

WKE

PROJECT ID:

1060-62-70

COUNTY:

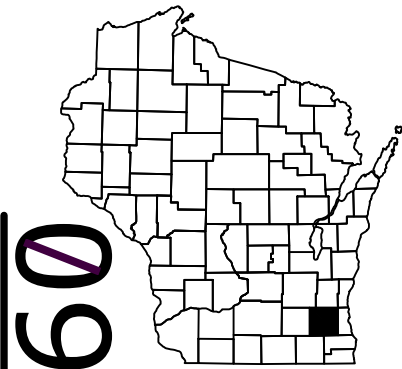
WAUKESHA

JULY 2018

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 = 108



DESIGN DESIGNATION

A.A.D.T.	N/A	=	N/A
A.A.D.T.	N/A	=	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

EAST WEST FREEWAY

GRANDVIEW BOULEVARD SALT SHED

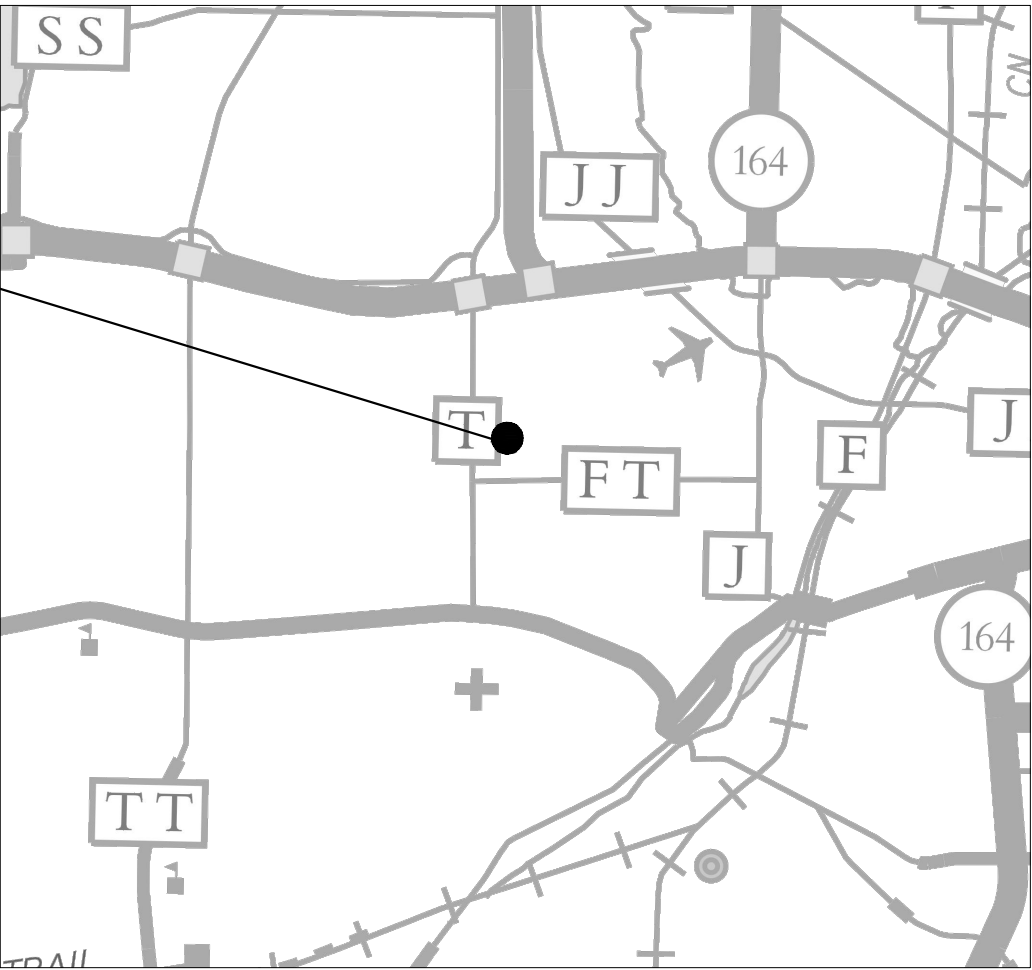
IH-94

WAUKESHA COUNTY

STATE PROJECT NUMBER
1060-62-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1060-62-70		

BEGIN PROJECT 1060-62-70
END PROJECT
X = 677,002.80
Y = 169,193.86



LAYOUT
SCALE 0 1 MILE
TOTAL NET LENGTH OF CENTERLINE = 0.000

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, WAUKESHA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NAVD 88 (2012)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	KAPUR & ASSOC.
Designer	GARY STARK
Project Manager	NGUYEN LY
Regional Examiner	STEVE CHOJNACKI
Regional Supervisor	BENEDICT ERUCHALU

APPROVED FOR THE DEPARTMENT
DATE: January 31, 2018

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GENERAL NOTES

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

ALL LAYOUT DATA IS REFERENCED TO THE R/L UNLESS OTHERWISE NOTED.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE CONTRACTOR WILL COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A CALL TO THE UTILITIES THAT HAVE INSTALLATIONS WITHIN THE PROJECT AREA.

EROSION CONTROL DEVICES ARE AT SUGGESTED LOCATIONS AS SHOWN ON PLAN DETAILS. ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE DEVICE IS NO LONGER REQUIRED.

RE-TOPSOILING OF ALL DISTURBED AREAS SHALL BE DONE IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. FERTILIZE, SEED AND MULCH ALL TOPSOILED AREAS WITHIN 5 WORKING DAYS AFTER PLACEMENT OF THE TOPSOIL. ANY OR ALL AREAS LEFT EXPOSED FOR MORE THAN 24 HOURS, REQUIRE, TEMPORARY SEED AND MULCH.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS, AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN 7 CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED AND MULCH AT CONTRACTORS COST.

A SAWED JOINT IS REQUIRED WHERE NEW HMA PAVEMENT MEETS EXISTING HMA PAVEMENT.

THE CONTRACTOR IS RESPONSIBLE FOR RESHAPING AND FINISHING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATION OUTSIDE THE NORMAL CONSTRUCTION LIMITS.

WHEN PERFORMING ROADWAY CLEANING, THE CONTRACTOR SHALL USE EQUIPMENT HAVING VACUUM OR WATER SPRAY MECHANISM TO ELIMINATE THE DISPERSION OF DUST. IF VACUUM IS UTILIZED, IT SHALL HAVE SUITABLE SELF-CONTAINED PARTICULATE COLLECTORS TO PREVENT DISCHARGE FROM THE COLLECTION BIN INTO ATMOSPHERE.

