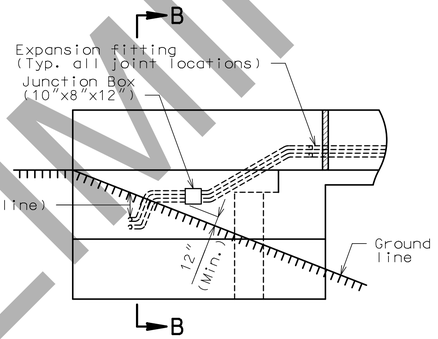
*** Painted, reverse/halo-lit, fabricated aluminum channel letters with concealed LED strip light fixtures and polycarbonate back, mounted with projecting studs on painted metal sign panel/electrical enclosure. See specifications for more information. Length of sign message shall not exceed 22'-6". Sign panel/electrical enclosure to provide 4" of exposed surface at four sides of sign message and shall not exceed 2'-0" in height and 23'-2" in length. All electrical conduit, wiring, and light fixtures shall be concealed from view. Sign occurs at both sides of bridge (bid shall include a total of two signs and associated illumination). Bidders shall contract with a qualified sign fabricator that will prepare shop drawings and coordinate final design, color selection, and installation with architect.



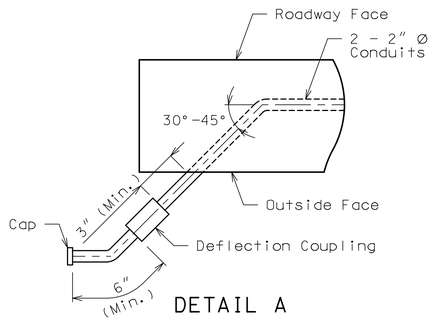
LEFT BARRIER



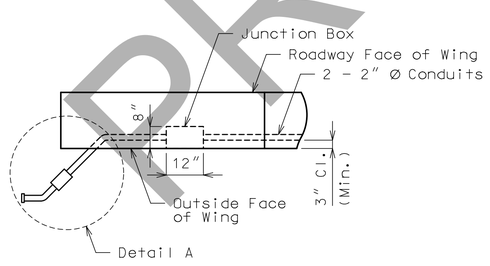
RIGHT BARRIER



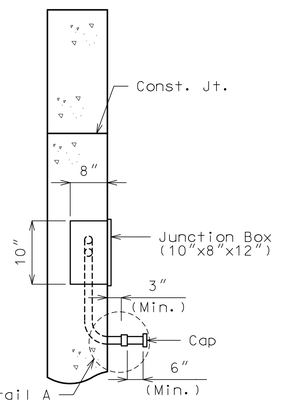
PART ELEVATION SHOWING JUNCTION BOX IN WING



DETAIL A



PART PLAN OF MODIFIED BARRIER CURB CONDUIT SYSTEM PLACEMENT



PART SECTION B-B

Notes:

Longitudinal dimensions of barrier are horizontal.

The cost of form liners for Barrier Curbs, complete in place, will be considered completely covered by the contract unit price for Form Liners.

Form liner shall be constructed in accordance with Special Provisions.

The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner patterns shall vary up to 1 1/2". The height of any single 'stone' shall be 15" maximum.

(1) Scott System, Inc.: Form liner pattern #167 "Ashlar Stone"

(2) Fitzgerald Formliners: Form liner pattern # 16986 "Ashlar Stone"

(3) Greenstreak: Form liner pattern #330 "Ashlar Stone"

(4) Spec Formliners: Form liner pattern #1515 "Ashlar Stone"

(5) Customrock: Form liner pattern #12020 "Tollway Ashlar"

(6) An approved equal

Aesthetic Concrete Stain is not included in the cost for Form Liners.

All conduits shall be rigid nonmetallic schedule 40 heavy wall polyvinyl chloride (PVC) with 3 inch minimum cover in concrete. Each section of conduit shall bear the Underwriters Laboratories (UL) label.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total expansion movement of 1 inch at filled joints using a maximum temperature range of 120°F and a maximum temperature of 110°F.

Drainage shall be provided at low points or other critical locations of all conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.

Minimum clearance preferred between conduits placed in the Modified Barrier Curb shall be 1 inch.

All end bent junction boxes shall be PVC molded in accordance with Sec 1062 and designed for surface mounting. The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4 enclosure.

Junction box size shown on plan may require special order. No other size may be substituted.

Payment for furnishing and installing conduit system, complete in place, will be considered completely covered by the contract lump sum price for Conduit System on Structure.

For Modified Barrier Curb Details, see Sheets No. 20 thru 22.

For Ornamental Pedestrian Fence Details, see Sheet No. 24.

MoDOT Construction Personnel: Indicate in field and on bridge plans for future work the exact loaction of buried conduit at ends of bridge that are capped and not immediately used.

CONDUIT AND FORM LINER DETAILS

Detailed Dec 2018
Checked Dec 2018

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

PRELIMINARY

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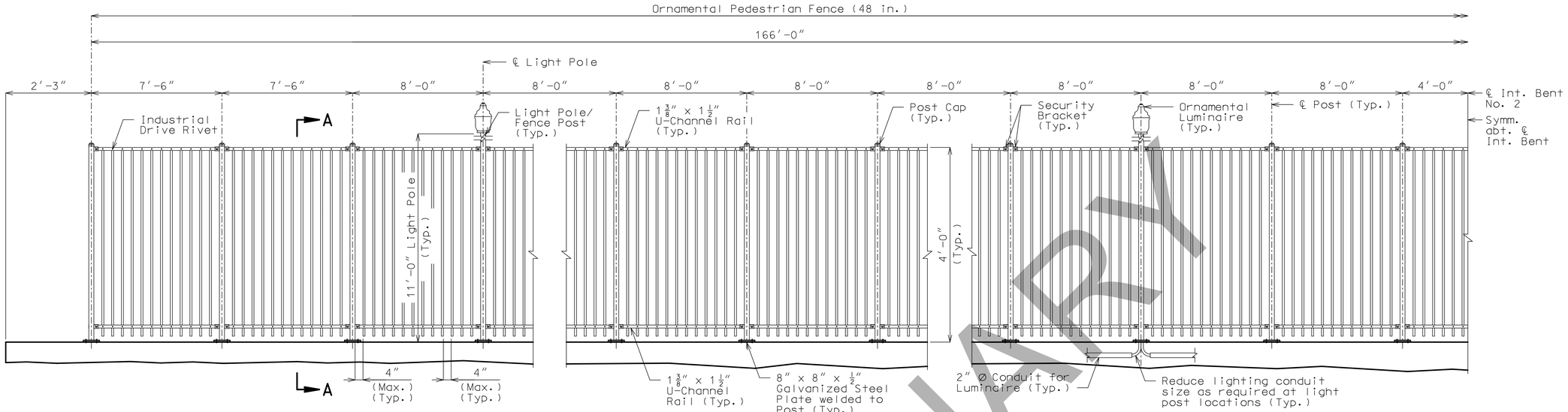
DATE PREPARED 1/30/2019
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COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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

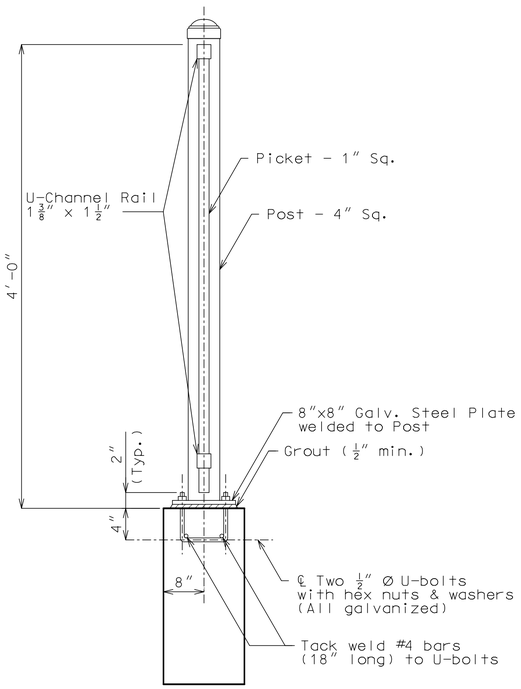
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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HALF ELEVATION OF FENCE

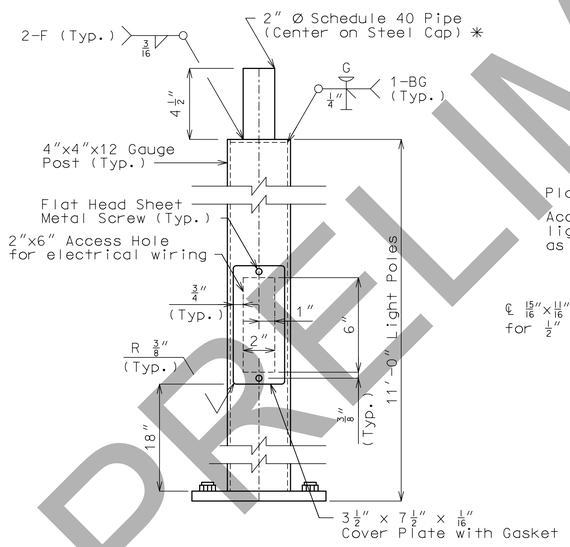
Note: All fence panels shall be placed level and positioned such that the vertical clearance between the top of the barrier curb and bottom of fence panel is 2 inches.



SECTION A-A
RAIL POST CONNECTION TO BARRIER CURB

Note:

Barrier Curb Reinforcement not shown for clarity.



LIGHT POLE/FENCE POST DETAIL

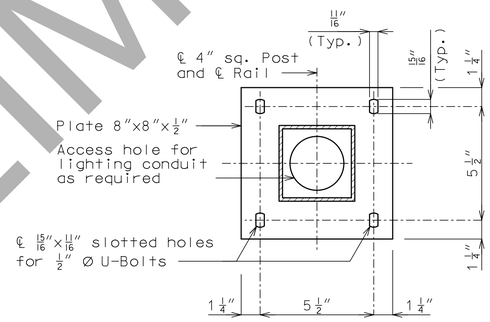
Notes:

Light fixture not shown.

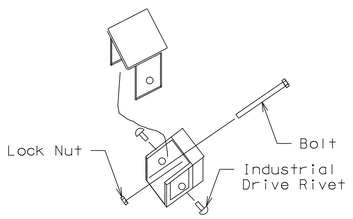
All other details per typical fence post detail.

✳ Pipe fabricator shall verify pipe will accomodate light fixture.

Contractor to reduce lighting conduit size as required at light post locations.



PLAN OF FLOOR PLATE



SECURITY BRACKET DETAIL

Notes:

Plans are for the design of the post spacing and base plate connection only. Railing, post and base plate details are shown schematically and are based on the preliminary information provided. Contractor shall submit detailed shop drawings and calculations based on 2012-AASHTO LRFD 6th Edition and 2013 Interims signed and sealed by a professional engineer registered in the state of Missouri.

The design live load for pedestrian railings shall be in accordance with AASHTO LRFD Bridge Design Specifications except that a uniform load of 50 lb/ft and a concentrated load of 200 lb need not be applied simultaneously. The posts of pedestrian fencing will require both loadings applied simultaneously.

All connections from post to rail shall be bolted.

Install fence per manufacturer's recommendations.

Tubular galvanized steel shall be per ASTM F2408 with a minimum yield strength of 45 ksi.

U-channel steel shall be per ASTM F2408 with minimum yield strength of 50 ksi.

Floor plate shall be ASTM A709, Grade 36.

Rail/post brackets shall be die cast of zinc per ASTM B86-83Z 33521 and shall accommodate rail angles up to 30° in any direction. Rail/post bracket shall have a minimum shear strength of 3,000 lbs and holding strength of 2,200 lbs. Bracket to have security cover.

Post caps shall be cast aluminum, malleable iron, or formed steel.

Industrial drive rivets shall have a minimum shear strength of 1,500 lbs and holding power of 1,100 lbs.

Galvanize tubular steel, U-channels and floor plates per ASTM A653/653M with G90 zinc coating, 0.90 oz/sq. ft.

All fence elements shall be powder coated with zinc enriched epoxy primer powder coat of 2-4 mils and ultra polyester finish TGIC powder coat of 2-4 mils. Finish color shall be black.

Dimensions of ornamental railing are measured horizontally. All posts shall be vertical. Grout of 1/2" minimum thickness shall be placed under the floor plates to provide vertical alignment of rail posts. Place grout in accordance with Sec 1066.

The contract unit price per linear foot for Ornamental Pedestrian Fence (48") shall include furnishing, painting and erecting the fence, posts, post anchoring system, light posts and ornamental luminaires.

See Special Provision for Luminaire specifications.

