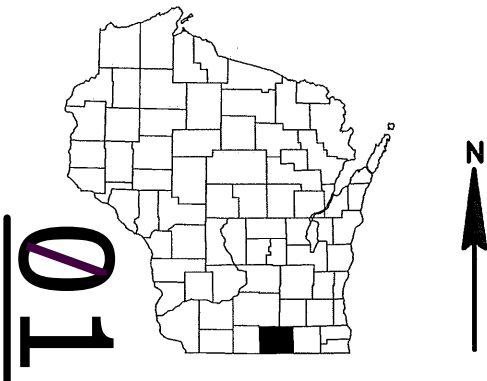


ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 32



DESIGN DESIGNATION

A.A.D.T.	=	N/A
A.A.D.T.	=	N/A
D.H.V.	=	N/A
D.D.	=	N/A
T.	=	N/A
DESIGN SPEED	=	N/A
ESALS	=	N/A

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

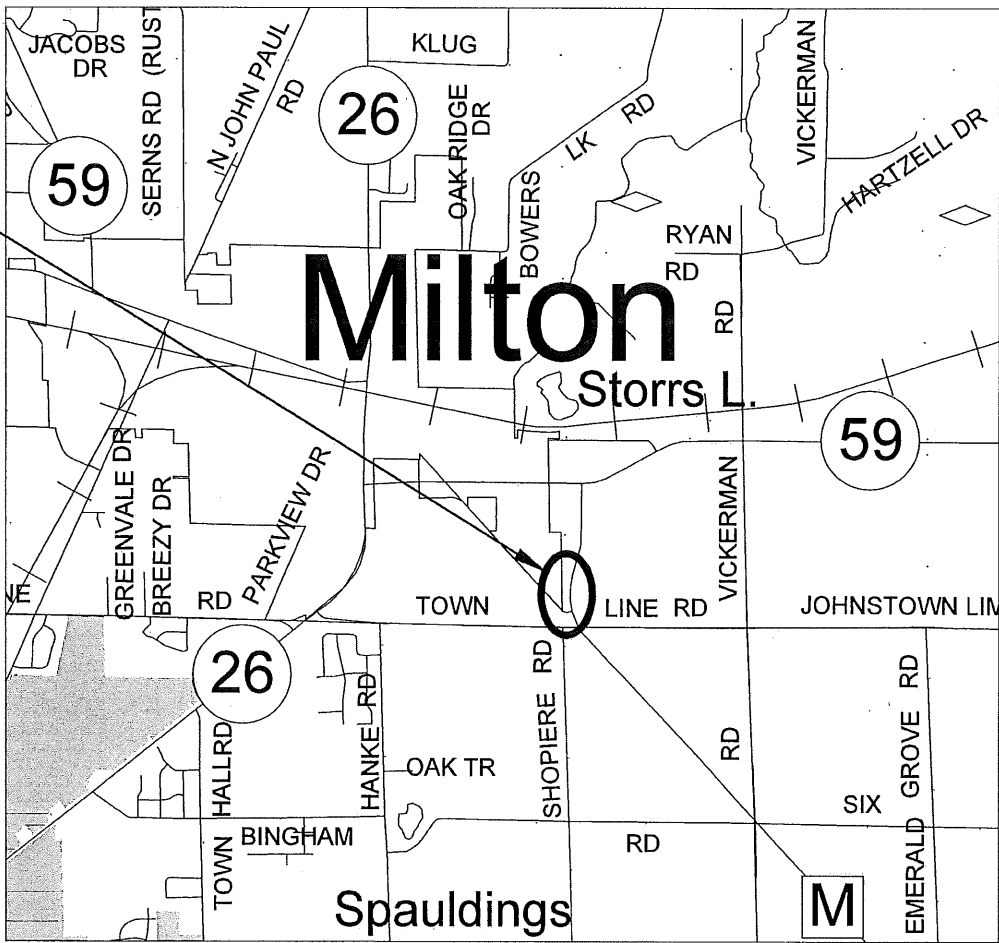
JANESVILLE - FORT ATKINSON

STH 26 & STH 59 INTERCHANGE AREA

STH 26
ROCK COUNTY

STATE PROJECT NUMBER
1390-05-82

PROJECT 1390-05-82
PART OF THE SW 1/4 OF THE SW 1/4
COMMENCING 515.32' NORTH OF SW
CORNER, NORTH 814.17', EAST 212.68',
SOUTHERLY 798.4', WEST 164.27', TO
POINT OF BEGINNING.
TOWN OF MILTON, ROCK COUNTY, WI

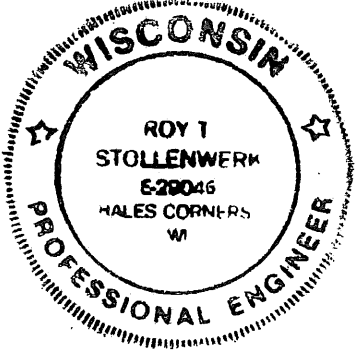


TOTAL NET LENGTH OF CENTERLINE =

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY
COORDINATES, ROCK COUNTY, NAD83 (88), IN U.S. SURVEY
FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID
DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1390-05-82		

ORIGINAL PLANS PREPARED BY:



DATE: 3/19/15 *Roy T. Stollenwerk*
(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	OTIE
Designer	OTIE
Project Manager	JAMIE GRAINGER
Regional Examiner	
Regional Supervisor	WAYNE CHASE

APPROVED FOR THE DEPARTMENT
DATE: 3/19/15 *Wayne Chase*
(Signature)

E

GENERAL NOTES

NO TREES OR SHRUBS WILL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

THE CONTRACTOR MUST NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

LOCATIONS AND INVERT ELEVATIONS OF CULVERT PIPES ARE GIVEN AT THE OPEN END OF THE APRON ENDWALL.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

EROSION CONTROL DEVICES WILL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.

THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

REMOVAL OF EROSION CONTROL DEVICES WILL BE INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

DISTURBED AREAS SHALL BE TOPSOILED, FERTILIZED, MULCHED AND SEEDED AS DIRECTED BY THE ENGINEER, WITHIN 7 WORKING DAYS OF COMPLETION OF GRADING WORK.

CONSULTANT CONTACT

ONEIDA TOTAL INTEGRATED ENTERPRISES
MR. ROY STOLLENWERK, P.E.
PROJECT MANAGER
1033 N. MAYFAIR RD. - SUITE 200
MILWAUKEE, WI 53226
(414) 607-6795
RSTOLLENWERK@OTIE.COM

WISDOT DESIGN CONTACT

WISCONSIN DEPARTMENT OF TRANSPORTATION
MR. JAMIE GRAINGER, P.E.
WISDOT SOUTHWEST REGION
111 INTERSTATE BLVD.
EDGERTON, WI 53534
(608) 884-1173
JAMIE.GRAINGER@DOT.WI.GOV

DNR CONTACT

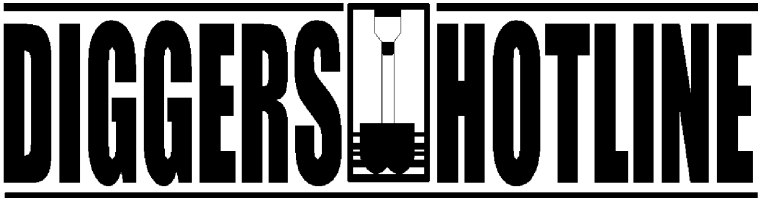
WDNR - SOUTHWEST REGION
MS. LAURA BUB
ENVIRONMENTAL ANALYSIS & SUSTAINABILITY
3911 FISH HATCHERY RD.
FITCHBURG, WI 53711
(608) 275-3485
LAURA.BUB@WISCONSIN.GOV

UTILITY CONTACTS

CENTURYLINK - COMMUNICATION LINE
KEVIN ZICKERT
224 INDUSTRIAL DR
NORTH PRAIRIE, WI 53153
(262) 392-5200
KEVIN.ZICKERT@CENTURYLINK.COM

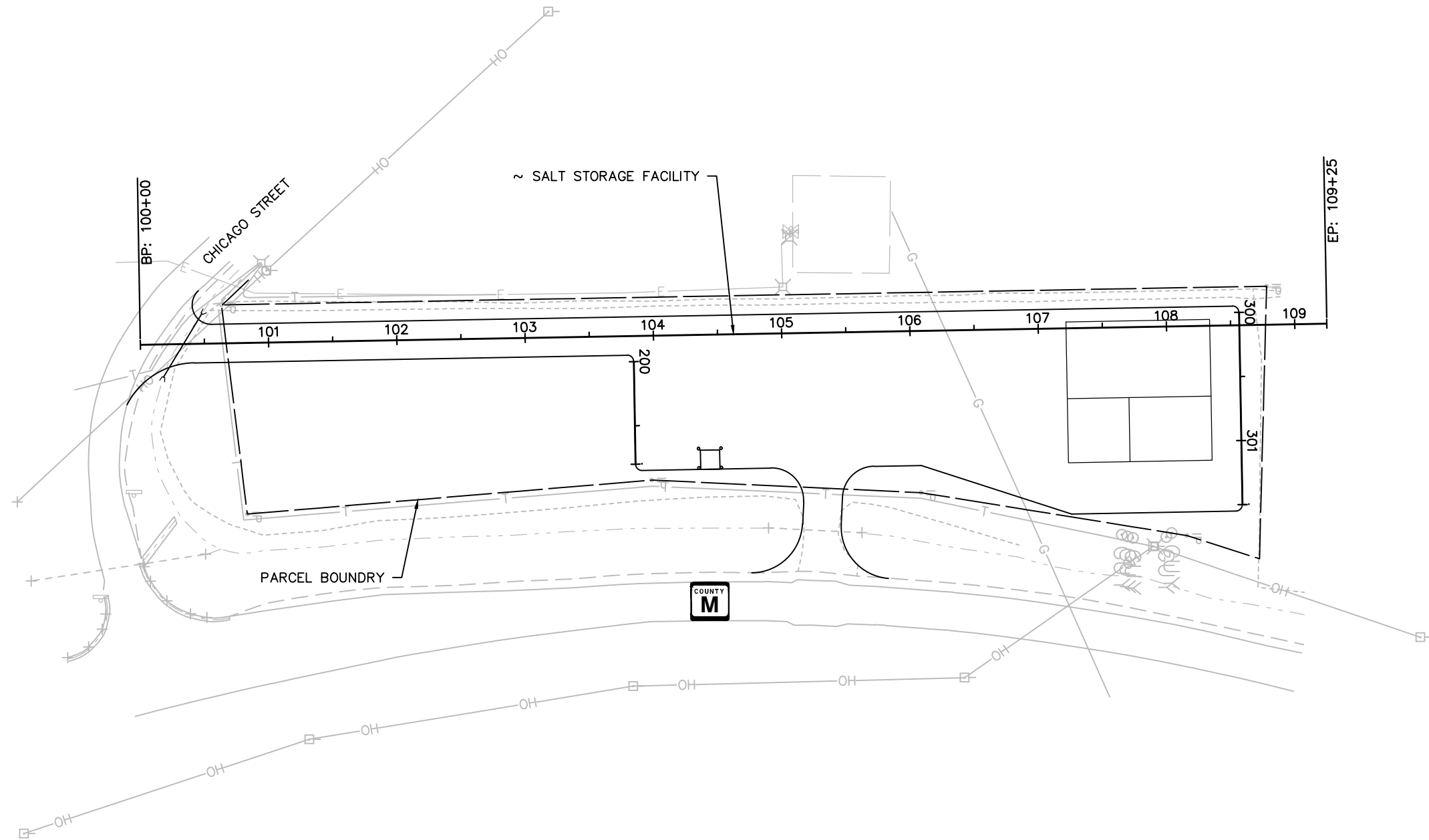
NORTHERN NATURAL GAS COMPANY - GAS/PETROLEUM
TOM DICKSON
1120 CENTRE POINT DRIVE #400
MENDOTA HEIGHTS, MN 55120
(651) 456-1777
TOM.DICKSON@NNGCO.COM

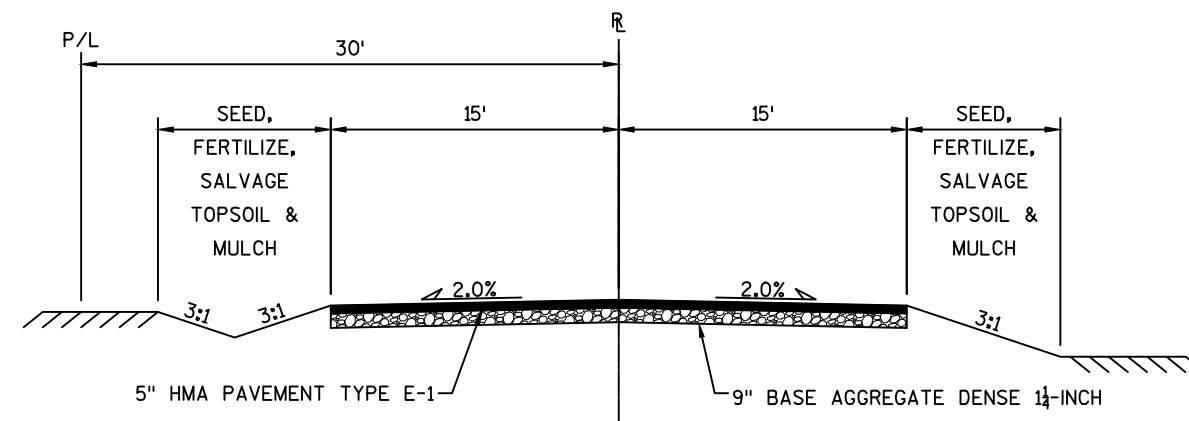
ROCK ENERGY COOPERATIVE - ELECTRICITY
LYNN MAIER
2815 KENNEDY RD
JANESVILLE, WI 53545
(608) 752-4550
LYNNM@ROCK.COOP