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES

PROJECT OVERVIEW

TYPICAL SECTIONS

CONSTRUCTION DETAILS

PLAN DETAILS

EROSION CONTRL

PLAN AND PROFILE

CROSS SECTIONS

HMA PAVING LAYER DEPTHS

DRIVEWAY LIMITS -

UPPER LAYER - 2 INCHES OF HMA PAVEMENT 4 MT 58-28 S

LOWER LAYER - 4 INCHES OF HMA PAVEMENT 3 MT 58-28 S

SALT SHED FLOOR LIMITS -

4 INCHES OF ASPHALTIC SURFACE

UTILITY CONTACTS

AGENCY CONTACTS

DAN SANDE
WE ENERGIES - ELECTRIC
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203
(414) 221-5617
DAN.SANDE@WE-ENERGIES.COM

DAN SANDE
WE ENERGIES - GAS
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203
(414) 221-5617
DAN.SANDE@WE-ENERGIES.COM

KELLY ZYLSTRA
WAUKESHA WATER UTILITY
PO BOX 1648
WAUKESHA, WI 53187-1648
(262) 521-5272 EXT 536
CONTACTUS@WAUKESHA-WATER.COM

MIKE OLSEN
ATC MANAGEMENT INC
801 O'KEEFE ROAD
PO BOX 6113
DEPERE, WI 53188
(920) 338-6582
MOLSEN@ATCLLC.COM

STEVE CRAMER
TW CABLE ENGINEERING
1320 N MARTIN LUTHER KING DR
MILWAUKEE, WI 53212
(414) 277-4045
WIS.ENGINEERING@TWCABLE.COM

NETWORK RELOCATIONS
LEVEL 3 COMMUNICATIONS
1025 ELDORADO BLVD
BROOMFIELD, CO 80021
(720) 888-0336
LEVEL3.NETWORKRELOCATIONS@LEVEL3.COM

ALPER KOLCU
AT&T WISCONSIN
2005 PEWAUKEE ROAD
WAUKESHA, WI 53188
(262) 970-8494
AK308@ATT.COM

CRAIG WEBSTER
WDNR
1471 NW BARSTOW ST
WAUKESHA, WI 53187-0798
(262) 574-2141
CRAIG.WEBSTER@WI.GOV

NGUYEN LY
WISDOT - PROJECT MANAGER
141 NW BARSTOW ST
PO BOX 798
WAUKESHA, WI 53187-0798
(262) 548-8739
NGUYEN.LY@DOT.WI.GOV

GARY STARK
WISDOT - DESIGNER
141 NW BARSTOW ST
PO BOX 798
WAUKESHA, WI 53187-0798
(262) 548-8761
GARY.STARK@DOT.WI.GOV

GARY EVANS
WAUKESHA COUNTY DPW - ENGINEERING
1320 PEWAUKEE ROAD ROOM 220
WAUKESHA, WI 53188
(262) 548-7740
GEVANS@WAUKESHACOUNTY.GOV

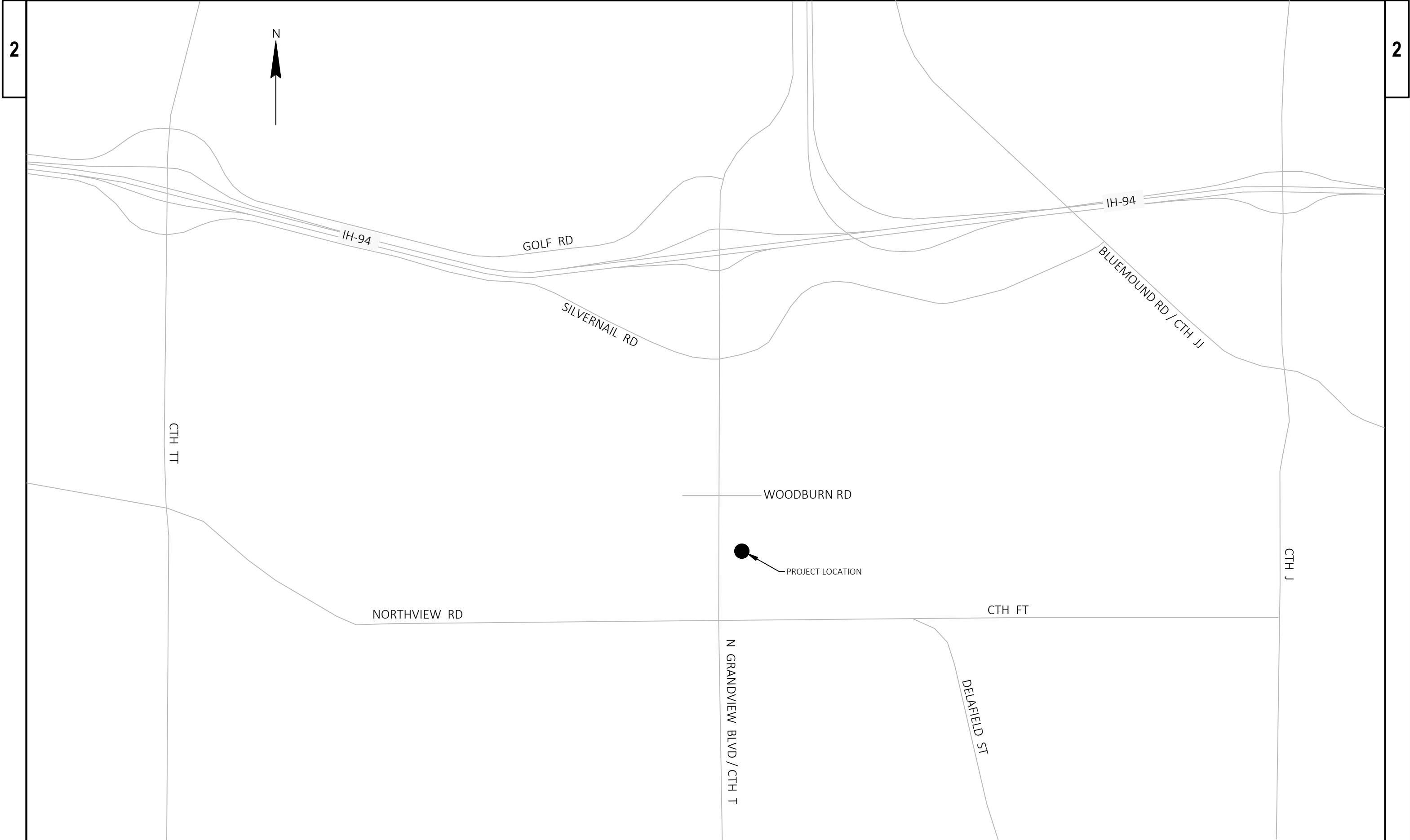
ALLISON BUSSLER
WAUKESHA COUNTY DPW DIRECTOR
515 W MORELAND ROAD
WAUKESHA, WI 53188
(262) 548-7740
ABUSSLER@WAUKESHACOUNTY.GOV