PRELIMINARY

ORNAMENTAL PEDESTRIAN FENCE DETAILS

Detailed Dec 2018
Checked Dec 2018

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

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

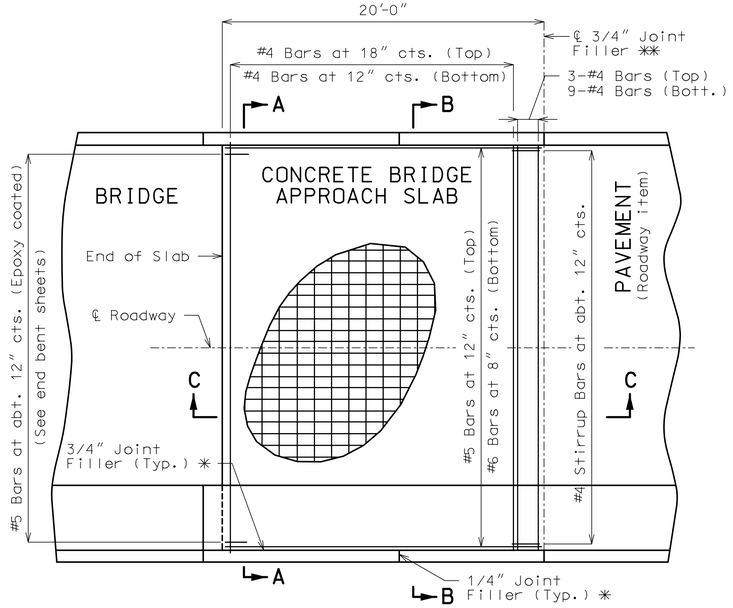
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 24
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

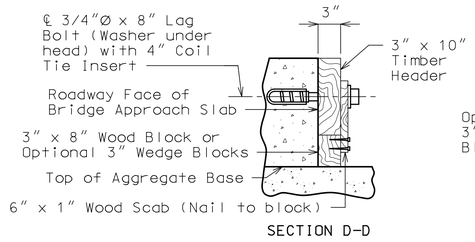
DESCRIPTION | DATE

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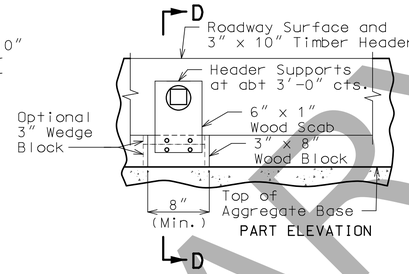
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PART PLAN OF SQUARED STRUCTURE



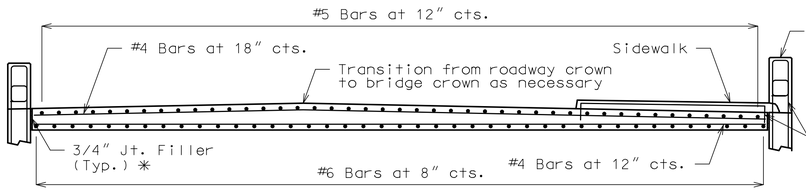
SECTION D-D



PART ELEVATION

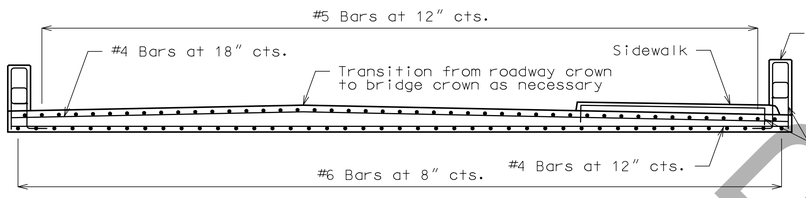
DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.



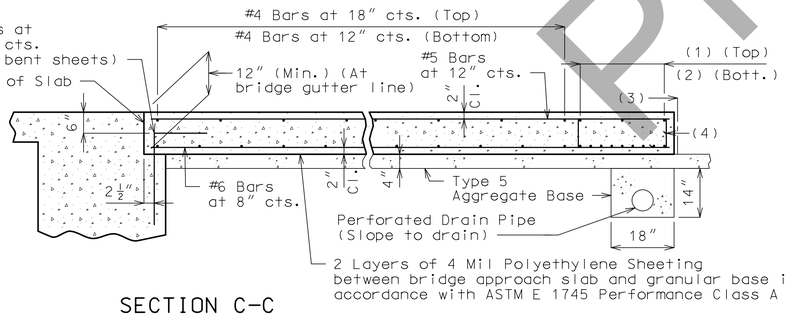
SECTION A-A

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION B-B

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION C-C

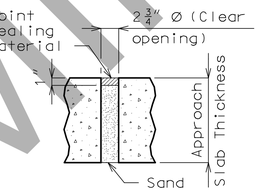
(Integral end bent)

(1) 3-#4 Bars

(2) 9-#4 Bars

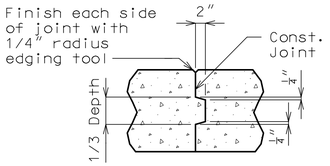
(3) ℄ 3/4" Jt. Filler **

(4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.



TYPICAL UNDERSEAL ACCESS HOLE DETAIL

(If required)



CONCRETE CONST. JOINT DETAIL

(If required)

Notes:

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

All concrete for the bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.

Minimum clearance to reinforcing steel shall be 1-1/2",unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 bars 23".

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor Road) per square yard.

* Seal joint between vertical face of bridge approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

** Except not allowed with asphalt pavement.

PRELIMINARY

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

DATE PREPARED 1/30/2019

ROUTE I-44 | STATE MO

DISTRICT BR | SHEET NO. 25

COUNTY WEBSTER

JOB NO. J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A8753

DESCRIPTION | DATE

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

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DETAILS OF BRIDGE APPROACH SLAB (MINOR ROAD)

Detailed Dec 2018
Checked Dec 2018

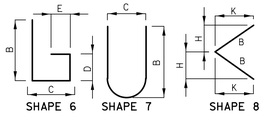
Note: This drawing is not to scale. Follow dimensions.

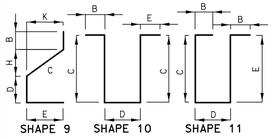
BILL OF REINFORCING STEEL

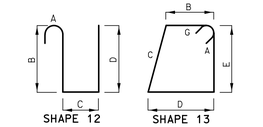
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			SUBSTRUCTURE																									
			INT. BENT 2																									
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8	9	H201	BEAM	E	18		X			43	7.000													46	1	46	1	1254
10	6	H202	BEAM	E	20		X			43	7.000													43	7	43	7	655
8	9	H203	BEAM	E	20		X			43	7.000													43	7	43	7	1186
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14	6	H205	BEAM	E	10	S	X					22	000	3	1.500									6	10	6	6	137
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60	9	V202	COLUMN	E	20		X			35	7.500													35	8	35	8	7276
174	4	P201	COLUMN	E	16		X			2	9.000	3	1.000											11	9	11	9	1366
			SUPERSTRUCTURE																									
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36	6	H152	WING WALL	E	20					12	5.000													12	5	12	5	672
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20	5	V102	BEAM	E	20					5	4.250													5	5	5	5	113
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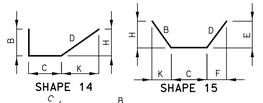
BILL OF REINFORCING STEEL

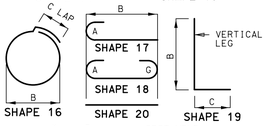
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20	5	V302	BEAM	E	20					5	4.250													5	5	5	5	113
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6	5	H243	DIAPHRAGM	E	20					5	9.000													5	9	5	9	36
4	5	H244	DIAPHRAGM	E	20					4	4.875													4	5	4	5	19
6	6	H245	DIAPHRAGM	E	20					5	6.000													5	6	5	6	50
48	4	U240	DIAPHRAGM	E	28	S						2	3.000	3	4.875		18.000							7	2	7	0	225
16	6	U241	DIAPHRAGM	E	28	S						2	3.000	3	4.875	2	2.000							7	10	7	7	183
16	6	U242	DIAPHRAGM	E	28	S						2	3.000	2	8.500	2	2.000							7	2	6	10	165
8	6	U243	DIAPHRAGM	E	28	S							23.000	2	8.250	2	2.000							6	10	6	6	79
4	5	U244	DIAPHRAGM	E	6	S				4	8.000		13.000											5	9	5	8	24
12	5	U245	DIAPHRAGM	E	6	S				5	1.000		13.000		17.250									7	8	7	4	92
8	5	V240	DIAPHRAGM	E	20					3	6.000													3	6	3	6	30
			SLAB																									
78	5	S101	SLAB	E	20					38	3.000													38	3	38	3	3112
39	6	S102	SLAB	E	20					60	0.000													60	0	60	0	3515
68	8	S103	SLAB	E	20					34	3.000													34	3	34	3	6219
130	5	S104	SLAB	E	20					28	6.000													28	6	28	6	3865
251	6	S105	SLAB	E	20					45	9.000													45	9	45	9	17248
126	5	S106	SLAB	E	20					5	2.000													5	2	5	2	679
215	5	S107	SLAB	E	20					14	9.000													14	9	14	9	3308

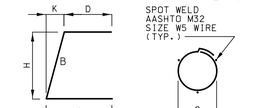


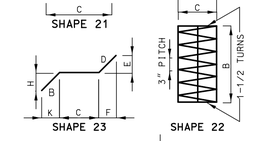


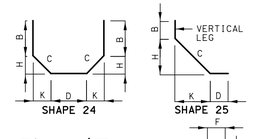


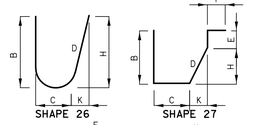


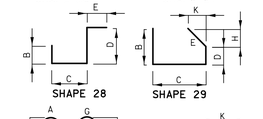


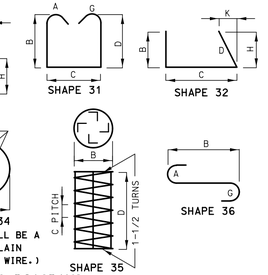




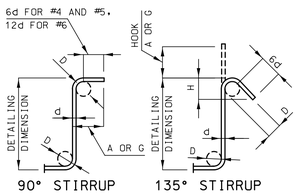








BENDING DIAGRAMS

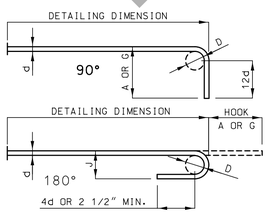


STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	135° HOOK APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS

BAR SIZE	D (IN.)	ALL GRADES 180° HOOKS A OR G	180° HOOKS J	90° HOOKS A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

PRELIMINARY

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

DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 26
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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)

CMT
CRAWFORD, MURPHY & TILLY, INC.
1631 WEST ELFINDALE STREET
SPRINGFIELD, MO 65807 (417) 869-6009
ENGINEERING CORPORATION - 000631
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Detailed Dec 2018
Checked Dec 2018

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

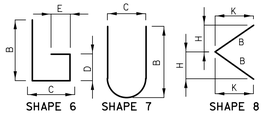
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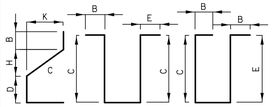
BILL OF REINFORCING STEEL

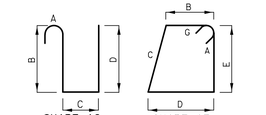
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SIDEWALK																									
20	4	S120	SIDEWALK	E	20					22	3.000													22	3	22	3	298
20	4	S121	SIDEWALK	E	20					52	6.000													52	6	52	6	702
20	4	S122	SIDEWALK	E	20					9	9.000													9	9	9	9	131
174	4	S123	SIDEWALK	E	10	S						11.000	10	10.500										12	9	12	7	1463
			BARRIER CURB																									
130	4	R101	BARRIER CURB	E	13	S					8.500	2	2.000		8.500	2	2.000							6	6	6	3	543
130	4	R102	BARRIER CURB	E	28	S					23.500		8.500		23.500		15.000							5	11	5	8	493
8	6	R110	BARRIER CURB	E	20					52	5.000													52	5	52	5	630
8	5	R111	BARRIER CURB	E	20					52	5.000													52	5	52	5	438
8	6	R112	BARRIER CURB	E	20					9	8.000													9	8	9	8	117
8	5	R113	BARRIER CURB	E	20					9	8.000													9	8	9	8	81
62	4	K101	BARRIER CURB	E	13	S					8.500	2	2.000		8.500	2	2.000							6	6	6	3	259
34	4	K102	BARRIER CURB	E	28	S				2	3.000		8.500	2	3.000		15.000							6	6	6	3	142
28	4	K103	BARRIER CURB	E	10	S						3	4.000		8.500									7	5	7	3	136
8	6	K110	BARRIER CURB	E	20					8	2.000													8	2	8	2	99
8	5	K111	BARRIER CURB	E	20					8	2.000													8	2	8	2	69
8	6	K112	BARRIER CURB	E	20					13	8.000													13	8	13	8	165
8	5	K113	BARRIER CURB	E	20					13	8.000													13	8	13	8	115
130	4	R201	BARRIER CURB	E	13	S					8.500	2	2.000		8.500	2	2.000							6	6	6	3	543
130	4	R202	BARRIER CURB	E	28	S				2	5.500		8.500	2	5.500		15.000							6	11	6	8	579
8	6	R210	BARRIER CURB	E	20					52	5.000													52	5	52	5	630
10	5	R211	BARRIER CURB	E	20					52	5.000													52	5	52	5	547
8	6	R212	BARRIER CURB	E	20					9	8.000													9	8	9	8	117
10	5	R213	BARRIER CURB	E	20					9	8.000													9	8	9	8	101
62	4	K201	BARRIER CURB	E	13	S					8.500	2	2.000		8.500	2	2.000							6	6	6	3	259
34	4	K202	BARRIER CURB	E	28	S				2	9.500		8.500	2	9.500		15.000							7	7	7	4	167
28	4	K203	BARRIER CURB	E	10	S						3	11.000		8.500									8	7	8	5	158
8	6	K210	BARRIER CURB	E	20					8	2.000													8	2	8	2	99
10	5	K211	BARRIER CURB	E	20					8	2.000													8	2	8	2	86
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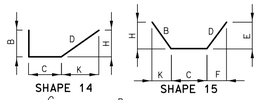
BILL OF REINFORCING STEEL