Dial  or (800)242-8511

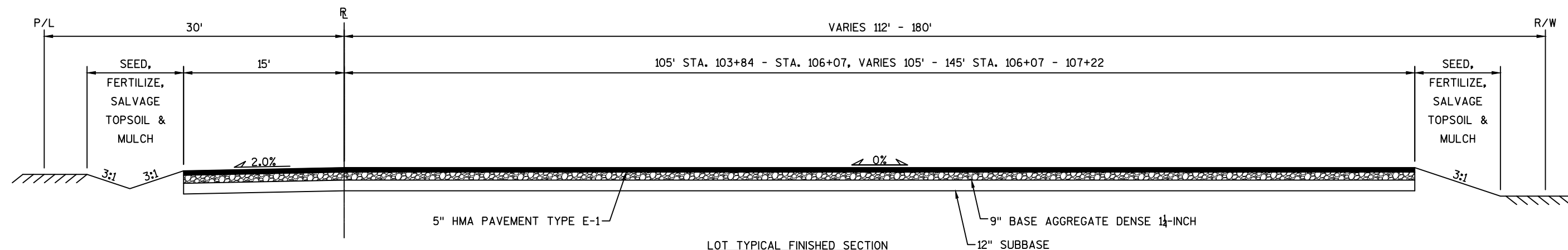
www.DiggersHotline.com





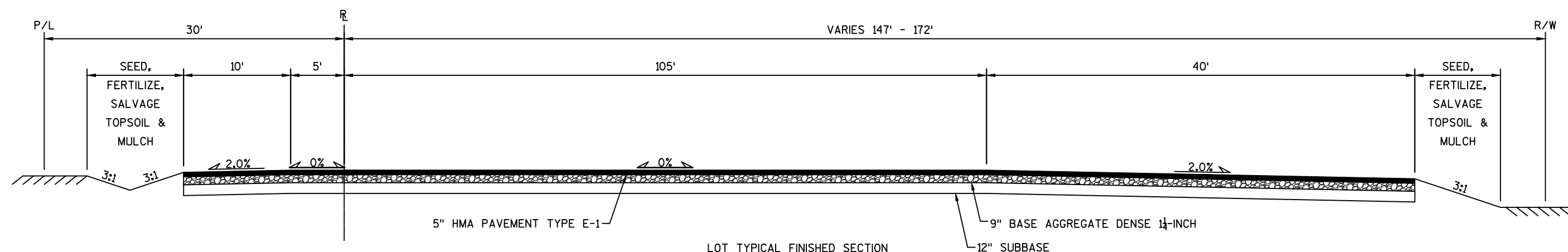
DRIVEWAY TYPICAL FINISHED SECTION

STA. 100+00 TO STA. 103+84



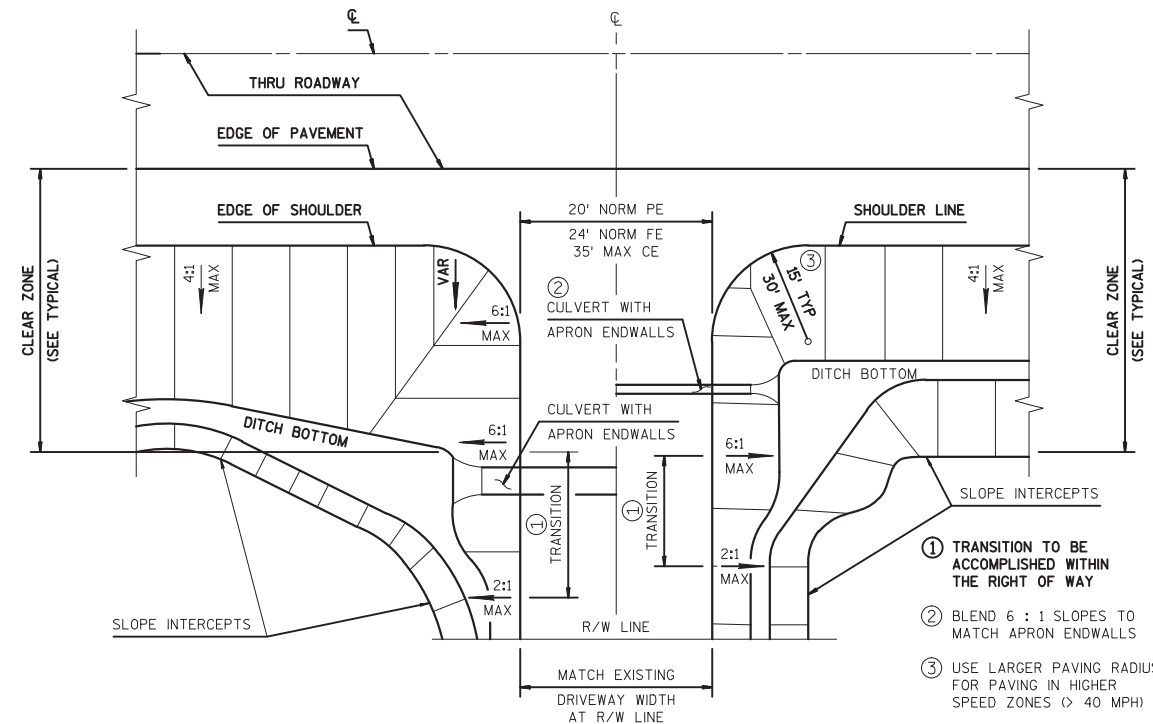
LOT TYPICAL FINISHED SECTION

STA. 103+84 TO STA. 107+22
STA. 108+34 TO STA. 108+57



LOT TYPICAL FINISHED SECTION

STA. 107+22 TO STA. 108+34

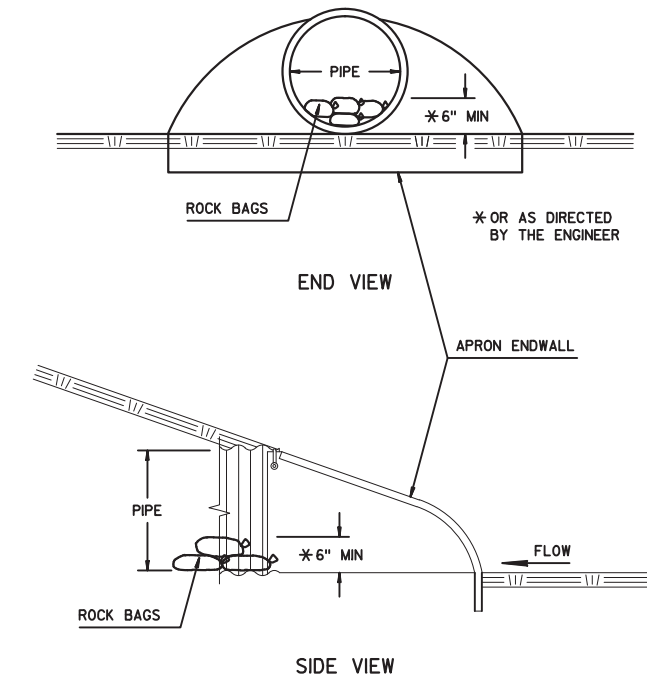


FOR CULVERTS OVER 24" DIAMETER

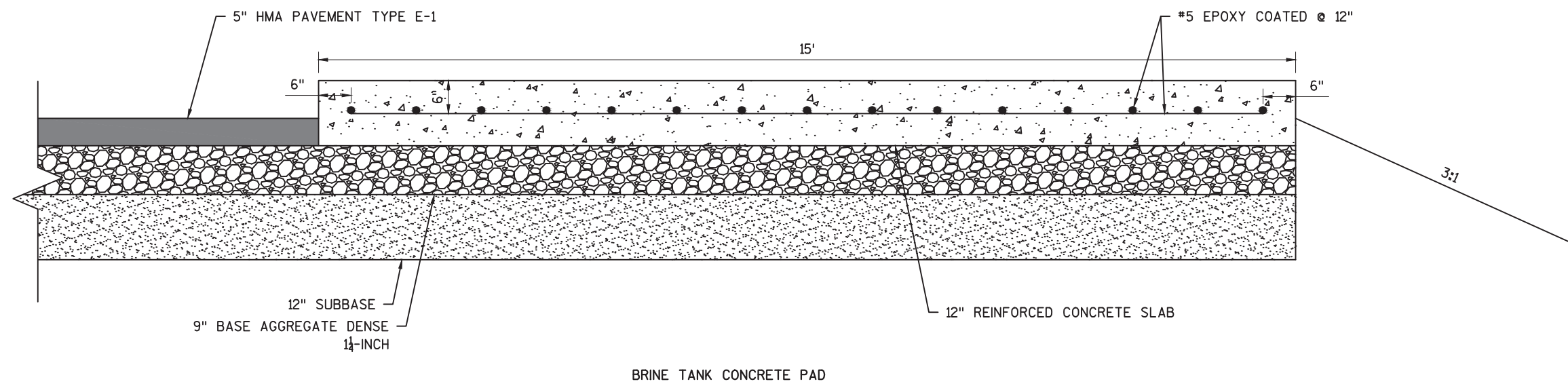
FOR CULVERTS 24" DIAMETER & LESS

PLAN VIEW

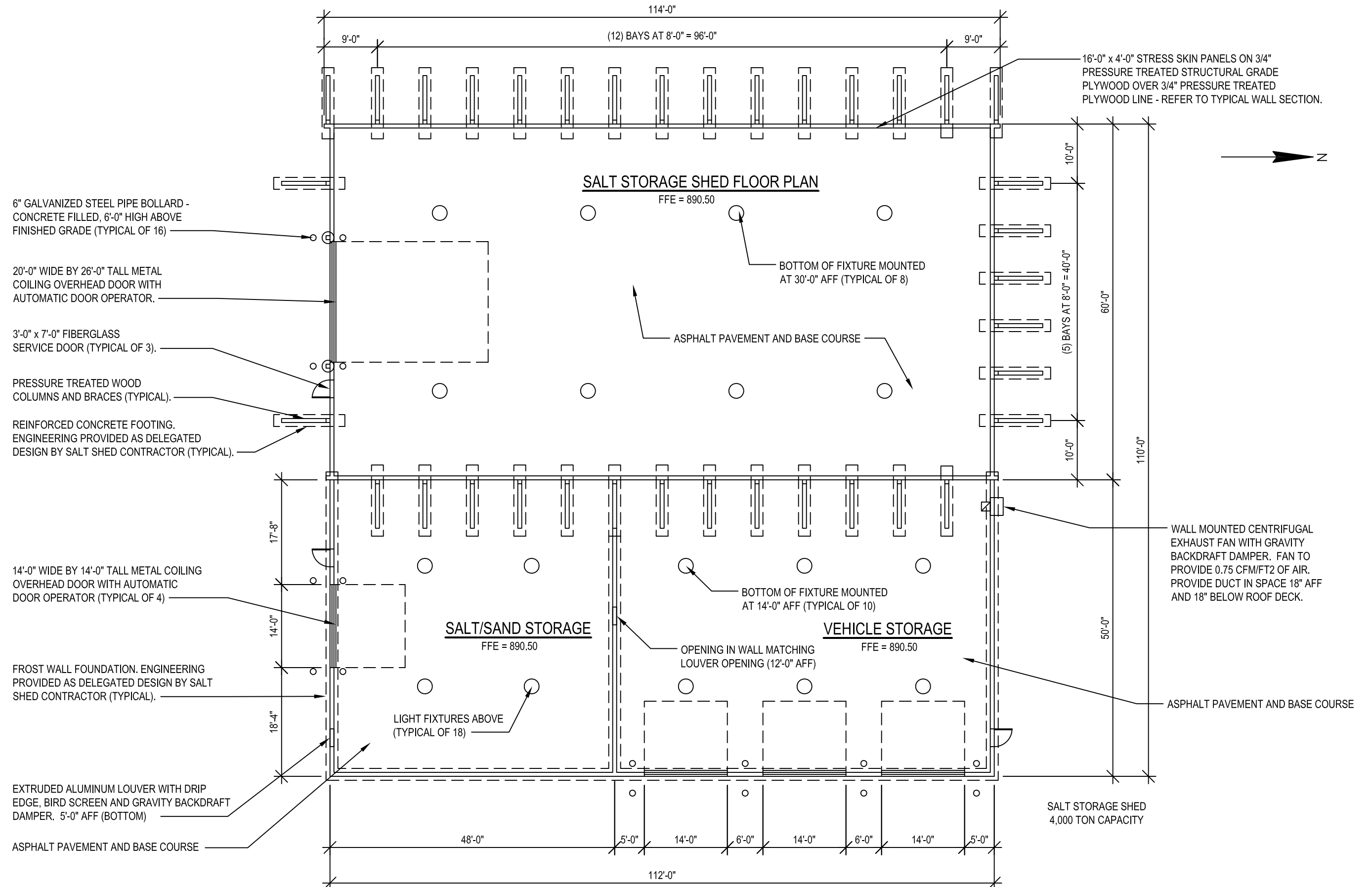
RURAL DRIVEWAY GRADING AND/OR PAVING DETAIL