BOB RAUCHLE
WAUKESHA COUNTY - HIGHWAY OPERATIONS
1641 WOODBURN ROAD
WAUKESHA, WI 53188
(262) 896-8000
BRAUCHLE@WAUKESHACOUNTY.GOV

KURT STANICH
WAUKESHA COUNTY AIRPORT
2525 AVIATION DRIVE
WAUKESHA, WI 53188
(262) 521-5249
KSTANICH@WAUKESHACOUNTY.GOV



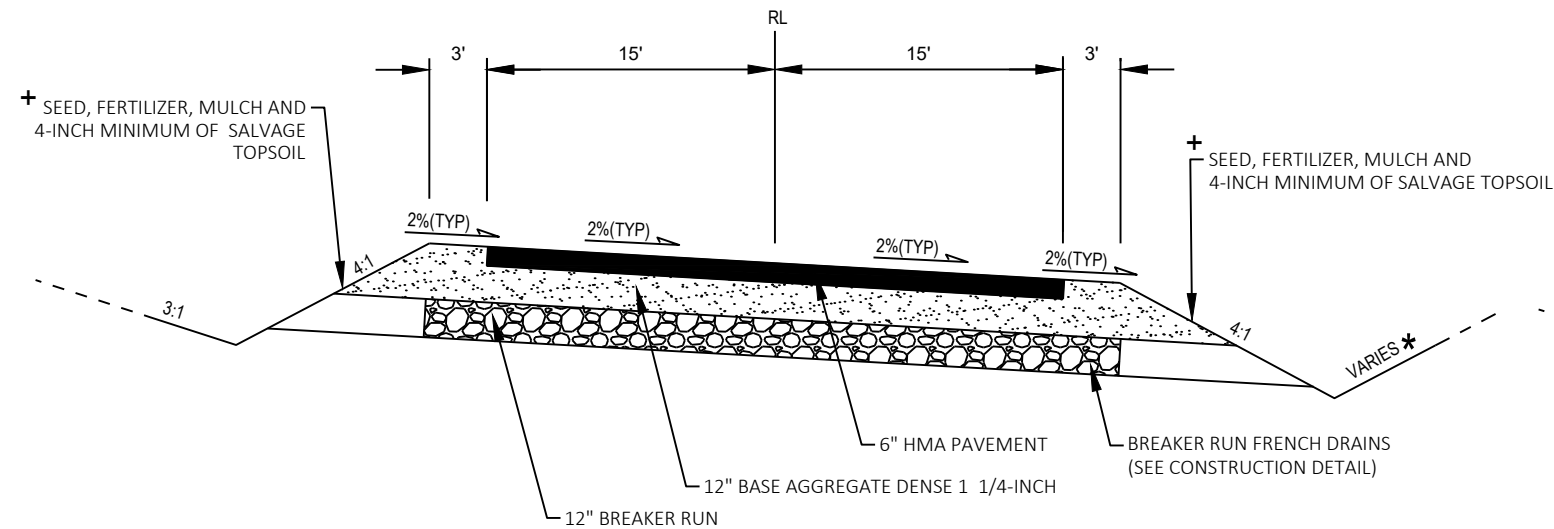
Dial  or (800) 242-8511
www.DiggersHotline.com