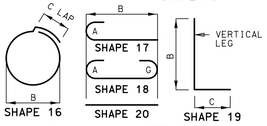
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			TOTALS																									
	4			E																								8122
	5			E																								14333
	6			E																								32913
	7			E																								2248
	8			E																								7367
	9			E																								14323
			TOTAL	E																								79306
			SLAB ON CONCRETE																									
			NU-GIRDER																									
	4			E																								869
	5			E																								12753
	6			E																								27991
	7			E																								2248
	8			E																								7367
			TOTAL	E																								51228
			REINFORCING STEEL (BRIDGES)																									
	4			E																								1380
	5			E																								0
	6			E																								2900
	7			E																								0
	8			E																								0
	9			E																								14323
			TOTAL	E																								18603
			SAFETY BARRIER CURB																									
	4			E																								3279
	5			E																								1580
	6			E																								2022
			TOTAL	E																								6881
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			TOTAL	E																								2594

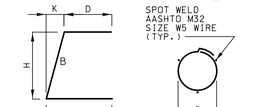


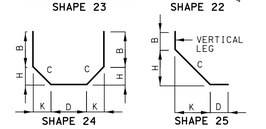


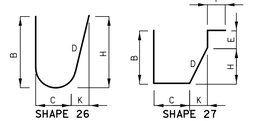


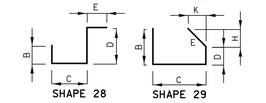


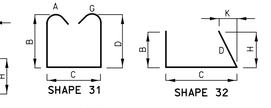


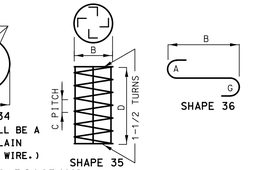




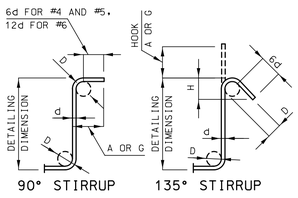








BENDING DIAGRAMS

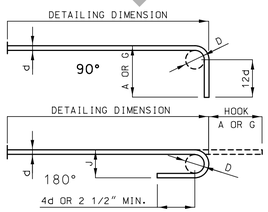


STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	135° HOOK APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS

BAR SIZE	D (IN.)	ALL GRADES 180° HOOKS A OR G	180° HOOKS J	90° HOOKS A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

PRELIMINARY

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

DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 27
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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)

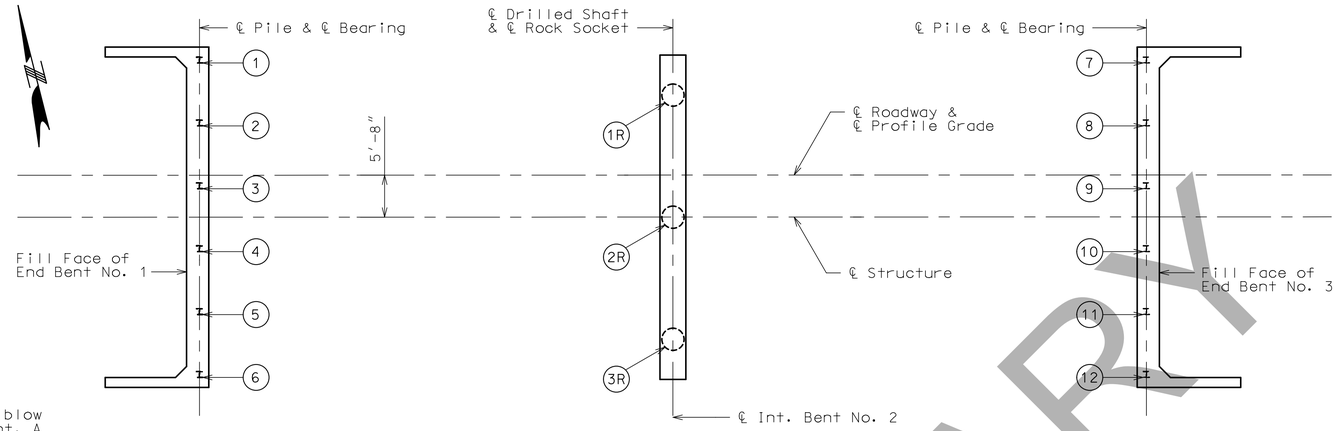
CMT
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CRAWFORD, MURPHY & TILLY, INC.
1631 WEST ELFINDALE STREET
SPRINGFIELD, MO 65807 (417) 869-6009
ENGINEERING CORPORATION - 000631

Detailed Dec 2018
Checked Dec 2018

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

Sheet No. 27 of 33

L:\MarshfieldMO\17322-03\Draw\Sheets\Structures\A8753 - RTE CC OVER I-44\B_A8753_027_J8I0445_BARBILL.dgn 10:09:37 AM 1/30/2019



Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702.

This sheet to be completed by MoDOT construction personnel.

PART PLAN SHOWING NUMBERING FOR RECORDING AS-BUILT PILE AND DRILLED SHAFT DATA

As-Built Pile Data

Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No. 1
1					
2					
3					
4					
5					
6					

As-Built Drilled Shaft Data

Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Intermediate Bent No. 2
1R				
2R				
3R				

As-Built Pile Data

Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No. 3
7					
8					
9					
10					
11					
12					

PRELIMINARY

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DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 28
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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MoDOT
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AS-BUILT PILE AND DRILLED SHAFT DATA

Detailed Dec 2018
Checked Dec 2018

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

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GEOTECHNICAL BORING LOG

BORING NUMBER B-01 (203)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 2
DATE STARTED 7/10/18 **COMPLETED** 7/10/18 **SURFACE ELEVATION** 1359.53 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 75 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.37 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.5" I.D.		TOPSOIL (3") 0.3 ft	SPT 1		4-4-11 (15)		
			GRAVELLY FAT CLAY, Reddish Brown and Tan, Moist, Stiff (CH) 3.0 ft					
5			FAT CLAY, with Gravel, Reddish Brown and Tan, Moist, Medium Stiff (CH) 7.0 ft	SPT 2		4-4-4 (8)	1	1355
			DOLOMITE 8.0 ft					

DRY UNIT WT (pcf): 20 40 60 80 100 ◆
N VALUE: 20 40 60 80 ▲
PL MC LL: 20 40 60 80
SHEAR STRENGTH (ksf): 1 2 3 4 ■

Refusal at 8.0 feet.
Bottom of borehole at 8.0 feet.

B-01(203)

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GEOTECHNICAL BORING LOG

BORING NUMBER B-02 (202)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 2
DATE STARTED 7/10/18 **COMPLETED** 7/10/18 **SURFACE ELEVATION** 1359.90 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 75 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.37 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.5" I.D.		TOPSOIL (3") 0.3 ft	SPT 1		8-15-19 (34)	4.5	
			CLAYEY GRAVEL, Brown to Reddish Brown, Dry, Dense (GC) 2.0 ft					
			FAT CLAY, trace Gravel, Reddish Brown and Tan, Moist, Hard (CH) 4.8 ft	SPT 2		3-27-11 (38)	0.75	
5			- SANDY LEAN CLAY lense at 4.5' 5.5 ft					1355
			DOLOMITE, Weathered, Light Gray *Possible Boulder* 8.0 ft					
			FAT CLAY, Reddish Brown and Tan, Moist (CH)					
10	CORE BARREL - 2" I.D.		DOLOMITE, Slightly Weathered to Highly Weathered, Fine Grained, Thin Bedded, Light Gray, Hard to Soft	NQ 3	100 (0)			1350
				NQ 4	98 (30)			
15				NQ 5	100 (42)			1345
20				NQ 6	75 (38)			1340
25				NQ 7	98 (32)			1335
30				NQ 8	100 (62)			1330
			22.8 ft VOID from 22'9" to 24' 24.0 ft DOLOMITE, with Chert Nodules, Weathered to Slightly Weathered, Fine Grained, Thin Bedded, Light Gray, Soft to Medium Hard 34.4 ft					

DRY UNIT WT (pcf): 20 40 60 80 100 ◆
N VALUE: 20 40 60 80 ▲
PL MC LL: 20 40 60 80
SHEAR STRENGTH (ksf): 1 2 3 4 ■

Bottom of borehole at 34.4 feet.

B-02(202)

PRELIMINARY

Note: For locations of borings, see Sheet No. 1.

BORING DATA

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

Detailed Dec 2018
Checked Dec 2018

Sheet No. 29 of 33

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

DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 29
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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GEOTECHNICAL BORING LOG

BORING NUMBER B-03 (201)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange

PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 2

DATE STARTED 7/10/18 **COMPLETED** 7/10/18 **SURFACE ELEVATION** 1360.38 ft **BENCHMARK EL.**

DRILLER DH **DRILL RIG** CME 75 **GROUND WATER LEVELS**

HAMMER TYPE Auto **AT TIME OF DRILLING** None

LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**

NOTES A calibration factor of 1.37 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.5" I.D.		TOPSOIL (3") 0.3 ft	SPT 1		11-12-12 (24)		1360
			CLAYEY GRAVEL, Brown to Reddish Brown, Dry to Moist, Medium Dense (GC)					
			4.0 ft	SPT 2		14-3-4 (7)	0.75	
5			FAT CLAY, trace Gravel, Reddish Brown and Tan, Moist, Medium Stiff (CH)					1355
			7.5 ft 7.7 ft					
			DOLOMITE or DOLOMITE BOULDER Refusal at 7.7 feet. Bottom of borehole at 7.7 feet.					

DRY UNIT WT (pcf) 20 40 60 80 100 ◆ | N VALUE ▲ 20 40 60 80 | PL MC LL 20 40 60 80 | SHEAR STRENGTH (ksf) ◘ 1 2 3 4

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\CGMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

B-03(201)

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GEOTECHNICAL BORING LOG

BORING NUMBER B-06 (303)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange

PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 3

DATE STARTED 7/9/18 **COMPLETED** 7/9/18 **SURFACE ELEVATION** 1361.61 ft **BENCHMARK EL.**

DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**

HAMMER TYPE Auto **AT TIME OF DRILLING** None

LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**

NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.5" I.D.		TOPSOIL (2") 0.2 ft	SPT 1		11-17-14 (31)	4.5	1360
			CLAYEY GRAVEL, Brown, Dry, Dense (GC) 1.3 ft					
			FAT CLAY, with Gravel Layers, Reddish Brown and Tan, Moist, Hard to Very Stiff (CH)	SPT 2		14-14-9 (23)	4.5	
5			8.0 ft					1355
			GRAVELLY FAT CLAY, Red, Moist, Very Stiff (CH) *Intermittent Gravel and Cobble Layers*	SPT 3		40-20-9 (29)	1	
10			12.8 ft					1350
	CORE BARREL - 2" I.D.		DOLOMITE, Trace Chert Nodules, Slightly Weathered to Weathered, Fine Grained, Thin Bedded, Light Gray, Soft to Medium Hard	NQ 4	100 (34)			
15				NQ 5	100 (82)			1345
20			23.3 ft					
			VOID from 23'3" to 24'9" 24.8 ft	NQ 6	50 (13)			1340
25			DOLOMITE, with Chert Nodules, Highly Weathered, Fine Grained, Thin Bedded, Light Gray, Soft 25.8 ft 26.9 ft					1335
			VOID from 25'9" to 26'9"					
30			DOLOMITE, with Chert Nodules, Slightly Weathered, Fine Grained, Thin Bedded, Light Gray, Medium Hard to Moderately Hard	NQ 7	85 (37)			1330
				NQ 8	100 (79)			
35			38.4 ft	NQ 9	100 (67)			1325
			Bottom of borehole at 38.4 feet.					

DRY UNIT WT (pcf) 20 40 60 80 100 ◆ | N VALUE ▲ 20 40 60 80 | PL MC LL 20 40 60 80 | SHEAR STRENGTH (ksf) ◘ 1 2 3 4

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\CGMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

B-06(303)

PRELIMINARY

Note: For locations of borings, see Sheet No. 1.

BORING DATA

Detailed Dec 2018
Checked Dec 2018

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

Sheet No. 30 of 33

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

DATE PREPARED 1/30/2019

ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
BR	30

COUNTY WEBSTER

JOB NO. J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A8753

DESCRIPTION

DATE

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GEOTECHNICAL BORING LOG

BORING NUMBER B-07 (302)

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 3
DATE STARTED 7/5/18 **COMPLETED** 7/5/18 **SURFACE ELEVATION** 1362.06 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT (pcf) / N VALUE / PL MC LL / SHEAR STRENGTH (ksf)	ELEVATION (ft)
0	HSA - 4.25" I.D.		TOPSOIL (2") 0.2 ft	SPT 1		8-8-30 (38)	4.5		1360
			LEAN CLAY, with Gravel, Dry to Moist, Brown to Reddish Brown, Hard (CL) 2.0 ft						
			FAT CLAY, Intermittent Gravel, Moist, Reddish Brown and Tan, Very Hard to Very Stiff (CH)	SPT 2		8-53-35 (88)	2.75		
5			- At 4.5' to 5 feet a Hard Gravel and Possible Cobble Layer was noted						1355
				SPT 3		8-11-15 (26)			
10			DOLOMITE 10.7 ft 10.8 ft						

Refusal at 10.8 feet.
Bottom of borehole at 10.8 feet.

B-07(302)

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GEOTECHNICAL BORING LOG

BORING NUMBER B-08 (301)

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 3
DATE STARTED 7/5/18 **COMPLETED** 7/5/18 **SURFACE ELEVATION** 1362.43 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT (pcf) / N VALUE / PL MC LL / SHEAR STRENGTH (ksf)	ELEVATION (ft)
0	HSA - 4.25" I.D.		TOPSOIL (3") 0.3 ft	SPT 1		5-9-14 (23)	2.5		1360
			LEAN CLAY, with Gravel, Dry to Moist, Brown, Very Stiff (CL) 1.3 ft						
			FAT CLAY, with Gravel, Moist, Reddish Brown, Very Hard (CH) - Intermittent Gravel Layers and Possible Cobbles Below 3'	SPT 2		9-35-29 (64)	3.25		
5									1355
				SPT 3		17-76/5"			
10			DOLOMITE 9.5 ft 10.0 ft						

Refusal at 10.0 feet.
Bottom of borehole at 10.0 feet.