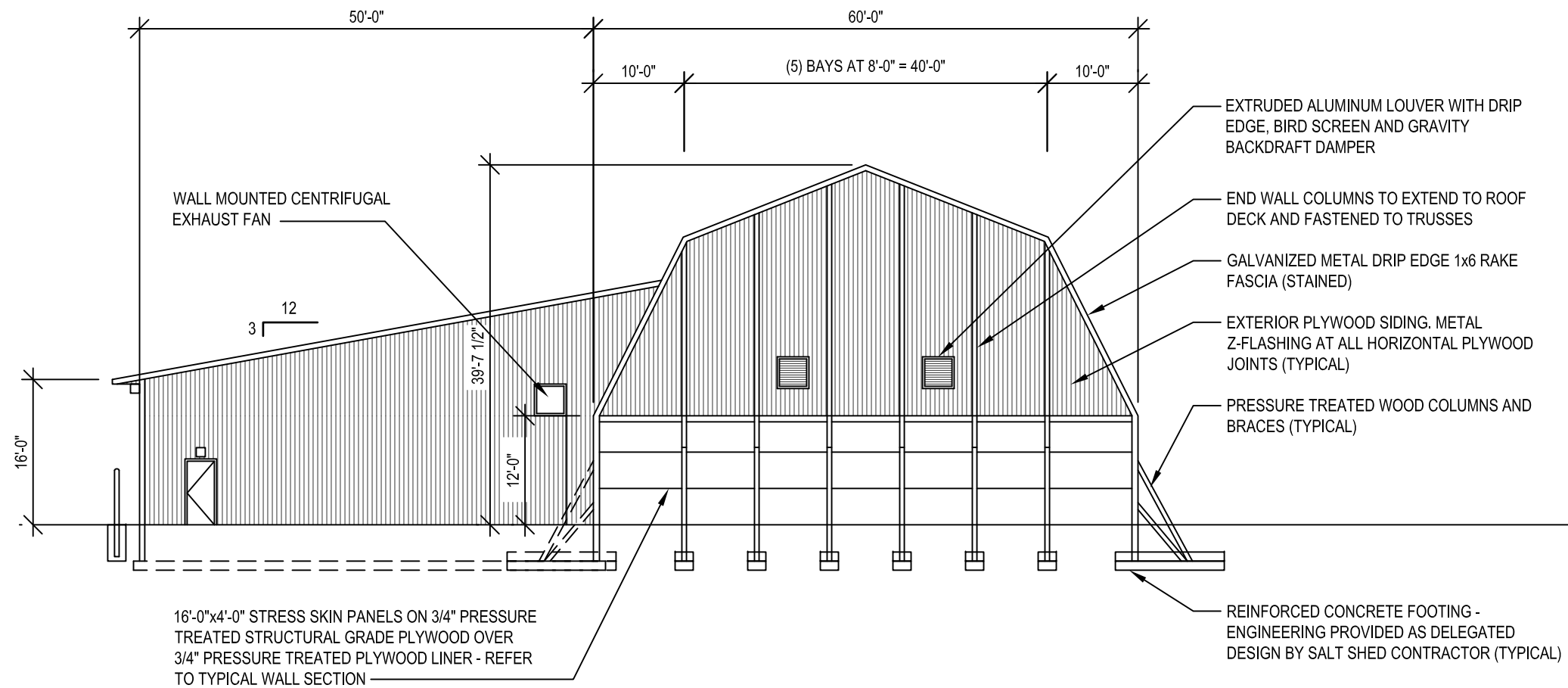


CULVERT PIPE CHECKS

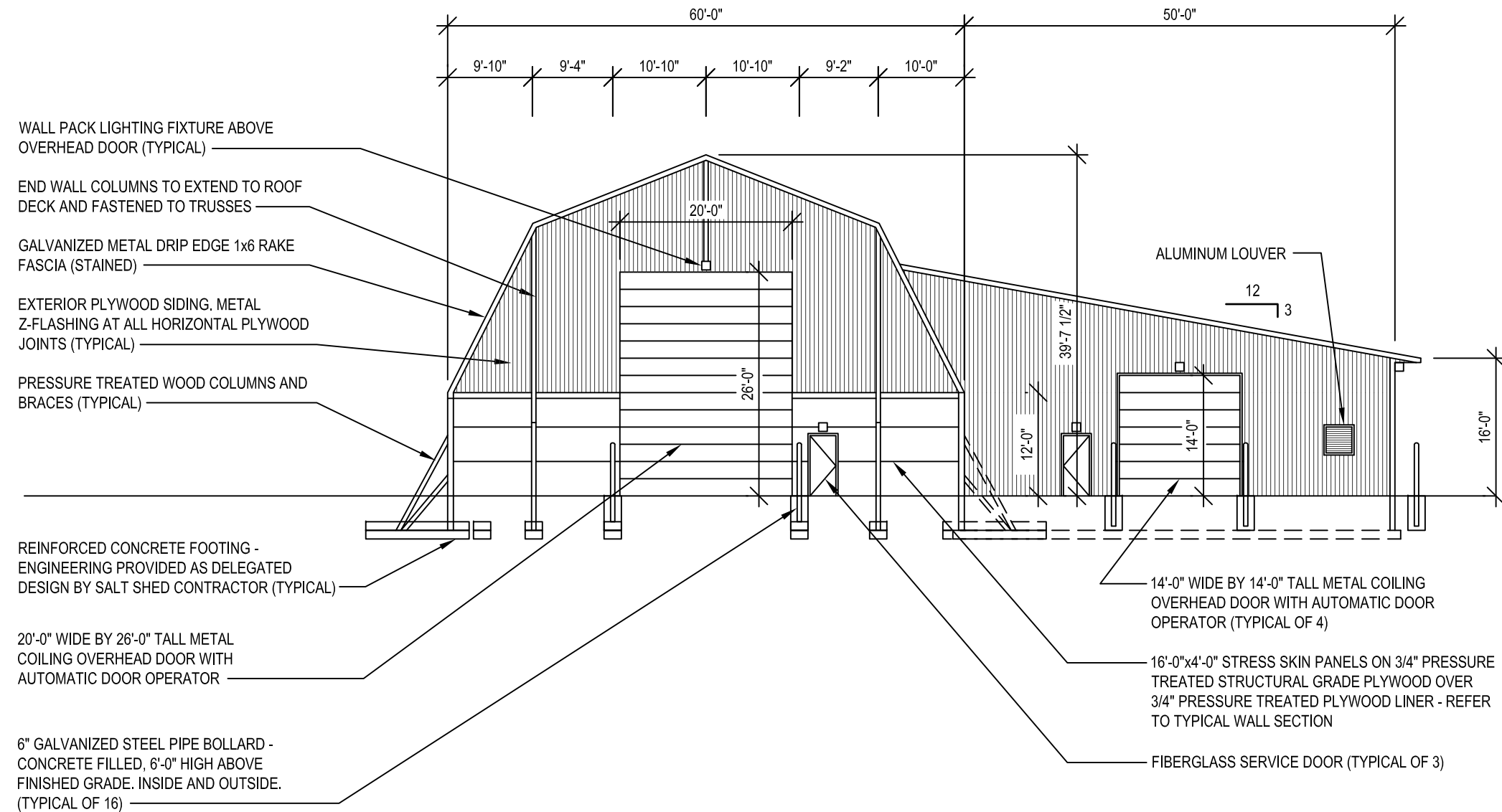


BRINE TANK CONCRETE PAD

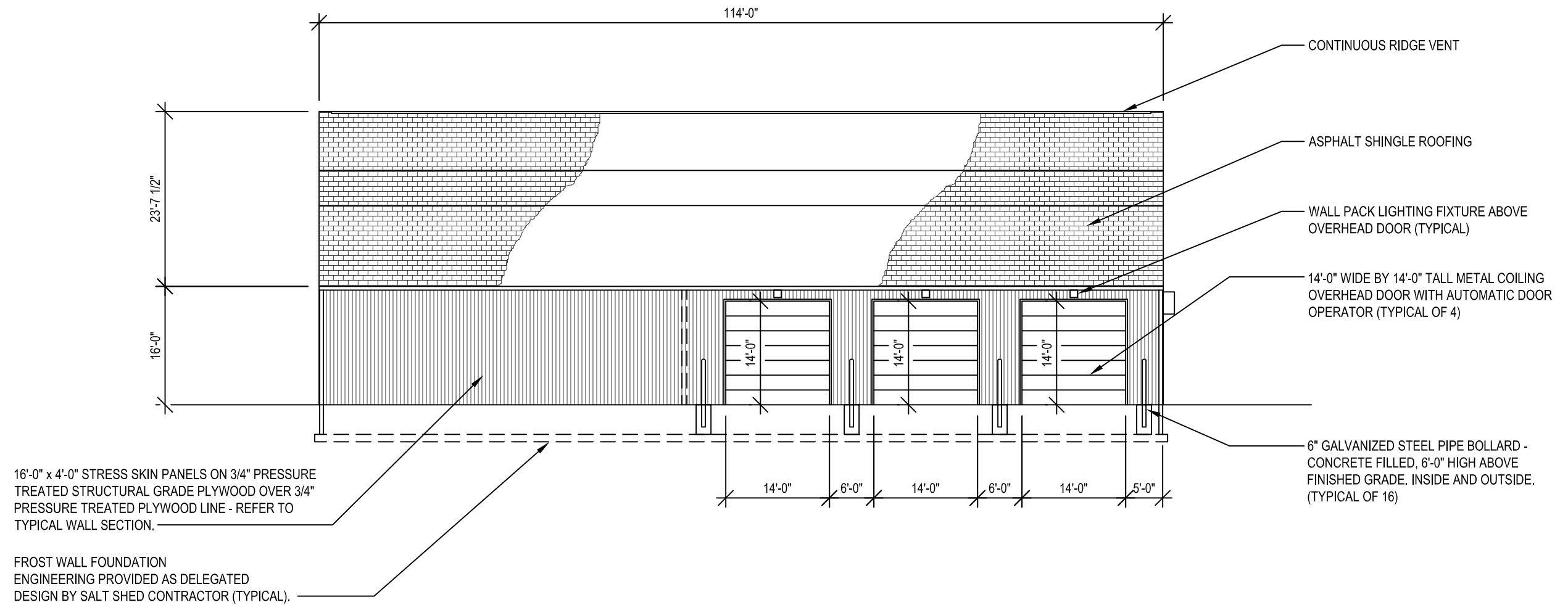




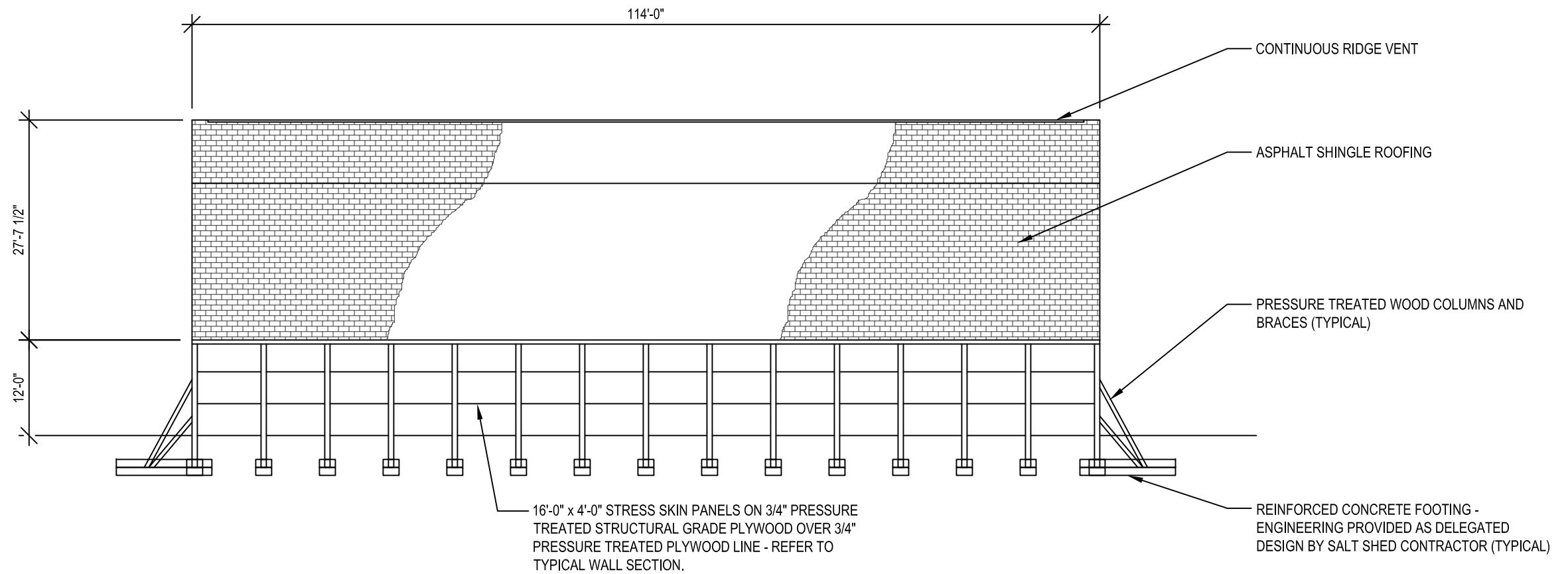
SALT STORAGE SHED NORTH ELEVATION



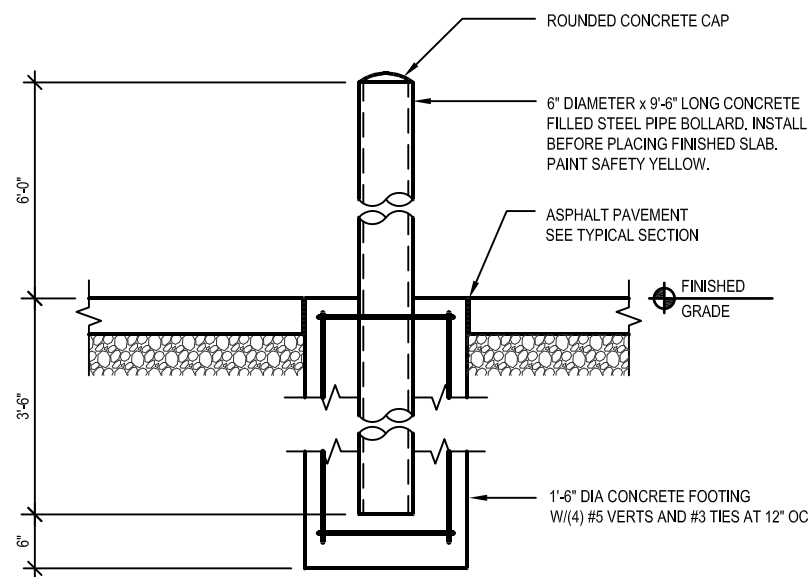
SALT STORAGE SHED SOUTH ELEVATION



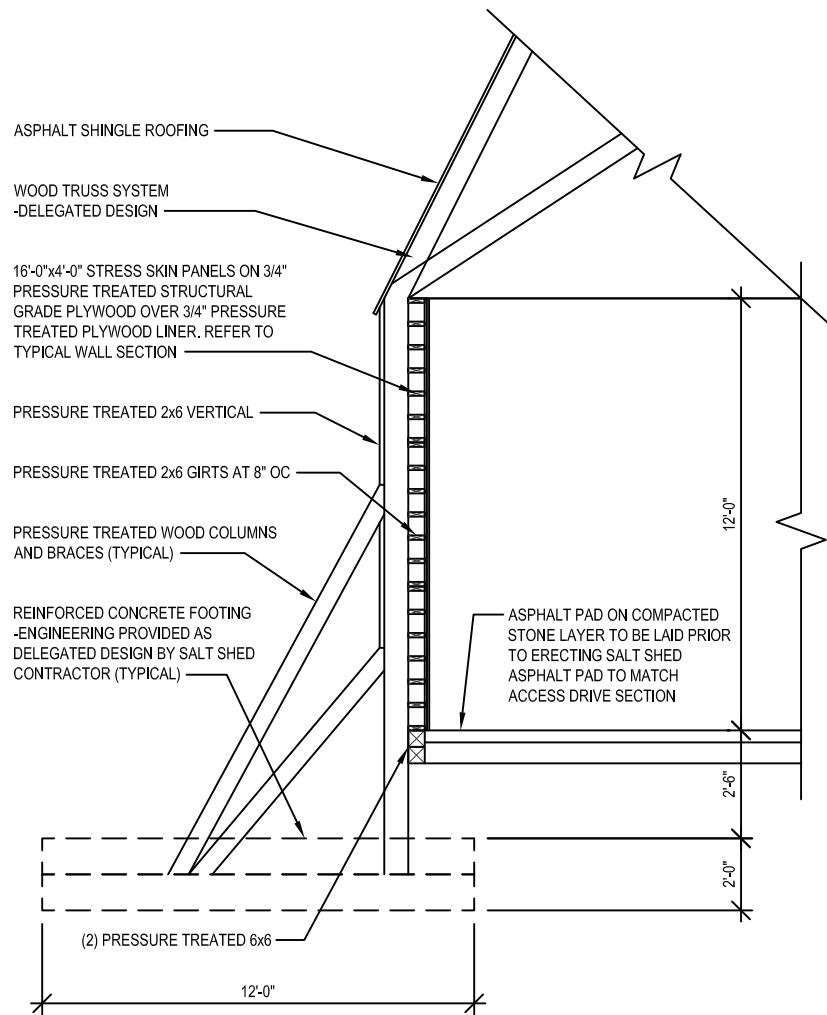
SALT STORAGE SHED EAST ELEVATION



SALT STORAGE SHED WEST ELEVATION

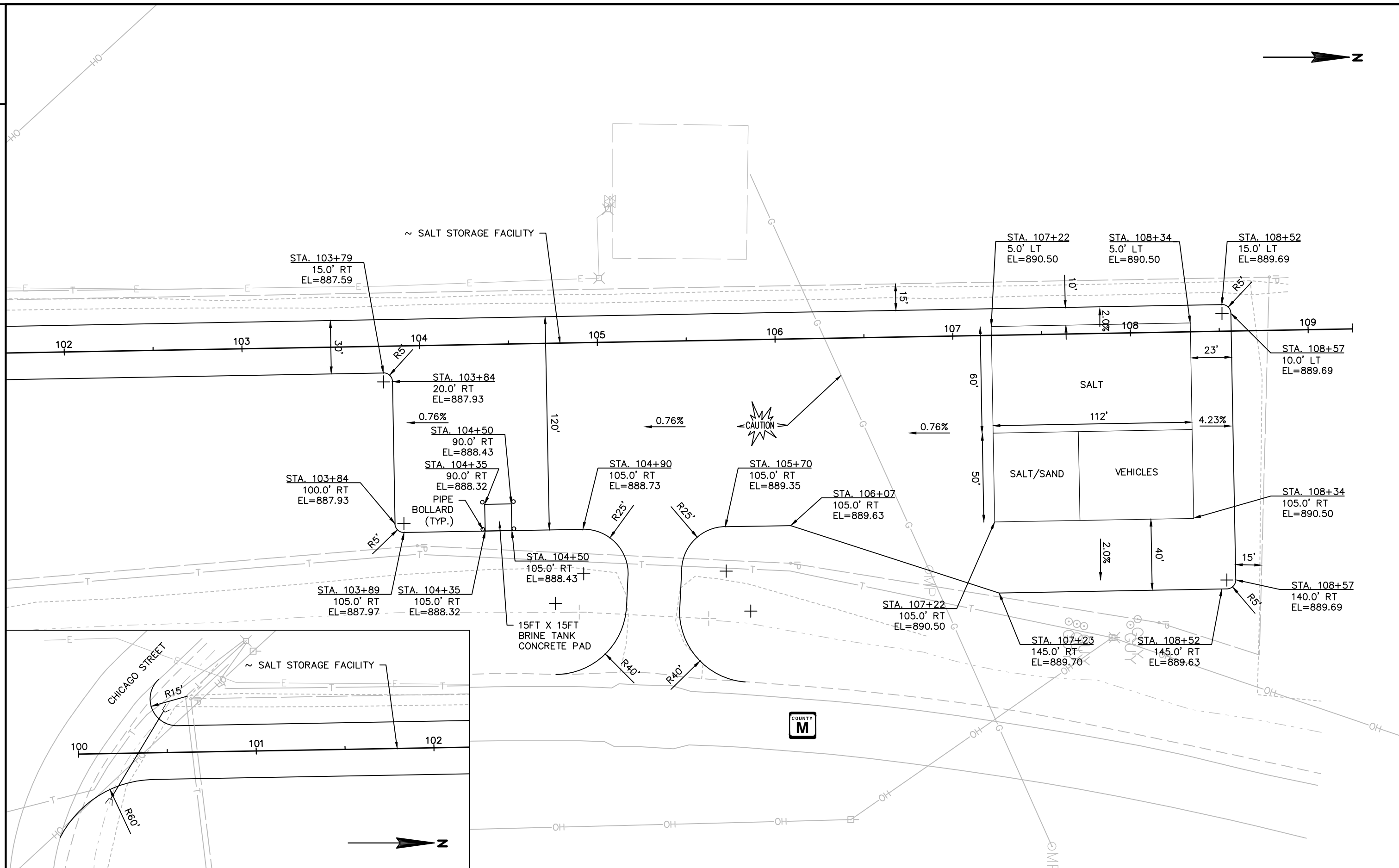


PIPE BOLLARD DETAIL



TYPICAL WALL SECTION

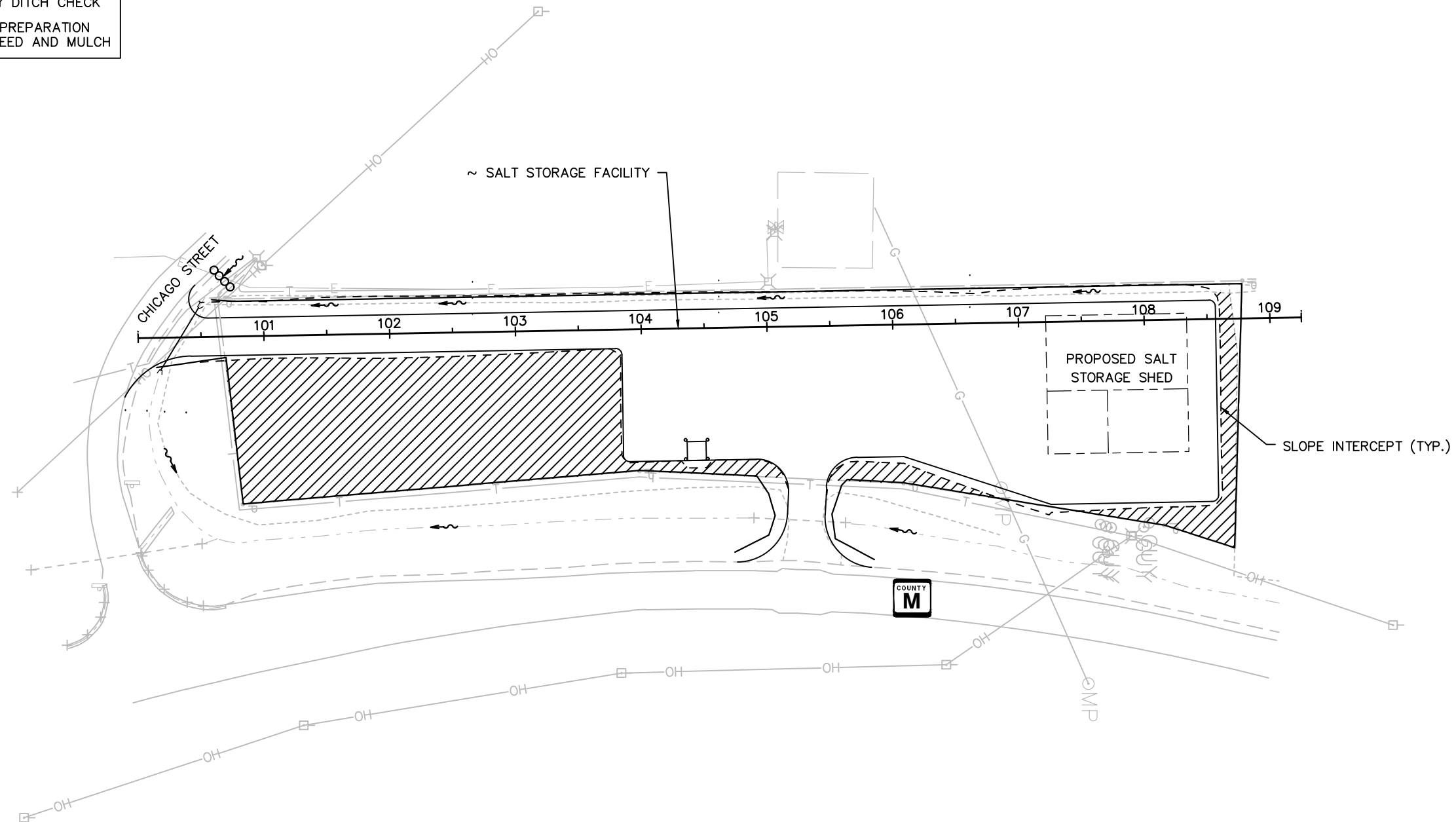
OCCUPANCY CATEGORY			
DESIGN CODES	BUILDING CODE		IBC 2009
	CONCRETE DESIGN CODE		ACI 318-08
	OCCUPANCY CATEGORY		-
ROOF SNOW LOAD	GROUND SNOW LOAD (PG) (PSF)		30
	SNOW EXPOSURE FACTOR (CE)		1.0
	SNOW LOAD IMPORTANCE FACTOR (LS)		1.0
	THERMAL FACTOR (CT)		1.2
	DRIFT LOADS		PER IBC
WIND LOAD	BASIC 3-SECOND GUST WIND SPEED (MPH)		90
	WIND IMPORTANCE FACTOR (LW)		1.0
	WIND EXPOSURE		C
	COMPONENTS AND CLADDING DESIGN WIND PRESSURE (PSF)		PER IBC
EARTHQUAKE DESIGN DATA	SEISMIC IMPORTANCE FACTOR (LW)		1.0
	SITE CLASS		D
	SPECTRAL RESPONSE COEFFICIENTS	SDS	0.103
		SD1	0.079
	SEISMIC DESIGN CATEGORY		B
	BASIC SEISMIC FORCE RESISTING SYSTEM		LIGHT FRAMED WALLS W/SHEAR PANELS OF OTHER MATERIAL
	RESPONSE MODIFICATION COEFFICIENT (R)		2.5
	DESIGN BASE SHEAR		0.01W
	ANALYSIS PROCEDURE		SIMPLIFIED
OTHER LOADS	STORED SALT EQUIVALENT LATERAL LOAD		75 PCF
	NET ALLOWABLE SOIL BEARING PRESSURE		3,000 PSF

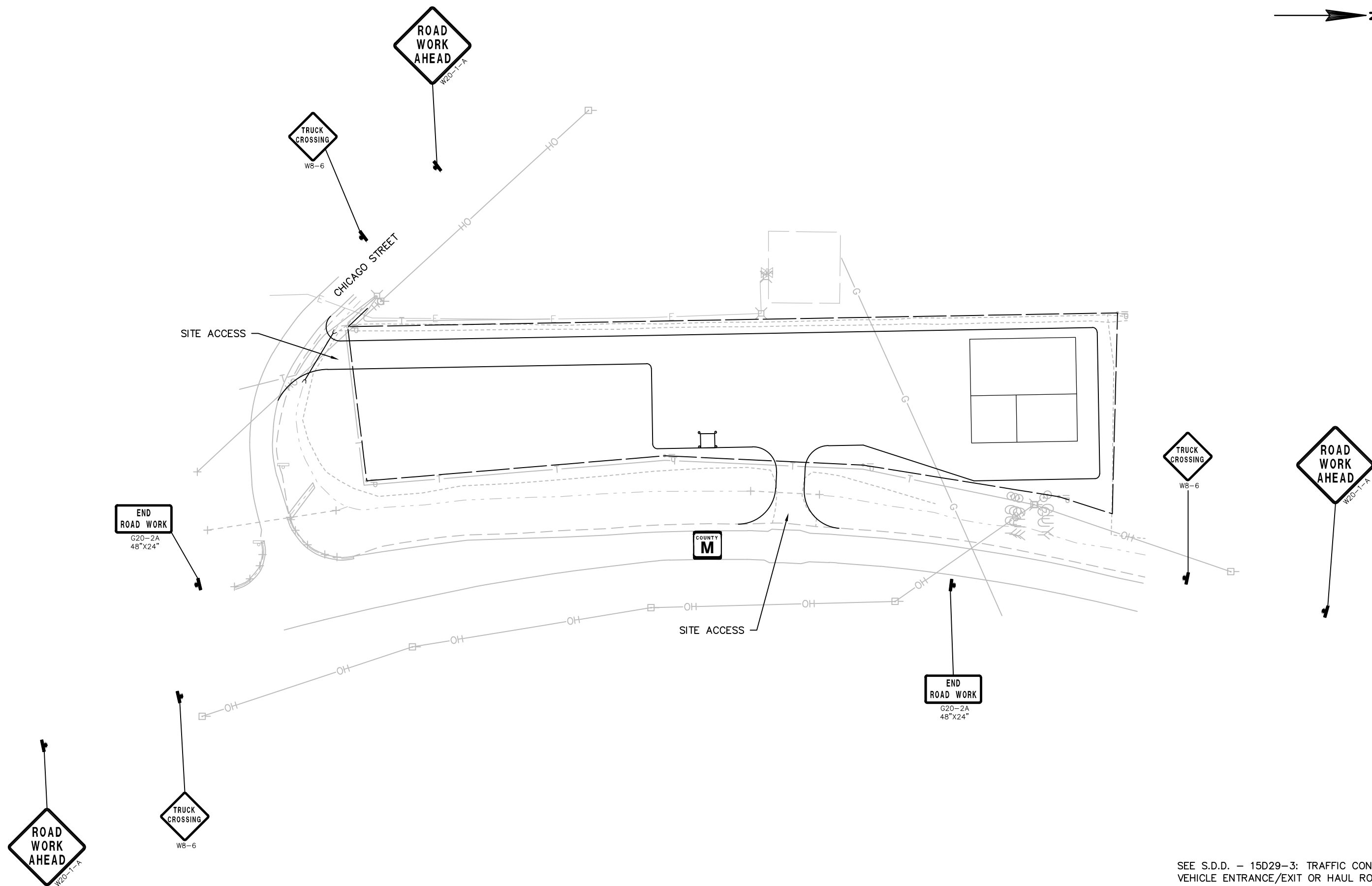




EROSION CONTROL LEGEND

- SILT FENCE
- EROSION BALES
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- ▨ SEED BED PREPARATION
SPECIAL, SEED AND MULCH





SEE S.D.D. - 15D29-3: TRAFFIC CONTROL,
VEHICLE ENTRANCE/EXIT OR HAUL ROAD

DATE 24APR15			E S T I M A T E O F Q U A N T I T I E S		
LINE					1390-05-82
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	205.0100	Excavation Common	CY	2,748.000	2,748.000
0020	208.0100	Borrow	CY	2,202.000	2,202.000
0030	213.0100	Finishing Roadway (project) 01. 1390-05-82	EACH	1.000	1.000
0040	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	4,513.000	4,513.000
0050	350.0145	Subbase 12-Inch	SY	7,710.000	7,710.000
0060	455.0105	Asphaltic Material PG58-28	TON	137.000	137.000
0070	455.0605	Tack Coat	GAL	449.000	449.000
0080	460.1101	HMA Pavement Type E-1	TON	2,475.000	2,475.000
0090	521.0118	Culvert Pipe Corrugated Steel 18-Inch	LF	58.000	58.000
0100	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0110	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1390-05-82	EACH	1.000	1.000
0120	619.1000	Mobilization	EACH	1.000	1.000
0130	625.0500	Salvaged Topsoil	SY	1,800.000	1,800.000
0140	627.0200	Mulching	SY	6,142.000	6,142.000
0150	628.1104	Erosion Bales	EACH	15.000	15.000
0160	628.1504	Silt Fence	LF	2,561.000	2,561.000
0170	628.1520	Silt Fence Maintenance	LF	2,561.000	2,561.000
0180	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0190	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0200	628.7504	Temporary Ditch Checks	LF	30.000	30.000
0210	628.7555	Culvert Pipe Checks	EACH	1.000	1.000
0220	629.0210	Fertilizer Type B	CWT	1.000	1.000
0230	630.0120	Seeding Mixture No. 20	LB	165.000	165.000
0240	643.0100	Traffic Control (project) 01. 1390-05-82	EACH	1.000	1.000
0250	643.0900	Traffic Control Signs	DAY	624.000	624.000
0260	SPV.0060	Special 01. Brine Tank	EACH	1.000	1.000
0270	SPV.0105	Special 01. Salt Storage Shed	LS	1.000	1.000
0280	SPV.0180	Special 01. Seed Bed Preparation	SY	4,342.000	4,342.000
