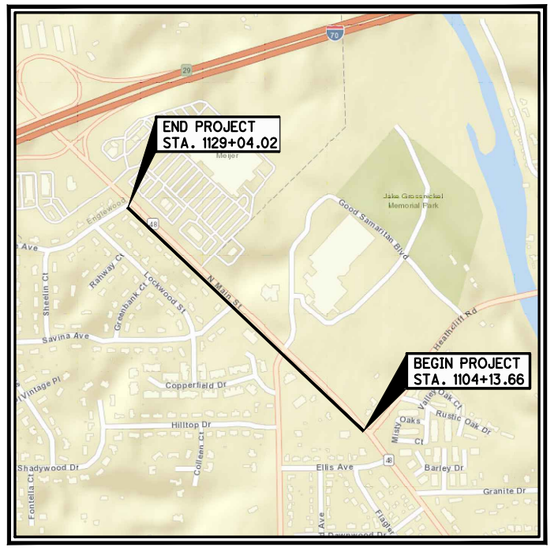
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MOT SR 48 20.61 SIDEWALK

CITY OF CLAYTON
MONTGOMERY COUNTY, OHIO



LOCATION MAP

LATITUDE: 39° 51′ 16″ LONGITUDE: 84° 16′ 26″

SCALE IN MILES
0 0.15 0.30 0.45 .60

N

PORTION TO BE IMPROVED _____
STATE & FEDERAL ROUTES _____
OTHER ROADS _____

DESIGN DESIGNATION

CURRENT ADT (2025)	27677
DESIGN YEAR ADT (2045)	30000
DESIGN HOURLY VOLUME (2045)	2500
DIRECTIONAL DISTRIBUTION	0.54
TRUCKS (24 HOUR B&C)	804
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL	
NHS PROJECT	YES

DESIGN EXCEPTIONS: NONE REQUIRED

ADA DESIGN WAIVERS: NONE REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:
ChoiceOne Engineering
2633 CAMPBELL ROAD ♦ SIDNEY, OHIO 45365 ♦ 937.497.0200
8956 GLENDALE MILFORD ROAD, SUITE 1 ♦ LOVELAND, OHIO 45140 ♦ 513.239.8554
www.CHOICEONEENGINEERING.COM

INDEX OF SHEETS:

ENGINEERS SEAL

FOR ENTIRE PLAN EXCEPT TRAFFIC SIGNAL AND LIGHTING PLAN

STATE OF OHIO · LUKE T. HEMMELGARN · 83360 · REGISTERED PROFESSIONAL ENGINEER

SIGNED: Luke T. Hemmelgarn Digitally signed by Luke T. Hemmelgarn Date: 2026.01.30 15:42:00 -05'00'

DATE: _____

ENGINEERS SEAL

FOR TRAFFIC SIGNAL AND LIGHTING PLAN

STATE OF OHIO · BRADLEY M. WALTERBUSCH · 89311 · REGISTERED PROFESSIONAL ENGINEER

SIGNED: Digitally signed by Bradley M Walterbusch Date: 2026.01.30 15:38:08 -05'00'

DATE: _____

OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS

		HL-10.11	1-16-26		TC-21.21	7-18-25		800	1-16-26	PN-133	7-18-25
RM-5.2	7-21-23	HL-10.12	1-16-26		TC-22.10	1-17-25		804	1-16-26	PN-137	1-18-19
		HL-10.13	1-20-23		TC-41.20	10-18-13		809	1-16-26		
BP-3.1	1-19-24	HL-20.11	1-16-26		TC-41.30	4-21-23		813	7-21-23		
BP-4.1	7-19-13	HL-30.11	1-16-26		TC-42.20	10-18-13		821	4-20-12		
BP-5.1	1-16-26	HL-30.22	1-17-25		TC-52.10	10-18-13		825	7-19-24		
BP-7.1	1-16-26	HL-40.20	7-18-25		TC-52.20	1-15-21		832	7-18-25		
		HL-60.11	7-21-17		TC-71.10	1-16-26		895	4-18-14		
DM-1.1	1-17-25	HL-60.12	1-16-26		TC-74.10	1-16-26		904	7-15-22		
		HL-60.31	1-16-26		TC-81.22	1-16-26		909	1-16-26		
					TC-83.10	1-16-26		913	4-16-21		
					TC-83.20	1-16-26		916	7-19-24		
		MT-95.31	7-18-25		TC-85.10	1-16-26		921	7-19-24		
		MT-101.90	7-17-20		TC-85.20	4-21-23					
		MT-105.10	1-17-20								
		MT-110.10	7-19-13								

FEDERAL PROJECT NO.
E240 (457)

RAILROAD INVOLVEMENT
NONE

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES THE CONSTRUCTION OF SIDEWALK AND CURB AND GUTTER ALONG STATE ROUTE 48 IN THE CITY OF CLAYTON OHIO. THE PROJECT LENGTH IS APPROXIMATELY 2,500′ AND WILL CONSTRUCT THE MISSING WALK AND CURB AT VARIOUS LOCATIONS ALONG THE PROJECT LENGTH. THIS PROJECT WILL ALSO INCLUDE THE REPLACEMENT OF NON ADA COMPLIANT RAMPS ALONG THE ROUTE AND NEW STORM SEWER.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	2.04 ACRES
ESTIMATED CONTRACTOR E.D.A.:	0.25 ACRES
NOTICE OF INTENT E.D.A.:	2.29 ACRES

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

TRAFFIC NOT REROUTED
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATE.

John W. O'Brien
District 07 Deputy Director

Pamela Boratyn
Director, Department of Transportation

TITLE SHEET

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER: LTH
REVIEWER: AJH 1-16-2026
PROJECT ID: 119822
SHEET: P.1 TOTAL: 92

MOT SR 48 20.61

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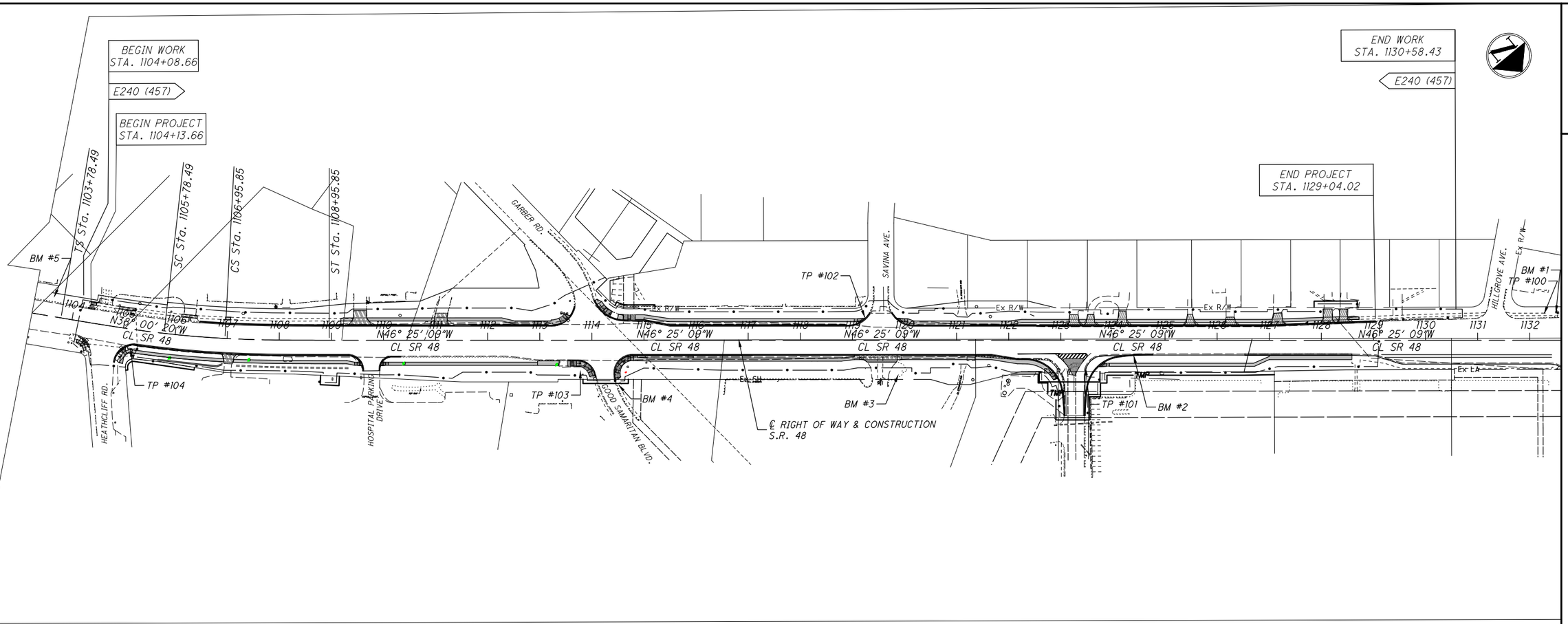

HORIZONTAL SCALE IN FEET
0 50 100 200

SCHEMATIC PLAN

HORIZONTAL CONTROL:

TRAVERSE POINT #100
N=567143.9570
E=184201.5940
STA. 1132+26.99 , 51.37' LT

TRAVERSE POINT #101
N=566610.9090
E=184888.5780
STA. 1123+61.87, 36.08' RT

TRAVERSE POINT #102
N=566252.3610
E=185157.9040
STA. 1119+19.59, 37.99' LT

TRAVERSE POINT #103
N=565956.7610
E=185616.2700
STA. 1113+83.77, 63.87' RT

TRAVERSE POINT #104
N=565323.4970
E=186214.1820
STA. 1105+18.52, 38.58' RT

BENCHMARK #1 ELEV: 850.42 PT.#: 10474 *SOUTHEAST BOLT OF STRAIN POLE* *SOUTHWEST CORNER OF S.R. 48 AND* *MCDONALDS DRIVE.* *STA. 1132+50.14, 53.41' LT*
BENCHMARK #2 ELEV: 840.14 PT.#: 11337 *MAG NAIL IN LIGHT POLE EAST SIDE OF S.R.* *48. SOUTHWEST CORNER OF EL TORO* *PROPERTY.* *STA. 1124+40.18, 30.78' RT*
BENCHMARK #3 ELEV: 831.36 PT.#: 33002 *MAG NAIL IN TELEPHONE POLE EAST SIDE* *OF S.R. 48. SOUTH OF CREEK.* *STA. 1119+87.72, 67.40' RT*
BENCHMARK #4 ELEV: 844.07 PT.#: 32111 *BOLT AT TIP ARROW TOP FLANGE OF FIRE* *HYDRANT AT MAIN DRIVE TO MIAMI VALLEY* *NORTH.* *STA. 1114+51.71, 86.99' RT*
BENCHMARK #5 ELEV: 848.36 PT.#: 30715 *MAG NAIL IN POWER POLE WEST SIDE OF* *S.R. 48 BY LUNT ORTHOPEDICS. POLE* *NUMBER 239709.* *STA. 1103+59.55, 42.23' LT*

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER: LTH
REVIEWER: AJH 1-16-2026
PROJECT ID: 119822
SHEET: P.2 | TOTAL: 92

MOT SR 48 20.61

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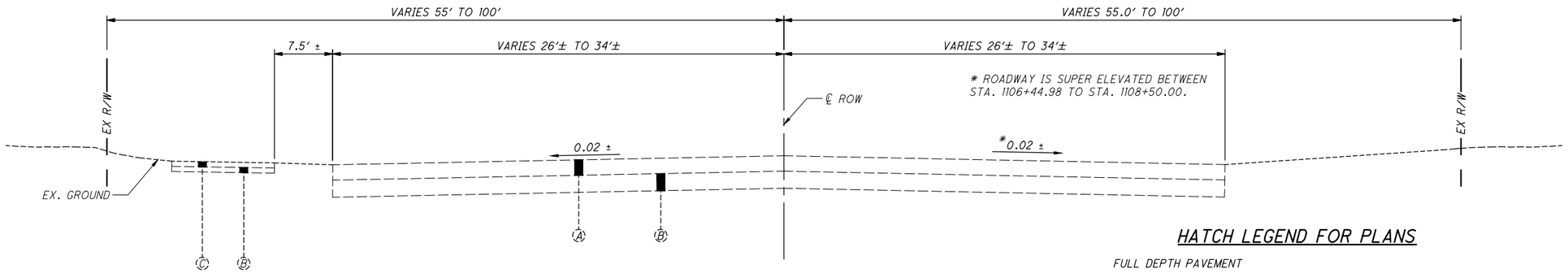
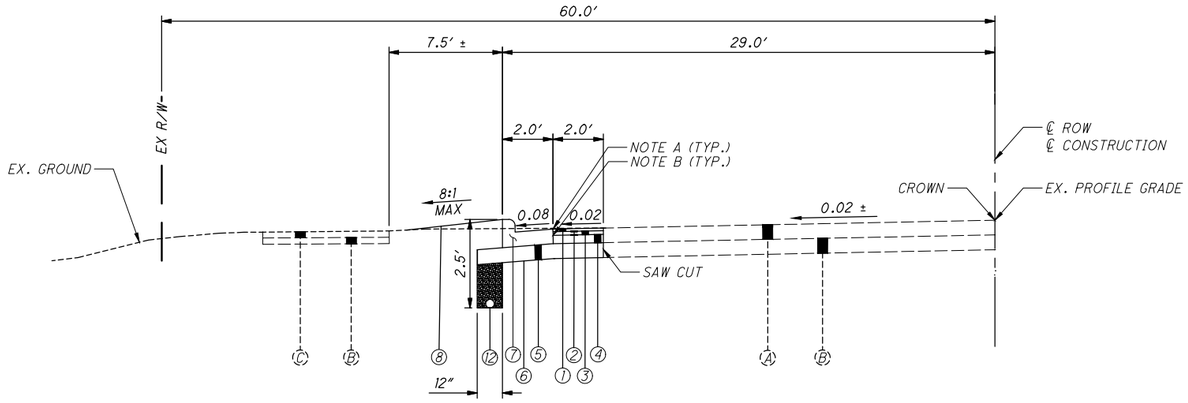


NOTE: EXISTING SIDEWALK BETWEEN STA. 1106+44.98 TO STA. 1109+36.35

EXISTING TYPICAL SECTION - STATE ROUTE 48

STA. 1106+44.98 TO STA. 1129+04.02



TYPICAL SECTION - S.R. 48 (LEFT SIDE)

STA. 1106+44.89 TO STA. 1109+36.35

LEGEND (ALL TYPICAL SHEETS)

- (A) - EXISTING ASPHALT CONCRETE (APPRX. 12" DEPTH)
- (B) - EXISTING AGGREGATE BASE MATERIAL (APPRX. 6" DEPTH)
- (C) - EXISTING CONCRETE SIDEWALK
- (D) - EXISTING CONCRETE CURB
- (E) - EXISTING GUARDRAIL (TO BE REMOVED)
- (1) - ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (449)
- (2) - ITEM 407 - NON-TRACKING TACK COAT (APPLIED @ 0.060 GAL/SY)
- (3) - ITEM 442 - 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (449)
- (4) - ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22, (449)
- (5) - ITEM 304 - 8" AGGREGATE BASE
- (6) - ITEM 204 - SUBGRADE COMPACTION
- (7) - ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN
- (8) - ITEM 659 - SEEDING AND MULCHING, CLASS 1
- (9) - ITEM 608 - 4" CONCRETE WALK, AS PER PLAN
- (10) - ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE
- (11) - ITEM 607 - FENCE MISC.: 42" WOOD FENCE (PER STD. DWG. RM-5.2)
- (12) - ITEM 604 - 4" BASE PIPE UNDERDRAINS

[NOTE A]- ITEM 442 ASPHALT SURFACE COURSE IS TO BE ¼" ABOVE GUTTER PLATE

[NOTE B]-TACK COAT FACE OF CURB INCIDENTAL TO ITEM 442 ASPHALT CONCRETE

HATCH LEGEND FOR PLANS

FULL DEPTH PAVEMENT
- SEE TYPICAL SECTION COMPOSITION

ASPHALT DRIVEWAYS
- ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449) (DRIVEWAYS)
- ITEM 407 - NON-TRACKING TACK COAT (0.06 GAL/SY)
- ITEM 441 - 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449) (DRIVEWAYS)
- ITEM 304 - 8" AGGREGATE BASE

RESIDENTIAL CONCRETE DRIVEWAYS
- ITEM 452 - 6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN
- ITEM 304 - 6" AGGREGATE BASE

COMMERCIAL CONCRETE DRIVEWAYS
- ITEM 452 - 9" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN
- ITEM 304 - 6" AGGREGATE BASE

AGGREGATE DRIVEWAYS
- ITEM 304 - 12" AGGREGATE BASE

PROPOSED CURB RAMP
- ITEM 608 - CURB RAMP, AS PER PLAN
- ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE

SIDEWALK
- ITEM 608 - 4" CONCRETE WALK, AS PER PLAN
- ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE

PAVEMENT REMOVED AND NOT REPLACED
- ITEM 202 - PAVEMENT REMOVED
- ITEM 653 - 12" TOPSOIL FURNISHED AND PLACED

AGGREGATE SHOULDER
- ITEM 304 - 8" AGGREGATE BASE

CONCRETE TRAFFIC ISLAND
- ITEM 609 - 6" CONCRETE TRAFFIC ISLAND
- ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE

ABBREVIATION LEGEND FOR PLANS

(RTG) - RECONSTRUCT TO GRADE
(TBR) - TO BE REMOVED
(TBA) - TO BE ABANDONED
(TBRLBO) - TO BE RELOCATED BY OTHERS
(ATG) - ADJUST TO GRADE
(R&R) - REMOVE AND RESET
(DND) - DO NO DISTURB

TYPICAL SECTIONS

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER LTH
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P:3 TOTAL 92

MOT SR 48 20.61

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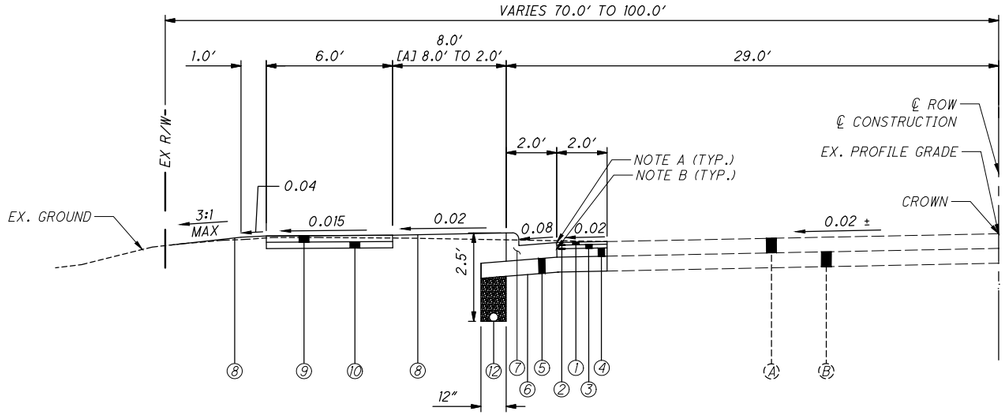
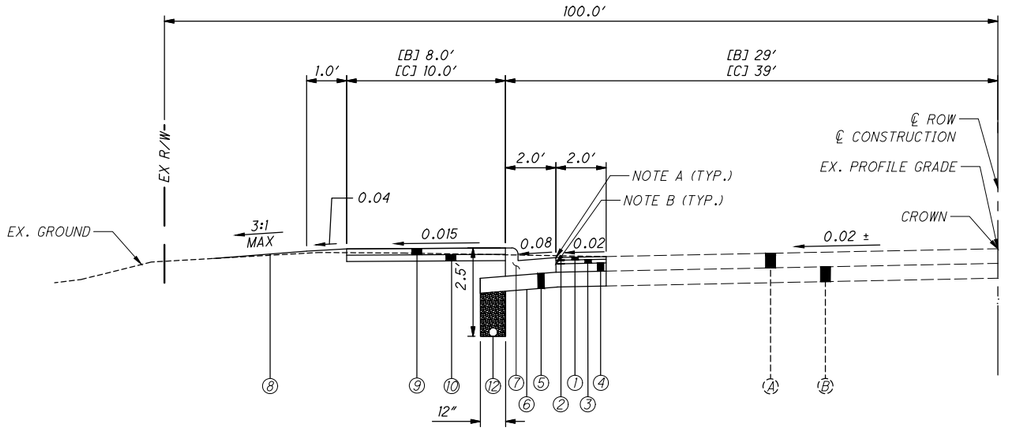


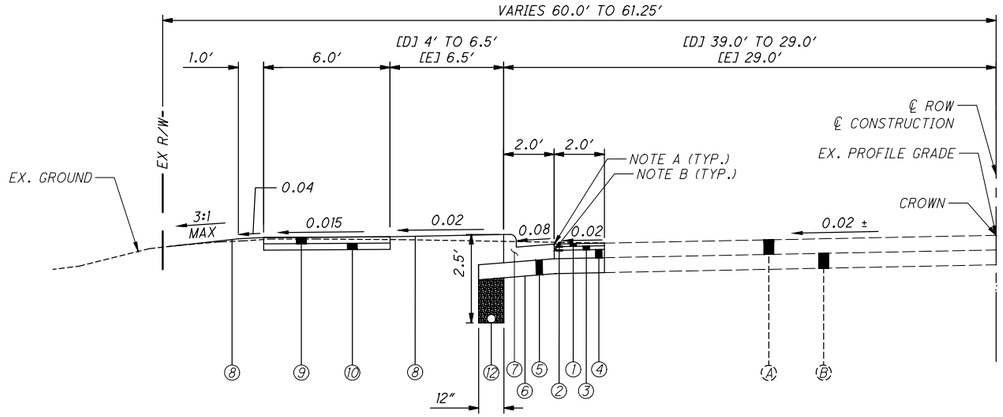
[A]- 1112+27.21 TO 1112+52.37

TYPICAL SECTION - S.R. 48 (LEFT SIDE)
STA. 1109+36.35 TO 1112+52.37



[B]- 1112+52.37 TO 1113+61.04
[C]- 1114+11.63 TO 1114+85.09

TYPICAL SECTION - S.R. 48 (LEFT SIDE)
STA. 1112+52.37 TO 1114+85.09



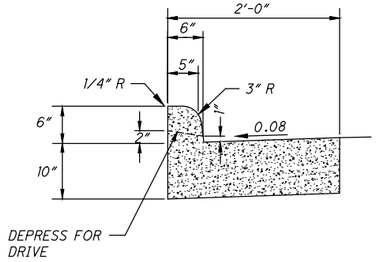
[D]- 1114+85.09 TO 1115+34.76
[E]- 115+34.76 TO 1119+16.66

TYPICAL SECTION - S.R. 48 (LEFT SIDE)
STA. 1114+85.09 T 1119+16.66

LEGEND (ALL TYPICAL SHEETS)

- (A) - EXISTING ASPHALT CONCRETE (APPRX. 12" DEPTH)
- (B) - EXISTING AGGREGATE BASE MATERIAL (APPRX. 6" DEPTH)
- (C) - EXISTING CONCRETE SIDEWALK
- (D) - EXISTING CONCRETE CURB
- (E) - EXISTING GUARDRAIL (TO BE REMOVED)

- (1) - ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (449)
- (2) - ITEM 407 - NON-TRACKING TACK COAT (APPLIED @ 0.060 GAL/SY)
- (3) - ITEM 442 - 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (449)
- (4) - ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22, (449)
- (5) - ITEM 304 - 8" AGGREGATE BASE
- (6) - ITEM 204 - SUBGRADE COMPACTION
- (7) - ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN
- (8) - ITEM 659 - SEEDING AND MULCHING, CLASS 1
- (9) - ITEM 608 - 4" CONCRETE WALK, AS PER PLAN
- (10) - ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE
- (11) - ITEM 607 - FENCE MISC.: 42" WOOD FENCE
- (12) - ITEM 604 - 4" BASE PIPE UNDERDRAINS



NOTE:
GUTTER PLATE THRU THE CURB RAMPS SHALL HAVE A MAXIMUM GRADE OF 0.04. THE FLOW LINE WILL STAY CONSISTENT AND THE LIP OF GUTTER WILL DROP TO MAKE THE GRADE WORK. ALSO NOTE THE TOP OF CURB WILL BE FLUSH WITH GUTTER PLATE THRU THE FULL DEPRESSED AREA IN THE CURB RAMP.

COMBINATION CURB
AND GUTTER , TYPE 2, AS PER PLAN

CURB AND GUTTER NOTES

A. CONCRETE AND WORK SHALL MEET THE REQUIREMENT SET FORTH IN ODOT ITEM 609 CURBING.

B. CURBING SHALL HAVE CONTRACTION JOINTS EVERY 10'.

C. MINIMUM OF 6" OF ODOT 304 SHALL BE PLACED UNDER CURBING.

D. CURBING SHALL BE BACKFILLED IMMEDIATELY AFTER FORMS ARE REMOVED OR AS SOON AS PRACTICAL WHEN SLIP FORMING PRIOR TO OTHER CONSTRUCTION OPERATIONS.

E. PROVIDE BROOM FINISH AND EDGING TO ALL EXPOSED SURFACES.

F. APPLY 2 COATS OF SUPER DIAMOND CLEAR CURING AND SEAL COMPOUND OR WR MEADOWS, INC. CS-309-25, OR APPROVED EQUIVALENT PER MANUFACTURER'S RECOMMENDATION ON ALL SURFACES, INCLUDING BACK, IMMEDIATELY AFTER FINISHING SURFACES.

G. CONCRETE SHALL BE ODOT QC-IP.

TYPICAL SECTIONS

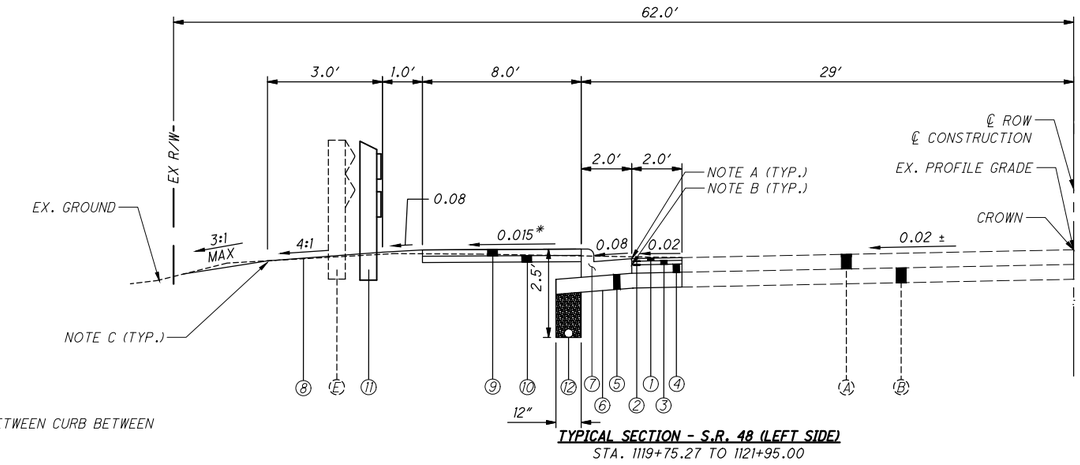
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
LTH
REVIEWER
AJH 1-16-2026
PROJECT ID
119822
SHEET P.4 TOTAL 92

MOT SR 48 20.61

NOTE:
WOODEN BIKE RAIL TO BE INSTALLED BETWEEN STATIONS 1120+01 TO 1122+12. SEE PLAN SHEETS FOR MORE DETAILS.

[NOTE C]- 4' ROUNDING

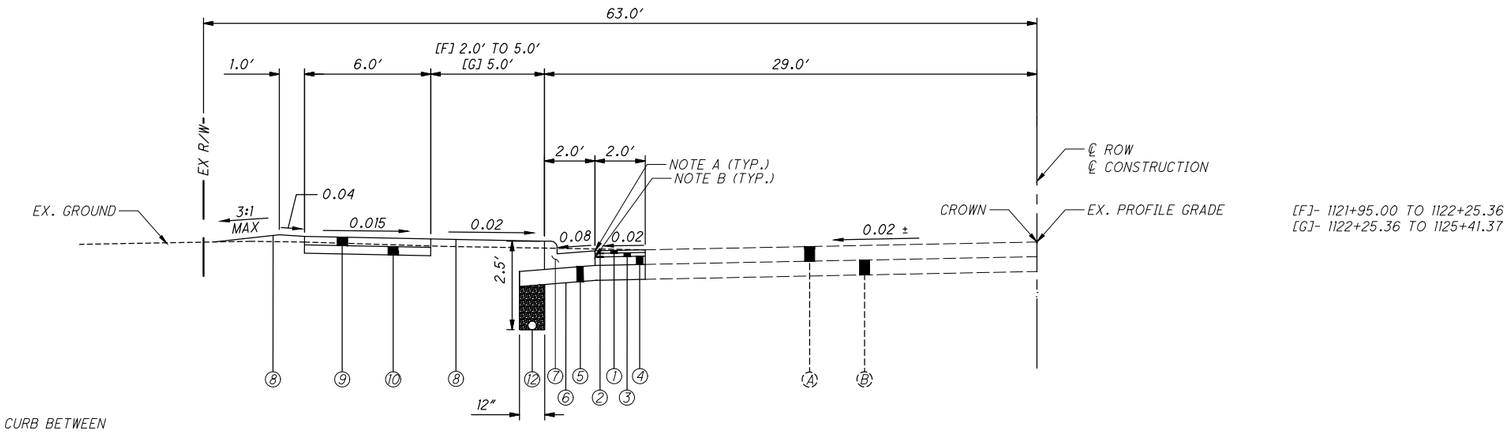


* SIDEWALK SLOPE TRANSITIONS BETWEEN CURB BETWEEN STA. 1121+95 TO STA. 1122+20.

TYPICAL SECTION - S.R. 48 (LEFT SIDE)
STA. 1119+75.27 TO 1121+95.00

[NOTE A]- ITEM 442 ASPHALT SURFACE COURSE IS TO BE ¼" ABOVE GUTTER PLATE

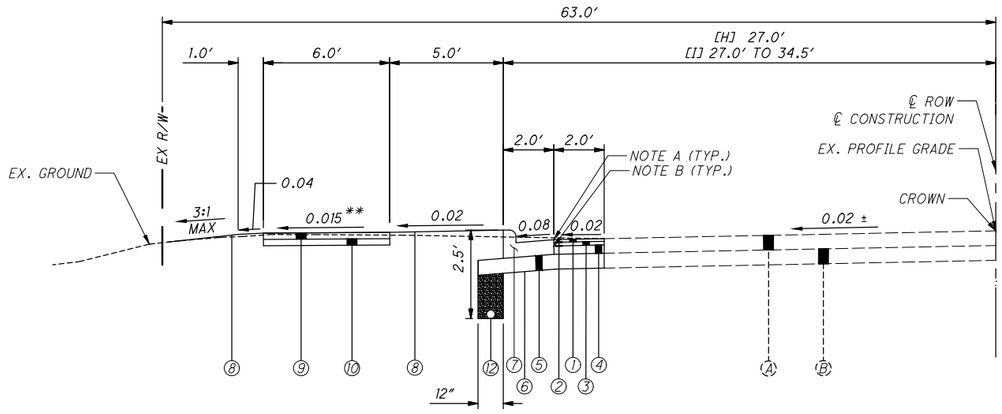
[NOTE B]-TACK COAT FACE OF CURB INCIDENTAL TO ITEM 442 ASPHALT CONCRETE



[F]- 1121+95.00 TO 1122+25.36
[G]- 1122+25.36 TO 1125+41.37

** SIDEWALK SLOPE TRANSITIONS BETWEEN CURB BETWEEN STA. 1126+35 TO STA. 1125+60.

TYPICAL SECTION - S.R. 48 (LEFT SIDE)
STA. 1121+95.00 TO STA. 1125+35.00



[H]- 1125+41.37 TO 1125+86.97
[I]- 1125+86.97 TO 1129+04.02

TYPICAL SECTION - S.R. 48 (LEFT SIDE)
STA. 1125+35.00 TO STA. 1129+04.02

TYPICAL SECTIONS

MOT SR 48 20.61

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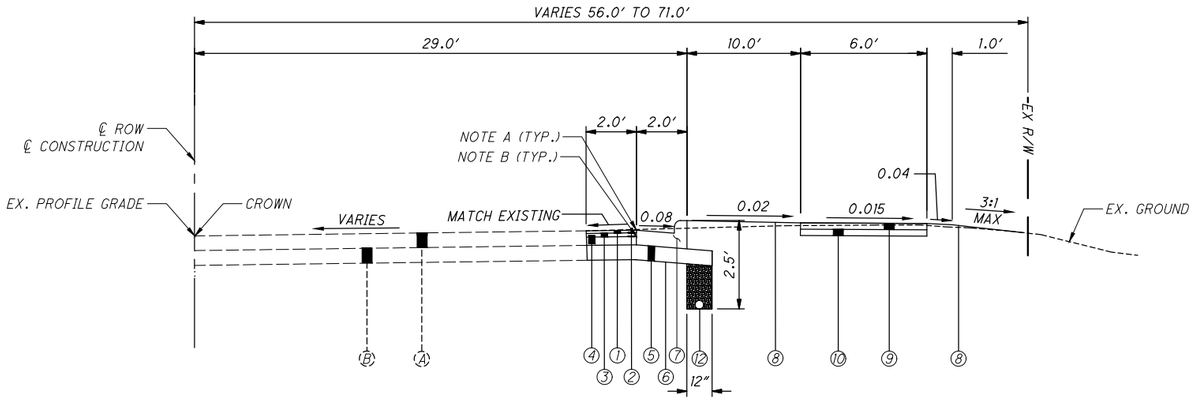
DESIGN AGENCY
CHOICE ONE ENGINEERING

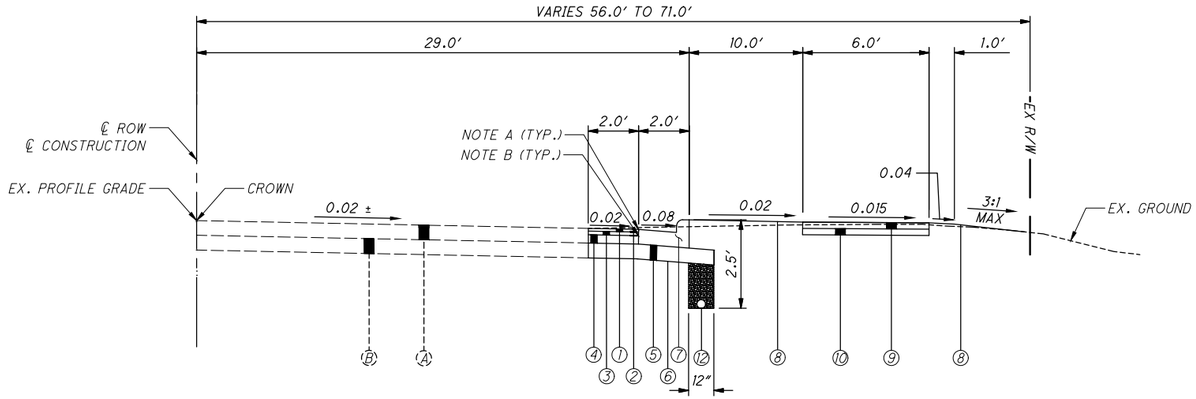
DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.5
TOTAL	92



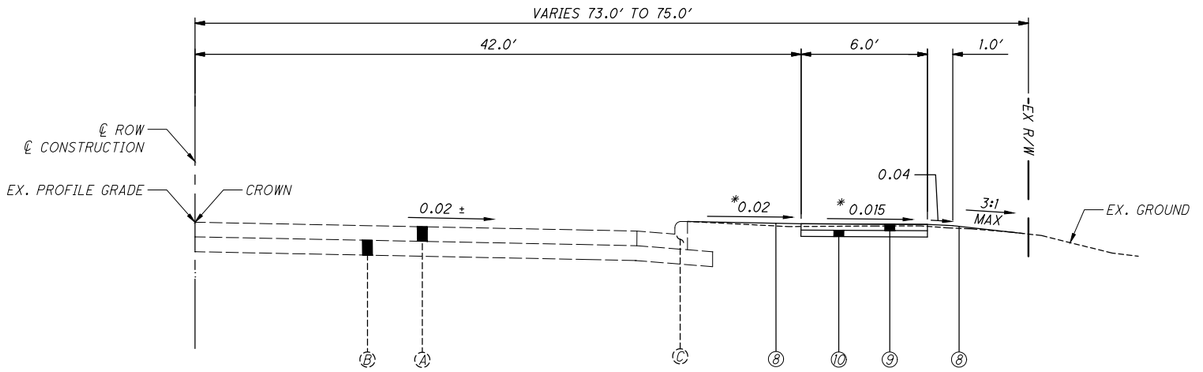
TYPICAL SUPER ELEVATED SECTION - S.R. 48 (RIGHT SIDE)
STA. 1104+90.56 TO 1108+50.00

[NOTE A]- ITEM 442 ASPHALT SURFACE COURSE IS TO BE ¼" ABOVE GUTTER PLATE

[NOTE B]-TACK COAT FACE OF CURB INCIDENTAL TO ITEM 442 ASPHALT CONCRETE



TYPICAL SECTION - S.R. 48 (RIGHT SIDE)
STA. 1108+50.500 TO 1109+53.44



TYPICAL SECTION - S.R. 48 (RIGHT SIDE)
STA. 1109+97.19 TO STA. 1112+95.84

* TRANSITION CROSS SLOPES BETWEEN STA. 1112+75.00 TO STA. 1112+95.00

TYPICAL SECTIONS

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.6
TOTAL	92

MOT SR 48 20.61

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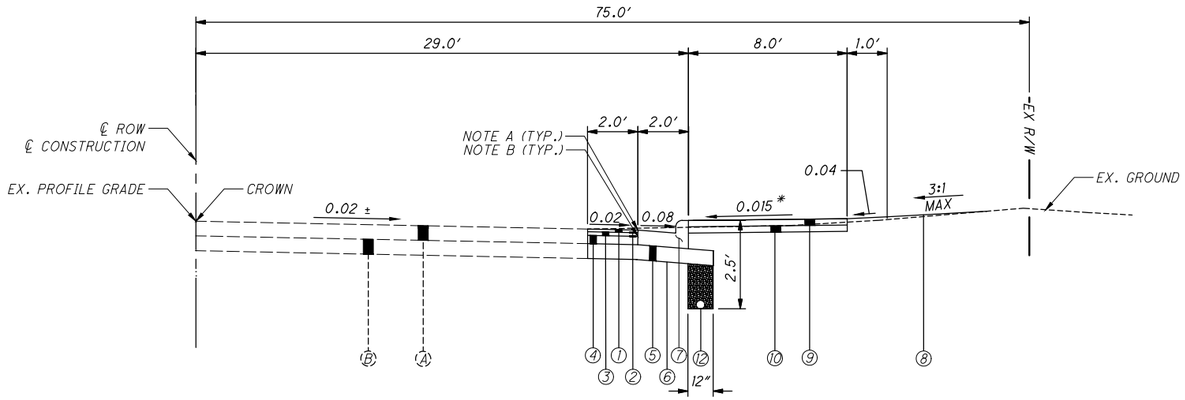


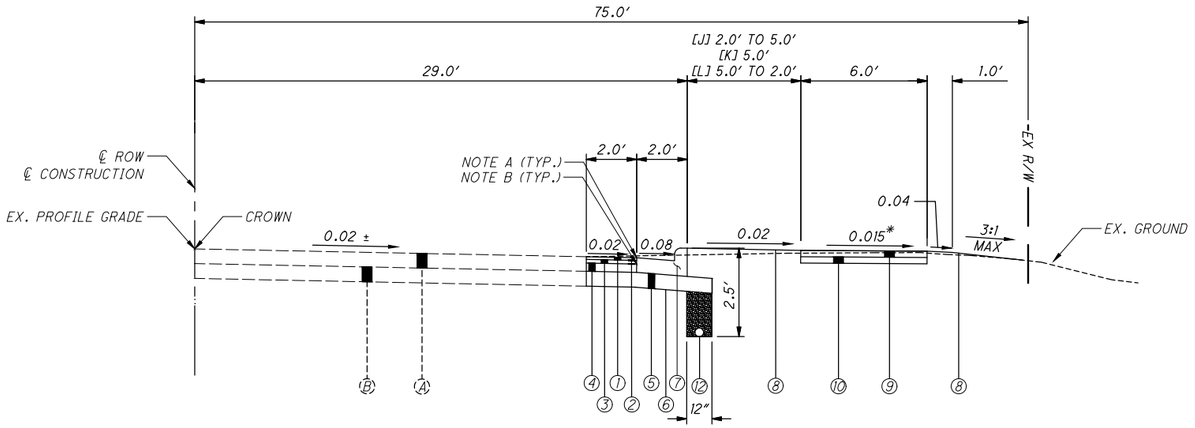
TYPICAL SECTION - S.R. 48 (RIGHT SIDE)
STA. 1112+95.00 TO STA. 1114+85.00

[NOTE A]- ITEM 442 ASPHALT SURFACE COURSE IS TO BE ¼" ABOVE GUTTER PLATE

[NOTE B]-TACK COAT FACE OF CURB INCIDENTAL TO ITEM 442 ASPHALT CONCRETE

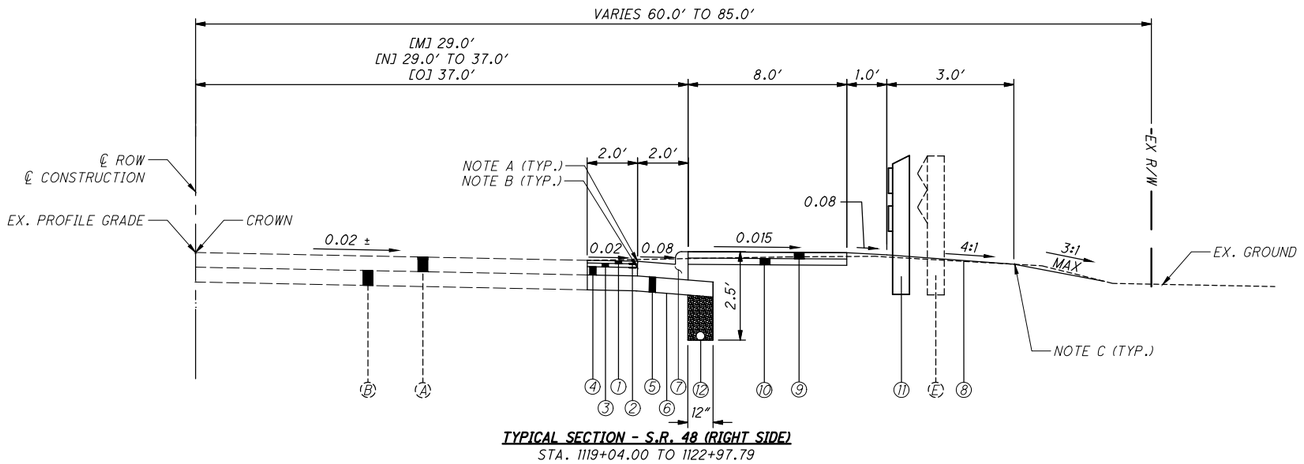
NOTE:
DO NOT DISTURB EXISTING CURB BETWEEN STA. 1112+95.84 TO STA. 1113+37.36.

* SIDEWALK SLOPE TRANSITIONS BETWEEN CURB BETWEEN STA. 1114+60.00 TO STA. 1114+85.00.



TYPICAL SECTION - S.R. 48 (RIGHT SIDE)
STA. 1114+85.00 TO STA. 1119+04.00

[J]- 1114+87.75 TO 1115+13.11
[K]- 1115+13.11 TO 1118+78.64
[L]- 1118+78.64 TO 1119+04.00



TYPICAL SECTION - S.R. 48 (RIGHT SIDE)
STA. 1119+04.00 TO 1122+97.79

[M]- 1119+04.00 TO 1121+67.16
[N]- 1121+67.16 TO 1122+17.00
[O]- 1122+17.00 TO 1122+97.79

[NOTE C]- 4' ROUNDING

NOTE:
WOODEN BIKE RAIL TO BE INSTALLED BETWEEN STATIONS 1119+82 TO 1122+16. SEE PLAN SHEETS FOR MORE DETAILS.

TYPICAL SECTIONS

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
LTH

REVIEWER
AJH 1-16-2026

PROJECT ID
119822

SHEET P.7 | TOTAL 92

MOT SR 48 20.61

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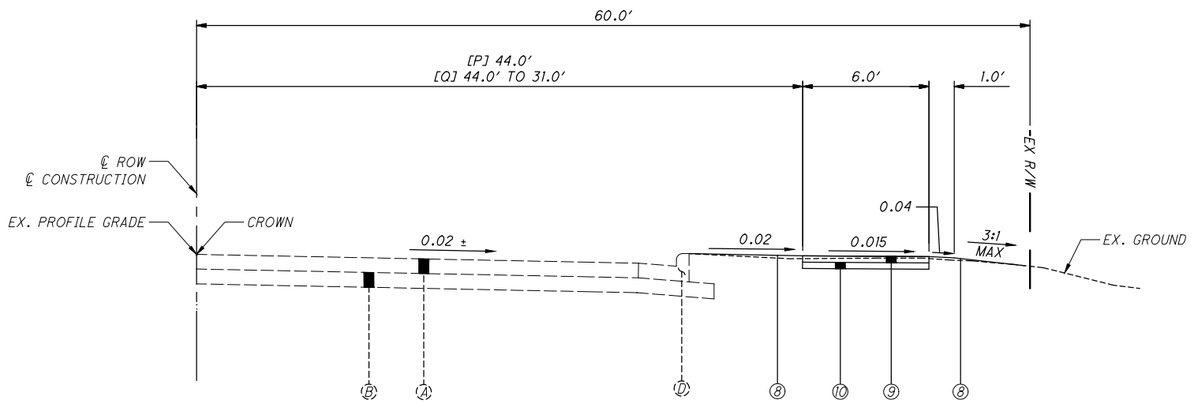


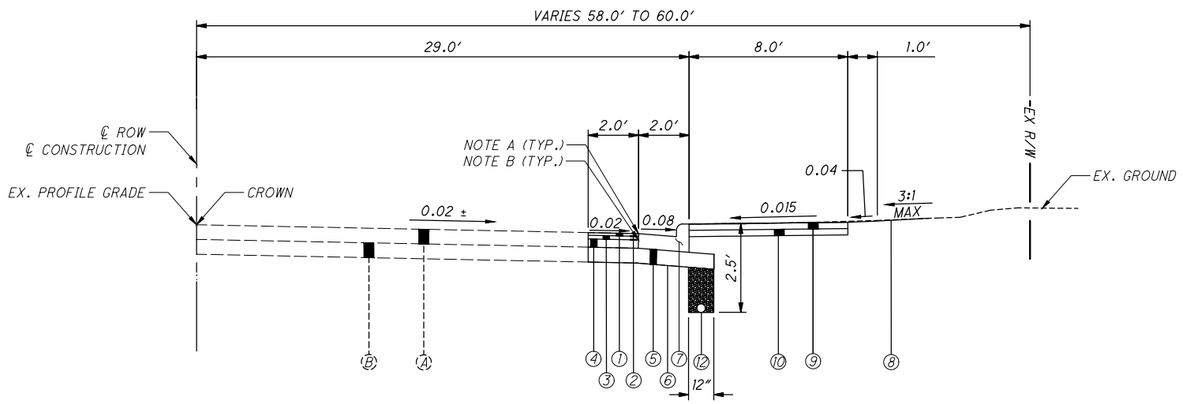
[NOTE A]- ITEM 442 ASPHALT SURFACE COURSE IS TO BE ¼" ABOVE GUTTER PLATE

[NOTE B]-TACK COAT FACE OF CURB INCIDENTAL TO ITEM 442 ASPHALT CONCRETE

[P]- 1123+50.73 TO 1126+70.00
[Q]- 1126+70.00 TO 1127+00.00

* SIDEWALK SLOPE TRANSITIONS BETWEEN CURB BETWEEN STA. 1126+75.00 TO STA. 1127+00.00.

TYPICAL SECTION - S.R. 48 (RIGHT SIDE)
STA. 1123+50.73 TO 1127+00.00



TYPICAL SECTION - S.R. 48 (RIGHT SIDE)
STA. 1127+00.00 TO STA. 1128+58.63

TYPICAL SECTIONS

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.8
TOTAL	92

MOT SR 48 20.61

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MODIFICATIONS

ANY MODIFICATIONS TO THE SPECIFICATIONS OR CHANGES TO THE WORK AS SHOWN ON THE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE ENGINEER.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC. EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION ACCORDING TO THE BEST AVAILABLE DATA. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING THEM IN THE FIELD PRIOR TO CONSTRUCTION AND WILL BE RESPONSIBLE FOR ANY DAMAGE DONE TO THEM. CONTRACTOR TO CONTACT OHIO UTILITIES PROTECTION SERVICE (1-800-362-2764) 48 HOURS PRIOR TO CONSTRUCTION.

NON-MEMBERS MUST BE CALLED DIRECTLY.

UTILITY OWNERSHIP

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

STREETS AND STORM SEWER
CITY OF CLAYTON
P.O. BOX 280
CLAYTON, OH 45315
ATTN: KENNY PHELPS (937) 836-3500

WATER
CITY OF ENGLEWOOD
333 WEST NATIONAL ROAD
ENGLEWOOD, OH 45322
ATTN: MATHEW FRICK (937) 836-5106

WATER & SANITARY
MONTGOMERY COUNTY ENVIRONMENTAL SERVICES
1850 SPAULDING ROAD
KETTERING, OHIO 45432
ATTN: EDWARD SCHLAACK (937) 781-2632

ELECTRIC - AES OHIO
1900 DRYDEN ROAD
DAYTON, OHIO 54439
ATTN: WILLIAM WARD
934-554-9063 william.ward@aes.com

LIGHTING - MIAMI VALLEY LIGHTING
1065 WOODMAN DRIVE
DAYTON, OHIO 45432
ATTN: NAOMI SAURO
937-475-8627 naomi.sauro@aes.com

GAS - CENTERPOINT ENERGY
2345 E. MAIN STREET
DANVILLE, IN 46122
publicproject@centerpointenergy.com

TELEPHONE - FRONTIER COMMUNICATIONS
10 MULBERRY STREET
BROOKVILLE, OH 45309
ATTN: ROB LATHAM 937-382-2222

TELEPHONE - INDEPENDENTS FIBER NETWORK
13888 COUNTY ROAD 25A
WAPAKONETA, OH 45895
ATTN: SARA EMANS (419) 739-3100

CABLE - CHARTER COMMUNICATIONS
3691 TURNER ROAD
DAYTON, OHIO 45415
ATTN: MARY EVANS
937-396-8372 mary.evans@charter.com

TRAFFIC CAMERAS - FLOCK SAFETY
ATTN: TAMMY JONES & JOSEPH BELDIMAN
JOSEPH.BELDIMAN@FLOCKSAFETY.COM
TAMMY.JONES@FLOCKSAFETY.COM

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC

CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

MUD

THE TRACKING OR SPILLING OF MUD, DIRT, OR DEBRIS UPON CITY STREETS IS PROHIBITED, AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND BEFORE FINAL ACCEPTANCE BY THE ENGINEER, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SEWER THAT MAY BE AFFECTED BY THE WORK AND ARE TO REMAIN IN SERVICE. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE ENGINEER.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE ENGINEER.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

DRAINAGE DISCHARGE CONTINUANCE

FURNISH A DRAINAGE DISCHARGE CONTINUANCE FOR ANY DRAINAGE DISCHARGE DISTURBED BY THE WORK AND NOT SHOWN IN THE PLANS. THE LOCATION, TYPE (CONDUIT OR SWALE), SIZE AND GRADE OF THE DRAINAGE DISCHARGE CONTINUANCE WILL BE AGREED TO BY THE ENGINEER OR THE CITY.

FURNISH AN INSPECTION WELL AT THE RIGHT OF WAY LINE IN ACCORDANCE WITH SCD DM-3.1 FOR EACH DRAINAGE DISCHARGE THAT OUTLETS THROUGH A CURB OPENING, OR INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST IS INCLUDED IN ITEM 611 - INSPECTION WELL.

FURNISH A DRILLED HOLE OR A CURB SECTION WITH A HOLE WHEN OUTLETTING A CONDUIT THROUGH A CURB OPENING. THE COST OF DRILLING, OR FURNISHING THE CURB SECTION WITH HOLE IS INCLUDED IN ITEM 611 - CONDUIT, MISC TYPE _ FOR DRAINAGE DISCHARGE CONTINUANCE.

FURNISH A DRILLED CORE HOLE WHEN OUTLETTING INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST OF THE DRILLED CORE HOLE IS INCLUDED IN ITEM 611 - CONDUIT, MISC _ FOR DRAINAGE DISCHARGE CONTINUANCE.

DOCUMENTATION

THE CONTRACTOR SHALL FURNISH WRITTEN DOCUMENTATION TO THE ENGINEER AND TO THE VILLAGE. THE DOCUMENTATION INCLUDES THE CONSTRUCTION PROJECT NUMBER, COUNTY, ROUTE, SECTION, LATITUDE AND LONGITUDE OF THE DRAINAGE DISCHARGE AT THE RIGHT OF WAY, THE NAME OF PROPERTY OWNER WITH ADDRESS, THE DATE THE DRAINAGE DISCHARGE CONTINUANCE WAS FURNISHED, A DETAILED DESCRIPTION OF THE WORK AND PICTURES OF THE DRAINAGE DISCHARGE CONTINUANCE (IN PDF OR JPEG FORMAT). THE DOCUMENTATION IS INCLUDED IN ITEM 611 - CONDUIT, MISC, TYPE _ FOR DRAINAGE DISCHARGE CONTINUANCE.

CONDUIT MATERIAL TYPES

THE FOLLOWING CONDUIT MATERIAL TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, AND 707.52 SDR35.

PAY ITEMS

EACH OF THE PAY ITEMS LISTED BELOW FOR CONDUIT MISCELLANEOUS TYPE B, C, E, AND F FOR DRAINAGE DISCHARGE CONTINUANCE INCLUDE CONDUIT SIZES 2 TO 10 INCH. THERE IS NO COST DIFFERENTIATION FOR SIZE IN THESE PAY ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE DRAINAGE DISCHARGE CONTINUANCE:

ITEM 611 - INSPECTION WELL	1 EACH
ITEM 611 - CONDUIT, MISC.: TYPE B FOR DRAINAGE DISCHARGE CONTINUANCE	20 FT
ITEM 611 - CONDUIT, MISC.: TYPE C FOR DRAINAGE DISCHARGE CONTINUANCE	20 FT
ITEM 611 - CONDUIT, MISC.: TYPE E FOR DRAINAGE DISCHARGE CONTINUANCE	20 FT
ITEM 611 - CONDUIT, MISC.: TYPE F FOR DRAINAGE DISCHARGE CONTINUANCE	20 FT
ITEM 202 - REMOVAL MISC.: CONDUIT	25 FT

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION, OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT ANY EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

PROPERTY POINTS AND SURVEY MONUMENTS

CARE SHALL BE TAKEN BY THE CONTRACTOR TO SAFEGUARD ANY PROPERTY POINTS OR OTHER SURVEY REFERENCE MARKS ENCOUNTERED DURING CONSTRUCTION OF THIS PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AT HIS EXPENSE, TO RESET ANY PROPERTY POINT OR SURVEY MONUMENT WHICH IS DISTURBED AS A RESULT OF CONSTRUCTION OF THIS PROJECT. THE PROPERTY POINTS AND SURVEY MONUMENTS SHALL BE RESET UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL SURVEYOR.

PAYMENT FOR THIS ITEM SHALL BE INCIDENTAL TO THE OTHER ITEMS PAID FOR IN THIS PROJECT.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, TOPSOIL	485 CU. YD.
659, SEEDING AND MULCHING, CLASS 1	4300 SQ. YD.
659, REPAIR SEEDING AND MULCHING	270 SQ. YD.
659, COMMERCIAL FERTILIZER	0.6 TON
659, LIME	0.10 ACRE
659, WATER	24 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

NONRUBBER TIRE VEHICLES

NO NONRUBBER TIRE VEHICLES SHALL BE MOVED ON CITY STREETS. EXCEPTIONS MAY BE GRANTED BY THE ENGINEER WHERE SHORT DISTANCES AND SPECIAL CIRCUMSTANCES ARE INVOLVED. GRANTING OF EXCEPTIONS MUST BE IN WRITING AND ANY RESULTING DAMAGE MUST BE REPAIRED TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL USE EXTREME CARE WHEN OPERATING NONRUBBER TIRE VEHICLES ON STREETS OR DRIVEWAYS TO AVOID MARKING OR DAMAGING THE PAVEMENT. PROTECTION OF THE PAVEMENT FROM DAMAGE RESULTING FROM THE TRACKS OF NONRUBBER TIRE VEHICLES UTILIZED IN TRENCH EXCAVATION SHALL BE REQUIRED. A WOOD PLANK SYSTEM, USED TIRES, RUBBER MATS, OR OTHER MEANS AS APPROVED BY THE ENGINEER SHALL BE USED TO PROTECT THE PAVEMENT. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

MANUFACTURED WATER QUALITY STRUCTURE

THIS PLAN UTILIZES MANUFACTURED WATER QUALITY STRUCTURES FOR WATER QUALITY TREATMENT. AREAS ARE SHOWN IN THE PLANS FOR PLACEMENT OF AN OFF-LINE SYSTEM. PAYMENT FOR THESE DEVICES IS MADE AT THE CONTRACT UNIT PRICE FOR ITEM 895, MANUFACTURED WATER QUALITY STRUCTURE, TYPE 1.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWINGS BP-3.1.

ESTIMATED AND CONTINGENT QUANTITIES

THESE PLANS INCLUDE ESTIMATED AND CONTINGENCY QUANTITIES THAT MAY OR MAY NOT BE USED. ANY UNUSED MATERIAL PURCHASED BY THE CONTRACTOR WILL NOT BE PURCHASED OR REIMBURSED BY THE CITY. THE CITY WILL NOT APPROVE ANY WORK DELAYS BECAUSE OF THE LACK OF MATERIALS AT THE SITE. ANY RESTOCKING FEES THAT MAY BE CHARGED WILL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE FOLLOWING CONTINGENT QUANTITIES HAVE BEEN INCLUDED IN THE ESTIMATE FOR POSSIBLE FIELD MODIFICATION BY THE CITY AT THEIR DISCRETION:

ITEM 204 - EXCAVATION OF SUBGRADE	400 CY.
ITEM 204 - GRANULAR MATERIAL, TYPE B	400 CY.

GENERAL NOTES

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER LTH
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P.9 TOTAL 92

MOT SR 48 20.61

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SURVEYING PARAMETERS

THE FOLLOWING VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS WERE USED FOR ALL SURVEYING ON THIS PROJECT:

POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: TRAVERSE CUT "X"

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD88
ATTN: GEOID 18

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83 (CORS 2011 ADJUSTMENT)
ELLIPSOID: GRS 80
MAP PROJECTION: TRANSVERSE MERCATOR
*COORDINATE SYSTEM: OCCS-MONTGOMERY COUNTY**
SHELBY LDP PROJECTION PARAMETERS
SCALE FACTOR: 1.000038
CENTRAL LATITUDE: N38°-18'-00"
CENTRAL LONGITUDE: W84°-21'-00"
FALSE NORTHING: 0 METERS
FALSE EASTING: 50,000 METERS

**OCCS IS A COUNTY LOW DISTORTION PROJECTION (LDP) SYSTEM DEVELOPED BY ODOT. THE DISTORTION BETWEEN GROUND AND GRID IS SO MINIMAL THAT THERE IS NO NEED FOR A SCALE FACTOR TO ADJUST BETWEEN GRID AND GROUND COORDINATES. CONTACT THE DISTRICT SURVEY DEPARTMENT FOR FURTHER INFORMATION OR QUESTIONS.*

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

MISCELLANEOUS

COMPENSATION FOR THE WORK AS SHOWN ON THE PLANS SHALL BE AT THE UNIT PRICES INCLUDED ON THE BID PROPOSAL. NO SEPARATE PAYMENT WILL BE MADE FOR TASKS (NOT ALL INCLUSIVE) INCLUDING ITEMS SUCH AS MOBILIZATION, RECORD DRAWINGS AND CONNECTIONS TO EXISTING FACILITIES.

CONTRACTOR IS RESPONSIBLE TO FILL OUT ALL NECESSARY CO-PERMITTEE PERMITS FOR THE OEPA STORMWATER NOI.

SUBCONTRACTOR SUPERVISION

THE CONTRACTOR IS REQUIRED TO HAVE A PROJECT SUPERVISOR ON-SITE TO SUPERVISE THE SUBCONTRACTOR FOR QUALITY CONTROL PURPOSES AND TO PROVIDE ANY NECESSARY ASSISTANCE TO THE SUBCONTRACTOR TO ENSURE QUALITY WORK.

COST OF THIS ITEM SHALL BE INCLUDED IN THE COST OF RELATED PAY ITEMS OF THIS PROJECT.

SAFETY

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.

HAUL ROADS

WHEN PICKING A DUMP SITE, CONTRACTOR IS TO TAKE INTO CONSIDERATION THE HAUL ROAD ROUTE AND ANY NECESSARY ROADWAY REPAIR CAUSED BY HAULING TO THE DUMP SITE.

PRIOR TO HAULING EQUIPMENT OR MATERIALS, THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE CITY OF THE SPECIFIC ROADS OR STREETS ON THE HAUL ROUTE. IF THE HAUL ROUTE INCLUDES ROADS AND STREETS THAT ARE NOT UNDER THE JURISDICTION AND CONTROL OF THE CITY OR OF THE STATE, THE CONTRACTOR MUST USE LOCAL ROADS AND STREETS THAT ARE NOT RESTRICTED BY LOCAL AUTHORITIES. IF IT IS DETERMINED BY THE CITY THAT THE HAUL ROADS USED TO HAUL EQUIPMENT AND MATERIALS TO THE DUMP SITE WERE DAMAGED FROM THIS OPERATION, THE CITY WILL ORDER THE CONTRACTOR TO PERFORM IMMEDIATE AND PRACTICAL REPAIRS TO ENSURE REASONABLY NORMAL TRAVELING CONDITIONS AND BRING PAVEMENT CONDITIONS BACK TO CONDITIONS EQUAL OR BETTER THAN PRE-OPERATION CONDITIONS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL TAKE ALL THIS INTO CONSIDERATION WHEN PICKING A DUMP SITE.

THE CONTRACTOR SHALL NOT FILE A CLAIM FOR DELAYS OR OTHER IMPACTS TO THE WORK CAUSED BY DISPUTE WITH THE LOCAL AUTHORITIES REGARDING THE USE OF LOCAL ROADS OR STREETS AS HAUL ROADS. THE CONTRACTOR SHALL SAVE THE CITY AND THE STATE HARMLESS FOR ANY CLOSURES OR HAULING RESTRICTION OUTSIDE THE PROJECT LIMITS BEYOND THE CONTROL OF THE CITY OR ODOT.