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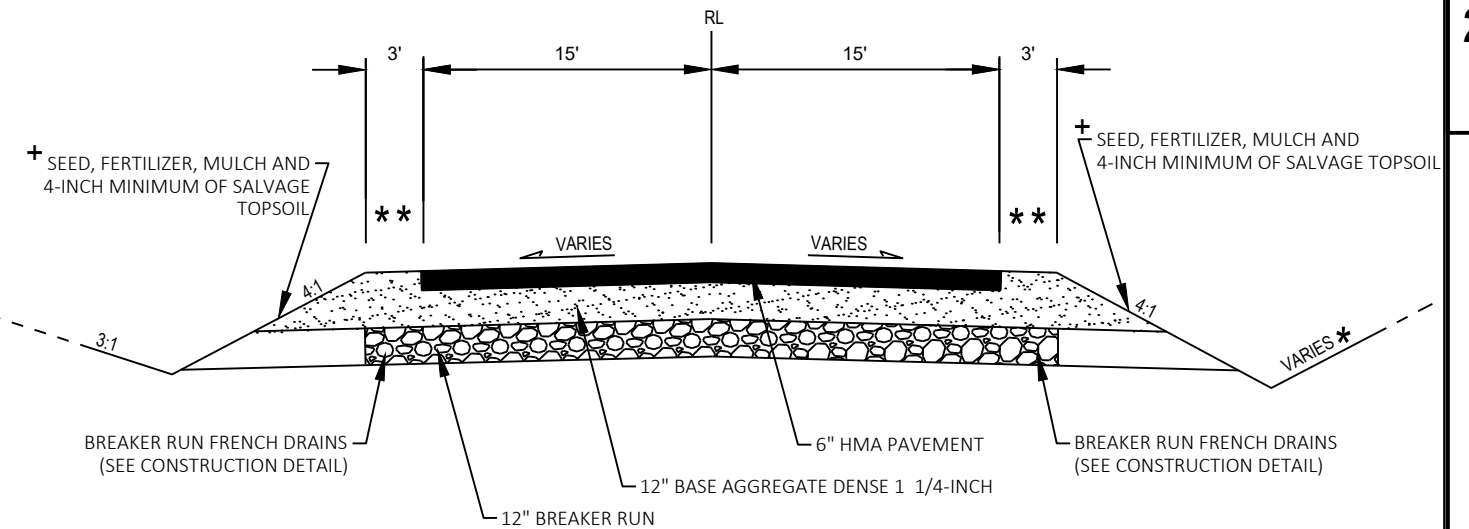
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PROJECT NO: 1060-62-70	HWY: IH-94	COUNTY: WAUKESHA	PROJECT OVERVIEW	SHEET	E
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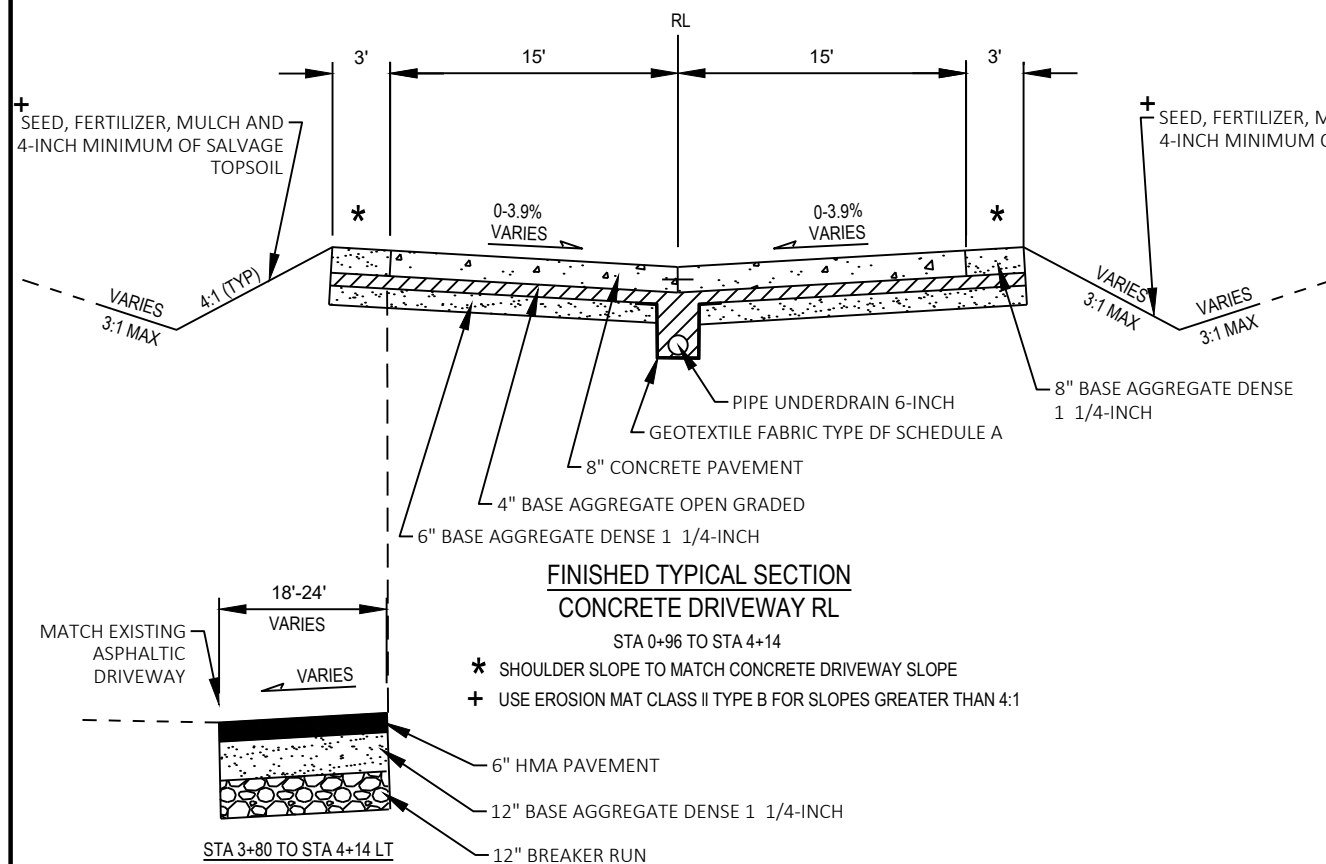
FINISHED TYPICAL SECTION
ASPHALT DRIVEWAY RL

- STA 4+31 TO STA 7+77
* SEE DETENTION POND DETAILS - STA 4+54 TO STA 6+60 RT
+ USE EROSION MAT CLASS II TYPE B FOR SLOPES GREATER THAN 4:1



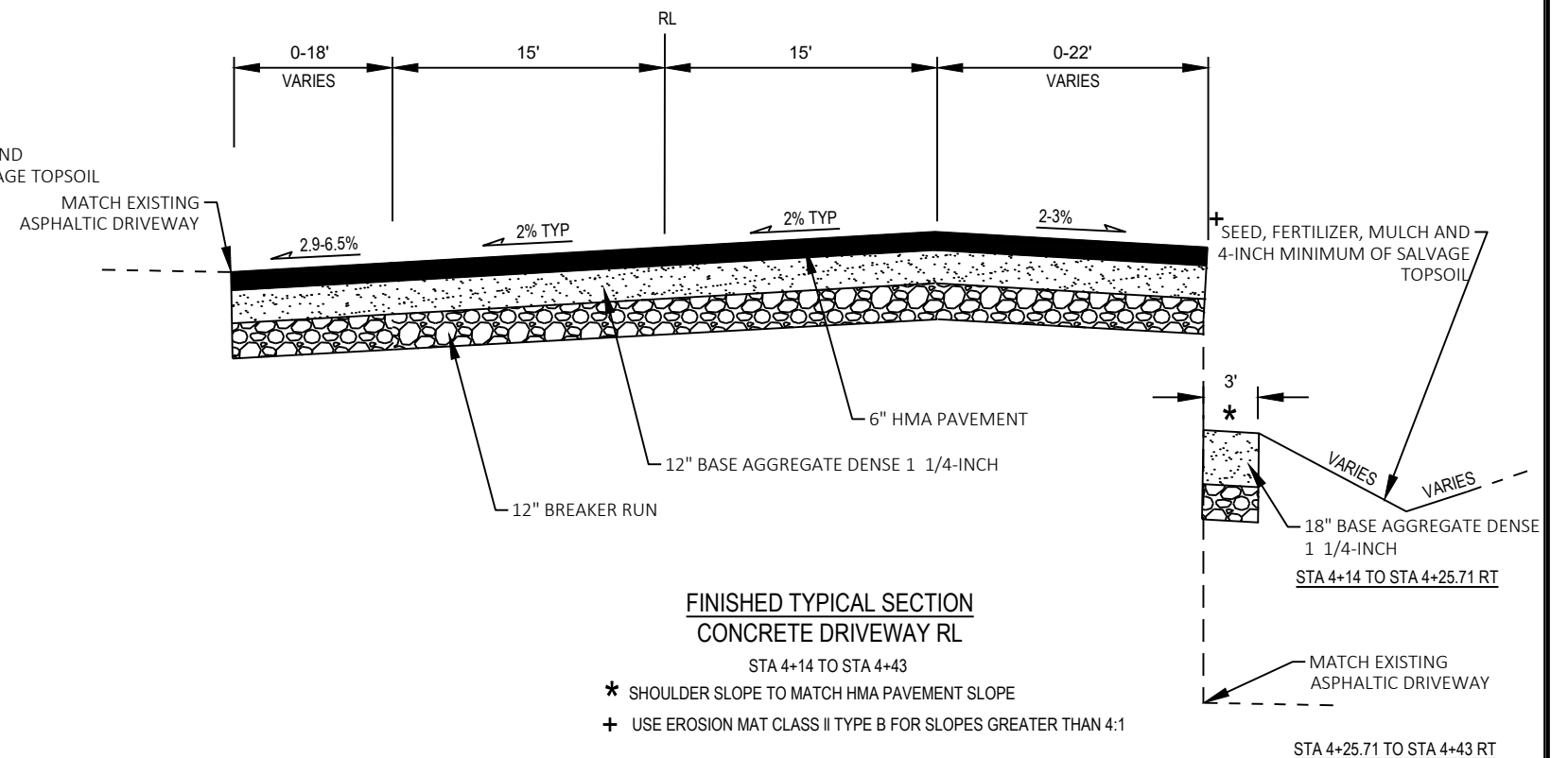
FINISHED TYPICAL SECTION
ASPHALT EAST DRIVEWAY RL