B-08(301)

PRELIMINARY

Note: For locations of borings, see Sheet No. 1.

BORING DATA

Detailed Dec 2018
Checked Dec 2018

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

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DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 31
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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GEOTECHNICAL BORING LOG

BORING NUMBER B-13 (103)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange

PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 1

DATE STARTED 6/25/18 **COMPLETED** 6/25/18 **SURFACE ELEVATION** 1360.64 ft **BENCHMARK EL.**

DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**

HAMMER TYPE Auto **AT TIME OF DRILLING** None

LOGGED BY RTH **CHECKED BY** RTH **AT END OF DRILLING**

NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT (pcf) / N VALUE / PL MC LL / SHEAR STRENGTH (ksf)	ELEVATION (ft)
0	HSA - 4.25 I.D.		TOPSOIL (3") 0.3 ft						
			GRAVELLY FAT CLAY, Moist, Reddish Brown, Stiff (CH) *Less Gravel with Depth* 1.5 ft	SPT 1	67	5-6-6 (12)	4.5		1360
			FAT CLAY, Trace Gravel, Moist, Reddish Brown, Hard (CH)	ST 2	100		4.5		
				ST 3	60				
5			- Very Stiff to Very Hard with Sand and Tan Below 5.5' - Intermittent Gravel Layers Below 6'	SPT 4	89	6-17-9 (26)	3		1355
			8.9 ft	SPT 5	40	76/5"			

Refusal on Dolomite
Refusal at 8.9 feet.
Bottom of borehole at 8.9 feet.

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GEOTECHNICAL BORING LOG

BORING NUMBER B-14 (102)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange

PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 1

DATE STARTED 6/25/18 **COMPLETED** 6/25/18 **SURFACE ELEVATION** 1361.30 ft **BENCHMARK EL.**

DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**

HAMMER TYPE Auto **AT TIME OF DRILLING** None

LOGGED BY RTH **CHECKED BY** RTH **AT END OF DRILLING**

NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT (pcf) / N VALUE / PL MC LL / SHEAR STRENGTH (ksf)	ELEVATION (ft)
0	HSA - 4.25 I.D.		TOPSOIL (2") 0.2 ft						
			GRAVELLY FAT CLAY, Moist, Reddish Brown, Very Stiff (CH) 2.0 ft	SPT 1	28	3-6-12 (18)			1360
			FAT CLAY, Trace Sand and Gravel, Moist, Reddish Brown, Stiff (CH)	SPT 2	100	3-3-6 (9)	0.25		
5			6.5 ft						1355
			GRAVELLY FAT CLAY, Moist, Reddish Brown, Very Hard (CH) 8.6 ft	SPT 3	0	76/1"			

Refusal on Dolomite
Refusal at 8.6 feet.
Bottom of borehole at 8.6 feet.

PRELIMINARY

B-13(103)

Note: For locations of borings, see Sheet No. 1.

B-14(102)

BORING DATA

Detailed Dec 2018
Checked Dec 2018

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

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DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 32
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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L:\MarshfieldMO\17322-03\Draw\Sheets\Structures\A8753 - RTE CC OVER I-44\B_A8753_032_J8I0445_BORING SHEET.dgn 10:11:16 AM 1/30/2019

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GEOTECHNICAL BORING LOG

BORING NUMBER B-15 (101)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange

PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 1

DATE STARTED 6/26/18 **COMPLETED** 6/26/18 **SURFACE ELEVATION** 1362.22 ft **BENCHMARK EL.**

DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**

HAMMER TYPE Auto **AT TIME OF DRILLING** None

LOGGED BY RTH **CHECKED BY** RTH **AT END OF DRILLING**

NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.25 I.D.		TOPSOIL (3") 0.3 ft	SPT 1	83	3-5-3 (8)	1.75	
			FAT CLAY, with Gravel and Sand Layers, Moist, Brown, Medium Stiff (CH) 7.5 ft *Noted Sandstone Fragments*					
			DOLOMITE, with Chert Nodules, Slightly to Highly Weathered, Fine Grained, Thin Bedded, Light Gray, Soft to Moderately Hard	SPT 2		76/0"		1360
5				NQ 3	100 (62)			
				NQ 4	100 (38)			1355
10				NQ 5	100 (15)			1350
15	CORE BARREL - 2" I.D.			NQ 6	100 (48)			1345
20				NQ 7	100 (7)			1340
25				NQ 8	100 (77)			1335
30			31.0 ft					

Bottom of borehole at 31.0 feet.

◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100
▲ N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
□ SHEAR STRENGTH (ksf) □ 1 2 3 4

PRELIMINARY

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DATE PREPARED 1/30/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 33
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8753

DESCRIPTION | DATE

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

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B-15(101)

Note: For locations of borings, see Sheet No. 1.

BORING DATA

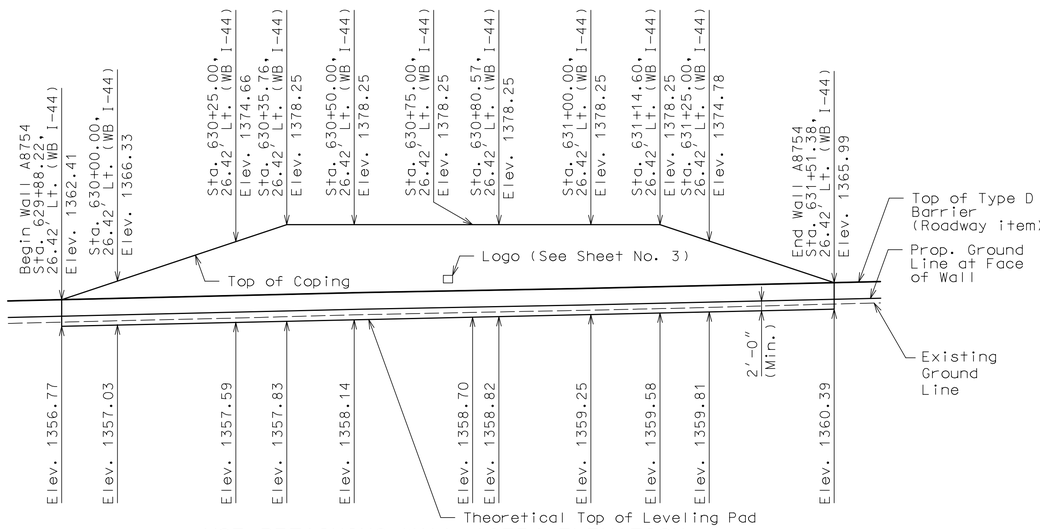
Detailed Dec 2018
Checked Dec 2018

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

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:17 - S:\ MASTER PROJECT FILE\2018\ MO\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

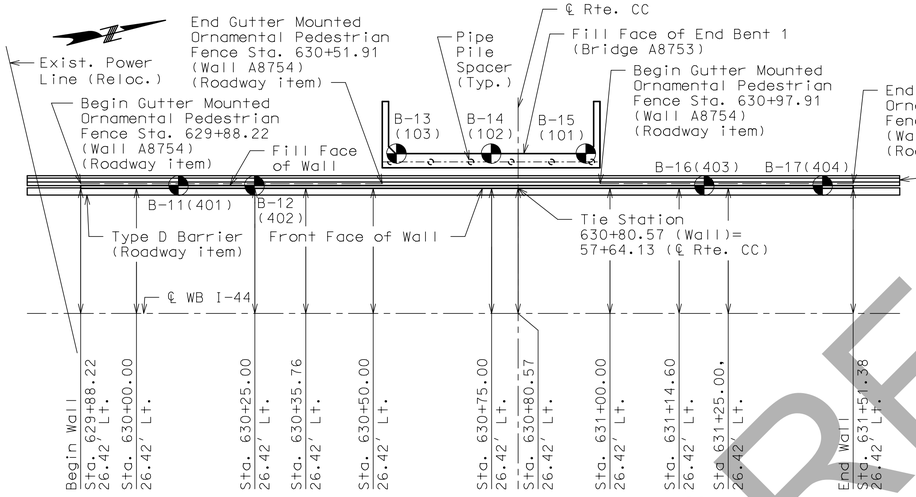
SEC/SUR 34 TWP 31N RGE 18W

163'MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL SYSTEM



MSE RETAINING WALL A8754 ELEVATION

Note: Bent 1 and Pile Spacers are not shown for clarity.



MSE RETAINING WALL A8754 PLAN

Note: Concrete Leveling Pad is not shown for clarity. ✳

✳ Wall contractor shall show the following items on the design drawings and/or on the fabricator shop drawings.

1. Leveling pad horizontal.
2. Leveling pad length and step elevations shall be based on wall manufacturer's recommendation. Top of leveling pad elevations shall not be higher than theoretical top of leveling pad elevations shown on these plans.

Estimated Quantities

Item		Total
Concrete and Masonry Protection System	lump sum	1
Sacrificial Grafitti Protection System	lump sum	1
Aesthetic Concrete Stain	lump sum	1
Mechanically Stabilized Earth Wall Systems	sq. foot	2,607
Form Liners for MSE Wall Systems	sq. yard	3

Designed Nov 2018
Detailed Nov 2018
Checked Nov 2018

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheets No. 4 thru 7 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheet than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

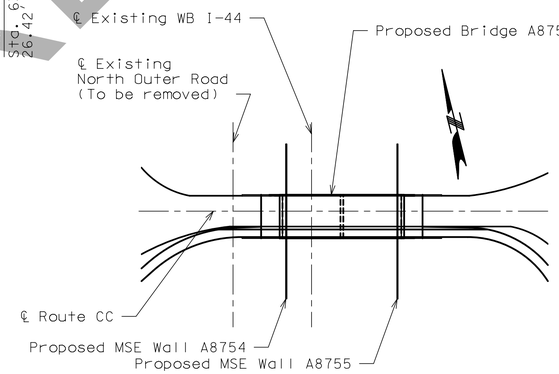
Notes:

Wall stationing and offsets are shown to front face of wall.

Wall elevations are taken from top of coping and top of leveling pad.

B.M.
Control Point #21
N: 558060.8102
E: 1521693.0123
Elev. 1364.24
Sta. 632+35.09
93.70' Lt. (WB I-44)
Mag nail w/ plastic shiner in asphalt

B.M.
Control Point #23
N: 557808.1075
E: 15236070.1773
Elev. 1418.41
Sta. 633+27.19
1239.43' Rt. (EB I-44)
Mag nail w/ plastic shiner in asphalt



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

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

Sheet No. 1 of 7

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications (Section 5, ASD Design)
Seismic Performance Category A

Design Loading:

Φ_D = 28° and unit weight, γ_D = 120 pcf for retained backfill material to be retained by the mechanically stabilized earth wall system.

Φ_f = 28° for unimproved foundation ground where wall is to bear.

Φ_f = 34° for improved foundation ground where wall is to bear.

Actual $\Phi_r \geq 34°$ for the select granular backfill (reinforced backfill and wedge area backfill) for structural systems.

Design Φ_r = 34° for the select granular backfill (reinforced backfill) only for structural systems.

The allowable bearing pressure for unimproved foundation ground is 3 ksf. The allowable bearing pressure for improved foundation ground is 4 ksf.

The maximum applied bearing pressure for the controlling design case at the foundation level shall be shown on the manufacturer's design plans where the maximum applied bearing pressure ≤ allowable bearing pressure. For seismic design the maximum applied bearing pressure ≤ two times allowable bearing pressure.

Factor of safety shall be 2.0 for overturning and 1.5 for sliding.

For seismic design the factor of safety shall be 1.5 for overturning and 1.1 for sliding.

Use default values for the pullout friction factor, F✳, in accordance with AASHTO figure 5.8.5.2A. For approved steel strips not shown in AASHTO figure 5.8.5.2A, use F✳ ≤ 2.0 at zero depth and F✳ ≤ Tan Φ_r at 20 feet depth and Φ_r design = 34°. F✳ values shall be shown on the manufacturer's design plans.

Design Unit Stresses:

All concrete for leveling pad and coping shall be Class B or B-1 with f'c = 4000 psi.

Miscellaneous:

The MSE wall system shall be built vertical.

The MSE wall system shall be built in accordance with Sec 720.

The MSE wall system shall be a large block wall system with rectangular wall panels.

The cost of joint filler and joint seal, complete in place, will be considered completely covered by the contract unit price for Concrete Traffic Barrier (Type D). See Roadway Plans.

Panel and coping (or capstone) reinforcement shall be epoxy coated.

A filter cloth meeting the requirements for a Separation Geotextile material shall be placed between the select granular backfill for structural systems and the backfill being retained by the mechanically stabilized earth wall system.

Coping shall be required on this structure unless a small block system is used. Bond breaker (roofing felt or other approved alternate) between wall panel and coping required if coping is cast in place.

The contractor shall be solely responsible to coordinate construction of the wall with bridge and roadway construction and ensure that the bridge and roadway construction, resulting or existing obstructions, shall not impact the construction or performance of the wall. Soil reinforcement shall be designed and placed to avoid damage by pile driving, guardrail post installation, utility and sign foundations. (See Roadway and Bridge plans.)

Minimum 18" wide Geotextile strips shall be centered at vertical and horizontal joints of panel. Geotextile material shall be adhered to back face of panel using an adhesive compound supplied by the manufacturer.

Aluminized soil reinforcement shall have edges coated with coating material per manufacturer.

MSE Wall Systems Data Table

Proprietary Wall Systems		Combination Wall Systems			
Manufacturer	System	Facing Unit Manufacturer	Facing Unit	Geogrid Manufacturer	Geogrid

MSE Wall Systems Data Table is to be completed by MoDOT construction personnel to record the manufacturer of the proprietary wall system or the manufacturers of the combination wall system that was used for constructing the MSE wall.