CONTROL OF SPILLS

BEST CONSTRUCTION PRACTICES ARE TO BE IMPLEMENTED TO MINIMIZE WATER QUALITY IMPACTS. IDLE EQUIPMENT, PETROCHEMICALS, AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED NEAR DRAINAGE WAYS, DITCHES, OR STREAMS. REFUELING SHALL NOT BE UNDERTAKEN NEAR DRAINAGE WAYS, DITCHES, OR STREAMS. A SPILL CONTAINMENT KIT IS TO BE MAINTAINED ONSITE THROUGHOUT CONSTRUCTION ACTIVITIES. SPILLS OF FUELS, OILS, CHEMICALS, OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY. IF THE SPILL IS A REPORTABLE AMOUNT, THE LOCAL FIRE DEPARTMENT IS TO BE CONTACTED.

SEALING COMPOUND

ALL EXPOSED CONCRETE SHALL HAVE A CURING AND SEALING COMPOUND APPLIED. THE CURING AND SEALING COMPOUND SHALL BE APPLIED IN 2 COATS. CURING AND SEALING COMPOUND COLOR TO BE APPROVED BY CITY.

CAD FILE DISCLAIMER

THE CAD FILE ASSOCIATED WITH THESE CONSTRUCTION PLANS IS A NON-CERTIFIED DOCUMENT. ANY USE OF THE INFORMATION OBTAINED OR DERIVED FROM THE ASSOCIATED CAD FILE WILL BE AT THE RECEIVING PARTY/USER"S RISK. CHOICE ONE ENGINEERING CORP. OFFERS NO WARRANTY AS TO THE ACCURACY OF THE INFORMATION IN THE CAD FILE OR THAT REVISIONS HAVE BEEN ISSUED AFTER THE CAD DRAWING WAS RELEASED. RECEIVING PARTIES/USERS SHALL HOLD HARMLESS TO THE MAXIMUM EXTENT ALLOWED BY LAW CHOICE ONE ENGINEERING CORP. FROM ANY USE OF THE CAD FILE BY THE RECEIVING PARTY/USER. IN ALL CIRCUMSTANCES, AND AT ALL TIMES, THE PUBLISHED PAPER AND/OR PDF DRAWINGS FOR THE PROJECT SHALL SUPERSEDE THE CAD FILES. IN THE CASE OF AN INCONSISTENCY BETWEEN THE PUBLISHED PAPER/PDF DRAWINGS AND THE ASSOCIATED CAD FILE, THE PUBLISHED PAPER/PDF DRAWINGS SHALL GOVERN THE PROJECT AND ALL WORK.

ITEM 201 CLEARING AND GRUBBING, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 201 CLEARING AND GRUBBING, EXCEPT AS HEREIN MODIFIED.

THIS WORK SHALL CONSIST OF REMOVING AND TRIMMING TREES, REMOVING STUMPS, TRIMMING AND/OR REMOVING BUSHES, REMOVING LANDSCAPE TIMBERS, ETC., AS NOTED ON THE PLANS. WORK SHALL BE COORDINATED WITH THE INDIVIDUAL PROPERTY OWNERS TO ENHANCE MAXIMUM POSSIBLE SATISFACTION.

ALL TREES REMOVED SHALL BE CUT INTO 2' LENGTHS AND SPLIT IF NECESSARY TO ALLOW THE PIECES TO BE MOVED BY HAND. PIECES SHALL BE STACKED BEYOND THE RIGHT-OF-WAY LINE AND LEFT FOR THE RESPECTIVE PROPERTY OWNERS. IF THE PROPERTY OWNER REFUSES TO ACCEPT THE WOOD, THE CONTRACTOR SHALL DISPOSE OF THE WOOD AS DIRECTED BY THE CITY.

PAYMENT FOR ITEM 201 CLEARING AND GRUBBING, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE, SHALL BE AT THE CONTRACT LUMP SUM BID PRICE EXCEPT FOR ITEMS PAID FOR AS EACH, AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM SPECIAL REMOVE AND RESET MAILBOX, AS PER PLAN

THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX, SUPPORT, AND HARDWARE. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION. THE CONTRACTOR WILL BE REQUIRED TO RESET THE EXISTING BOX AND SUPPORT USING THE EXISTING HARDWARE TO A CONDITION EQUAL TO THE CONDITION OF THE BOX AND SUPPORT PRIOR TO THE START OF CONSTRUCTION.

ANY BOX, SUPPORT, OR HARDWARE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH EQUAL OR BETTER MATERIALS, AS DETERMINED BY THE OWNER, AT THE CONTRACTOR'S EXPENSE.

ALL BOXES WILL BE REPLACED IN THE SAME LOCATION AND MUST BE RESET THE SAME DAY SO DELIVERY IS NOT INTERRUPTED.

MAILBOX, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL REMOVE AND RESET MAILBOX, AS PER PLAN.

ENVIRONMENTAL COMMITMENT NOTES

PROTECTION OF DRINKING WATER RESOURCES

BEST CONSTRUCTION PRACTICES ARE TO BE IMPLEMENTED TO MINIMIZE WATER QUALITY IMPACTS. IDLE EQUIPMENT, PETROCHEMICALS, AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED NEAR DRAINAGE WAYS, DITCHES OR STREAMS. REFUELING SHALL NOT BE UNDERTAKEN NEAR DRAINAGE WAYS, DITCHES OR STREAMS. A SPILL CONTAINMENT KIT IS TO BE MAINTAINED ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. SPILLS OF FUELS, OILS, CHEMICALS, OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY. IF THE SPILL IS A REPORTABLE AMOUNT, THE LOCAL FIRE DEPARTMENT (911), LOCAL EMERGENCY COORDINATOR (MONTGOMERY: 937-901-5112) AND THE OEPA (1-800-282-9378) MUST BE CONTACTED WITHIN 30 MINUTES OF KNOWLEDGE OF THE RELEASE.) MUST BE CONTACTED WITHIN 30 MINUTES OF KNOWLEDGE OF THE RELEASE.

TEMPORARY TRANSIT STOP CLOSURES

GREATER DAYTON RTA ROUTES 7 AND 16 UTILIZE NORTH MAIN STREET WITHIN THE PROJECT LIMITS. IF A TRANSIT STOP MUST BE CLOSED TO ALLOW FOR CONSTRUCTION, THE CONTRACTOR SHALL WORK WITH THE CITY OF DAYTON AND GREATER DAYTON RTA TO DETERMINE IF A TEMPORARY STOP CAN BE ESTABLISHED IN PROXIMITY TO THE CLOSED STOP. THE CONTRACTOR SHALL PHASE CONSTRUCTION TO AVOID CLOSING CONSECUTIVE TRANSIT STOPS AT ONCE. AT LEAST TWO WEEKS PRIOR TO CLOSING ANY TRANSIT STOP FOR CONSTRUCTION, THE CONTRACTOR SHALL POST NOTICE AT THE TRANSIT STOP OF THE UPCOMING CLOSURE, THE EXPECTED CLOSURE PERIOD AND THE NEAREST OPEN TRANSIT STOP(S).

GENERAL NOTES

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
LTH

REVIEWER
AJH 1-16-2026

PROJECT ID
119822

SHEET P.10 | TOTAL 92

MOT SR 48 20.61

ITEM 614 - MAINTAINING TRAFFIC

IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITHIN THESE PLANS WITH THE LEAST INCONVENIENCE TO, AND THE MAXIMUM SAFETY OF, THE CONTRACTOR, LOCAL MERCHANTS, PEDESTRIAN TRAFFIC, AND THE TRAVELING PUBLIC.

REQUIREMENTS FOR MAINTAINING TRAFFIC AS SPECIFIED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (CURRENT EDITION, LATEST REVISION), PERTINENT PROVISIONS OF THE "OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS" (INCLUDING SUPPLEMENTAL SPECIFICATIONS) AND APPLICABLE STANDARD CONSTRUCTION DRAWINGS SHALL APPLY TO THIS PROJECT IN ADDITION TO THE FOLLOWING NOTES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFE AND EFFECTIVE VEHICULAR TRAFFIC CONTROL 24 HOURS A DAY FOR THE DURATION OF THIS PROJECT. THIS WILL INCLUDE PROVIDING, PLACING, MAINTAINING, AND SUBSEQUENTLY REMOVING ALL NECESSARY TRAFFIC CONTROL MEASURES FOR ALL PROPOSED CONSTRUCTION OPERATIONS.

BEFORE THE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE CITY THE NAME(S) AND TELEPHONE NUMBER(S) OF A PERSON OR PERSONS WHO CAN BE CONTACTED TWENTY-FOUR (24) HOURS A DAY BY THE CITY, OR ANY OTHER INTERESTED POLICE AGENCY.

THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR REPAIRING AND/OR REPLACING ALL TRAFFIC CONTROL DEVICES NEEDED TO MAINTAIN THE SAFETY OF THE TRAVELED PAVEMENT FOR THE DURATION OF THIS PROJECT. THIS PERSON SHALL HAVE AVAILABLE ALL MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED REPAIRS WITHIN A REASONABLE PERIOD OF TIME AS PER C.M.S. 614.14.

THE CONTRACTOR SHALL ALSO SUBMIT A CONSTRUCTION SEQUENCING SCHEDULE PRIOR TO WORK BEGINNING FOR APPROVAL BY THE CITY. THE CONSTRUCTION SEQUENCING SCHEDULE SHALL TAKE INTO CONSIDERATION ALL ASPECTS OF THE PROJECT INCLUDING HOW LOCAL TRAFFIC TO THE BUSINESSES WILL BE MAINTAINED. THE CONSTRUCTION SEQUENCE WILL NEED TO BE APPROVED BY THE CITY PRIOR TO ANY COMMENCEMENT OF WORK.

ACCESS FOR PROPERTY OWNERS AND BUSINESS TRAFFIC SHALL BE MAINTAINED IN A UNIFORM PATTERN THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT AND SHALL NOT BE SUBJECTED TO CONSTANT LANE SHIFTS.

ACCESS TO AND FROM ALL LOCAL RESIDENTIAL AND BUSINESS DRIVES WITHIN THE LIMITS OF THIS PROJECT SHALL BE MAINTAINED AT ALL TIMES (24 HOURS A DAY) BY USING THE EXISTING PAVEMENT, TEMPORARY PAVEMENT, AND THE PROPOSED PAVEMENT UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEQUENCE HIS WORK TO HELP MINIMIZE THE NEED FOR TEMPORARY AGGREGATE PAVEMENT. TEMPORARY AGGREGATE PAVEMENT CAN BE ASPHALT GRINDINGS OR OTHER AGGREGATE APPROVED BY THE CITY. THE COST OF INSTALLATION, MATERIAL, AND REMOVAL OF THE TEMPORARY AGGREGATE PAVEMENT IS TO BE PART OF THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

ALL ENTRANCES AND DRIVES TO THE HOSPITAL SHALL BE MAINTAINED AT ALL TIMES. PART WIDTH CONSTRUCTION WILL BE COMPLETED TO MAINTAIN THESE ACCESS POINTS. OTHER PROPERTIES WHERE MORE THAN ONE ACCESS TO A BUSINESS OR RESIDENCE EXISTS, ONLY ONE ACCESS NEEDS TO BE MAINTAINED AT A TIME DURING CONSTRUCTION. WHEN A BUSINESS OR RESIDENCE ONLY HAS ONE ACCESS DRIVE, ACCESS SHALL BE MAINTAINED AT ALL TIMES. IF THE PROJECT REQUIRES IMPROVEMENTS TO THIS ACCESS DRIVE, THE CONTRACTOR SHALL REPLACE HALF OF THE DRIVE AT ONE TIME TO ALLOW ACCESS AT ALL TIMES. THESE ACCESS OPTIONS ARE SUBJECT TO THE APPROVAL OF THE CITY.

THE CONTRACTOR SHALL NOTIFY THE CITY 21 DAYS PRIOR TO THE START OF ANY DETOUR OR LANE RESTRICTIONS. THE CITY IS REQUIRED TO PROVIDE A 14 DAY NOTIFICATION PRIOR TO THE START OF DETOUR/LANE RESTRICTIONS TO ODOT, LOCAL SCHOOLS, AND EMERGENCY SERVICES. THIS DETOUR/LANE RESTRICTION COMMUNICATION MUST STATE THE DATE OF CLOSURE AND LENGTH OF CLOSURE.

ANY DAMAGE TO MAINTENANCE OF TRAFFIC EQUIPMENT SUCH AS SIGNS, BARRELS, ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR WILL BE REQUIRED TO PROVIDE, ERECT, MAINTAIN (IN PROPER POSITION, CLEAN AND LEGIBLE, AND IN GOOD WORKING CONDITION), AND SUBSEQUENTLY REMOVE ALL LIGHTS, SIGNS, CONES, BARRICADES, EXISTING PAVEMENT MARKINGS, AND ANY OTHER TRAFFIC CONTROL DEVICES NECESSARY FOR THE MAINTENANCE OF TRAFFIC.

THE CONTRACTOR SHALL ADJUST THE LOCATION AND/OR SPACING OF ALL TRAFFIC CONTROL CHANNELING DEVICES AS DICTATED BY THE PROGRESS OF THE REQUIRED WORK TO ALLOW CONSTRUCTION ACCESS TO WORK AREAS WHILE MAINTAINING SAFE AND EFFECTIVE TRAFFIC CONTROL DURING ALL CONSTRUCTION OPERATIONS. THE ORIGINAL LOCATION, PLACEMENT, SPACING AND SUBSEQUENT RELOCATION OR REMOVAL OF ALL TRAFFIC CONTROL DEVICES SHALL BE SUBJECT TO THE CITY'S APPROVAL.

IT IS INTENDED THAT THE LOCAL TRAFFIC NOT BE SUBJECTED TO ANY LANE CLOSURES UNLESS ACTIVE WORK IS BEING PERFORMED IN OR IMMEDIATELY ADJACENT TO THE CLOSED LANE. THE ROADWAY SHALL NOT BE RESTRICTED TO ANY LANE CLOSURE DURING PERIODS OF INTERMITTENT OR IRREGULAR WORK, NOR CLOSED SOLELY FOR THE CONVENIENCE OF THE CONTRACTOR. THE CITY SHALL MAKE THE FINAL DETERMINATION AS TO WHAT CONSTITUTES ACTIVE WORK AND WHETHER OR NOT THE LANE CLOSURE IS JUSTIFIED.

IF, IN THE OPINION OF THE CITY, THE LANE CLOSURE IS NOT JUSTIFIED, THEY MAY ORDER ALL OR PART OF THE LANE CLOSURE REOPENED TO LOCAL TRAFFIC (UNTIL SUCH TIME THIS CONDITION IS CORRECTED.)

THE CONTRACTOR SHALL FURNISH AND INSTALL ADVANCE WARNING "ROAD WORK AHEAD" (W20-1) SIGNS AND "END ROAD WORK" (G20-2) SIGNS, PLACED AT EACH CROSSROAD IN THE PROJECT AREA, AS WELL AS OTHER NECESSARY MAINTENANCE OF TRAFFIC SIGNS.

THE CONTRACTOR SHALL NOTIFY THE CITY OF ANY INTENDED CHANGES TO ANY EXISTING OR TEMPORARY TRAFFIC CONTROL DEVICES AND SHALL OBTAIN THE CITY'S APPROVAL PRIOR TO MAKING THE CHANGES. THE CONTRACTOR SHALL ALSO NOTIFY THE CITY AND LOCAL NEWSPAPER FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY INTENDED LANE CLOSURES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

TRENCH FOR UTILITY INSTALLATION

TRENCH EXCAVATION FOR UTILITY INSTALLATION SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIALS SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF UTILITY TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE UTILITY TRENCHS AND BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 3 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED UTILITY INSTALLATION SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

THE CONTRACTOR WILL NOT BE COMPENSATED FOR ANY BACKFILL MATERIAL USED IN THE CLOSING OF THE OPEN TRENCH.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER	15 M.GAL

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE CITY OF CLAYTON CONTACT. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTICE TO OFFICE OF COMMUNICATIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO OFFICE OF COMMUNICATIONS
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	2 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTICE TO OFFICE OF COMMUNICATIONS TIME TABLE.

PRIVATE DRIVE MAINTENANCE

ACCESS TO DRIVEWAYS DURING OVERNIGHT AND WEEKEND HOURS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. TEMPORARY ACCESS SHALL BE PROVIDED TO ALL DRIVEWAYS WITH A CHANGE IN ELEVATION BETWEEN DRIVEWAY TO TEMPORARY DRIVE NOT EXCEEDING 1.5".

CONSTRUCTION SEQUENCE

PRE-PHASE 1: THE CONTRACTOR TO COORDINATE MAINTENANCE OF TRAFFIC SIGNAGE AND NOTIFICATION OF TRAFFIC RESTRICTIONS WITH THE OHIO DEPARTMENT OF TRANSPORTATION. ALSO COORDINATE CLOSURES OF BUS STOPS WITH DAYTON RTA.

PHASE 1&2: CONSTRUCTION WILL BE PREFORMED IN TWO PHASES, CONSISTING OF EACH SIDE OF S.R. 48 THAT WILL REQUIRE LANE CLOSURES. CONSTRUCTION ON EACH PHASE SHALL INCLUDE THE PROPOSED PAVEMENT, CURBING, SIDEWALK, DRIVEWAYS, AND STORM SEWER INSTALLATION. TRAFFIC TO BE MAINTAINED THROUGH THE USE OF OUTSIDE LANE CLOSURES. THE CONTRACTOR SHALL PROVIDE SCHEDULE FOR LANE CLOSURES. CLOSURES ARE TO BE COMPLETED PER ODOT STANDARD CONSTRUCTION DRAWING MT-95.31. THE DRIVEWAY FOR THE RIGHT IN RIGHT OUT WILL BE CLOSED DURING CONSTRUCTION. ALL TRAFFIC TO BE ROUTED TO THE TRAFFIC LIGHT ENTRANCE.

PHASE 3: FINAL GRADING, STRIPING, SIGNAGE, SEEDING AND OTHER INCIDENTALS TO COMPLETE CONSTRUCTION.

GENERAL: SEQUENCE OF CONSTRUCTION NEEDS TO PROVIDE A WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR TRAVELING AND PEDESTRIAN PUBLIC.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE, AS PER PLAN

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
- DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE CITY AND ODOT:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE CITY AND ODOT SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE CITY AND ODOT. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR
ASSISTANCE. THE FOLLOWING ESTIMATED CONTINGENT QUANTITIES HAVE BEEN INCLUDED IN THE ESTIMATE.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE, AS PER PLAN	16 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER
WITH PATROL CAR FOR ASSISTANCE, AS PER PLAN.

MOT SR 48 20.61
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DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER LTH
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P.11 TOTAL 92

SHEET NUMBER								PART.		ALT	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9	11	16	17	18	56			01/NHS	02/NHS	(X)						
															ROADWAY	
								LS			201	11000	LS		CLEARING AND GRUBBING	10
			1,801	713				2,514			202	23000	2,514	SY	PAVEMENT REMOVED	
				2,019				2,019			202	30000	2,019	SF	WALK REMOVED	
			2,051					2,051			202	32000	2,051	FT	CURB REMOVED	
					69			69			202	35100	69	FT	PIPE REMOVED, 24" DIAMETER AND UNDER	
					15			15			202	35200	15	FT	PIPE REMOVED, OVER 24" DIAMETER	
					418			418			202	38000	418	FT	GUARDRAIL REMOVED	
					4			4			202	58100	4	EACH	CATCH BASIN REMOVED	
25								25			202	98200	25	FT	REMOVAL MISC.:CONDUIT	
						1,786		1,786			203	10000	1,786	CY	EXCAVATION	
						800		800			203	20000	800	CY	EMBANKMENT	
			3,276	677				3,953			204	10000	3,953	SY	SUBGRADE COMPACTION	
400								400			204	13000	400	CY	EXCAVATION OF SUBGRADE	
400								400			204	30010	400	CY	GRANULAR MATERIAL, TYPE B	
					458			458			607	98000	458	FT	FENCE, MISC.:42" WOOD FENCE	
				23,564				23,564			608	10001	23,564	SF	4" CONCRETE WALK, AS PER PLAN	10
				2,503				2,503			608	52001	2,503	SF	CURB RAMP, AS PER PLAN	10
					7			7			SPECIAL	69050350	7	EACH	MAILBOX REMOVED AND RESET	10
															EROSION CONTROL	
485								485			659	00300	485	CY	TOPSOIL	
4,300								4,300			659	00500	4,300	SY	SEEDING AND MULCHING, CLASS 1	
270								270			659	14000	270	SY	REPAIR SEEDING AND MULCHING	
0.60								0.60			659	20000	0.60	TON	COMMERCIAL FERTILIZER	
0.10								0.10			659	31000	0.10	ACRE	LIME	
24								24			659	35000	24	MGAL	WATER	
								LS			832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
								LS			832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
								LS			832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
								35,000			832	30000	35,000	EACH	EROSION CONTROL	
															DRAINAGE	
					0.3			0.3			602	20000	0.3	CY	CONCRETE MASONRY	
					2,551			2,551			605	06000	2,551	FT	4" BASE PIPE UNDERDRAINS	
					110			110			611	00410	110	FT	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	
					2,254			2,254			611	04400	2,254	FT	12" CONDUIT, TYPE B	
					15			15			611	13400	15	FT	30" CONDUIT, TYPE B	
20								20			611	97400	20	FT	CONDUIT, MISC.:TYPE B FOR DRAINAGE DISCHARGE CONTINUANCE	
20								20			611	97400	20	FT	CONDUIT, MISC.:TYPE C FOR DRAINAGE DISCHARGE CONTINUANCE	
20								20			611	97400	20	FT	CONDUIT, MISC.:TYPE E FOR DRAINAGE DISCHARGE CONTINUANCE	
20								20			611	97400	20	FT	CONDUIT, MISC.:TYPE F FOR DRAINAGE DISCHARGE CONTINUANCE	
					2			2			611	98471	2	EACH	CATCH BASIN, NO. 2-2B, AS PER PLAN	68
					14			14			611	98690	14	EACH	CATCH BASIN, MISC.:TYPE 1	67
					4			4			611	98690	4	EACH	CATCH BASIN, MISC.:TYPE 1A	67
					2			2			611	98690	2	EACH	CATCH BASIN, MISC.:YARD DRAIN	68
					5			5			611	99574	5	EACH	MANHOLE, NO. 3	
					1			1			611	99580	1	EACH	MANHOLE, NO. 3 WITH 84" BASE I.D. AND 6" WEIR	
		4			3			7			611	99654	7	EACH	MANHOLE ADJUSTED TO GRADE	
1								1			611	99720	1	EACH	INSPECTION WELL	
					1			1			895	10010	1	EACH	MANUFACTURED WATER QUALITY STRUCTURE, TYPE 1	
					3			3			SPECIAL	90011000	3	EACH	CORE INTO EXISTING BOX CULVERT	

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MOT SR 48 20.61

GENERAL SUMMARY

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
DWL

REVIEWER
BMW 1-16-2026

PROJECT ID
119822

SHEET P.12 | TOTAL 92

SHEET NUMBER								PART.		ALT	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
16	17	21	22	73				01/NHS	02/NHS	(X)		EXT	TOTAL			
															PAVEMENT	
301								301			301	56000	301	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
650	174							824			304	20000	824	CY	AGGREGATE BASE	
218	2							220			407	20000	220	GAL	NON-TRACKING TACK COAT	
	242							242			411	10000	242	CY	STABILIZED CRUSHED AGGREGATE	
	2							2			441	70500	2	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS): 1.5"	
	3							3			441	70600	3	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), (DRIVEWAYS): 2.5"	
76								76			442	22100	76	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (449):1.5"	
126								126			442	22400	126	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (449)	
	354							354			452	10011	354	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	69
	283							283			452	13011	283	SY	9" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	69
4,299								4,299			609	12001	4,299	FT	COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN	4
163								163			609	26000	163	FT	CURB, TYPE 6	
	55							55			609	54000	55	SY	6" CONCRETE TRAFFIC ISLAND	
															WATER WORK	
1								1			638	10500	1	EACH	FIRE HYDRANT REMOVED AND RESET	
2								2			638	10900	2	EACH	SERVICE BOX ADJUSTED TO GRADE	
															LIGHTING	
				100				100			611	00400	100	FT	4" CONDUIT, TYPE E (LIGHTING)	
		69	39					108			625	00451	108	EACH	CONNECTION, FUSED PULL APART, AS PER PLAN	73
		23	13					36			625	00460	36	EACH	CONNECTION, UNFUSED PULL APART	
		18	6					24			625	00480	24	EACH	CONNECTION, UNFUSED PERMANENT	
		23	11					34			625	14000	34	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP	
			2					2			625	14001	2	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN	73
		9,228	4,884					14,112			625	23300	14,112	FT	NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE	
		9,228	4,884					14,112			625	23304	14,112	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	
		4,416	2,496					6,912			625	23400	6,912	FT	NO. 10 AWG POLE AND BRACKET CABLE	
		2,246	1,148					3,394			625	25408	3,394	FT	CONDUIT, 2", 725.051	
		20						20			625	25504	20	FT	CONDUIT, 3", 725.051	
		481	349					830			625	25909	830	FT	CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 2"	73
		2,266	1,148					3,414			625	29000	3,414	FT	TRENCH	
		2	1					3			625	30700	3	EACH	PULL BOX, 725.08, 18"	
		2						2			625	30706	2	EACH	PULL BOX, 725.08, 24"	
		25	13					38			625	32000	38	EACH	GROUND ROD	
		2						2			625	34001	2	EACH	POWER SERVICE, AS PER PLAN	73
		2,266	1,148					3,414			625	36010	3,414	FT	UNDERGROUND WARNING/MARKING TAPE	
		2						2			625	76000	2	EACH	ARC FLASH CALCULATIONS AND LABEL, LIGHTING POWER SERVICE	
		79						79			632	69320	79	FT	POWER CABLE, 3 CONDUCTOR, NO. 2 AWG	
															LIGHTING ALTERNATES	
		23	13					36		X	625	10481	36	EACH	LIGHT POLE, AESTHETIC, AS PER PLAN, TRIPLE SCROLL ARM - (GENERIC) (ALTERNATE 1)	73
		23	13					36		X	625	27507	36	EACH	LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, IES-III-M, LED, 12087-12759 LUMENS - (GENERIC) (ALTERNATE 1)	73
		23	13					36		X	625	10481	36	EACH	LIGHT POLE, AESTHETIC, AS PER PLAN - (SPRING CITY) (ALTERNATE 2)	73
		23	13					36		X	625	27507	36	EACH	LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN - (SPRING CITY) (ALTERNATE 2)	73

GENERAL SUMMARY

DESIGN AGENCY
CHOICE ONE ENGINEERING

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DWL

REVIEWER
BMW 1-16-2026

PROJECT ID
119822

SHEET P.13 | TOTAL 92

MOT SR 48 20.61

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SHEET NUMBER									PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
19	20	23	24	80					01/NHS	02/NHS						
															TRAFFIC CONTROL	
	294								294		630	03100	294	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
	2								2		630	08600	2	EACH	SIGN POST REFLECTOR	
	8									8	630	79101	8	EACH	SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	81
	109								79	30	630	80100	109	SF	SIGN, FLAT SHEET	
	4									4	630	80511	4	EACH	SIGN, STREET NAME, AS PER PLAN, (INSTALLATION ONLY)	
	11								11		630	84900	11	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
	7								7		630	85100	7	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
	13								13		630	86002	13	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
0.63									0.63		644	00100	0.63	MILE	EDGE LINE, 4"	
0.08									0.08		644	00300	0.08	MILE	CENTER LINE	
80									80		644	00400	80	FT	CHANNELIZING LINE, 8"	
302									302		644	00500	302	FT	STOP LINE	
955									955		644	00630	955	FT	CROSSWALK LINE, 24"	
94									94		644	00700	94	FT	TRANSVERSE/DIAGONAL LINE	
2									2		644	01300	2	EACH	LANE ARROW	
2,125									2,125		644	30000	2,125	FT	REMOVAL OF PAVEMENT MARKING	
															TRAFFIC SIGNALS	
				80						80	611	00400	80	FT	4" CONDUIT, TYPE E (TRAFFIC)	
		4							4		625	18201	4	EACH	BRACKET ARM, 15', AS PER PLAN	81
		57								57	625	25104	57	FT	CONDUIT, 1", 725.051 (TRAFFIC)	
		124							112	12	625	25408	124	FT	CONDUIT, 2", 725.051 (TRAFFIC)	
		48								48	625	25504	48	FT	CONDUIT, 3", 725.051 (TRAFFIC)	
		18								18	625	25604	18	FT	CONDUIT, 4", 725.051 (TRAFFIC)	
		372								372	625	25909	372	FT	CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 2" (TRAFFIC)	81
		162								162	625	25909	162	FT	CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 3" (TRAFFIC)	81
		122								122	625	25909	122	FT	CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 4" (TRAFFIC)	81
		181							112	69	625	29000	181	FT	TRENCH (TRAFFIC)	
		4								4	625	30706	4	EACH	PULL BOX, 725.08, 24" (TRAFFIC)	
		9							4	5	625	32000	9	EACH	GROUND ROD (TRAFFIC)	
		181							112	69	625	36010	181	FT	UNDERGROUND WARNING/MARKING TAPE (TRAFFIC)	
		1								1	625	76000	1	EACH	ARC FLASH CALCULATIONS AND LABEL, SIGNAL POWER SERVICE	
		7								7	632	05007	7	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW	82
		5								5	632	05087	5	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW	82
		16							16		632	20731	16	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	82
		16							16		632	20751	16	EACH	ACCESSIBLE PEDESTRIAN PUSHBUTTON, AS PER PLAN	82
			12							12	632	25000	12	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
			16						16		632	25010	16	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
			2,861						2,549	312	632	40500	2,861	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
			1,194							1,194	632	40700	1,194	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
			781							781	632	42300	781	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 12 AWG	
			4							4	632	64011	4	EACH	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	82
			4						4		632	64020	4	EACH	PEDESTAL FOUNDATION	
			2,485						2,485		632	65400	2,485	FT	LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 12 AWG	
			114							114	632	68300	114	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
			1							1	632	70001	1	EACH	POWER SERVICE, AS PER PLAN	82
			2							2	632	79111	2	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN	83
			2							2	632	79141	2	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN	83
			2						1	1	632	90103	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION FOR STORAGE, AS PER PLAN	83
			1							1	633	65511	1	EACH	CABINET, TYPE TS-2, AS PER PLAN	83
			1							1	633	67100	1	EACH	CABINET FOUNDATION	
			1							1	633	67201	1	EACH	CONTROLLER WORK PAD, AS PER PLAN	83
			1							1	633	75001	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	83, 84
			1						1		633	99000	1	EACH	CONTROLLER ITEM, MISC.: REWIRE/REPROGRAM CONTROLLER CABINET	84

GENERAL SUMMARY

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CHOICE ONE ENGINEERING

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BMW 1-16-2026

PROJECT ID
119822

SHEET P.14 | TOTAL 92

MOT SR 48 20.61

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SHEET NUMBER								PART.		ALT	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
11	23	24	25					01/NHS	02/NHS	(X)						
															TRAFFIC SIGNALS	
			1						1		804	30000	1	EACH	FAN-OUT KIT, 6 FIBER	
			403						403		804	32021	403	FT	DROP CABLE, 6 FIBER, AS PER PLAN	84
			1						1		804	34000	1	EACH	FIBER TERMINATION PANEL, 6 FIBER	
			6						6		804	35000	6	EACH	FUSION SPLICE	
			2						2		809	69001	2	EACH	ADVANCE RADAR DETECTION, AS PER PLAN	84
			4						4		809	69101	4	EACH	STOP LINE RADAR DETECTION, AS PER PLAN	84
			1						1		809	69123	1	EACH	ATC CONTROLLER, AS PER PLAN	84
															TRAFFIC SIGNALS ALTERNATES	
	4							4		X	625	27507	4	EACH	LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, IES-III-M, LED, 12087-12759 LUMENS - (GENERIC) (ALTERNATE 1) (TRAFFIC)	81
		4						4		X	632	89901	4	EACH	PEDESTAL, 8', TRANSFORMER BASE, AS PER PLAN - (GENERIC) (ALTERNATE 1)	83
	4							4		X	625	27507	4	EACH	LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN - (SPRING CITY) (ALTERNATE 2) (TRAFFIC)	81
		4						4		X	632	90010	4	EACH	PEDESTAL, MISC.: 8', DECORATIVE PEDESTAL - (ALTERNATE 2)	83
															MAINTENANCE OF TRAFFIC	
16								16			614	11111	16	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE, AS PER PLAN	
15								15			616	10000	15	MGAL	WATER	
															INCIDENTALS	
								LS			614	11000	LS		MAINTAINING TRAFFIC	
								4			619	16010	4	MNTH	FIELD OFFICE, TYPE B	
								LS			623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
								1			623	40900	1	EACH	MONUMENT, MISC.:POST CONSTRUCTION MONUMENT VERIFICATION AND REPORT	
								1			623	40900	1	EACH	MONUMENT, MISC.:PRECONSTRUCTION MONUMENT VERIFICATION AND REPORT	
								LS			624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

MOT SR 48 20.61

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DESIGN AGENCY
CHOICE ONE ENGINEERING

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PROJECT ID
119822

SHEET P.15 | TOTAL 92

SUBSUMMARY - ROADWAY

REFERENCE NO.	SHEET NO.	STATION RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	CADD GENERATED AREA	202 PAVEMENT REMOVED	202 CURB REMOVED	204 SUBGRADE COMPACTION	301 ASPHALT CONCRETE BASE, PG64-22, (449)	304 AGGREGATE BASE	407 NON-TRACKING TACK COAT	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (449):1.5"	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (449)	609 COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN	609 CURB, TYPE 6	611 MANHOLE ADJUSTED TO GRADE	638 SERVICE BOX ADJUSTED TO GRADE	638 FIRE HYDRANT REMOVED AND RESET	
							FT	SF	SY	FT	SY	CY	CY	GAL	CY	CY	FT	FT	EACH	EACH	EACH	
P-1	27	1104+18.80	TO	1104+43.63		RT		63.13	7		7	1	2	1.00	0.29	0.49						
P-2	27	1104+26.49	TO	1104+39.54		LT		26.00	3		3	1	1	1.00	0.12	0.20						
P-3	27-28	1104+90.56	TO	1109+49.63		LT/RT		1599.35	178		178	30	39	22.00	7.40	12.34						
P-4	27-32	1106+44.97	TO	1129+04.02		LT		5663.25	629		629	105	140	76.00	26.22	43.70						
P-5	29	1113+53.35	TO	1114+08.38		RT		215.56	24		24	4	5	2.00	1.00	1.66						
P-6	29-31	1114+43.68	TO	1124+77.05		RT		8225.79	914		914	152	203	110.00	38.08	63.47						
P-7	32	1126+53.25	TO	1128+58.63		RT		410.72	46		46	8	10	6.00	1.90	3.17						
C-1	27	1104+18.37	TO	1104+40.05		RT		102		29	11		2				29					
C-2	27	1104+26.48	TO	1104+39.48		LT		44		13	5		1				13					
C-3	27-28	1104+90.56	TO	1109+62.01		RT		1541		54	171		29				511					
C-4	27	1105+09.66	TO	1105+17.66		LT		28		8	3		1				8					
C-5	27-29	1106+44.97	TO	1113+67.71		LT		2211		30	246		41				737					
C-6	28	1109+91.52	TO	1110+33.37		RT		171		52	19		3				57					
C-7	29	1113+53.35	TO	1114+08.38		RT		210		70	23		4				70					
C-8	29-30	1114+03.87	TO	1119+34.04		LT		1656		122	184		31				552					
C-9	29-31	1114+43.68	TO	1123+08.08		RT		2910		302	323		54				970					
C-10	30-32	1119+75.27	TO	1129+04.02		LT		2808		936	312		52				936					
C-11	31	1123+04.93	TO	1123+43.29		RT		245			27		5					163.00				
C-12	31	1123+45.01	TO	1124+77.05		RT		633		230	70		12				211					
C-13	31-32	1126+53.27	TO	1128+58.63		RT		719		205	80		14				205					
WS1	28	1108+44.55				RT														1		
WS2	28	1109+34.28				RT														1		
WS3	28	1110+58.49				LT															1	
SS1	27	1105+94.17				RT													1			
SS2	28	1107+43.25				RT													1			
SS3	28	1110+39.56				RT													1			
SS4	29	1113+33.19				RT													1			
		SUBTOTALS							1800.42	2051	3276	301	649	218.00	75.02	125.03	4299	163	4	2	1	
		TOTALS CARRIED TO GENERAL SUMMARY							1801	2051	3276	301	650	218	76	126	4299	163	4	2	1	

DESIGN AGENCY
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SHEET P.16 | TOTAL 92

MOT SR 48 20.61

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REF NO.	SHEET NO.	STATION TO STATION			SIDE	MEASURED AREA (S.F.)	202 WALK REMOVED	304 AGGREGATE BASE	411 STABILIZED CRUSHED AGGREGATE	608 4" CONCRETE WALK, AS PER PLAN	608 CURB RAMP, AS PER PLAN	609 6" CONCRETE TRAFFIC ISLAND	
							SF	CY	CY	SF	SF	SY	
SW-1	27	1104+29.63	TO	1104+42.01	LT	93.54	94		0.87	26.5	67.04		
SW-2	27	1104+14.86	TO	1104+38.50	RT	186.62	227		1.73	103.69	82.93		
SW-3	27	1104+86.96	TO	1105+17.53	LT	150.53	150		1.39	150.53			
SW-4	27	1104+96.97	TO	1106+95.51	RT	1344.1	302		12.45	1242.4	101.7		
SW-5	27-28	1106+94.82	TO	1107+04.99	LT	49.53	50		0.46	49.53			
SW-6	28	1107+14.00	TO	1109+60.90	RT	1477.5			13.68	1394.57	82.94		
SW-7	28	1109+18.14	TO	1109+42.62	LT	134.88	109		1.34	134.88			
SW-8	28	1109+67.87	TO	1110+98.12	LT	768.81			7.23	768.81			
SW-9	28-29	1109+93.87	TO	1113+37.42	RT	2162.43			20.02	2072.76	89.67		
SW-10	28-29	1111+22.18	TO	1113+59.54	LT	1689.73			15.64	1514.09	175.64		
SW-11	29	1113+53.35	TO	1114+06.98	RT	618.62	447		5.7	208.25	410.37		
SW-12	29	1114+05.70	TO	1114+39.40	LT	392.67	273		3.64	153.35	239.32		
SW-13	29-30	1114+45.06	TO	1119+14.00	RT	3265.56	191		30.15	2808.68	456.88		
SW-14	29-30	1114+48.90	TO	1119+24.61	LT	3030.55	88		28.06	2692.13	338.42		
SW-15	30-31	1119+82.09	TO	1123+15.89	LT	2355.81		43	21.81	2247.31	108.5		
SW-16	30-31	1119+94.88	TO	1122+95.35	RT	2461.71			22.79	2353.21	108.5		
SW-17	31	1123+34.50	TO	1123+49.29	LT	88.39			0.82	88.38			
SW-18	31	1123+64.75	TO	1124+09.42	LT	268.02			2.48	268.02			
SW-19	31	1123+14.14	TO	1123+39.26	RT	630.36			1.29		138.94	55	
SW-20	31	1123+69.41	TO	1128+58.65	RT	3220.19			29.82	3118.84	101.35		
SW-21	31	1124+26.59	TO	1125+41.37	LT	688.65			6.38	688.65			
SW-22	31	1124+55.67	TO	1126+16.59	LT	365.55			3.38	365.55			
SW-23	31-32	1126+34.60	TO	1127+05.70	LT	436.46			4.04	436.46			
SW-24	32	1127+25.62	TO	1128+04.15	LT	471.64			4.37	471.64			
SW-25	32	1128+21.55	TO	1128.35.00	LT	80.36			0.74	80.36			
SW-26	32	1128+50.66	TO	1128+72.57	LT	125.06	88		1.16	125.06			
TOTALS CARRIED TO GENERAL SUMMARY							2019	43	242	23564	2503	55	

REF NO.	SHEET NO.	STATION	SIDE	DRIVE TYPE	DRIVE WIDTH (AT BACK OF APRON)	DRIVE WIDTH (AT MEET EXISTING POINT)	DRIVE AREA (MEASURED S.F.)		202 PAVEMENT REMOVED	204 SUBGRADE COMPACTION	304 AGGREGATE BASE	407 NON-TRACKING TACK COAT	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS), 1.5"	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), (DRIVEWAYS), 2.5"	452 6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	452 9" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	
									SY	SY	CY	GAL	CY	CY	SY	SY	
DR-1	27	1106+25.33	LT	COM.	29.68	30.00	150.65		17	17	3					17	
DR-2	28	1107+04.75	RT	COM.	18.90	30.70	394.99		42	44	21					38	
DR-3	28	1109+55.24	LT	COM.	25.26	44.66	828		87	92	16					92	
DR-4	28	1111+09.00	LT	COM.	24.10	32.10	574		64	64	11					64	
DR-5	30	1119+54.44	RT	COM.	64.88	80.90	949		105	106	20	2	2	3		72	
DR-6	31	1123+25.19	LT	RES	18.62	30.60	392		50	44	8				44		
DR-7	31	1123+57.33	LT	RES	15.47	27.50	331		43	37	6				37		
DR-8	31	1123+18.01	LT	RES	17.17	29.20	468		59	52	9				52		
DR-9	31	1125+48.52	LT	RES	14.30	26.30	306		41	34	6				34		
DR-10	31	1126+25.59	LT	RES	18.01	30.00	301		40	33	6				33		
DR-11	32	1127+15.92	LT	RES	19.93	31.90	453		57	50	8				50		
DR-12	32	1128+13.00	LT	RES	17.53	29.30	500		57	56	9				56		
DR-13	32	1128+43.08	LT	RES	15.68	27.70	431		51	48	8				48		
TOTALS CARRIED TO GENERAL SUMMARY									713	677	131	2	2	3	354	283	

SUBSUMMARY -WALK & DRIVEWAY

DESIGN AGENCY
CHOICE ONE ENGINEERING
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SHEET P.17 TOTAL 92

MOT SR 48 20.61

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REF NO.	SHEET NO.	STATION TO STATION			SIDE	202 PIPE REMOVED, 24" AND UNDER (FT)	202 PIPE REMOVED, OVER 24" (FT)	202 CATCH BASIN REMOVED (EACH)	602 CONCRETE MASONRY (CY)	611 12" CONDUIT, TYPE B (FT)	611 30" CONDUIT, TYPE B (FT)	611 MANHOLE, NO. 3 (EACH)	611 CATCH BASIN, NO. 2-2B, AS PER PLAN (EACH)	611 MANHOLE, NO. 3 WITH 84" BASE I.D. AND 6" WEIR (EACH)	611 CATCH BASIN, MISC.:YARD DRAIN (EACH)	611 CATCH BASIN, MISC.:TYPE 1 (EACH)	611 CATCH BASIN, MISC.:TYPE 1A (EACH)	611 MANHOLE ADJUSTED TO GRADE (EACH)	895 MANUFACTURED WATER QUALITY STRUCTURE, TYPE 1 (EACH)	SPECIAL CORE INTO EXISTING BOX CULVERT (EACH)
D-1	27	1104+88.07	TO	1105+12.08	LT					24			1							
D-2	27	1105+12.08	TO	1105+22.20	RT					74						1				
D-3	27-28	1106+99.49	TO	1107+00.00	LT			1		12					1					
D-4	27-28	1107+00.00	TO	1109+23.97	LT					222					1					
D-5	28	1109+22.22	TO	1109+25.72	LT					5						1				
D-6	28	1109+26.59	TO	1111+27.33	LT					206		1								
D-7	28	1109+42.42	TO	1109+57.97	RT					19			1							
D-8	28	1109+57.97	TO	1109+92.32	RT					34						1				
D-9	28	1109+92.32	TO	1111+28.66	RT					135						1				
D-10	28	1111+28.25	TO	1111+31.75	LT					5						1				
D-11	28	1111+30.00	TO	1111+30.04	LT					10									1	
D-12	28-29	1111+32.62	TO	1113+15.56	LT					188				1						
D-13	10	1113+16.43	TO	1113+19.93	LT					5						1				
D-14	10	1113+20.80	TO	1116+10.07	LT					295		1								
D-15	10	1116+10.94	TO	1116+14.44	LT					5						1				
D-16	10	1116+13.65	TO	1118+86.94	LT					277		1								
D-17	10	1113+98.17	TO	1114+10.53	RT	42				12						1				
D-18	10	1114+50.47	TO	1114+65.94	RT	12			0.3	25						1				
D-19	10	1117+08.21	TO	1119+98.25	RT					290						1				
D-20	10	1118+87.85	TO	1118+91.28	LT					5						1				
D-21	10	1118+90.51	TO	1121+04.57	LT					215		1								1
D-22	10	1119+98.92	TO	1120+94.78	RT					97						1				
D-23	10	1120+98.28	TO	1121+04.96	RT					9							1			1
D-24	10	1121+16.95	TO	1121+26.33	LT					8							1			1
D-25	10	1122+57.91			LT	5		1		5						1		1		
D-26	10	1123+86.43			LT	5		1		5							1	1		
D-27	10	1123+42.76	TO	1123+57.33	RT		15				15	1								
D-28	10	1124+22.91			RT	5		1		5							1			
D-29	10	1123+49.73	TO	1123+51.74	RT					62						1				
D-30	10	1127+49.39			RT													1		
TOTALS CARRIED TO GENERAL SUMMARY						69	15	4	0.3	2254	15	5	2	1	2	14	4	3	1	3

REF NO.	SHEET NO.	STATION TO STATION			SIDE		202 GUARDRAIL REMOVED (FT)	607 FENCE, MISC.:42" WOOD FENCE (FT)	SPECIAL MAILBOX REMOVED AND RESET (EACH)	
F-1	30-31	1119+87.76	TO	1122+08.76	RT		228			
F-2	30	1120+09.56	TO	1121+93.52	LT		190			
F-3	30-31	1120+00.94	TO	1122+12.32	LT			218		
F-4	30-31	1119+81.48	TO	1122+15.89	RT			240		
MB-1	31	1123+40.55			LT				1	
MB-2	31	1124+39.74			LT				1	
MB-3	31	1125+27.39			LT				1	
MB-4	31	1126+06.86			LT				1	
MB-5	31	1126+91.00			LT				1	
MB-6	32	1127+91.58			LT				1	
MB-7	32	1128+65.05			LT				1	
TOTALS CARRIED TO GENERAL SUMMARY							418	458	7	

REF NO.	SHEET NO.	STATION TO STATION			SIDE		605 4" BASE PIPE UNDERDRAINS (FT)	611 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET (FT)		
UD-1	27	1105+22.03	TO	1106+00.00	RT		76	10		
UD-2	27-28	1106+00.00	TO	1109+60.46	RT		375	10		
UD-3	27-28	1106+44.97	TO	1109+23.97	LT		275	10		
UD-4	28	1109+27.00	TO	1111+30.00	LT		202	10		
UD-5	28-29	1111+33.00	TO	1113+18.18	LT		183	10		
UD-6	29	1114+62.65	TO	1116+12.69	LT		150	10		
UD-7	29-30	1114+57.16	TO	1117+09.97	RT		253	10		
UD-8	29-30	1116+17.05	TO	1118+89.56	LT		271	10		
UD-9	30-31	1121+25.00	TO	1122+55.57	LT		127	10		
UD-10	31	1122+57.57	TO	1123+84.62	LT		123	10		
UD-11	31-32	1123+86.62	TO	1129+03.98	LT		516	10		
TOTALS CARRIED TO GENERAL SUMMARY							2551	110		

SUBSUMMARY - STORM AND MISC.

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
DWL

REVIEWER
BMW 1-16-2026

PROJECT ID
119822

SHEET P.18 | TOTAL 92

MOT SR 48 20.61

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REF NO.	SHEET NO.	STATION TO STATION	644 EDGE LINE, 4" MILE	644 CENTER LINE MILE	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE, 24" FT	644 TRANSVERSE/DIAGONAL LINE FT	644 LANE ARROW EACH	644 REMOVAL OF PAVEMENT MARKING FT	
SL1	70	1104+11.40				35				25	
SL2	70	1104+76.23				37				37	
SL3	70	1105+15.76				32				31	
SL4	70	1109+86.74				9					
SL5	71	1113+46.56				42				42	
SL6	71	1113+92.33				30				15	
SL7	71	1114+30.35				21				23	
SL8	71	1114+72.14				42				33	
SL9	71	1119+51.42				27					
SL10	71	1123+45.09				27					
XW1	70	1104+37.00					100			115	
XW2	70	1104+71.96					100			118	
XW3	70	1105+00.00					100			118	
XW4	70	1109+80.19					60				
XW5	71	1113+57.67					120				
XW6	71	1113+88.13					100			120	
XW7	71	1114+16.84					70			118	
XW8	71	1114+56.06					110			168	
XW9	71	1119+52.91					95				
XW10	71	1123+07.22					50				
XW11	71	1123+54.16					50				
CL1	71-72	1122+25.00 TO 1124+65.00		0.05						80	
CL2	71	1122+25.00 TO 1123+65.00		0.03						80	
CH1	71	1122+17.00 TO 1122+97.00			80						
EL1	70	1105+21.00 TO 1109+38.00	0.08							445	
EL2	70-71	1105+15.00 TO 1113+20.00	0.15								
EL3	71	1114+80.00 TO 1118+92.00	0.08							443	
EL4	71	1114+80.00 TO 1121+68.00	0.13								
EL5	71-72	1120+18.00 TO 1129+04.00	0.17								
EL6	71	1122+94.00 TO 1123+49.00	0.02							114	
LA1	71	1122+37.00							1		
LA2	71	11232+42.00							1		
TL1	71	1123+23.64						94			
TOTALS CARRIED TO GENERAL SUMMARY			0.63	0.08	80	302	955	94	2	2125	

SUBSUMMARY -PAVEMENT MARKINGS

MOT SR 48 20.61

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER DWL
REVIEWER BMW 1-16-2026
PROJECT ID 119822
SHEET P.19 TOTAL 92

REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	630 SIGN, FLAT SHEET	630 SIGN, STREET NAME, AS PER PLAN, (INSTALLATION ONLY)	630 SIGN POST REFLECTOR	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
							FT	EACH	SF	EACH	EACH	EACH	EACH	EACH
S1	70		1109+96.00	RT	R1-1-30	30"x30"	13		6.25		1			
S2	70		1109+96.00	RT	R1-1-30	30"x30"							1	1
S3	70		1112+25.00	LT	SPECIAL	24"X18"	24					1		1
S4	71		1113+53.00	LT	R9-3	18"x18"							1	1
					R9-3B	12"x18"							1	
S5	71		1113+74.00	RT	R9-3	18"x18"							1	1
					R9-3B	12"x18"							1	
S6	71		1114+16.00	LT	R12-3	24"x36"	13.5		6			1		
S7	71		1117+26.00	LT	R3-H8CG	48"X30"	26		10					
S8	71		1117+26.00	LT	R3-H8CG	48"X30"							1	1
S9	71		1118+42.00	LT	SPECIAL	SPECIAL	13					1		1
S10	71		1119+33.00	LT	R1-1-30	30"X30"	13					1		1
S11	71		1119+17.00	LT	R9-3	24"X24"	12.5		4					
S12	71		1119+17.00	RT	R9-3	24"X24"	12.5		4					
S13	71		1119+92.00	LT	R9-3	24"X24"	12.5		4					
S14	71		1119+92.00	RT	R9-3	24"X24"	12.5		4					
S15	71		1122+25.00	LT	SPECIAL	SPECIAL	12.5					1		1
S16	71		1121+62.00	RT	R3-H8CG	24"x48"	25		8					
S17	71		1123+26.00	RT	R3-2	24"x24"	12.5		4					
S18	71		1123+42.00	RT	R3-2	24"x24"	12.5		4					
S19	71		1123+80.00	LT	R9-3	24"x24"							1	1
S20	71		1123+80.00	LT	R9-3	24"x24"	12.5		4					
S21	71		1123+52.00	RT	R1-1	30"X30"							1	1
S22	71		1123+52.00	RT	R1-1	30"X30"	13		6.25		1			
S23	71		1123+50.00	RT	R3-2	24"x24"	12.5		4					
S24	72		1126+50.00	LT	R2-1	24"X30"							1	1
					SPECIAL	SPECIAL							1	
S25	72		1126+50.00	LT	R2-1	24"X30"	15		5					
					SPECIAL	SPECIAL						1		
S26	72		1127+70.00	RT	R2-1	24"X30"							1	1
S27	72		1127+70.00	RT	R2-1	24"X30"	13		5					
S28	72		1128+40.00	RT	SPECIAL	SPECIAL	13					1		1
OSE1	85	SIGNAL SUPPORT #1	1114+19.49	LT	R3-5	30"x36"		1	7.5					
OSE2	85	SIGNAL SUPPORT #4	1113+90.76	RT	D3-1	72"x24"		1		1				
OSN1	85	SIGNAL SUPPORT #2	1113+45.01	LT	R3-5	30"x36"		1	7.5					
OSN2	85	SIGNAL SUPPORT #3	1114+53.32	RT	D3-1	96"x24"		1		1				
OSS1	85	SIGNAL SUPPORT #3	1114+53.32	RT	R3-5	30"x36"		1	7.5					
OSS2	85	SIGNAL SUPPORT #2	1113+45.01	LT	D3-1	72"x24"		1		1				
OSW1	85	SIGNAL SUPPORT #4	1113+90.76	RT	R3-5	30"x36"		1	7.5					
OSW2	85	SIGNAL SUPPORT #1	1114+19.49	LT	D3-1	72"x24"		1		1				
TOTALS CARRIED TO GENERAL SUMMARY							294	8	109	4	2	7	11	13

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER DWL
REVIEWER BMW 1-16-2026
PROJECT ID 119822
SHEET P.20 TOTAL 92

SUBSUMMARY - LIGHTING

REF NO.	SHEET NO.	SIDE	ROADWAY	STATION TO STATION	625 CONNECTION, FUSED PULL APART, AS PER PLAN	625 CONNECTION, UNFUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 LIGHT POLE, AESTHETIC, AS PER PLAN, TRIPLE SCROLL ARM - (GENERIC) (ALTERNATE 1)	625 LIGHT POLE, AESTHETIC, AS PER PLAN - (SPRING CITY) (ALTERNATE 2)	625 LIGHT POLE FOUNDATION, 24" X 6' DEEP	625 NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 CONDUIT, 2", 725.051	625 CONDUIT, 3", 725.051	625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 2"	625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, IES-III-M, LED, 12087-12759 LUMENS - (GENERIC) (ALTERNATE 1)	625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN - (SPRING CITY) (ALTERNATE 2)	625 TRENCH	625 PULL BOX, 725.08, 18"	625 PULL BOX, 725.08, 24"	625 GROUND ROD	625 POWER SERVICE, AS PER PLAN	625 UNDERGROUND WARNING MARKING TAPE	625 ARC FLASH CALCULATIONS AND LABEL, LIGHTING POWER SERVICE	632 POWER CABLE, 3 CONDUCTOR, NO. 2 AWG
					EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	FT	EACH	FT
1A-1	76	RT	SR 48	1105+58.71, 48.00'	3	1		1	1	1			192				1	1				1				
C-1	76	RT	SR 48	1105+58.71 TO 1106+84.66							423	423		130					130					130		
1A-3	76	RT	SR 48	1106+84.66, 48.00'	3	1		1	1	1			192				1	1				1				
C-2	76	RT	SR 48	1106+84.66 TO 1108+09.09							414	414		127					127					127		
1B-2	76	LT	SR 48	1106+10.26, 43.18'	3	1		1	1	1			192				1	1				1				
C-3	76	LT	SR 48	1106+10.26 TO 1107+36.65							405	405				124										
1B-4	76	LT	SR 48	1107+36.65, 44.21'	3	1		1	1	1			192				1	1				1				
C-4	76	LT	SR 48	1107+36.65 TO 1108+59.19							399	399		122					122					122		
1B-6	76	LT	SR 48	1108+59.19, 44.37'	3	1		1	1	1			192				1	1				1				
C-5	76	LT	SR 48	1108+59.19 TO 1108+86.03							120	120		27					27					27		
PBx1	76	LT	SR 48	1108+86.03, 44.50'			6													1						
C-6	76	LT	SR 48	1108+86.03 TO 1109+74.28							306	306		89					89					89		
1B-8	76	LT	SR 48	1109+74.28, 44.70'	3	1		1	1	1			192				1	1				1				
C-7	76	LT	SR 48	1109+74.28 TO 1110+84.81							366	366		111					111					111		
1B-10	76	LT	SR 48	1110+84.81, 45.41'	3	1		1	1	1			192				1	1				1				
C-8	76-77	LT	SR 48	1110+84.81 TO 1112+08.93							408	408		125					125					125		
1B-12	77	LT	SR 48	1112+08.93, 45.08'	3	1		1	1	1			192				1	1				1				
1A-5	76	RT	SR 48	1108+09.09, 48.00'	3	1		1	1	1			192				1	1				1				
C-9	76	RT	SR 48	1108+09.09 TO 1108+86.03							273	273		78					78					78		
PBx2	76	RT	SR 48	1108+86.03, 47.89'			6														1					
C-10	76	RT	SR 48	1108+86.03 TO 1108+92.02							120	120			12				12					12		
PS-1	76	RT	SR 48	1108+92.02, 57.47'																		1	1		1	
C-11	76	RT	SR 48	1108+92.02 TO 1108+94.93										12					12					12		38
C-12	76	LT/RT	SR 48	1108+86.03 TO 1108+86.03							294	294				93										
C-13	76	RT	SR 48	1108+86.03 TO 1109+30.00							171	171		44					44					44		
1A-7	76	RT	SR 48	1109+30.00, 48.00'	3	1		1	1	1			192				1	1				1				
C-14	76	RT	SR 48	1109+30.00 TO 1110+53.83							405	405				124										
1A-9	76	RT	SR 48	1110+53.83, 49.59'	3	1		1	1	1			192				1	1				1				
C-15	76	RT	SR 48	1110+53.83 TO 1111+85.60							429	429		132					132					132		
1A-11	76	RT	SR 48	1111+85.60, 49.61'	3	1		1	1	1			192				1	1				1				
C-16	76-77	RT	SR 48	1111+85.60 TO 1113+04.45							390	390		119					119					119		
1A-13	77	RT	SR 48	1113+04.45, 54.25'	3	1		1	1	1			192				1	1				1				
2A-15	77	RT	SR 48	1115+97.61, 42.34'	3	1		1	1	1			192				1	1				1				
C-17	77	RT	SR 48	1115+97.61 TO 1117+23.22							411	411		126					126					126		
2B-14	77	LT	SR 48	1115+00.56, 51.51'	3	1		1	1	1			192				1	1				1				
C-18	77	LT	SR 48	1115+00.56 TO 1116+28.40							417	417		128					128					128		
2B-16	77	LT	SR 48	1116+28.40, 43.48'	3	1		1	1	1			192				1	1				1				
C-19	77	LT	SR 48	1116+28.40 TO 1117+53.49							408	408		125					125					125		
2B-18	77	LT	SR 48	1117+53.49, 44.00'	3	1		1	1	1			192				1	1				1				
C-20	77	LT	SR 48	1117+53.49 TO 1118+76.81							405	405		124					124					124		
2B-20	77	LT	SR 48	1118+76.81, 44.04'	3	1		1	1	1			192				1	1				1				
C-21	77	LT	SR 48	1118+76.81 TO 1119+01.56							114	114		25					25					25		
PBx3	77	LT	SR 48	1119+01.56, 44.55'			6													1						
C-22	77	LT	SR 48	1119+01.56 TO 1119+31.92							174	174		45					45					45		
2B-21	77	LT	SR 48	1119+31.92, 69.19'	3	1		1	1	1			192				1	1				1				
C-23	77	LT	SR 48	1119+01.56 TO 1120+40.61							429	429				140										
2B-23	77	LT	SR 48	1120+40.61, 43.70'	3	1		1	1	1			192				1	1				1				
C-24	77	LT	SR 48	1120+40.61 TO 1120+46.34							57	57		6					6					6		
PBx5	77	LT	SR 48	1120+46.34, 43.70'																	1					
C-25	77	LT	SR 48	1120+46.34 TO 1120+54.09							144	144			8				8					8		
PS-2	77	LT	SR 48	1120+54.09, 43.70'																		1	1		1	
C-26	77	LT	SR 48	1120+54.09 TO 1120+64.09										15					15					15		41
C-27	77	LT	SR 48	1120+46.34 TO 1121+73.57							432	432		131					131					131		
2B-25	77	LT	SR 48	1121+73.57, 43.29'	3	1		1	1	1			192				1	1				1				
C-28	77-78	LT	SR 48	1121+73.57 TO 1123+05.44							429	429		132					132					132		
2A-17	77	RT	SR 48	1117+23.22, 41.67'	3	1		1	1	1			192				1	1				1				
C-29	77	RT	SR 48	1117+23.22 TO 1118+51.89							420	420		129					129					129		
2A-19	77	RT	SR 48	1118+51.89, 41.04'	3	1		1	1	1			192				1	1				1				
C-30	77	RT	SR 48	1118+51.89 TO 1119+95.10							465	465		144					144					144		
TOTALS CARRIED TO GENERAL SUMMARY					69	23	18	23	23	23	9228	9228	4416	2246	20	481	23	23	2266	2	2	25	2	2266	2	79