- STA 0+15 TO STA 0+65
* SEE DETENTION POND DETAILS
** SHOULDER SLOPE TO MATCH HMA PAVEMENT SLOPE
+ USE EROSION MAT CLASS II TYPE B FOR SLOPES GREATER THAN 4:1



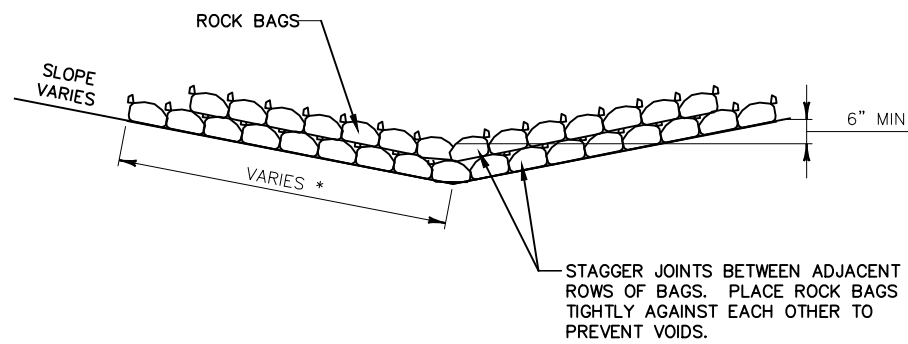
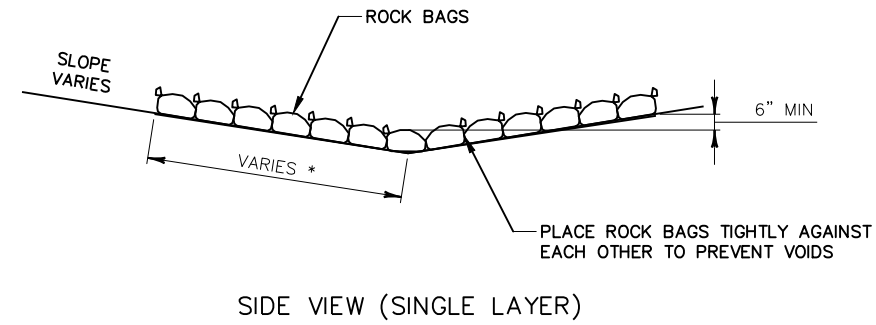
FINISHED TYPICAL SECTION
CONCRETE DRIVEWAY RL

- STA 0+96 TO STA 4+14
* SHOULDER SLOPE TO MATCH CONCRETE DRIVEWAY SLOPE
+ USE EROSION MAT CLASS II TYPE B FOR SLOPES GREATER THAN 4:1



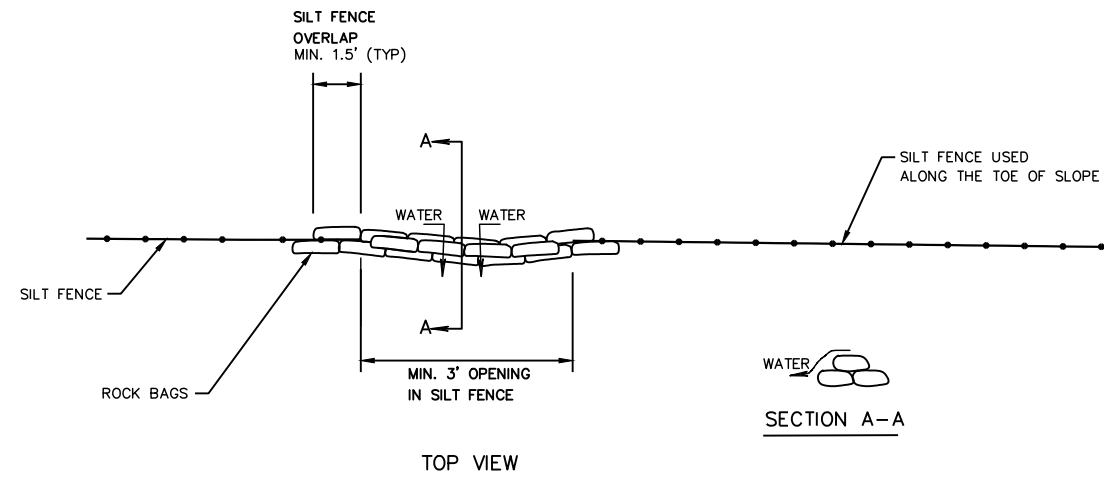
FINISHED TYPICAL SECTION
CONCRETE DRIVEWAY RL

- STA 4+14 TO STA 4+43
* SHOULDER SLOPE TO MATCH HMA PAVEMENT SLOPE
+ USE EROSION MAT CLASS II TYPE B FOR SLOPES GREATER THAN 4:1

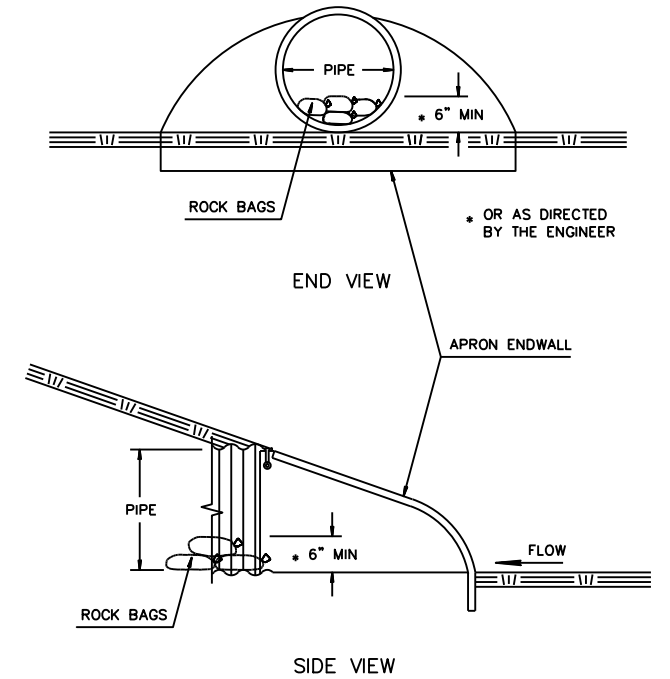


* LENGTH AND NUMBER OF BAGS MAY VARY
DEPENDING ON DESIRED DEPTH OF WATER POOL.