0290	SPV.0180	Special 02. Brine Tank Concrete Pad	SY	25.000	25.000

BASE AGGREGATE ITEMS						
				305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	350.0145 SUBBASE 12-INCH SY	
GROUP CODE	STATION	TO	STATION	LOCATION		
0010	100+00.00	-	103+84.34	DRIVEWAY	627	0
0010	103+84.34	-	108+56.70	SALT STORAGE FACILITY UNDISTRIBUTED	3,672 215	7,343 367
				TOTALS:	4,513	7,710

619.1000 MOBILIZATION		
GROUP CODE	LOCATION	EACH
0010	PROJECT 1390-05-82	1
TOTAL:		1

ASPHALT PAVEMENT ITEMS						
				455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON
GROUP CODE	STATION	TO	STATION	LOCATION		
0010	100+00.00	-	103+84.34	DRIVEWAY	19	62
0010	103+84.34	-	108+56.70	SALT STORAGE FACILITY UNDISTRIBUTED	111 7	366 21
0010				TOTALS:	137	449

SILT FENCE			
		628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
GROUP CODE	LOCATION		
0010	SALT STORAGE FACILITY	2,049	2,049
0010	UNDISTRIBUTED	512	512
TOTALS:		2,561	2,561

CULVERT PIPES											
GROUP CODE	STATION	INLET OFFSET	INLET ELEV.	STATION	OUTLET OFFSET	OUTLET ELEV.	LOCATION	SLOPE (%)	521.0118 CULVERT PIPE CURRUGATED STEEL 18-INCH LF	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH EACH	MINIMUM STEEL THICKNESS INCHES
0010	100+48	23.5' RT	883.76	100+18	25.6' LT	883.47	DRIVEWAY	0.50%	58	2	0.064
TOTALS:									58	2	

628.1104 EROSION BALES		
GROUP CODE	LOCATION	EACH
0010	STA. 100+18, 30' RT	6
0010	STA. 104+62, 150' RT	6
0010	UNDISTRIBUTED	3
TOTALS:		15

MOBILIZATIONS EROSION CONTROL

		628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
GROUP CODE	LOCATION		
0010	PROJECT	1	1
TOTAL:		1	1

LANDSCAPING

		625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB
GROUP CODE	LOCATION				
0010	SALT STORAGE FACILITY	1,636	1,636	1.0	44
0010	AREA BETWEEN SLOPE LIMITS AND PROPERTY LINE	0	4,342	0	117
0010	UNDISTRIBUTED	164	164	0	4
TOTALS:		1,800	6,142	1	165

628.7504
TEMPORARY DITCH CHECKS

GROUP CODE	LOCATION	LF
0010	STA. 102+60, LT	10
0010	STA. 104+60, LT	10
0010	STA. 106+60, LT	10
TOTALS:		30

628.7555
CULVERT PIPE CHECKS

GROUP CODE	LOCATION	EACH
0010	STA. 100+48, 24' LT	1
TOTALS:		1

643.0900
TRAFFIC CONTROL SIGNS

GROUP CODE	LOCATION	DAYS
0010	PROJECT	624
TOTALS:		624

SPV.0060.01
BRINE TANK

GROUP CODE	LOCATION	EACH
0010	PROJECT	1
TOTALS:		1

SPV.0105.01
SALT STORAGE SHED

GROUP CODE	LOCATION	LS
0010	SALT STORAGE SHED	1
TOTALS:		1

SPV.0180.01
SEED BED PREPARATION

GROUP CODE	LOCATION	SY
0010	SALT STORAGE FACILITY	4,342
TOTALS:		4,342

SPV.0180.02
BRINE TANK CONCRETE PAD

GROUP CODE	LOCATION	SY
0010	BRINE TANK	25
TOTALS:		25

EARTHWORK SUMMARY

Group Code	From / To Station	Location	205.0100* Common Excavation (1)		Salvaged / Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6)	Mass Ordinate + / - (7)	Waste	208.0100 Borrow	Comment:
			Cut (2)	EBS * (3)				Factor 1.25				
0010	100+00 to 108+56	Salt Shed Facility	2,617	131	0	2,617	332	415	2,202	2,202	2,202	
Subtotal			2,617	131	0	2,617	332	415	2,202	2,202	2,202	
Grand Total			2,617	131	0	2,617	332	415	2,202	2,202	2,202	
Total Common Excavation:			2,748									

1) Common Excavation is the sum of the Cut and EBS Excavation columns.
2) Salvaged/Unusable Pavement Material is included in Cut.
3) EBS Excavation is an Undistributed Quantity and is to be backfilled with Breaker Run.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material*90%
6) Expanded Fill. Factor = 1.25
7) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
* Quantity also shown on EBS Summary Chart.