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER DWL
REVIEWER BMW 1-16-2026
PROJECT ID 119822
SHEET P.21 TOTAL 92

MOT SR 48 20.61

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SUBSUMMARY - LIGHTING

REF NO.	SHEET NO.	SIDE	ROADWAY	STATION TO STATION	625 CONNECTION, FUSED PULL APART, AS PER PLAN EACH	625 CONNECTION, UNFUSED PULL APART EACH	625 CONNECTION, UNFUSED PERMANENT EACH	625 LIGHT POLE, AESTHETIC, AS PER PLAN, TRIPLE SCROLL ARM - (GENERIC) (ALTERNATE 1) EACH	625 LIGHT POLE, AESTHETIC, AS PER PLAN - (SPRING CITY) (ALTERNATE 2) EACH	625 LIGHT POLE FOUNDATION, 24" X 6' DEEP EACH	625 LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN EACH	625 NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE FT	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE FT	625 NO. 10 AWG POLE AND BRACKET CABLE FT	625 CONDUIT, 2", 725.051 FT	625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 2" FT	625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, IES-III-M, LED, 12087-12759 LUMENS - (GENERIC) (ALTERNATE 1) EACH	625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN - (SPRING CITY) (ALTERNATE 2) EACH	625 TRENCH FT	625 PULL BOX, 725.08, 18" EACH	625 GROUND ROD EACH	625 UNDERGROUND WARNING MARKING TAPE FT
2A-22	77	RT	SR 48	1119+95.10, 44.34'	3	1		1	1	1				192			1	1			1	
C-31	77	RT	SR 48	1119+95.10 TO 1120+46.40								195	195		52				52			52
PBx4	77	RT	SR 48	1120+46.40, 44.65'			6													1		
C-32	77	LT/RT	SR 48	1120+46.34 TO 1120+46.40								282	282			89						
C-33	77	RT	SR 48	1120+46.40 TO 1121+34.84								321	321		94				94			94
2A-24	77	RT	SR 48	1121+34.84, 43.62'	3	1		1	1	1				192			1	1			1	
C-34	77-78	RT	SR 48	1121+34.84 TO 1122+47.09								375	375		114				114			114
2A-26	78	RT	SR 48	1122+47.09, 56.32'	3	1		1	1	1				192			1	1			1	
C-35	78	RT	SR 48	1122+47.09 TO 1123+77.65								426	426			131						
2A-28	78	RT	SR 48	1123+77.65, 56.20'	3	1		1	1	1				192			1	1			1	
C-36	78	RT	SR 48	1123+77.65 TO 1124+98.52								396	396		121				121			121
2A-30	78	RT	SR 48	1124+98.52, 54.24'	3	1		1	1		1			192			1	1			1	
C-37	78	RT	SR 48	1124+98.52 TO 1126+23.76								411	411		126				126			126
2A-32	78	RT	SR 48	1126+23.76, 53.35'	3	1		1	1		1			192			1	1			1	
C-38	78	RT	SR 48	1126+23.76 TO 1126+28.76											5				5			5
2B-27	78	LT	SR 48	1123+05.44, 46.35'	3	1		1	1	1				192			1	1			1	
C-39	78	LT	SR 48	1123+05.44 TO 1124+38.24								432	432		133				133			133
2B-29	78	LT	SR 48	1124+38.24, 48.29'	3	1		1	1	1				192			1	1			1	
C-40	78	LT	SR 48	1124+38.24 TO 1125+67.47								423	423		130				130			130
2B-31	78	LT	SR 48	1125+67.47, 47.83'	3	1		1	1	1				192			1	1			1	
C-41	78	LT	SR 48	1125+67.47 TO 1126+96.16								420	420		129				129			129
2B-33	78	LT	SR 48	1126+96.16, 45.66'	3	1		1	1	1				192			1	1			1	
C-42	78	LT	SR 48	1126+96.16 TO 1128+28.35								432	432		133				133			133
2B-34	78	LT	SR 48	1128+28.35, 49.76'	3	1		1	1	1				192			1	1			1	
C-43	78	LT	SR 48	1128+28.35 TO 1129+33.96								351	351		106				106			106
2B-35	78	LT	SR 48	1129+33.96, 52.64'	3	1		1	1	1				192			1	1			1	
C-44	78	LT	SR 48	1129+33.96 TO 1130+62.39								420	420			129						
2B-36	78	LT	SR 48	1130+62.39, 53.51'	3	1		1	1	1				192			1	1			1	
C-45	78	LT	SR 48	1130+62.39 TO 1130+67.39											5				5			5
TOTALS CARRIED TO GENERAL SUMMARY					39	13	6	13	13	11	2	4884	4884	2496	1148	349	13	13	1148	1	13	1148

MOT SR 48 20.61

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DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
DWL

REVIEWER
BMW 1-16-2026

PROJECT ID
119822

SHEET P.22 | TOTAL 92

SHEET NO.	LOCATION	SIDE	625 BRACKET ARM, 15', AS PER PLAN (EACH)	625 CONDUIT, 1", 725.051 (TRAFFIC) (FT)	625 CONDUIT, 2", 725.051 (TRAFFIC) (FT)	625 CONDUIT, 3", 725.051 (TRAFFIC) (FT)	625 CONDUIT, 4", 725.051 (TRAFFIC) (FT)	625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 2" (TRAFFIC) (FT)	625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 3" (TRAFFIC) (FT)	625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 4" (TRAFFIC) (FT)	625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, IES-III-M, LED, 12087-12759 LUMENS - (GENERIC) (ALTERNATE 1) (TRAFFIC) (EACH)	625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN - (SPRING CITY) (ALTERNATE 2) (TRAFFIC) (EACH)	625 TRENCH (TRAFFIC) (FT)	625 PULL BOX, 725.08, 24" (TRAFFIC) (EACH)	625 GROUND ROD (TRAFFIC) (EACH)	625 UNDERGROUND WARNING/MARKING TAPE (TRAFFIC) (FT)	625 ARC FLASH CALCULATIONS AND LABEL, SIGNAL POWER SERVICE (EACH)	632 VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW (EACH)	632 VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW (EACH)	632 PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN (EACH)	632 ACCESSIBLE PEDESTRIAN PUSHBUTTON, AS PER PLAN (EACH)	
STATE ROUTE 48 AND GARBER/GOOD SAMARITAN																								
85-87	1114+25.61 (SP-1)	LT													1				2	1				
85-87	1113+45.01 (SP-2)	LT													1				2	1				
85-87	1114+53.32 (SP-3)	RT													1				1	2				
85-87	1113+90.76 (SP-4)	RT													1				2	1				
85-87	1114+25.61 (SP-1)	LT	1								1	1									1	1		
85-87	113+45.01 (SP-2)	LT	1								1	1									2	2		
85-87	1114+53.32 (SP-3)	RT	1								1	1									1	1		
85-87	1113+90.76 (SP-4)	RT	1								1	1									1	1		
85-87	1114+75.17 (PS-1)	LT													1						1	1		
85-87	1114+68.17 (PS-2)	RT													1						1	1		
85-87	1113+58.35 (PS-3)	RT													1						1	1		
85	1114+24.22 (PBx1)	LT												1										
85	1113+51.91 (PBx2)	LT												1										
85	1114+58.00 (PBx3)	RT												1										
85	1113+75.00 (PBx4)	RT												1										
85	1113+52.37 (PROP. CONTROLLER CABINET)	LT													1			1						
85-86, 88	SP-3 TO PBx3	RT		5		5							5			5								
85-86, 88	PS-2 TO PBx3	RT			20								20			20								
85-86, 88	Ex. FIBER PULLBOX TO PBx3	RT			12								12			12								
85-86, 88	PBx3 TO PBx4	RT						90	90															
85-86, 88	SP-4 TO PBx4	RT		16		16							16			16								
85-86, 88	PS-3 TO PBx4	RT			18								18			18								
85-86, 88	PBx4 TO PBx2	RT, LT						122		122														
85-86, 88	PS-1 TO PBx1	LT			58								58			58								
85-86, 88	SP-1 TO PBx1	LT		8		8							8			8								
85-86, 88	PBx1 TO PBx2	LT						72	72															
85-86, 88	SP-2 TO PBx2	LT		19		19							19			19								
85-86, 88	PBx2 TO PROP. CONTROLLER CABINET	LT		9			18						9			9								
85-86, 88	PROP. CABINET TO PROP. POWER SOURCE	LT						88																
STATE ROUTE 48 AND HEATHCLIFF																								
90	1104+29.21 (Ex. SP-1)	LT																				2	2	
90	1105+01.07 (Ex. PS-1)	LT																				2	2	
90	1105+12.98 (PS-2)	RT															1					2	2	
90	1104+24.49 (Ex. PS-3)	RT																				2	2	
90, 91	PS-2 TO (1104+99.84) Ex. PBx4	RT			16								16			16								
TOTALS CARRIED TO GENERAL SUMMARY			4	57	124	48	18	372	162	122	4	4	181	4	9	181	1	7	5	16	16			

SUBSUMMARY - TRAFFIC SIGNAL

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER: DWL
REVIEWER: BMW 1-16-2026
PROJECT ID: 119822
SHEET: P.23 | TOTAL: 92

MOT SR 48 20.61

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SHEET NO.	LOCATION	SIDE	632 COVERING OF VEHICULAR SIGNAL HEAD EACH	632 COVERING OF PEDESTRIAN SIGNAL HEAD EACH	632 SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG FT	632 SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG FT	632 SIGNAL CABLE, 3 CONDUCTOR, NO. 12 AWG FT	632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN EACH	632 PEDESTAL FOUNDATION EACH	632 LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 12 AWG FT	632 POWER CABLE, 3 CONDUCTOR, NO. 6 AWG FT	632 POWER SERVICE, AS PER PLAN EACH	632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN EACH	632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN EACH	632 PEDESTAL, 8', TRANSFORMER BASE, AS PER PLAN - (GENERIC) (ALTERNATE 1) EACH	632 PEDESTAL, MISC.: 8', DECORATIVE PEDESTAL - (ALTERNATE 2) EACH	632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION FOR STORAGE, AS PER PLAN EACH	633 CABINET, TYPE TS-2, AS PER PLAN EACH	633 CABINET FOUNDATION EACH	633 CONTROLLER WORK PAD, AS PER PLAN EACH	633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN EACH	633 CONTROLLER ITEM, MISC.: REWIRE/REPROGRAM CONTROLLER CABINET EACH
STATE ROUTE 48 AND GARBER/GOOD SAMARITAN																						
85-87	1114+25.61 (SP-1)	LT	3				58	1					1									
85-87	1113+45.01 (SP-2)	LT	3				58	1						1								
85-87	1114+53.32 (SP-3)	RT	3				58	1						1								
85-87	1113+90.76 (SP-4)	RT	3				57	1					1									
85-87	1114+25.61 (SP-1)	LT		1																		
85-87	113+45.01 (SP-2)	LT		2																		
85-87	1114+53.32 (SP-3)	RT		1																		
85-87	1113+90.76 (SP-4)	RT		1																		
85-87	1114+75.17 (PS-1)	LT		1					1							1	1					
85-87	1114+68.17 (PS-2)	RT		1					1							1	1					
85-87	1113+58.35 (PS-3)	RT		1					1							1	1					
85	1113+52.37 (PROP. CONTROLLER CABINET)	LT										1						1	1	1	1	1
85-86, 88	SP-3 TO PBx3	RT				20	10															
85-86, 88	SP-3 TO PBx3	RT			26					22												
85-86, 88	PS-2 TO PBx3	RT			41					37												
85-86, 88	PBx3 TO PBx4	RT				190	95															
85-86, 88	PBx3 TO PBx4	RT			190					190												
85-86, 88	SP-4 TO PBx4	RT			21	21	21															
85-86, 88	SP-4 TO PBx4	RT			37					33												
85-86, 88	PS-3 TO PBx4	RT			39					35												
85-86, 88	PBx4 TO PBx2	RT, LT			127	381	254															
85-86, 88	PBx4 TO PBx2	RT, LT			508					508												
85-86, 88	PS-1 TO PBx1	LT			79					75												
85-86, 88	SP-1 TO PBx1	LT			13	13	13															
85-86, 88	SP-1 TO PBx1	LT			29					25												
85-86, 88	PBx1 TO PBx2	LT			77	77	77															
85-86, 88	PBx1 TO PBx2	LT			154					154												
85-86, 88	SP-2 TO PBx2	LT				24	24															
85-86, 88	SP-2 TO PBx2	LT			80					72												
85-86, 88	PBx2 TO PROP. CONTROLLER CABINET	LT			34	70	56															
85-86, 88	PBx2 TO PROP. CONTROLLER CABINET	LT			136					136												
85-86, 88	PROP. CABINET TO PROP. POWER SOURCE	LT									114											
85-86, 88	7A --> 4A --> SP-1	LT				72																
85-86, 88	8B --> SP-1	LT			20																	
85-86, 88	1A --> 6A --> 6B --> SP-2	LT				97																
85-86, 88	2A --> 2B --> SP-3	RT				81																
85-86, 88	5A --> SP-3	RT				81																
85-86, 88	3A -->8A --> SP-4	RT				67																
85-86, 88	4B --> SP-4	RT			20																	
STATE ROUTE 48 AND HEATHCLIFF																						
90	1104+29.21 (Ex. SP-1)	LT		2																		
90	1105+01.07 (Ex. PS-1)	LT		2																		
90	1105+12.98 (PS-2)	RT		2					1							1	1					
90	1104+24.49 (Ex. PS-3)	RT		2																		
90	1105+25.58 (Ex. CONTROLLER CABINET)	RT																1				1
90, 91	Ex. SP-1 TO (1104+45.24) Ex. PBx2	LT			78					70												
90, 91	(1104+45.24) Ex. PBx2 TO (1105+18.62) Ex. PBx1	LT			156					156												
90, 91	Ex. PS-1 TO (1105+18.62) Ex. PBx1	LT			78					70												
90, 91	(1105+18.62) Ex. PBx1 TO (1105+31.61) Ex. PBx3	LT, RT			324					324												
90, 91	Ex. PS-3 TO (1104+14.63) Ex. PBx5	RT			64					56												
90, 91	(1104+14.63) Ex. PBx5 TO (1105+31.61) Ex. PBx3	RT			248					248												
90, 91	(1105+31.61) Ex. PBx3 TO Ex. CABINET	RT			138					138												
90, 91	PS-2 TO (1104+99.84) Ex. PBx4	RT			74					66												
90, 91	(1104+99.84) Ex. PBx4 TO Ex. CABINET	RT			70					70												
TOTALS CARRIED TO GENERAL SUMMARY			12	16	2861	1194	781	4	4	2485	114	1	2	2	4	4	2	1	1	1	1	1

SUBSUMMARY - TRAFFIC SIGNAL

MOT SR 48 20.61

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DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER DWL
REVIEWER BMW 1-16-2026
PROJECT ID 119822
SHEET P.24 TOTAL 92

SHEET NO.	LOCATION	SIDE	804 FAN-OUT KIT, 6 FIBER (EACH)	804 DROP CABLE, 6 FIBER, AS PER PLAN (FT)	804 FIBER TERMINATION PANEL, 6 FIBER (EACH)	804 FUSION SPLICE (EACH)	809 ADVANCE RADAR DETECTION, AS PER PLAN (EACH)	809 STOP LINE RADAR DETECTION, AS PER PLAN (EACH)	809 ATC CONTROLLER, AS PER PLAN (EACH)												
STATE ROUTE 48 AND GARBER/GOOD SAMARITAN																					
85-87	1114+25.61 (SP-1)	LT						1													
85-87	1113+45.01 (SP-2)	LT					1	1													
85-87	1114+53.32 (SP-3)	RT					1	1													
85-87	1113+90.76 (SP-4)	RT						1													
85	1113+52.37 (PROP. CONTROLLER CABINET)	LT	1		1				1												
85	1114+68.75 (Ex. FIBER PULLBOX)	RT		150		6															
85-86, 88	Ex. FIBER PULLBOX TO PBx3	RT		17																	
85-86, 88	PBx3 TO PBx4	RT		95																	
85-86, 88	PBx4 TO PBx2	RT, LT		127																	
85-86, 88	PBx2 TO PROP. CONTROLLER CABINET	LT		14																	
TOTALS CARRIED TO GENERAL SUMMARY			1	403	1	6	2	4	1												

SUBSUMMARY - TRAFFIC SIGNAL

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
DWL

REVIEWER
BMW 1-16-2026

PROJECT ID
119822

SHEET P.25 | TOTAL 92

MOT SR 48 20.61

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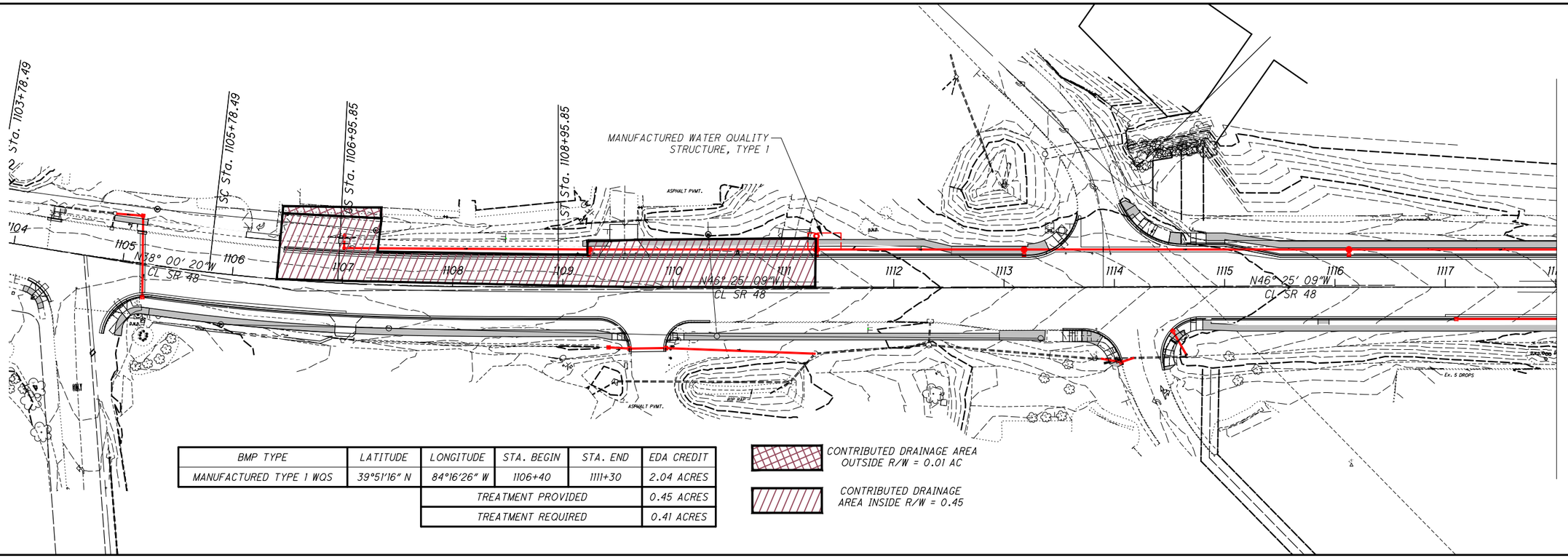
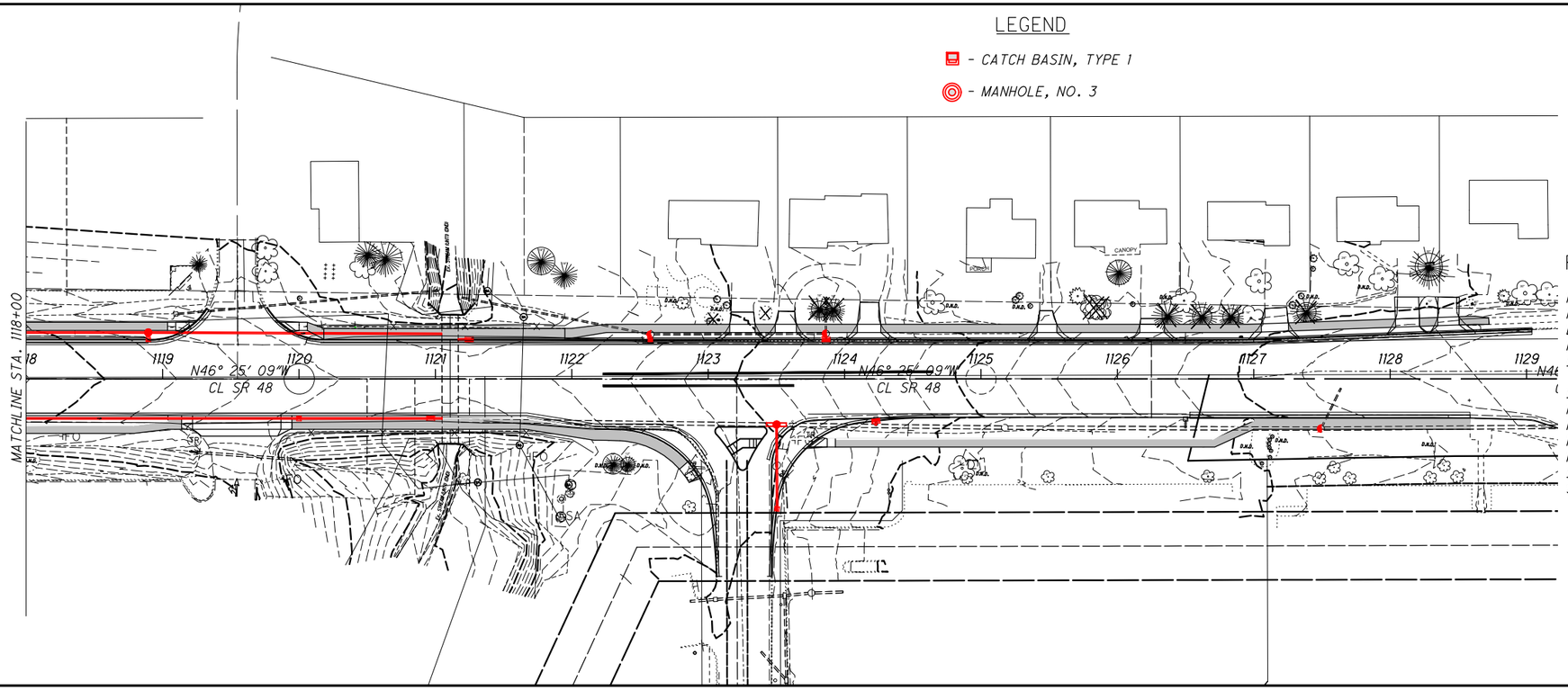


BMP TYPE	LATITUDE	LONGITUDE	STA. BEGIN	STA. END	EDA CREDIT
MANUFACTURED TYPE 1 WQS	39°51'16" N	84°16'26" W	1106+40	1111+30	2.04 ACRES
		TREATMENT PROVIDED			0.45 ACRES
		TREATMENT REQUIRED			0.41 ACRES

CONTRIBUTED DRAINAGE AREA OUTSIDE R/W = 0.01 AC

CONTRIBUTED DRAINAGE AREA INSIDE R/W = 0.45



PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES THE CONSTRUCTION OF SIDEWALK AND CURB AND GUTTER ALONG STATE ROUTE 48 IN THE CITY OF CLAYTON OHIO. THE PROJECT LENGTH IS APPROXIMATELY 2,500' AND WILL CONSTRUCT THE MISSING WALK AND CURB AT VARIOUS LOCATIONS ALONG THE PROJECT LENGTH. THIS PROJECT WILL ALSO INCLUDE THE REPLACEMENT OF NON ADA COMPLIANT RAMPS ALONG THE ROUTE AND NEW STORM SEWER.

USGS TROTWOOD QUADRANGLE
LATITUDE: N 39°51'16.47" LONGITUDE: W 84°16'26.17"

PROJECT DATA:

PROJECT AREA = 6.61 ACRES
PROJECT EARTH DISTURBED AREA = 2.04 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA = 0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA = 2.29 ACRES
IMPERVIOUS AREA FOR PRE-CONSTRUCTION SITE = 3.11 ACRES

IMPERVIOUS AREA FOR POST-CONSTRUCTION SITE = 4.10 ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE = 0.70
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE = 0.80
POST CONSTRUCTION BMP: TYPE 1 WQS
MAINTAINED BY: CITY OF CLAYTON
IMMEDIATE RECEIVING WATERS: CITY STORM SEWER
SUBSEQUENT RECEIVING WATERS: STILLWATER RIVER

HORIZONTAL SCALE IN FEET
0 25 50 100

SITE PLAN

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER: LTH
REVIEWER: AJH 1-16-2026
PROJECT ID: 119822
SHEET: P.26 TOTAL: 92

MOT SR 48 20.61

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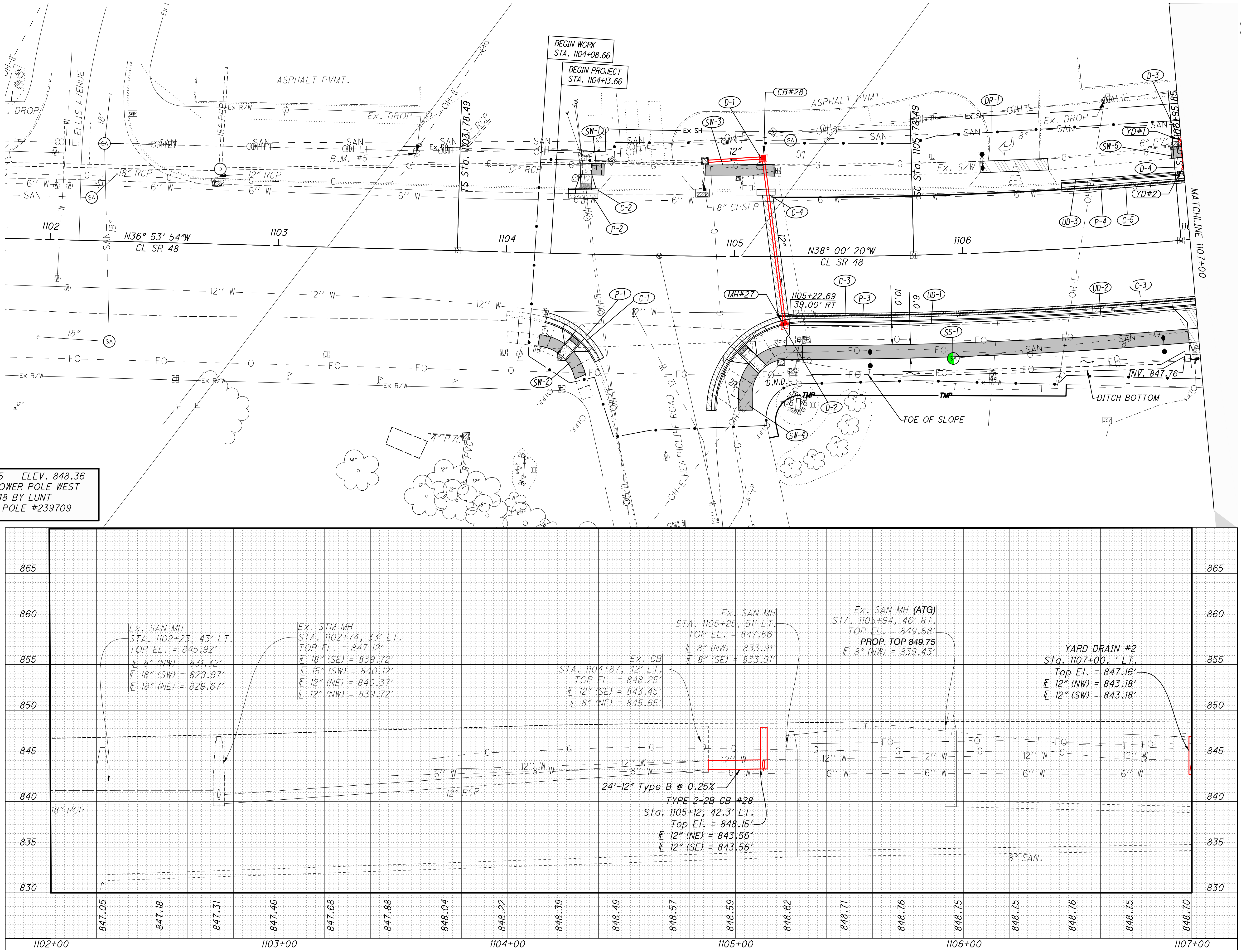
PLAN AND PROFILE - S.R. 48
STA. 1102+00 to STA. 1107+00



BEGIN WORK
STA. 1104+08.66
BEGIN PROJECT
STA. 1104+13.66
ASPHALT PVMT.
ELLIS AVENUE
B.M. #5
N36° 53′ 54″W
CL SR 48
N38° 00′ 20″W
CL SR 48
TS Sta. 1103+78.49
SC Sta. 1105+78.49
MATCHLINE 1107+00
1102
1103
1104
1105
1106
CB#28
1105+22.69
39.00′ RT
12″ CPSLP
HEATHCLIFF ROAD
TOE OF SLOPE
DITCH BOTTOM
INV. 847.76
D.N.D.
Ex. SAN MH
STA. 1102+23, 43′ LT.
TOP EL. = 845.92′
℄ 8″ (NW) = 831.32′
℄ 18″ (SW) = 829.67′
℄ 18″ (NE) = 829.67′
Ex. STM MH
STA. 1102+74, 33′ LT.
TOP EL. = 847.12′
℄ 18″ (SE) = 839.72′
℄ 15″ (SW) = 840.12′
℄ 12″ (NE) = 840.37′
℄ 12″ (NW) = 839.72′
Ex. CB
STA. 1104+87, 42′ LT.
TOP EL. = 848.25′
℄ 12″ (SE) = 843.45′
℄ 8″ (NE) = 845.65′
Ex. SAN MH
STA. 1105+25, 51′ LT.
TOP EL. = 847.66′
℄ 8″ (NW) = 833.91′
℄ 8″ (SE) = 833.91′
Ex. SAN MH (ATG)
STA. 1105+94, 46′ RT.
TOP EL. = 849.68′
PROP. TOP 849.75
℄ 8″ (NW) = 839.43′
YARD DRAIN #2
Sta. 1107+00, ′ LT.
Top El. = 847.16′
℄ 12″ (NW) = 843.18′
℄ 12″ (SW) = 843.18′
24′-12″ Type B @ 0.25%
TYPE 2-2B CB #28
Sta. 1105+12, 42.3′ LT.
Top El. = 848.15′
℄ 12″ (NE) = 843.56′
℄ 12″ (SE) = 843.56′
865
860
855
850
845
840
835
830
847.05
847.18
847.31
847.46
847.68
847.88
848.04
848.22
848.39
848.49
848.57
848.59
848.62
848.71
848.76
848.75
848.75
848.76
848.75
848.70
1102+00
1103+00
1104+00
1105+00
1106+00
1107+00

BENCHMARK #5 ELEV. 848.36
MAG NAIL IN POWER POLE WEST SIDE OF S.R. 48 BY LUNT ORTHOPEDICS. POLE #239709

HORIZONTAL SCALE IN FEET
0 10 20 40

MOT SR 48 20.61

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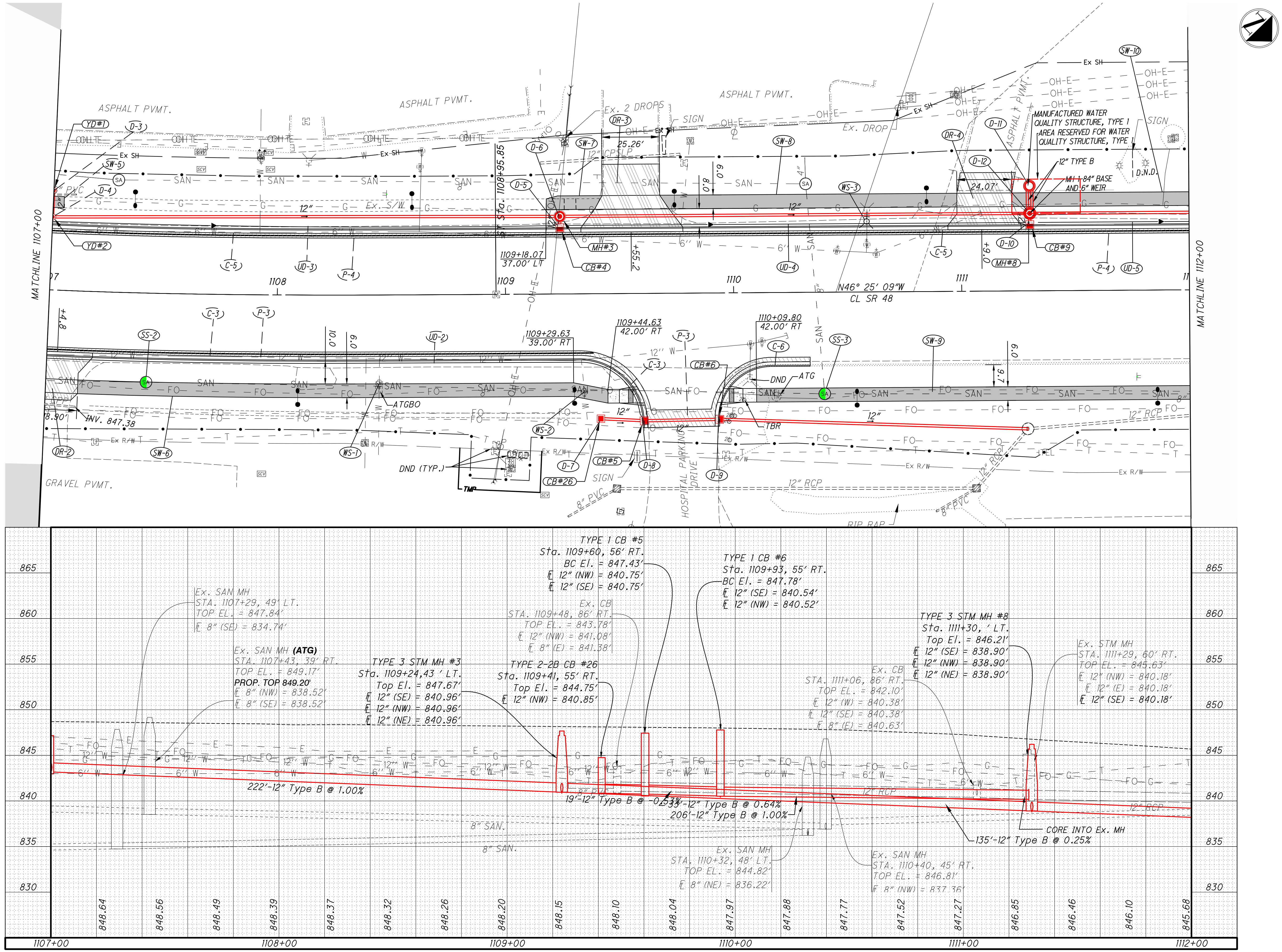
DESIGN AGENCY	CHOICE ONE ENGINEERING
DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.27
TOTAL	92



PLAN AND PROFILE - S.R. 48

STA. 1107+00 to STA. 1112+00

DESIGN AGENCY

CHOICE ONE ENGINEERING

DESIGNER: LTH

REVIEWER: AJH 1-16-2026

PROJECT ID: 119822

SHEET: P.28 TOTAL: 92

MOT SR 48 20.61

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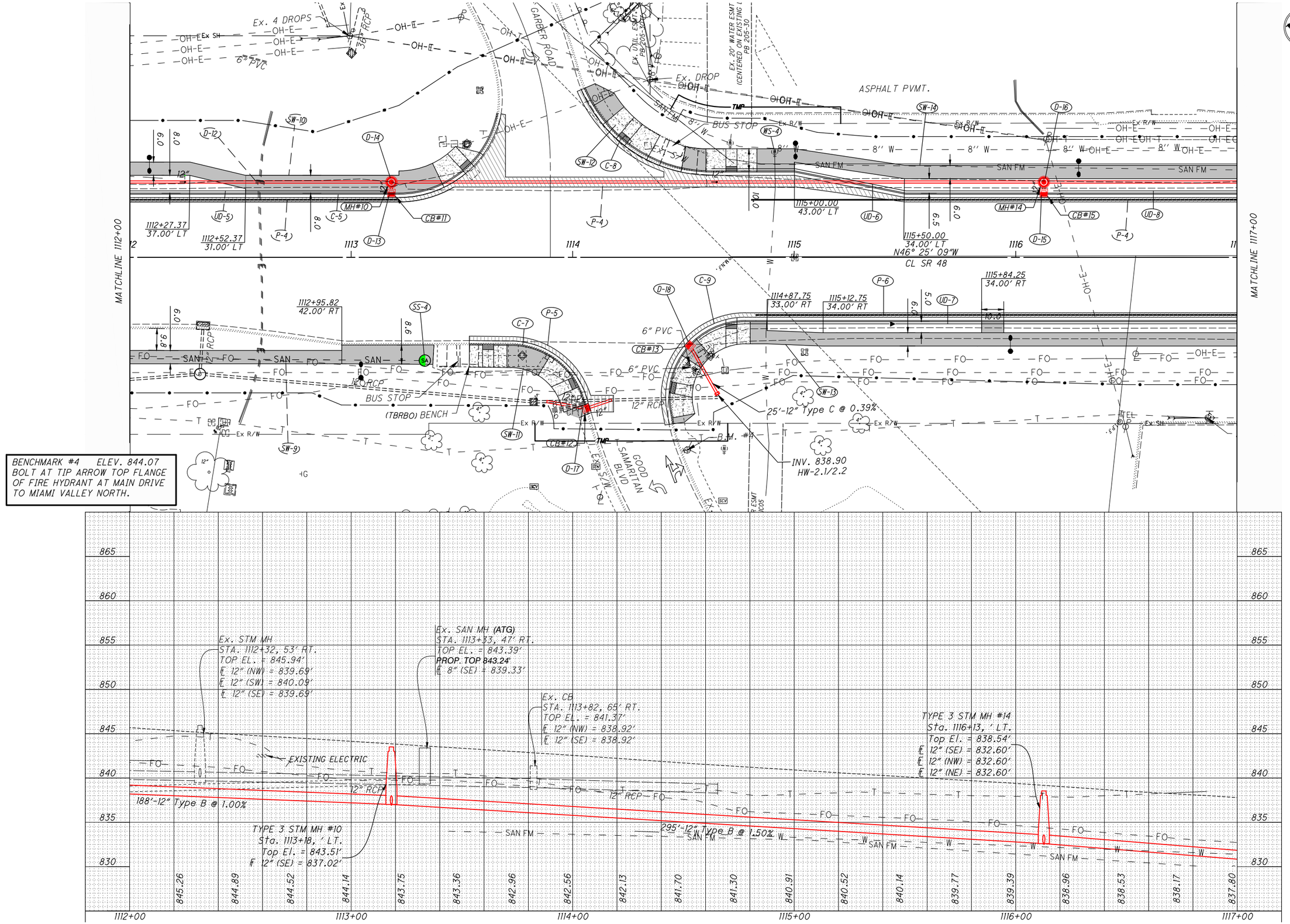

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE -S.R. 48
STA. 1112+00 to STA. 1117+00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.29
TOTAL	92

MOT SR 48 20.61

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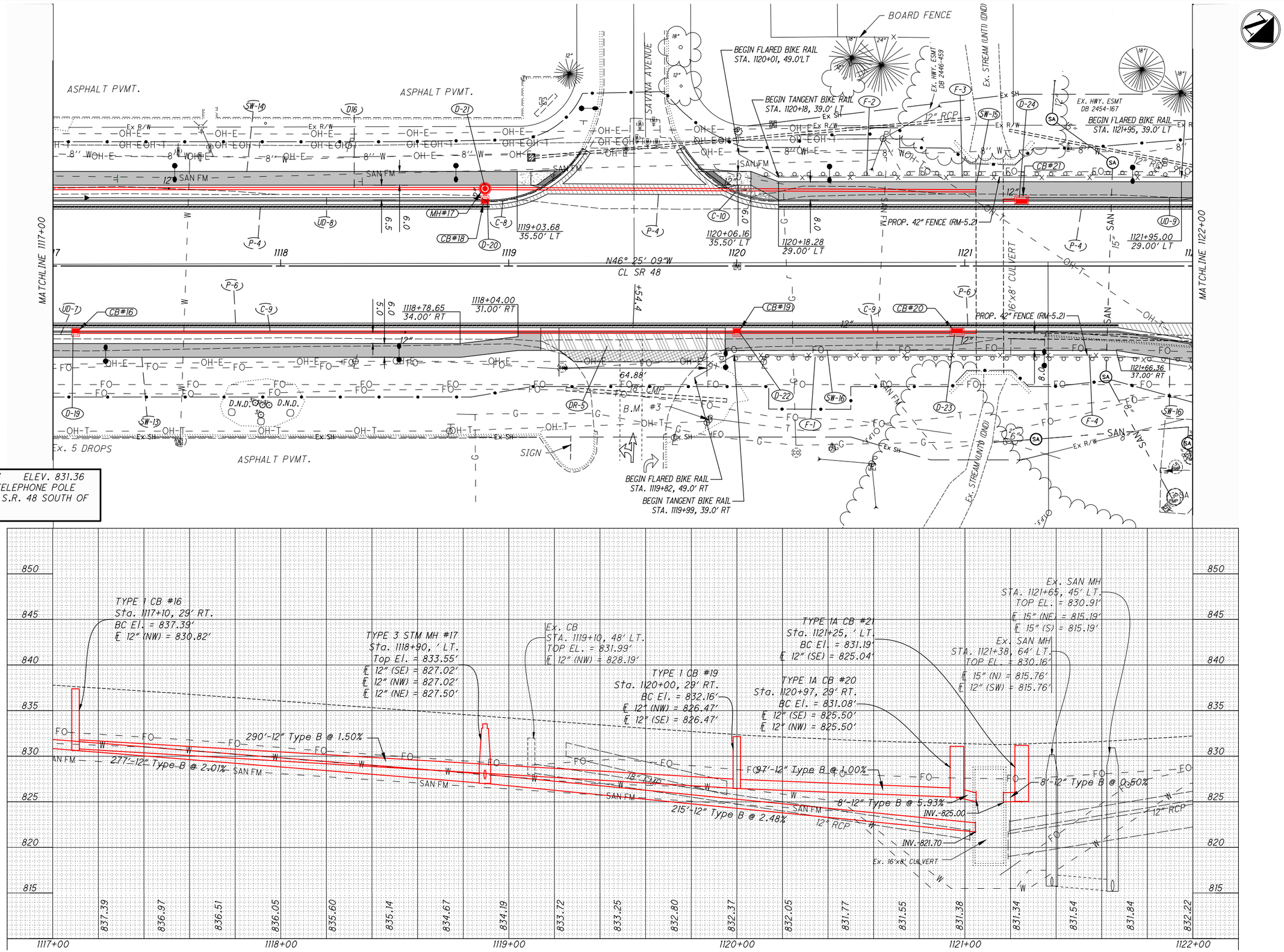

BENCHMARK #3 ELEV. 831.36
MAG MAIL IN TELEPHONE POLE
EAST SIDE OF S.R. 48 SOUTH OF
CREEK.

HORIZONTAL
SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 48
STA. 1117+00 to STA. 1122+00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.30
TOTAL	92

MOT SR 48 20.61

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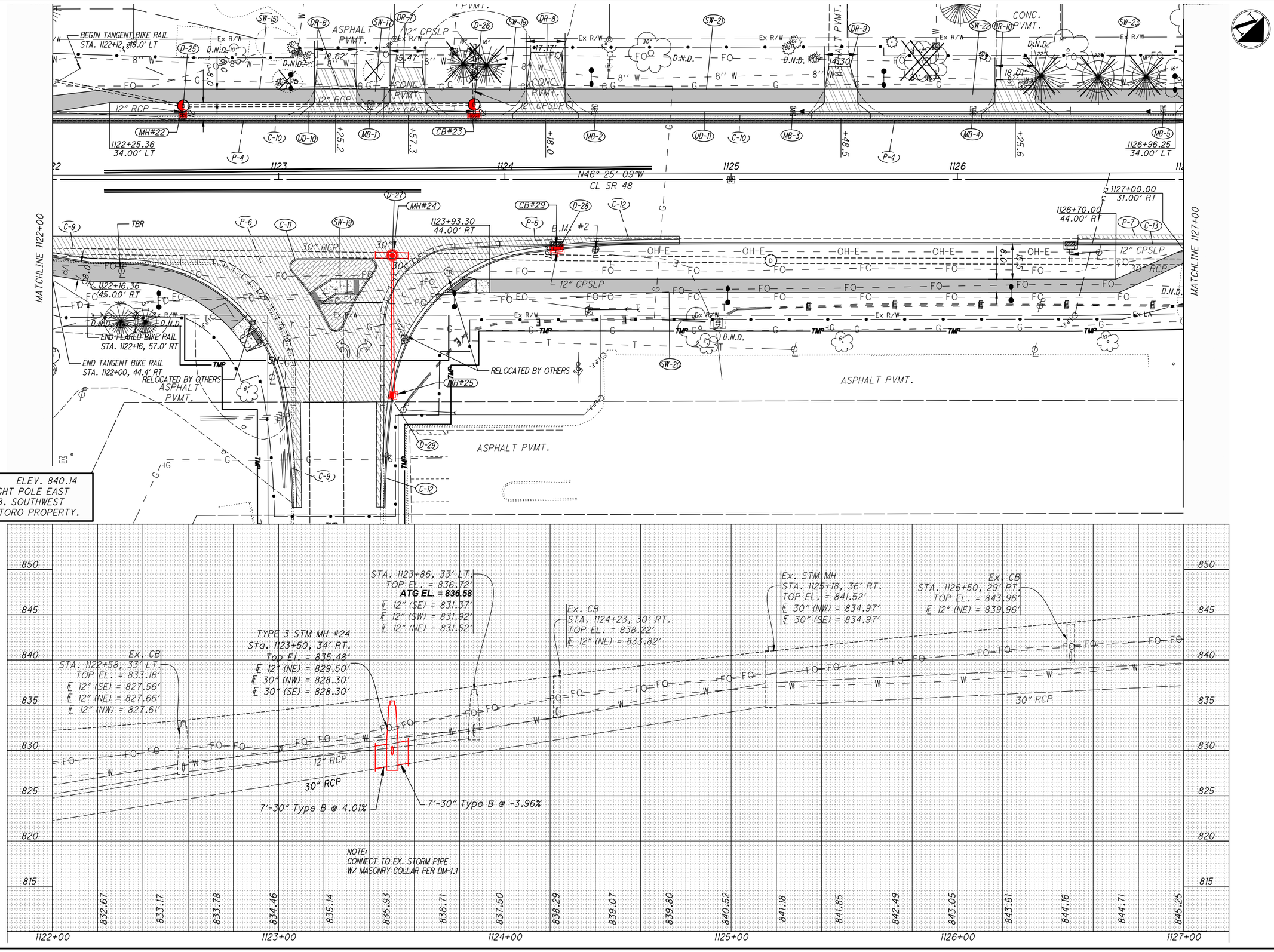

BENCHMARK #2 ELEV. 840.14
MAG NAIL IN LIGHT POLE EAST SIDE OF S.R. 48. SOUTHWEST CORNER OF EL TORO PROPERTY.

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 48
STA. 1122+00 to STA. 1129+00

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER
LTH
REVIEWER
AJH 1-16-2026
PROJECT ID
119822
SHEET P.31 | TOTAL 92

MOT SR 48 20.61

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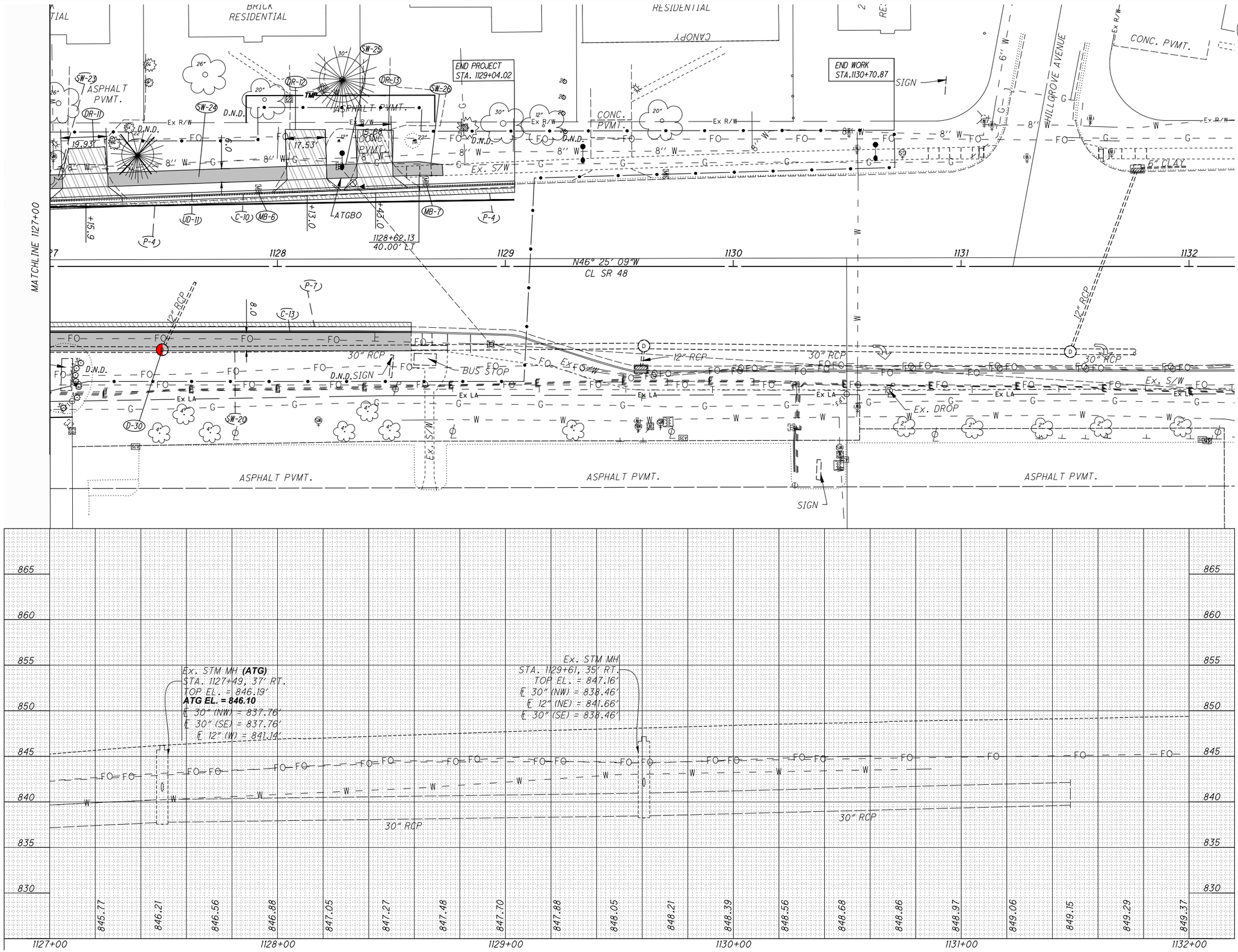

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 48
STA. 1127+00 to STA. 1132+00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.32
TOTAL	92

MOT SR 48 20.61

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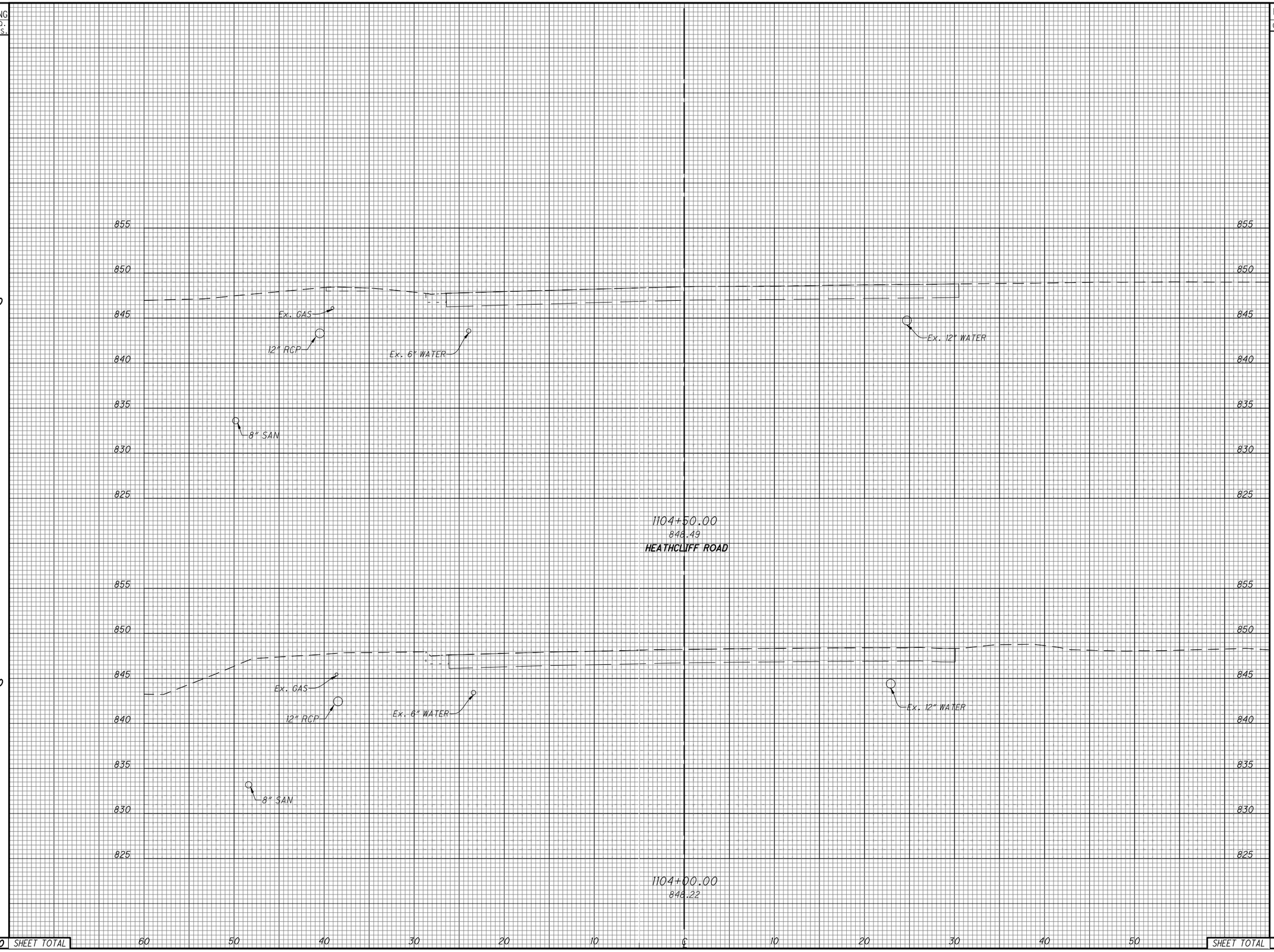
SEEDING	
END WIDTH	SQ. YDS.
	0
	0
	0
0	0



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		0	0
0	0		
0	0	0	0

CROSS SECTIONS - "S.R. 48"
STA. 1104+00.00 TO STA. 1104+50.00

MOT SR 48 20.61

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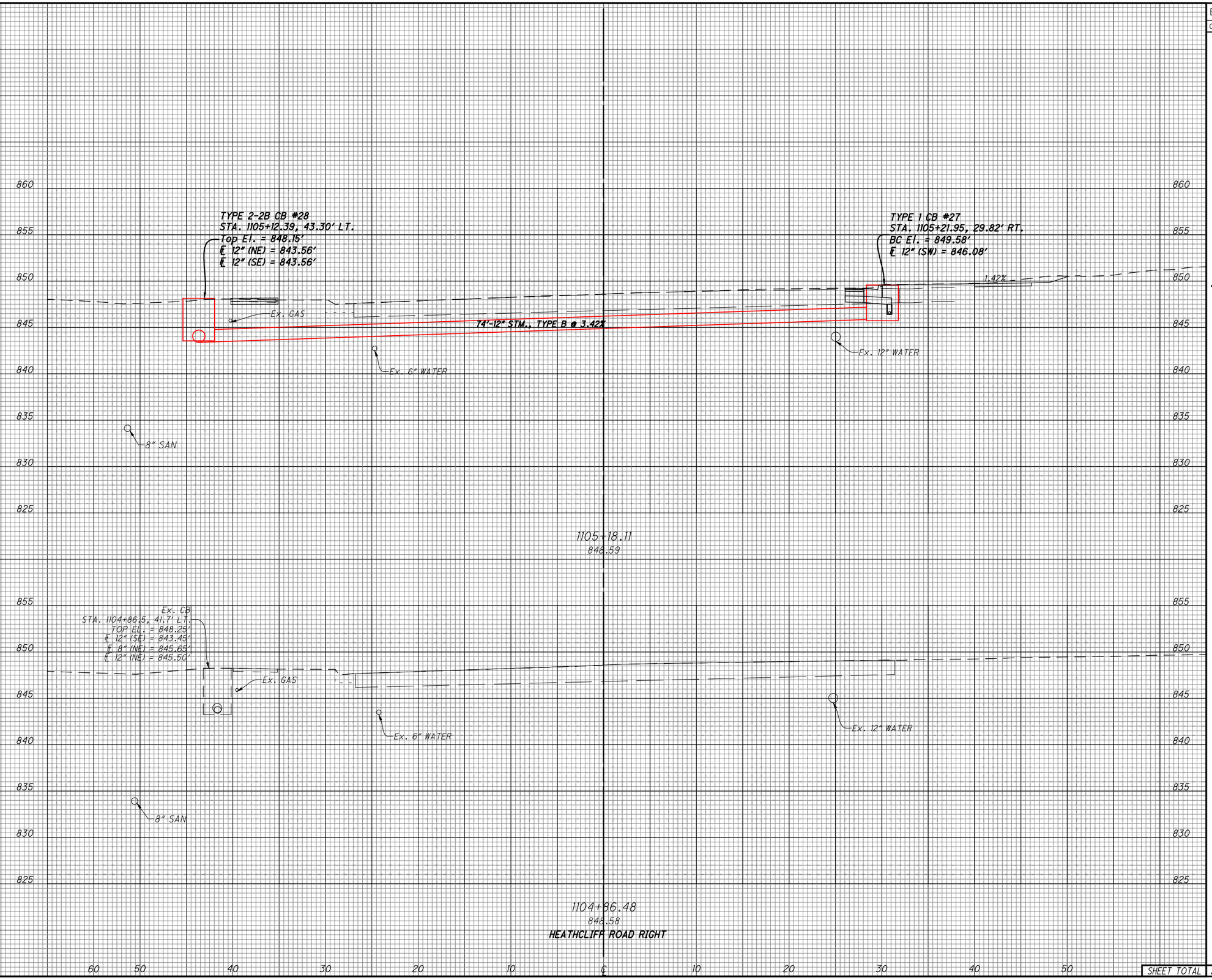
SHEET TOTAL 0 0 SHEET TOTAL 0 0 0 0

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.33
TOTAL	92

SEEDING	
END WIDTH	SQ. YDS.
0	0
0	0
0	0



END AREA		VOLUME	
CUT	FILL	CUT	FILL
21	0		
		6	0
0	0		
SHEET TOTAL	21	0	6	0

CROSS SECTIONS - "S.R. 48"
STA. 1104+86.48 TO STA. 1105+00.00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.34
TOTAL	92

MOT SR 48 20.61

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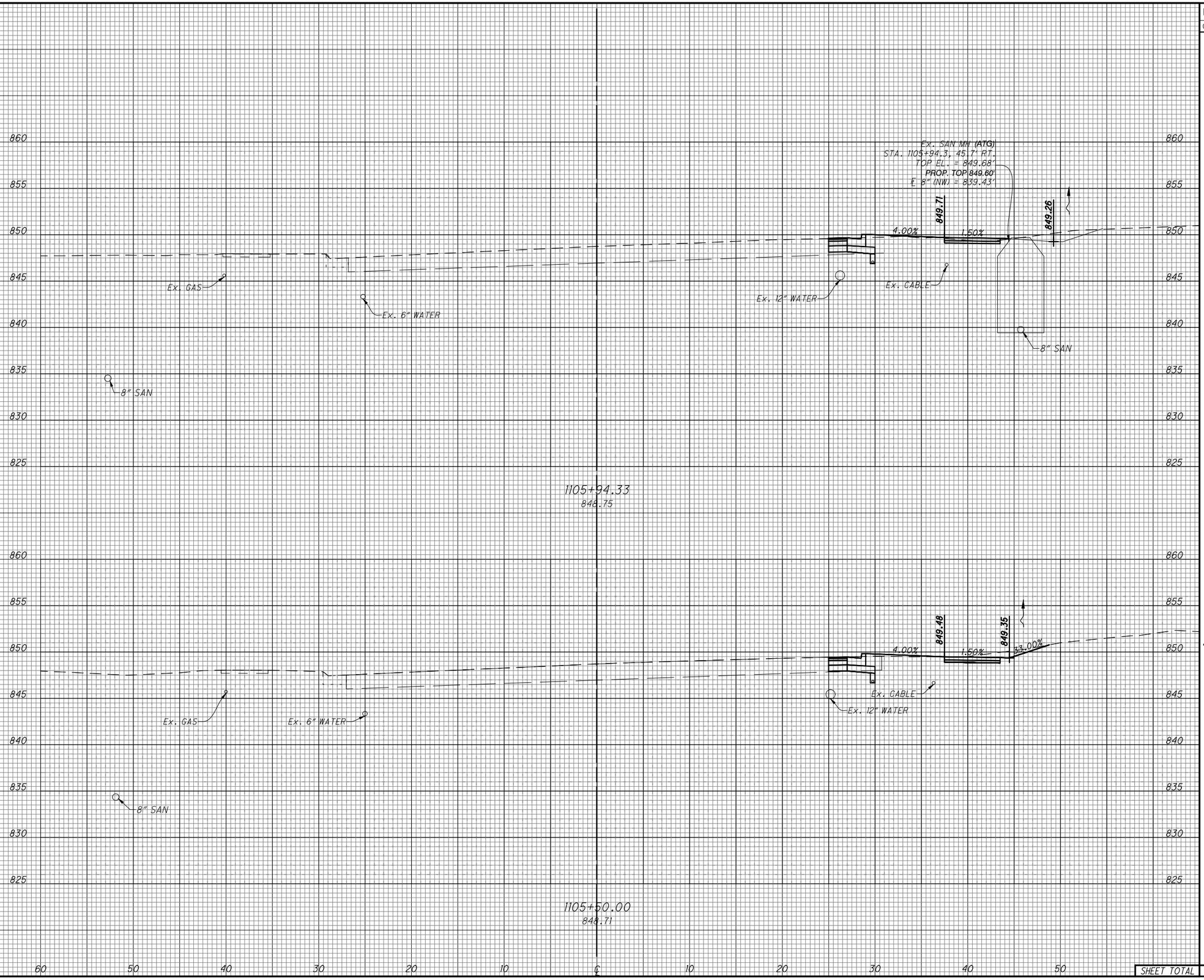
SEEDING	
END WIDTH	SQ. YDS.
11	
	82
22	
	62
33	144



END AREA		VOLUME	
CUT	FILL	CUT	FILL
18	4		
23	3		
SHEET TOTAL	41	7	75	9
		34	6
	41	3	

CROSS SECTIONS - "S.R. 48"
STA. 1105+50 TO STA. 1105+94.33

MOT SR 48 20.61

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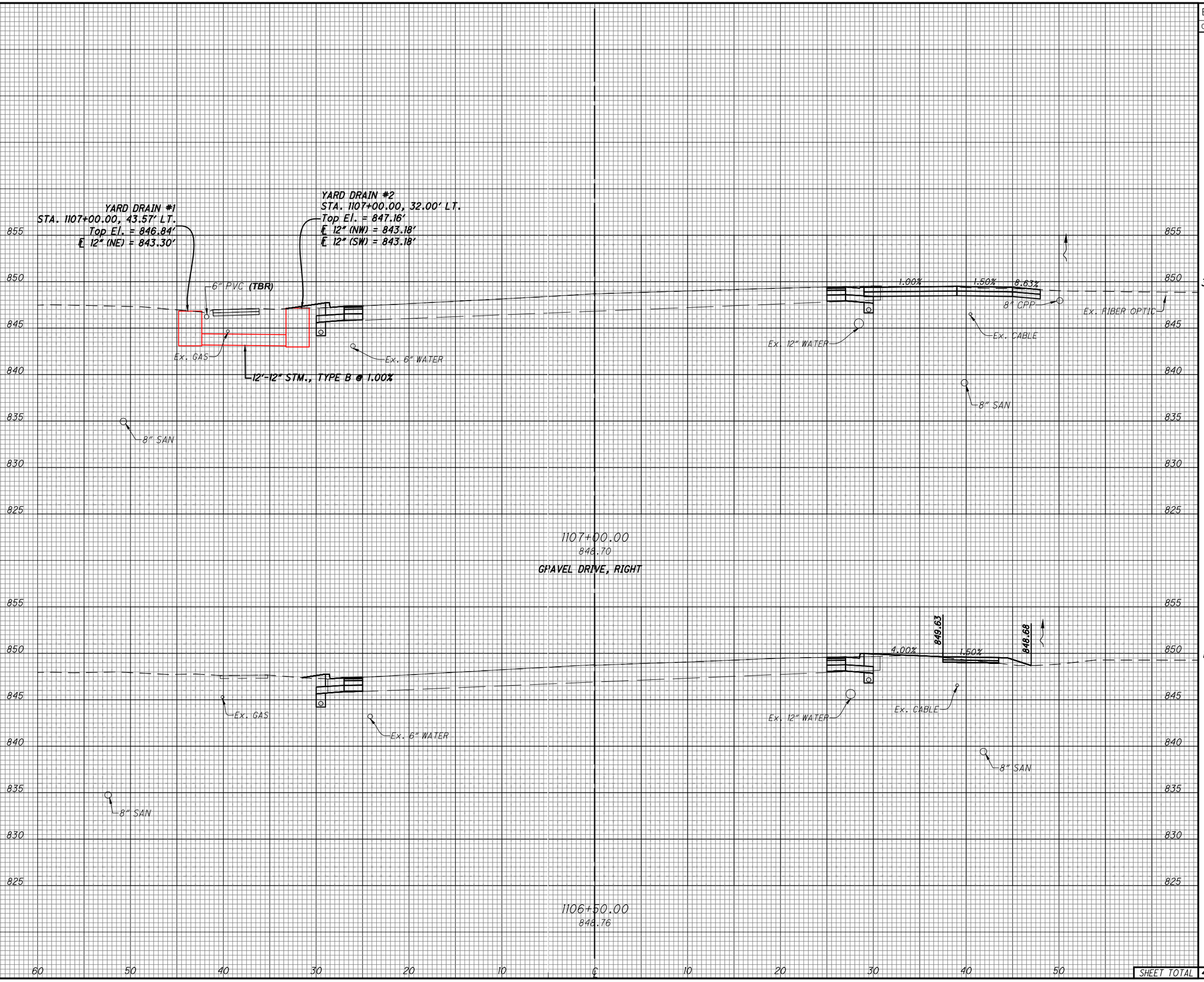
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.35
TOTAL	92