RETAINING WALL ALONG WB I-44

ROUTE CC OVER I-44
ABOUT 2 MILES NORTHEAST OF ROUTE 38
TIE STATION 57+64.13 ROUTE CC

STD. 607.11
STD. 617.10

PRELIMINARY

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DATE PREPARED 1/31/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8754

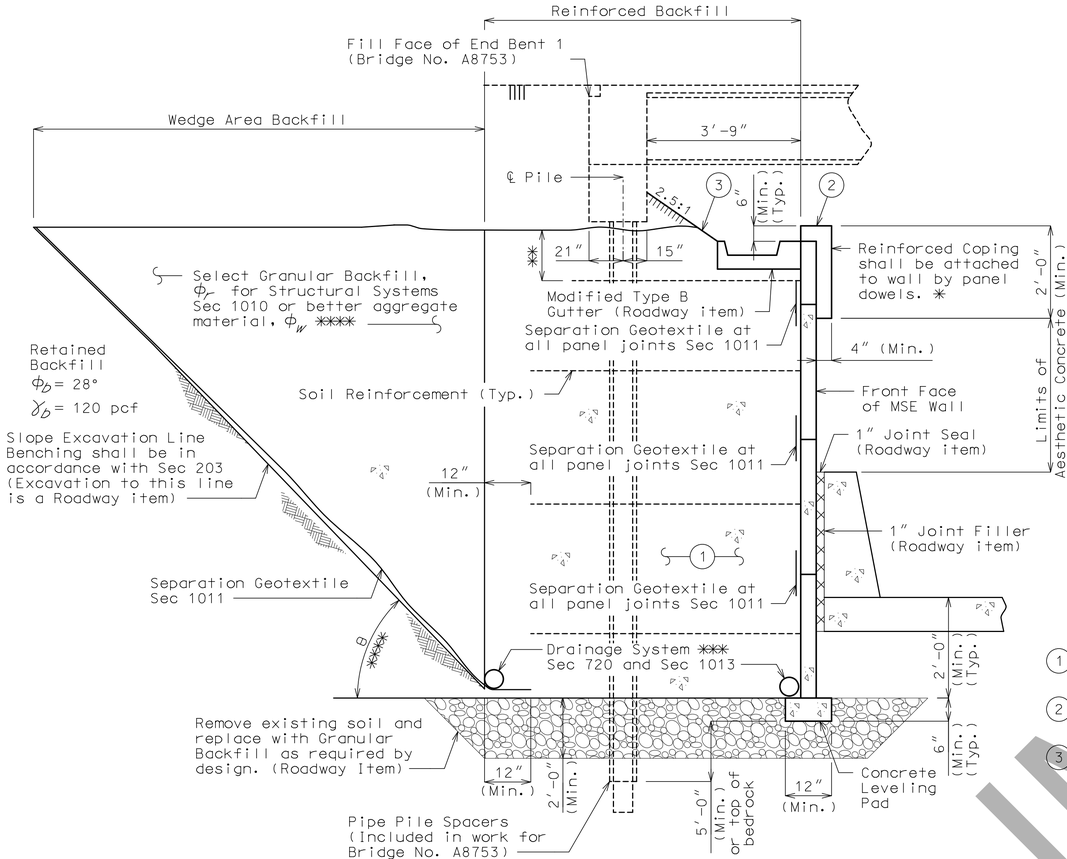
DATE | DESCRIPTION

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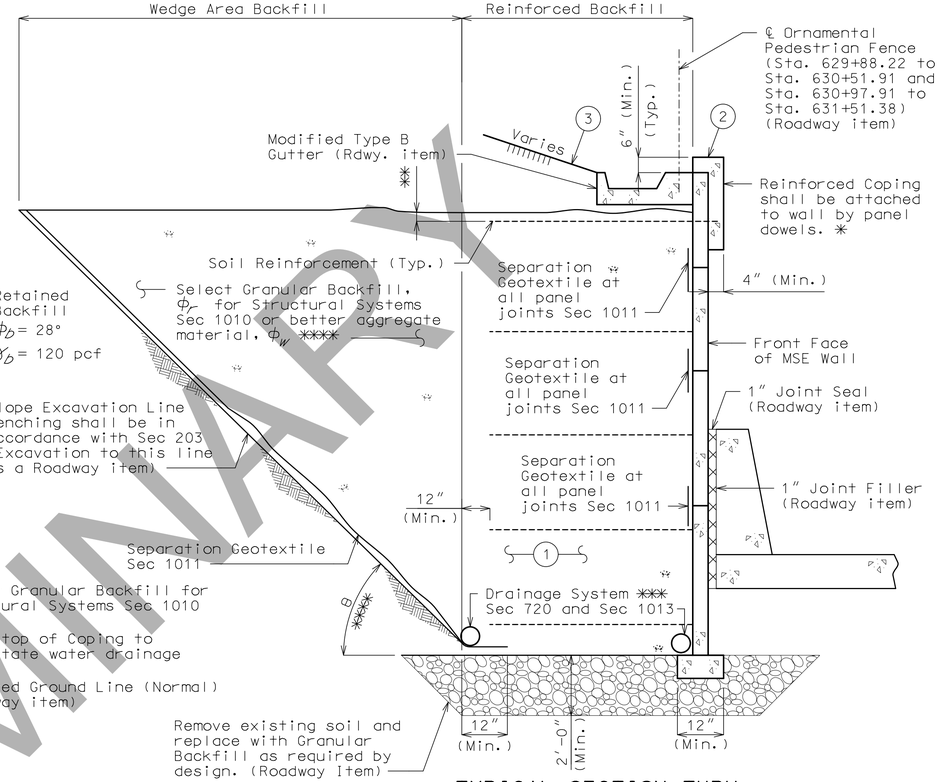
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L:\MarshfieldMO\17322-03\Draw\Sheets\Structures\A8754 - Wall No 1\B_A8754_001_J8I0445_WALL.dgn 10:09:00 AM 1/31/2019



TYPICAL SECTION THRU
LARGE BLOCK WALL UNDER BRIDGE



1 Select Granular Backfill for Structural Systems Sec 1010

2 Slope top of Coping to facilitate water drainage

3 Finished Ground Line (Normal) (Roadway item)

TYPICAL SECTION THRU
LARGE BLOCK WALL

General Notes Cont.:

All steel soil reinforcements shall be separated from other metallic elements by at least 3 inches.

The splay angle should be less than 15° and tensile capacity of splayed reinforcement shall be reduced by the cosine of the splay angle.

No reinforcement shall be left unconnected to the wall face or arbitrarily cut/bent in the field to avoid the obstruction.

Where interference between the vertical obstruction and the soil reinforcement is unavoidable, the design of the wall near the obstruction may be modified using one of the alternatives in FHWA-NHI-10-24, Section 5.4.2. Show detail layout on the drawings. For wall designs with horizontal obstructions in reinforced soil mass, see FHWA-NHI-10-024, Section 5.4.3.

Notes:

* Inverted U-shape reinforced capstone may be used in lieu of coping. Panel dowels for capstone shall be required and as provided by manufacturer.

** Topmost layer of reinforcement shall be fully covered with select granular backfill for structural systems, as approved by the wall manufacturer, before placement of the Separation Geotextile.

*** Minimum 6″ diameter perforated PVC or PE pipe.

Outlet pipes in 8′ F.B.D. near ends of wall. See roadway plans.

Outlet ends of pipes shall have rodent screens and shall be located to avoid clogging or flow into the drainage system.

Manufacturer shall show drain details on design plans to be submitted as shown on MoDOT MSE wall plans and/or roadway plans.

Contractor shall modify the drain details as shown if it will improve flow as may be the case for stepped leveling pad, and for an uneven ground line (approval of the engineer required).

**** Select granular backfill shall extend a minimum of 12″ beyond the end of all soil reinforcement. Where the angle, θ, between the retained backfill excavation/fill line and the horizontal is less than 90°, the wedge area backfill between θ and 90° shall be filled with select granular backfill for structural systems meeting the requirements of Section 1010.

- For $(45° + \phi_D/2) < \theta \leq 90°$, properties for retained backfill shall be used for active force computations.
- For $\theta \leq (45° + \phi_D/2)$, contractor shall have the option to use select granular backfill, ϕ_F, or better aggregate material, ϕ_W for active force computations in the wedge area backfill. For active force computations, the angle of internal friction for wedge area backfill material, ϕ_F or ϕ_W, shall be limited to 34° unless determined otherwise in accordance with Section 1010. If ϕ_F or ϕ_W > 34°is desired for wedge area backfill then test report shall be submitted with manufacturer's design plans. ϕ_F or ϕ_W shall not be greater than 40° for computations. Final configuration of this option shall be sent to Geotechnical Section for a new overall global stability analysis. Design ϕ_W shall be shown on manufacturer's plans if used.

The slope excavation line shall be benched and separation geotextile shall be placed between the retained backfill and either select granular backfill or better aggregate material, and between the select granular backfill and better aggregate material.

Show range of acceptable theta (θ) angle on shop drawings which must be consistent with design computations and proposed construction of wall. Coordination between wall designer (manufacturer) and contractor is required before shop drawing submittal.

Excavation:

Excavation quantities and pay items are given on the roadway plans. Excavation quantities are based on a soil reinforcement length of 0.8H. Where H is the wall height from top of leveling pad to top of wall. The soil reinforcement length may vary based upon the wall design selected by the contractor. Plan excavation quantities will be paid regardless of any actual quantities removed based on the soil reinforcement length and design selected.

DETAILS FOR MSE WALL A8754

Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 2 of 7

PRELIMINARY

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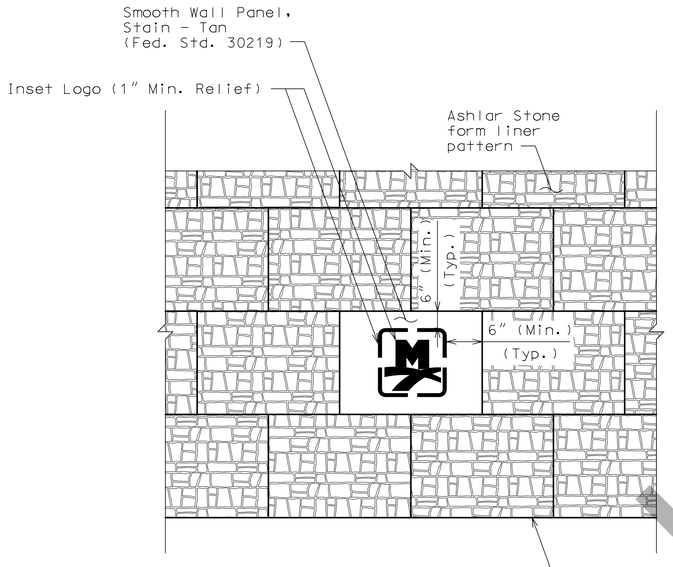
DATE PREPARED	
1/31/2019	
ROUTE	STATE
I-44	MO
DISTRICT	SHEET NO.
BR	2
COUNTY	
WEBSTER	
JOB NO.	
J8I0445	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
A8754	

DESCRIPTION	DATE

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MSE WALL PANEL WITH INSET LOGO DETAIL

Notes:

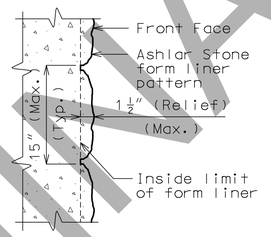
Logo to be placed as an inset form liner.

Logo lettering and dashed square to be painted black.

Logo to be centered on the panel. Panel to be placed in the middle of the wall horizontally and one panel above top of barrier vertically as shown.

Electronic image of logo available from City of Marshfield upon request.

The cost of the logo and paint will be considered completely covered by the contract unit price for Form Liners for MSE Wall Systems per square yard.



ASHLAR STONE FORM LINER DETAIL (Large Block Wall)

Notes:

The cost of form liners for MSE wall systems, complete in place, will be considered completely covered by the contract unit price for Mechanically Stabilized Earth Wall System.

Form liner shall be constructed in accordance with Special Provisions.

The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner pattern's shall vary up to 1 1/2". The height of any single 'stone' shall be 15" maximum.

(1) Scott System, Inc.: Form liner pattern #167 "Ashlar Stone"

(2) Fitzgerald Formliners: Form liner pattern #16986 "Ashlar Stone"

(3) Greenstreak: Form liner pattern #330 "Ashlar Stone"

(4) Spec Formliners: Form liner pattern #1515 "Ashlar Stone"

(5) Customrock: Form liner pattern #12020 "Tollway Ashlar"

(6) An approved equal

PRELIMINARY

DETAILS FOR MSE WALL A8754

Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 3 of 7

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ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 3
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8754

DESCRIPTION | DATE

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4168 W. Kearney
Springfield, Missouri 65803
Telephone: (417) 864-6000
Fax: (417) 864-6004

GEOTECHNICAL BORING LOG

BORING NUMBER B-11 (401)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange

PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Wall No. 1

DATE STARTED 6/25/18 **COMPLETED** 6/25/18 **SURFACE ELEVATION** 1355.92 ft **BENCHMARK EL.**

DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**

HAMMER TYPE Auto **AT TIME OF DRILLING** None

LOGGED BY RTH **CHECKED BY** RTH **AT END OF DRILLING**

NOTES Offset due to power lines. A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.25 I.D.		TOPSOIL (3") 0.3 ft	SPT 1	72	5-5-6 (11)		1355
			CLAYEY GRAVEL, Moist, Reddish Brown, Medium Dense (GC) 2.5 ft					
			SANDY FAT CLAY, Trace Gravel, Moist, Reddish Brown, Very Stiff (CH) 5.5 ft	ST 2	100		3.5	
5			GRAVEL or Possible COBBLES, with large Clay Seams, Gray and Reddish Brown 7.5 ft					1350
			Refusal at 7.5 feet. Bottom of borehole at 7.5 feet.	SPT 3		76/0"		

DRY UNIT WT (pcf): 20 40 60 80 100 ◆

N VALUE ▲: 20 40 60 80

PL MC LL: 20 40 60 80

SHEAR STRENGTH (ksf): 1 2 3 4

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Springfield, Missouri 65803
Telephone: (417) 864-6000
Fax: (417) 864-6004

GEOTECHNICAL BORING LOG

BORING NUMBER B-12 (402)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange

PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Wall No. 1

DATE STARTED 6/25/18 **COMPLETED** 6/25/18 **SURFACE ELEVATION** 1357.13 ft **BENCHMARK EL.**

DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**

HAMMER TYPE Auto **AT TIME OF DRILLING** None

LOGGED BY RTH **CHECKED BY** RTH **AT END OF DRILLING**

NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	CFA - 4" O.D.		TOPSOIL (3") 0.3 ft					1355
			CLAYEY GRAVEL, Moist, Reddish Brown (GC) 3.0 ft					
			FAT CLAY, Moist, Reddish Brown (CH) 6.0 ft					
5			GRAVELLY FAT CLAY, Moist, Reddish Brown (CH) 7.0 ft 7.8 ft					1350
			GRAVEL or Possible COBBLES, with Large Clay Seams, Gray and Reddish Brown					
			Refusal at 7.8 feet. Bottom of borehole at 7.8 feet.					