ROCK BAGS USED FOR DITCH CHECKS.

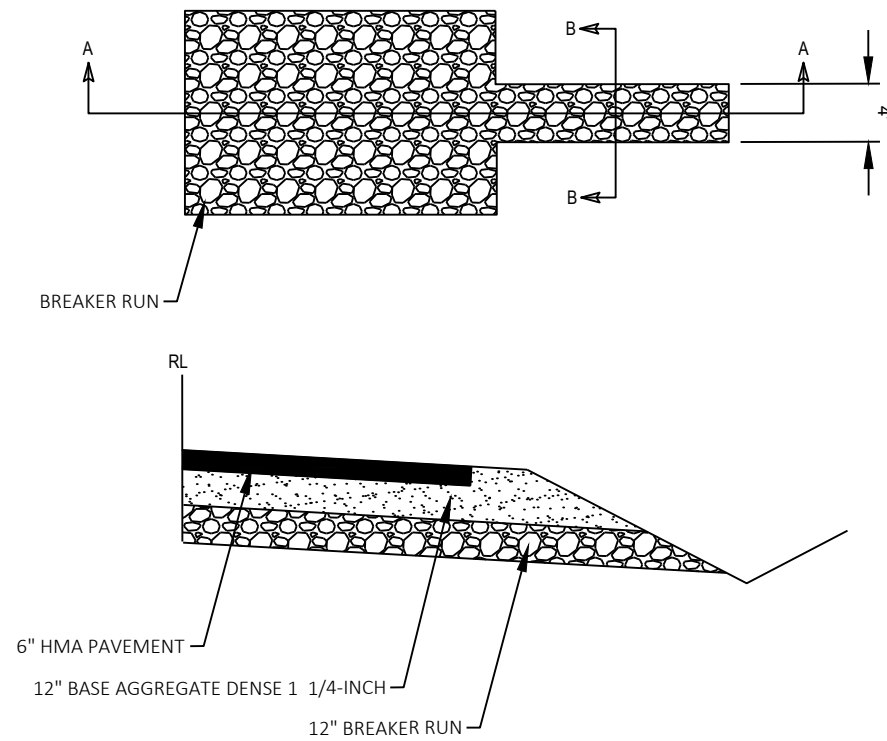


ROCK BAGS USED FOR SILT FENCE RELIEF POINT

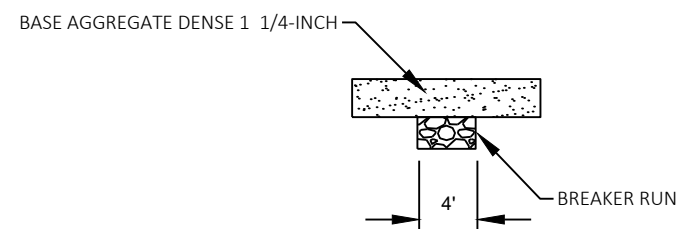


ROCK BAGS USED FOR CULVERT PIPE CHECKS.

ESTIMATED BAG SIZE ≈18" X 12" X 6"	
PIPE SIZE	ESTIMATED NUMBER OF BAGS
12"	1
15"	2
18"	2
24"	3
30"	5
36"	7
42"	7
48"	10
54"	10
60"	13
66"	14
72"	16
17"X13"	2
30"X19"	5
38"X24"	7
45"X29"	10
53"X34"	10
60"X38"	13
76"X48"	18
27' WIDE BOX CULVERT	36



SECTION A-A

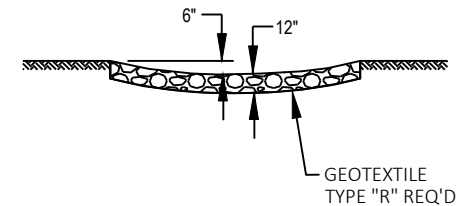
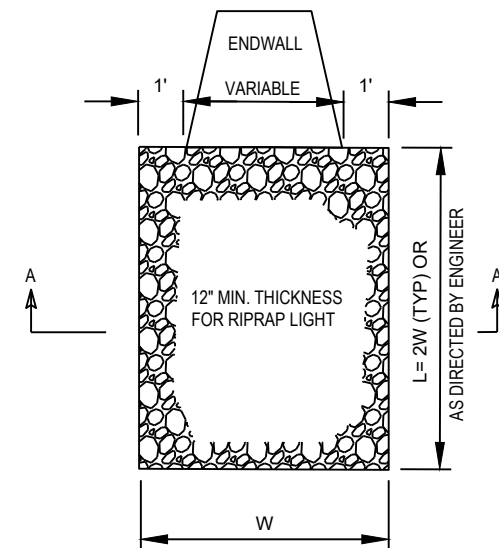


SECTION B-B

FRENCH DRAIN DETAIL

CONSTRUCT ALONG ASPHALT DRIVEWAY STA 4+31 TO STA 7+77 RT AND AT 7+75 LT.
ASPHALT EAST DRIVEWAY STA 0+15 TO 0+65 RT
LOCATIONS DETERMINED IN THE FIELD BY THE ENGINEER (200' TYPICAL)