SEEDING	
END WIDTH	SQ. YDS.
4	52
14	79
18	131

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
30	2		
19	7	45	8
12	11		
SHEET TOTAL 49	9	83	19



CROSS SECTIONS - "S.R. 48"
STA. 1106+50.00 TO STA. 1107+00.00

MOT SR 48 20.61

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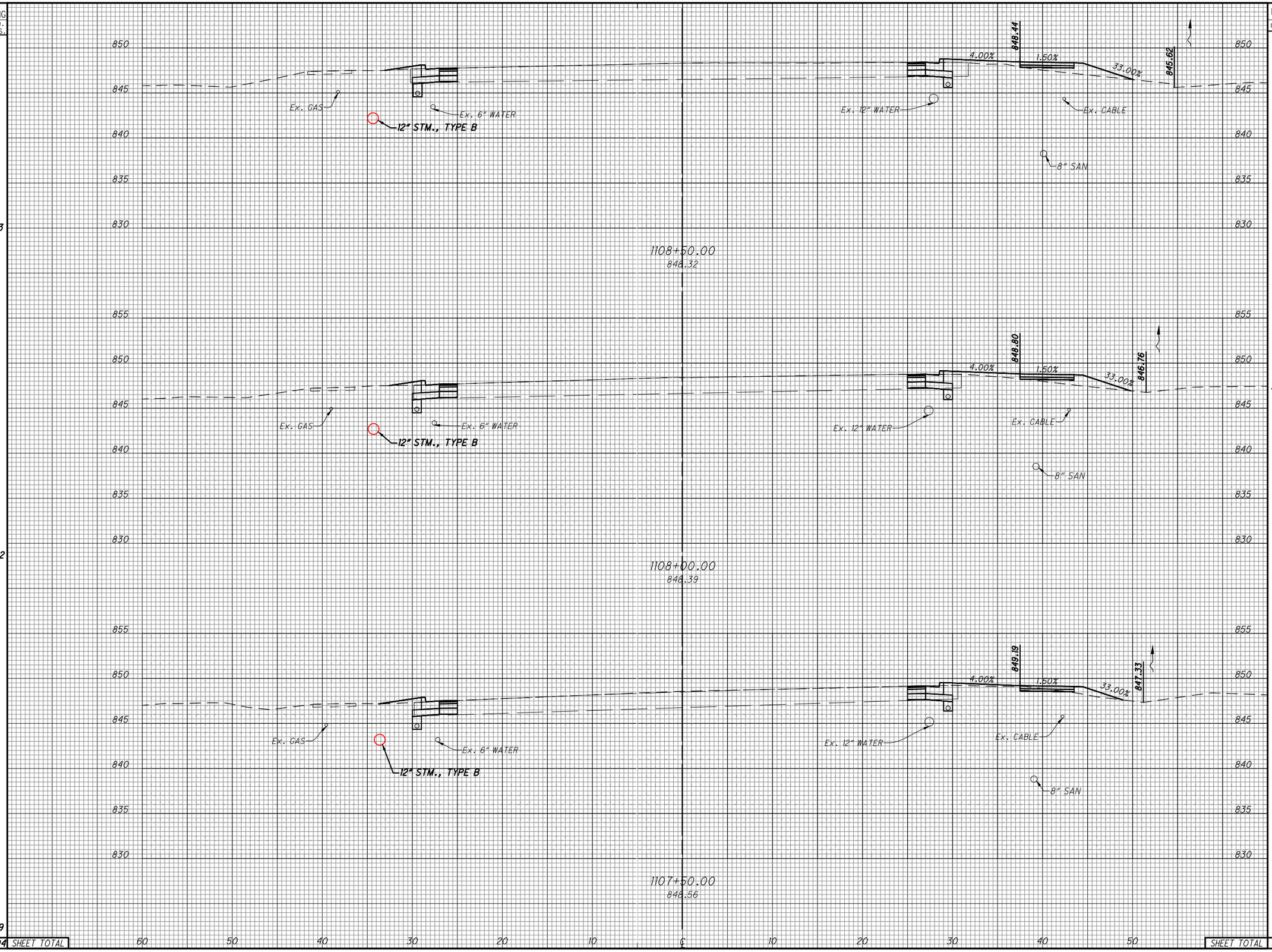
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.36
TOTAL	92

SEEDING	
END WIDTH	SQ. YDS.
21	
	113
20	
	112
20	
	69
61	294

SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
21	17		
		38	28
20	14		
		38	22
21	10		
		24	11
62	41	123	61

SHEET TOTAL

CROSS SECTIONS - "S.R. 48"
STA. 1107+50.00 TO STA. 1108+50.00

MOT SR 48 20.61

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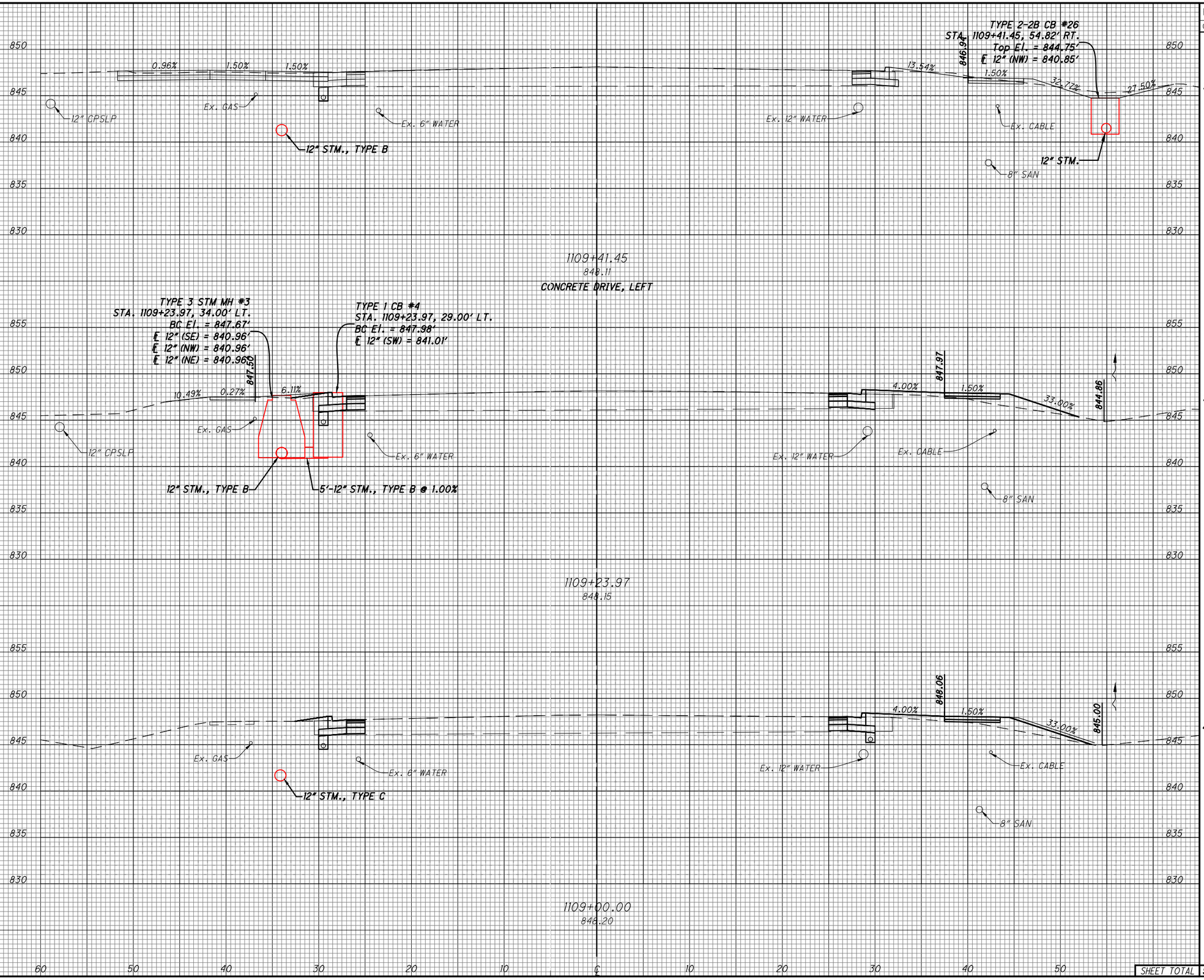
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.37
TOTAL	92

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
47		52	3		
	88			27	9
32		20	22		
	74	20	20	18	19
24					
	124			17	35
103	286 SHEET TOTAL	92	45	53	63



CROSS SECTIONS - "S.R. 48"
STA. 1109+00.00 TO STA. 1109+44.06

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.38
TOTAL	92

MOT SR 48 20.61

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SEEDING	
END WIDTH	SQ. YDS.
30	
	83
23	
	88
14	
	40
67	211

END AREA		VOLUME	
CUT	FILL	CUT	FILL
19	22		
21	16	21	20
49	17		
39	5		
16	2		
79	43	90	39

SHEET TOTAL

CROSS SECTIONS - "S.R. 48"
STA. 1109+55.95 TO STA. 1110+28.56

MOT SR 48 20.61

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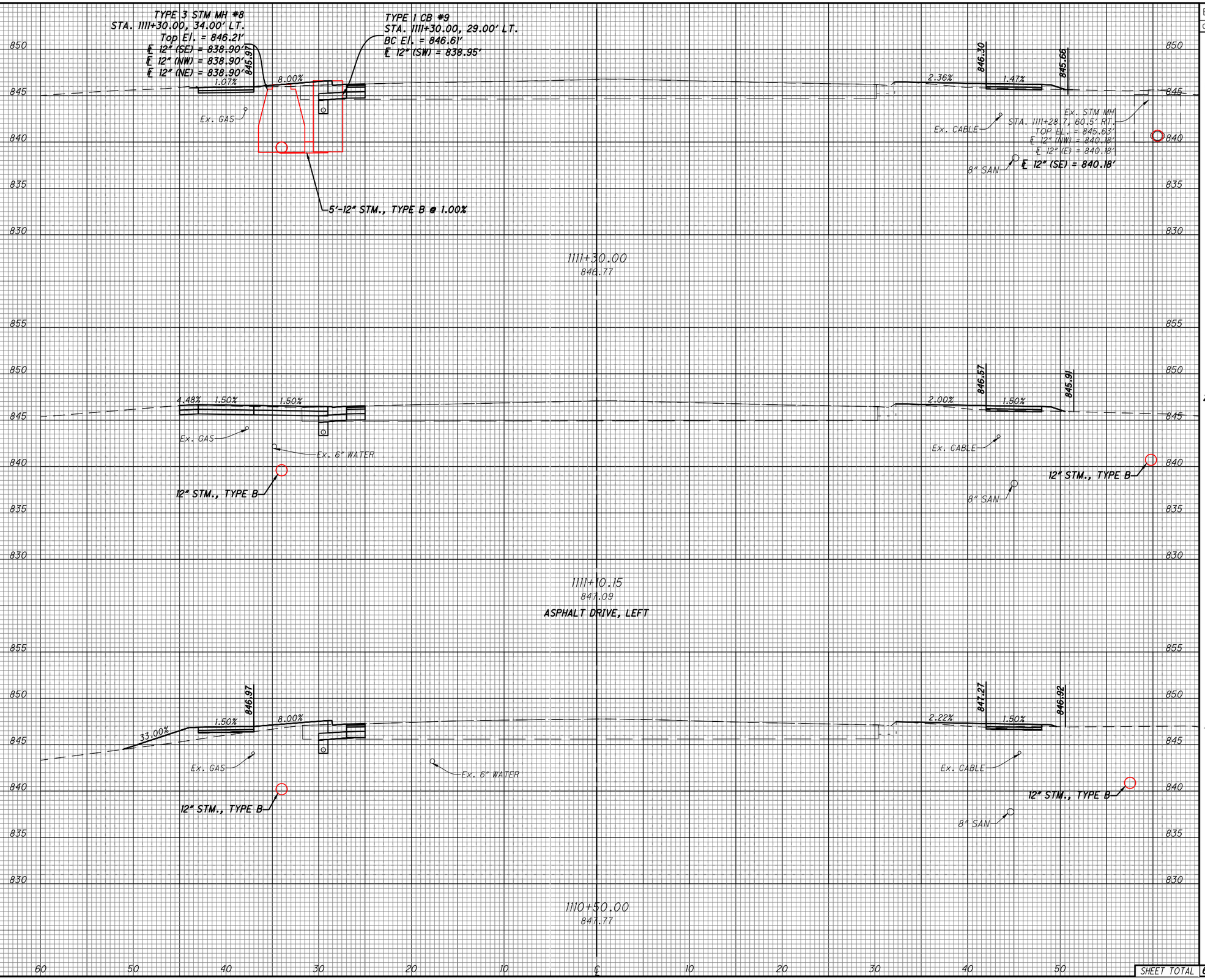
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.39
TOTAL	92

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
22	39	18	10	17	5
13		29	3		
28	138	17	17	51	23
69				14	16
63	246 SHEET TOTAL	64	30	82	44



MOT SR 48 20.61

CROSS SECTIONS - "S.R. 48" STA. 1110+50.00 TO STA. 1111+30.00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	REVIEWER	PROJECT ID	SHEET	TOTAL
LTH	AJH 1-16-2026	119822	P.40	92

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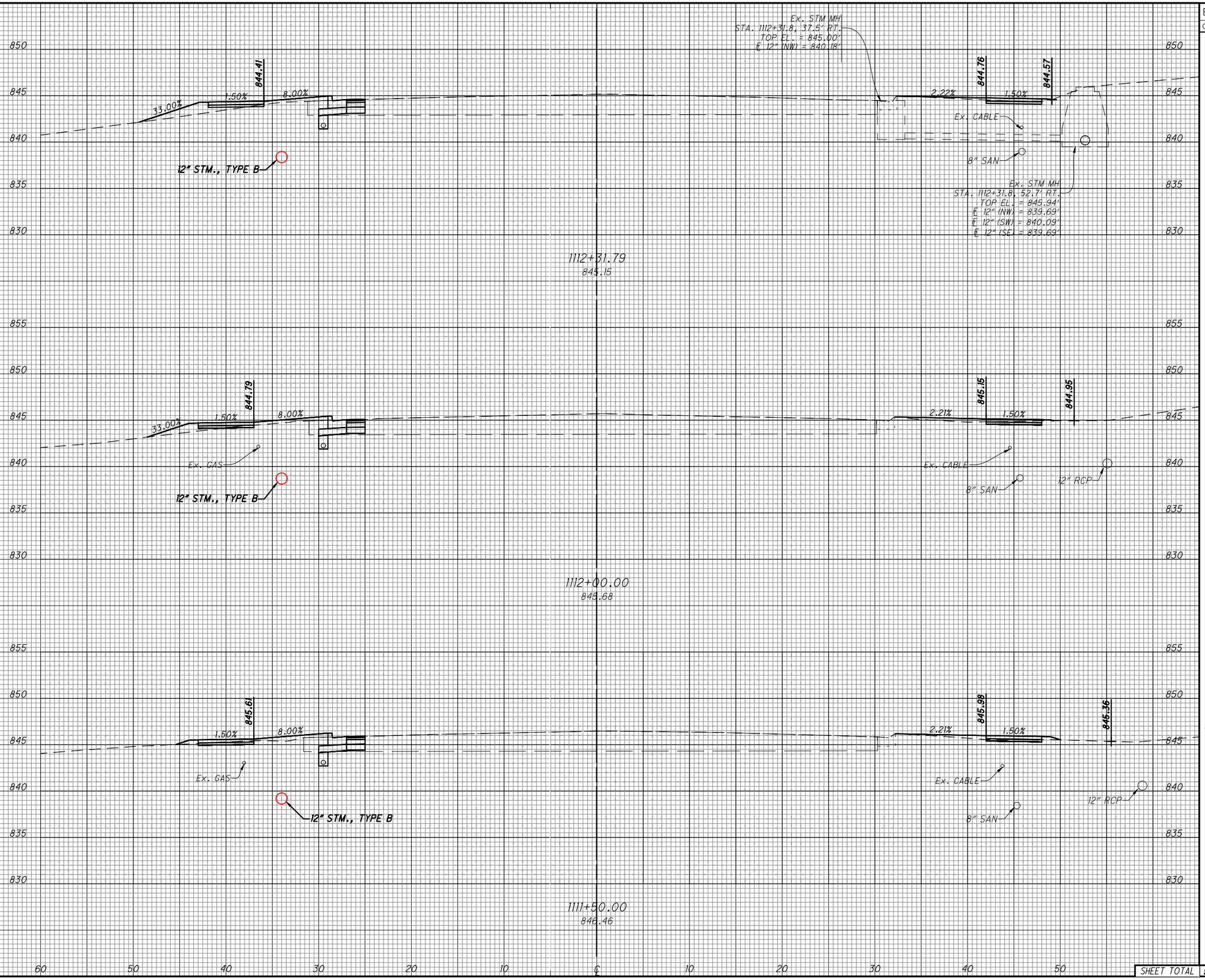
SEEDING	
END WIDTH	SQ. YDS.
30	
	99
26	
	136
23	
	51
79	286

SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
19	13		
		21	14
17	11		
		33	19
19	10		
		6	7
55	34	68	40

SHEET TOTAL

MOT SR 48 20.61

CROSS SECTIONS - "S.R. 48"
STA. 1111+50.00 TO STA. 1112+31.79

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.41
TOTAL	92

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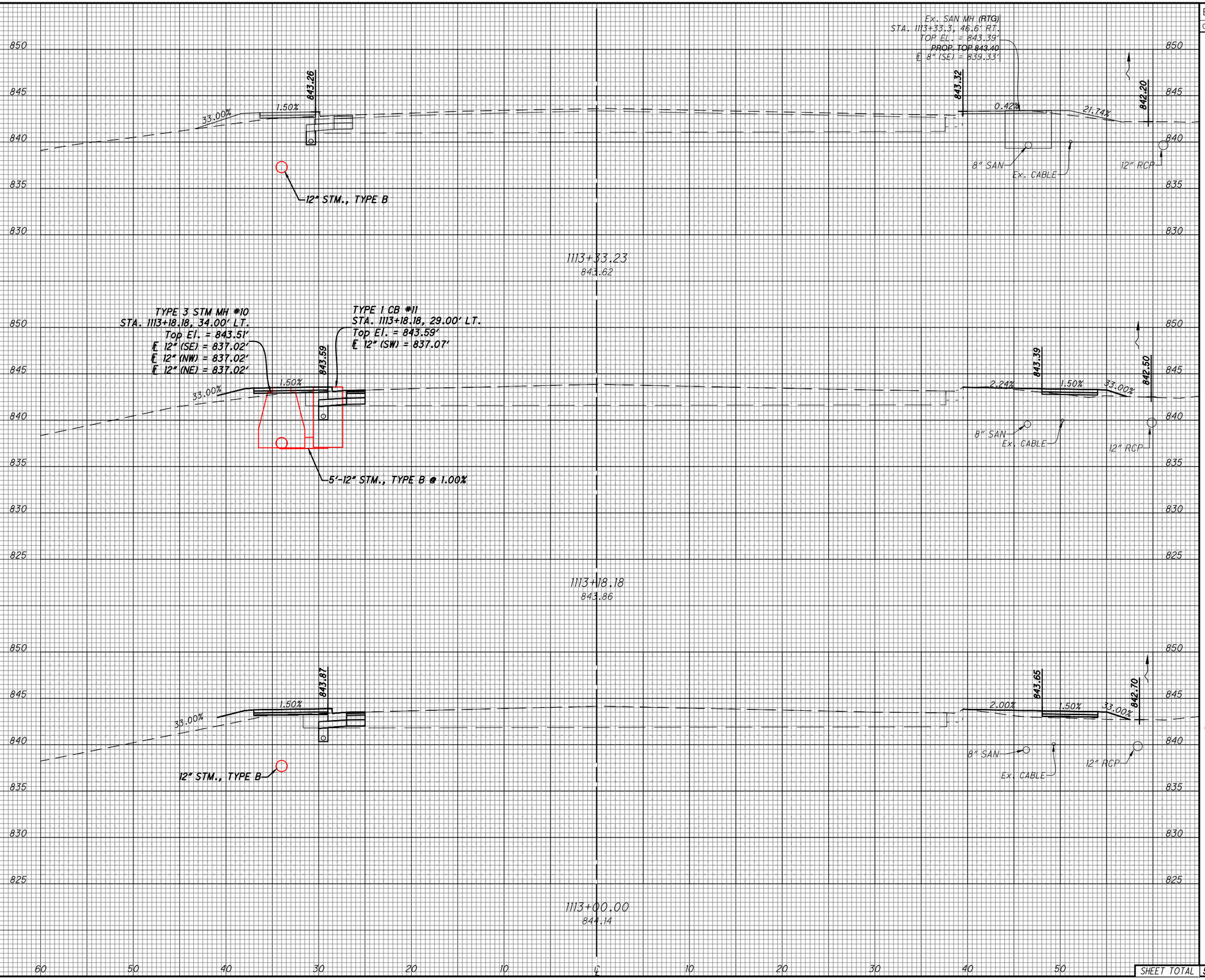
SEEDING	
END WIDTH	SQ. YDS.
16	
	30
21	
46	
25	
210	
62	286

SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
17	8		
		10	6
18	12		
		12	11
17	19		
		17	40
52	39	68	57

SHEET TOTAL

CROSS SECTIONS - "S.R. 48"
STA. 1113+00.00 TO STA. 1113+33.23

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.42
TOTAL	92

MOT SR 48 20.61

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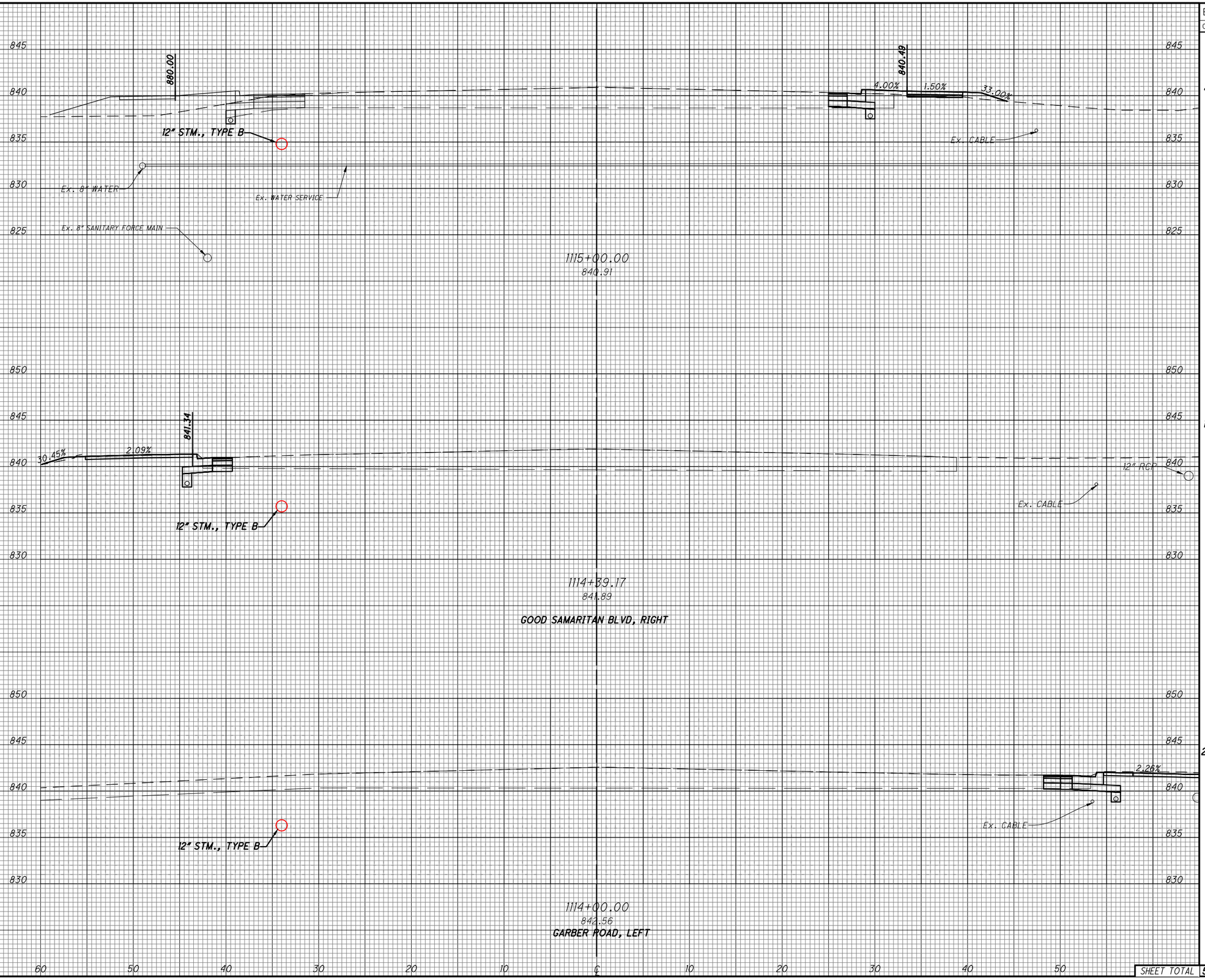
SEEDING	
END WIDTH	SQ. YDS.
24	96
5	
10	
0	
58	
29	164

SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
21	32		
		42	39
16	2		
		26	2
20	1		
		46	11
57	35	114	52

SHEET TOTAL

CROSS SECTIONS - "S.R. 48"
STA. 1114+00.00 TO STA. 1115+00.00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.43
TOTAL	92

MOT SR 48 20.61

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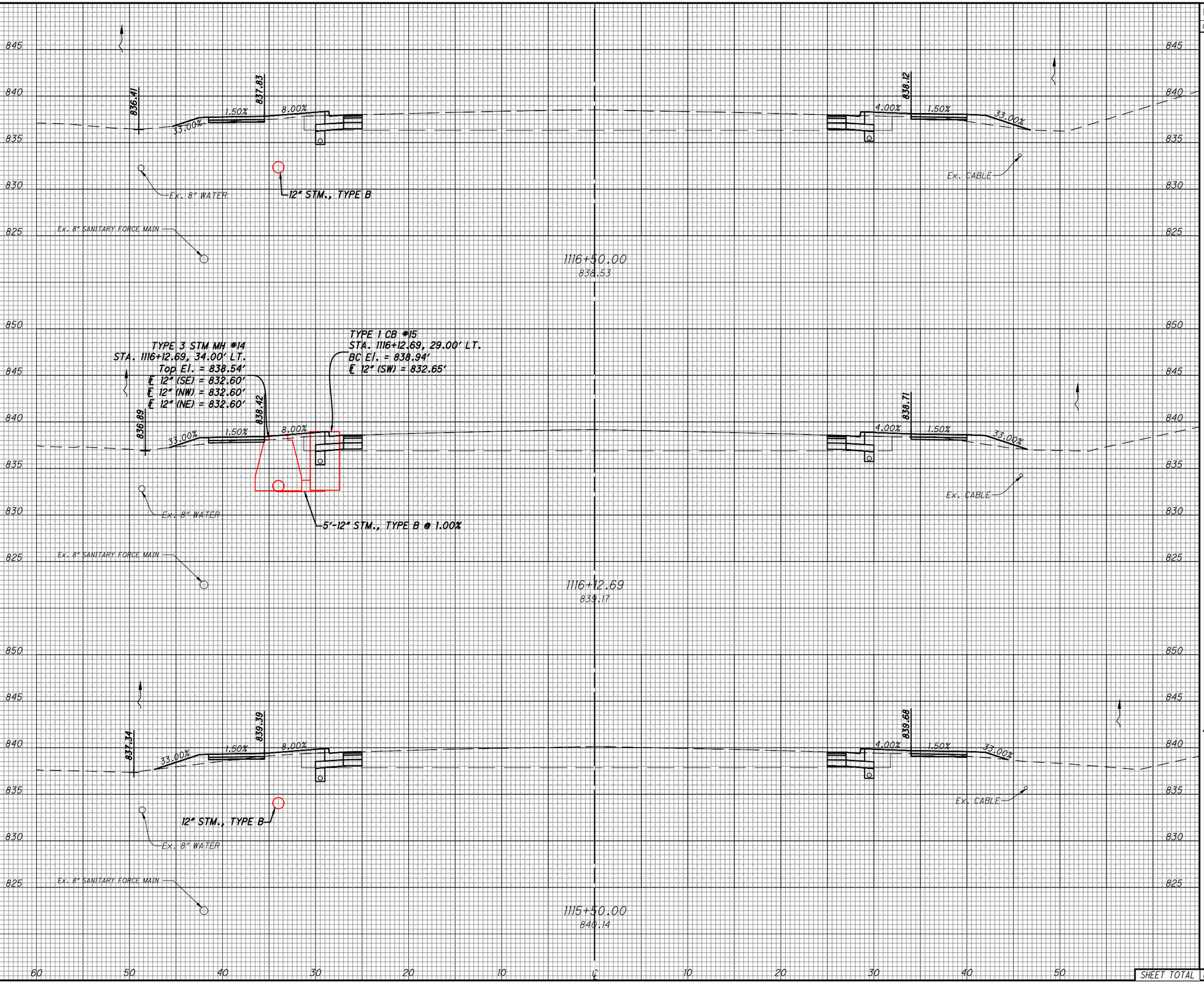
SEEDING END WIDTH	SEEDING SQ. YDS.
23	
	94
23	
	156
22	
	127
SHEET TOTAL	377



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
19	18		
21	18		
22	18		
		28	25
50	42		
40	47		
SHEET TOTAL	67	54	109	114

CROSS SECTIONS - "S.R. 48"
STA. 1115+50.00 TO STA. 1116+50.00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.44
TOTAL	92

MOT SR 48 20.61

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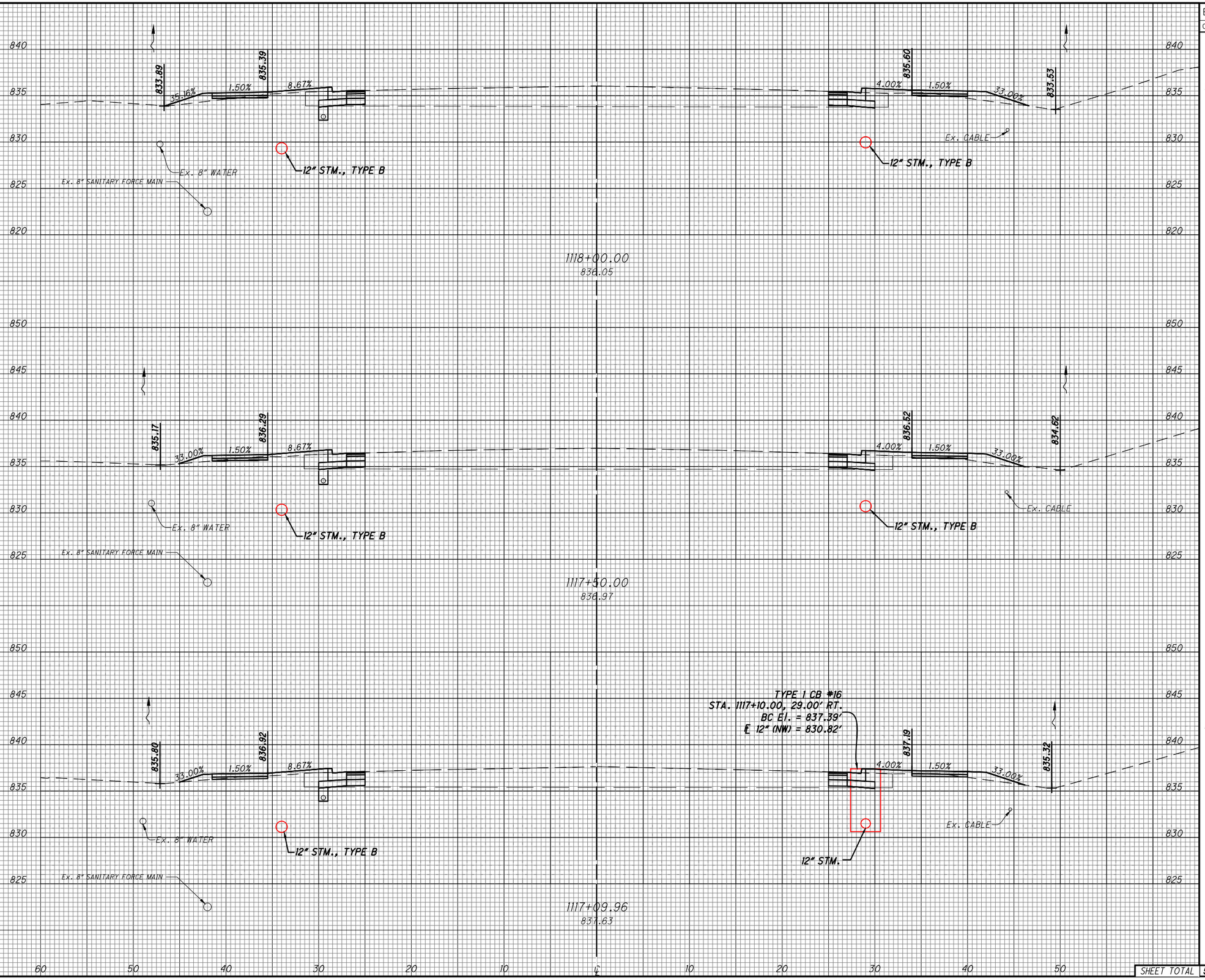
SEEDING	
END WIDTH	SQ. YDS.
24	
	126
22	
	96
	147
68	369

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
17	19		
19	18	33	34
18	17	27	26
19	18	41	39
54	54	101	99

SHEET TOTAL



MOT SR 48 20.61

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CROSS SECTIONS - "S.R. 48"
STA. 1117+09.96 TO STA. 1118+00.00

DESIGN AGENCY
CHOICE ONE ENGINEERING

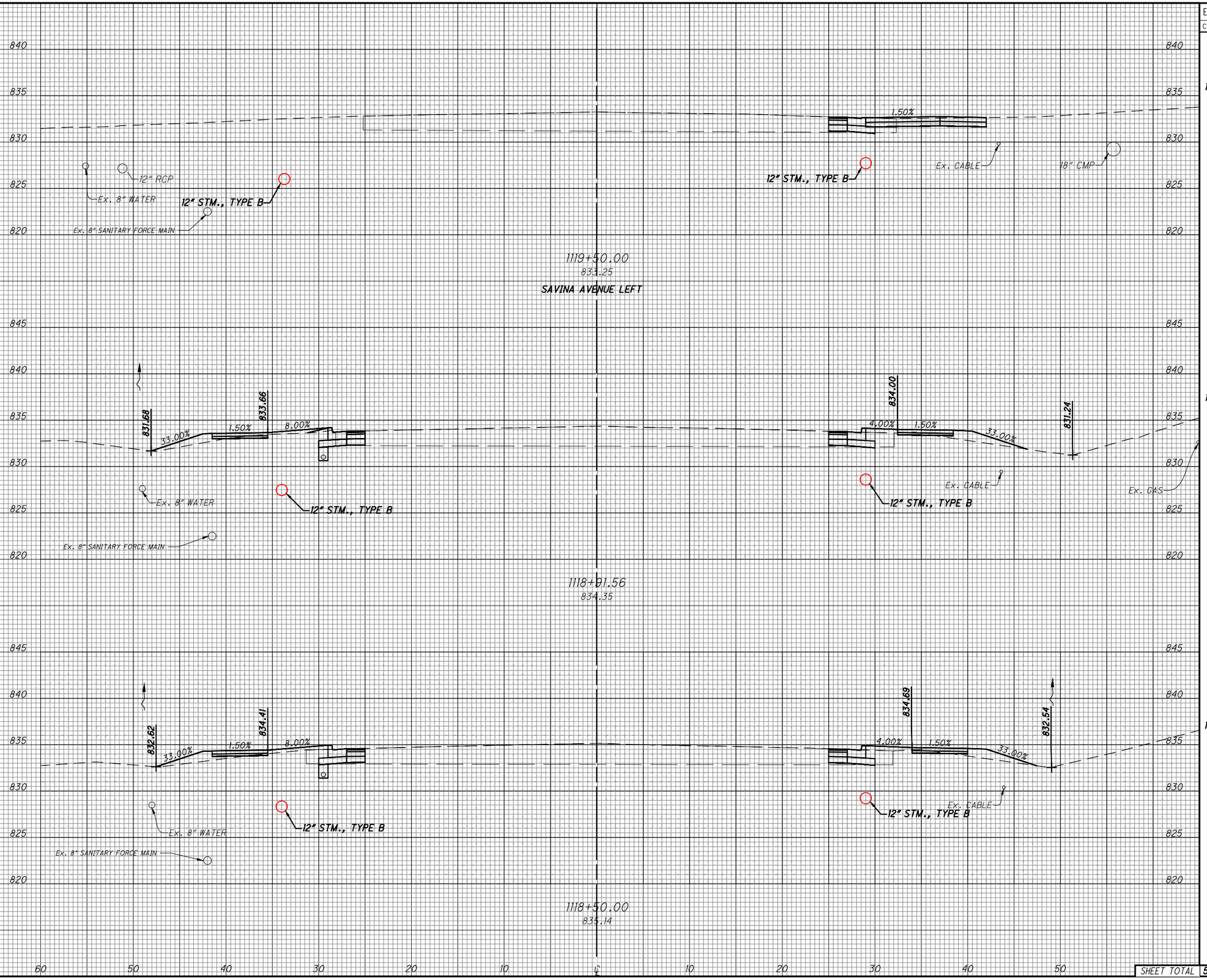
DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.45
TOTAL	92

SEEDING	
END WIDTH	SQ. YDS.
0	
	81
25	
	117
26	
	137
51	335

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
18	0		
		37	20
16	18		
		26	30
18	21		
		32	37
52	39	95	87

SHEET TOTAL



MOT SR 48 20.61

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CROSS SECTIONS - "S.R. 48" STA. 1118+50.00 TO STA. 1119+50.00

DESIGN AGENCY

CHOICE ONE ENGINEERING

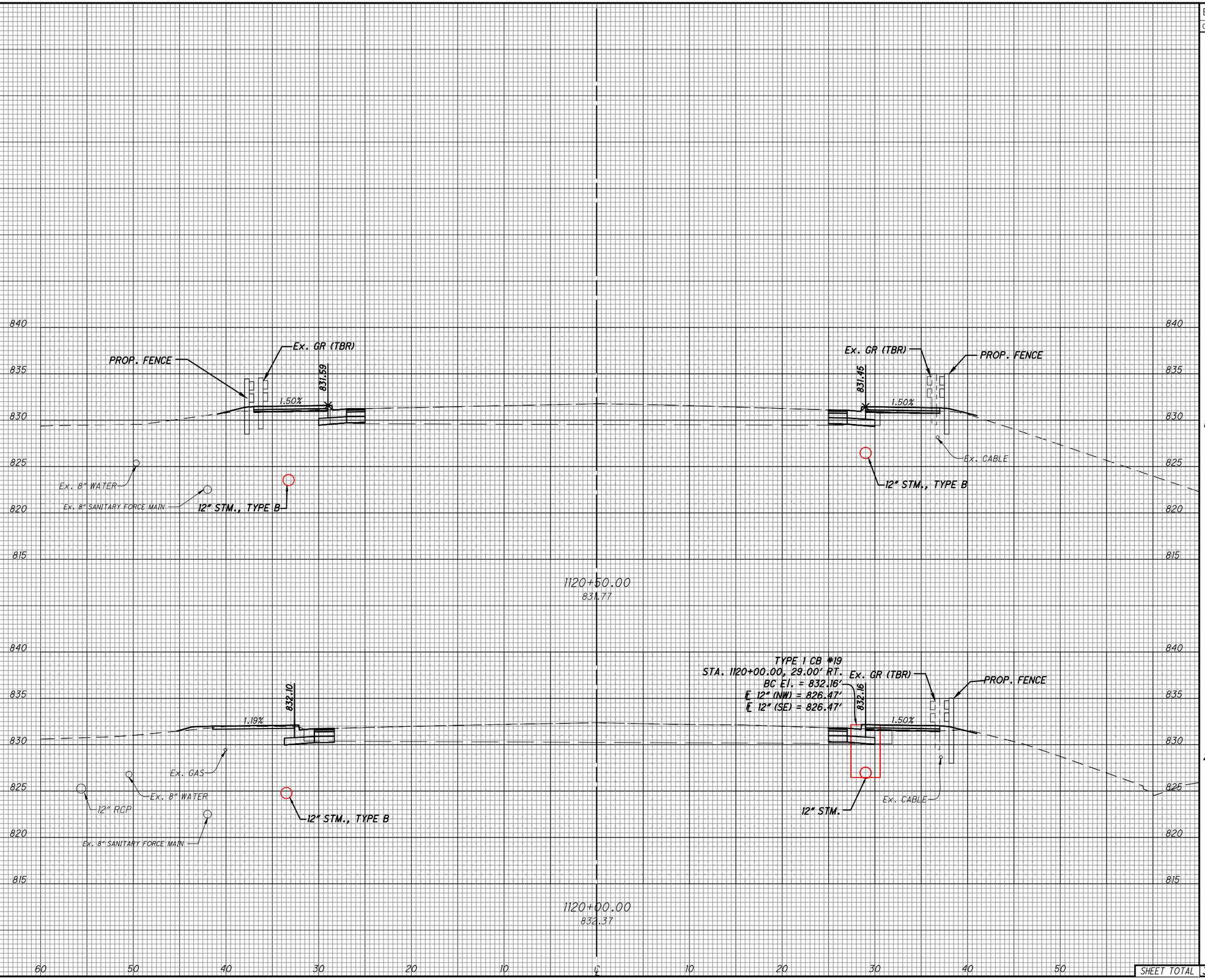
DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.46
TOTAL	92

SEEDING	
END WIDTH	SQ. YDS.
10	
46	
7	
19	
17	65

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
18	5		
20	6		
35	10		
35	6		
38	11	70	16

SHEET TOTAL



CROSS SECTIONS - "S.R. 48" STA. 1120+00.00 TO STA. 1120+50.00

MOT SR 48 20.61

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DESIGN AGENCY

CHOICE ONE ENGINEERING

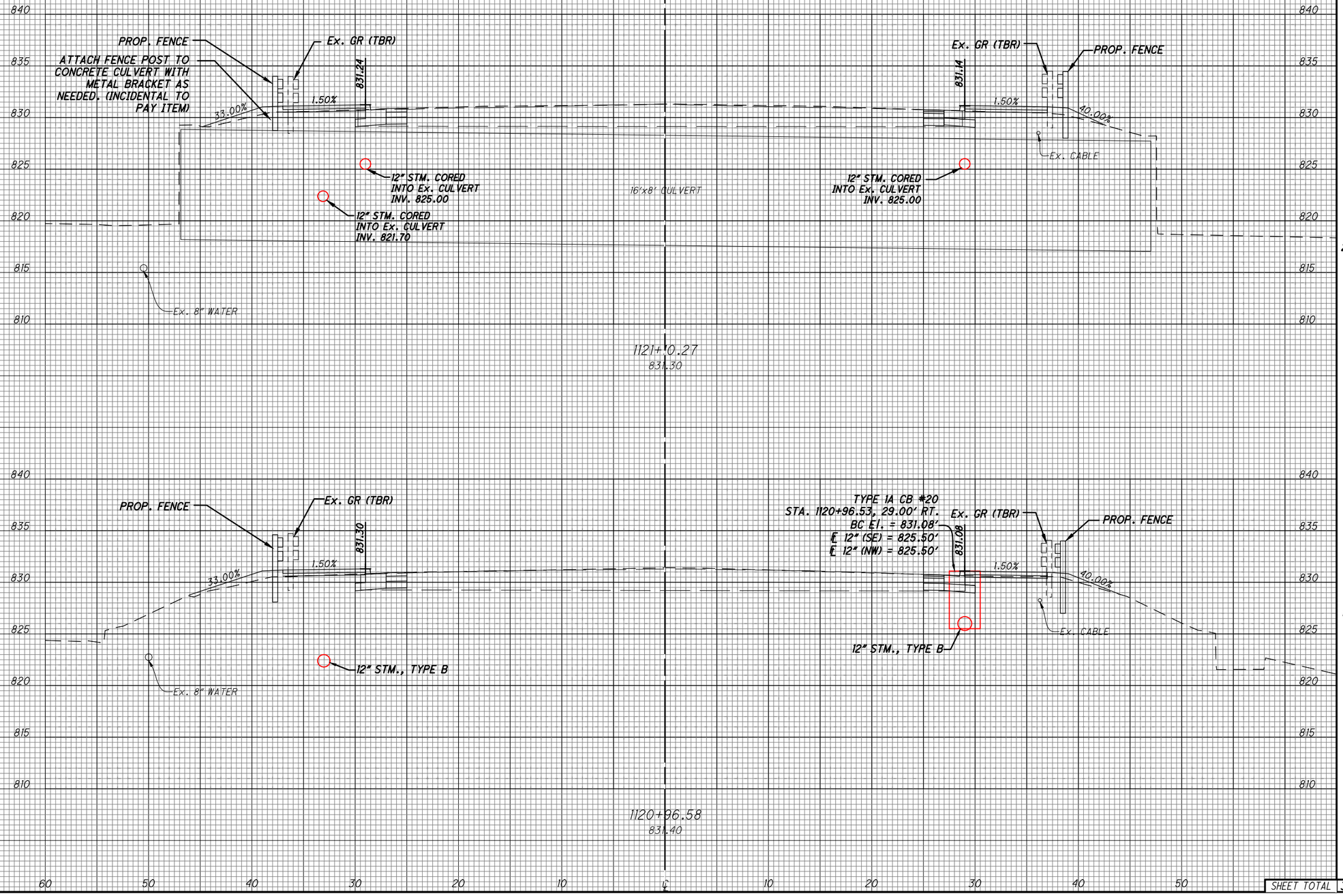
DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.47
TOTAL	92

SEEDING	
END WIDTH	SQ. YDS.
15	
25	
17	
69	
32	94

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
22	18		
16	9		
10	4		
29	12		
38	27	39	16

SHEET TOTAL



MOT SR 48 20.61

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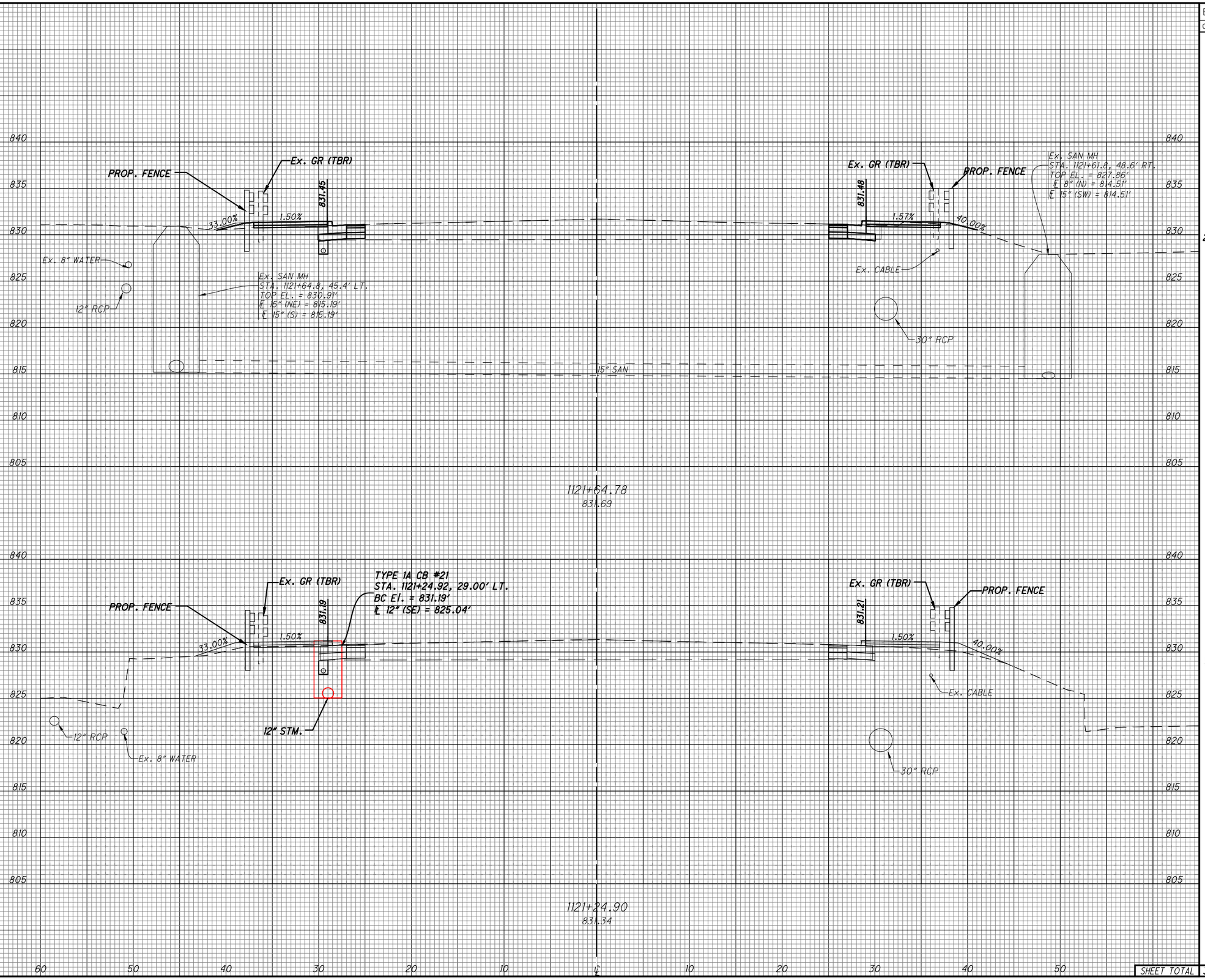
CROSS SECTIONS - "S.R. 48" STA. 1120+96.58 TO STA. 1121+10.27

DESIGN AGENCY

CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.48
TOTAL	92

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9	53	20	5	28	9
15	25	18	8	11	4
24	78	SHEET TOTAL	38	13	39	13



MOT SR 48 20.61

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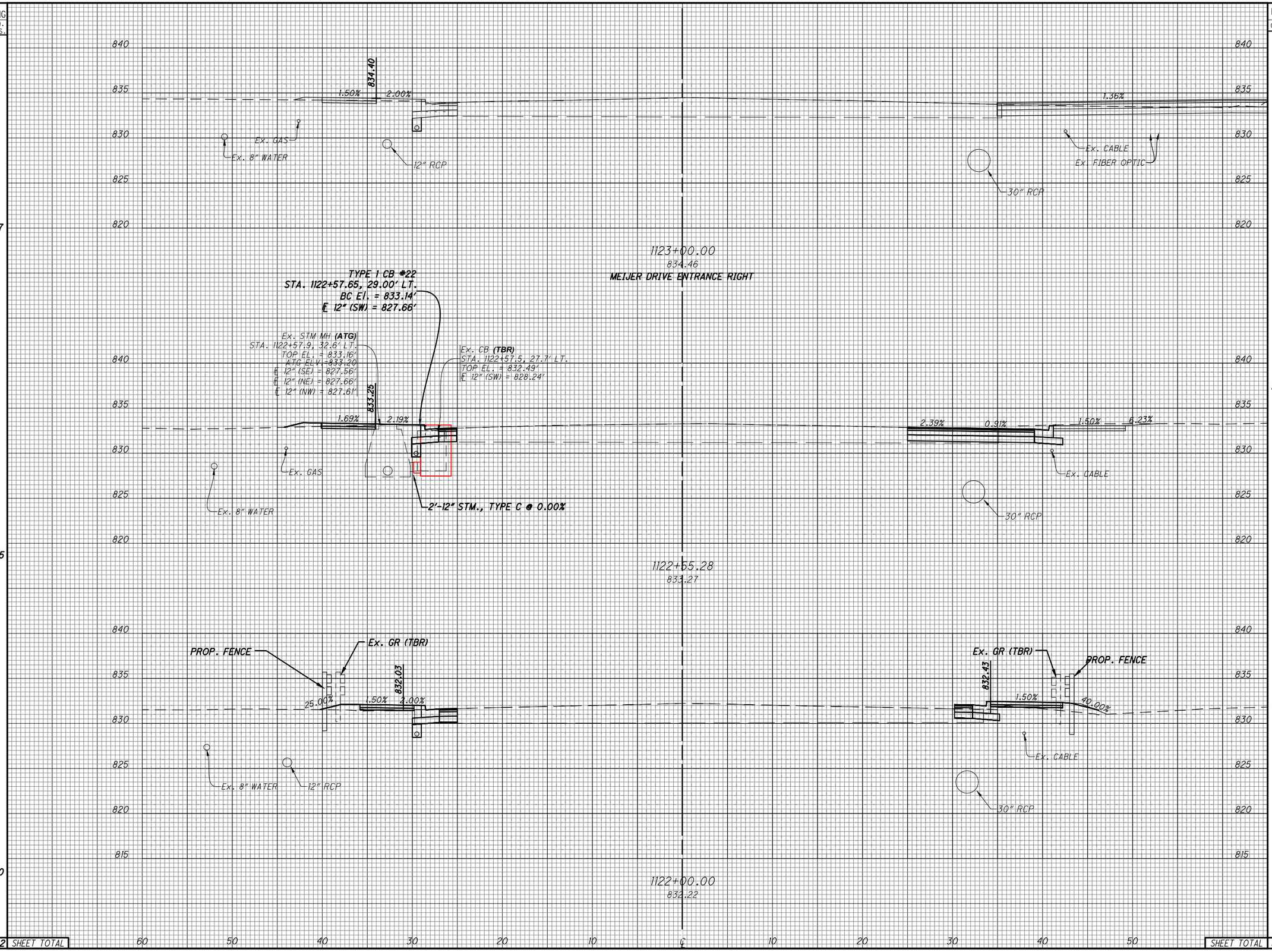
CROSS SECTIONS - "S.R. 48"
STA. 1121+24.90 TO STA. 1121+64.78

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.49
TOTAL	92

SEEDING	
END WIDTH	SQ. YDS.
14	
	67
13	
	75
12	
	40
39	182

SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
13	5		
		24	7
22	4		
		42	14
14	10		
		22	9
54	19	97	30

SHEET TOTAL

CROSS SECTIONS - "S.R. 48"
STA. 1122+00.00 TO STA. 1123+00.00

MOT SR 48 20.61

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.50
TOTAL	92

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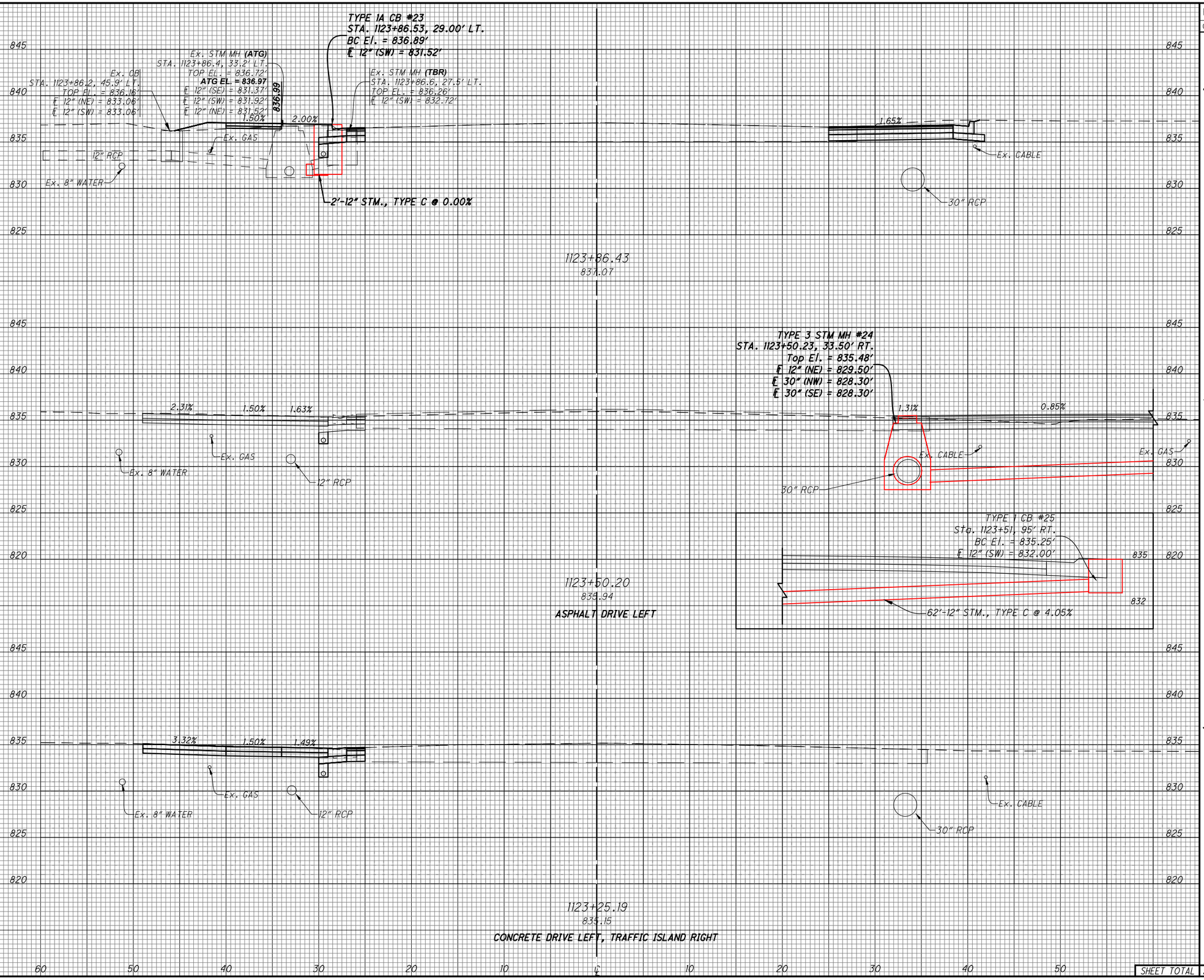
SEEDING	
END WIDTH	SQ. YDS.
11	
	17
0	
0	
	0
0	
	20
11	37

SHEET TOTAL



SHEET TOTAL	11	37

END AREA		VOLUME	
CUT	FILL	CUT	FILL
29	5		
		36	3
39	0		
41	0		
30	0		
20	2		
98	5	97	5

SHEET TOTAL

CROSS SECTIONS - "S.R. 48"
STA.123+25.19 TO STA. 1123+86.43

MOT SR 48 20.61

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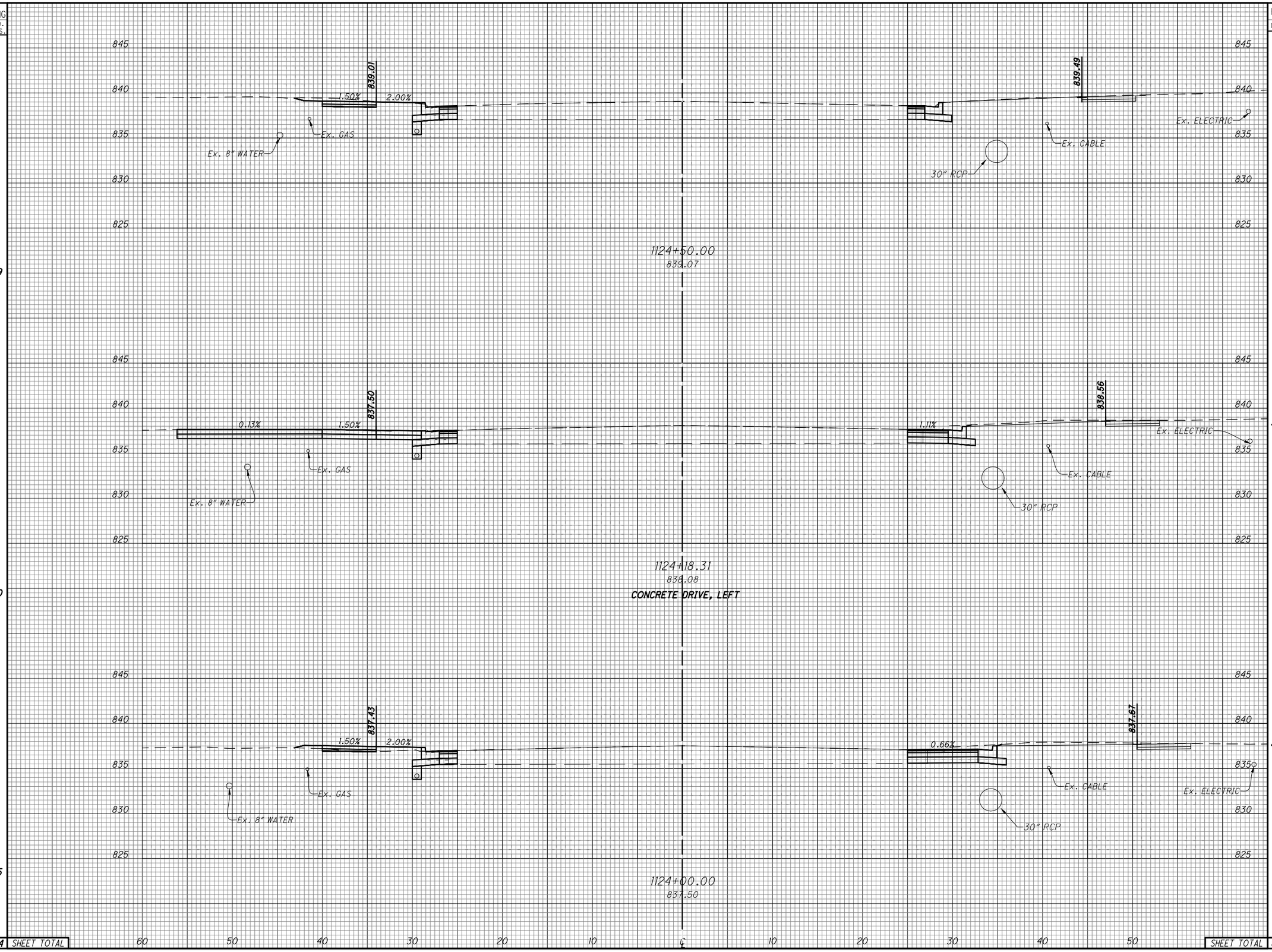
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.51
TOTAL	92