DRY UNIT WT (pcf): 20 40 60 80 100 ◆

N VALUE ▲: 20 40 60 80

PL MC LL: 20 40 60 80

SHEAR STRENGTH (ksf): 1 2 3 4

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DATE PREPARED 1/31/2019

ROUTE I-44 | STATE MO

DISTRICT BR | SHEET NO. 4

COUNTY WEBSTER

JOB NO. J8I0445

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A8754

DESCRIPTION | DATE

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B-11(401)

Note: For locations of borings, see Sheet No. 1.

B-12(402)

BORING DATA

Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 4 of 7

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

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GEOTECHNICAL BORING LOG

BORING NUMBER B-13 (103)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc.
PROJECT NAME Route CC & I-44 Interchange
PROJECT NO. 249300
PROJECT LOCATION Marshfield, MO - Bent 1
DATE STARTED 6/25/18 **COMPLETED** 6/25/18
SURFACE ELEVATION 1360.64 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55
GROUND WATER LEVELS
HAMMER TYPE Auto
AT TIME OF DRILLING None
LOGGED BY RTH **CHECKED BY** RTH
AT END OF DRILLING
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)		SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.25 I.D.		TOPSOIL (3")	0.3 ft	SPT 1	67	5-6-6 (12)	4.5	1360
			GRAVELLY FAT CLAY, Moist, Reddish Brown, Stiff (CH) *Less Gravel with Depth*	1.5 ft					
			FAT CLAY, Trace Gravel, Moist, Reddish Brown, Hard (CH)		ST 2	100		4.5	
					ST 3	60			
5			- Very Stiff to Very Hard with Sand and Tan Below 5.5' - Intermittent Gravel Layers Below 6'		SPT 4	89	6-17-9 (26)	3	1355
				8.9 ft	SPT 5	40	76/5"		

◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100
▲ N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
■ SHEAR STRENGTH (ksf) ■ 1 2 3 4

Refusal on Dolomite
Refusal at 8.9 feet.
Bottom of borehole at 8.9 feet.

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GEOTECHNICAL BORING LOG

BORING NUMBER B-14 (102)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc.
PROJECT NAME Route CC & I-44 Interchange
PROJECT NO. 249300
PROJECT LOCATION Marshfield, MO - Bent 1
DATE STARTED 6/25/18 **COMPLETED** 6/25/18
SURFACE ELEVATION 1361.30 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55
GROUND WATER LEVELS
HAMMER TYPE Auto
AT TIME OF DRILLING None
LOGGED BY RTH **CHECKED BY** RTH
AT END OF DRILLING
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)		SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.25 I.D.		TOPSOIL (2")	0.2 ft	SPT 1	28	3-6-12 (18)		1360
			GRAVELLY FAT CLAY, Moist, Reddish Brown, Very Stiff (CH)	2.0 ft					
			FAT CLAY, Trace Sand and Gravel, Moist, Reddish Brown, Stiff (CH)		SPT 2	100	3-3-6 (9)	0.25	
5				6.5 ft					1355
			GRAVELLY FAT CLAY, Moist, Reddish Brown, Very Hard (CH)	8.6 ft					
					SPT 3	0	76/1"		

◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100
▲ N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
■ SHEAR STRENGTH (ksf) ■ 1 2 3 4

Refusal on Dolomite
Refusal at 8.6 feet.
Bottom of borehole at 8.6 feet.

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

B-14(102)

PRELIMINARY

Note: For locations of borings, see Sheet No. 1.

BORING DATA

Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 5 of 7

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DISTRICT BR | SHEET NO. 5
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8754

DESCRIPTION | DATE

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L:\MarshfieldMO\17322-03\Draw\Sheets\Structures\A8754 - Wall No 1\B_A8754_005_J8I0445_BORING DATA 2.dgn 10:09:42 AM 1/31/2019

4168 W. Kearney
Springfield, Missouri 65803
Telephone: (417) 864-6000
Fax: (417) 864-6004

GEOTECHNICAL BORING LOG

BORING NUMBER B-15 (101)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 1
DATE STARTED 6/26/18 **COMPLETED** 6/26/18 **SURFACE ELEVATION** 1362.22 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY RTH **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.25 I.D.		TOPSOIL (3") 0.3 ft	SPT 1	83	3-5-3 (8)	1.75	
			FAT CLAY, with Gravel and Sand Layers, Moist, Brown, Medium Stiff (CH) 1.5 ft *Noted Sandstone Fragments*	SPT 2		76/0"		1360
5			DOLOMITE, with Chert Nodules, Slightly to Highly Weathered, Fine Grained, Thin Bedded, Light Gray, Soft to Moderately Hard	NQ 3	100 (62)			
				NQ 4	100 (38)			1355
10	CORE BARREL - 2" I.D.			NQ 5	100 (15)			1350
15				NQ 6	100 (48)			1345
20				NQ 7	100 (7)			1340
25				NQ 8	100 (77)			1335
30			31.0 ft					

◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100
▲ N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
■ SHEAR STRENGTH (ksf) ■ 1 2 3 4

Bottom of borehole at 31.0 feet.

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:17 - S:_MASTER PROJECT FILE\2018_MO\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

4168 W. Kearney
Springfield, Missouri 65803
Telephone: (417) 864-6000
Fax: (417) 864-6004

GEOTECHNICAL BORING LOG

BORING NUMBER B-16 (403)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Wall No. 1
DATE STARTED 6/25/18 **COMPLETED** 6/25/18 **SURFACE ELEVATION** 1360.35 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY RTH **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	CFA - 4.5" O.D.		TOPSOIL (3") 0.3 ft					1360
			GRAVELLY FAT CLAY, Moist, Reddish Brown (CH) 1.5 ft					
5			FAT CLAY, Trace Gravel, Moist, Reddish Brown (CH) - with Intermittent Gravel Layers Below 3.5'					1355
			7.5 ft					

◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100
▲ N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
■ SHEAR STRENGTH (ksf) ■ 1 2 3 4

Refusal at 7.5 feet.
Bottom of borehole at 7.5 feet.

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:17 - S:_MASTER PROJECT FILE\2018_MO\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

PRELIMINARY

B-15(101) Note: For locations of borings, see Sheet No. 1. B-16(403)

BORING DATA

Detailed Nov 2018
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Sheet No. 6 of 7

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4168 W. Kearney
Springfield, Missouri 65803
Telephone: (417) 864-6000
Fax: (417) 864-6004

GEOTECHNICAL BORING LOG

BORING NUMBER B-17 (404)

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange

PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Wall No. 1

DATE STARTED 6/25/18 **COMPLETED** 6/25/18 **SURFACE ELEVATION** 1360.96 ft **BENCHMARK EL.**

DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**

HAMMER TYPE Auto **AT TIME OF DRILLING** None

LOGGED BY RTH **CHECKED BY** RTH **AT END OF DRILLING**

NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.25 I.D.		TOPSOIL (3") 0.3 ft FAT CLAY, with Gravel, Moist, Brown, Very Stiff (CH)	SPT 1	11	5-5-12 (17)		1360
			- Intermittent Sand and Gravel Lenses Below 3.5'	SPT 2	100	3-3-3 (6)	0.75	
5			6.0 ft 6.5 ft GRAVELLY FAT CLAY, Moist, Reddish Brown, Very Hard (CH)	SPT 3	73	9-76/5"		1355
			8.0 ft SANDSTONE, Highly Weathered, Light Brownish Gray					

Refusal at 8.0 feet.
Bottom of borehole at 8.0 feet.

◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100
▲ N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
■ SHEAR STRENGTH (ksf) ■ 1 2 3 4

PRELIMINARY

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B-17(404)

Note: For locations of borings, see Sheet No. 1.

BORING DATA

Detailed Nov 2018
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Sheet No. 7 of 7

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PROJECT NO.
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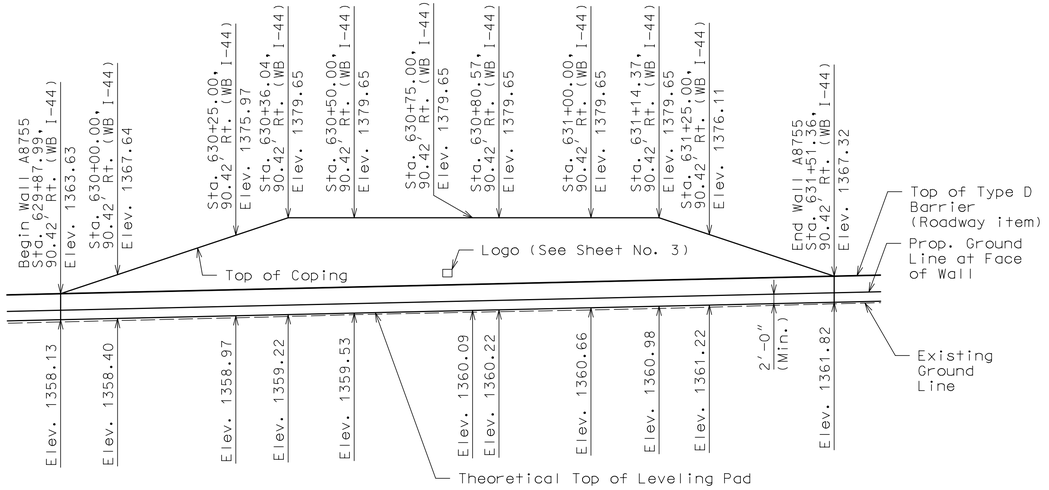
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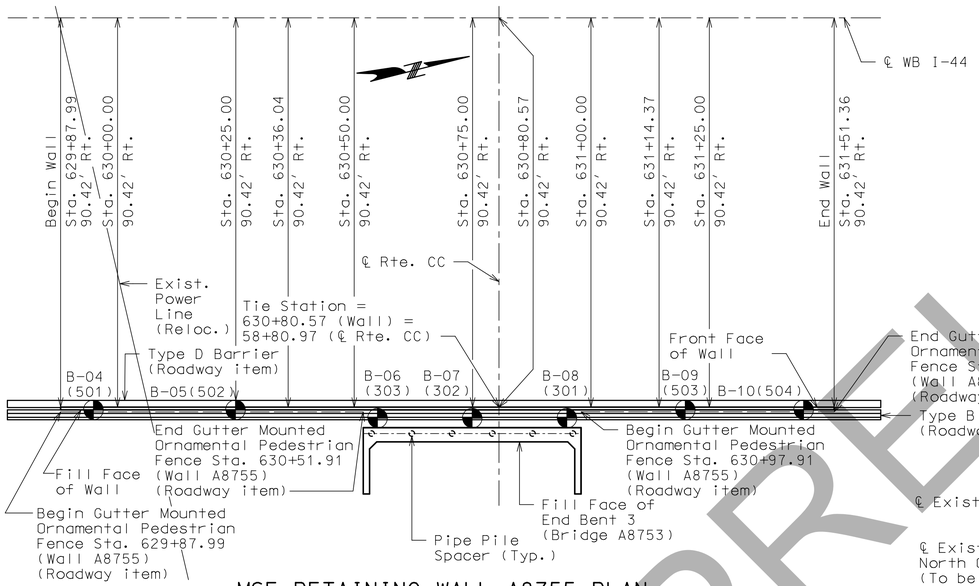
SEC/SUR 34 TWP 31N RGE 18W

163′MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL SYSTEM



MSE RETAINING WALL A8755 ELEVATION

Note: Bent 3 and Pile Spacers are not shown for clarity.



MSE RETAINING WALL A8755 PLAN

Note: Concrete Leveling Pad is not shown for clarity. ✳

✳ Wall contractor shall show the following items on the design drawings and/or on the fabricator shop drawings.

1. Leveling pad horizontal.
2. Leveling pad length and step elevations shall be based on wall manufacturer's recommendation. Top of leveling pad elevations shall not be higher than theoretical top of leveling pad elevations shown on these plans.