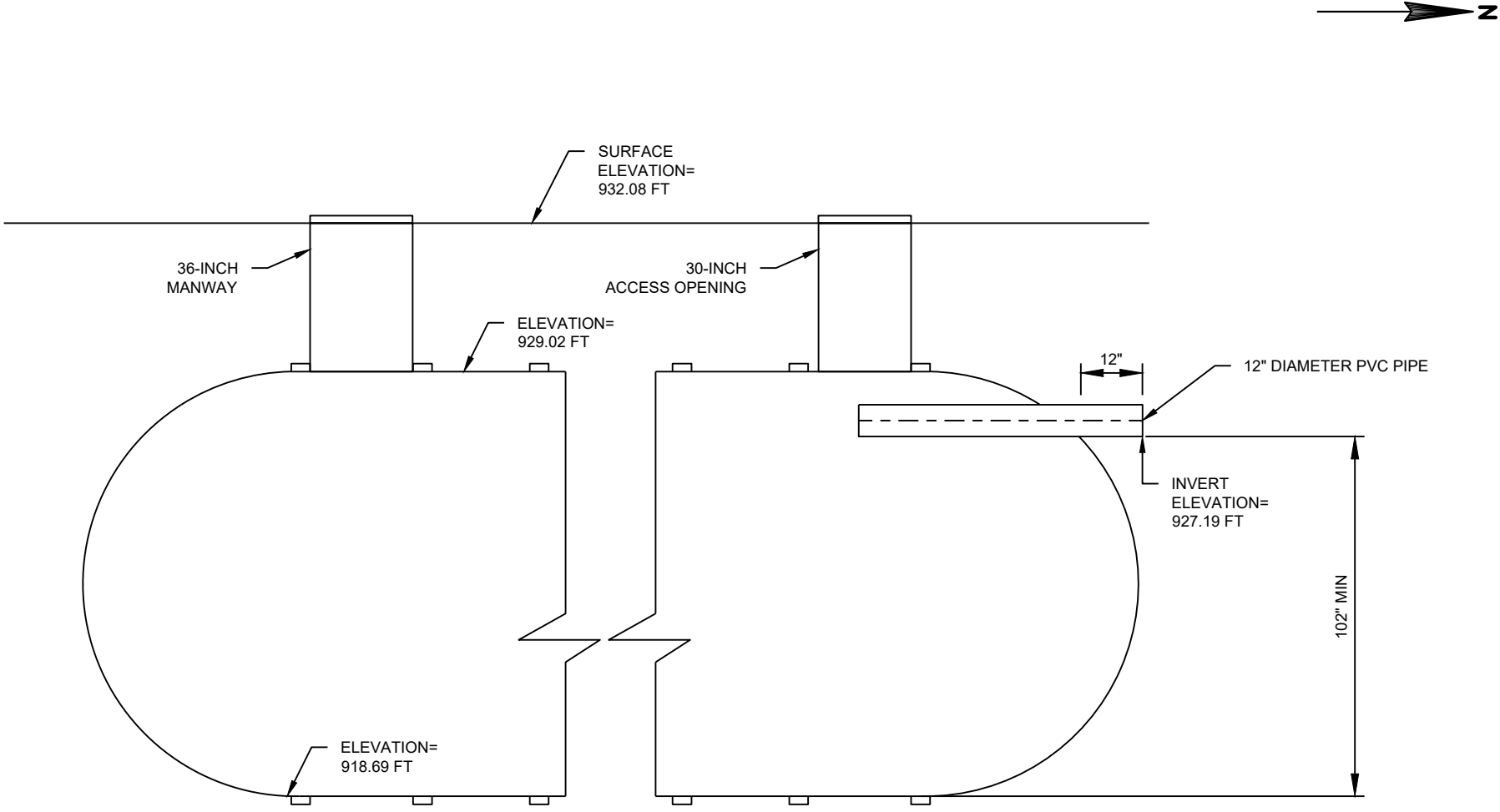
EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL BE
CONSIDERED INCIDENTAL TO THE ITEM BREAKER RUN.



SECTION A-A

RIPRAP LIGHT TREATMENT AT CULVERTS

SEE EROSION CONTROL PLAN FOR LOCATIONS
RIPRAP ELEVATION TO BE LOWER THAN PIPE OUTFALL FLOWLINE

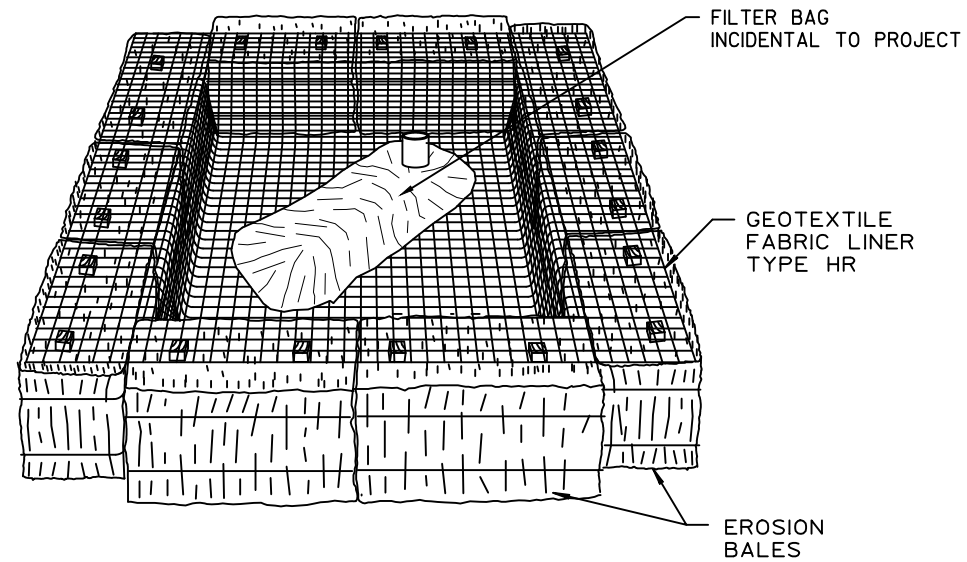


UNDERGROUND DETENTION WASTEWATER TANK

ELEVATION DETAIL

NOTE

COORDINATE AND INSTALL BRINE FACILITY
DRAIN OUTFALL INTO TANK.



NOTES

GEOTEXTILE FABRIC AND EROSION BALES WILL BE PAID UNDER THE ITEMS "GEOTEXTILE TYPE HR" AND "EROSION BALES"

TEMPORARY SETTLING BASIN

(SIZE TO BE DETERMINED IN FIELD AS INDICATED BELOW:)

STORAGE VOLUME (C.F.) = 16 X GPM (PUMP RATE)

EXAMPLE:

CONTRACTOR INDICATES PUMP CAPABLE OF 50 GPM
HEIGHT OF BALES = 1.5 FT.