SEEDING	
END WIDTH	SQ. YDS.
10	
	19
1	
	10
9	
	15
20	44

END AREA		VOLUME	
CUT	FILL	CUT	FILL
19	4		
		36	3
42	2		
		21	2
21	5		
		13	3
82	11	70	8



SHEET TOTAL

SHEET TOTAL

MOT SR 48 20.61

CROSS SECTIONS - "S.R. 48"
STA. 1124+00.00 TO STA. 1124+50.00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.52
TOTAL	92

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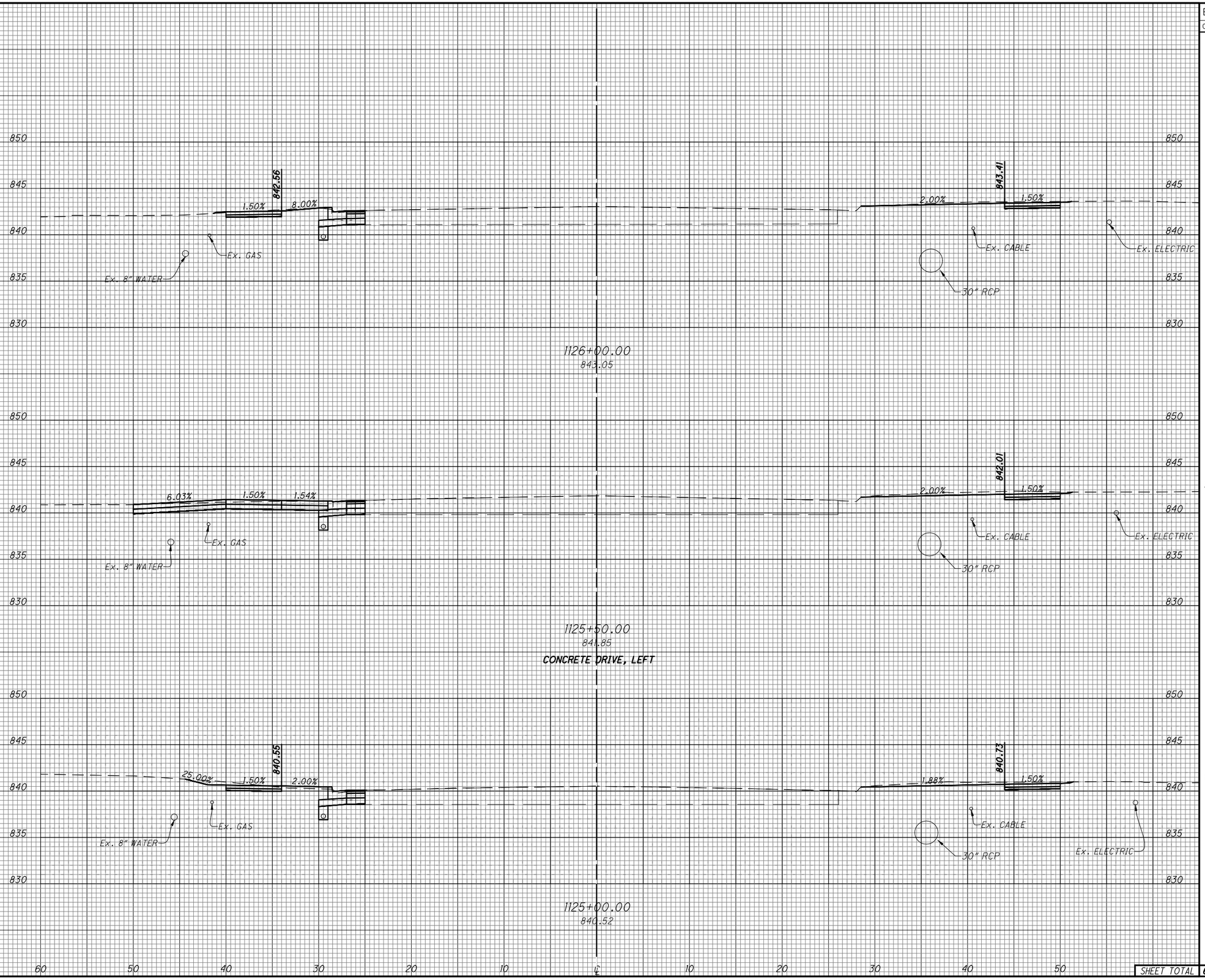
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
24		18	2		
	116			46	1
18		32	0		
	124			44	2
	27	15	2		
	103			32	5
69	343 SHEET TOTAL	65	4	122	8



CROSS SECTIONS - "S.R. 48"
STA.1125+00.00 TO STA. 1126+00.00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.53
TOTAL	92

MOT SR 48 20.61

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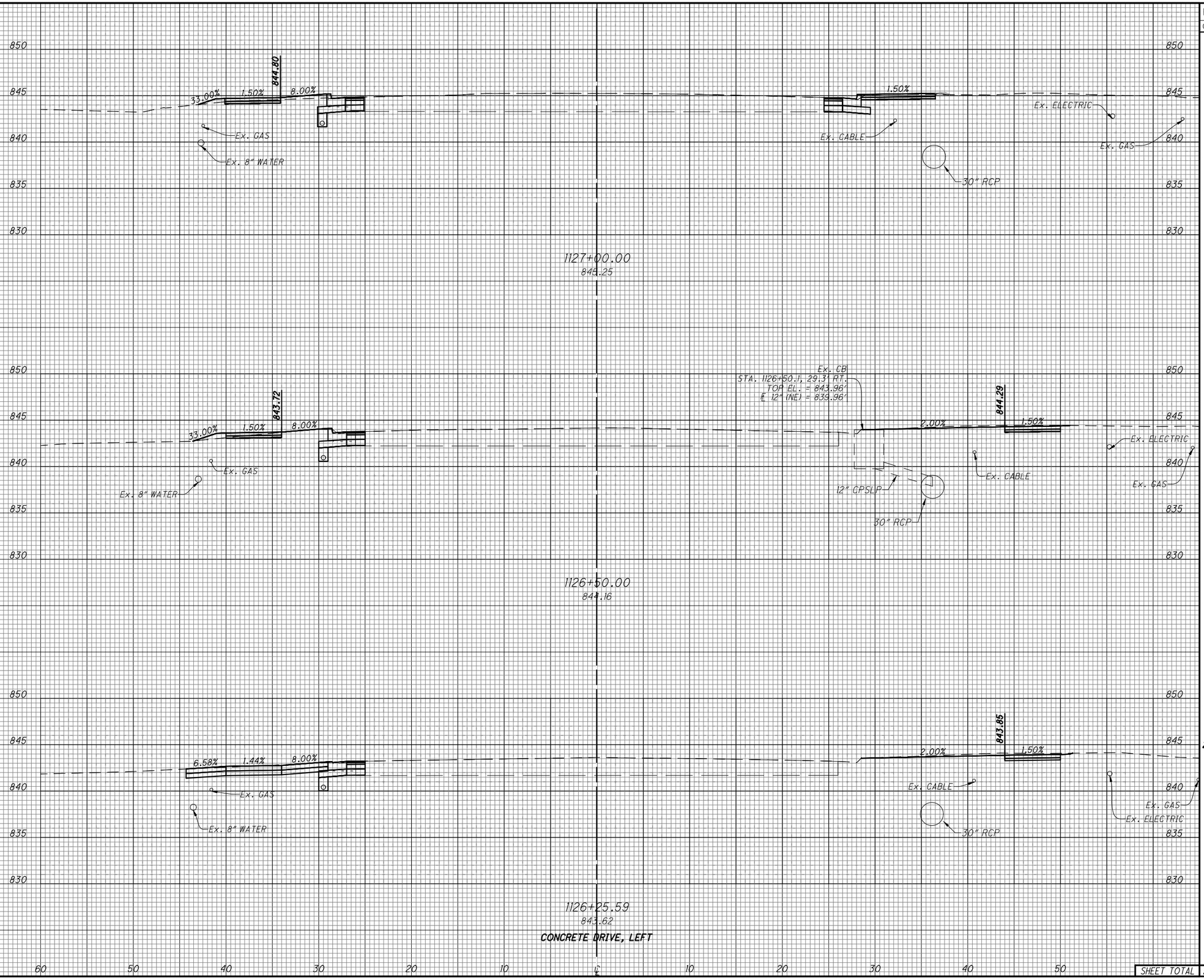
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
15	108	15	5	24	7
24	56	11	3	17	1
18	59	27	0	22	1
57	223 SHEET TOTAL	53	8	63	9



MOT SR 48 20.61

CROSS SECTIONS - "S.R 48"
STA. 1126+25.59 TO STA. 1127+00.00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.54
TOTAL	92

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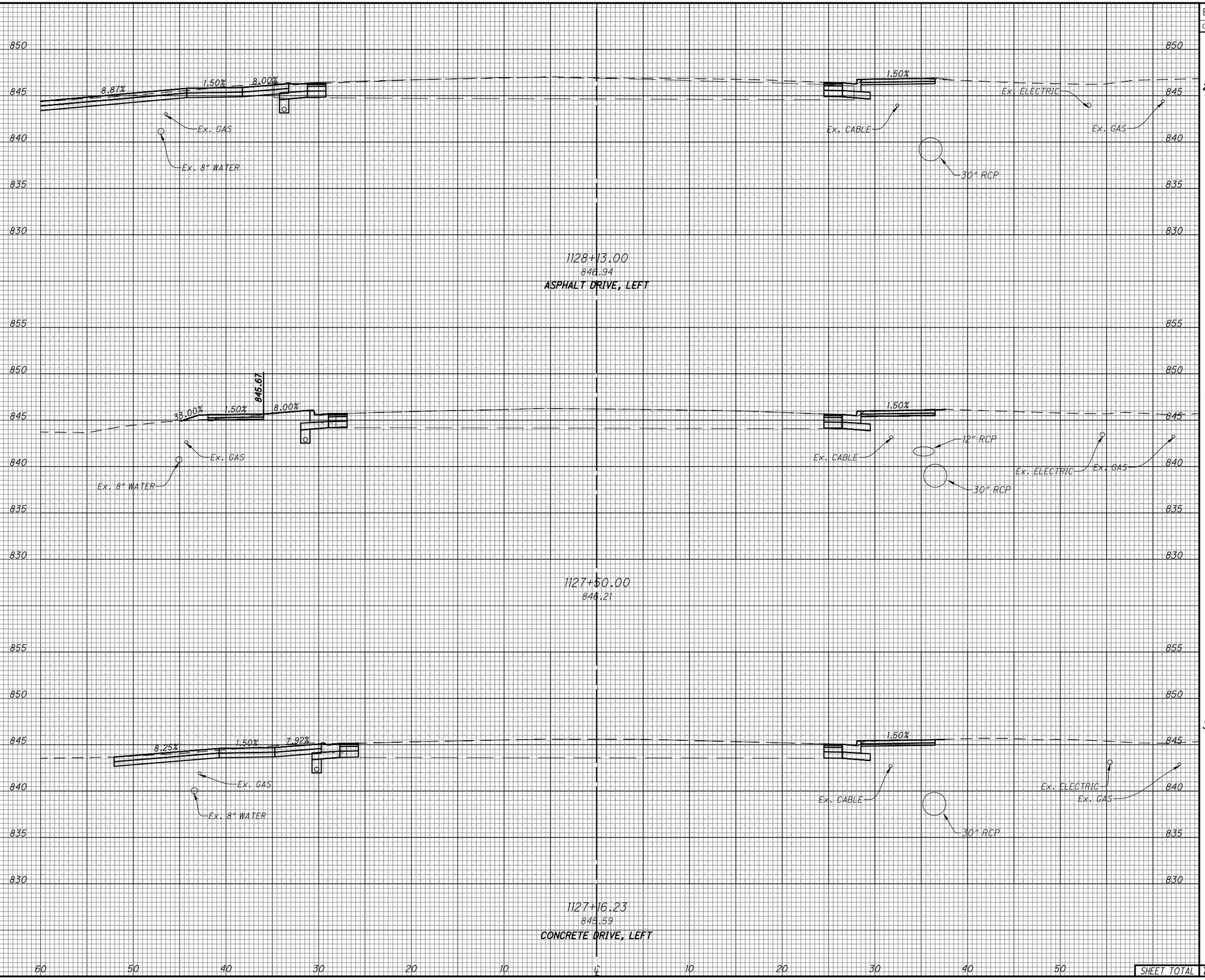
SEEDING	
END WIDTH	SQ. YDS.
3	
	46
10	
	4
2	
	16
15	66

SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
20	1		
		41	5
15	3		
		33	3
38	1		
		16	2
SHEET TOTAL 73	5	90	10

CROSS SECTIONS - "S.R. 48"
STA. 1127+16.23 TO STA. 1128+13.00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.55
TOTAL	92

MOT SR 48 20.61

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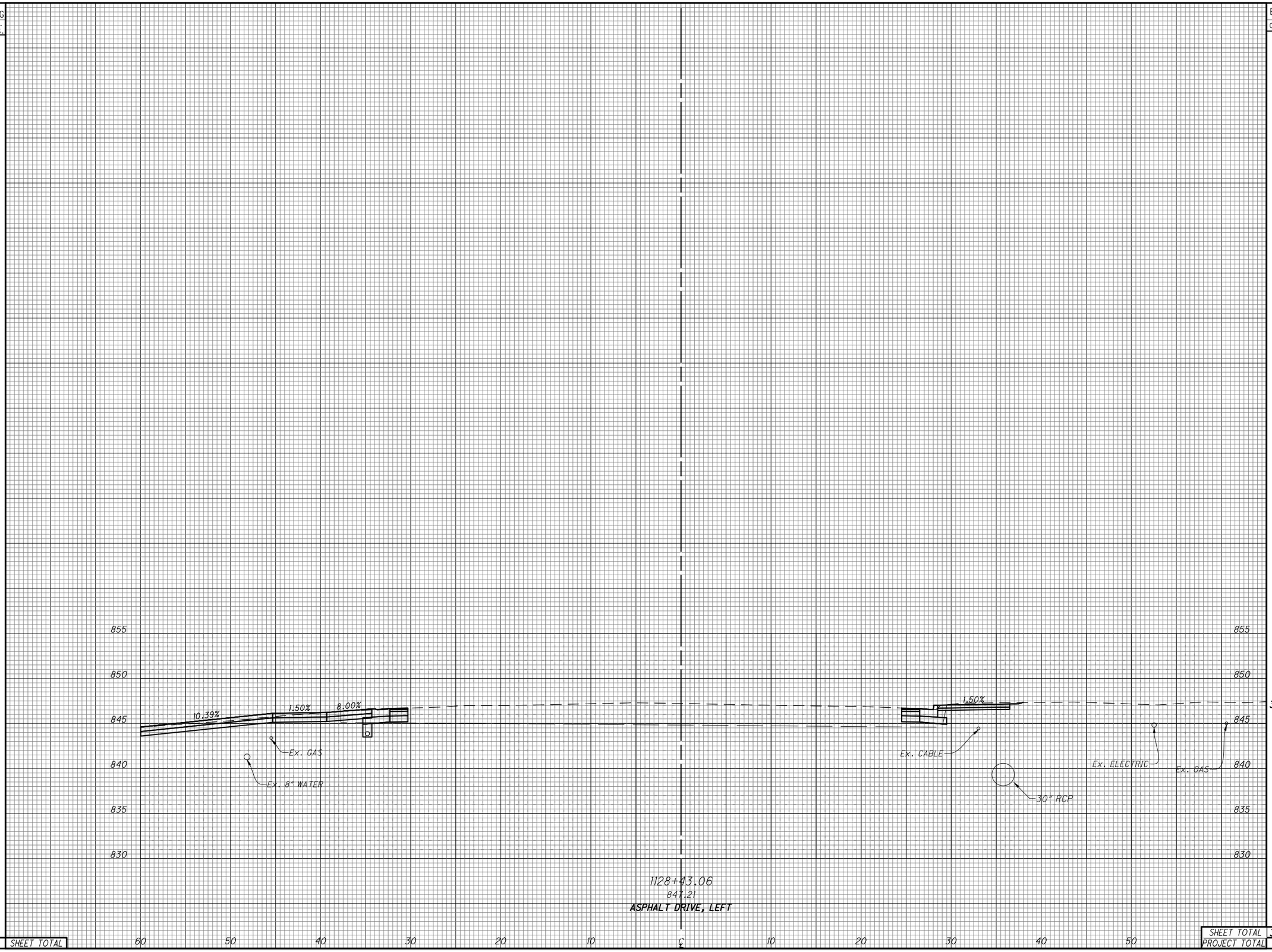
SEEDING	
END WIDTH	SQ. YDS.
2	9
2	9

END AREA		VOLUME	
CUT	FILL	CUT	FILL
37	1	32	1
37	1	32	1



1128+43.06
847.21
ASPHALT DRIVE, LEFT

SHEET TOTAL	37	1	32	1
PROJECT TOTAL	1786		800	

CROSS SECTIONS - "S.R. 48"
STA. 1128+43.06

MOT SR 48 20.61

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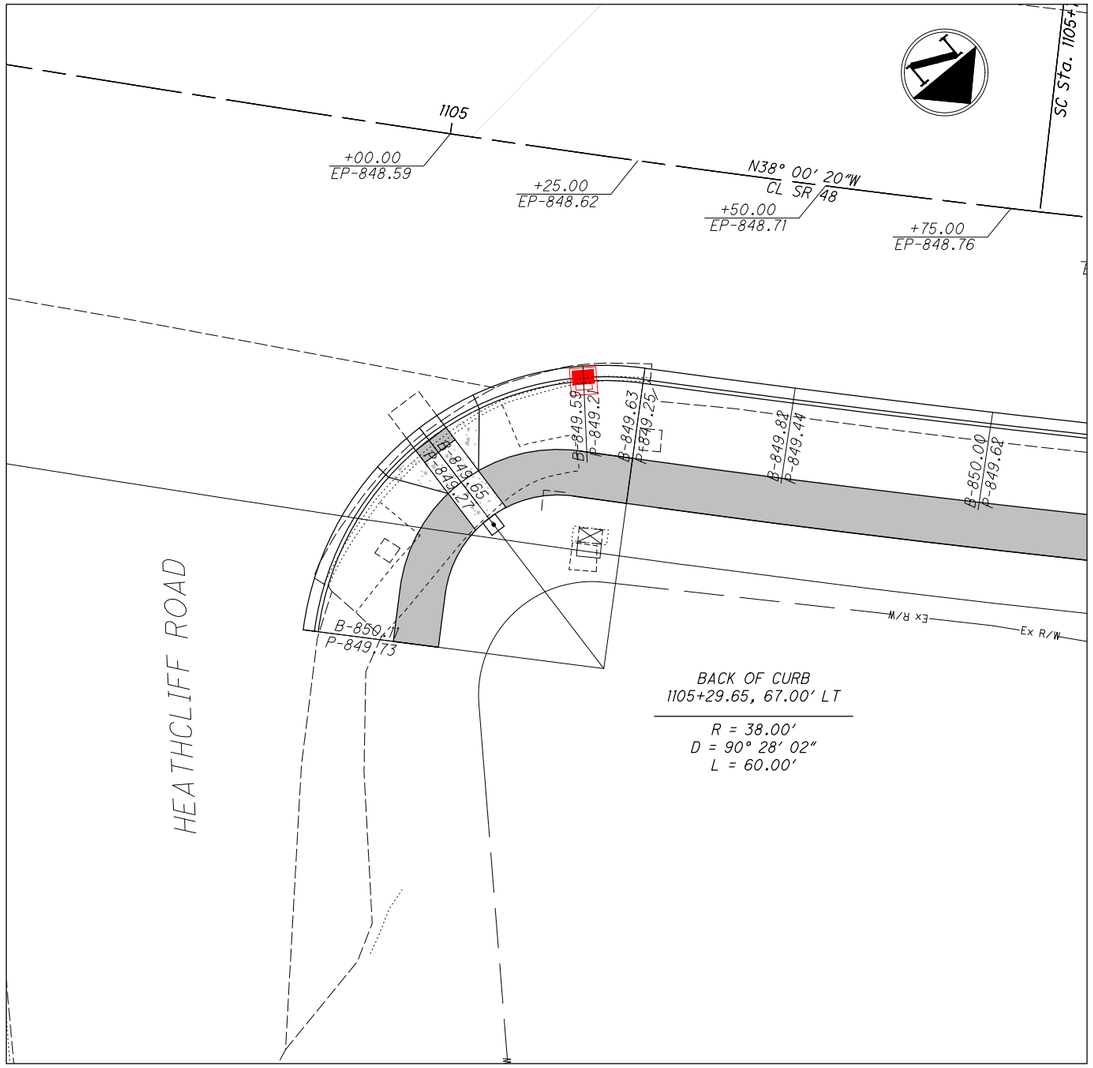
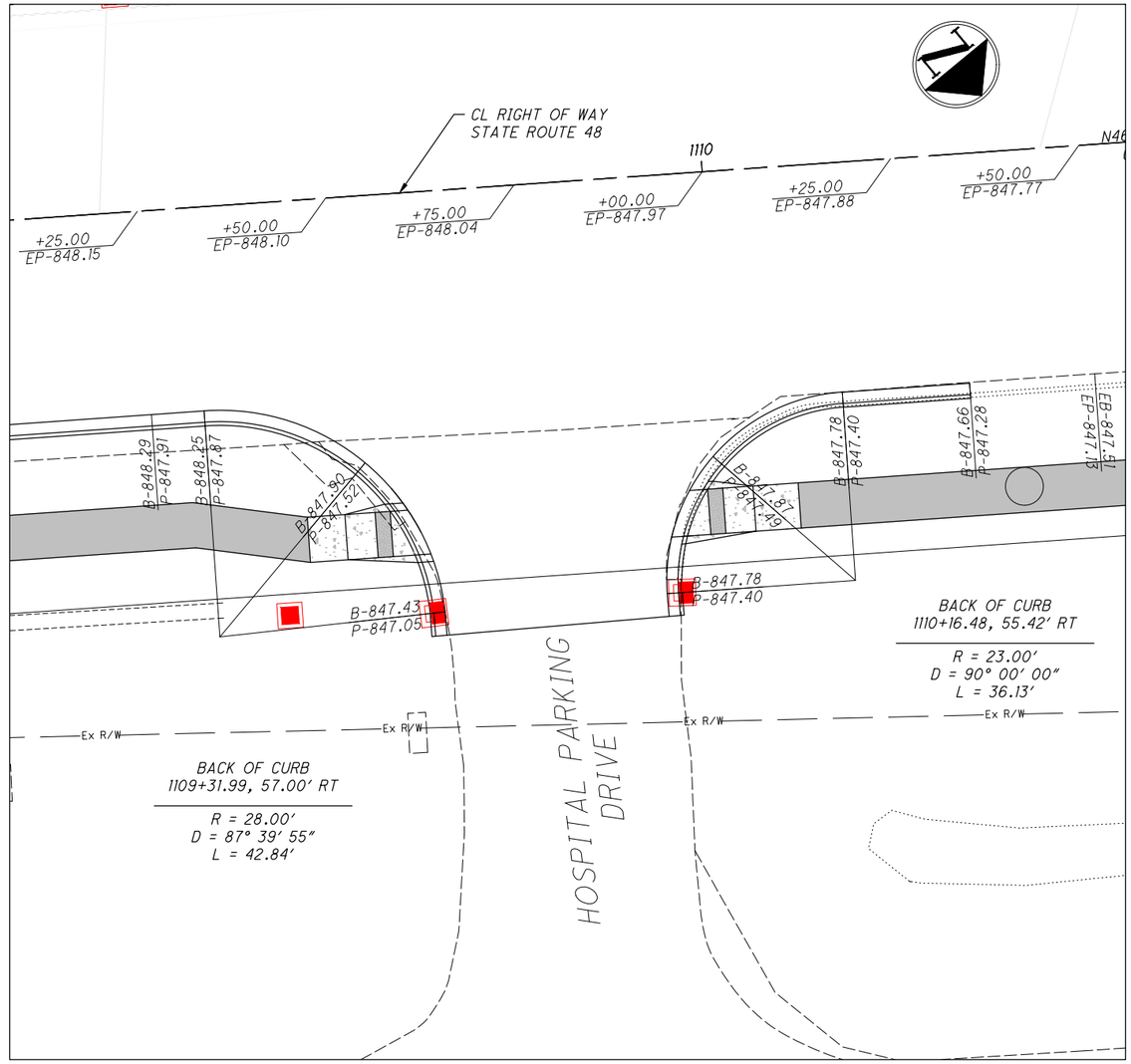
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.56
TOTAL	92





HORIZONTAL SCALE IN FEET
0 2.5 5 10

INTERSECTION DETAILS

LEGEND:

B - BACK OF CURB
EBC - EXISTING BACK OF CURB
EFL - EXISTING FLOW LINE
EP - EXISTING PAVEMENT
P- PAVEMENT
W - WALK
T - TOP OF CASTING
FL- FLOW LINE

NOTE:

BACK OF CURB ELEVATION IS THE THEORETICAL LINE AND GRADE BACK OF CURB ELEVATION FOR THE PROPOSED CURB AND GUTTER, TYPE 2 AND CURB, TYPE 6. (EXCEPT FOR CURB RAMP DETAILS, THOSE ARE EXACT ELEVATIONS FOR ALL SHOWN). CONTRACTOR SHALL PROVIDE OPENINGS FOR CURB RAMPS, DRIVEWAYS, AND END CURB SEGMENTS ACCORDING TO STANDARD DRAWINGS BP-4.1, BP-5.1, AND BP-7.1. END CURBS SHALL TAPER FROM CURB HEIGHT TO 0″ OR MATCH EXISTING IN 2.0′.

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.57
TOTAL	92

MOT SR 48 20.61

INTERSECTION DETAILS

HORIZONTAL SCALE IN FEET
0 2.5 5 10

Ex SR

Ex SR

BACK OF CURB
1113+21.62, 148.54' LT

R = 45.00'
D = 78° 42' 10"
L = 61.81'

GARBER ROAD

BACK OF CURB
1114+62.65, 101.00' LT

R = 62.00'
D = 66° 42' 56"
L = 72.19'

LEGEND:

B - BACK OF CURB
EBC - EXISTING BACK OF CURB
EFL - EXISTING FLOW LINE
EP - EXISTING PAVEMENT
P- PAVEMENT
W - WALK
T - TOP OF CASTING
FL- FLOW LINE

B-842.85
P-842.35

B-840.18
P-839.80

B-840.05
P-839.67

Ex R/W

B-841.23
P-843.85

B-843.88
P-843.50

B-843.55
P-843.17

B-841.04
P-840.66

B-840.79
P-840.41

B-840.31
P-839.93

B-840.18
P-839.80

B-839.91
P-839.53

CL RIGHT OF WAY
S.R. 48

N46° 25'
CL SR

1113 1114 1115

+75.00	+00.00	+25.00	+50.00	+75.00	+00.00	+25.00	+50.00	+75.00	+00.00	+25.00	+50.00
EP-844.52	EP-844.14	EP-843.75	EP-843.36	EP-842.96	EP-842.56	EP-842.13	EP-841.70	EP-841.30	EP-840.91	EP-840.52	EP-840.14

B-843.00
P-842.62

B-842.69
P-842.31

B-841.19
P-841.81

B-841.88
P-841.50

B-841.25
P-840.86

B-841.08
P-840.70

B-841.11
P-840.72

B-840.86
P-840.48

B-840.31
P-839.93

B-839.88
P-839.50

NOTE:

BACK OF CURB ELEVATION IS THE THEORETICAL LINE AND GRADE BACK OF CURB ELEVATION FOR THE PROPOSED CURB AND GUTTER, TYPE 2 AND CURB, TYPE 6. (EXCEPT FOR CURB RAMP DETAILS, THOSE ARE EXACT ELEVATIONS FOR ALL SHOWN). CONTRACTOR SHALL PROVIDE OPENINGS FOR CURB RAMPS, DRIVEWAYS, AND END CURB SEGMENTS ACCORDING TO STANDARD DRAWINGS BP-4.1, BP-5.1, AND BP-7.1. END CURBS SHALL TAPER FROM CURB HEIGHT TO 0" OR MATCH EXISTING IN 2.0'.

BACK OF CURB
1113+71.86, 73.74' RT

R = 34.00'
D = 69° 06' 33"
L = 41.01'

HOSPITAL DRIVE

BACK OF CURB
1114+78.04, 63.11' RT

R = 34.00'
D = 100° 47' 18"
L = 59.81'

Ex R/W

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
LTH

REVIEWER
AJH 1-16-2026

PROJECT ID
119822

SHEET P.58 | TOTAL 92

MOT SR 48 20.61

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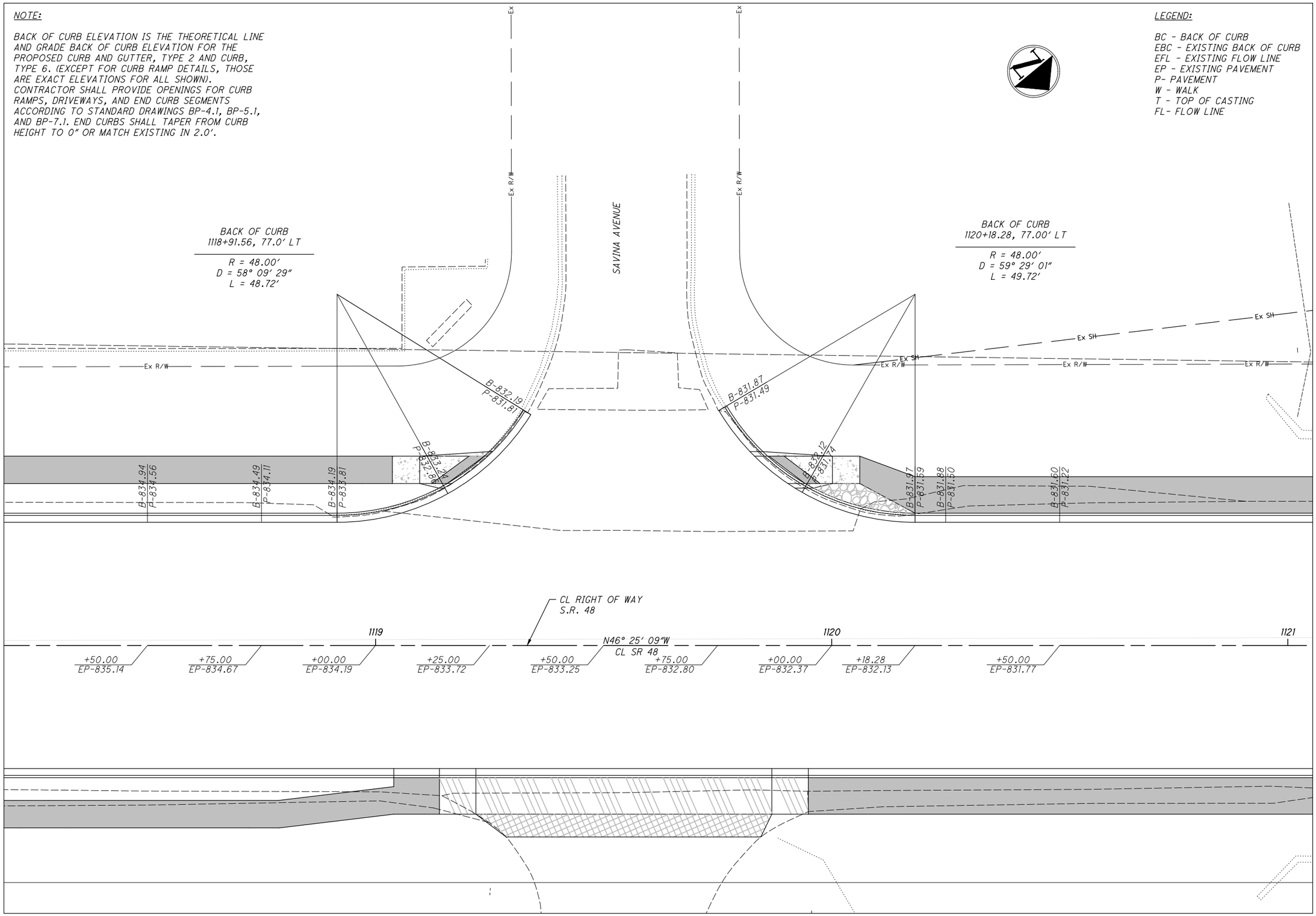
NOTE:

BACK OF CURB ELEVATION IS THE THEORETICAL LINE AND GRADE BACK OF CURB ELEVATION FOR THE PROPOSED CURB AND GUTTER, TYPE 2 AND CURB, TYPE 6. (EXCEPT FOR CURB RAMP DETAILS, THOSE ARE EXACT ELEVATIONS FOR ALL SHOWN). CONTRACTOR SHALL PROVIDE OPENINGS FOR CURB RAMPS, DRIVEWAYS, AND END CURB SEGMENTS ACCORDING TO STANDARD DRAWINGS BP-4.1, BP-5.1, AND BP-7.1. END CURBS SHALL TAPER FROM CURB HEIGHT TO 0" OR MATCH EXISTING IN 2.0'.

LEGEND:

BC - BACK OF CURB
EBC - EXISTING BACK OF CURB
EFL - EXISTING FLOW LINE
EP - EXISTING PAVEMENT
P- PAVEMENT
W - WALK
T - TOP OF CASTING
FL- FLOW LINE



HORIZONTAL SCALE IN FEET
0 2.5 5 10

INTERSECTION DETAILS

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
LTH

REVIEWER
AJH 1-16-2026

PROJECT ID
119822

SHEET P.59 | TOTAL 92

MOT SR 48 20.61

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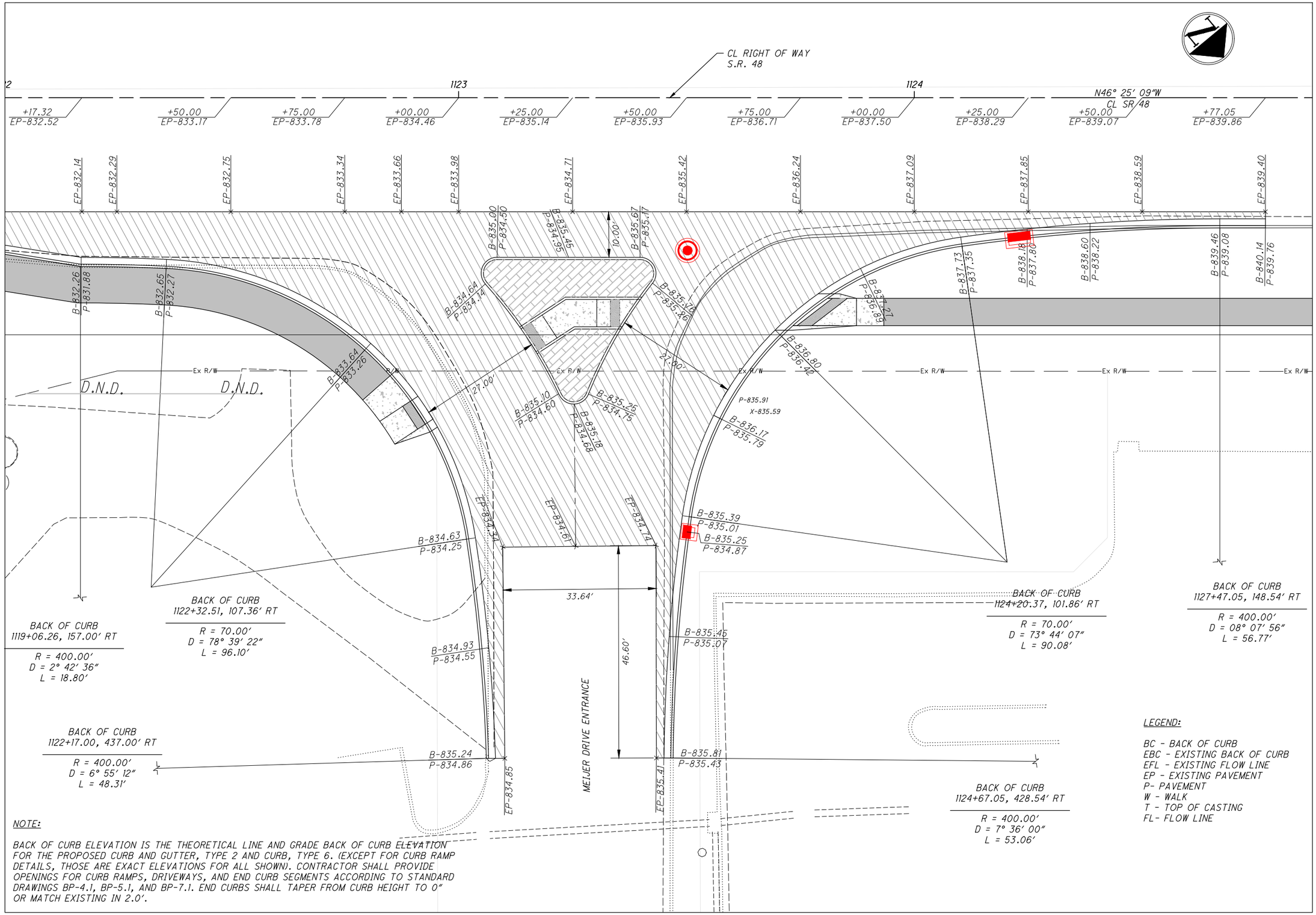

HORIZONTAL SCALE IN FEET
0 2.5 5 10

INTERSECTION DETAILS

MOT SR 48 20.61

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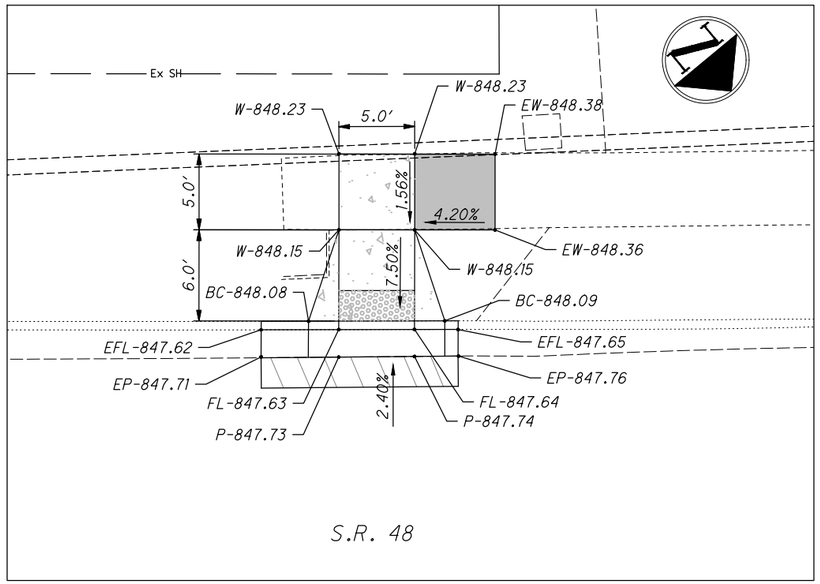
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.60
TOTAL	92

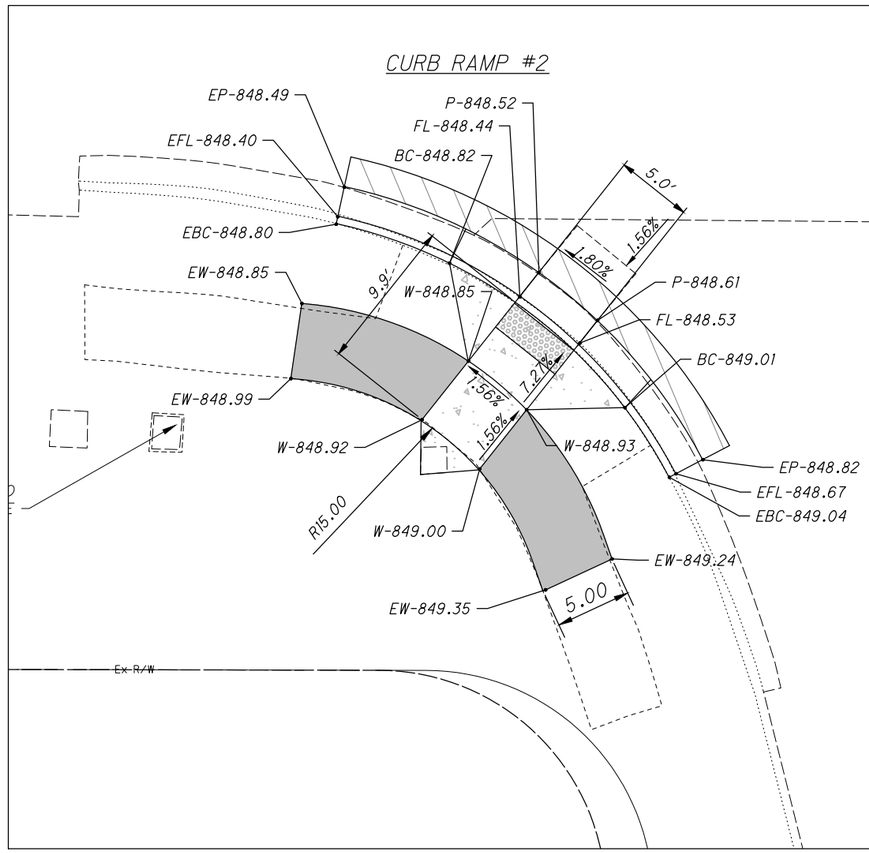


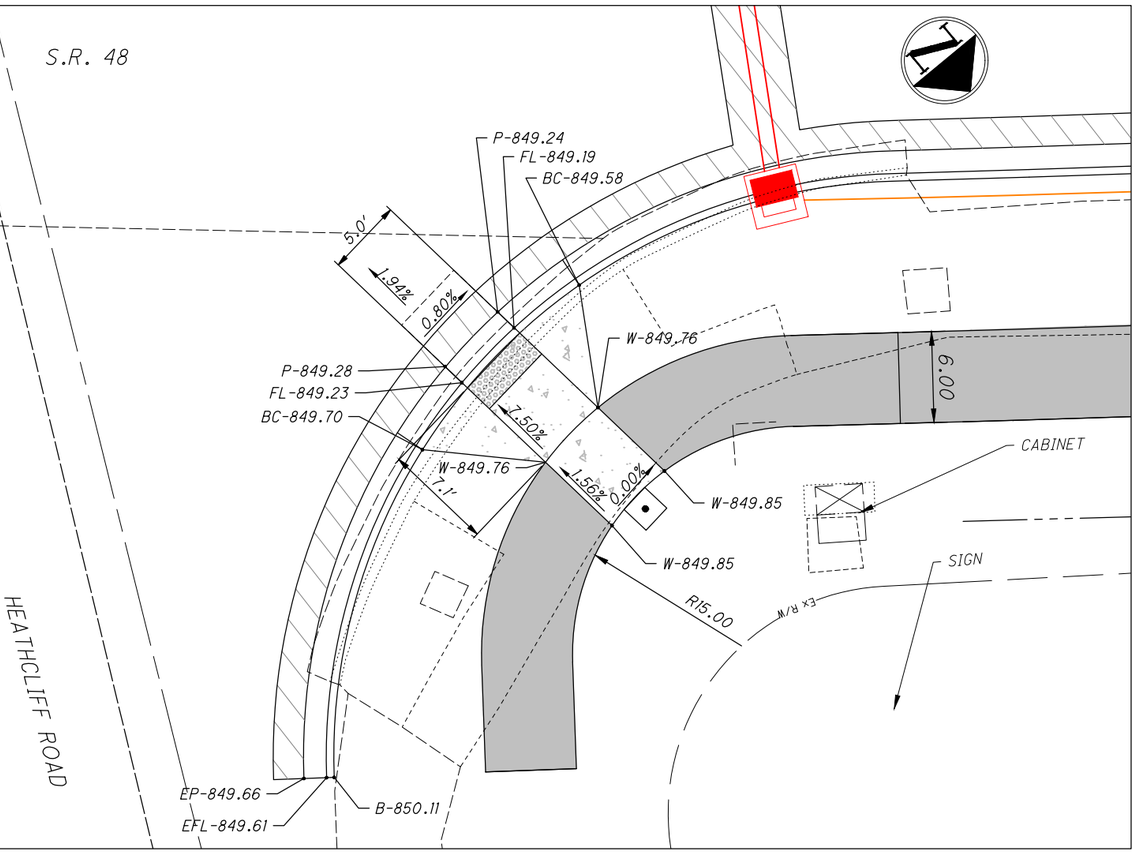
CURB RAMP #1

LEGEND:

BC - PROPOSED BACK OF CURB
EBC - EXISTING BACK OF CURB
EFL - EXISTING FLOW LINE
EP - EXISTING PAVEMENT
W - WALK
T - TOP OF CASTING
P - PROPOSED PAVEMENT
FL - PROPOSED FLOW LINE

CURB RAMP #2





CURB RAMP #3

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CURB RAMP DETAILS

MOT SR 48 20.61

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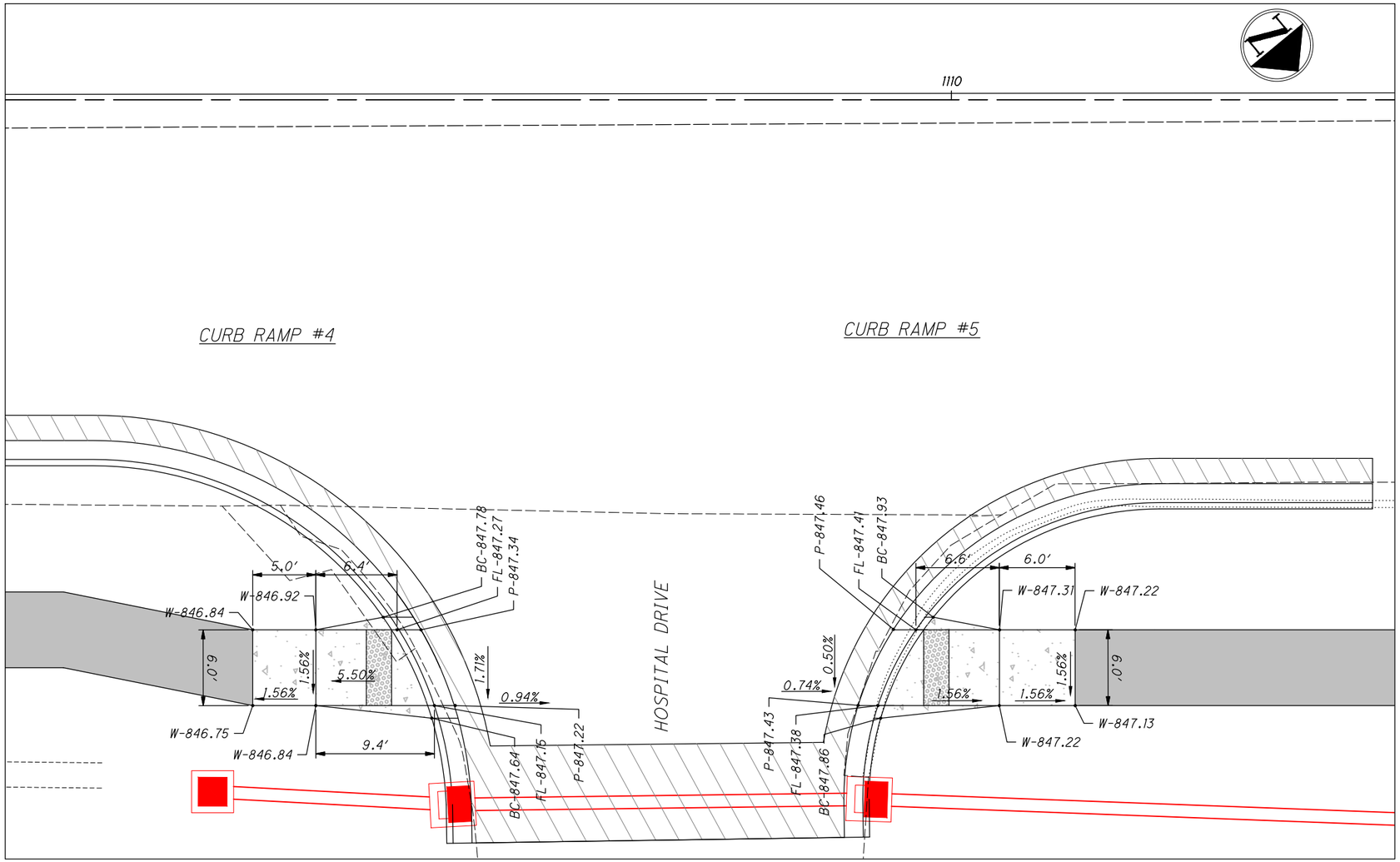
DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER LTH
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P.61 TOTAL 92

LEGEND:

BC - PROPOSED BACK OF CURB
EBC - EXISTING BACK OF CURB
EFL - EXISTING FLOW LINE
EP - EXISTING PAVEMENT
W - WALK
T - TOP OF CASTING
P - PROPOSED PAVEMENT
FL - PROPOSED FLOW LINE



HORIZONTAL SCALE IN FEET
0 2.5 5 10

CURB RAMP DETAILS

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.62
TOTAL	92

MOT SR 48 20.61

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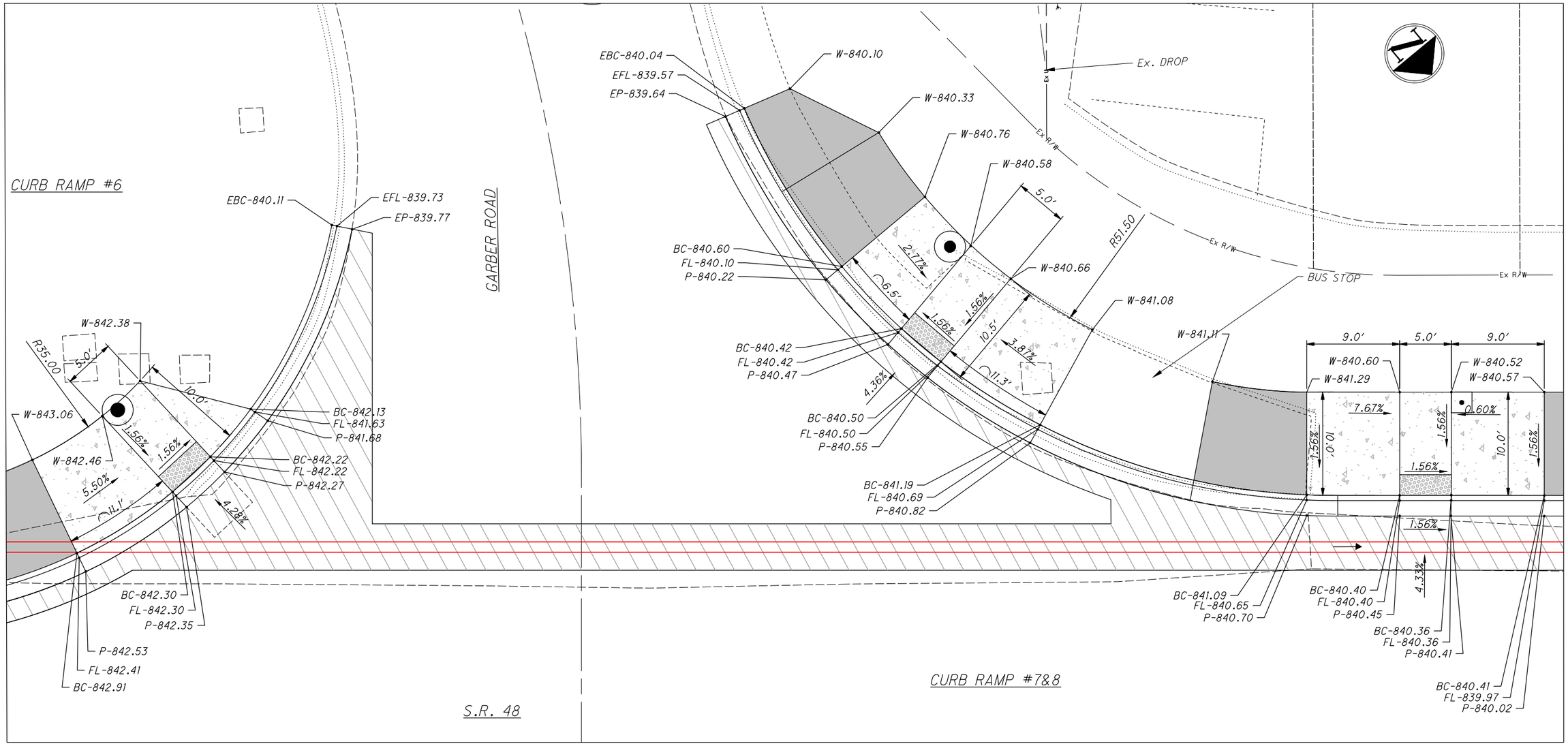
LEGEND:

BC - PROPOSED BACK OF CURB
EBC - EXISTING BACK OF CURB
EFL - EXISTING FLOW LINE
EP - EXISTING PAVEMENT
W - WALK
T - TOP OF CASTING
P - PROPOSED PAVEMENT
FL - PROPOSED FLOW LINE



HORIZONTAL SCALE IN FEET
0 2.5 5 10

CURB RAMP DETAILS

MOT SR 48 20.61

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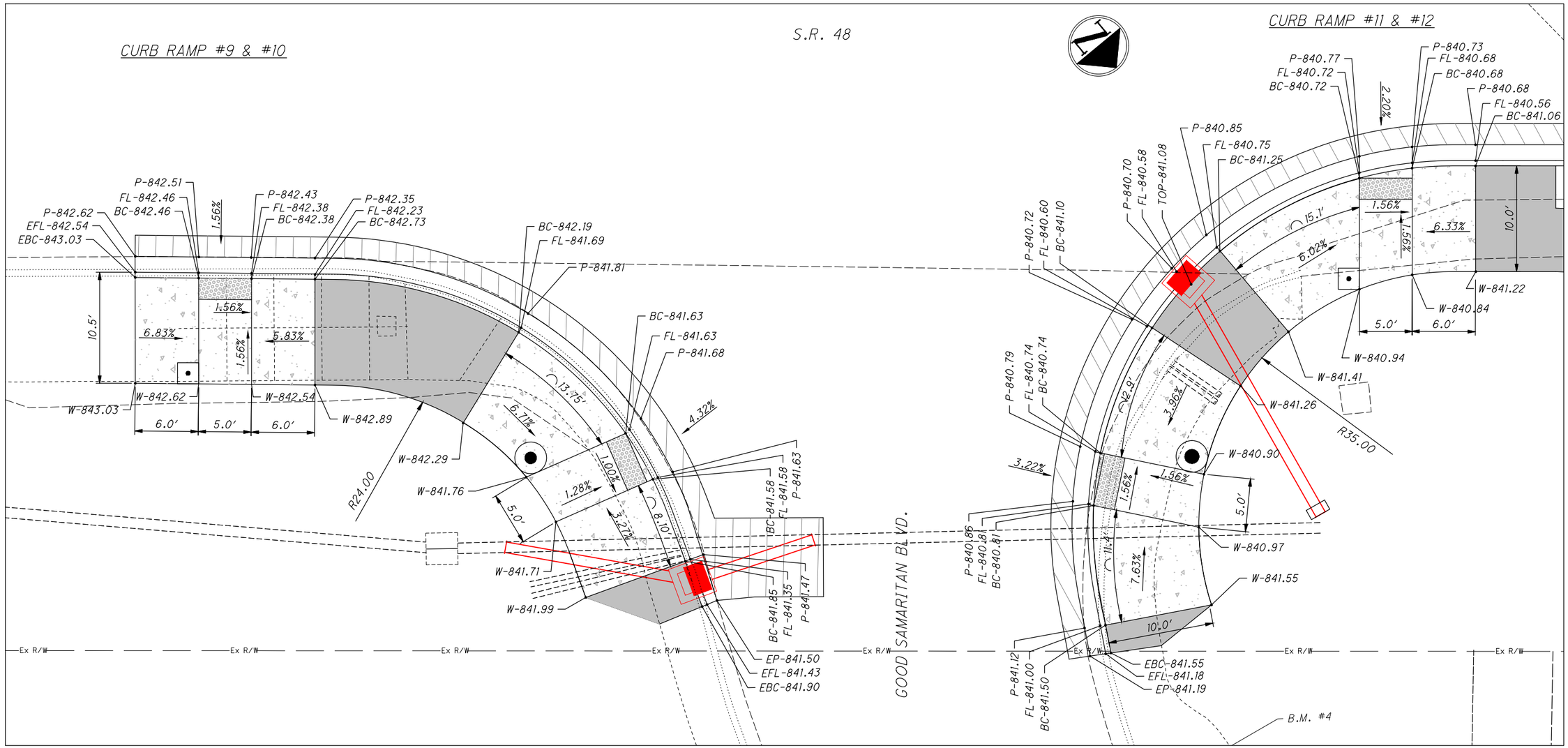
DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER
LTH
REVIEWER
AJH 1-16-2026
PROJECT ID
119822
SHEET P.63 TOTAL 92

MOT SR 48 20.61

LEGEND:

BC - PROPOSED BACK OF CURB
EBC - EXISTING BACK OF CURB
EFL - EXISTING FLOW LINE
EP - EXISTING PAVEMENT
W - WALK
T - TOP OF CASTING
P - PROPOSED PAVEMENT
FL - PROPOSED FLOW LINE



HORIZONTAL SCALE IN FEET
0 2.5 5 10

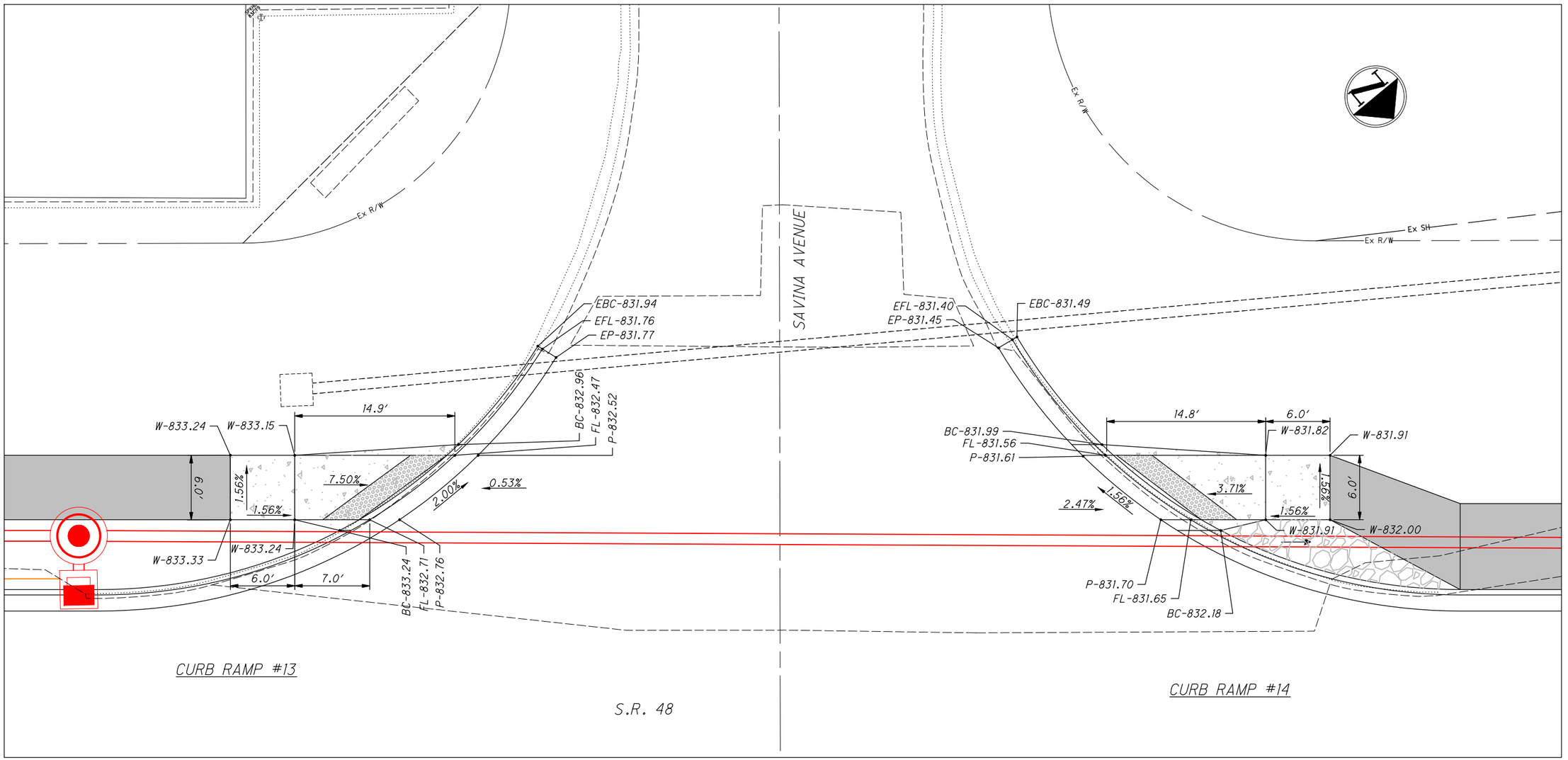
CURB RAMP DETAILS

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.64
TOTAL	92

LEGEND:

BC - PROPOSED BACK OF CURB
EBC - EXISTING BACK OF CURB
EFL - EXISTING FLOW LINE
EP - EXISTING PAVEMENT
W - WALK
T - TOP OF CASTING
P - PROPOSED PAVEMENT
FL - PROPOSED FLOW LINE



HORIZONTAL SCALE IN FEET
0 2.5 5 10

CURB RAMP DETAILS

MOT SR 48 20.61

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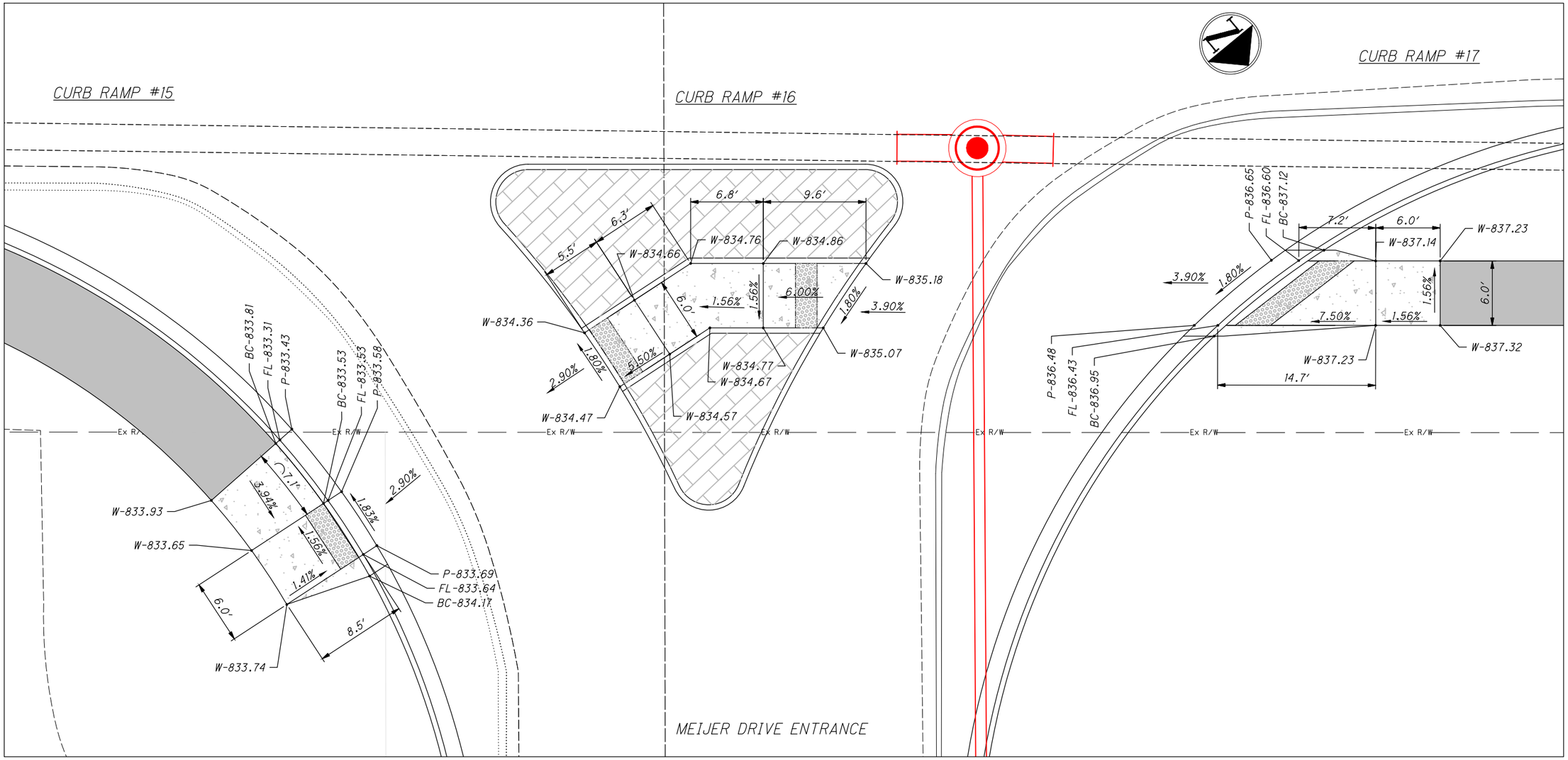
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.65
TOTAL	92

LEGEND:

BC - PROPOSED BACK OF CURB
EBC - EXISTING BACK OF CURB
EFL - EXISTING FLOW LINE
EP - EXISTING PAVEMENT
W - WALK
T - TOP OF CASTING
P - PROPOSED PAVEMENT
FL - PROPOSED FLOW LINE

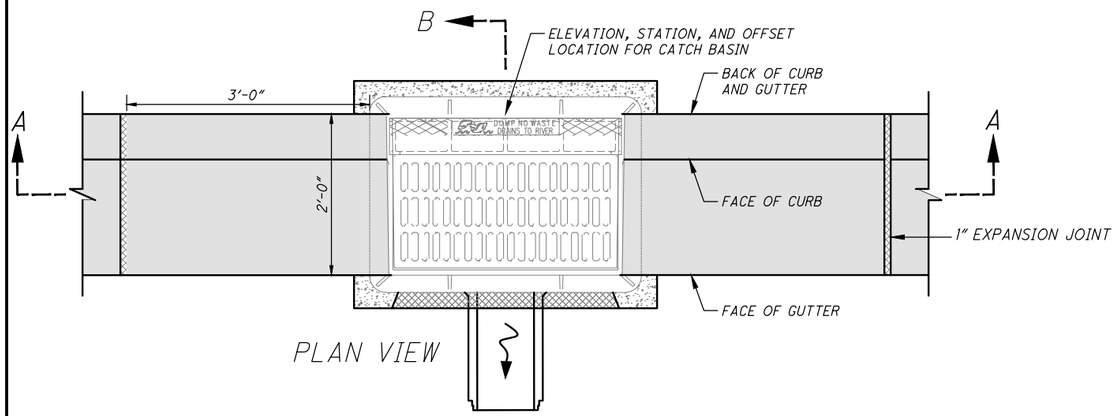


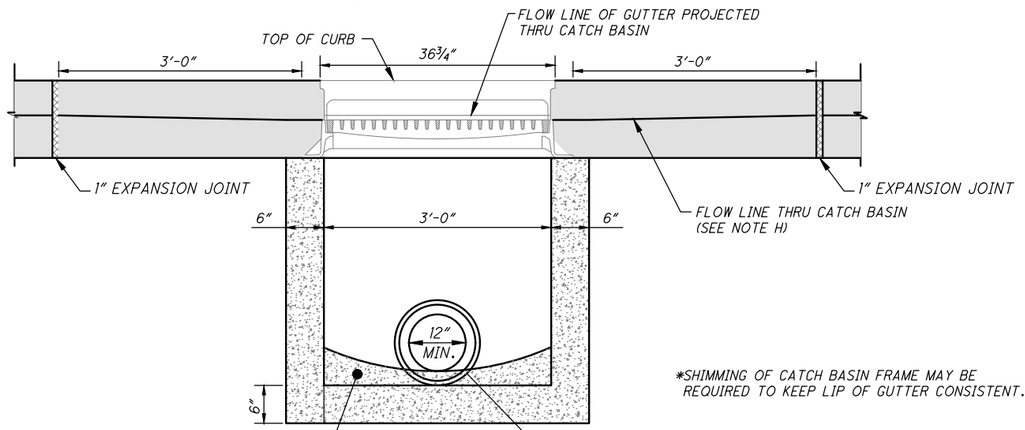
HORIZONTAL SCALE IN FEET
0 2.5 5 10

CURB RAMP DETAILS

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.66
TOTAL	92





*SHIMMING OF CATCH BASIN FRAME MAY BE REQUIRED TO KEEP LIP OF GUTTER CONSISTENT.