Estimated Quantities		
Item		Total
Concrete and Masonry Protection System	lump sum	1
Sacrificial Grafitti Protection System	lump sum	1
Aesthetic Concrete Stain	lump sum	1
Mechanically Stabilized Earth Wall Systems	sq. foot	2,602
Form Liners for MSE Wall Systems	sq. yard	3

Designed Nov 2018
Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 1 of 7

◓ Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheets No. 4 thru 7 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheet than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

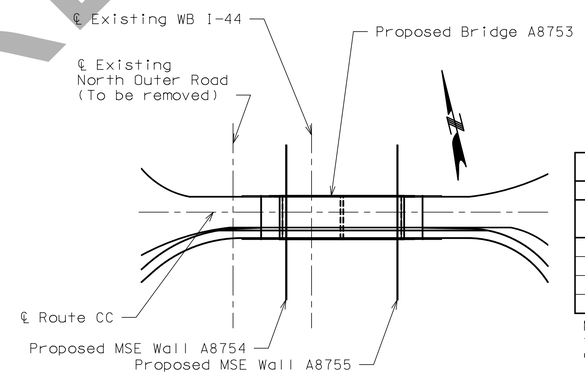
Notes:

Wall stationing and offsets are shown to front face of wall.

Wall elevations are taken from top of coping and top of leveling pad.

B.M.
Control Point #21
N: 558060.8102
E: 1521693.0123
Elev. 1364.24
Sta. 632+35.09
93.70′ Lt. (WB I-44)
Mag nail w/ plastic shiner in asphalt

B.M.
Control Point #23
N: 557808.1075
E: 15236070.1773
Elev. 1418.41
Sta. 633+27.19
1239.43′ Rt. (EB I-44)
Mag nail w/ plastic shiner in asphalt



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications (Section 5, ASD Design)
Seismic Performance Category A

Design Loading:

ϕ_D = 28° and unit weight, γ_D = 120 pcf for retained backfill material to be retained by the mechanically stabilized earth wall system.

ϕ_f = 28° for unimproved foundation ground where wall is to bear.

ϕ_f = 34° for improved foundation ground where wall is to bear.

Actual $\phi_r \geq 34°$ for the select granular backfill (reinforced backfill and wedge area backfill) for structural systems.

Design ϕ_r = 34° for the select granular backfill (reinforced backfill) only for structural systems.

The allowable bearing pressure for unimproved foundation ground is 3 ksf. The allowable bearing pressure for improved foundation ground is 4 ksf.

The maximum applied bearing pressure for the controlling design case at the foundation level shall be shown on the manufacturer's design plans where the maximum applied bearing pressure ≤ allowable bearing pressure. For seismic design the maximum applied bearing pressure ≤ two times allowable bearing pressure.

Factor of safety shall be 2.0 for overturning and 1.5 for sliding.

For seismic design the factor of safety shall be 1.5 for overturning and 1.1 for sliding.

Use default values for the pullout friction factor, F✳, in accordance with AASHTO figure 5.8.5.2A. For approved steel strips not shown in AASHTO figure 5.8.5.2A, use F✳ ≤ 2.0 at zero depth and F✳ ≤ Tan ϕ_r at 20 feet depth and ϕ_r design = 34°. F✳ values shall be shown on the manufacturer's design plans.

Design Unit Stresses:

All concrete for leveling pad and coping shall be Class B or B-1 with f′c = 4000 psi.

Miscellaneous:

The MSE wall system shall be built vertical.

The MSE wall system shall be built in accordance with Sec 720.

The MSE wall system shall be a large block wall system.

The cost of joint filler and joint seal, complete in place, will be considered completely covered by the contract unit price for Concrete Traffic Barrier (Type D). See Roadway Plans.

Panel and coping (or capstone) reinforcement shall be epoxy coated.

A filter cloth meeting the requirements for a Separation Geotextile material shall be placed between the select granular backfill for structural systems and the backfill being retained by the mechanically stabilized earth wall system.

Coping shall be required on this structure unless a small block system is used. Bond breaker (roofing felt or other approved alternate) between wall panel and coping required if coping is cast in place.

The contractor shall be solely responsible to coordinate construction of the wall with bridge and roadway construction and ensure that the bridge and roadway construction, resulting or existing obstructions, shall not impact the construction or performance of the wall. Soil reinforcement shall be designed and placed to avoid damage by pile driving, guardrail post installation, utility and sign foundations. (See Roadway and Bridge plans.)

Minimum 18″ wide Geotextile strips shall be centered at vertical and horizontal joints of panel. Geotextile material shall be adhered to back face of panel using an adhesive compound supplied by the manufacturer.

Aluminized soil reinforcement shall have edges coated with coating material per manufacturer.

MSE Wall Systems Data Table					
Proprietary Wall Systems		Combination Wall Systems			
Manufacturer	System	Facing Unit Manufacturer	Facing Unit	Geogrid Manufacturer	Geogrid

MSE Wall Systems Data Table is to be completed by MoDOT construction personnel to record the manufacturer of the proprietary wall system or the manufacturers of the combination wall system that was used for constructing the MSE wall.

RETAINING WALL ALONG EB I-44

ROUTE CC OVER I-44
ABOUT 2 MILES NORTHEAST OF ROUTE 38
TIE STATION 58+80.97 ROUTE CC

STD. 607.11
STD. 617.10

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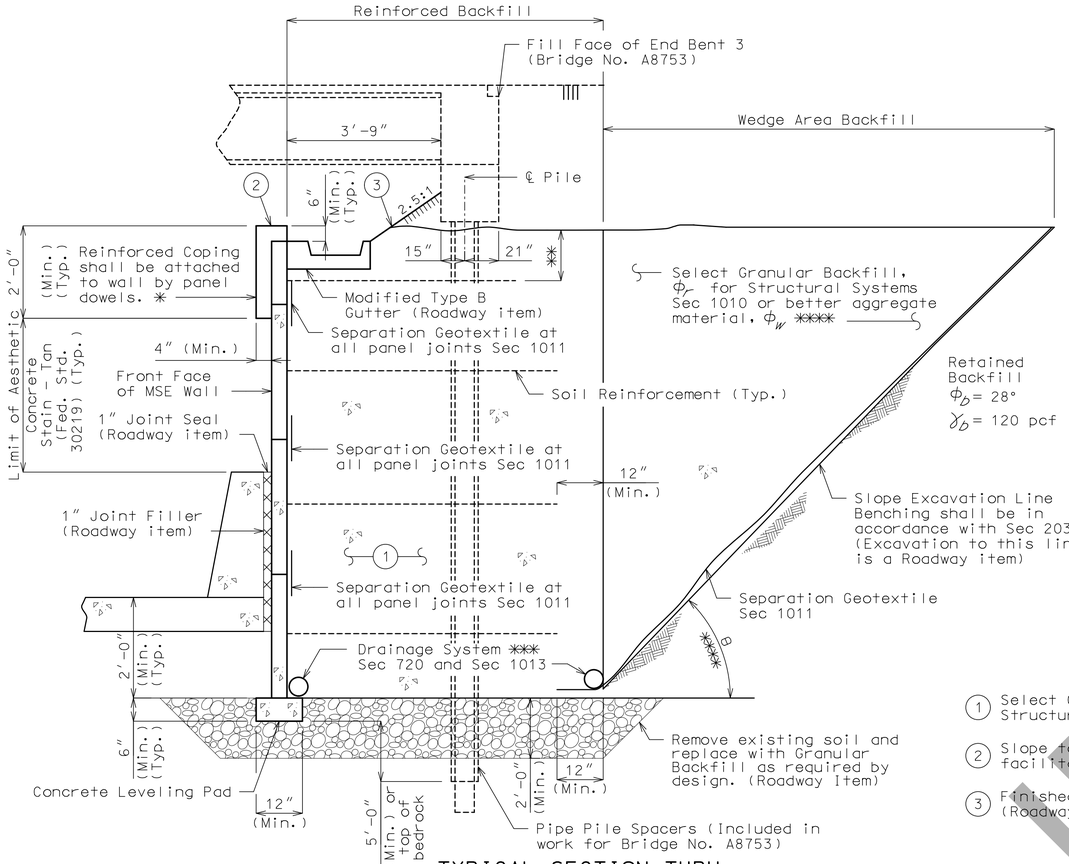
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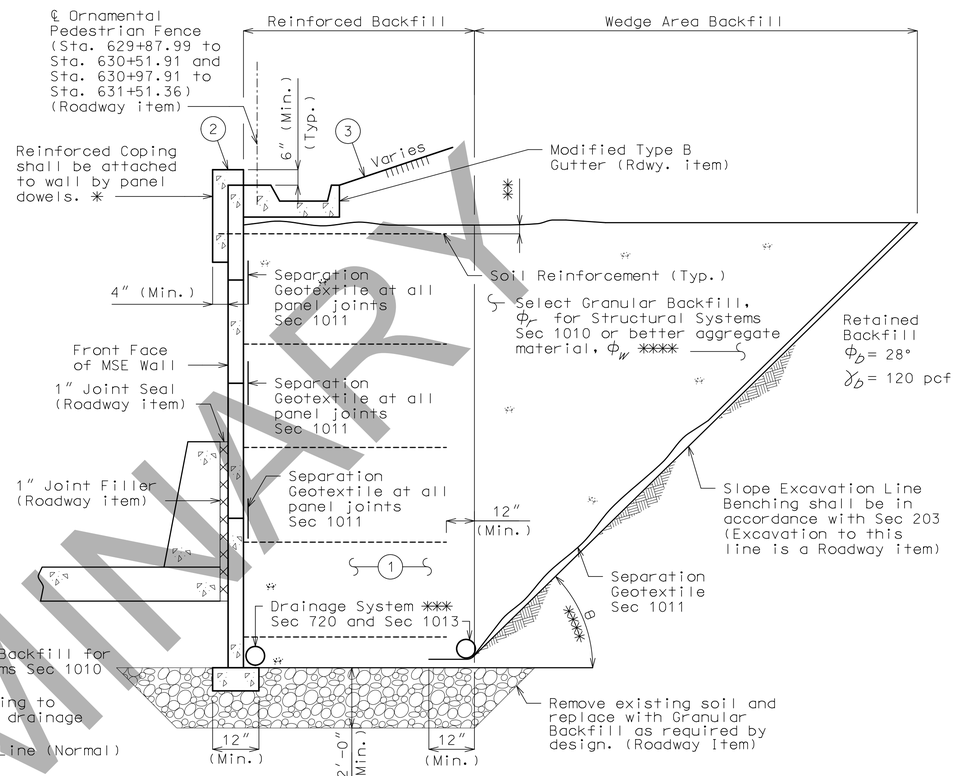
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PRELIMINARY



TYPICAL SECTION THRU
LARGE BLOCK WALL UNDER BRIDGE



TYPICAL SECTION THRU
LARGE BLOCK WALL

1. Select Granular Backfill for Structural Systems Sec 1010
2. Slope top of Coping to facilitate water drainage
3. Finished Ground Line (Normal) (Roadway item)

General Notes Cont.:

All steel soil reinforcements shall be separated from other metallic elements by at least 3 inches.

The splay angle should be less than 15° and tensile capacity of splayed reinforcement shall be reduced by the cosine of the splay angle.

No reinforcement shall be left unconnected to the wall face or arbitrarily cut/bent in the field to avoid the obstruction.

Where interference between the vertical obstruction and the soil reinforcement is unavoidable, the design of the wall near the obstruction may be modified using one of the alternatives in FHWA-NHI-10-24, Section 5.4.2. Show detail layout on the drawings. For wall designs with horizontal obstructions in reinforced soil mass, see FHWA-NHI-10-024, Section 5.4.3.

Notes:

* Inverted U-shape reinforced capstone may be used in lieu of coping. Panel dowels for capstone shall be required and as provided by manufacturer.

** Topmost layer of reinforcement shall be fully covered with select granular backfill for structural systems, as approved by the wall manufacturer, before placement of the Separation Geotextile.

*** Minimum 6" diameter perforated PVC or PE pipe.

Outlet pipes in 8' F.B.D. near ends of wall. See roadway plans.

Outlet ends of pipes shall have rodent screens and shall be located to avoid clogging or flow into the drainage system.

Manufacturer shall show drain details on design plans to be submitted as shown on MoDOT MSE wall plans and/or roadway plans.

Contractor shall modify the drain details as shown if it will improve flow as may be the case for stepped leveling pad, and for an uneven ground line (approval of the engineer required).

**** Select granular backfill shall extend a minimum of 12" beyond the end of all soil reinforcement. Where the angle, θ, between the retained backfill excavation/fill line and the horizontal is less than 90°, the wedge area backfill between θ and 90° shall be filled with select granular backfill for structural systems meeting the requirements of Section 1010.

- For $(45° + \Phi_D/2) < \theta \leq 90°$, properties for retained backfill shall be used for active force computations.
- For $\theta \leq (45° + \Phi_D/2)$, contractor shall have the option to use select granular backfill, Φ_f, or better aggregate material, Φ_w for active force computations in the wedge area backfill. For active force computations, the angle of internal friction for wedge area backfill material, Φ_f or Φ_w, shall be limited to 34° unless determined otherwise in accordance with Section 1010. If Φ_f or Φ_w > 34° is desired for wedge area backfill then test report shall be submitted with manufacturer's design plans. Φ_f or Φ_w shall not be greater than 40° for computations. Final configuration of this option shall be sent to Geotechnical Section for a new overall global stability analysis. Design Φ_w shall be shown on manufacturer's plans if used.

The slope excavation line shall be benched and separation geotextile shall be placed between the retained backfill and either select granular backfill or better aggregate material, and between the select granular backfill and better aggregate material.

Show range of acceptable theta (θ) angle on shop drawings which must be consistent with design computations and proposed construction of wall. Coordination between wall designer (manufacturer) and contractor is required before shop drawing submittal.

Excavation:

Excavation quantities and pay items are given on the roadway plans. Excavation quantities are based on a soil reinforcement length of 0.8H. Where H is the wall height from top of leveling pad to top of wall. The soil reinforcement length may vary based upon the wall design selected by the contractor. Plan excavation quantities will be paid regardless of any actual quantities removed based on the soil reinforcement length and design selected.