BEGIN PROJECT
STA. 100+00
X = 521,998.4634
Y = 296,871.7906

18" APRON ENDWALL
STA. 100+18, 25.6' RT
IE 883.47

BP: 100+00
Y: 296871.88
X: 522003.46

18" APRON ENDWALL
STA. 100+48, 23.5' LT
IE 883.76

BM 1

~ SALT STORAGE FACILITY

SLOPE INTERCEPT (TYP.)

BP: 300+00
Y: 297728.30
X: 521978.17

END PROJECT
STA. 108+70.73

58 LF 18" CMP

BP: 200+00
Y: 297256.52
X: 522016.60

EP: 200+80

BRINE TANK
CONCRETE PAD

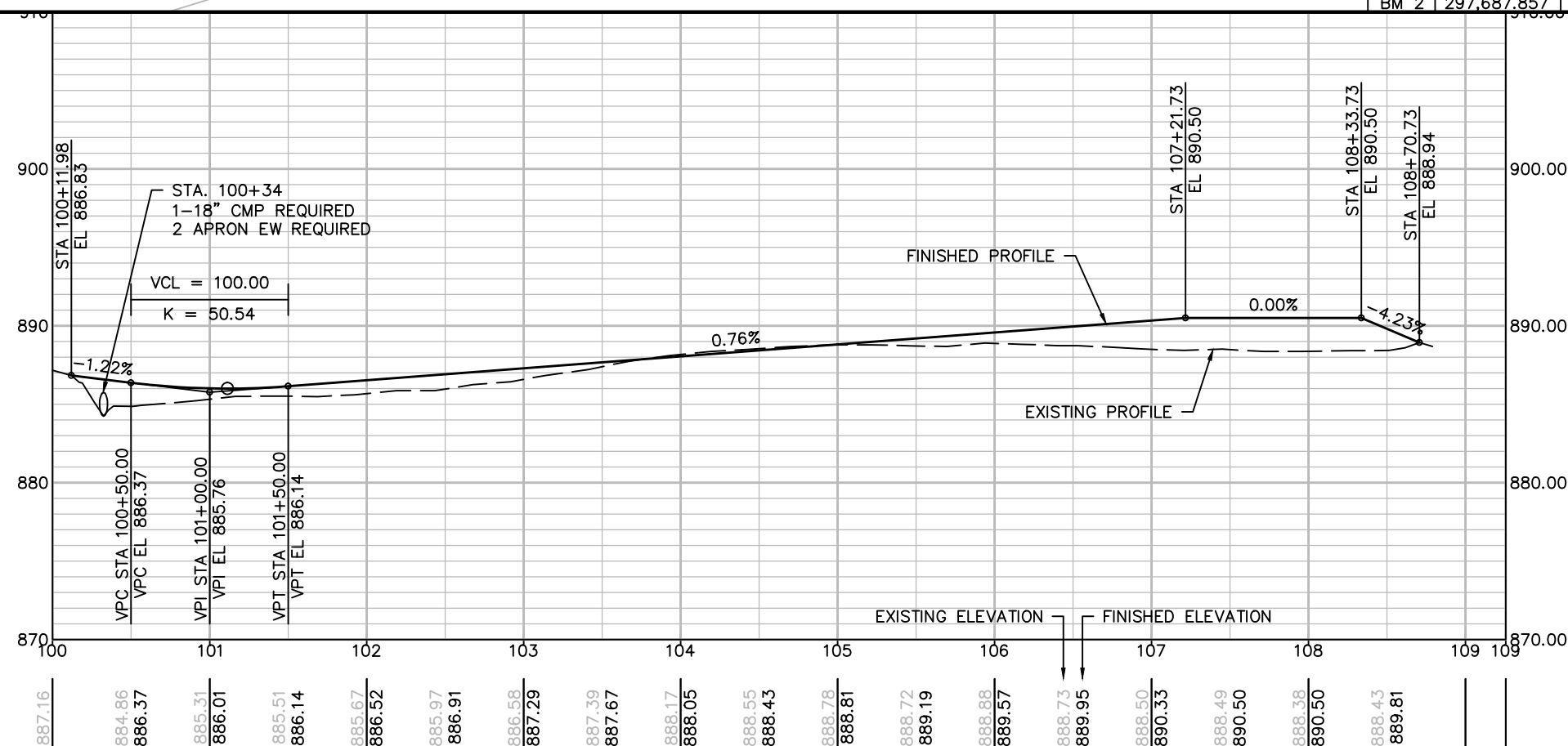
SALT SHED
SALT/
SAND VEHICLES

EP: 301+50

BM 2

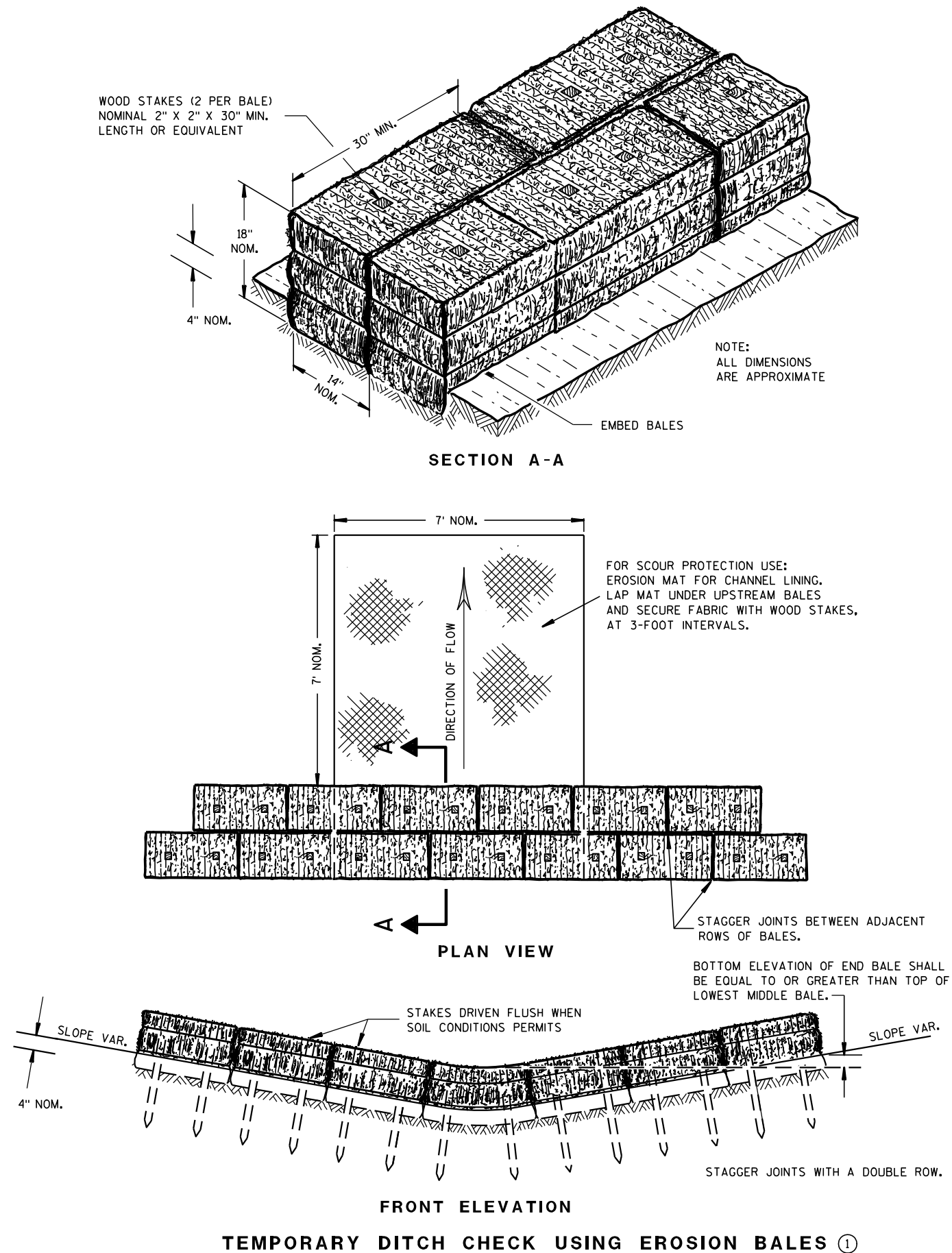
BENCH MARKS

NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM 1	296,935.088	521,972.329	886.64	TOP OF #6 REBAR
BM 2	297,687.857	522,152.272	888.65	TOP OF #6 REBAR



Standard Detail Drawing List

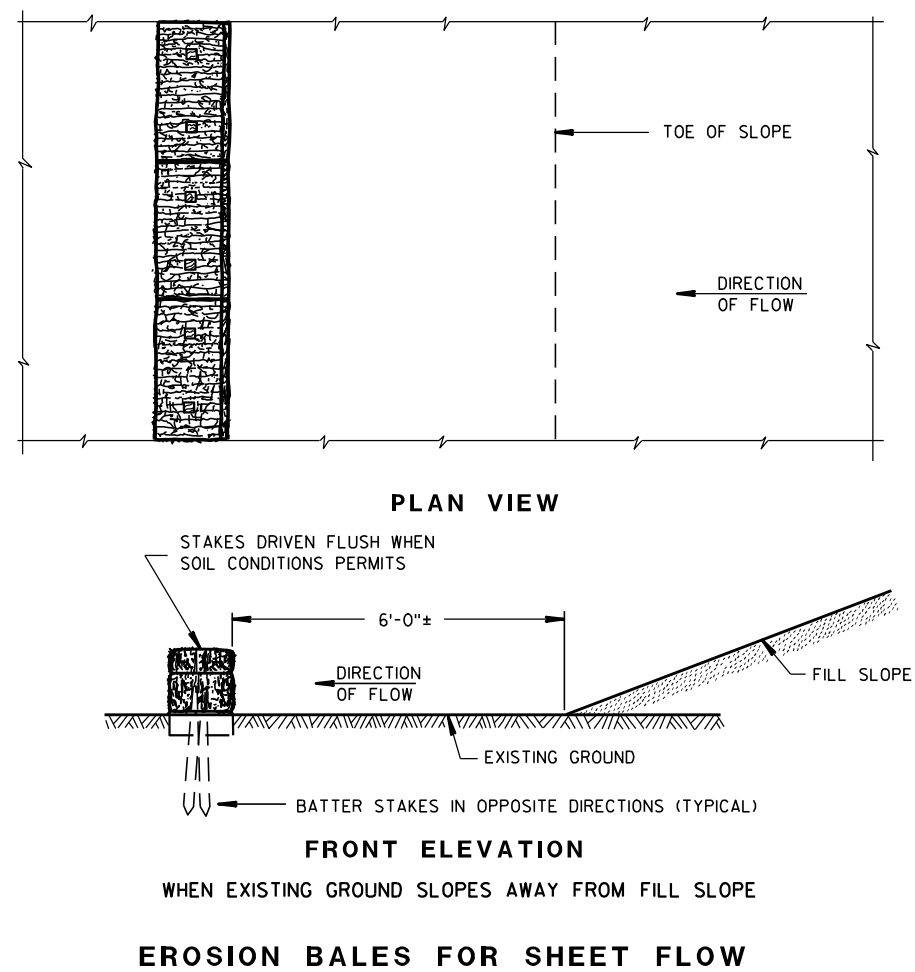
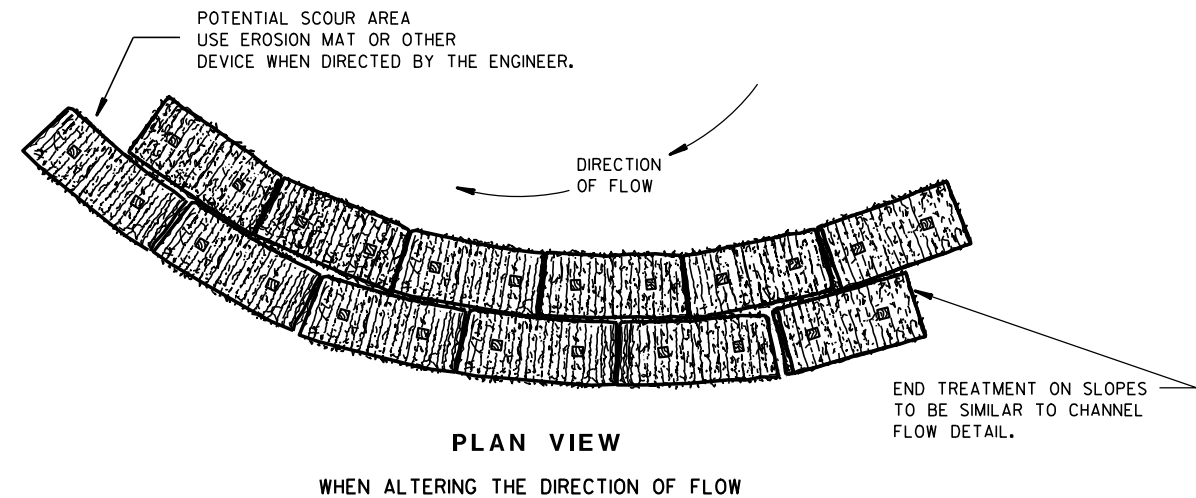
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
15D29-03	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

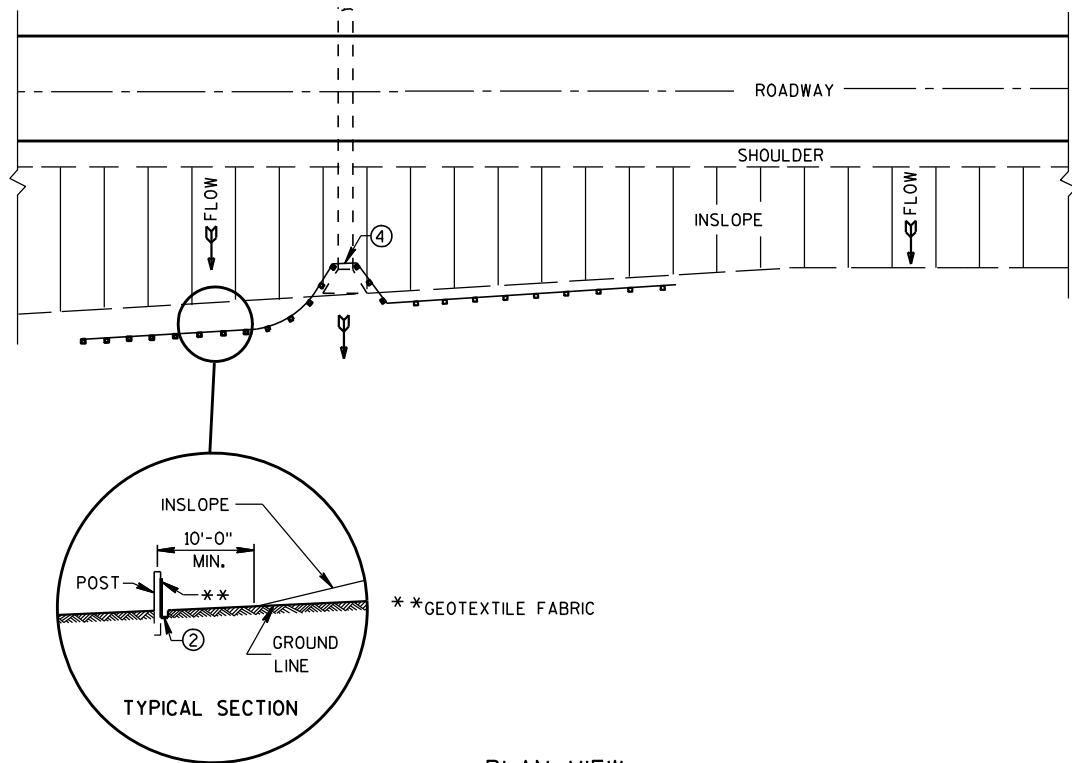
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