CONTRACTOR TO PROVIDE GROUT UP TO PIPE INVERT AND SHAPE BOTTOM TO DRAIN

SECTION A-A

ALL PIPES CONNECTIONS SHALL HAVE A PREFORMED HOLE

NOTES

A. INLET FRAME SHALL BE NEENAH R-3067 OR EAST JORDAN IRON WORKS 7030Z1 OR EQUIVALENT.

B. CURB BOX/HOOD, FOR TYPE 2 COMBINATION CURB AND GUTTER, SHALL BE NEENAH R-3067 CURB BOX (3" RADIUS) OR EAST JORDAN IRON WORKS TYPE T4

C. CATCH BASINS IN DRIVE APPROACHES (TO BE AVOIDED, IF POSSIBLE) SHALL BE PROVIDED WITH A CURB PLATE INSTEAD OF A CURB BOX (NEENAH R-3067 WITH CURB PLATE) OR EQUAL.

D. STANDARD GRATE SHALL BE NEENAH TYPE A, OR EQUIVALENT. ALL BAR EDGES TO BE ROUNDED 1/8" RADIUS.

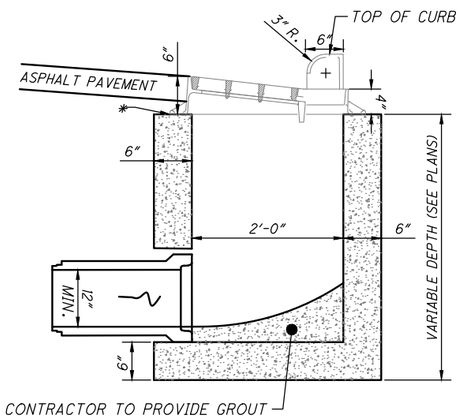
E. CONCRETE, CAST-IN-PLACE, TO BE ODOT QC MISC. (CEMENT ONLY - NO POZZOLAN MATERIAL). PRECAST CONSTRUCTION IS PERMITTED AND CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13.

F. EXPANSION JOINTS SHALL BE PER ODOT 705.03, AASHTO M153, VINYL RUBBER MATERIAL MANUFACTURED BY RIGHT/POINTE, W.R. MEADOWS, OSCODA PLASTICS OR EQUAL AND BE INSTALLED AS INDICATED IN THE DETAIL.

G. PIPE TO INTRUDE INTO CATCH BASIN 1" MAXIMUM AND PIPE MUST BE CUT PARALLEL TO CATCH BASIN. USE NON-SHRINK GROUT AROUND PIPE TO SEAL BETWEEN PIPE AND CATCH BASIN.

H. DROP FLOW LINE ½" WITHIN THE 3'-0" BLOCK OUT OF COMBINED CURB AND GUTTER WHILE KEEPING LIP OF GUTTER CONSISTENT WITH TOP OF CURB.

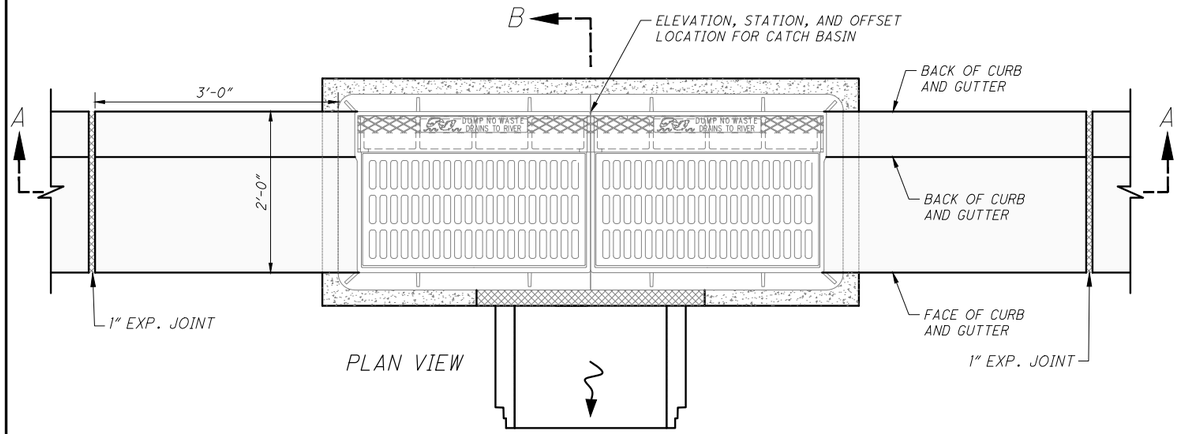
I. ALL GRATES SHALL BE BICYCLE SAFE.

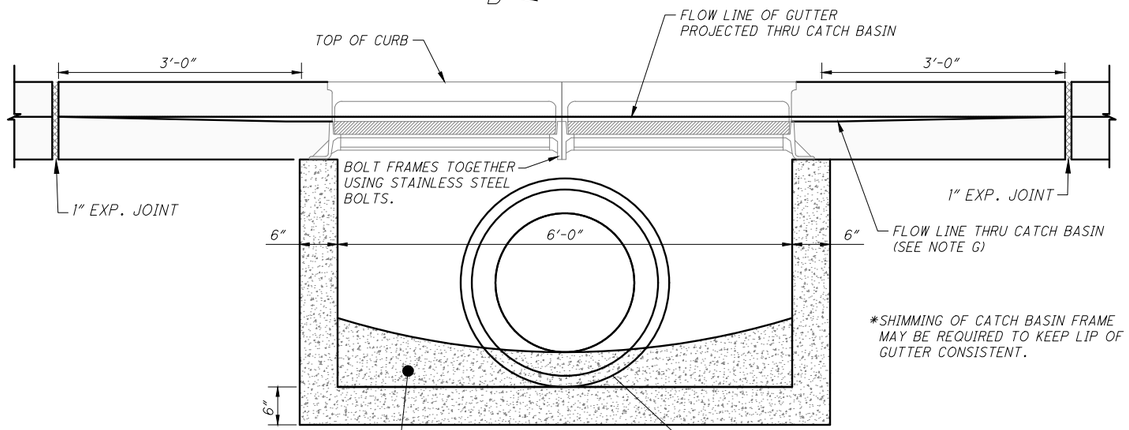


CONTRACTOR TO PROVIDE GROUT AND SHAPE BOTTOM TO DRAIN

SECTION B-B

CATCH BASIN, MISC.: TYPE 1





*SHIMMING OF CATCH BASIN FRAME MAY BE REQUIRED TO KEEP LIP OF GUTTER CONSISTENT.

CONTRACTOR TO PROVIDE GROUT AND SHAPE BOTTOM TO DRAIN

SECTION A-A

ALL PIPES CONNECTIONS SHALL HAVE A PREFORMED HOLE

NOTES

A. INLET FRAME SHALL BE EAST JORDAN IRON WORKS 7031Z1 (LH) AND (RH) OR NEENAH R-3295-2 OR EQUIVALENT.

B. CURB BOX/HOOD, FOR TYPE 2 COMBINATION CURB AND GUTTER, SHALL BE NEENAH (3" RADIUS) R-3067 OR EAST JORDAN IRON WORKS TYPE T4.

C. CURB BOX/HOOD FOR CATCH BASINS IN DRIVE APPROACHES (TO BE AVOIDED, IF POSSIBLE) SHALL BE EAST JORDAN IRON WORKS TYPE T3 OR NEENAH (R-3067-R FRAME) OR APPROVED EQUAL.

D. STANDARD GRATE SHALL BE NEENAH TYPE A, OR EQUIVALENT. ALL BAR EDGES TO BE ROUNDED 1/8" RADIUS.

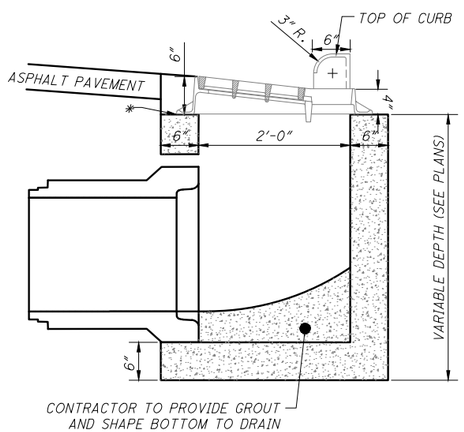
E. CONCRETE, CAST-IN-PLACE, TO BE ODOT QC 1. PRECAST CONSTRUCTION PERMITTED AND CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13.

F. EXPANSION JOINTS SHALL BE PER ODOT 705.03, AASHTO M153, VINYL RUBBER MATERIAL MANUFACTURED BY RIGHT/POINTE, W.R. MEADOWS, OSCODA PLASTICS OR EQUAL AND BE INSTALLED AS INDICATED IN THE DETAIL.

G. PIPE TO INTRUDE INTO CATCH BASIN 1" MAXIMUM AND PIPE MUST BE CUT PARALLEL TO CATCH BASIN. USE NON-SHRINK GROUT AROUND PIPE TO SEAL BETWEEN PIPE AND CATCH BASIN.

H. DROP FLOW LINE 1/2" WITHIN BLOCK OUT OF COMBINED CURB AND GUTTER WHILE KEEPING LIP OF GUTTER CONSISTENT WITH TOP OF CURB.

I. ALL GRATES SHALL BE BICYCLE SAFE.



CONTRACTOR TO PROVIDE GROUT AND SHAPE BOTTOM TO DRAIN

SECTION B-B

CATCH BASIN, MISC.: TYPE 1A

GENERAL DETAILS

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
LTH

REVIEWER
AJH 1-16-2026

PROJECT ID
119822

SHEET P.67 | TOTAL 92

MOT SR 48 20.61

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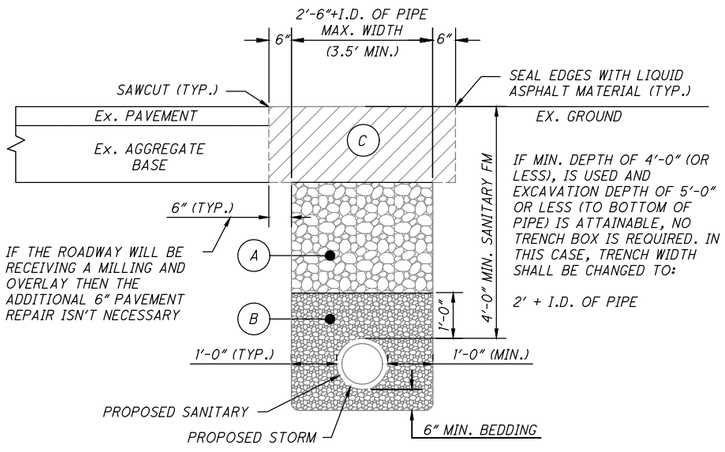


TRENCH DETAIL

TRENCH DETAIL NOTES

A. ALL TRENCH EDGES NOT UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, STONE AREA OR WALKS CAN BE COMPACTED EXISTING NATIVE MATERIAL IN 12" MAXIMUM LIFTS OR AS APPROVED BY THE OWNER. NO MATERIAL SHALL BE USED FOR BACKFILLING THAT CONTAINS STONE, ROCKS, ETC., GREATER THAN 4" DIAMETER.

ALL TRENCH EDGES UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, OR GRAVEL AREAS SHALL BE GRANULAR BACKFILL MATERIAL, ODOT 703.11, TYPE 1 (ODOT 304) OR ODOT 703.11, TYPE 3 (#57 OR #67 STONE). GRANULAR BACKFILL OF 95% OF ASTM D698 STANDARD PROCTOR CURVE MAY BE REQUIRED TO BE PERFORMED BY A COMMERCIAL TESTING LAB SATISFACTORY TO THE OWNER.

B. STRUCTURAL BEDDING SHALL BE NATURAL CRUSHED STONE OR GRAVEL, ODOT 703.11 TYPE 3 (#57 OR #67 STONE) (NO LIMESTONE).

C. OFF-PAVEMENT AREAS SHALL BE PROVIDED WITH A MINIMUM OF 6" OF TOPSOIL OVER THE COMPACTED MATERIAL AND THEN SEEDED AND MULCHED PER ODOT ITEM 659.

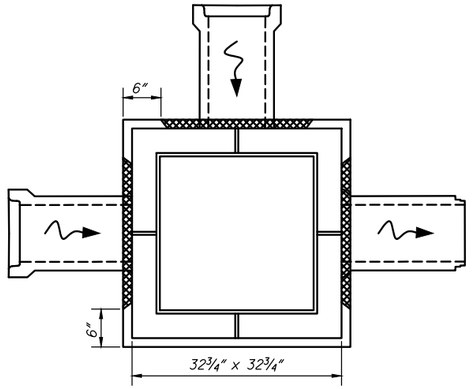
IN-PAVEMENT AREAS SHALL CONSIST OF THE FOLLOWING:

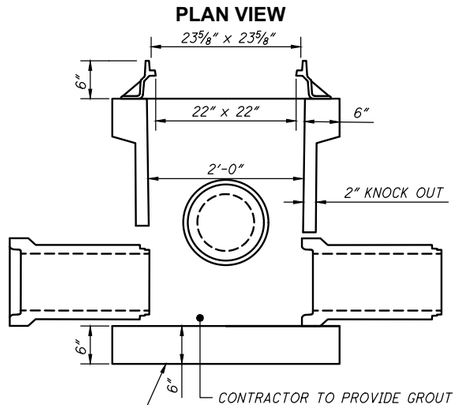
SEE TYPICAL SECTION.

WHERE THE EXISTING PAVEMENT IS THICKER, THE CITY SHALL INCREASE THE COURSE THICKNESS TO MATCH EXISTING.

IF MIN. DEPTH OF 4'-0" (OR LESS), IS USED AND EXCAVATION DEPTH OF 5'-0" OR LESS (TO BOTTOM OF PIPE) IS ATTAINABLE, NO TRENCH BOX IS REQUIRED. IN THIS CASE, TRENCH WIDTH SHALL BE CHANGED TO:

2' + I.D. OF PIPE





BOTTOM SLAB MAY BE CAST SEPARATELY AND THE OUTLET PIPE PLACED ON TOP OF IT WITH THE BOTTOM SHAPED TO DRAIN

CONTRACTOR TO PROVIDE GROUT IN THE BOTTOM OF THE CATCH BASIN TO ELIMINATE THE SUMP IF THE LOWEST PIPE INVERT HAS A BELL

NOTES

A. LOCATION AND ELEVATIONS WHEN GIVEN ON THE PLANS IS TOP CENTER OF THE GRATE. WHEN SIDE OPENINGS ARE PROVIDED, ELEVATION SHALL BE THE FLOW LINE OF THE SIDE INLET.

B. PRECAST CONSTRUCTION IS REQUIRED, UNLESS OTHERWISE APPROVED, AND CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13 WITH 6±+2% AIR VOID CONTENT IN THE HARDENED CONCRETE. KNOCKOUTS CAN BE PROVIDED IN PRECAST CONSTRUCTION. PRECAST WALLS SHALL HAVE A SUFFICIENT AMOUNT OF REINFORCEMENT TO PERMIT SHIPPING AND PLACEMENT WITHOUT DAMAGE.

C. FRAME AND SOLID LID EQUIVALENT OF NEENAH CATALOG NO. R-1878-A5L OR EAST JORDAN IRON WORKS NO. 6622.

D. FOR PIPES OVER 18" REFER TO ODOT CATCH BASIN 2-3 AND 2-4. FOR SIDE INLETS REFER TO ODOT CATCH BASIN 2-2-A.

E. CARE SHALL BE TAKEN WHEN CONNECTING TO AN EXISTING CATCH BASIN TO KEEP OPENING AS MINIMAL AS POSSIBLE. IF POSSIBLE, SAW CUT OR USE ROTARY HAMMER FOR OPENING TO MINIMIZE DAMAGE TO CATCH BASIN. PIPE TO INTRUDE INTO CATCH BASIN 1" ONLY AND PIPE MUST BE CUT PARALLEL TO CATCH BASIN. USE NONSHRINK GROUT AROUND PIPE TO SEAL BETWEEN PIPE AND CATCH BASIN.

PAVED AREAS

2-2B CATCH BASIN, AS PER PLAN

NOTES

A. LOCATION AND ELEVATIONS WHEN GIVEN ON THE PLANS IS TOP CENTER OF THE GRATE.

B. THE BASIN DIAMETER SHALL BE DETERMINED BY THE BASIN MANUFACTURER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE BASIN MANUFACTURER, NYLOPLAST, TO DETERMINE THE REQUIRED BASIN DIAMETER BASED ON THE PIPING CONFIGURATION AND TO SUPPLY THE NEEDED BASIN DIAMETER. CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.

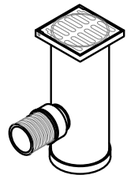
C. THE FRAME AND GRATE SHALL BE THE STANDARD OPTION DUCTILE IRON PER ASTM A536 GRADE 70-50-05. (NYLOPLAST - 8" #0899CGS, 10" #1099CGS, 12" #1299CGS.....36" #3099CGS). FOR LANDSCAPE AREAS THE FRAME AND GRATE SHALL BE THE (NYLOPLAST DOME GRATE: #0899CGD, #1099CGD, #1299CGD.....30" #3099CGD).

D. THE BASINS SHALL BE MANUFACTURED FROM PVC PIPE STOCK (RAW MATERIAL PER ASTM D1784 CELL CLASS 12454), UTILIZING A THERMOFORMING PROCESS TO REFORM THE PIPE STOCK TO SPECIFIED CONFIGURATION. A WATERTIGHT CONNECTION SHALL CONFORM TO ASTM D3212. FLEXIBLE ELASTOMERIC SEALS SHALL CONFORM TO ASTM F477. PER ASTM D1784 CELL CLASS 12454. (NYLOPLAST - 8" #2808AG, 10" #2810AG, 12" #2812AG.....36" #2836AG)

E. THE BASIN ADAPTOR CONNECTIONS HAVE THE CAPABILITY TO CONNECT INTO VARIOUS TYPES (HDPE, PVC SDR-35, PVC SCG-40, PVC C900, CORRUGATED/RIBBED PVC.

F. ALL YARD DRAINS THAT ARE INSTALLED WITHIN PLANTING BEDS AND/OR MULCH BEDS SHALL HAVE A BEEHIVE/DOME GRATE WITH A STONE COLLAR SURROUNDING THEM TO PREVENT MULCH FROM WASHING INTO THE BASIN. STONE COLLAR TO BE 6" WIDE BY 6" THICK AROUND THE ENTIRE PERIMETER OF THE BASIN AND CONSIST OF 1" TO 2" ROUND RIVER ROCK. CONTRACTOR SHALL FASTEN/BOLT DOWN GRATE TO BASIN TO ENSURE GRATE IS SECURELY FASTENED IN PLACE.

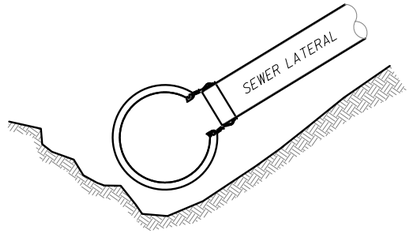
G. IF GRATES ARE LOCATED WITHIN PAVED OR WALKING AREAS, GRATES MUST BE SAFE FOR PEDESTRIAN TRAFFIC PER ADA REQUIREMENTS, BE LOCKING, BE DUCTILE IRON, AND MEET H-10 LOADING.



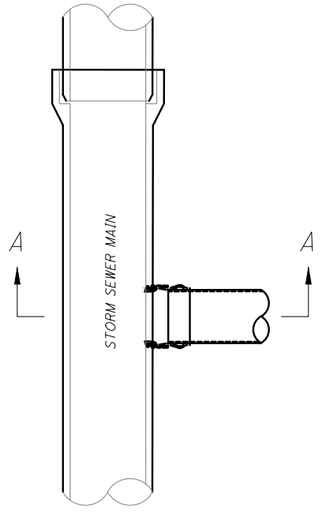
12"Φ AND 15" Φ BASIN

8"Φ AND 10"Φ BASIN

YARD DRAIN
NTS



SECTION A-A



NOTES

A. THE INSERTA TEE GASKETED CONNECTION FITTING TYPE SHALL MATCH THE STORM SEWER MAIN MATERIAL AND BE MANUFACTURED BY INSERTA FITTINGS CO. OR EQUAL.

B. RECOMMEND CUTTING HOLE WITH A HOLE SAW FOR PVC PIPE AND A DIAMOND BIT FOR CONCRETE OR CLAY PIPE. THE HOLE SAW SIZE SHOULD FOLLOW THE MANUFACTURERS RECOMMENDATIONS. CONTRACTOR IS RESPONSIBLE TO FIX ANY LOOSE CONNECTIONS DUE TO IMPROPER HOLE SIZE.

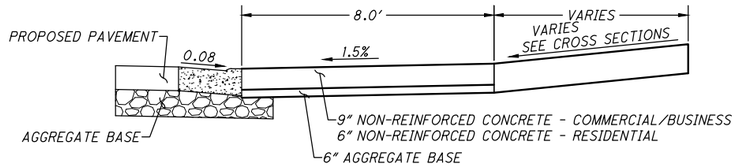
C. INSERTA TEES SHALL BE USED WHEREVER POSSIBLE AND BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

INSERTA TEE (STORM) CONNECTION
NTS

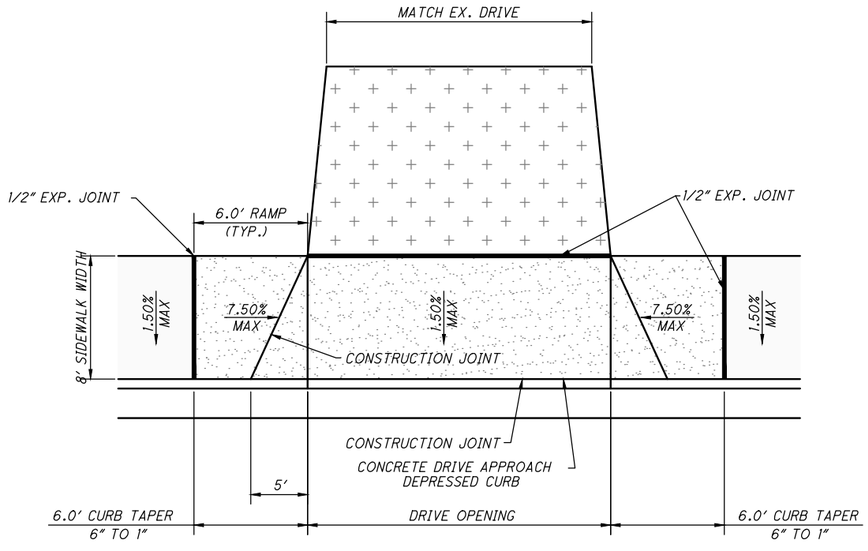
GENERAL DETAILS

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER
LTH
REVIEWER
AJH 1-16-2026
PROJECT ID
119822
SHEET P.68 TOTAL 92

MOT SR 48 20.61

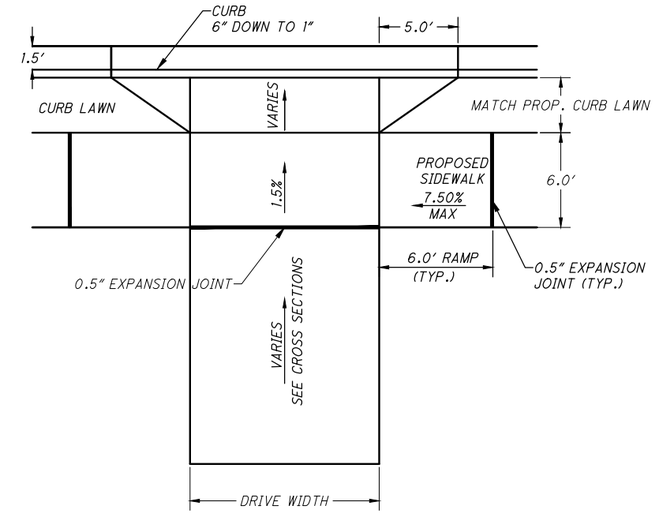


TYPICAL DRIVE PROFILE

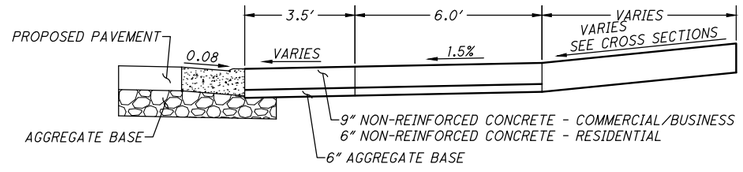


TYPICAL DRIVE PLAN WITH NO CURB LAWN

WITH NO CURB LAWN



TYPICAL DRIVE PLAN WITH CURB LAWN



TYPICAL DRIVE PROFILE

GENERAL DETAILS

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
LTH

REVIEWER
AJH 1-16-2026

PROJECT ID
119822

SHEET P.69 | TOTAL 92

MOT SR 48 20.61

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*EXISTING SIGN TO BE ADDED TO PROPOSED LIGHT POLE. SEE SHEET 76 FOR MORE DETAILS ON PROPOSED LIGHT POLE.

30" X 30" R3-2 STA. 1106+10

EMERGENCY MEDICAL CARE

SPECIAL STA. 1104+05

SPECIAL STA. 1104+05

RTA BUS ROUTE

NO THRU TRAFFIC

SPECIAL STA. 66+35

SPECIAL STA. 1110+95

SPECIAL STA. 1111+20

SPECIAL STA. 1112+25

EMERGENCY MEDICAL CARE

S3

ASPHALT PVMT.

D.N.D.

Ex SH

Ex R/W

SC Sta. 1105+78.49

CS Sta. 1106+85.88

ST Sta. 1108+95.88

MATCHLINE STA. 1109+00

MATCHLINE STA. 1113+00

N38° 00' 20"W
CL SR 48

N46° 25' 09"W
CL SR 48

1104 1105 1106 1107 1108 1109 1110 1111 1112

EL1 EL2

SL1 SL2 SL3 SL4

XW1 XW2 XW3 XW4

10.0'

+15

+12

+38

HEATHCLIFF ROAD

HOSPITAL DRIVE

S1 S2

R1-1-30 STA. 1109+96

R1-1-30 STA. 1109+96

54" X 30" R3-H8da STA. 1111+80

ONLY

SIGN LEGEND

- NEW SIGN
- EXISTING SIGN TO REMAIN
- REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
- REMOVAL OF GROUND MOUNTED SIGN AND REERECTION

HORIZONTAL SCALE IN FEET
0 10 20 40

LEGEND

- (ELX) - EDGE LINE, 4"
- (CLX) - CENTER LINE
- (TLX) - TRANSVERSE LINE
- (CHX) - CHANNELIZING LINE, 8"
- (SX) - SIGN ITEM
- (SLX) - STOP LINE (WHITE)
- (XWX) - CROSSWALK LINE, 12" OR 24" (WHITE)
- (LAX) - LANE ARROW
- XXXX - PAVEMENT MARKING REMOVED
- 4'x4' - CURB RAMP CLEAR SPACE (AREA)

TRAFFIC CONTROL PLAN
STA. 1104+00 to STA. 1113+00

MOT SR 48 20.61

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.70
TOTAL	92

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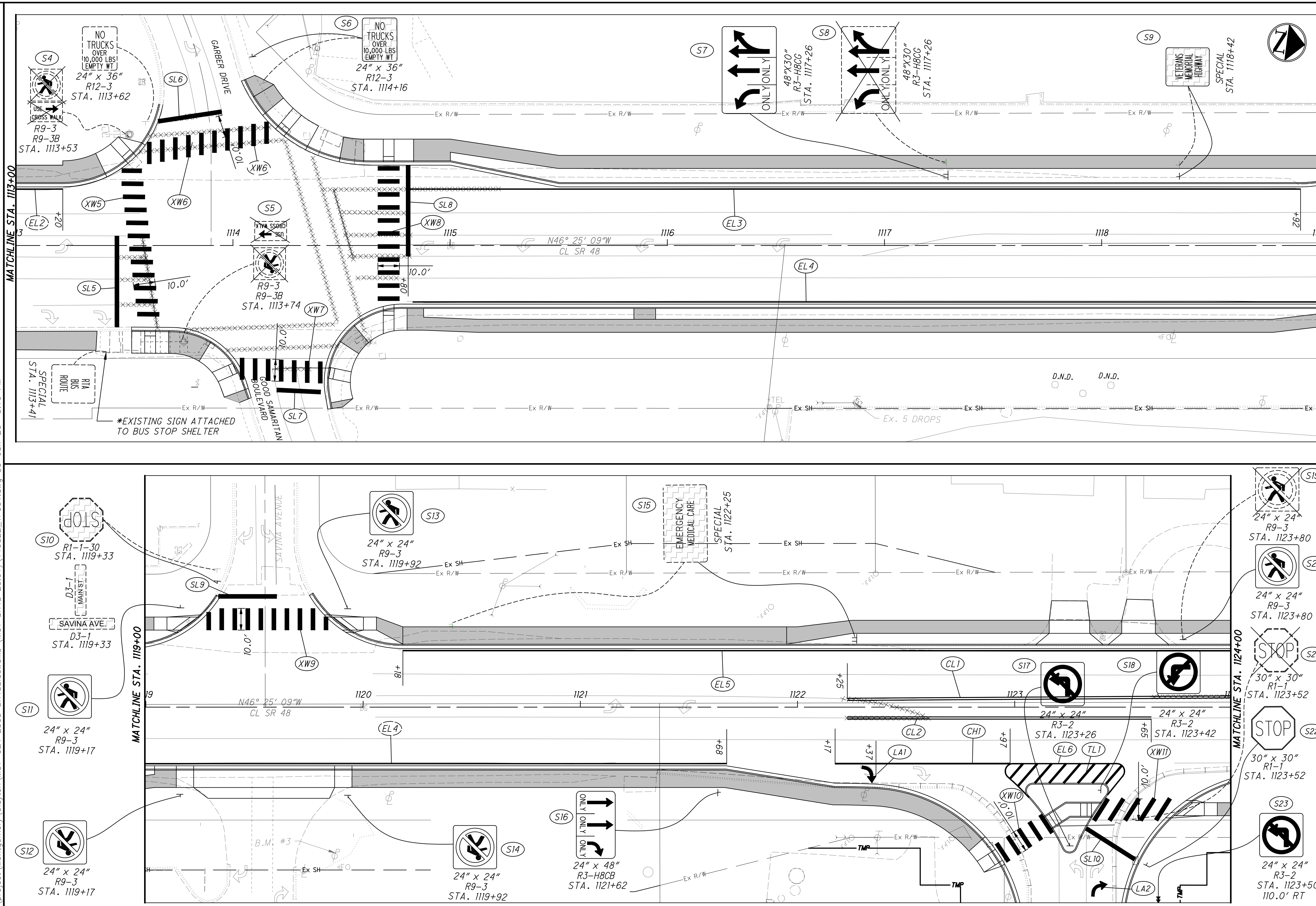
TRAFFIC CONTROL PLAN
STA. 1113+00 to STA. 1124+00



NO TRUCKS OVER 10,000 LBS EMPTY WT
S4
24" x 36"
R12-3
STA. 1113+62
USE CROSS WALK
R9-3
R9-3B
STA. 1113+53
SL6
GARBER DRIVE
S6
NO TRUCKS OVER 10,000 LBS EMPTY WT
24" x 36"
R12-3
STA. 1114+16
S7
ONLY ONLY
48"X30"
R3-H8CG
STA. 1117+26
S8
48"X30"
R3-H8CG
STA. 1117+26
S9
VETERANS MEMORIAL HIGHWAY
SPECIAL
STA. 1118+42
HORIZONTAL SCALE IN FEET
0 10 20 40
MATCHLINE STA. 1113+00
MATCHLINE STA. 1119+00
XW5
XW6
XW7
XW8
S5
R9-3
R9-3B
STA. 1113+74
SL5
SL7
SL8
EL2
EL3
EL4
10.0'
N46° 25' 09"W
CL SR 48
1114
1115
1116
1117
1118
Ex R/W
Ex SH
D.N.D.
Ex. 5 DROPS
SPECIAL
STA. 1113+41
RTA BUS ROUTE
*EXISTING SIGN ATTACHED TO BUS STOP SHELTER
GOOD SAMARITAN BOULEVARD
S10
STOP
R1-1-30
STA. 1119+33
D3-1
MAIN ST.
SAVINA AVE.
D3-1
STA. 1119+33
SAVINA AVENUE
SL9
XW9
S11
24" x 24"
R9-3
STA. 1119+17
S12
24" x 24"
R9-3
STA. 1119+17
S13
24" x 24"
R9-3
STA. 1119+92
S14
24" x 24"
R9-3
STA. 1119+92
S15
EMERGENCY MEDICAL CARE
SPECIAL
STA. 1122+25
S16
ONLY ONLY ONLY
24" x 48"
R3-H8CB
STA. 1121+62
MATCHLINE STA. 1119+00
MATCHLINE STA. 1124+00
N46° 25' 09"W
CL SR 48
1120
1121
1122
1123
EL4
EL5
EL6
CL1
CL2
CH1
TL1
LA1
LA2
SL10
XW10
XW11
B.M. #3
S17
24" x 24"
R3-2
STA. 1123+26
S18
24" x 24"
R3-2
STA. 1123+42
S19
24" x 24"
R9-3
STA. 1123+80
S20
24" x 24"
R9-3
STA. 1123+80
S21
STOP
30" x 30"
R1-1
STA. 1123+52
S22
STOP
30" x 30"
R1-1
STA. 1123+52
S23
24" x 24"
R3-2
STA. 1123+50
110.0' RT

MOT SR 48 20.61

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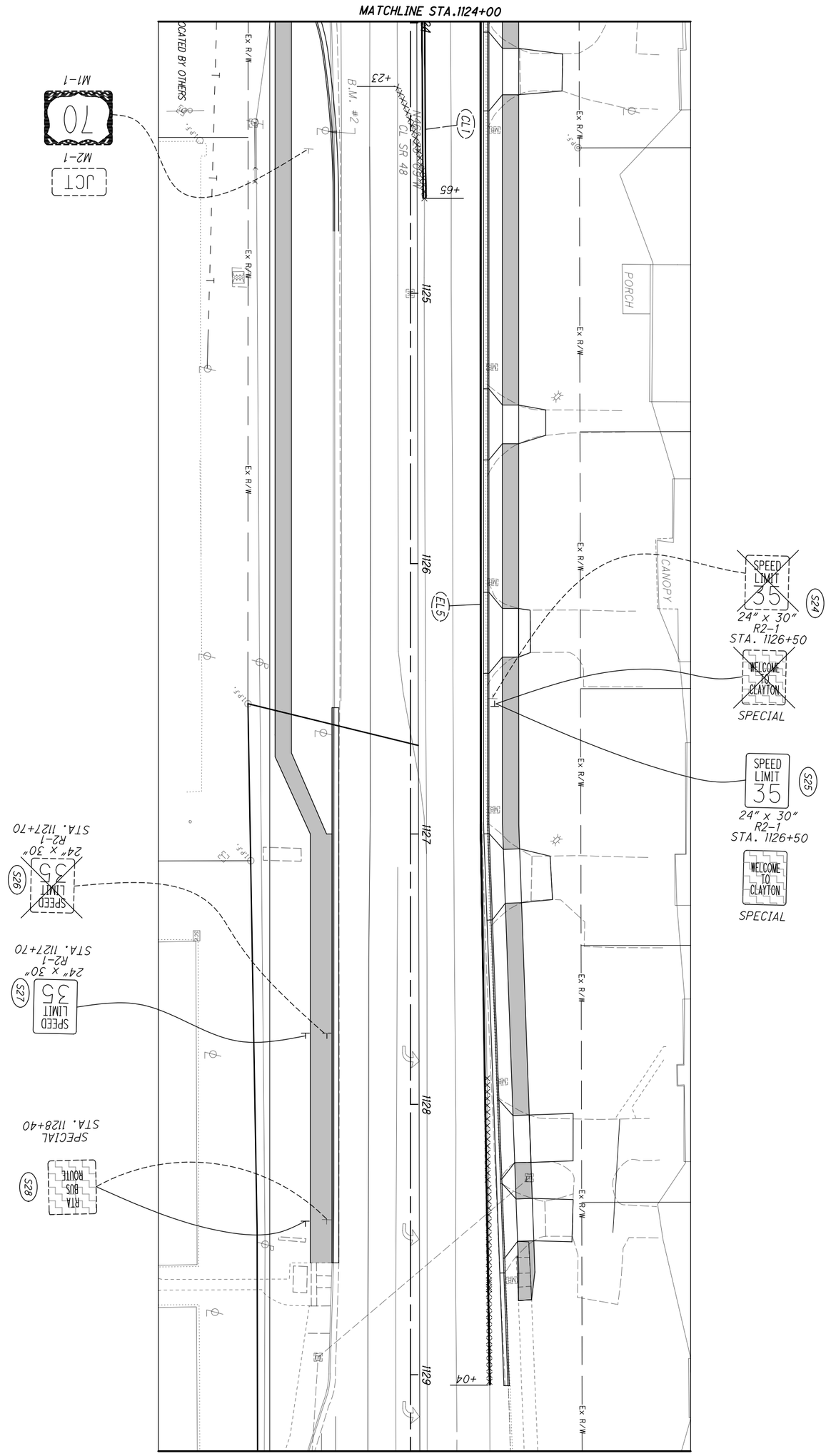
DESIGN AGENCY	CHOICE ONE ENGINEERING
DESIGNER	LTH
REVIEWER	AJH 1-16-2026
PROJECT ID	119822
SHEET	P.71
TOTAL	92



SHEET P.72	TOTAL 92	PROJECT ID 119822	REVIEWER AJH 1-16-2026	DESIGNER LTH	CHOICE ONE ENGINEERING

DESIGN AGENCY

TRAFFIC CONTROL PLAN
STA. 1124+00 to STA. 1129+00

HORIZONTAL SCALE IN FEET

0 20 10 40

ITEM 625 CONNECTION, FUSED PULL APART, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 625.18 AND 725.15, THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTRACTOR SHALL SUPPLY A 10 AMP FUSE FOR THE LUMINAIRES AND A 6 AMP FUSE FOR THE OUTLETS.

PAYMENT FOR ITEM 625 CONNECTION, FUSED PULL APART, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 625 LIGHT POLE, AESTHETIC, AS PER PLAN, TRIPLE SCROLL ARM - (GENERIC) (ALTERNATE 1)

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING AESTHETIC LIGHT POLES INCLUDING ALL HARDWARE, MATERIALS, AND EQUIPMENT NECESSARY.

LIGHT POLES SHALL BE THE BASELINE AESTHETIC POLE STYLE TRIPLE SCROLL ARM ON A TYPE WA BASE PER ODOT SCD HL-10.11. LIGHT POLES SHALL INCLUDE BANNER ARMS AND AN OUTLET RECEPTACLE WITH A WET IN-USE COVER AS SHOWN IN THE LIGHT POLE DETAIL. THE LIGHT POLES, BANNER ARMS, OUTLET RECEPTACLE, AND HARDWARE SHALL BE GALVANIZED WITH A BLACK FINISH PER ODOT SS 916.

LIGHT POLES SHALL BE WRAPPED TO PROTECT THE FINISH DURING SHIPPING, UNLOADING AND INSTALLATION. THE CONTRACTOR IS TOTALLY RESPONSIBLE TO PROVIDE ADEQUATE PROTECTION FOR THE FINISH OF THE POLES. IF THE FINISH IS DAMAGED DURING HANDLING, THE CONTRACTOR SHALL REPAIR THE FINISH PER THE MANUFACTURER'S RECOMMENDATIONS. ODOT WILL DECIDE IF THE POLES NEED SENT BACK FOR RE-PAINTING.

PAYMENT FOR ITEM 625 LIGHT POLE, AESTHETIC, AS PER PLAN, TRIPLE SCROLL ARM - (GENERIC) (ALTERNATE 1), FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 625 LIGHT POLE, AESTHETIC, AS PER PLAN - (SPRING CITY) (ALTERNATE 2)

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING AESTHETIC LIGHT POLES INCLUDING ALL HARDWARE, MATERIALS, AND EQUIPMENT NECESSARY.

LIGHT POLES SHALL BE THE MADISON 22'-0" DUCTILE IRON/STEEL LAMP POST WITH THE CAMBRIDGE SINGLE CROSS ARM MANUFACTURED BY SPRING CITY. LIGHT POLES SHALL INCLUDE BANNER ARMS AND AN OUTLET RECEPTACLE WITH A WET IN-USE COVER AS SHOWN IN THE LIGHT POLE DETAIL. THE LIGHT POLES, BANNER ARMS, OUTLET RECEPTACLE, AND HARDWARE SHALL BE GALVANIZED WITH A GREEN FINISH (FED. #34077) PER ODOT SS 916. THE CONTRACTOR SHALL VERIFY WITH THE MANUFACTURER THAT THE POLE MATCHES ALL DETAILS OF THE EXISTING POLES.

PAYMENT FOR ITEM 625 LIGHT POLE, AESTHETIC, AS PER PLAN - (SPRING CITY) (ALTERNATE 2), FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 625 LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 625.10 AND SCD HL-40.10, THE FOLLOWING SHALL APPLY:

PRIOR TO ORDERING MATERIALS, THE CONTRACTOR SHALL CONTACT OUPS TO HAVE ALL UTILITIES LOCATED IN THE FIELD. THE CONTRACTOR SHALL HYDRO-EXCAVATE POLE FOUNDATIONS TO ENSURE ABSENCE OF CONFLICTS WITH POLE LOCATIONS. IF THE CONTRACTOR FAILS TO DO SO PRIOR TO ORDERING, ANY CHANGES TO THE POLES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

PAYMENT FOR ITEM 625 LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 2"

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 625 - CONDUIT JACKED OR DRILLED, EXCEPT AS HEREIN MODIFIED.

ALL MATERIALS, PROCEDURES, AND TESTING USED SHALL CONFORM WITH THE ENCLOSED STANDARDS AND SPECIFICATIONS.

ALL CONDUIT CAPABLE OF HORIZONTAL DIRECTIONAL DRILLING SHALL BE EPEC-40-HDPE.

HORIZONTAL DIRECTIONAL DRILLING SHALL BE IN ACCORDANCE WITH ASTM F1962 AT THE LOCATIONS SHOWN ON THE PLANS.

AN EXTRA PULL STRING, FOR FUTURE USE, SHALL BE INSTALLED IN ALL CONDUIT.

THIS ITEM OF WORK SHALL INCLUDE FURNISHING AND INSTALLING ALL FITTINGS, BENDS, TEES, COUPLINGS, RESTRAINTS, TRACING WIRE, PULL STRING, ETC. AND SHALL INCLUDE THE COST FOR THE HORIZONTAL DIRECTIONAL DRILLING OF THE CONDUIT.

THIS ITEM OF WORK SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE HORIZONTAL DIRECTIONAL DRILLING OF THE CONDUIT. THIS INCLUDES ANY REQUIRED BORING PITS, DEWATERING, BACKFILLING OF PITS, COMPACTION, ASPHALT, GRAVEL AND CONCRETE REPAIR, SEEDING AND MULCHING, LANDSCAPING REPAIR, ETC. NECESSARY TO RESTORE THE AREA BACK TO EQUAL OR BETTER CONDITIONS.

PAYMENT FOR ITEM 625 - CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 2", FOR ALL OPERATIONS DESCRIBED (INCLUDING TESTING AND PURITIES) ABOVE SHALL BE AT THE CONTRACT FOOT BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, IES-III-M, LED, 12087-12759 LUMENS - (GENERIC) (ALTERNATE 1)

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING A DECORATIVE TEARDROP-STYLE LED LUMINAIRE INCLUDING ALL WIRING, CONNECTIONS, GROUNDING HARDWARE, MATERIALS, AND EQUIPMENT NECESSARY.

LUMINAIRES SHALL BE SPRING CITY COLUMBIA LED LUMINAIRE WITH 7-PIN PHOTO CELL/SHORTING CAP AS LISTED IN THE LUMINAIRE SCHEDULE OR AN APPROVED EQUAL. LUMINAIRES SHALL HAVE A BLACK FINISH PER ODOT SS 916 TO MATCH THE POLE COLOR.

APPROVED EQUAL LUMINAIRE SCHEDULE:

1. *SPRING CITY COLUMBIA:*
   CLU-LE120-EVX-2G2-30-CR3-YSLF-LACLB-FCR-TR7P-BLACK-CU
2. *HOLOPHANE ESPLANADE:*
   ESL3-P25S-30K-MVOLT-SG3-BK-PR7-SH
3. *STERNBERG LIBERTYVILLE:*
   1914LED-3L-30-T3-MDL06-SG-PE-SC-HSHN-BKT

THE VOLTAGE SUPPLIED SHALL BE 240 VOLTS.

PAYMENT FOR ITEM 625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, IES-III-M, LED, 12087-12759 LUMENS - (GENERIC) (ALTERNATE 1) , FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN - (SPRING CITY) (ALTERNATE 2)

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING A DECORATIVE TEARDROP-STYLE LED LUMINAIRE INCLUDING ALL WIRING, CONNECTIONS, GROUNDING HARDWARE, MATERIALS, AND EQUIPMENT NECESSARY.

LUMINAIRES SHALL BE COLUMBIA TEARDROP LED LUMINAIRE WITH 7-PIN PHOTOCELL/DIMMING RECEPTACLE. LUMINAIRES SHALL HAVE A GREEN FINISH (FED. #34077) PER ODOT SS 916 TO MATCH THE POLE COLOR.

LUMINAIRE: CLU-LE120-EVX-2G2-30-CR3-GR14-LACLB-FCR-TR7P-CU

THE VOLTAGE SUPPLIED SHALL BE 240 VOLTS.

PAYMENT FOR ITEM 625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN - (SPRING CITY) (ALTERNATE 2), FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 625 POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 625 AND 725 AND SCD HL-40.20, THE FOLLOWING REQUIREMENTS SHALL APPLY:

AES OHIO IS THE ELECTRICAL POWER SERVICE PROVIDER. ALL CONNECTIONS TO THE POWER SYSTEM SHALL BE COORDINATED WITH THE CITY, AES OHIO, AND ODOT.

CIRCUIT BREAKER TYPE SHALL BE 20 AMP TYPE BREAKER FOR LUMINAIRES AND 20 AMP TYPE BREAKER FOR OUTLETS.

THE DIMENSIONS OF THE POWER SERVICE FOUNDATION SHALL BE PER CMS 633.10 AND INCLUDE THE CONDUIT ELL FOR THE POWER SERVICE WITHIN THE FOUNDATION. THE CONTROLLER WORK PAD SHALL BE 30"X30"x4" AND BE INCIDENTAL TO THE RESPECTIVE PAY ITEMS.

THE CABINET SHALL BE A PAD MOUNTED CABINET PER ODOT SCD HL-40.20.

THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120/240 VOLT SINGLE-PHASE SERVICE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS, INSPECTIONS AND THE PAYING OF ALL FEES.

CONTRACTOR SHALL PROVIDE A MIN. 100 AMP SERVICE WITH CIRCUIT BREAKERS AND PHOTOCELLS AT THE TOP OF THE CABINET. IN ADDITION OVER CURRENT SHALL PROVIDE ENOUGH PROTECTION FOR ALL SERVICES AND FUTURE CONNECTIONS.

PAYMENT FOR ITEM 625 POWER SERVICE, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

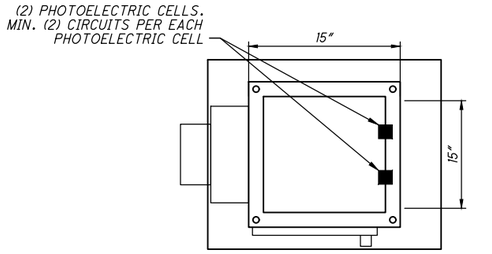
UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO STANDARD CONSTRUCTION DRAWING HL-30.11 FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET. LONGER LENGTHS MAY BE REQUIRED AT CRITICAL PULL BOXES WHEN DIRECTED BY THE ENGINEER.

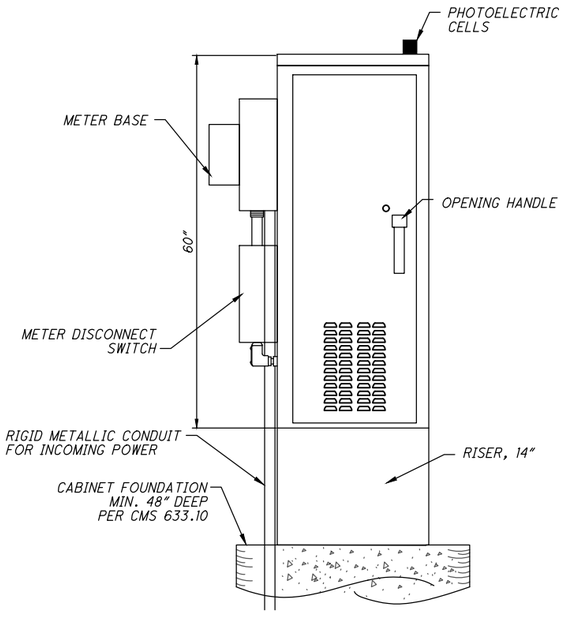
PAYMENT FOR ITEM 611 4" CONDUIT, TYPE E UNDERDRAINS WILL BE MADE AT THE CONTRACT FOOT BID PRICE. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY ODOT.

ITEM 611, 4" CONDUIT, TYPE E.....100 FT.

**ONE PHOTOELECTRIC CELL SHALL BE PROVIDED FOR CIRCUIT A/A1 AND ONE PHOTOELECTRIC CELL SHALL BE PROVIDED FOR CIRCUIT B/B1/B2*



POWER SERVICE, AS PER PLAN TOP VIEW



POWER SERVICE, AS PER PLAN FRONT VIEW

LIGHTING NOTES

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER DWL
REVIEWER BMW 1-16-2026
PROJECT ID 119822
SHEET P.73 TOTAL 92

MOT SR 48 20.61
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SYMBOL SCHEDULE

MARK	LAMP TYPE	VOLTS	SOURCE AND WATTAGE BALLAST	DESCRIPTION	MFR. AND CATALOG SERIES
A	LED	120-277 (240V)	ALTERNATE 1: 120 WATT ALTERNATE 2: 82 WATT	ALTERNATE 1: BASELINE AESTHETIC POLE WITH TRIPLE SCROLL ARM AND THE COLUMBIA LED LUMINAIRE ALTERNATE 2: MADISON 22' DUCTILE IRON/STEEL LAMP POST WITH THE CAMBRIDGE SINGLE CROSS ARM AND THE COLUMBIA LED LUMINAIRE	ALTERNATE 1: LUMINAIRE: CLU-LE120-EVX-2G2-30-CR3-YSLF-LACLB-FCR-TR7P-BLACK-CU OR APPROVED EQUAL PER PLAN NOTE POLE: TRIPLE SCROLL ARM AESTHETIC POLE WITH BANNER ARMS AND ONE OUTLET RECEPTACLE ON A STYLE WA BASE - (ODOT SCD HL-10.11) PAINTED BLACK OR APPROVED EQUAL PER PLAN NOTE ALTERNATE 2: LUMINAIRE: CLU-LE120-EVX-2G2-30-CR3-GR14-LACLB-FCR-TR7P-CU POLE: MADISON POST WITH CAMBRIDGE SINGLE CROSS ARM WITH BANNER ARMS AND ONE OUTLET RECEPTACLE - PAINTED GREEN (FED. #34077)
LT				PORTLAND CONCRETE BOX & COVER, OPEN BASE BOX, 30" DEPTH, LIGHTING LOGO	PULL BOX, 725.08, 18"
LT				PORTLAND CONCRETE BOX & COVER, OPEN BASE BOX, 30" DEPTH, LIGHTING LOGO	PULL BOX, 725.08, 24"

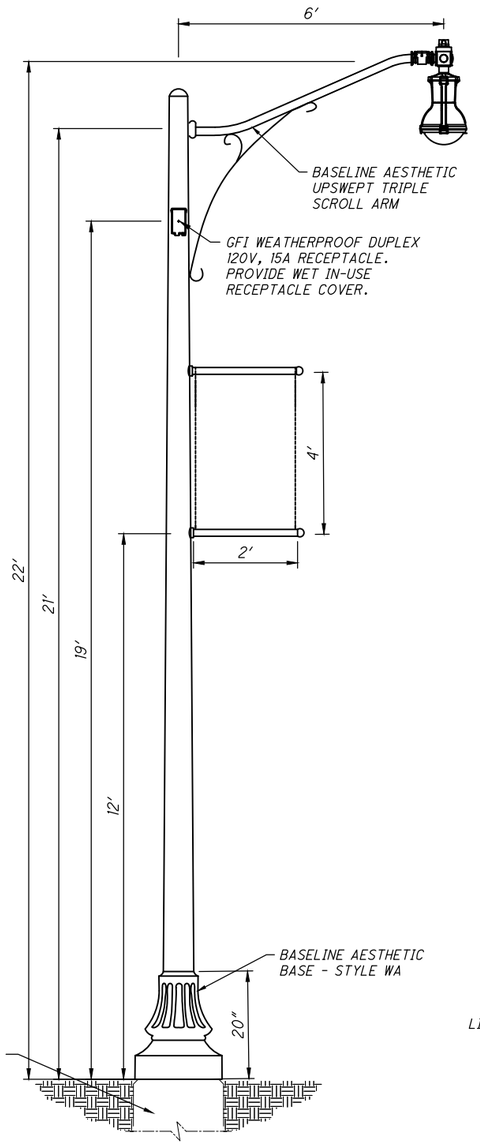
*THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF THE POLE & LUMINAIRE THAT WILL BE REVIEWED & APPROVED PRIOR TO ORDERING ANY MATERIALS. ADDITIONALLY, IT IS UNDERSTOOD THAT THE MANUFACTURERS MAY CHANGE CATALOG NUMBERS AND/OR VARY THEM TO FIT CURRENT MODELS. THE CONTRACTOR SHALL ADHERE AS CLOSELY AS POSSIBLE TO THE CATALOG MODEL SYSTEM.

GENERAL NOTES

1. CONDUIT PLACEMENT IN ELECTRICAL DRAWINGS ARE DRAWN FOR CLARITY. ACTUAL CONDUIT SHOULD BE INSTALLED IN EXISTING RIGHT-OF-WAYS. COORDINATE EXACT CONDUIT ROUTES WITH THE PROJECT ENGINEER TO AVOID CONFLICT WITH SIGNAGE, CURBS, TREES AND OTHER LANDSCAPING.
2. CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES AND MISCELLANEOUS CONDUIT AND PIPES PRIOR TO DIGGING. ANY DAMAGE TO UNDERGROUND UTILITIES WHEN DIGGING MUST BE REPAIRED BY THIS CONTRACTOR. NOTE: ALL REPAIRS AND MODIFICATIONS SHALL BE CLOSELY COORDINATED WITH OWNING UTILITIES OFFICIALS.
3. STUB CONDUIT THROUGH PULL BOX SIDEWALLS. USE A MANUFACTURER'S RECOMMENDED WALL PUNCH AS NECESSARY FOR CONDUIT KNOCKOUTS. SIZE KNOCKOUT ONE TRADE SIZE LARGER THAN CONDUIT TO ALLOW FOR CONDUIT MOVEMENT. MOUNT BOX SUCH THAT THE TOP OF THE BOX WILL BE FLUSH WITH THE TOP OF FINISH SURFACE.
4. CONTRACTOR TO SUPPLY/INSTALL/WIRE ELECTRIC SERVICE ENCLOSURE WITH CONTENTS AND FOUNDATION.
5. ALL UNDERGROUND CONDUIT SHALL HAVE UNDERGROUND MARKING TAPE INSTALLED PER ODOT CMS 625.20 AND 725.22.

ELECTRICAL GENERAL NOTES

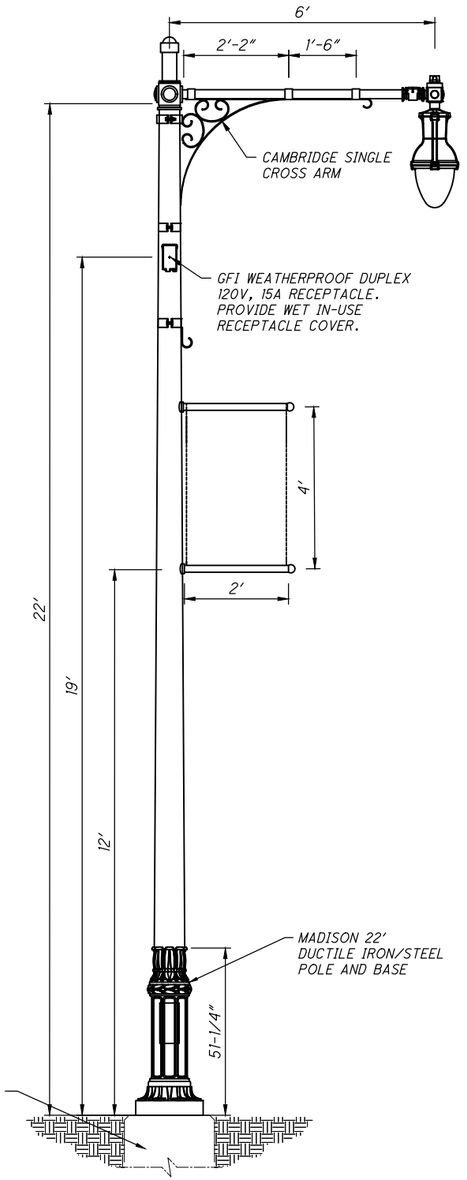
1. ALL ELECTRICAL WORK SHALL CONFORM WITH THE REQUIREMENTS OF THE MOST RECENT VERSION OF THE OHIO BUILDING CODE, THE N.E.C. AND N.F.P.A. STANDARD NO. 70, AND IS SUBJECT TO THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION.
2. ALL NOTED MOUNTING HEIGHTS ARE FROM FINISHED GRADE TO CENTER OF DEVICE UNLESS OTHERWISE NOTED.
3. (3) NO. 2 AWG. 600 VOLT DISTRIBUTION CABLES SHALL BE USED FOR SUPPLYING POWER TO THE POLES (OUTLETS).
4. (3) NO. 8 AWG. 600 VOLT DISTRIBUTION CABLES SHALL BE USED FOR SUPPLYING POWER TO THE POLES (LUMINAIRES).
5. (3) NO. 10 AWG. POLE AND BRACKET CABLES SHALL BE USED TO SUPPLY POWER TO THE OUTLET.
6. (3) NO. 10 AWG. POLE AND BRACKET CABLES SHALL BE USED TO SUPPLY POWER TO THE LUMINAIRE.