DETAILS FOR MSE WALL A8755

Detailed Nov 2018
Checked Nov 2018

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

PRELIMINARY

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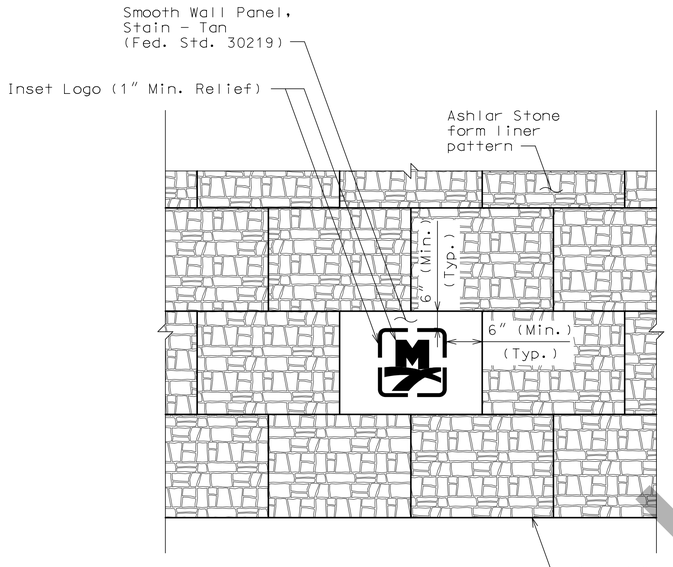
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MSE WALL PANEL WITH
INSET LOGO DETAIL

Notes:

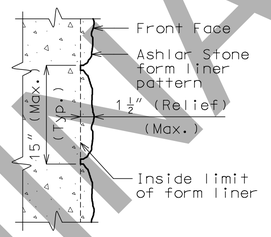
Logo to be placed as an inset form liner.

Logo lettering and dashed square to be painted black.

Logo to be centered on the panel. Panel to be placed in the middle of the wall horizontally and one panel above top of barrier vertically as shown.

Electronic image of logo available from City of Marshfield upon request.

The cost of the logo and paint will be considered completely covered by the contract unit price for Form Liners for MSE Wall Systems per square yard.



ASHLAR STONE
FORM LINER DETAIL
(Large Block Wall)

Notes:

The cost of form liners for MSE wall systems, complete in place, will be considered completely covered by the contract unit price for Mechanically Stabilized Earth Wall System.

Form liner shall be constructed in accordance with Special Provisions.

The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner pattern's shall vary up to 1 1/2". The height of any single 'stone' shall be 15" maximum.

(1) Scott System, Inc.: Form liner pattern #167 "Ashlar Stone"

(2) Fitzgerald Formliners: Form liner pattern #16986 "Ashlar Stone"

(3) Greenstreak: Form liner pattern #330 "Ashlar Stone"

(4) Spec Formliners: Form liner pattern #1515 "Ashlar Stone"

(5) Customrock: Form liner pattern #12020 "Tollway Ashlar"

(6) An approved equal

PRELIMINARY

DETAILS FOR MSE WALL A8755

Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 3 of 7

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CONTRACT ID.
PROJECT NO.
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IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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GEOTECHNICAL BORING LOG

BORING NUMBER B-04 (501)

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Wall No. 2
DATE STARTED 7/5/18 **COMPLETED** 7/5/18 **SURFACE ELEVATION** 1360.55 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.25 I.D.		LEAN CLAY, with Gravel, Dry to Moist, Brown to Reddish Brown, Trace Sand Lenses, Very Stiff (CL)	SPT 1		9-11-15 (26)	4.5	1360
				SPT 2		8-9-9 (18)	4.5	
4.5 ft			FAT CLAY, Intermittent Gravel, Moist, Reddish Tan to Reddish Brown, Very Stiff (CH)					1355
5				SPT 3		11-20-47 (67)	0.5	
10			- Very Hard with Gravel Layers and Possible Cobbles Below 9.5'					
11.2 ft			DOLOMITE					1350

Refusal at 11.2 feet.
Bottom of borehole at 11.2 feet.

DRY UNIT WT (pcf) ◆ 20 40 60 80 100
▲ N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
■ SHEAR STRENGTH (ksf) ■ 1 2 3 4

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\C\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

B-04(501)

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GEOTECHNICAL BORING LOG

BORING NUMBER B-05 (502)

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Wall No. 2
DATE STARTED 7/5/18 **COMPLETED** 7/5/18 **SURFACE ELEVATION** 1360.98 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	CFA - 4.5" O.D.		LEAN CLAY, with Gravel, Dry to Moist, Brown to Reddish Brown (CL)					1360
4.0 ft			FAT CLAY, Intermittent Gravel, Moist, Reddish Brown and Tan (CH)					1355
5								
10								
12.7 ft			DOLOMITE					1350

Refusal at 12.7 feet.
Bottom of borehole at 12.7 feet.

DRY UNIT WT (pcf) ◆ 20 40 60 80 100
▲ N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
■ SHEAR STRENGTH (ksf) ■ 1 2 3 4

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\C\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

B-05(502)

PRELIMINARY

Note: For locations of borings, see Sheet No. 1.

BORING DATA

Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 4 of 7

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DATE PREPARED 1/31/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 4
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8755

DESCRIPTION | DATE

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

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GEOTECHNICAL BORING LOG

BORING NUMBER B-06 (303)

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 3
DATE STARTED 7/9/18 **COMPLETED** 7/9/18 **SURFACE ELEVATION** 1361.61 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.5" I.D.		TOPSOIL (2") 0.2 ft	SPT 1		11-17-14 (31)	4.5	1360
			CLAYEY GRAVEL, Brown, Dry, Dense (GC) 1.3 ft					
			FAT CLAY, with Gravel Layers, Reddish Brown and Tan, Moist, Hard to Very Stiff (CH)	SPT 2		14-14-9 (23)	4.5	
5			8.0 ft					1355
10			GRAVELLY FAT CLAY, Red, Moist, Very Stiff (CH) *Intermittent Gravel and Cobble Layers* 12.8 ft	SPT 3		40-20-9 (29)	1	1350
15	CORE BARREL - 2" I.D.		DOLOMITE, Trace Chert Nodules, Slightly Weathered to Weathered, Fine Grained, Thin Bedded, Light Gray, Soft to Medium Hard	NQ 4	100 (34)			
				NQ 5	100 (82)			1345
20			23.3 ft VOID from 23'3" to 24'9" 24.8 ft	NQ 6	50 (13)			1340
25			DOLOMITE, with Chert Nodules, Highly Weathered, Fine Grained, Thin Bedded, Light Gray, Soft 25.8 ft 26.9 ft VOID from 25'9" to 26'9"					
30			DOLOMITE, with Chert Nodules, Slightly Weathered, Fine Grained, Thin Bedded, Light Gray, Medium Hard to Moderately Hard	NQ 7	85 (37)			1335
				NQ 8	100 (79)			1330
35			38.4 ft	NQ 9	100 (67)			1325

Bottom of borehole at 38.4 feet.

DRY UNIT WT (pcf) ◆ 20 40 60 80 100 ▲ N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 ◘ SHEAR STRENGTH (ksf) ◘ 1 2 3 4

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\C\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

B-06(303)

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GEOTECHNICAL BORING LOG

BORING NUMBER B-07 (302)

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 3
DATE STARTED 7/5/18 **COMPLETED** 7/5/18 **SURFACE ELEVATION** 1362.06 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.25" I.D.		TOPSOIL (2") 0.2 ft	SPT 1		8-8-30 (38)	4.5	1360
			LEAN CLAY, with Gravel, Dry to Moist, Brown to Reddish Brown, Hard (CL) 2.0 ft					
			FAT CLAY, Intermittent Gravel, Moist, Reddish Brown and Tan, Very Hard to Very Stiff (CH)	SPT 2		8-53-35 (88)	2.75	
5			- At 4.5' to 5 feet a Hard Gravel and Possible Cobble Layer was noted					1355
10			10.7 ft DOLOMITE 10.8 ft	SPT 3		8-11-15 (26)		

Refusal at 10.8 feet.
Bottom of borehole at 10.8 feet.

DRY UNIT WT (pcf) ◆ 20 40 60 80 100 ▲ N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 ◘ SHEAR STRENGTH (ksf) ◘ 1 2 3 4

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\C\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

B-07(302)

PRELIMINARY

Note: For locations of borings, see Sheet No. 1.

BORING DATA

Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 5 of 7

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

DATE PREPARED 1/31/2019
ROUTE I-44 STATE MO
DISTRICT BR SHEET NO. 5
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8755

DESCRIPTION	DATE

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

CRAWFORD, MURPHY & TILLY, INC.
1631 WEST ELFINDALE STREET
SPRINGFIELD, MO 65807 (417) 869-6009
ENGINEERING CORPORATION - 000631

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GEOTECHNICAL BORING LOG

BORING NUMBER B-08 (301)

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Bent 3
DATE STARTED 7/5/18 **COMPLETED** 7/5/18 **SURFACE ELEVATION** 1362.43 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	HSA - 4.25" I.D.		TOPSOIL (3") 0.3 ft	SPT 1		5-9-14 (23)	2.5	
			LEAN CLAY, with Gravel, Dry to Moist, Brown, Very Stiff (CL) 1.3 ft					1360
			FAT CLAY, with Gravel, Moist, Reddish Brown, Very Hard (CH) - Intermittent Gravel Layers and Possible Cobbles Below 3'	SPT 2		9-35-29 (64)	3.25	
5								1355
			9.5 ft	SPT 3		17-76/5"		
10			DOLOMITE 10.0 ft					

Refusal at 10.0 feet.
Bottom of borehole at 10.0 feet.

DRY UNIT WT (pcf): 20 40 60 80 100
N VALUE: 20 40 60 80
PL MC LL: 20 40 60 80
SHEAR STRENGTH (ksf): 1 2 3 4

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

B-08(301)

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GEOTECHNICAL BORING LOG

BORING NUMBER B-09 (503)

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange
PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Wall No. 2
DATE STARTED 7/5/18 **COMPLETED** 7/5/18 **SURFACE ELEVATION** 1363.27 ft **BENCHMARK EL.**
DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**
HAMMER TYPE Auto **AT TIME OF DRILLING** None
LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**
NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	ELEVATION (ft)
0	CFA - 4.5" O.D.		TOPSOIL (2") 0.2 ft					
			LEAN CLAY, with Gravel, Dry to Moist, Brown (CL) 1.5 ft					1360
			FAT CLAY, with Gravel, Moist, Reddish Brown (CH)					
5			- Intermittent Gravel Layers and Possible Cobbles Below 6' 7.9 ft					
			DOLOMITE					

Refusal at 7.7 feet.
Bottom of borehole at 7.7 feet.

DRY UNIT WT (pcf): 20 40 60 80 100
N VALUE: 20 40 60 80
PL MC LL: 20 40 60 80
SHEAR STRENGTH (ksf): 1 2 3 4

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 8/21/18 11:16 - S:_MASTER PROJECT FILE\2018_MO\CMT-249300-I-44 INTERCHANGE NEAR MILE MARKER 103-SUB\BORING LOGS\249300 - BORING LOGS.GPJ

B-09(503)

PRELIMINARY

Note: For locations of borings, see Sheet No. 1.

BORING DATA

Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 6 of 7

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DATE PREPARED 1/31/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 6
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8755

DESCRIPTION | DATE

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

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L:\MarshfieldMO\17322-03\Draw\Sheets\Structures\A8755 - Wall No 2\B_A8755_006_J8I0445_BORING DATA 3.dgn 10:13:31 AM 1/31/2019

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GEOTECHNICAL BORING LOG

BORING NUMBER B-10 (504)

PAGE 1 OF 1

CLIENT Crawford, Murphy, and Tilly, Inc. **PROJECT NAME** Route CC & I-44 Interchange

PROJECT NO. 249300 **PROJECT LOCATION** Marshfield, MO - Wall No. 2

DATE STARTED 7/5/18 **COMPLETED** 7/5/18 **SURFACE ELEVATION** 1364.03 ft **BENCHMARK EL.**

DRILLER DH **DRILL RIG** CME 55 **GROUND WATER LEVELS**

HAMMER TYPE Auto **AT TIME OF DRILLING** None

LOGGED BY GS **CHECKED BY** RTH **AT END OF DRILLING**

NOTES A calibration factor of 1.52 have been applied to the blow counts on this boring.

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION (Unified Soil Classification System)	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT (pcf) / N VALUE / PL MC LL / SHEAR STRENGTH (ksf)	ELEVATION (ft)
0	HSA - 4.25" I.D.		TOPSOIL (2") 0.2 ft LEAN CLAY, with Gravel, Dry to Moist, Brown to Reddish Brown, Stiff to Very Stiff (CL)	SPT 1		5-6-6 (12)			
5				SPT 2		8-12-8 (20)	3.75		1360
			6.8 ft 7.0 ft DOLOMITE Refusal at 7.0 feet. Bottom of borehole at 7.0 feet.						

DRY UNIT WT (pcf): 20 40 60 80 100
N VALUE: 20 40 60 80
PL MC LL: 20 40 60 80
SHEAR STRENGTH (ksf): 1 2 3 4

PRELIMINARY

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DATE PREPARED 1/31/2019
ROUTE I-44 | STATE MO
DISTRICT BR | SHEET NO. 7
COUNTY WEBSTER
JOB NO. J8I0445
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8755

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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B-10(504)

Note: For locations of borings, see Sheet No. 1.

BORING DATA

Detailed Nov 2018
Checked Nov 2018

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

Sheet No. 7 of 7

L:\MarshfieldMO\17322-03\Draw\Sheets\Structures\A8755 - Wall No 2\B_A8755_007_J8I0445_BORING DATA 4.dgn 10:14:01 AM 1/31/2019