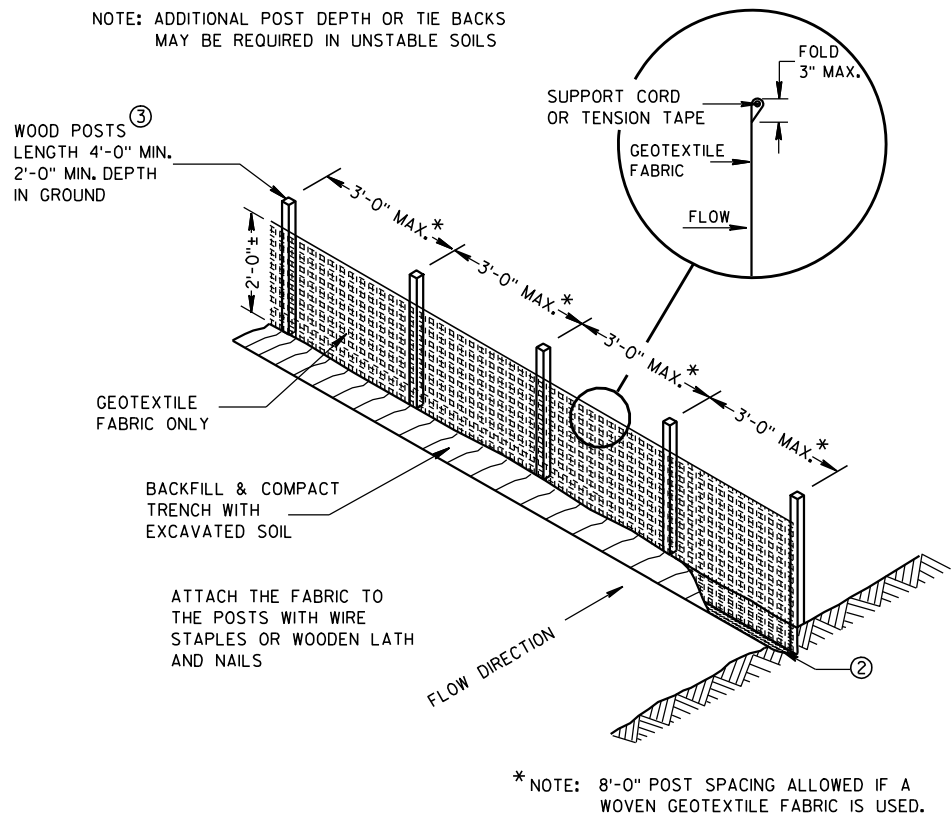
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

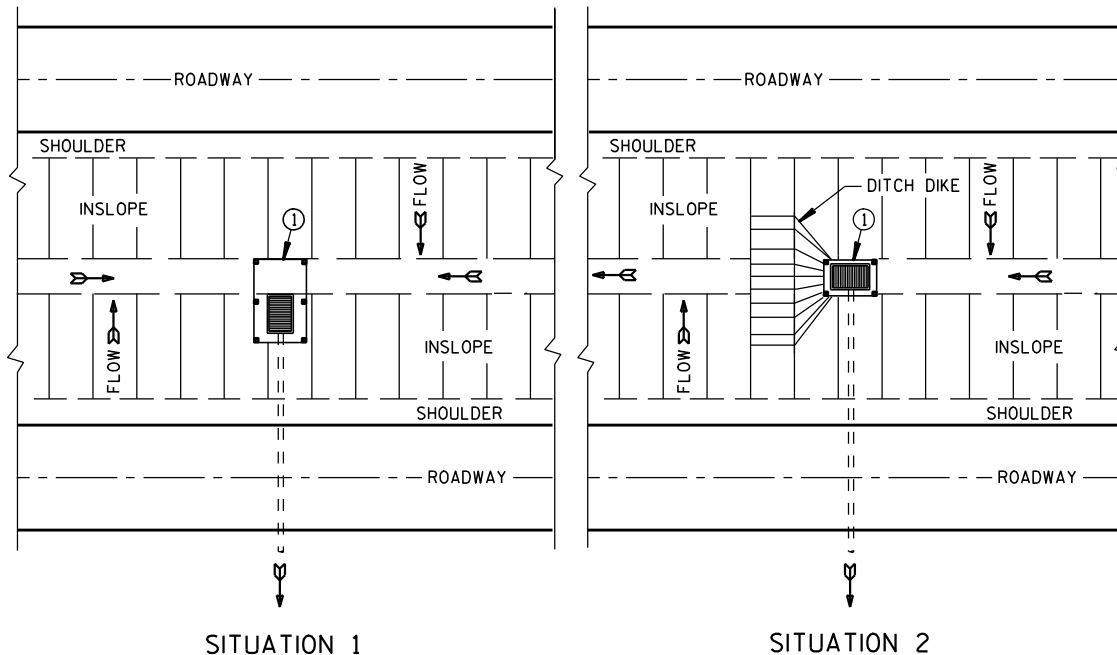
FHWA



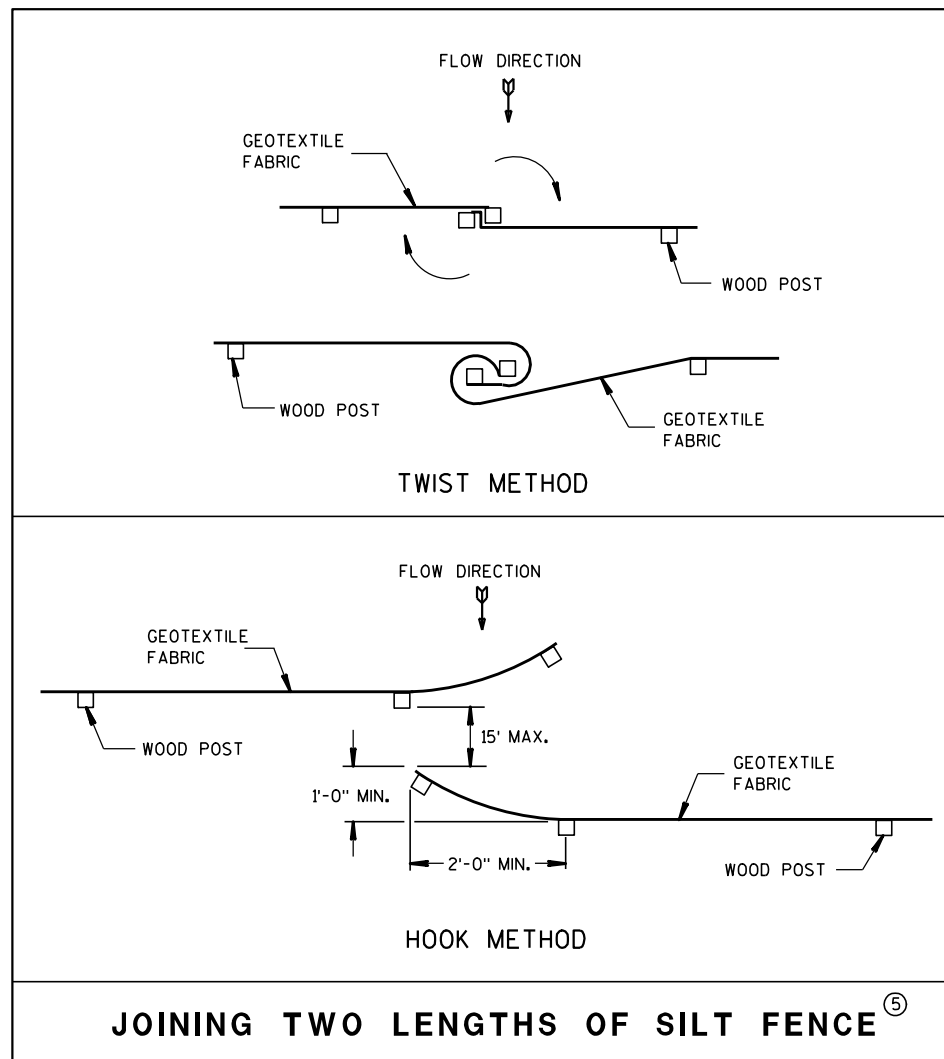
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

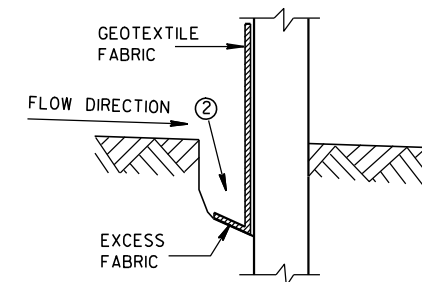


JOINING TWO LENGTHS OF SILT FENCE (5)

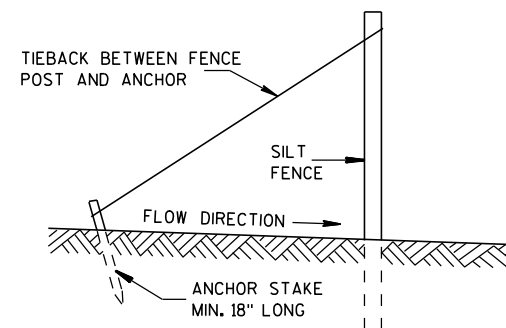
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL

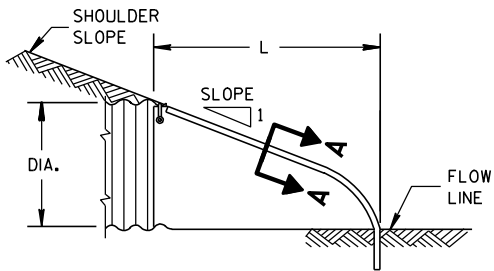
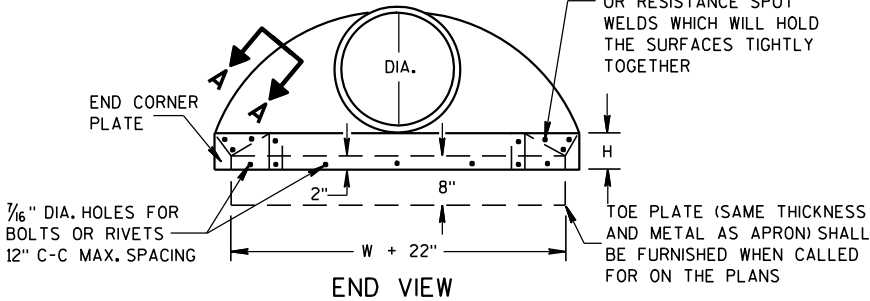
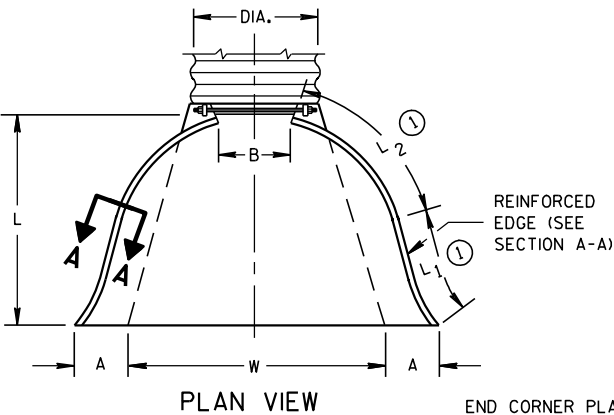


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

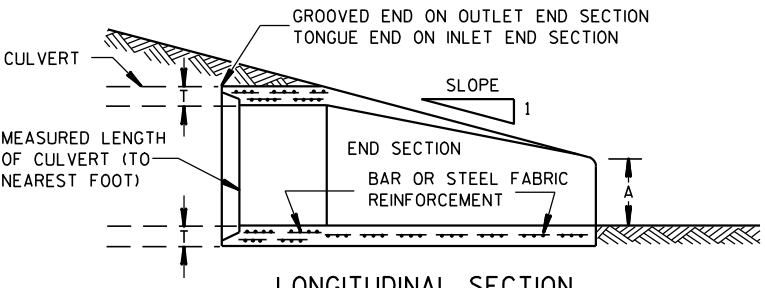
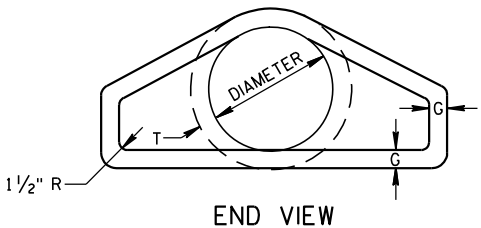
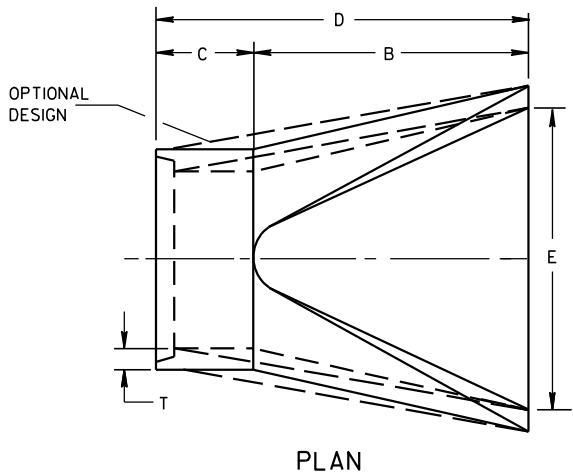
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

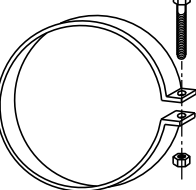
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1			
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1			
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1			
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1			
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1			
48	5	24	72	26	98	84	5	3 to 1			
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 2/5 to 1			
60	6	30-35	60	39	99	96	5	2 to 1			
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1			
72	7	24-36	78	21	99	108	6	2 to 1			
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1			
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1			
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1			

* MINIMUM
** MAXIMUM

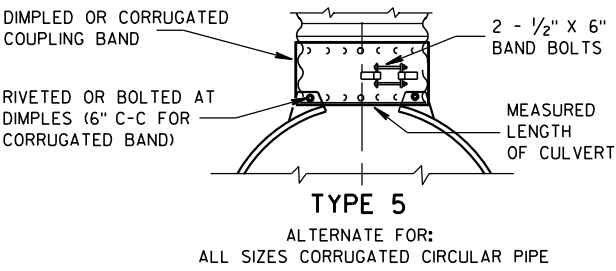
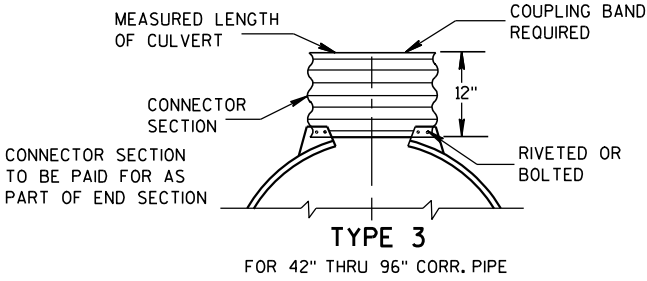
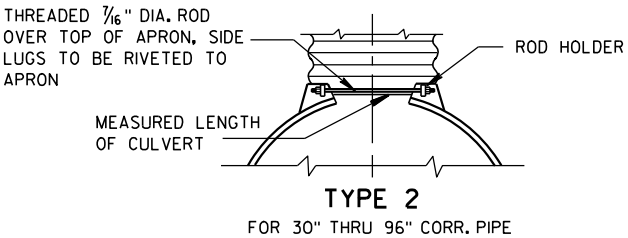
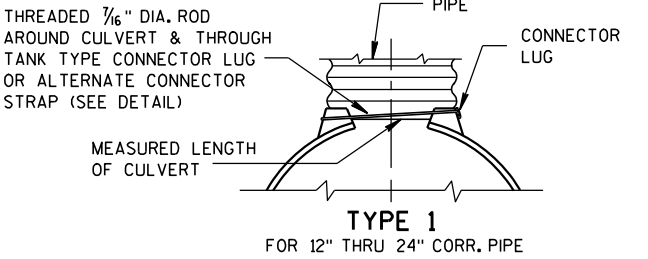


CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



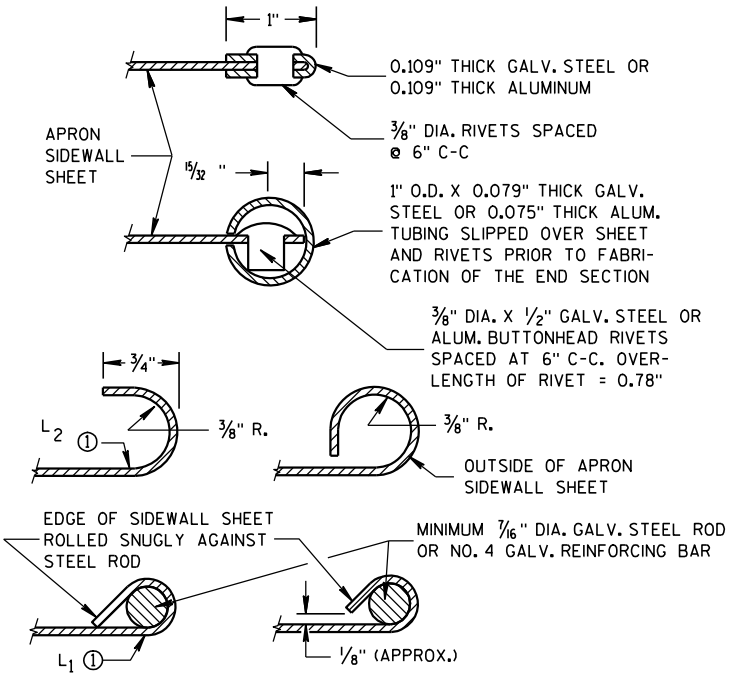
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

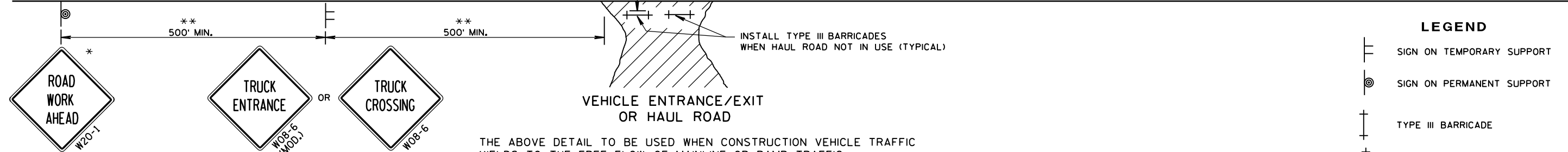
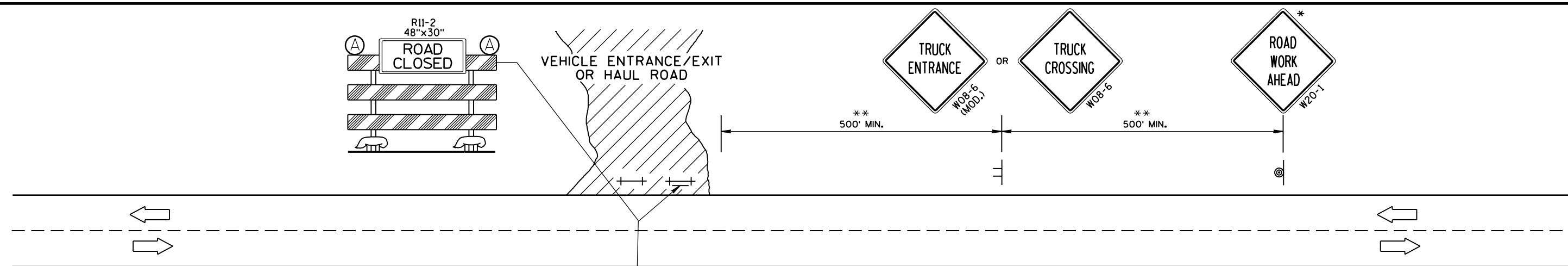
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

INSTALL TYPE III BARRICADES WHEN HAUL ROAD NOT IN USE (TYPICAL)

LEGEND

- |— SIGN ON TEMPORARY SUPPORT
- |— SIGN ON PERMANENT SUPPORT
- |— TYPE III BARRICADE
- |— TYPE III BARRICADE WITH ATTACHED SIGN
- |— FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- |— TYPE "A" WARNING LIGHT (FLASHING)
- |— DIRECTION OF TRAFFIC

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS, DEVICES AND FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET, FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

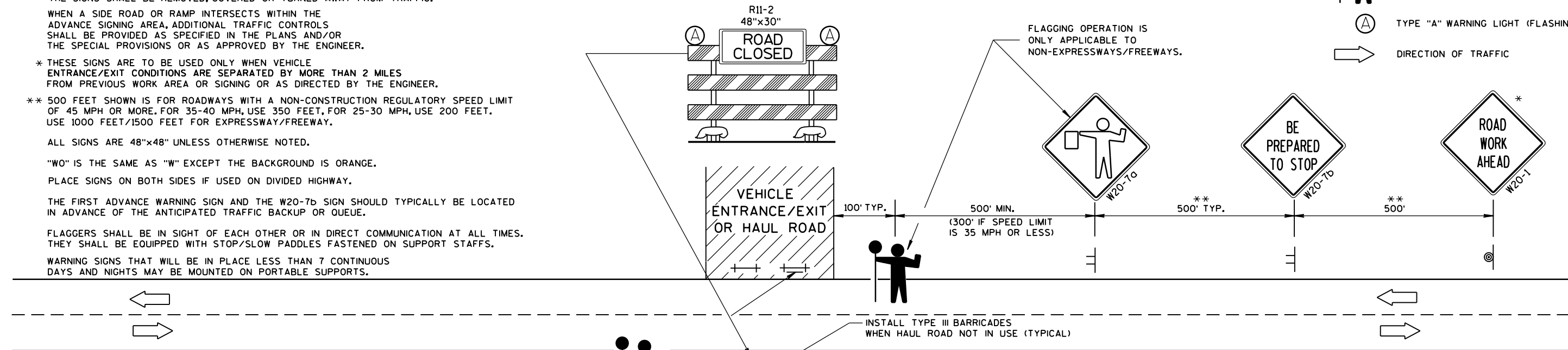
PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W20-7b SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

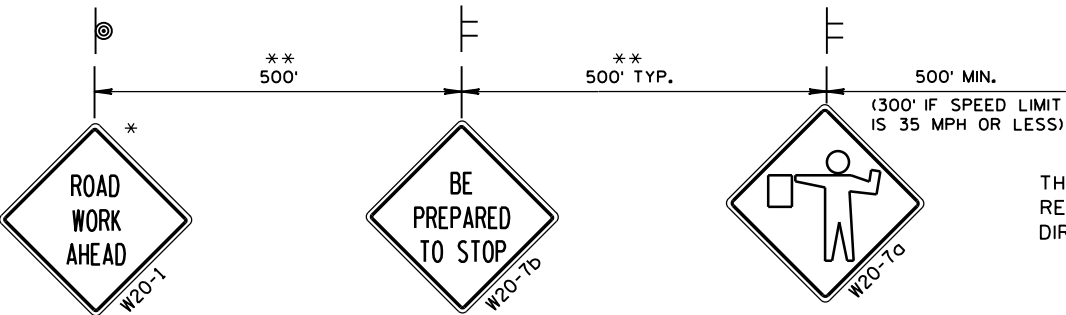
WARNING SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FLAGGING OPERATION IS ONLY APPLICABLE TO NON-EXPRESSWAYS/FREEWAYS.



INSTALL TYPE III BARRICADES WHEN HAUL ROAD NOT IN USE (TYPICAL)

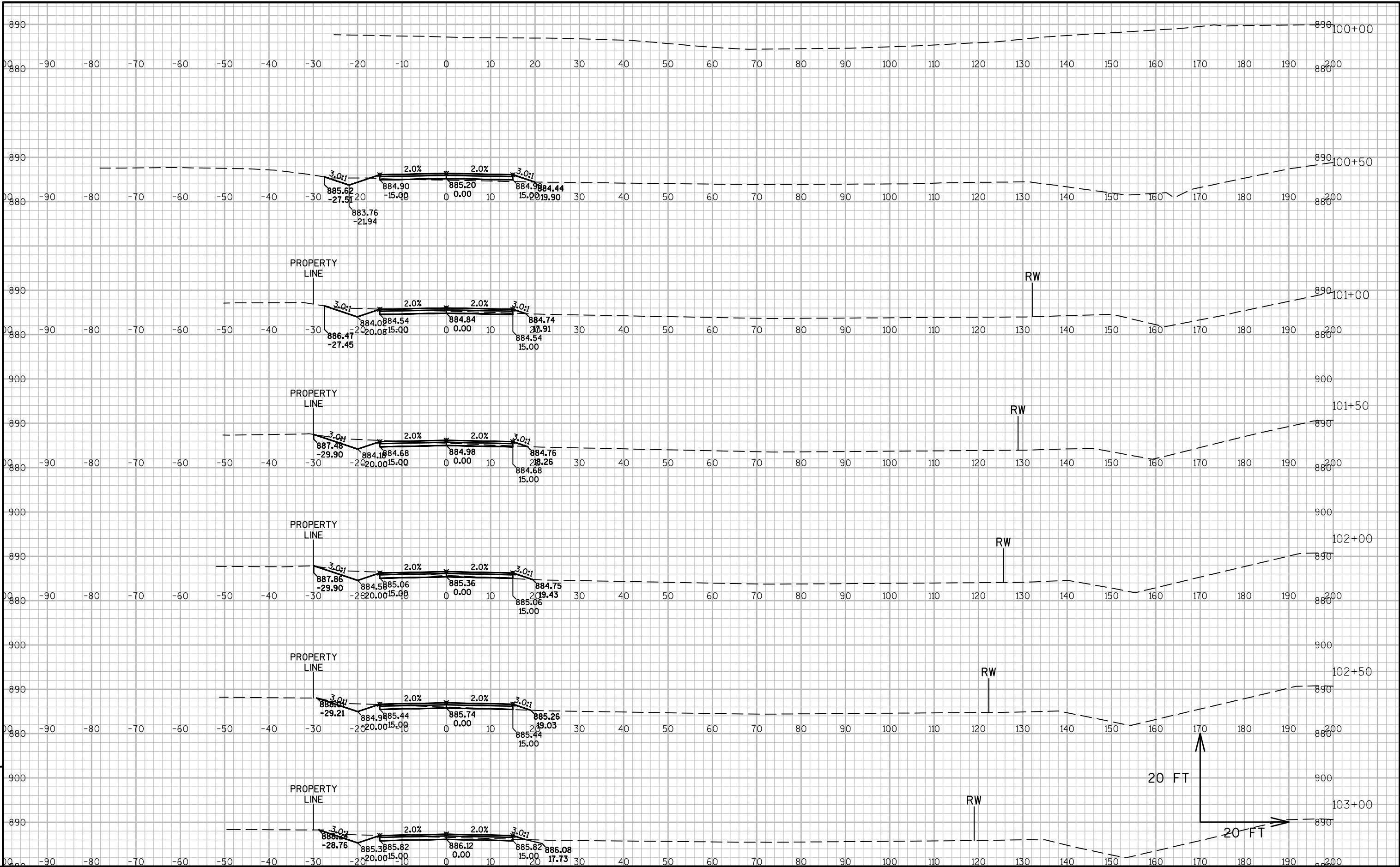
THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