NOTE:

- CONTRACTOR SHALL CONTACT THE POLE MANUFACTURER FOR BOLT CIRCLE DIMENSIONS. FAILURE TO VERIFY THE FOUNDATION WITH THE MANUFACTURER PRIOR TO ITS INSTALLATION WILL REQUIRE THE CONTRACTOR TO RECONSTRUCT, OR RESET AT THE CONTRACTOR'S EXPENSE.
- LIGHT POLE FOUNDATION SHALL BE FLUSH WITH THE ADJACENT PAVEMENTS OR BE 2" EXPOSED FOUNDATION WHEN LOCATED IN THE CURB LAWN.

LIGHT POLE, AESTHETIC, AS PER PLAN, TRIPLE SCROLL ARM - (GENERIC) (ALTERNATE 1)



LIGHT POLE, AESTHETIC, AS PER PLAN - (SPRING CITY) (ALTERNATE 2)

LIGHTING NOTES

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER DWL
REVIEWER BMW 1-16-2026
PROJECT ID 119822
SHEET P.74 | TOTAL 92

MOT SR 48 20.61

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CONDUIT DETAILS

C-1
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (130')

C-2
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (127')

C-3
2" CONDUIT, 725.052
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
JACKED OR DRILLED (124')

C-4
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (122')

C-5
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (27')

C-6
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (89')

C-7
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (111')

C-8
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (125')

C-9
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (78')

C-10
3" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (12')

C-11
2" CONDUIT, 725.051
W/(1)–3/C NO. 2 AWG. POWER CABLE
(POWER SERVICE)
IN TRENCH (12')

C-12
2" CONDUIT, 725.052
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
JACKED OR DRILLED (93')

C-13
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (44')

C-14
2" CONDUIT, 725.052
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
JACKED OR DRILLED (124')

C-15
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (132')

C-16
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (119')

C-17
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (126')

C-18
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B2)
IN TRENCH (128')

C-19
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B2)
IN TRENCH (125')

C-20
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B2)
IN TRENCH (124')

C-21
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B2)
IN TRENCH (25')

C-22
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B2)
IN TRENCH (45')

C-23
2" CONDUIT, 725.052
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B2)
JACKED OR DRILLED (140')

C-24
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B2)
IN TRENCH (6')

C-25
3" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
W/(6)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
W/(3)–NO. 2 DIST. CABLE (CKT. B2)
IN TRENCH (8')

C-26
2" CONDUIT, 725.051
W/(1)–3/C NO. 2 AWG. POWER CABLE
(POWER SERVICE)
IN TRENCH (15')

C-27
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (131')

C-28
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (132')

C-29
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (129')

C-30
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (144')

C-31
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (52')

C-32
2" CONDUIT, 725.052
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
JACKED OR DRILLED (89')

C-33
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (94')

C-34
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (114')

C-35
2" CONDUIT, 725.052
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
JACKED OR DRILLED (131')

C-36
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (121')

C-37
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. A)
W/(3)–NO. 2 DIST. CABLE (CKT. A1)
IN TRENCH (126')

C-38
2" CONDUIT, 725.051
W/(1)–PULL STRING FOR FUTURE USE
IN TRENCH (5')

C-39
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (133')

C-40
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (130')

C-41
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (129')

C-42
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (133')

C-43
2" CONDUIT, 725.051
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
IN TRENCH (106')

C-44
2" CONDUIT, 725.052
W/(3)–NO. 8 DIST. CABLE (CKT. B)
W/(3)–NO. 2 DIST. CABLE (CKT. B1)
JACKED OR DRILLED (129')

C-45
2" CONDUIT, 725.051
W/(1)–PULL STRING FOR FUTURE USE
IN TRENCH (5')

POWER SERVICE AND CIRCUIT SCHEDULE

		WATTS	CIRCUIT BREAKER SIZE
POWER SERVICE No. 1 --> STA. 1108+92.02, 57.47' RT			
CKT. A LUMINAIRES:	1A-1, 1A-3, 1A-5, 1A-7, 1A-9, 1A-11, 1A-13	840	20
CKT. B LUMINAIRES:	1B-2, 1B-4, 1B-6, 1B-8, 1B-10, 1B-12	720	20
CKT. A1 OUTLETS:	#1, #3, #5, #7, #9, #11, #13	1260	20
CKT. B1 OUTLETS:	#2, #4, #6, #8, #10, #12	1080	20
	TOTAL	3900	
POWER SERVICE No. 2 --> STA. 1120+54.09, 43.70' LT			
CKT. A LUMINAIRES:	2A-15, 2A-17, 2A-19, 2A-22, 2A-24, 2A-26, 2A-28, 2A-30, 2A-32	1080	20
CKT. B LUMINAIRES:	2B-14, 2B-16, 2B-18, 2B-20, 2B-21, 2B-23, 2B-25, 2B-27, 2B-29, 2B-31, 2B-33, 2B-34, 2B-35, 2B-36	1680	20
CKT. A1 OUTLETS:	#15, #17, #19, #22, #24, #26, #28, #30, #32	1620	20
CKT. B1 OUTLETS:	#25, #27, #29, #31, #33, #34, #35, #36	1440	20
CKT. B2 OUTLETS:	#14, #16, #18, #20, #21, #23	1080	20
	TOTAL	6900	

PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE
PBx1	1108+86.03	LT	44.50'	18"
PBx2	1108+86.03	RT	47.89'	24"
PBx3	1119+01.56	LT	44.55'	18"
PBx4	1120+46.40	RT	44.65'	18"
PBx5	1120+46.34	LT	43.70'	24"

LIGHTING NOTES

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER
DWL
REVIEWER
BMW 1-16-2026
PROJECT ID
119822
SHEET P.75 | TOTAL 92

MOT SR 48 20.61

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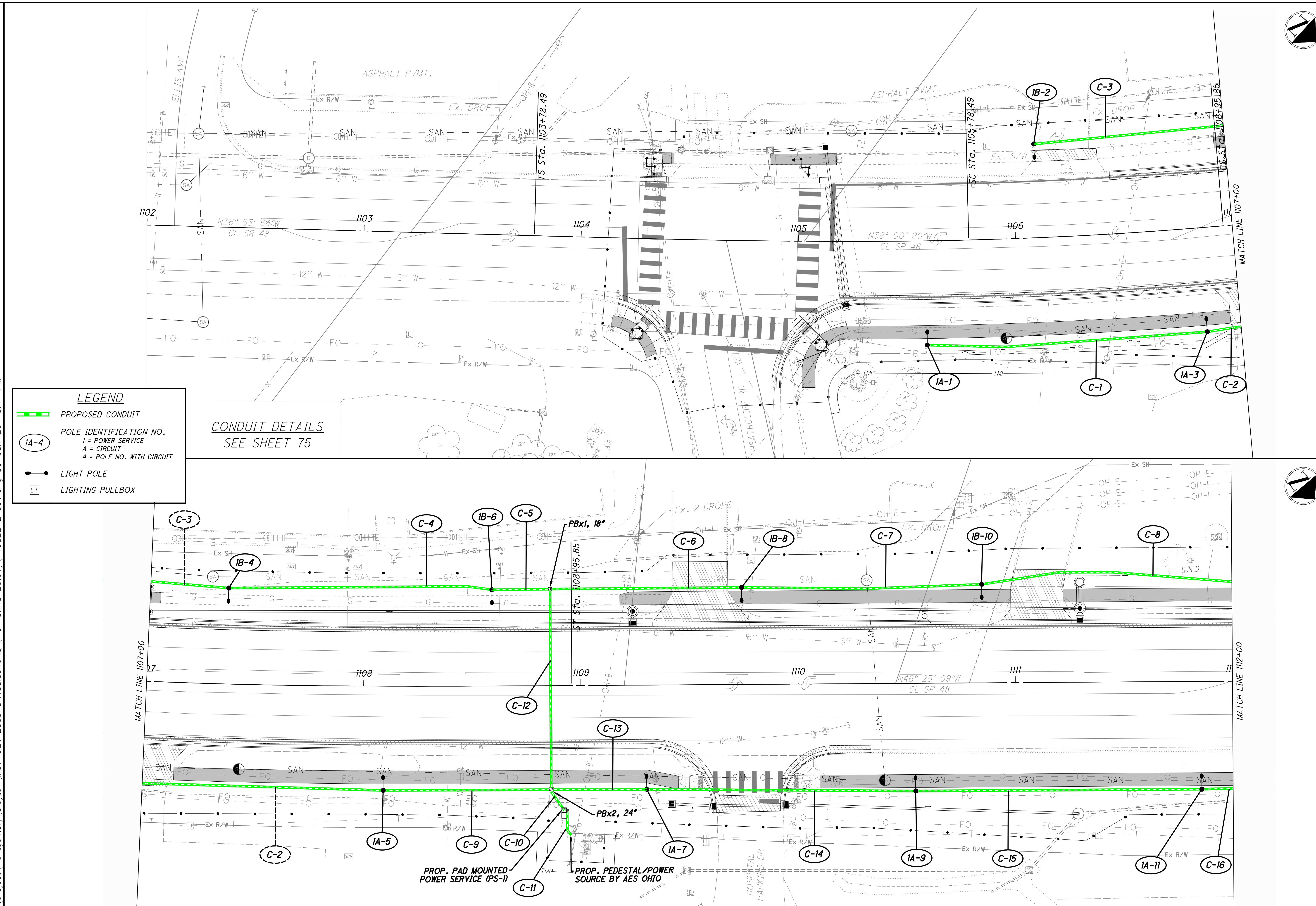

LIGHTING PLAN
STA. 1102+00 to STA. 1112+00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER: DWL
REVIEWER: BMW 1-16-2026
PROJECT ID: 119822
SHEET: P.76
TOTAL: 92

MOT SR 48 20.61

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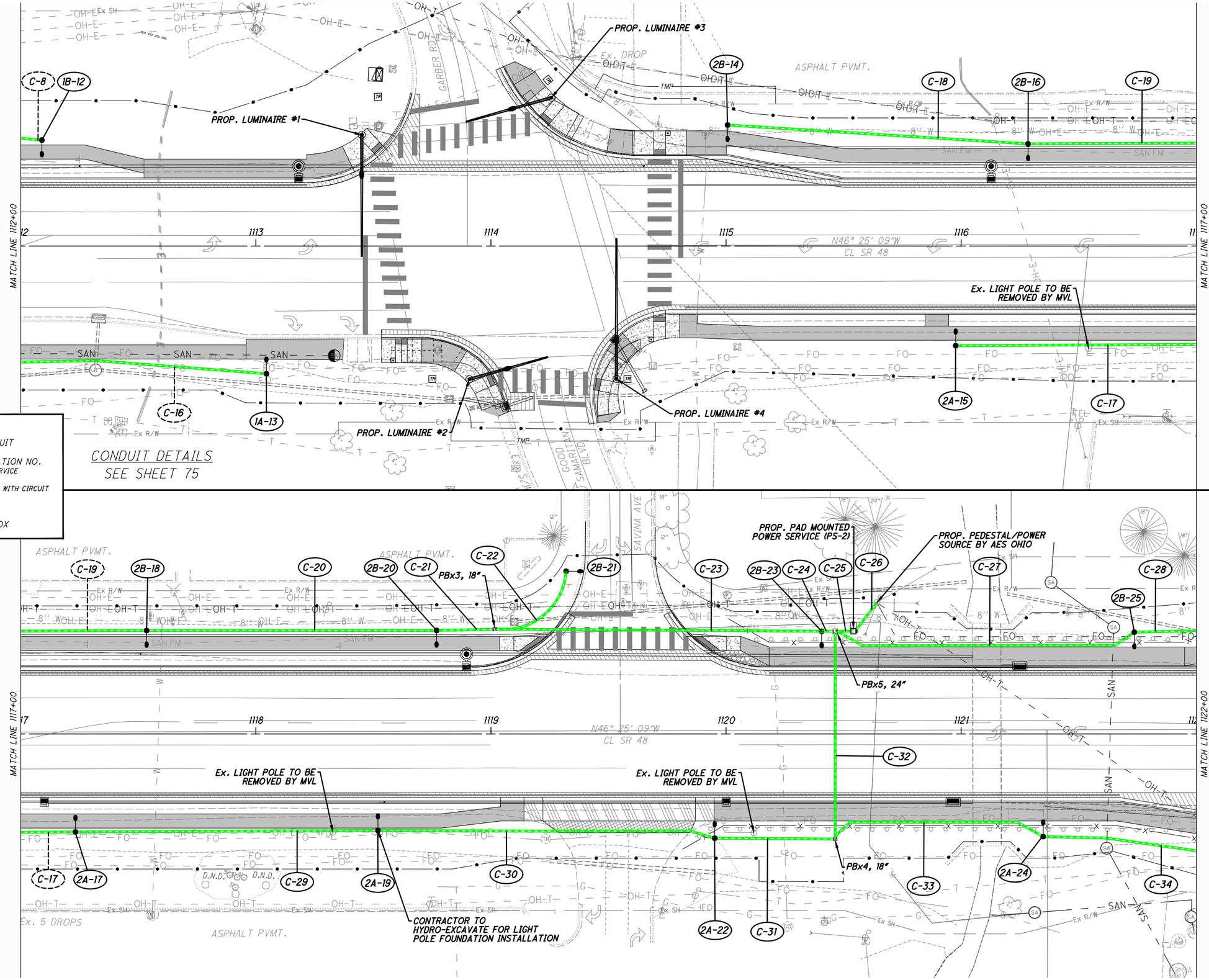

LEGEND

- PROPOSED CONDUIT
- (1A-4) POLE IDENTIFICATION NO.
  - 1 = POWER SERVICE
  - A = CIRCUIT
  - 4 = POLE NO. WITH CIRCUIT
- LIGHT POLE
- LT LIGHTING PULLBOX

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
STA. 1112+00 TO STA. 1122+00

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	DWL
REVIEWER	BMW 1-16-2026
PROJECT ID	119822
SHEET	P.77
TOTAL	92

MOT SR 48 20.61

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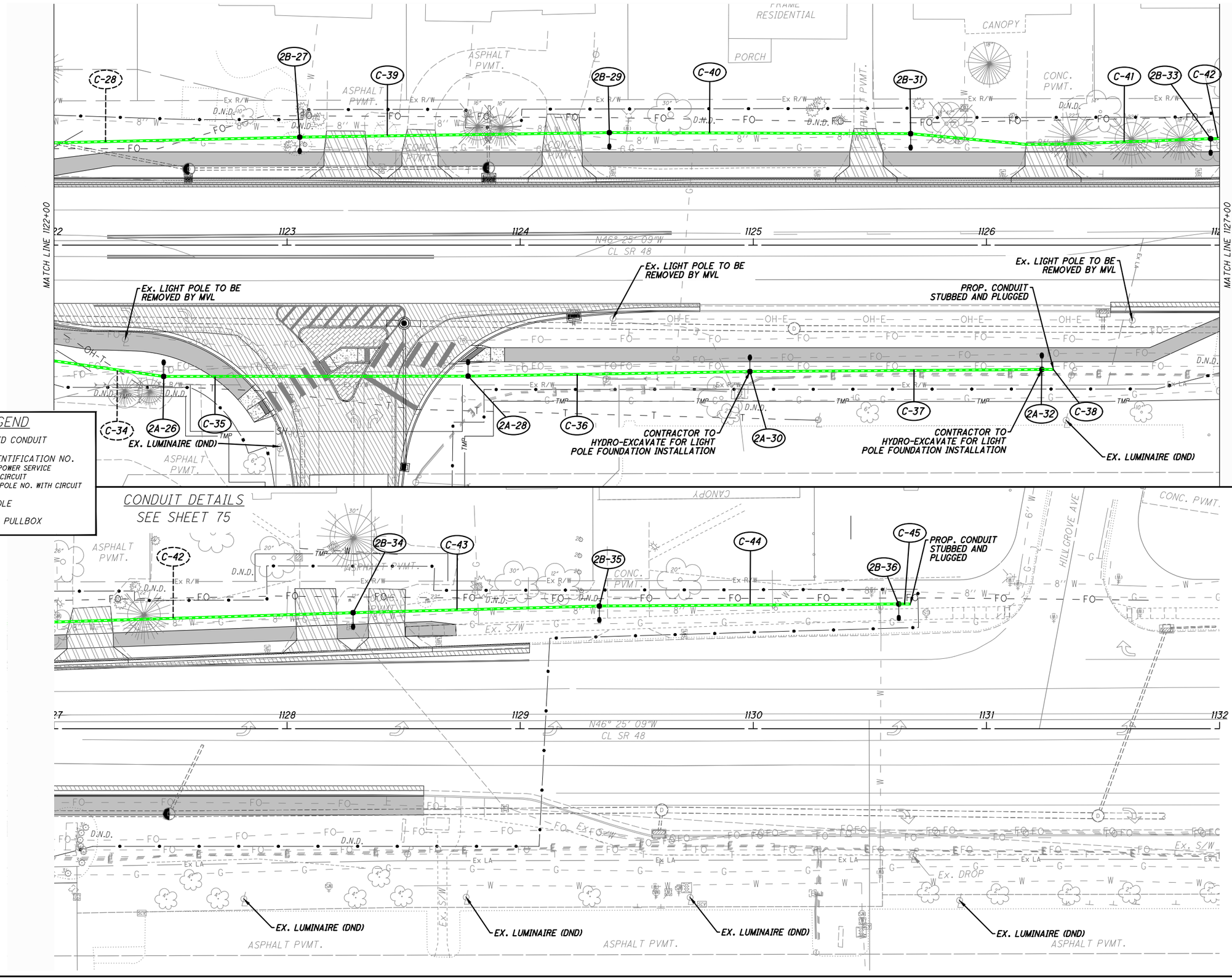

LEGEND

- PROPOSED CONDUIT
- POLE IDENTIFICATION NO.
  1A-4
  1 = POWER SERVICE
  A = CIRCUIT
  4 = POLE NO. WITH CIRCUIT
- LIGHT POLE
- LT LIGHTING PULLBOX

CONDUIT DETAILS

SEE SHEET 75

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
STA. 1122+00 TO STA. 1132+00

MOT SR 48 20.61

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER	DWL
REVIEWER	BMW 1-16-2026
PROJECT ID	119822
SHEET	P.78
TOTAL	92

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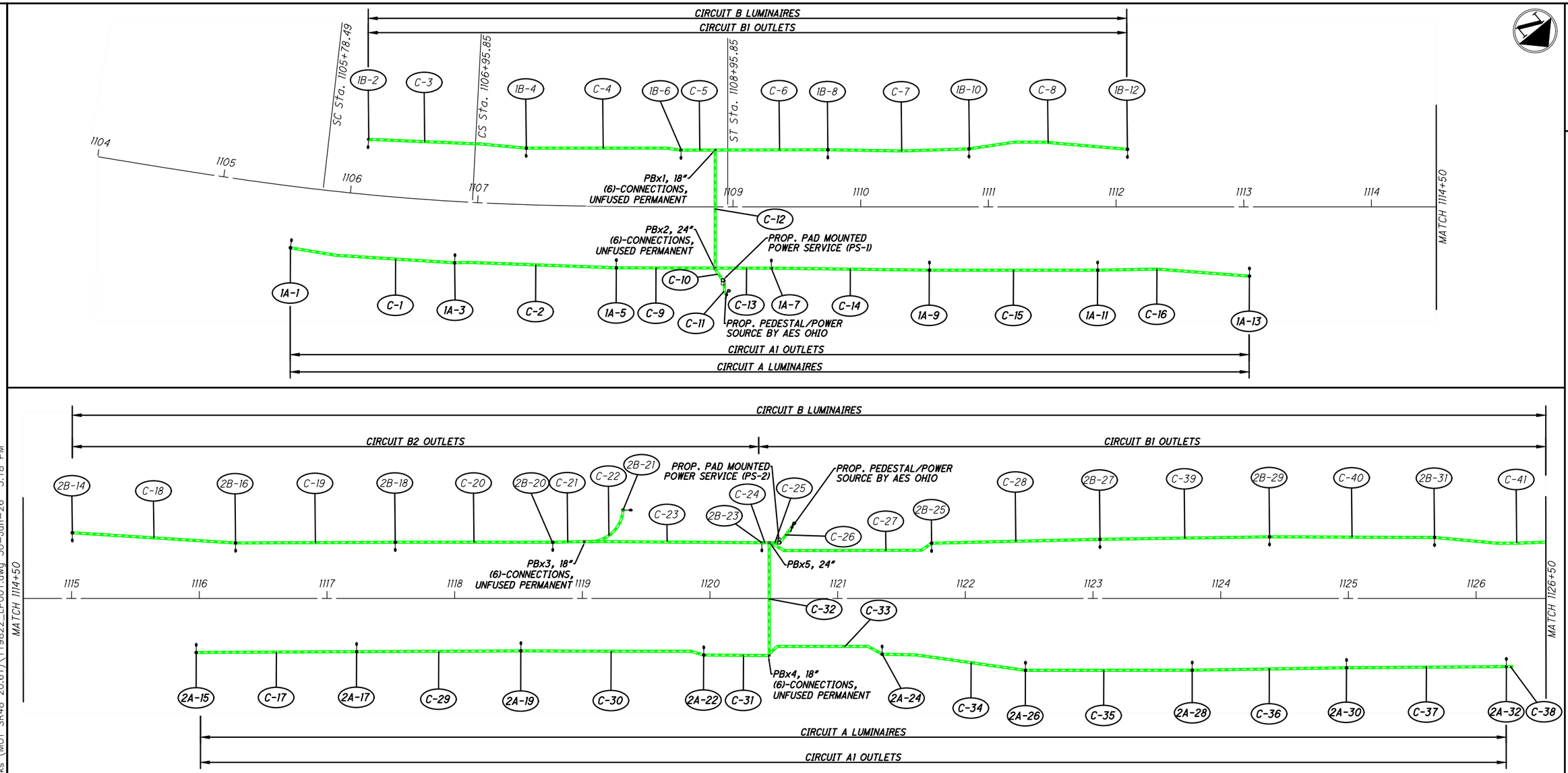

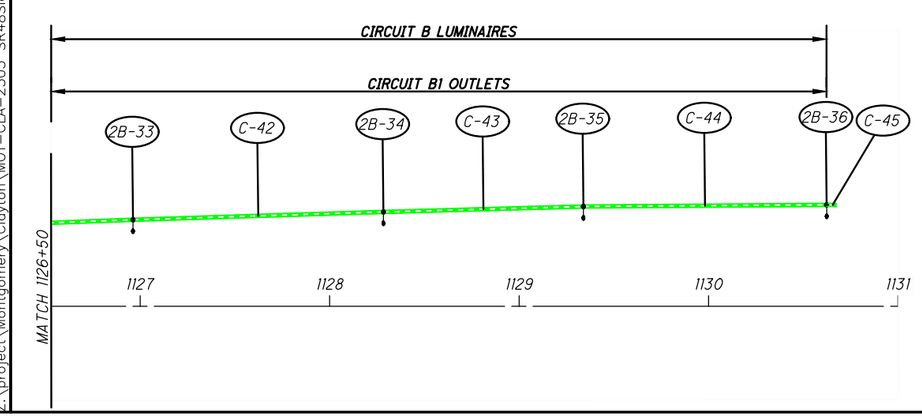

CONTROL CENTER DATA									
CONTROL CENTER DESIGNATION	LINE VOLTS	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE - AWG	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD AMPS	CIRCUIT FUSE SIZE AMPS	CIRCUIT CABLE SIZE AWG	MAINTAINING AGENCY
PS-1	240	1.6	2	100	A	3.50	20	8	CITY OF CLAYTON
					B	3.00	20	8	
PS-1	120	2.3	2	100	A1	10.50	20	2	CITY OF CLAYTON
					B1	9.00	20	2	
PS-2	240	2.8	2	100	A	4.50	20	8	CITY OF CLAYTON
					B	7.00	20	8	
PS-2	120	4.1	2	100	A1	13.50	20	2	CITY OF CLAYTON
					B1	12.00	20	2	
					B2	9.00	20	2	

LEGEND

- PROPOSED CONDUIT
- 1A-4 — POLE IDENTIFICATION NO. 1 = POWER SERVICE, A = CIRCUIT, 4 = POLE NO. WITH CIRCUIT
- LIGHT POLE
- LP — LIGHTING PULLBOX

LIGHTING PLAN
CIRCUIT DIAGRAM

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER DWL
REVIEWER BMW 1-16-2026
PROJECT ID 119822
SHEET P.79 TOTAL 92

MOT SR 48 20.61

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ODOT STANDARD CONSTRUCTION DRAWINGS

DRAWINGS IN THESE PLANS SHALL BE CONSIDERED AS REFERENCE TO ITEMS 625, 632, 633, 725, 730, 732 AND 733 RESPECTIVELY.

ALL MATERIALS MUST BE IN COMPLIANCE WITH CONTRACT SPECIFICATIONS UNLESS OTHERWISE APPROVED BY THE CITY. ALL WORK AND MATERIALS NOT SPECIFICALLY REFERENCED IN THE CONTRACT SHALL MEET OR EXCEED THE REQUIREMENTS OF:

OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS (2023)

THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2012)

POWER SUPPLY FOR TRAFFIC SIGNAL

ELECTRIC POWER SHALL BE OBTAINED FROM AES OHIO AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120/240 VOLTS. (120V FOR SIGNAL AND 120V FOR LIGHTING)

AES OHIO CONTACT: WILLIAM WARD (937) 554-9463 AND BHAVYA KATTA (937) 331-4025

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE CITY WITH 72 HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS, AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLER, CABINET, UNINTERRUPTIBLE POWER SUPPLY, VEHICLE DETECTION EQUIPMENT, LED LAMP UNITS, NETWORK AND COMMUNICATION/INTERCONNECT EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE CITY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

APPROVAL OF FIELD LOCATIONS

AFTER STAKING THE LOCATIONS OF ALL SIGNALS, PULLBOXES, SIGNS, POLES, AND CONTROLLERS, AND BEFORE THE INSTALLATION OF THE SAME, THE CONTRACTOR WILL BE RESPONSIBLE TO CONTACT OUPS AND THE CITY TO VERIFY AND APPROVE THE LOCATIONS PRIOR TO PLACEMENT OF ANY FACILITIES. FAILURE TO NOTIFY OUPS AND THE PROJECT ENGINEER OF THIS INFORMATION MAY REQUIRE THE CONTRACTOR TO REALIGN, RESET, OR RECONSTRUCT PORTIONS OF THE INSTALLATION AT THE CONTRACTOR'S COST TO CORRECT IMPROPERLY LOCATED WORK ITEMS.

STAINLESS STEEL HARDWARE

HARDWARE FOR ALL SIGNS AND SIGNALS SHALL CONFORM TO 730.10 OF THE ODOT SPECIFICATIONS, THE COST OF STAINLESS STEEL HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT CONTRACT ITEMS.

VEHICLE DETECTION LOCATION

THE LOCATION OF THE RADAR UNITS SHOWN IN THE PLANS ARE FOR REPRESENTATIONAL PURPOSES ONLY. THE FINAL LOCATION OF THE VEHICLE DETECTION UNITS WILL BE DETERMINED IN THE FIELD BY THE MANUFACTURER, AND THE CITY.

QUALITY REQUIREMENTS

IN ADDITION TO THE REQUIREMENTS OF 632.28 AND 633.06, A 48-HOUR BENCH TEST OF THE CONTROLLER AND CABINET SHALL BE PERFORMED BEFORE INSTALLING IN THE FIELD.

THE PROPOSED SIGNAL TIMING SHALL BE PROGRAMMED IN THE CONTROLLER AND THE CONTROLLER TESTED THOROUGHLY WITH THIS TIMING. THOROUGH TESTING INCLUDES PROGRAMMING TIMING PLAN, AND PHASING SCHEMES. THE CONTRACTOR SHALL PERFORM AN ATSI CONFLICT MONITOR TEST AND SUPPLY THE RESULTS OF THE TEST INSIDE THE CONTROLLER CABINET.

NOTE CAREFULLY THAT THE FINDINGS OF THESE TESTS SHALL BE DOCUMENTED AND SUBMITTED IN A WRITTEN REPORT TO THE CITY. ALL COSTS ASSOCIATED WITH THE 48 HOUR BENCH TEST SHALL BE INCIDENTAL TO THIS PROJECT.

UNDERDRAINS FOR PULLBOXES

REFERENCE TRAFFIC SCD HL-30.11 FOR DETAILS ABOUT DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE CITY AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED 20 FEET. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY:

ITEM 611 4" CONDUIT, TYPE E 80 FT.

SIGNAL ACTIVATION

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP-AND-GO MODE, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC). IF THERE ARE CONSTRUCTABILITY ISSUES (I.E., ROADWAY WIDENING, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE CITY. THE CITY WILL REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUE WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE TRAVELING PUBLIC AND/OR THE EFFICIENCY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALL BE CORRECTED AND REINSPECTED BY THE CITY PERSONNEL PRIOR TO FINAL ACCEPTANCE. THE CITY FORCES SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

DETECTION MAINTENANCE

IF VEHICLE DETECTION BECOMES UNEXPECTEDLY DISABLED, REQUIRES MODIFICATION, OR IS SCHEDULED TO BE TEMPORARILY REMOVED DURING THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CITY.

IF THE LOSS OF VEHICLE DETECTION IS KNOWN PRIOR TO THE START OF CONSTRUCTION, IT SHALL BE DISCUSSED AT THE PRECONSTRUCTION MEETING. AT SUCH TIME, THE CITY SHALL ADVISE THE CONTRACTOR ON THE APPROPRIATE ACTION TO RECTIFY ANY LOSS OF VEHICLE DETECTION. THIS MAY INCLUDE PLACING THE TRAFFIC SIGNAL ON MINIMUM OR MAXIMUM RECALL, MODIFYING THE MINIMUM GREEN TIMES, AND REMOVING THE MALFUNCTIONING DETECTION FROM SERVICE. WHERE NONINTRUSIVE DETECTION (I.E. VIDEO, RADAR) ALREADY EXISTS, THE CONTRACTOR SHALL INSURE THAT DETECTION IS OPERATING AND MAINTAINED BY RECONFIGURING THE DETECTION UNITS ACCORDINGLY DURING ALL CONSTRUCTION PHASES. THIS IS TO AVOID THE SIGNAL FROM MAXING OUT THE EFFECTED SIGNAL PHASE AND CREATING UNNECESSARY DELAYS.

LOCATIONS WHERE NON-INTRUSIVE DETECTION IS PROPOSED AND THE EXISTING VEHICLE DETECTION IS TO BE ABANDON, THE NON-INTRUSIVE VEHICLE DETECTION SHALL BE INSTALLED, CONFIGURED AND MADE FULLY FUNCTIONAL PRIOR TO THE EXISTING DETECTION BEING DISABLED. THE CONTRACTOR SHALL CONTINUE TO MAINTAIN AND MODIFY THE DETECTION UNTIL FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL. THIS IS TO ENSURE VEHICLE DETECTION REMAINS FULLY FUNCTIONAL THROUGHOUT CONSTRUCTION.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. *ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.*

   A. *PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.*

   B. *WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.*

   C. *METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.*

   D. *IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.*

   E. *IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.*

   F. *THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.*

2. *CONDUITS.*

   A. *THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.*

   B. *THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.*

   C. *BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.*

   D. *METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.*

3. *WIRE FOR GROUNDING AND BONDING.*

   A. *USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:*

      a. *USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.*

      b. *USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.a ABOVE.*

GROUNDING AND BONDING (CONTINUED)

   c. *USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.a ABOVE.*

   d. *THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.*

   e. *IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.*

4. *GROUND ROD.*

   A. *A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.*

   B. *THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.*

5. *THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:*

COND. NO.	COLOR	VEHICLE SIGNAL	PED. SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIP. GROUND	EQUIP. GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WH/BL STRIPE	YELLOW ARROW	NOT USED

6. *POWER SERVICE AND DISCONNECT SWITCH.*

   A. *AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.*

   B. *THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.*

      i. *NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.*

      ii. *IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.*

7. *PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.*

TRAFFIC SIGNAL NOTES

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER BMW
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P.80 TOTAL 92

MOT SR 48 20.61

MAINTENANCE OF TRAFFIC SIGNAL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. *EXISTING SIGNAL INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.*

2. *NEW OR REUSED SIGNAL INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.*

3. *THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE EXISTING TRAFFIC SIGNAL DURING CONSTRUCTION. ANY TEMPORARY ADJUSTMENTS, TEMPORARY POLES, ETC. THAT MAY BE NEEDED SHALL BE INCIDENTAL TO ITEM 614 MAINTAINING TRAFFIC. THE ITEMS DESCRIBED ABOVE AND ALL NECESSARY WORK/MATERIALS ASSOCIATED WITH THE TEMPORARY SIGNAL SUPPORTS REQUIRED TO MAINTAIN A FULLY OPERATIONAL SIGNALIZED INTERSECTION SHALL BE INCIDENTAL TO ITEM 614, MAINTAINING TRAFFIC AND HAS BEEN INCLUDED IN THE LUMP SUM BID PRICE.*

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY, THE PROJECT ENGINEER, AND THE CITY SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE CITY WITH THE SIGNAL BACK TO SERVICE WITHIN TWO HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

MAINTENANCE OF TRAFFIC SIGNAL (CONT.)

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE CITY MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO CITY POLICE SERVICES AND MAINTENANCE SERVICES BY THE CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE CITY, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 4 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7 TO 9 AM AND 4 TO 6 PM, ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. *TIME OF NOTIFICATION OF MALFUNCTION;*

2. *TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;*

3. *ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;*

4. *A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;*

5. *TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.*

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE PROJECT ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 625 BRACKET ARM, 15' AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN THE OHIO DEPARTMENT OF TRANSPORTATION ITEM 625 HIGHWAY LIGHTING, EXCEPT AS HERIN MODIFIED.

THE BRACKET ARM SHALL MATCH THE PROPOSED STYLE OF BRACKET ARMS AT THE INTERSECTION OF SR 49 & UNION ROAD. CONTRACTOR TO COORDINATE WITH CITY PRIOR TO ORDERING MATERIAL FOR APPROVAL.

THE BRACKET ARM SHALL BE MANUFACTURED BY UNION METAL (MODEL#3714), SPRING CITY (SPEC-35234) OR APPROVED EQUAL. FINISH SHALL CONSIST OF DARK GREEN FINISH (FED #34077) DIRECTLY OVER HOT DIPPED GALVANIZING PER ODOT SUPPLEMENTAL SPECIFICATION 916.

THE BRACKET ARMS SHALL BE WRAPPED TO PROTECT THE FINISH DURING SHIPPING, UNLOADING AND INSTALLATION. THE CONTRACTOR IS TOTALLY RESPONSIBLE TO PROVIDE ADEQUATE PROTECTION FOR THE FINISH OF THE ARMS. IF THE FINISH IS DAMAGED DURING HANDLING, THE CONTRACTOR SHALL REPAIR THE FINISH PER THE MANUFACTURER'S RECOMMENDATIONS.

PAYMENT FOR ITEM 625 BRACKET ARM, 15', AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, (DIAMETER)

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 625 CONDUIT JACKED OR DRILLED, EXCEPT AS HEREIN MODIFIED.

ALL MATERIALS, PROCEDURES, AND TESTING USED SHALL CONFORM WITH THE ENCLOSED STANDARDS AND SPECIFICATIONS.

ALL CONDUIT CAPABLE OF HORIZONTAL DIRECTIONAL DRILLING SHALL BE EPEC-40-HDPE.

THE HORIZONTAL DIRECTIONAL DRILLING SHALL BE IN ACCORDANCE WITH ASTM F1962 AT THE LOCATIONS SHOWN ON THE PLANS.

AN EXTRA PULL STRING, FOR FUTURE USE, SHALL BE INSTALLED IN ALL CONDUIT.

THIS ITEM OF WORK SHALL INCLUDE FURNISHING AND INSTALLING ALL FITTINGS, BENDS, TEES, COUPLINGS, RESTRAINTS, TRACING WIRE, PULL STRING, ETC. AND SHALL INCLUDE THE COST FOR THE HORIZONTAL DIRECTIONAL DRILLING OF THE CONDUIT.

THIS ITEM OF WORK SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE HORIZONTAL DIRECTIONAL DRILLING OF THE CONDUIT. THIS INCLUDES ANY REQUIRED BORING PITS, DEWATERING, BACKFILLING OF PITS, COMPACTION, ASPHALT, GRAVEL AND CONCRETE REPAIR, SEEDING AND MULCHING, LANDSCAPING REPAIR, ETC. NECESSARY TO RESTORE THE AREA BACK TO EQUAL OR BETTER CONDITIONS.

PAYMENT FOR ITEM 625 CONDUIT JACKED OR DRILLED, 725.052, AS PER PLAN, (DIAMETER), FOR ALL OPERATIONS DESCRIBED (INCLUDING TESTING AND PURITIES) ABOVE SHALL BE AT THE CONTRACT FOOT BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, IES-III-M, LED, 12087-12759 LUMENS - (GENERIC) (ALTERNATE 1)

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING A DECORATIVE TEARDROP-STYLE LED LUMINAIRE INCLUDING ALL WIRING, CONNECTIONS, GROUNDING HARDWARE, MATERIALS, AND EQUIPMENT NECESSARY.

LUMINAIRES SHALL BE SPRING CITY COLUMBIA LED LUMINAIRE WITH 7-PIN PHOTO CELL/SHORTING CAP AS LISTED IN THE LUMINAIRE SCHEDULE OR AN APPROVED EQUAL. LUMINAIRES SHALL HAVE A BLACK FINISH PER ODOT SS 916 TO MATCH THE POLE COLOR.

APPROVED EQUAL LUMINAIRE SCHEDULE:

1. *SPRING CITY COLUMBIA:*
   CLU-LE120-EVX-2G2-30-CR3-YSLF-LACLB-FCR-TR7P-BLACK-CU
2. *HOLOPHANE ESPLANADE:*
   ESL3-P25S-30K-MVOLT-SG3-BK-PR7-SH
3. *STERNBERG LIBERTYVILLE:*
   1914LED-3L-30-T3-MDL06-SG-PE-SC-HSHN-BKT

THE VOLTAGE SUPPLIED SHALL BE 120 VOLTS.

PAYMENT FOR ITEM 625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, IES-III-M, LED, 12087-12759 LUMENS - (GENERIC) (ALTERNATE 1) , FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN - (SPRING CITY) (ALTERNATE 2)

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING A DECORATIVE TEARDROP-STYLE LED LUMINAIRE INCLUDING ALL WIRING, CONNECTIONS, GROUNDING HARDWARE, MATERIALS, AND EQUIPMENT NECESSARY.

LUMINAIRES SHALL BE COLUMBIA TEARDROP LED LUMINAIRE WITH 7-PIN PHOTOCELL/DIMMING RECEPTACLE. LUMINAIRES SHALL HAVE A GREEN FINISH (FED. #34077) PER ODOT SS 916 TO MATCH THE POLE COLOR.

LUMINAIRE: CLU-LE120-EVX-2G2-30-CR3-GR14-LACLB-FCR-TR7P-CU

FINISH SHALL BE GALVANIZED WITH A GREEN FINISH (FED. #34077)

THE VOLTAGE SUPPLIED SHALL BE 120 VOLTS.

PAYMENT FOR ITEM 625 LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN - (SPRING CITY) (ALTERNATE 2), FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS ITEM 630 AND 730, THE CONTRACTOR SHALL RIGIDLY ATTACH A SIGN TO THE MAST ARM. THE SIGN ATTACHMENT ASSEMBLY SHALL HAVE A BLACK FINISH AND BE DESIGNED WITHOUT SET SCREWS, PIPE THREADS, RETAINER RINGS, AND SCREW LOCK BUCKLES. THE SADDLE USED TO FASTEN THE SUPPORT MEMBER TO THE MAST ARM SHALL ALSO HAVE A MULTI-TOOTH MOUNTING SURFACE TO INHIBIT MOVEMENT OR ROTATION. THIS ITEM SHALL INCLUDE ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES. ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES SHALL BE STAINLESS STEEL AND HAVE A GREEN FINISH TO MATCH THE SIGNAL SUPPORTS.

PAYMENT FOR ITEM 630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

TRAFFIC SIGNAL NOTES

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
BMW

REVIEWER
AJH 1-16-2026

PROJECT ID
119822

SHEET P.81 | TOTAL 92

MOT SR 48 20.61

ITEM 630 SIGN, STREET NAME, AS PER PLAN, (INSTALLATION ONLY)

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 630 TRAFFIC SIGNS AND SIGN SUPPORTS, EXCEPT AS HEREIN MODIFIED.

THE WORK SHALL INCLUDE THE INSTALLATION THE OVERHEAD STREET NAME SIGNS PROVIDED BY THE CITY. THIS ITEM SHALL ALSO INCLUDE ALL NECESSARY HARDWARE FOR INSTALLATION ON THE MAST ARMS. THE EXPOSED HARDWARE SHALL BE STAINLESS STEEL AND PAINTED TO MATCH THE COLOR OF THE SIGNAL SUPPORTS. THE TYPE OF PAINT SHALL BE APPROVED BY THE CITY PRIOR TO USE AND SHALL BE CAPABLE TO ADHERE TO STAINLESS STEEL. THE CITY SHALL SUPPLY THE STREET NAME SIGNS.

PAYMENT FOR ITEM 630 SIGN, STREET NAME, AS PER PLAN, (INSTALLATION ONLY) FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW

ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1. *SIGNAL HEADS SHALL BE CONSTRUCTED OF YELLOW POLYCARBONATE PLASTIC AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC WITH VISORS AS SPECIFIED AND MEET ITE SPECIFICATIONS.*
2. *PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.*
3. *ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL.*
4. *PIPE SPACERS AND FITTINGS SHOULD BE CONSTRUCTED OF GALVANIZED STEEL OR ALUMINUM AND HAVE A BLACK FINISH, INCLUDING MAST ARM ATTACHMENT STEEL CABLES.*
5. *THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.*
6. *ALL SIGNAL HEADS AND SIGNS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH YELLOW LENS LOCATED IN FRONT OF THE MAST ARM.*
7. *ALUMINUM BACKPLATES SHALL BE IN ACCORDANCE WITH THE C&MS AND INCLUDE A FLUORESCENT YELLOW REFLECTIVE BORDER.*
8. *THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE THE ENGINEER, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.*
9. *SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.*
10. *SIGNAL HEADS SHALL INCLUDE OPEN BOTTUM TUNNEL TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.*

ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW

ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW (CONTINUED)

11. *APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO, FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.*
12. *BALANCE ADJUSTERS SHALL NOT BE USED ON RIGID MOUNTED HEADS OR TETHERED HEADS.*
13. *ALL SIGNAL HEADS SHALL BE FIELD LOCATED AND APPROVED BY THE ENGINEER BEFORE FINAL WIRING.*

PAYMENT FOR ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW AND ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732 THE FOLLOWING SHALL APPLY:

1. *SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF GREEN POLYCARBONATE PLASTIC(FED #34077) TO MATCH THE SIGNAL SUPPORTS AND MEET ITE SPECIFICATIONS.*
2. *PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.*
3. *PIPE, SPACERS AND FITTINGS SHALL BE CONSTRUCTED OF GALVANIZED STEEL AND PAINTED TO MATCH THE COLOR OF THE SIGNAL SUPPORTS.*
4. *THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.*
5. *NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED.*
6. *THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04. THE CONTRACTOR SHALL PROVIDE THE ENGINEER, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.*

PAYMENT FOR ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

ITEM 632 ACCESSIBLE PEDESTRIAN PUSHBUTTON, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 632, 732, SCD TC-83.10, OMUTCD, AND PROWAG, THE FOLLOWING REQUIREMENTS SHALL APPLY:

3. *THE PUSHBUTTON ASSEMBLY SHALL BE YELLOW.*
4. *THE PUSHBUTTON SHALL SOUND A PERCUSSIVE TONE/SPEECH MESSAGE WHEN ACTUATED. SOME EXAMPLES OF THE SPEECH MESSAGES ARE LISTED BELOW. THE CONTRACTOR SHALL HAVE CITY APPROVE THE MESSAGES AND DECIBELS (DB) LEVELS OF EACH BUTTON.*

   -"WAIT, TO CROSS GARBER AT MAIN."

   -"GARBER. WALK SIGN IS ON TO CROSS GARBER."

3. *THE PEDESTRIAN PUSHBUTTONS SHALL INCLUDE A PUSHBUTTON EXTENDER/DUAL MOUNT FOR THE MOUNTING OF PEDESTRIAN PUSHBUTTONS/SIGNS TO AT THE FOLLOWING LOCATIONS. THE EXTENDER/DUAL MOUNT SHALL BE PAINTED TO MATCH THE COLOR OF THE POLE. THE COST OF MATERIAL AND WORK WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THIS ITEM AND INSTALLED AT THE FOLLOWING LOCATIONS:*

   -HEATHCLIFF:EX. SP-1, EX. PS-1, PROP. PS-2, EX. PS-3

4. *THE CONTRACTOR SHALL PROVIDE ANY MISCELLANEOUS WIRE, CONNECTIONS, MATERIAL, ETC. TO MAKE A FULLY OPERATIONAL ACCESSIBLE PEDESTRIAN PUSHBUTTON. THIS WORK SHALL BE INCIDENTAL TO ITEM 632 ACCESSIBLE PEDESTRIAN PUSHBUTTON.*

PAYMENT FOR ITEM 632 ACCESSIBLE PEDESTRIAN PUSHBUTTON, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 632 TRAFFIC SIGNAL EQUIPMENT, THE SIGNAL SUPPORT FOUNDATIONS SHALL BE INSTALLED PER 632.14 AND HAVE A FINISHED ELEVATION FLUSH TO THE SIDEWALK (WHERE APPLICABLE) WHEN WITHIN 6" OF THE SIDEWALK.

PRIOR TO ORDERING THE SIGNAL SUPPORTS, THE CONTRACTOR SHALL CONTACT OUPS TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD. THEN, THE CONTRACTOR SHALL MEET THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATIONS TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORTS.

DUE TO THE FURTHER POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATION FOR THIS ITEM, AND CONSEQUENTLY, THE DESIGN OF THE SUPPORT AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THE ITEM UNTIL THE FOUNDATIONS HAVE BEEN CLEARED OF CONFLICTS BY INSTALLING, AT FINAL GRADE, OR POTHOLING THE FOUNDATION AND THE CONTRACTOR HAS RECEIVED, FROM ENGINEER, WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THE ITEM.

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE CITY, WHO WILL DETERMINE THE REVISED LOCATION AND IF NEEDED, THE SUPPORT DESIGN. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE ENGINEER WILL INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY AND AUTHORIZE THE CONTRACTOR TO ORDER THE SUPPORT.

ITEM 632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN (CONTINUED)

THE CONTRACTOR SHALL, WHEN DEVELOPING THE PROGRESS SCHEDULE, AND THOSE OF SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND SHALL INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR ORDERING, MANUFACTURING, DELIVERY, AND INSTALLATION OF THE SUPPORT ITEMS AFTER THE FOUNDATIONS ARE IN PLACE.

A 3" CONDUIT ELL IN LIEU OF A STANDARD 2" CONDUIT ELL SHALL BE INSTALLED IN EACH SIGNAL SUPPORT FOUNDATION AS REQUIRED BY ODOT SCD TC-21.21. SEE THE POLE ORIENTATION DIAGRAM FOR THE RESPECTIVE TRAFFIC SIGNAL PLAN FOR FURTHER INFORMATION.

NO PAYMENTS FOR DELIVERED MATERIALS FOR THE FOUNDATION OR SUPPORT ITEMS SHALL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THIS ITEM ARE REQUIRED, NO PAYMENT SHALL BE MADE FOR THE ITEMS MANUFACTURED TO THE ORIGINAL DESIGN.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

ITEM 632 POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 632 AND 732 AND SCD TC-83.10, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1. *THE DISCONNECT SWITCH SHALL BE LOCATED ON PROPOSED CONTROLLER CABINET.*
2. *DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.*
3. *THE CONTRACTOR SHALL CONTACT AES OHIO AND THE CITY FOR INFORMATION REGARDING THE POWER SERVICE INSTALLATION PRIOR TO ORDERING POLES AND CABINET. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120/240 VOLTS. (120 VOLTS FOR THE SIGNAL AND 120 VOLTS FOR THE LIGHTING).*

PAYMENT FOR ITEM 632 POWER SERVICE, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

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DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER
BMW
REVIEWER
AJH 1-16-2026
PROJECT ID
119822
SHEET P.82 TOTAL 92

ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN (X), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 632 AND 732 AND SCD TC-81.22 AND TC-85.20 AND THESE PLANS, THE SIGNAL SUPPORTS SHALL BE FURNISHED AND INSTALLED TO MEET THE FOLLOWING ADDITIONAL REQUIREMENTS:

A. THIS ITEM SHALL ALSO INCLUDE THE POLE EXTENSION FOR MOUNTING OF THE LUMINAIRE BRACKET ARM.

B. ALL SIGNAL SUPPORT POLES, MAST ARMS, BRACKET ARMS, END CAPS, HANDHOLE COVERS, ORNAMENTAL TOPS, ETC. ASSOCIATED WITH THE INSTALLATION OF THIS ITEM SHALL BE GALVANIZED WITH A DARK GREEN FINISH(FED #34077), PER ODOT SS 916.

C. SIGNAL SUPPORT POLES AND LUMINAIRE EXTENSIONS SHALL BE ROUND. THE MAST ARMS SHALL BE A STRAIGHT AND SMOOTH DESIGN. THE DECORATIVE CLAM SHELL BASE SHALL BE THE TORRINGTON FAMILY NOSTALGIA SERIES MANUFACTURED BY UNION METAL, OR THE MADISON SERIES SPEC-35234 MANUFACTURED BY SPRING CITY. SIGNAL POLE MODEL (UNION METAL TORRINGTON FAMILY 739-36 OR SPRING CITY MADISON SPEC-35234) AND SHALL MATCH THE POLE AT SR 49 AND UNION ROAD OR APPROVED EQUAL.

D. SIGNAL SUPPORT POLE SHALL INCLUDE AN ORNAMENTAL TOP (40-J) MANUFACTURED BY UNION METAL OR APPROVED EQUAL.

E. THE SIGNAL SUPPORT POLES AND MAST ARMS SHALL BE WRAPPED TO PROTECT THE FINISH DURING SHIPPING, UNLOADING AND INSTALLATION. THE CONTRACTOR IS TOTALLY RESPONSIBLE TO PROVIDE ADEQUATE PROTECTION FOR THE FINISH OF THE ARMS. IF THE FINISH IS DAMAGED DURING HANDLING, THE CONTRACTOR SHALL REPAIR THE FINISH PER THE MANUFACTURER'S RECOMMENDATIONS.

F. A 3" CONDUIT ELL IN LIEU OF A STANDARD 2" CONDUIT ELL SHALL BE INSTALLED IN EACH SIGNAL SUPPORT FOUNDATION AS REQUIRED BY ODOT SCD TC-21.21. SEE THE POLE ORIENTATION DIAGRAM FOR THE RESPECTIVE TRAFFIC SIGNAL PLAN FOR FURTHER INFORMATION.

G. ALL HOLES FOR SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL BE FIELD DRILLED AND INCLUDE A RUBBER GROMMET WHERE NECESSARY.

H. PROVIDE THREE (3) HANDHOLES. ONE AT THE BASE OF THE POLE, ONE FOR THE MAST ARM, AND ONE FOR THE BRACKET ARM.

I. PROVIDE 2" THREADED BLIND HALF COUPLE, WITH PLUG, 180 DEGREES FROM BRACKET ARM 2' FROM TOP OF POLE.

J. THIS ITEM SHALL ALSO INCLUDE FURNISHING AND INSTALLING AN EFFECTIVE DAMPING DEVICE PER TC-81.22, IF REQUIRED.

PAYMENT FOR ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN (X), AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 632 PEDESTAL, 8', TRANSFORMER BASE, AS PER PLAN - (GENERIC) (ALTERNATE 1)

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATION 632 AND 732 THE FOLLOWING REQUIREMENTS SHALL APPLY:

A. THE PEDESTRIAN POLE AND TRANSFORMER BASE FINISH ASSOCIATED WITH THE INSTALLATION OF THIS ITEM SHALL BE GALVANIZED WITH A BLACK FINISH, PER ODOT SUPPLEMENTAL SPEC 916.

B. ALL HOLES FOR PEDESTRIAN FACILITIES, CABLE ENTRANCES, RISERS, ETC. SHALL BE FIELD DRILLED.

PAYMENT FOR ITEM 632 PEDESTAL, 8', TRANSFORMER BASE, AS PER PLAN - (GENERIC) (ALTERNATE 1), FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 632 PEDESTAL, MISC.: 8', DECORATIVE PEDESTAL - (ALTERNATE 2)

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1. *THE POLE SHALL BE STRAIGHT SMOOTH DESIGN. THE TOP OF THE POLE SHALL BE FITTED WITH AN ORNAMENTAL TOP TO MATCH THE SIGNAL SUPPORTS.*
2. *THE DECORATIVE CLAM SHELL BASE SHALL BE UNION METAL NOSTALGIA SERIES TORRINGTON FAMILY, SPRING CITY SPEC-35238, OR APPROVED EQUAL, TO MATCH SIGNAL SUPPORTS AND BE MADE OF CAST ALUMINUM.*
3. *ALL PEDESTAL POLES SHALL BE GALVANIZED WITH A DARK GREEN FINISH(FED #34077), PER ODOT SS 916.*
4. *ALL HOLES FOR SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL BE FIELD DRILLED AND INCLUDE A RUBBER GROMMET WHERE NECESSARY.*

PAYMENT FOR ITEM 632 PEDESTAL, MISC.: 8', DECORATIVE PEDESTAL - (ALTERNATE 2), FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH C&MS 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE STORED ON THE PROJECT SITE FOR SALVAGE BY THE CITY IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

WHEN ITEMS ARE READY FOR PICK UP, CONTRACTOR SHALL CONTACT THE CITY - 937-336-6882.

ITEMS TO BE STORED:
VEHICULAR SIGNAL HEADS
PEDESTRIAN SIGNAL HEADS
STRAIN POLES
SIGNAL CONTROLLER
ALL CABINET EQUIPMENT
PEDESTRIAN PUSHBUTTONS
CONTROLLER CABINET
LUMINAIRES
BRACKET ARMS
VIDEO DETECTION
PTZ CAMERA

ITEMS FOR DISPOSAL:
PULL BOXES
CONDUIT
MESSENGER WIRE
SIGNAL CABLES
PARTIAL FOUNDATIONS

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE CITY ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE CITY, IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

PAYMENT FOR ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT LUMP SUM BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 633 CABINET, TYPE TS-2, AS PER PLAN

THE CABINET SHALL BE FURNISHED AND INSTALLED ACCORDING TO CMS 633 AND 733 AND BE LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS LIST (TAP).

THE CABINET SHALL BE A NEMA TS-2 TYPE 1 CABINET SIZE SUPER P44 AND BE GROUND MOUNTED AND INCLUDE A CABINET RISER.

FURNISH THE CABINET MAIN DOOR WITH A STURDY, PERMANENTLY LUBRICATED LOCK THAT IS COVERED WITH A WEATHERPROOF TAB. KEY THE PROJECT LOCKS TO THE MASTER KEY USED (CORBIN #2). SUPPLY TWO (2) KEYS WITH EACH LOCK. ALSO, EQUIP THE SMALL DOOR-IN-DOOR (POLICE ACCESS PANEL) WITH A LOCK THAT IS KEYED TO THE MAINTAINING AGENCY'S POLICE DOOR MASTER KEY.

THE CABINET SHALL INCLUDE A FULLY WIRED EMERGENCY PRE-EMPTION INTERFACE PANEL AS LISTED ON ODOT TAP LIST.

THE CABINET SHALL INCLUDE A FIBER TERMINATION PANEL AS LISTED ON ODOT TAP LIST. THE FIBER TERMINATION PANEL WILL BE ITEMIZED BY A SEPARATE BID ITEM.

A CONTROL CENTER, HAND-OFF-AUTOMATIC SWITCH WITH PHOTOELECTRIC CELL, CIRCUIT BREAKERS, ETC. SHALL BE PROVIDED TO ACCOMMODATE THE LUMINAIRES, AS DESCRIBED UNDER 625.15 AND ODOT SCD HL-60.31 FOR POWER SERVICE.

ITEM 633 CABINET, TYPE TS-2, AS PER PLAN(CONTINUED)

EACH CABINET SHALL COME EQUIPPED WITH TWO 16-CHANNEL CABINET DETECTOR RACKS (CDR) INCLUDING BUS INTERFACE UNITS (BIU). THE LOOP DETECTOR TERMINATION PANEL FOR THE SECOND DETECTOR RACK SHALL BE OMITTED.

THE CABINET SHALL BE FURNISHED WITH AN EDI MMU2 AS ALLOWED ON THE TAP/APPROVED PRODUCTS LIST. THE CABINET SHALL INCLUDE A DOCUMENT DRAWER.

THE CABINET SHALL BE EQUIPPED WITH A MOMENTARY PUSHBUTTON CONTACT SWITCH FOR INTERVAL ADVANCE DURING MANUAL OPERATION WITH INTERNAL OPERATION. THE SWITCH IS TO BE MOUNTED ON A 5-FEET FLEXIBLE WEATHERPROOF EXTENSION CORD IN THE POLICE ACCESS PANEL.

THE CABINET SHALL BE UNPAINTED NATURAL ALUMINUM, COMMERCIALLY SMOOTH AND FREE OF DEFECTS THAT WOULD IMPAIR SERVICEABILITY OR DETRACT FROM GENERAL APPEARANCE. THE INSIDE OF THE CABINET SHALL BE PAINTED WHITE (FED. NUMBER 37925).

DOCUMENTATION

TWO (2) COMPLETE SETS OF THE FOLLOWING SHALL BE PROVIDED FOR EACH CABINET:

- *USERS MANUALS*
- *DEVICE PROGRAMMING MANUALS*
- *WIRING DIAGRAMS AND PARTS LISTS*
- *INSTALLATION AND DIAGNOSTICS MANUALS*
- *SOFTWARE AND FIRMWARE UPDATES SHALL BE ACCOMPANIED BY COMPLETE DOCUMENTATION THAT REFERENCES AN UPGRADE VERSION, AND PROVIDES A LIST OF PROBLEMS RESOLVED WITH THE UPGRADE (IF APPLICABLE). ALL FUNCTIONS, FEATURES, AND CAPABILITIES NOT ADDRESSED SHALL OPERATE AS INTENDED BEFORE THE UPGRADE WAS IMPLEMENTED.*

PAYMENT FOR ITEM 633 CABINET, TYPE TS-2, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 633 CONTROLLER WORK PAD, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATION 633, THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE DIMENSIONS OF THE CONTROLLER WORK PAD SHALL BE 3' DEEP X WIDTH OF CONTROLLER CABINET FOUNDATION X 4" THICK.

PAYMENT FOR ITEM 633 CONTROLLER WORK PAD, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN

BEFORE PERFORMING THE WORK, THE CONTRACTOR, THE DISTRICT TRAFFIC ENGINEER AND THE PROJECT ENGINEER WILL PERFORM A SITE INSPECTION TO ESTABLISH THE LOCATION OF THE UPS CABINET AND FOUNDATION. THE UPS CABINET SHALL INCLUDE A GENERATOR POWER PANEL WITH A HEAVY-DUTY POWER RELAY VERSUS THE LINE VOLTAGE GENERATOR SWITCH. THE GENERATOR INLET SHALL BE A RECESSED PANEL WITH A DOOR THAT IS FLUSH WITH THE EXTERNAL SIDE OF THE UPS CABINET. IT SHALL INCLUDE A RECESSED PLUG, AUTOMATIC TRANSFER SWITCH AND A DOOR THAT SECURELY CLOSES OVER THE POWER CORD.

THE CABINET SHALL HAVE A DOOR STOP MECHANISM AND THERMOSTATICALLY CONTROLLED FAN.

THE CABINET SHALL INCLUDE A BATTERY BALANCING DEVICE THAT REGULATES THE BATTERIES AND OPTIMIZES PERFORMANCE.

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER BMW
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P.83 TOTAL 92

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ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN (CONTINUED)

THE UPS FURNISHED SHALL BE LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS (TAP) LIST.

AFTER FOUR (4) HOURS OF BATTERY RUNTIME, THE SYSTEM SHALL BE PROGRAMMED TO SWITCH THE INTERSECTION FROM FULL OPERATION TO CONTROLLER AUTOMATIC FLASH OPERATION THROUGH THE MONITOR. THE CONTROLLER SHALL BE PROGRAMMED SO THAT FLASH OPERATION SHALL BEGIN ONCE THE INTERSECTION RUNS MINOR STREET GREEN (TYP. PH. 4 &8), ALL-RED CLEARANCE, AND THEN FLASH OPERATION.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL OR THROUGH THE CONTROLLER WITH A C11 TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

THIS ITEM SHALL INCLUDE A RED LED STATUS INDICATOR LAMP TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, LAMP WITH A DOMED GREEN LENS RATED FOR OUTDOOR USE AND BE TEMPER/SHATTER RESISTANT SHALL BE USED TO INDICATE THE CABINET IS OPERATING UNDER "NORMAL" POWER AND A DOMED RED LENS SHALL BE USED TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THE DOMED ENCLOSURE CONTAINING THE RED/GREEN LENS WITH AN LED SHALL BE VISIBLE FROM 100 FEET MINIMUM. THE ENCLOSURE AND LED MODULE SHOULD BE PLACED ON THE SIDE OF THE UPS CABINET FACING TOWARDS THE MAINLINE ROADWAY AND SEALED FROM WATER INTRUSION. IT SHOULD BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY," WITH WIRE POLARITY INDICATED. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED.

THE UPS SHALL BE MOUNTED ON THE INSIDE OF THE CONTROLLER CABINET IN ITS OWN COMPARTMENT WITH DOOR.

PAYMENT FOR ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 633 CONTROLLER ITEM, MISC.: REWIRE/REPROGRAM CONTROLLER CABINET

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 633 AND 733, THE CONTROLLER CABINET SHALL BE REWIRED AND REPROGRAMMED TO ACCOMMODATE THE NEW SIGNAL UPGRADES.

THE CONTRACTOR IS RESPONSIBLE FOR REPROGRAMMING, REWIRING, SUPPLYING ANY MISCELLANEOUS EQUIPMENT INCLUDING LOAD SWITCHES, ETC. TO GET THE SIGNAL RUNNING.

PAYMENT FOR ITEM 633 CONTROLLER ITEM, MISC.: REWIRE/REPROGRAM CONTROLLER CABINET, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 804 DROP CABLE, 6 FIBER, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A FULLY OPERATIONAL FIBER INTERCONNECT SYSTEM. IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATION 804 AND 904 THE FOLLOWING REQUIREMENTS SHALL APPLY:

1. *THE CONTRACTOR SHALL ESTABLISH A CONNECTION INTO THE CITY'S CENTRAL MONITORING SYSTEM.*
2. *THE CONTRACTOR SHALL SUPPLY FUSION SPLICES INTO THE FIBER MAIN IN THE EXISTING PULLBOX. THEN THE CONTRACTOR SHALL CONNECT THE DROP CABLE TO THE CONTROLLER CABINET AS SHOWN IN THE PLANS WITH A FAN-OUT KIT. THE FUSION SPLICE AND FAN-OUT KIT ARE ITEMIZED SEPARATELY FROM THE DROP CABLE.*

PAYMENT FOR ITEM 804 DROP CABLE, 6 FIBER, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED (INCLUDING TESTING) ABOVE SHALL BE AT THE CONTRACT FOOT BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO ESTABLISH A FULLY FUNCTIONAL FIBER INTERCONNECT SYSTEM.

ITEM 809 ADVANCE RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR ADVANCE DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. *DETECTION ZONES SHALL BE ESTABLISHED PER MANUFACTURERS RECOMMENDATIONS.*
2. *POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.*
3. *ALL REQUIRED INPUT CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE SHALL BE INCLUDED PER SS 809 AND 909.*
4. *THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY WITH THE MANUFACTURER THE EXACT OPTIMAL POSITION OF THE RADAR UNITS. THE MANUFACTURER SHALL SUPPLY A SKETCH OF THE INTERSECTION WITH RECOMMENDED LOCATIONS. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.*
5. *SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.*
6. *THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.*
7. *A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MIN. 7 FEET).*
8. *THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.*

ITEM 809 ADVANCE RADAR DETECTION, AS PER PLAN (CONTINUED)

9. *THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.*

PAYMENT FOR ITEM 809 ADVANCE RADAR DETECTION, AS PER PLAN, SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

ITEM 809 STOP LINE RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. *POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.*
2. *ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE SHALL BE INCLUDED PER SS 809 AND 909.*
3. *THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.*
4. *SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.*
5. *THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.*
6. *A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).*
7. *THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.*
8. *THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO MILLING/DISABLING EXISTING LOOPS.*
9. *THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.*

PAYMENT FOR ITEM 809 STOP-LINE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT AND CONNECTIONS TESTED AND ACCEPTED.

ITEM 809 ATC CONTROLLER, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 633, 733 AND SS 809, THE CONTROLLER UNIT SHALL BE AN ECONOLITE COBALT AND COMPATIBLE WITH THE CABINET TYPE BEING INSTALLED. THE CONTROLLER SHALL BE FURNISHED WITH THE MOST RECENT SOFTWARE AND PROVIDE ALL FEATURES OF THE LATEST MODEL AVAILABLE BE FURNISHED AND INSTALLED PER SS 809.

THE CONTROLLER UNITS SHALL BE FURNISHED IN ACCORDANCE WITH NEMA TS2 TYPE 2 (1992) STANDARDS, AND SHALL BE CONNECTED TO AND MADE FULLY FUNCTIONAL WITH ALL PROPOSED EQUIPMENT (INCLUDING BUT NOT LIMITED TO RADAR DETECTION UNITS, CONFLICT MONITOR OR MALFUNCTION MANAGEMENT UNIT (MMU), AND ALL OTHER CABINET EQUIPMENT, COMPLETE). THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE CONTROLLER.

THE CONTROLLER UNIT SHALL INCLUDE ALL NECESSARY ETHERNET COMMUNICATION AND TELEMETRY MODULES REQUIRED FOR PROPER COMMUNICATION AND OPERATION IN A TRAFFIC SYSTEM.

THE CONTROLLER TO BE INSTALLED SHALL BE PRE-TESTED BY THE CONTRACTOR AND APPROVED BY THE CITY FOR INSTALLATION AT THE DESIGNATED INTERSECTIONS.

REPAIRS/CORRECTIONS, IF REQUIRED, SHALL BE MADE BY THE CONTRACTOR AND RECORDED BEFORE DELIVERY. THE CITY SHALL ALSO BE NOTIFIED OF ANY PROBLEMS. DURING THE TESTING, THE CONTROLLER IS TO OPERATE WITHOUT PROBLEMS ON MINIMUM RECALL OF ALL MINOR PHASES FOR 48 HOURS WITH FULL LOAD ON EACH OUTPUT.

A WRITTEN REPORT STATING THE CONTROLLER INTERSECTION NAME, DATE AND TIME OF TEST, SIGNED OFF BY THE TECHNICIAN WHO PERFORMED THE TESTS, SHALL BE SUBMITTED TO THE ENGINEER UPON SUCCESSFUL COMPLETION OF THE ABOVE TESTS. THE SUCCESSFUL TESTING SHALL BE DEMONSTRATED TO THE CITY PRIOR TO INSTALLATION IF REQUESTED. THE COST FOR THE CONTROLLER TESTING SHALL BE INCLUDED IN THE PRICE OF THE CONTROLLER.

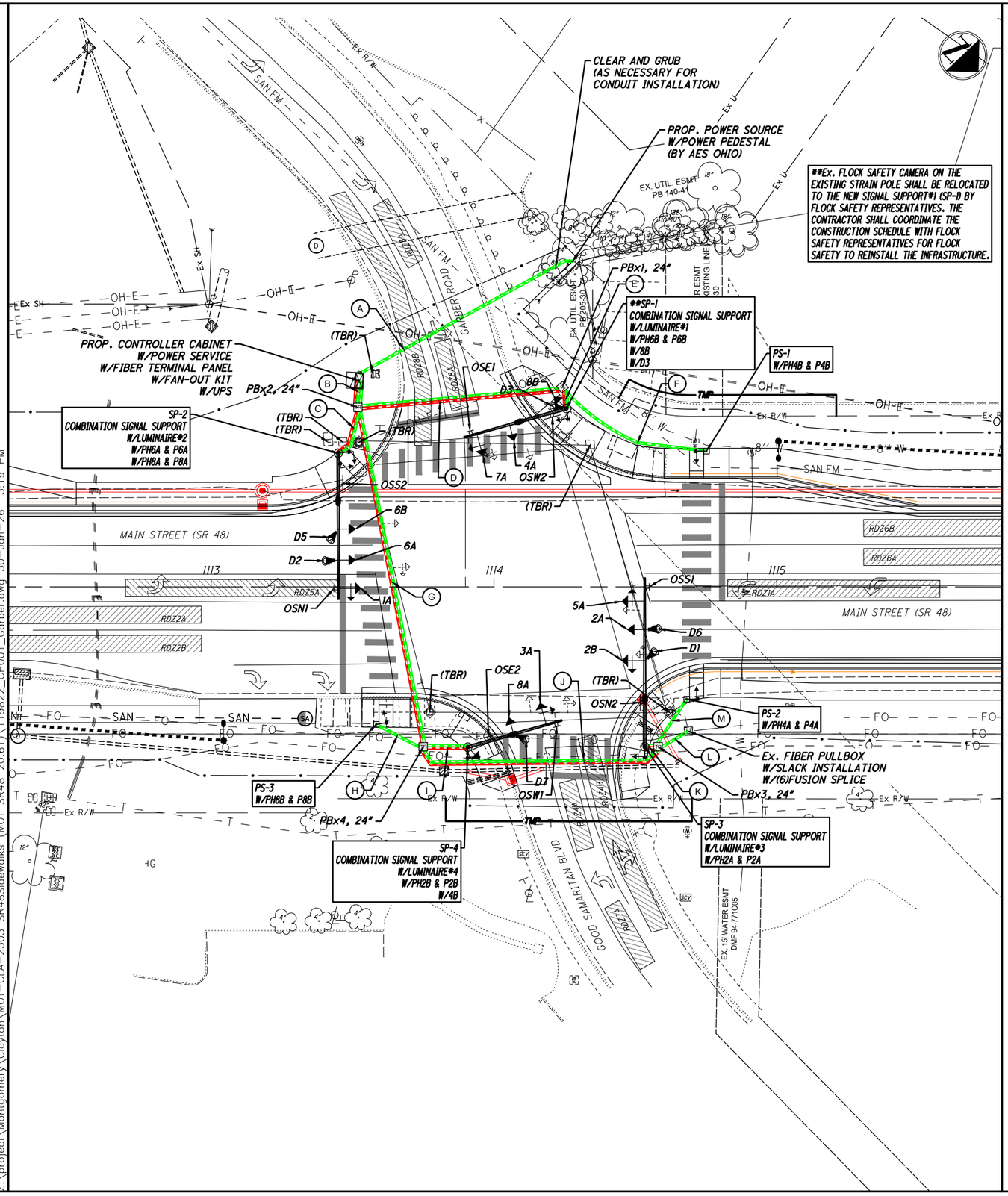
THE CONTROLLER AND ALL RELATED COMPONENTS SHALL BE IN PERFECT WORKING ORDER AND READY FOR INSTALLATION/OPERATION AT THE SPECIFIED INTERSECTION(S) AS A RESULT OF THE WORK DESCRIBED IN THIS ITEM.

WARRANTY

THE CONTROLLER SHALL BE WARRANTED FOR DEFECTS IN MATERIAL AND WORKMANSHIP FOR A MINIMUM OF FIVE (5) YEARS. THE WARRANTY SHALL INCLUDE SOFTWARE UPDATES AND SUPPORT FOR THE ENTIRE WARRANTY PERIOD.

PAYMENT FOR ITEM 809 ATC CONTROLLER, AS PER PLAN FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

DESIGN AGENCY
CHOICE ONE ENGINEERING
DESIGNER
BMW
REVIEWER
AJH 1-16-2026
PROJECT ID
119822
SHEET P.84 TOTAL 92



MOT SR 48 20.61

30" x 36"

SIGN	OSN1, OSS1, OSE1, OSW1
SIZE	R3-5

*72" x 24"

SIGN	OSS2
SIZE	D3-1

*72" x 24"

SIGN	OSE2, OSW2
SIZE	D3-1

*96" x 24"

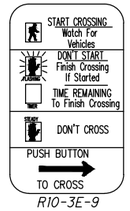
SIGN	OSN2
SIZE	D3-1

OVERHEAD SIGN PLACEMENT

- ALL SIGNS ATTACHED TO A MAST ARM SHALL BE RIGID MOUNTED ON APPROVED SIGN MOUNTING BRACKET.

* OVERHEAD STREET NAME SIGNS SHALL BE SUPPLIED BY THE CITY AND INSTALLED BY THE CONTRACTOR. SHOWN WIDTH OF STREET NAME SIGNS (D3-1) ARE FOR COMPUTATIONAL PURPOSES ONLY. ACTUAL WIDTH SHALL BE DETERMINED BY MANUFACTURER AND MEET ODOT STANDARDS.

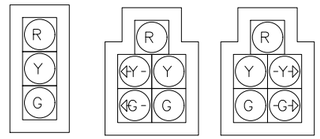
PEDESTRIAN SIGNS



R10-3E-9

3 - LEFT ARROWS
5 - RIGHT ARROWS

SIGNAL HEADS



2A, 4A, 4B, 6A, 6B, 8A, 8B

1A, 3A, 5A, 7A

2B

-ALL SIGNAL HEADS SHALL BE CONSTRUCTED OF YELLOW POLYCARBONATE PLASTIC WITH BLACK VISORS.

** ALL SIGNAL HEADS SHALL BE FIELD LOCATED AND APPROVED BY THE ENGINEER BEFORE FINAL WIRING.

PEDESTRIAN SIGNAL HEADS

PEDESTRIAN HEADS (LED), COUNTDOWN, TYPE D2)

PH2A, PH2B, PH4A, PH4B, PH6A, PH6B, PH8A, PH8B

CONDUIT DETAILS

(A) 2" CONDUIT, 725.052 (FOR POWER SERVICE) JACKED OR DRILLED (88')

(B) 2-4" CONDUIT, 725.051 1" CONDUIT, 725.051 (VID.) IN TRENCH (9')

(C) 3" CONDUIT, 725.051 1" CONDUIT, 725.051 (VID.) IN TRENCH (19')

(D) 3" CONDUIT, 725.052 2" CONDUIT, 725.051 (VID.) JACKED OR DRILLED (72')

(E) 3" CONDUIT, 725.051 1" CONDUIT, 725.051 (VID.) IN TRENCH (8')

(F) 2" CONDUIT, 725.051 IN TRENCH (58')

(G) 4" CONDUIT, 725.052 2" CONDUIT, 725.052 (VID.) JACKED OR DRILLED (122')

(H) 2" CONDUIT, 725.051 IN TRENCH (18')

(I) 3" CONDUIT, 725.051 1" CONDUIT, 725.051 (VID.) IN TRENCH (16')

(J) 3" CONDUIT, 725.052 2" CONDUIT, 725.051 (VID.) JACKED OR DRILLED (90')

(K) 3" CONDUIT, 725.051 1" CONDUIT, 725.051 (VID.) IN TRENCH (5')

(L) 2" CONDUIT, 725.051 IN TRENCH (12')

(M) 2" CONDUIT, 725.051 IN TRENCH (20')

PULLBOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE (IN.)
PBx1	1114+24.22	LT	70.64'	24"
PBx2	1113+51.91	LT	63.48'	24"
PBx3	1114+58.00	RT	56.50'	24"
PBx4	1113+75.00	RT	56.50'	24"

LEGEND

	EXISTING	PROP
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"	(TBR)	
TRAFFIC SIGNAL, 5 UNIT HEAD, 12"	(TBR)	
SIGNAL SUPPORT POLE	(TBR)	
PEDESTRIAN SIGNAL	(TBR)	
PEDESTRIAN PUSHBUTTON	(TBR)	
LUMINAIRE, CONVENTIONAL, SOLID STATE (LED)	(TBR)	
PEDESTAL SUPPORT	(TBR)	
CONTROLLER CABINET (SUPER P44)	(TBR)	
TRAFFIC PULL BOX		
ADVANCE RADAR DETECTION UNIT		
STOP LINE RADAR DETECTION UNIT		
DETECTION ZONE		
SIGNAL CONDUIT		
VIDEO CONDUIT		
TO BE REMOVED	(TBR)	
DO NOT DISTURB	(DND)	

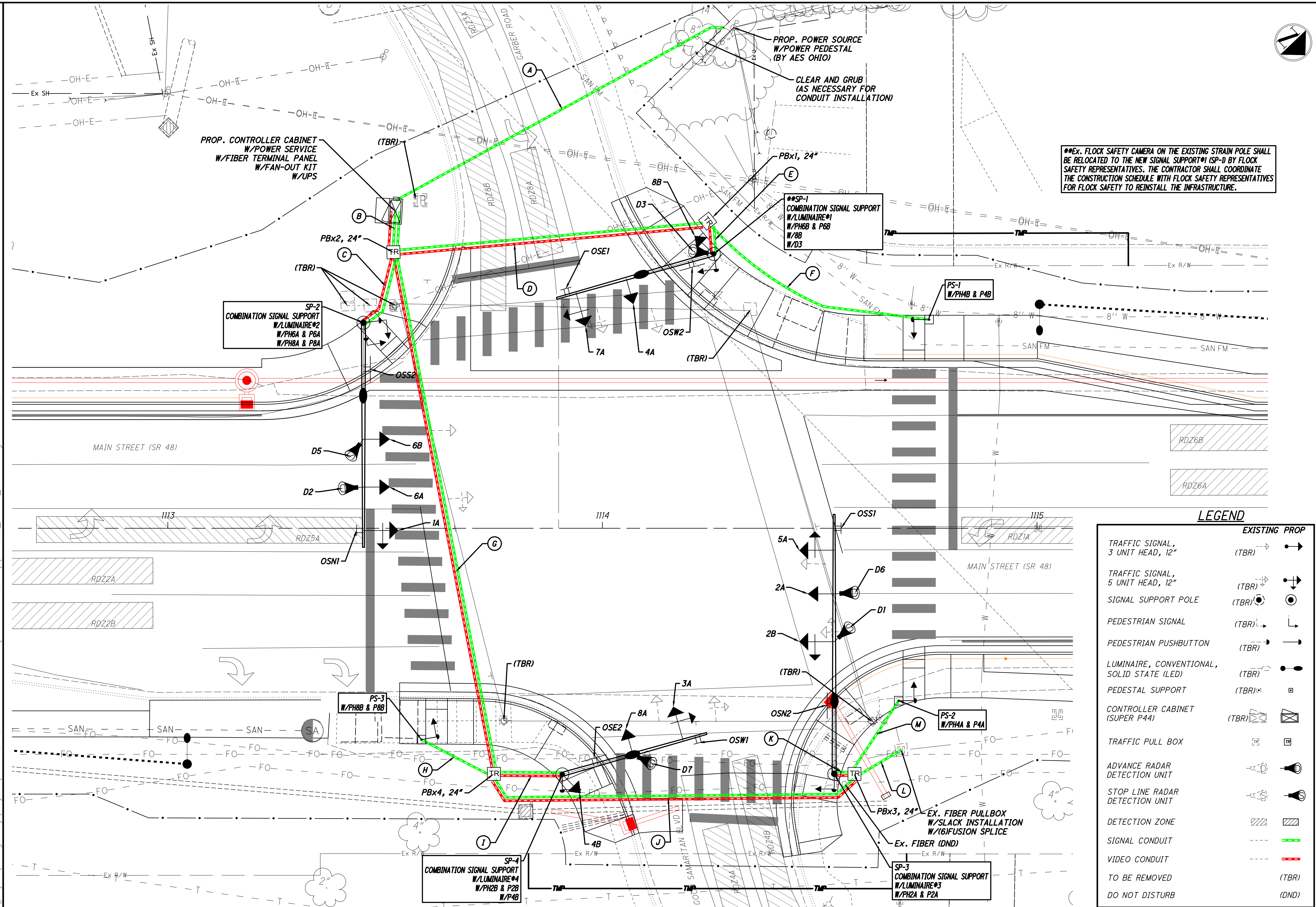
HORIZONTAL SCALE IN FEET
0 10 20 40

TRAFFIC SIGNAL PLAN - MAIN STREET AND GARBER ROAD

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER BMW
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P.85 TOTAL 92

TRAFFIC SIGNAL PLAN - MAIN STREET AND GARBER ROAD



**Ex. FLOCK SAFETY CAMERA ON THE EXISTING STRAIN POLE SHALL BE RELOCATED TO THE NEW SIGNAL SUPPORT#1 (SP-1) BY FLOCK SAFETY REPRESENTATIVES. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH FLOCK SAFETY REPRESENTATIVES FOR FLOCK SAFETY TO REINSTALL THE INFRASTRUCTURE.

LEGEND

	EXISTING	PROP
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"	(TBR)	
TRAFFIC SIGNAL, 5 UNIT HEAD, 12"	(TBR)	
SIGNAL SUPPORT POLE	(TBR)	
PEDESTRIAN SIGNAL	(TBR)	
PEDESTRIAN PUSHBUTTON	(TBR)	
LUMINAIRE, CONVENTIONAL, SOLID STATE (LED)	(TBR)	
PEDESTAL SUPPORT	(TBR)	
CONTROLLER CABINET (SUPER P44)	(TBR)	
TRAFFIC PULL BOX		
ADVANCE RADAR DETECTION UNIT		
STOP LINE RADAR DETECTION UNIT		
DETECTION ZONE		
SIGNAL CONDUIT		
VIDEO CONDUIT		
TO BE REMOVED	(TBR)	
DO NOT DISTURB	(DND)	

HORIZONTAL SCALE IN FEET 0 5 10 20

DESIGN AGENCY: CHOICE ONE ENGINEERING
DESIGNER: BMW
REVIEWER: AJH 1-16-2026
PROJECT ID: 119822
SHEET P.86 TOTAL 92

MOT SR 48 20.61

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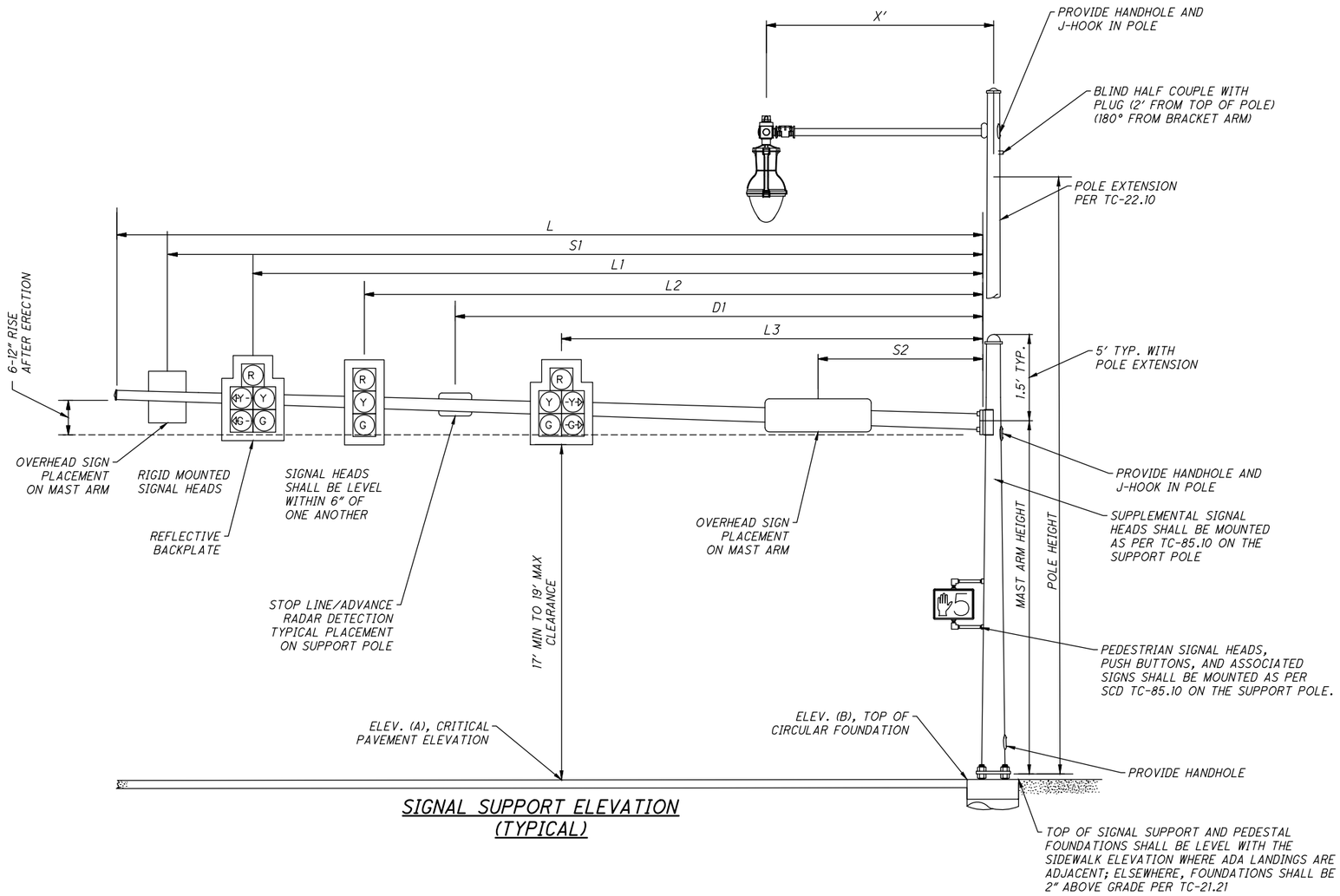
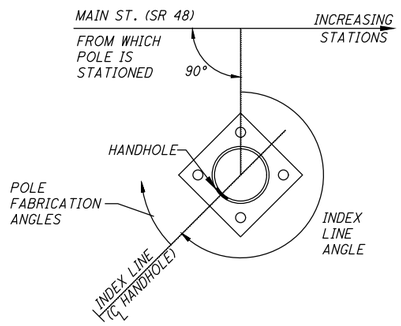
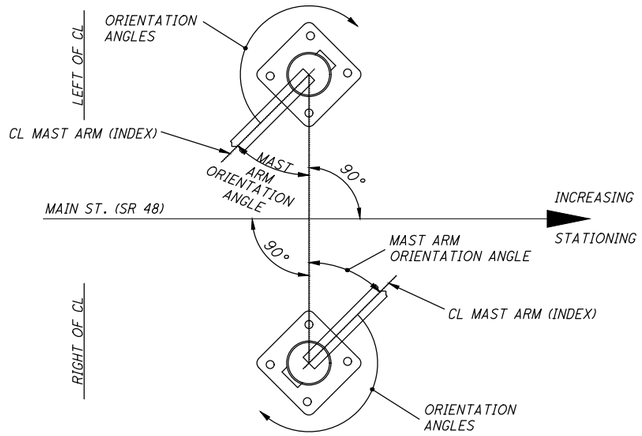


SIGNAL SUPPORT ELEVATION (TYPICAL)

PEDESTRIAN POLE ORIENTATION DETAIL



PEDESTAL POLE DATA							
POLE NUMBER	STATION	OFFSET (FEET) AND SIDE	POLE HEIGHT (FT.)	INDEX LINE ANGLE (DEG.)	ANGLES (DEG) FROM INDEX LINE (ALL ANGLES MEASURES CLOCKWISE ↻)		
					SIGNAL CONDUIT ELL	PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON
PS-1	1114+75.17	48.00' LT	8'	90	5	0	0
PS-2	1114+68.17	39.67' RT	8'	90	125	0	0
PS-3	1113+58.35	48.62' RT	8'	90	25	350	350



MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS						SIGNAL SUPPORT DETAILS									ORIENTATION ANGLES FROM MAST ARM A								
			A (PAVEMENT ELEVATION)	B (TOP OF FOUNDATION)	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	MAST ARM ATTACHMENT HEIGHT	LUMINAIRE MOUNTING HEIGHT	LUMINAIRE BRACKET ARM ATTACHMENT HEIGHT	L	L1	L2	L3	D1	D2	S1	S2	X	MAST ARM ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON	SIGNAL HEAD	SIGNAL/VIDEO CONDUIT ELL	BRACKET ARM	BASE HANDHOLE	MAST ARM HANDHOLE	BRACKET ARM HANDHOLE
							FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	DEG	DEG	DEG	DEG	DEG	DEG	DEG	DEG
SP-1	1114+25.61	63.10' LT	840.40	840.66	TC-81.22	4	35.5	20.5	34.5	34.5	37	32.5	20.5	0	0	-	34.5	5	15	75	275	275	60	100	0	180	180	180
SP-2	1113+45.01	47.28' LT	842.92	842.46	TC-81.22	13	36	21	35	35	51	47	37	26	37	26	47	10	15	0	265/350	265/350	-	235	0	180	180	180
SP-3	1114+53.32	56.48' RT	841.08	841.02	TC-81.22	13	35.5	20.5	34.5	34.5	59	51	40.5	29.5	40.5	29.5	56	15	15	0	180	180	-	90	0	180	180	180
SP-4	1113+90.76	56.62' RT	841.50	841.96	TC-81.22	4	35	20	34	34	34	28.5	16.5	0	16.5	-	31.5	7.5	15	75	105	105	60	195	0	180	180	180

TRAFFIC SIGNAL PLAN - MAIN STREET AND GARBER ROAD

MOT SR 48 20.61

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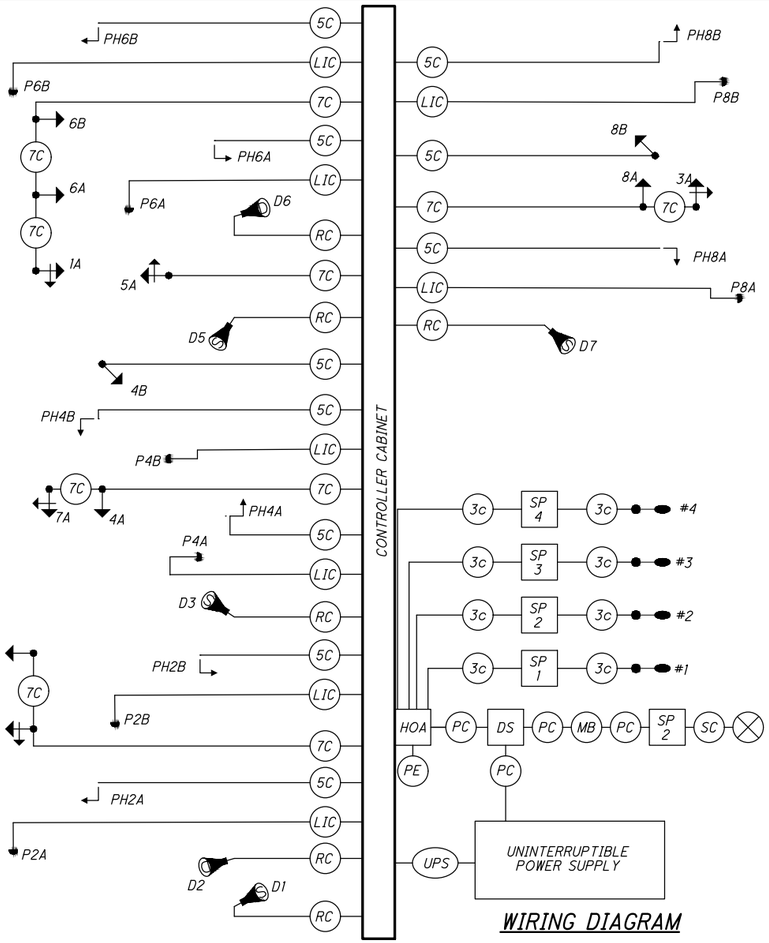
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER BMW
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P.87 TOTAL 92

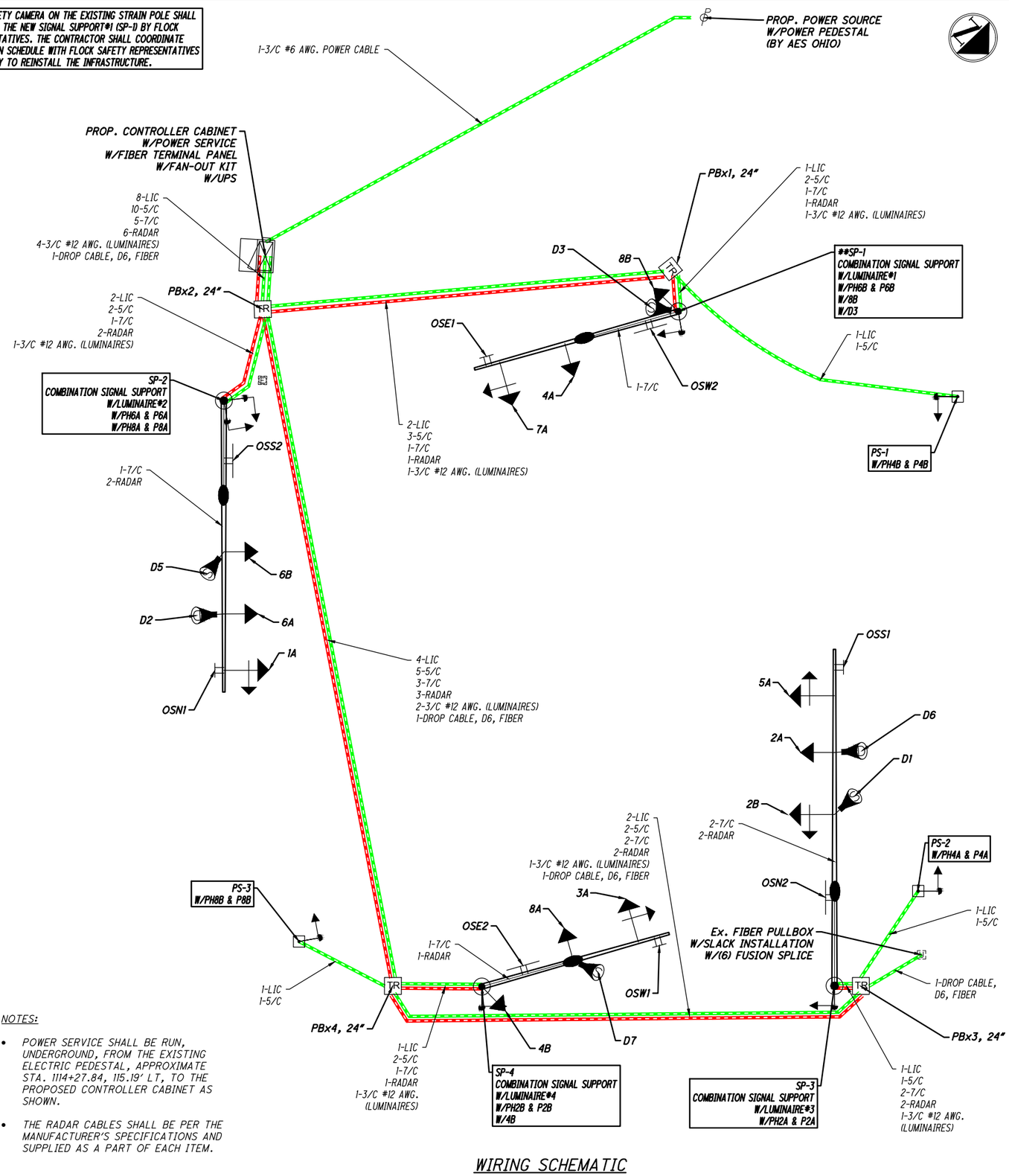


WIRING DIAGRAM

LEGEND

LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN	UPS — UNINTERRUPTIBLE POWER SUPPLY CABLE
5 SECTION VEHICULAR SIGNAL HEAD, 1-WAY	MB — METERBASE
3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY	7C — SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
PEDESTRIAN SIGNAL HEAD	5C — SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
PEDESTRIAN PUSH BUTTON	LIC — 2/C NO. 14 AWG (LEAD-IN CABLE)
STOP-LINE RADAR DETECTION UNIT	3c — SIGNAL CABLE, 3 CONDUCTOR, NO. 12 AWG
ADVANCE RADAR DETECTION UNIT	PC — POWER CABLE, 3 CONDUCTOR, NO. 6 AWG
PROP. OVERHEAD SIGN	PE — PHOTOELECTRIC CELL
HOA — HAND/OFF/AUTO SWITCH	POWER SOURCE
DS — DUAL LIGHTING/SIGNAL DISCONNECT SWITCH	RC — RADAR DETECTION CABLE
SP 1 — SIGNAL SUPPORT POLE NO. _1_	

##Ex. FLOCK SAFETY CAMERA ON THE EXISTING STRAIN POLE SHALL BE RELOCATED TO THE NEW SIGNAL SUPPORT#1 (SP-1) BY FLOCK SAFETY REPRESENTATIVES. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH FLOCK SAFETY REPRESENTATIVES FOR FLOCK SAFETY TO REINSTALL THE INFRASTRUCTURE.



WIRING SCHEMATIC

NOTES:

- POWER SERVICE SHALL BE RUN, UNDERGROUND, FROM THE EXISTING ELECTRIC PEDESTAL, APPROXIMATE STA. 1114+27.84, 115.19' LT, TO THE PROPOSED CONTROLLER CABINET AS SHOWN.
- THE RADAR CABLES SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS AND SUPPLIED AS A PART OF EACH ITEM.

HORIZONTAL SCALE IN FEET
0 5 10 20

TRAFFIC SIGNAL PLAN - MAIN STREET AND GARBER ROAD

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER BMW
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P.88 TOTAL 92

MOT SR 48 20.61

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SIGNAL TIMING CHART

INTERSECTION:	N. MAIN STREET (SR 48) AND GARBER ROAD/GOOD SAMARITAN BLVD							
MAINTAINING AGENCY:	CITY OF CLAYTON							
START UP	DUAL ENTRY: ON	PHASES: 2 + 6					4 + 8	
	REST IN RED:	RING 1: -			RING 2: -			
START IN: FLASH	OVERLAP			A	B	C	D	
TIME FOR FLASH, ALL RED: 10 SEC								
FIRST PHASE(S): 2 & 6	PHASES			7	-	-	-	
COLOR DISPLAYED: GREEN								

INTERVAL OR FEATURE			CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)			1	2	3	4	5	6	7	8
DIRECTION			Sb LT	Nb	Eb LT	Wb	Nb LT	Sb	Wb LT	Eb
MINIMUM GREEN (INITIAL)		(SEC.)	7	17	7	7	7	17	7	7
ADDED INITIAL		(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL		(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)		(SEC.)	1.5	1.5	2.0	1.0	1.5	1.5	2.0	1.0
TIME BEFORE REDUCTION		(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP		(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE		(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I		(SEC.)	35	40	20	25	35	40	20	25
MAXIMUM GREEN II		(SEC.)	35	40	30	25	35	40	30	25
YELLOW CHANGE		(SEC.)	3.1	4.2	3.4	4.2	3.3	4.2	3.0	4.2
ALL RED CLEARANCE		(SEC.)	2.1	1.0	2.4	1.7	1.7	1.0	2.2	1.7
DELAYED GREEN (LPI)		(SEC.)	-	-	-	4.0	-	-	-	4.0
*FLASHING YELLOW ARROW DELAY		(SEC.)	-	-	-	-	-	-	-	-
WALK		(SEC.)	-	7	-	11	-	7	-	11
PEDESTRIAN CLEARANCE		(SEC.)	-	13	-	20	-	21	-	24
RECALL	MAXIMUM	(ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	MINIMUM	(ON/OFF)	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
	PEDESTRIAN	(ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MEMORY		(ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

SET TO FLASH IN ALL RED WHEN IN CONFLICT/ERROR DETECTED.

-ALL MOVEMENTS SHALL BE ACTUATED. THE PRIMARY THRU MOVEMENT SHOULD HAVE MIN RECALL ACTIVE TO REST IN GREEN.

-FOR PROTECTED/PERMISSIVE PHASES, IMPLEMENT CALL OMITS TO AVOID YELLOW BALL TRAP.

-ENABLE ϕ1, 3 & ϕ5, 7 DETECTOR SWITCHING TO ALLOW ϕ1 & ϕ5 TO EXTEND ϕ2 & ϕ6 OR ϕ3 & ϕ7 TO EXTEND ϕ4 & ϕ8, RESPECTIVELY, WHEN ALLOCATED GREEN TIME FOR LEFT TURN PHASES ARE EXHAUSTED.

-COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.

-RADAR DETECTION UNITS FOR DILEMMA ZONE TRAVEL TIMES DETECTION SHALL PLACE A CONSTANT CALL TO THE CONTROLLER WHEN VEHICLES TRAVEL TIMES TO THE STOP BAR ARE BETWEEN 2.5 AND 6 SECONDS. SPEED TRIGGER SHALL BE SET FOR VEHICLES TRAVELING 35 MPH AND GREATER.

-RADAR SHALL HAVE QUEUE DETECTION CONFIGURED AND A ZONE PLACED AT 100-200 FEET FROM STOP BAR FOR SLOW MOVING VEHICLE EXTENSIONS. SPEED TRIGGER SHALL BE SET AT 1-35 MPH.

-ALL DETECTOR DELAYS SHALL BE PLACED IN THE CONTROLLER.

RADAR DETECTION CHART

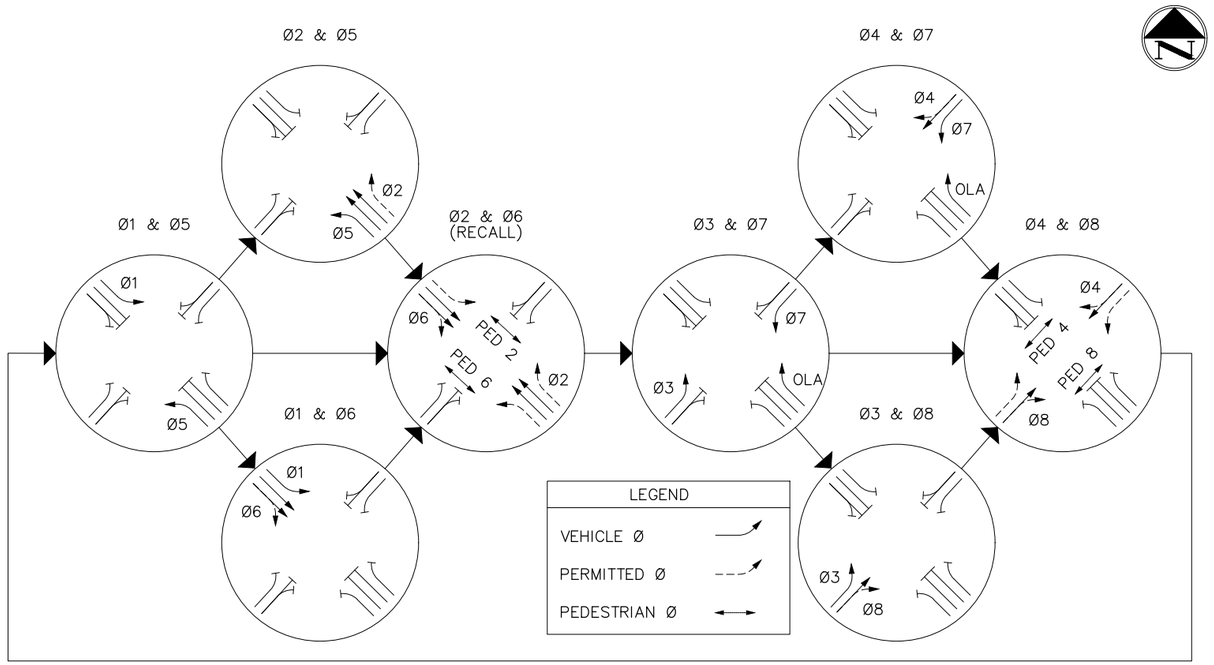
DETECTION ZONE	MOVEMENT	WIDTH	DELAY PROGRAMMED IN CONTROLLER (SEC)	EXTENSION PROGRAMMED IN CONTROLLER (SEC)	DETECTION NUMBER	PURPOSE	DETECTION ZONE LENGTH (FT)	DISTANCE TO STOP LINE (FT)
RDZ1A	Sb LT	6'	2.0	-	D1	STOP-LINE	75	2
RDZ2A	Nb	6'	-	-	D2	ADVANCE	*	*
RDZ2B	Nb	6'	-	-	D2	ADVANCE	*	*
RDZ3A	Eb LT	6'	-	2.0	D3	THIRD CAR	25	50
RDZ4A	Wb	6'	2.0	-	D7	STOP-LINE	25	2
RDZ4B	Wb	6'	10.0	-	D7	STOP-LINE	75	15
RDZ5A	Nb LT	6'	2.0	-	D5	STOP-LINE	75	2
RDZ6A	Sb	6'	-	-	D6	ADVANCE	*	*
RDZ6B	Sb	6'	-	-	D6	ADVANCE	*	*
RDZ7A	Wb LT	6'	-	2.0	D7	THIRD CAR	25	50
RDZ8A	Eb	6'	2.0	-	D3	STOP-LINE	25	2
RDZ8B	Eb	6'	10.0	-	D3	STOP-LINE	100	10

NOTE: ADVANCED DILEMA ZONE SPEED THRESHOLD >30 MPH

PURPOSE: STOP-LINE, THIRD CAR OR ADVANCED DETECTION

-RADAR UNITS ARE SHOWN ON THE PLANS FOR INFORMATIONAL PURPOSES ONLY. ACTUAL LOCATION TO BE PER MANUFACTURERS RECOMMENDATIONS.

*SET ADVANCE DETECTION ZONE 50 FT. FROM STOP BAR TO MAX FROM STOP BAR, OR AS RECOMMENDED BY MANUFACTURER.



FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
1A	R	Ø 6R	R
	Y	Ø 6Y	
	G	Ø 6G	
	<--YA	Ø 1Y	
(SB LT)	<--GA	Ø 1G	
2A	R	Ø 2R	R
	Y	Ø 2Y	
	G	Ø 2G	
(NB)	-	-	
	-	-	
2B	R	Ø 6R	R
	Y	Ø 6Y	
	G	Ø 6G	
	YA-->	Ø 7Y/LS 13Y	
(NB RT)	GA-->	Ø 7Y/LS 13Y	
3A	R	Ø 8R	R
	Y	Ø 8Y	
	G	Ø 8G	
(EB LT)	<--YA	Ø 3Y	
	<--GA	Ø 3G	
4A, 4B	R	Ø 4R	R
	Y	Ø 4Y	
	G	Ø 4G	
(WB)	-	-	
	-	-	
5A	R	Ø 2R	R
	Y	Ø 2Y	
	G	Ø 2G	
	<--YA	Ø 5Y	
(NB LT)	<--GA	Ø 5G	
LS = LOAD SWITCH			

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
6A, 6B	R	Ø 6R	R
	Y	Ø 6Y	
	G	Ø 6G	
(SB)	-	-	
7A	R	Ø 4R	R
	Y	Ø 4Y	
	G	Ø 4G	
(WB LT)	<--YA	Ø 7Y	
	<--GA	Ø 7G	
8A, 8B	R	Ø 8R	R
	Y	Ø 8Y	
	G	Ø 8G	
(EB)	-	-	
	-	-	

PEDESTRIAN MOVEMENTS			
PH2A + PH2B (N)	WALK	G-Ø2-W	OFF
	DW	R-Ø2-DW	
PH4A + PH4B (W)	WALK	G-Ø4-W	OFF
	DW	R-Ø4-DW	
PH6A + PH6B (S)	WALK	G-Ø6-W	OFF
	DW	R-Ø6-DW	
PH8A + PH8B (E)	WALK	G-Ø8-W	OFF
	DW	R-Ø8-DW	
PEDESTRIAN MOVEMENTS			
OLA	YA-->	Ø 7Y/LS 13Y	OFF
	GA-->	Ø 7G/LS 13G	OFF

TRAFFIC SIGNAL PLAN - N. MAIN STREET AND GARBER ROAD

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
BMW

REVIEWER
AJH 1-16-2026

PROJECT ID
119822

SHEET P.89 | TOTAL 92

MOT SR 48 20.61

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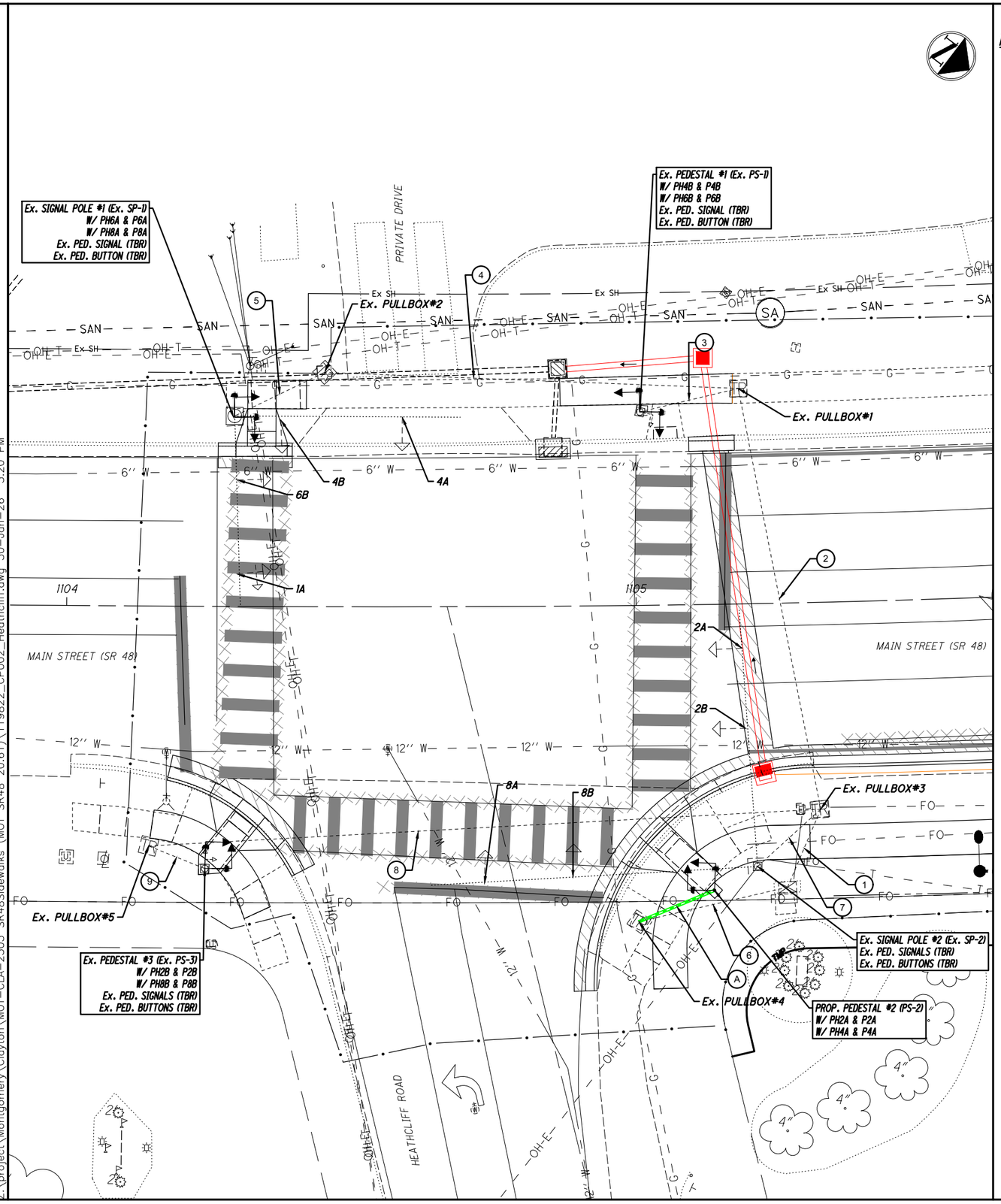

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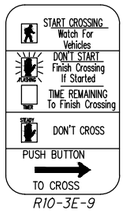
MOT SR 48 20.61

PEDESTRIAN SIGNS



R10-3E-9

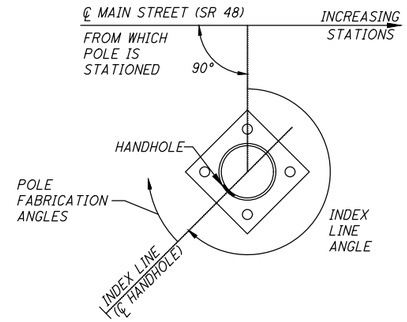
5 - LEFT ARROWS
3 - RIGHT ARROWS

PEDESTRIAN SIGNAL HEADS

PEDESTRIAN HEADS (LED, COUNTDOWN, TYPE D2)

PH2A, PH2B,
PH4A, PH4B,
PH6A, PH6B,
PH8A, PH8B

PEDESTRIAN/SIGNAL POLE ORIENTATION DETAIL



POLE DATA

POLE NUMBER	STATION	OFFSET (FEET) AND SIDE	INDEX LINE ANGLE (DEG.)	ANGLES (DEG) FROM INDEX LINE (ALL ANGLES MEASURES CLOCKWISE ↻)			
					PEDESTRIAN SIGNAL		PEDESTRIAN PUSHBUTTON
Ex. SP-1	1104+29.21	33.13' LT	180		0/90		0/90
Ex. SP-2	1105+20.49	46.15' RT	180		-		-
Ex. PS-1	1105+01.07	33.97' LT	180		0/90		0/90
PS-2	1105+12.98	50.22' RT	315		50/315		50/315
Ex. PS-3	1104+24.49	46.05' RT	0		0/90		0/90

PROP. CONDUIT DETAILS

(A) 2" CONDUIT, 725.051 IN TRENCH, (16')

Ex. CONDUIT DETAILS

(1) (2) - Ex. 3" CONDUIT, (15')
EX. 2" CONDUIT

(2) Ex. 3" CONDUIT, (76')
EX. 1-1/2" CONDUIT

(3) Ex. 2" CONDUIT, (18')

(4) Ex. 2" CONDUIT, (73')

(5) Ex. 1-1/2" CONDUIT, (18')

(6) Ex. 2" CONDUIT, (27')

(7) (2) - Ex. 2" CONDUIT, (15')

(8) Ex. 2" CONDUIT, (119')

(9) Ex. 2" CONDUIT, (11')

LEGEND

	EXISTING	PROP
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"		
TRAFFIC SIGNAL, 5 UNIT HEAD, 12"		
SIGNAL SUPPORT POLE		
PEDESTRIAN SIGNAL		(TBR)
PEDESTRIAN PUSHBUTTON		(TBR)
PEDESTAL SUPPORT		
CONTROLLER CABINET (SUPER P44)		
TRAFFIC PULL BOX	TR	TR
CONDUIT		
TO BE REMOVED		(TBR)

HORIZONTAL SCALE IN FEET
0 5 10 20

TRAFFIC SIGNAL PLAN - MAIN STREET AND HEATHCLIFF ROAD

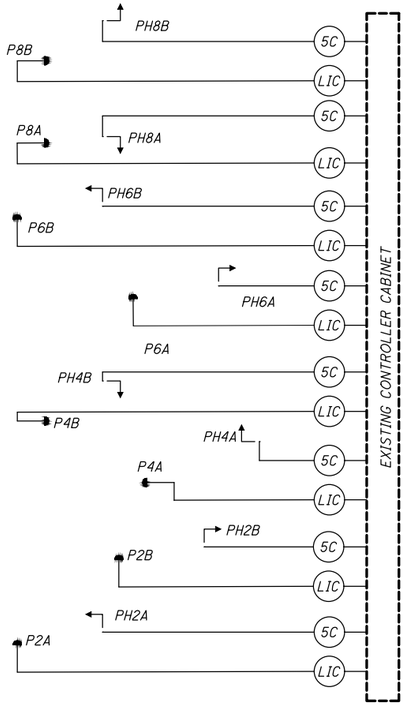
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
BMW

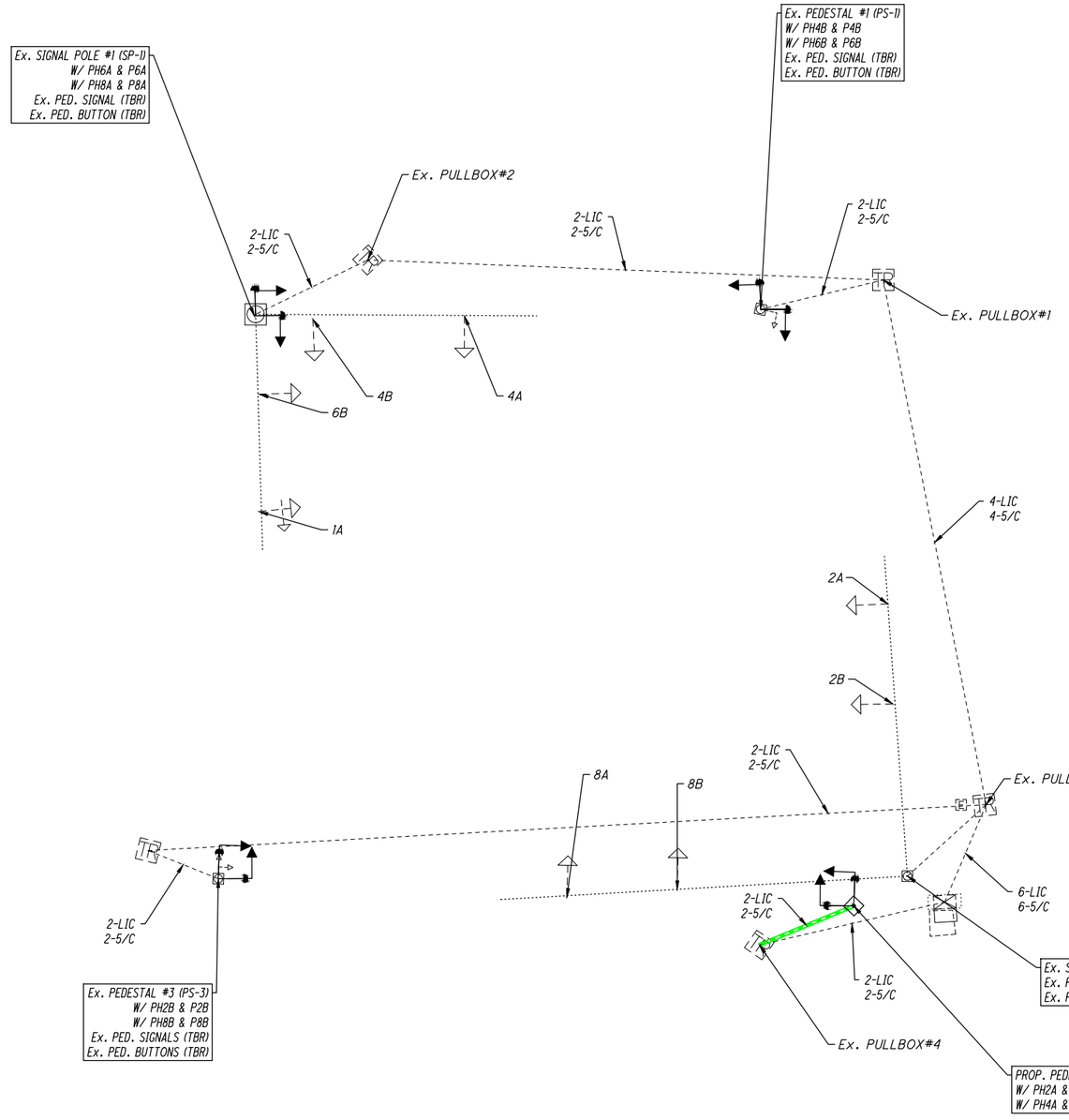
REVIEWER
AJH 1-16-2026

PROJECT ID
119822

SHEET P.90 | TOTAL 92



WIRING DIAGRAM



WIRING SCHEMATIC

NOTES:
- CONTRACTOR SHALL REMOVE ALL UNUSED SIGNAL CABLE AS PART OF ITEM 632 TRAFFIC SIGNAL INSTALLATION FOR STORAGE, AS PER PLAN.

LEGEND

	PEDESTRIAN SIGNAL HEAD
	PEDESTRIAN PUSH BUTTON
Ex. SP 1	Ex. SIGNAL SUPPORT POLE NO. _1_
Ex. PS 1	Ex. PEDESTAL POLE NO. _1_
5C	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
LIC	2/C NO. 14 AWG (LEAD-IN CABLE)

HORIZONTAL SCALE IN FEET
0 5 10 20

TRAFFIC SIGNAL PLAN - MAIN STREET AND HEATHCLIFF ROAD

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER: BMW
REVIEWER: AJH 1-16-2026
PROJECT ID: 119822
SHEET: P.91 TOTAL: 92

MOT SR 48 20.61

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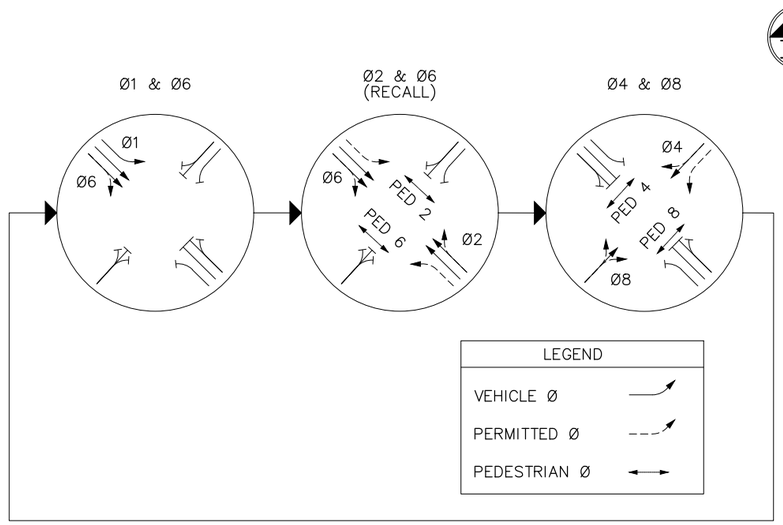
EXISTING SIGNAL TIMING CHART

INTERSECTION:		N. MAIN STREET (SR 48) AND HEATHCLIFF ROAD							
MAINTAINING AGENCY:		CITY OF CLAYTON							
START UP		DUAL ENTRY: ON			PHASES: 2 + 6				4 + 8
		REST IN RED:		RING 1:	-		RING 2:	-	
START IN:	FLASH	OVERLAP				A	B	C	D
TIME FOR FLASH, ALL RED:	10 SEC								
FIRST PHASE(S):	2 & 6								
COLOR DISPLAYED:	GREEN	PHASES				-	-	-	-
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		Sb LT	Nb	-	Wb	-	Sb	-	Eb
MINIMUM GREEN (INITIAL)	(SEC.)	7	18	-	7	-	18	-	7
ADDED INITIAL	(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	2.5	0.1	-	0.1	-	0.1	-	0.1
TIME BEFORE REDUCTION	(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	20	50	-	30	-	50	-	30
MAXIMUM GREEN II	(SEC.)	20	60	-	40	-	60	-	40
YELLOW CHANGE	(SEC.)	3.2	4.1	-	4.0	-	4.1	-	4.0
ALL RED CLEARANCE	(SEC.)	1.7	1.0	-	1.0	-	1.0	-	1.0
DELAYED GREEN (LPI)	(SEC.)	-	-	-	-	-	-	-	-
*FLASHING YELLOW ARROW DELAY	(SEC.)	-	-	-	-	-	-	-	-
WALK	(SEC.)	-	8	-	8	-	10	-	8
PEDESTRIAN CLEARANCE	(SEC.)	-	21	-	20	-	9	-	19
RECALL	MAXIMUM (ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	MINIMUM (ON/OFF)	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
	PEDESTRIAN (ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MEMORY	(ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

NOTE: COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.

-EXISTING VEHICULAR SIGNAL TIMINGS WERE NOT MODIFIED IN THESE PLANS AND SHALL REMAIN AS THEY ARE IN THE CONTROLLER. THE CONTRACTOR SHALL ADD THE PEDESTRIAN PHASES WITH THE APPROPRIATING SIGNAL TIMING INTO THE CONTROLLER AS DETAILED IN THE TABLE ABOVE.



FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
LS = LOAD SWITCH			

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
PEDESTRIAN MOVEMENTS			
PH2A + PH2B (N)	WALK	G-Ø2-W	OFF
	DW	R-Ø2-DW	
PH4A + PH4B (W)	WALK	G-Ø4-W	OFF
	DW	R-Ø4-DW	
PH6A + PH6B (S)	WALK	G-Ø6-W	OFF
	DW	R-Ø6-DW	
PH8A + PH8B (E)	WALK	G-Ø8-W	OFF
	DW	R-Ø8-DW	
PEDESTRIAN MOVEMENTS			
-	-	-	-
	-	-	-

TRAFFIC SIGNAL PLAN - MAIN STREET AND HEATHCLIFF ROAD

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER BMW
REVIEWER AJH 1-16-2026
PROJECT ID 119822
SHEET P.92 TOTAL 92

MOT SR 48 20.61

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