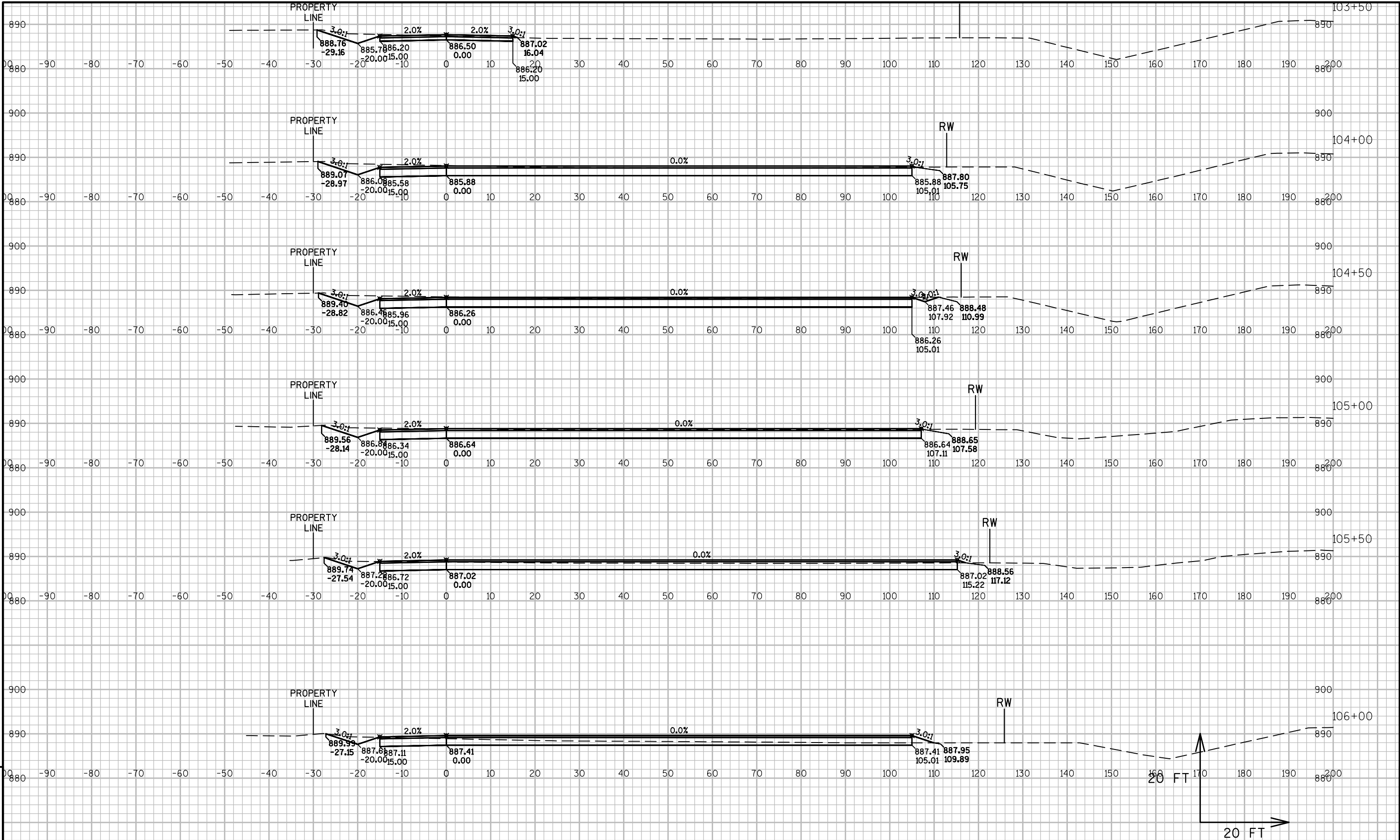


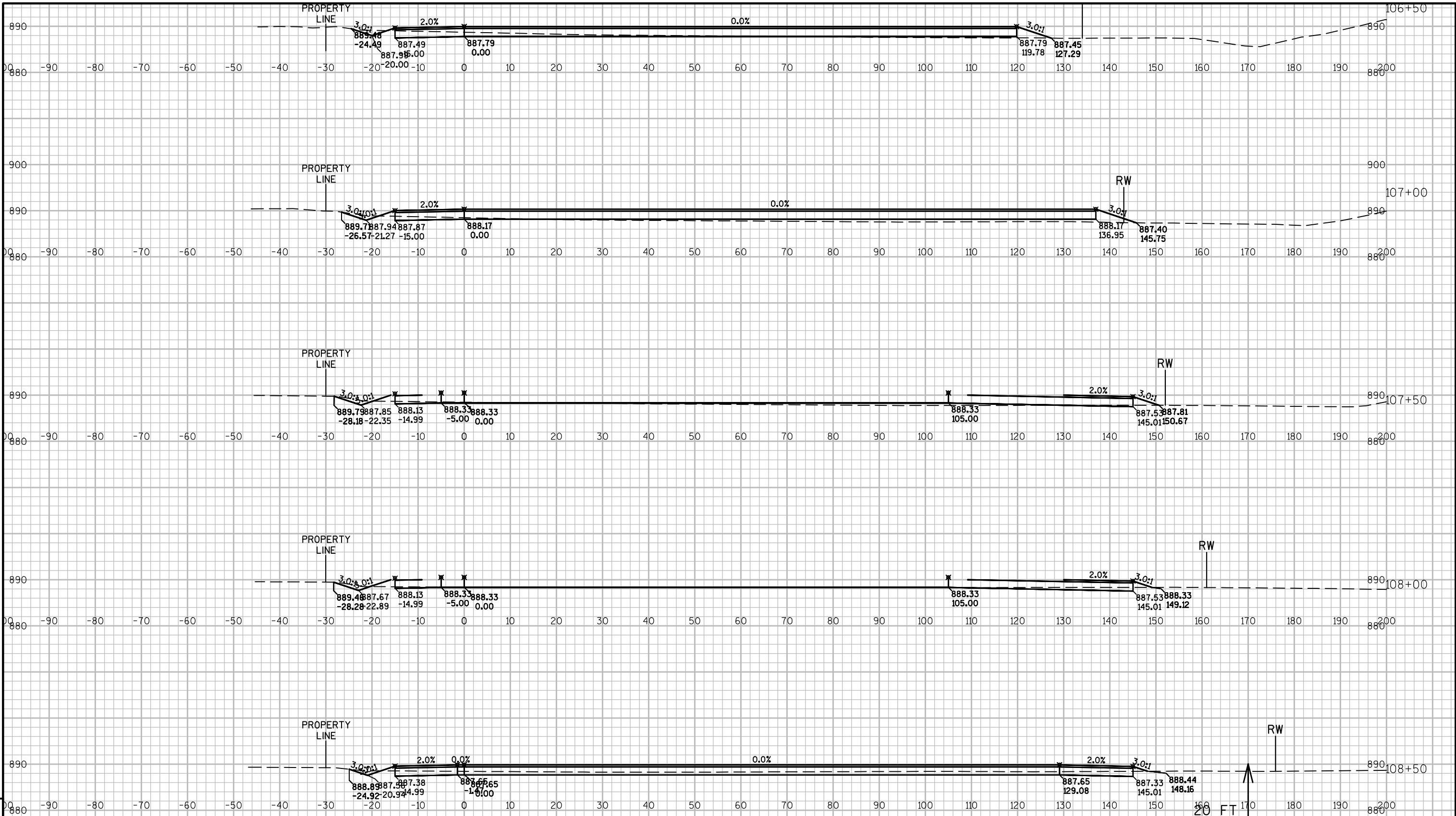
TRAFFIC CONTROL,
VEHICLE ENTRANCE/EXIT
OR HAUL ROAD

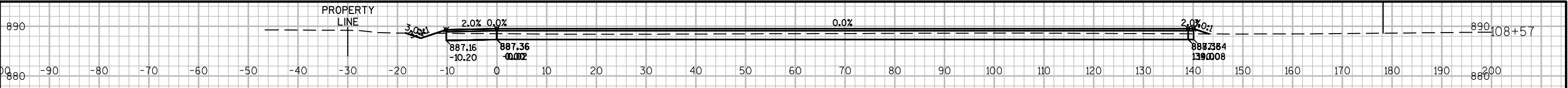
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

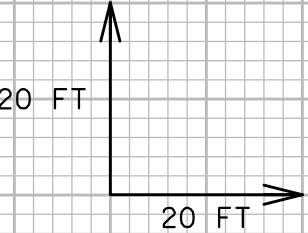




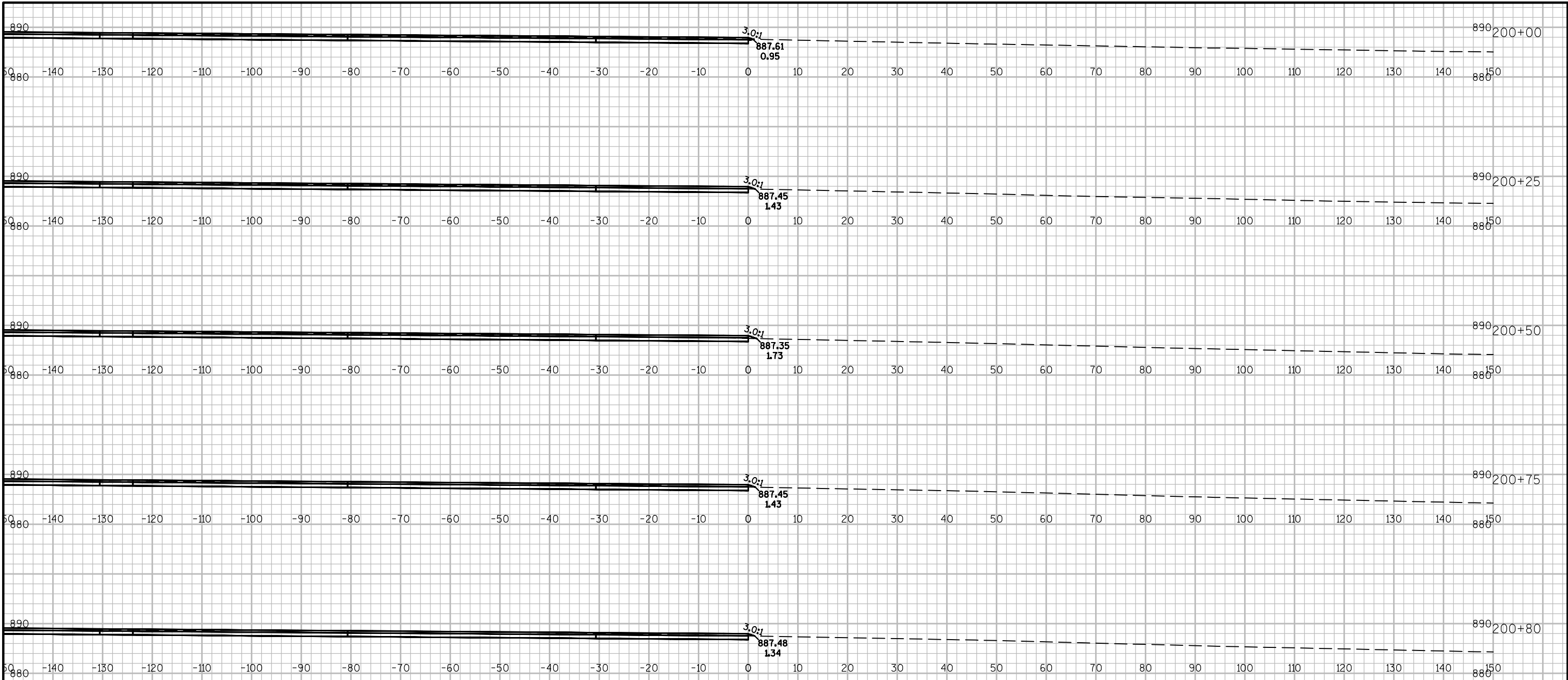




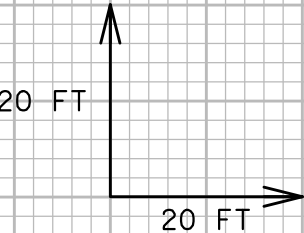
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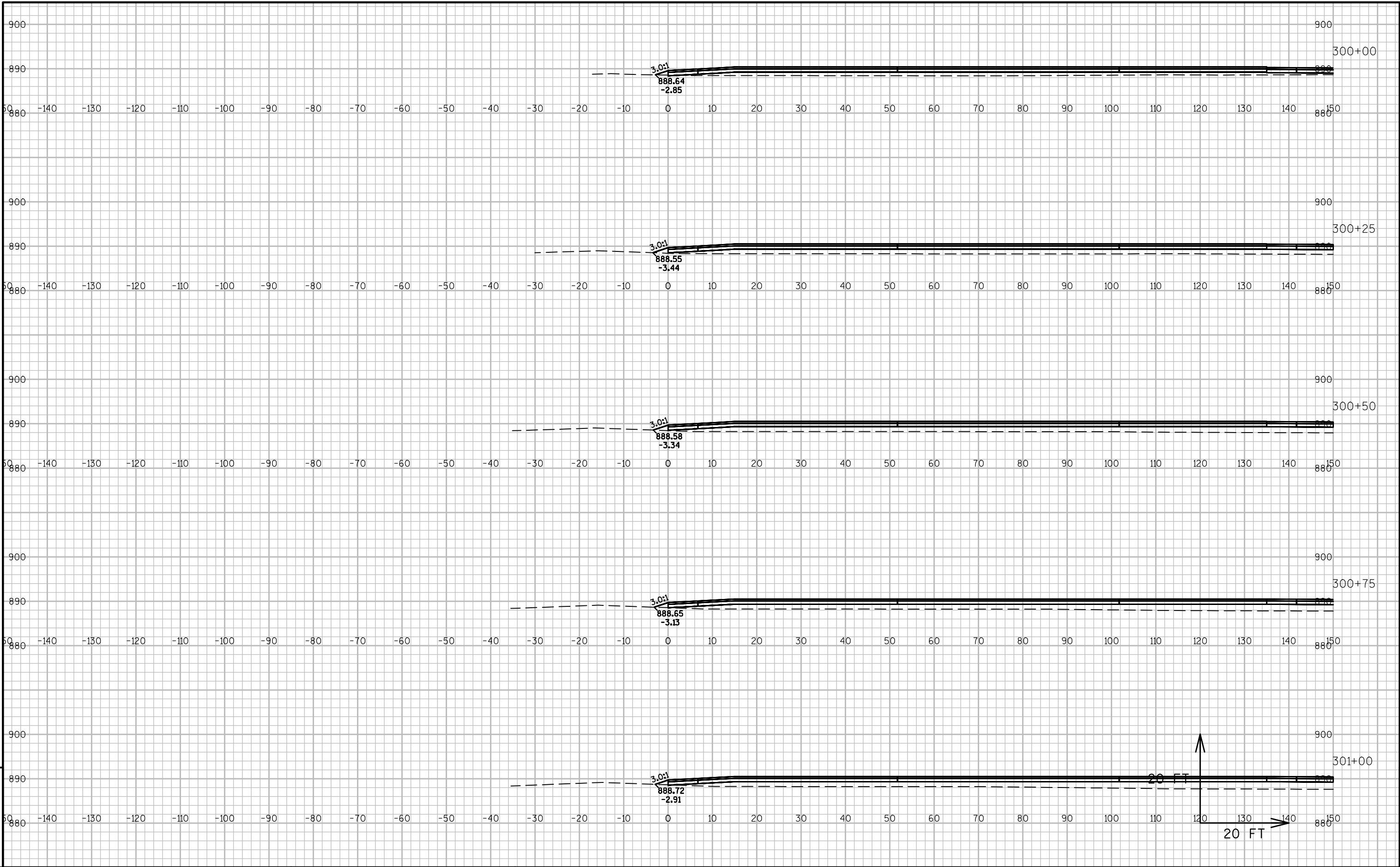
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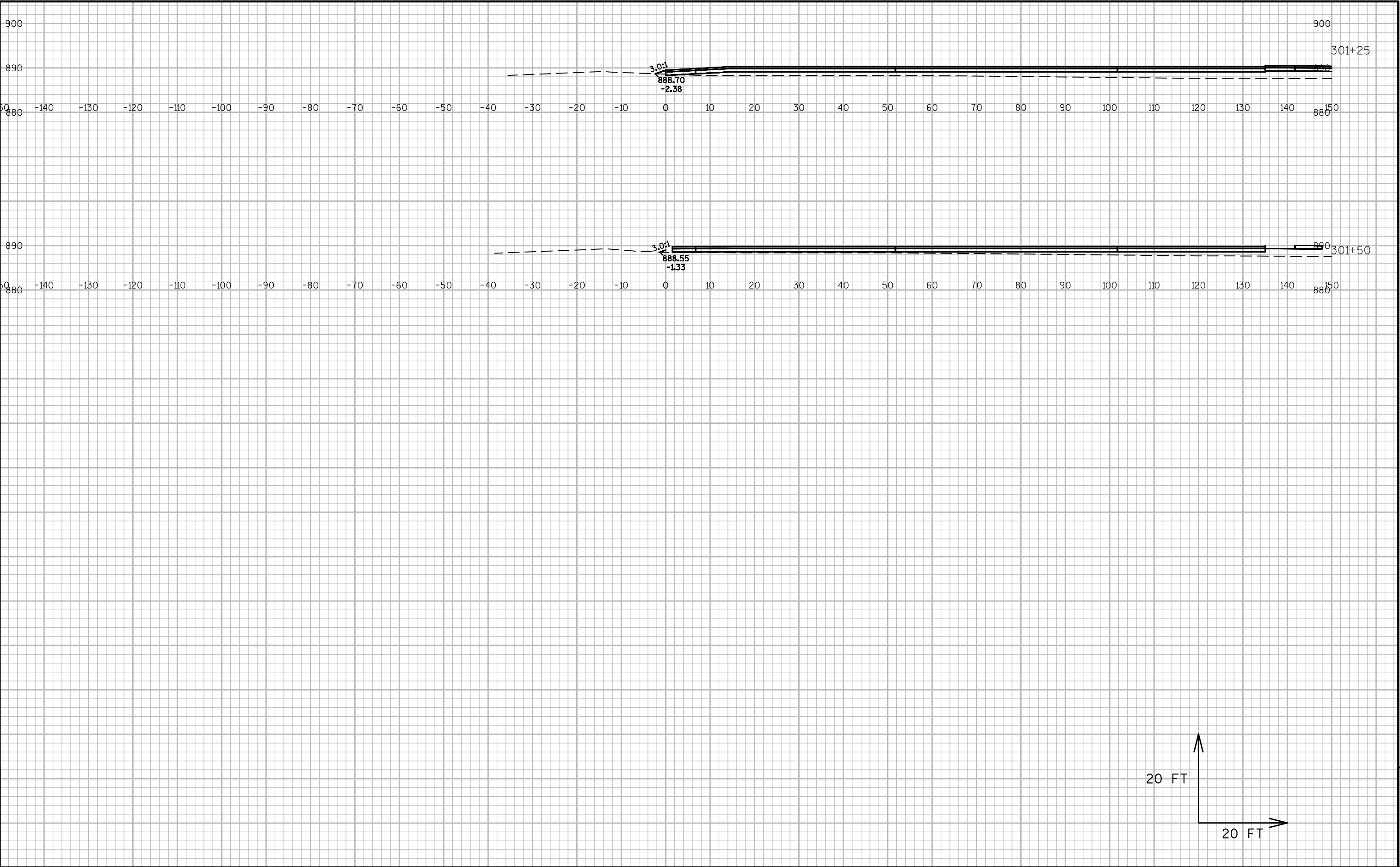


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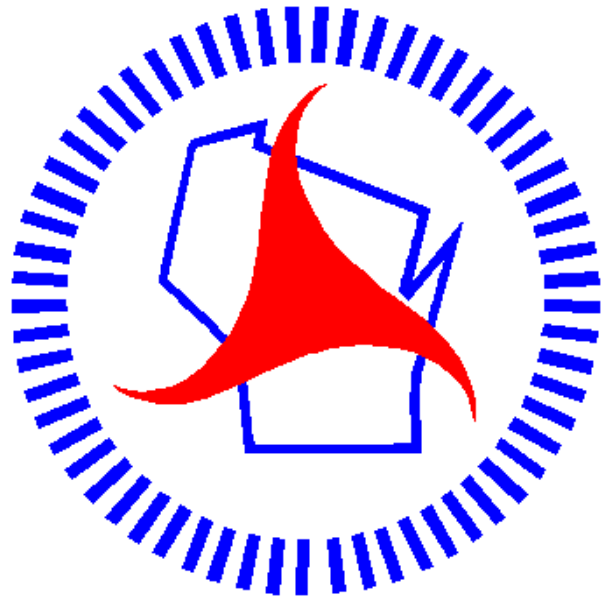




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PROJECT NO: 1390-05-82	HWY: STH 26	COUNTY: ROCK	CROSS SECTIONS: NORTH EDGE OF PAVEMENT	SHEET	E
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Wisconsin Department of Transportation

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