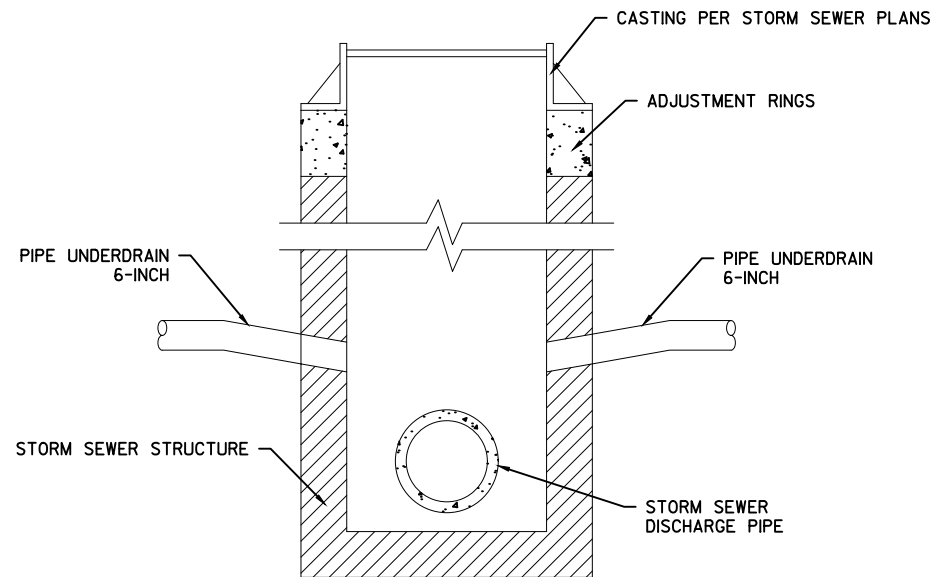
SOLUTION:

SV (C.F.) = 16 X 50

SV = 800 C.F.

$\frac{800 \text{ C.F.}}{1.5 \text{ FT.}} = 533 \text{ S.F.}$

USE A 20 FT. X 27 FT. BASIN

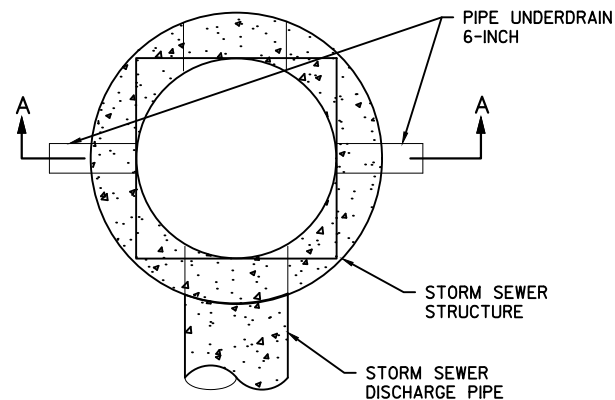


SECTION A-A

TYPICAL INLET CONFIGURATION
WITH UNDERDRAIN CORED INTO WALL

NOTES

TYPICAL ELEVATION OF PIPE UNDERDRAIN 6-INCH SHALL BE PLACED BELOW THE BASE AGGREGATE OPEN GRADED MATERIAL.



PLAN VIEW

PIPE UNDERDRAIN 6-INCH OUTFALL AT INLET/MANHOLE

STRUCTURE: STA 2+88, 0' LT/RT

NOTES

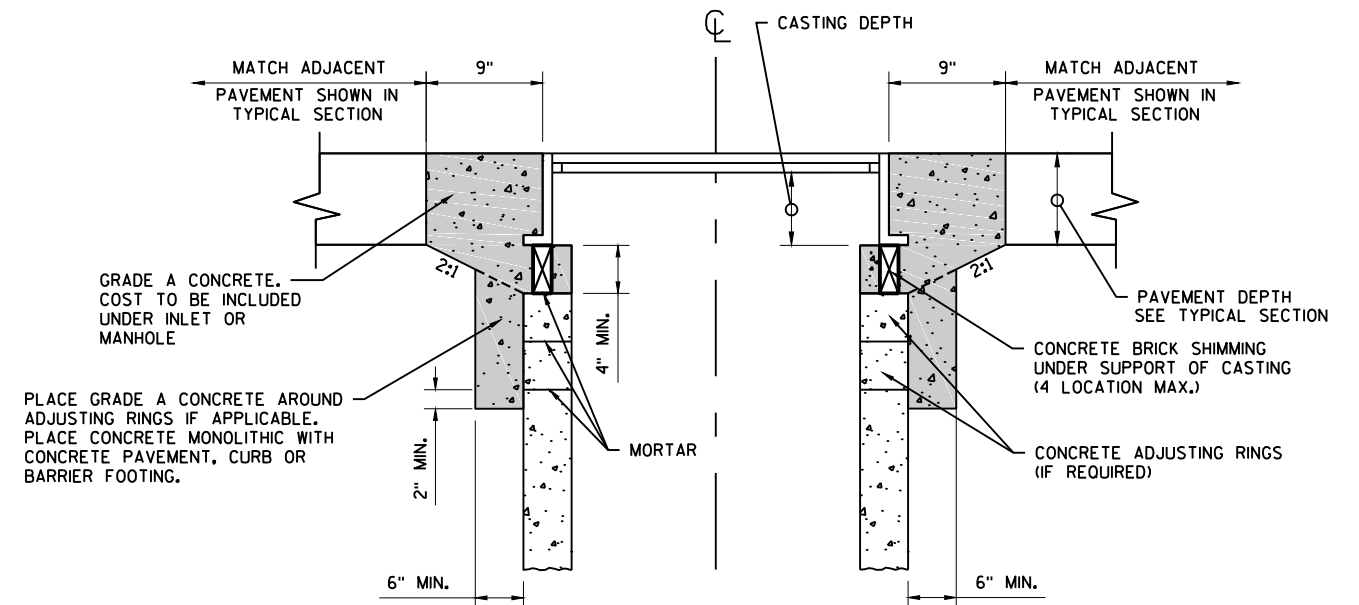
CONNECTIONS TO INLETS OR MANHOLES SHALL EXTEND PIPE UNDERDRAIN 6-INCH TO THE INSIDE WALL OF STORM SEWER STRUCTURE.

PROVIDE POSITIVE DRAINAGE (0.5% MINIMUM GRADE) THROUGH PIPE UNDERDRAIN 6-INCH AND CORE INTO STORM SEWER STRUCTURE.

WHEN INLET DEPTH IS SHALLOW, PIPE UNDERDRAIN 6-INCH MAY BE PLACED AT A DEPTH TO PROVIDE POSITIVE DRAINAGE TO BE COORDINATED WITH THE ENGINEER IN THE FIELD.

ATTACHMENT OF PIPE UNDERDRAIN 6-INCH TO REAR INLET IS SATISFACTORY IF REINFORCED CONCRETE STORM SEWER PIPE SIZE RESTRICTS SPACE FOR UNDERDRAIN CORE.

ALL WORK REQUIRED IS INCIDENTAL TO PIPE UNDERDRAIN 6-INCH ITEM.



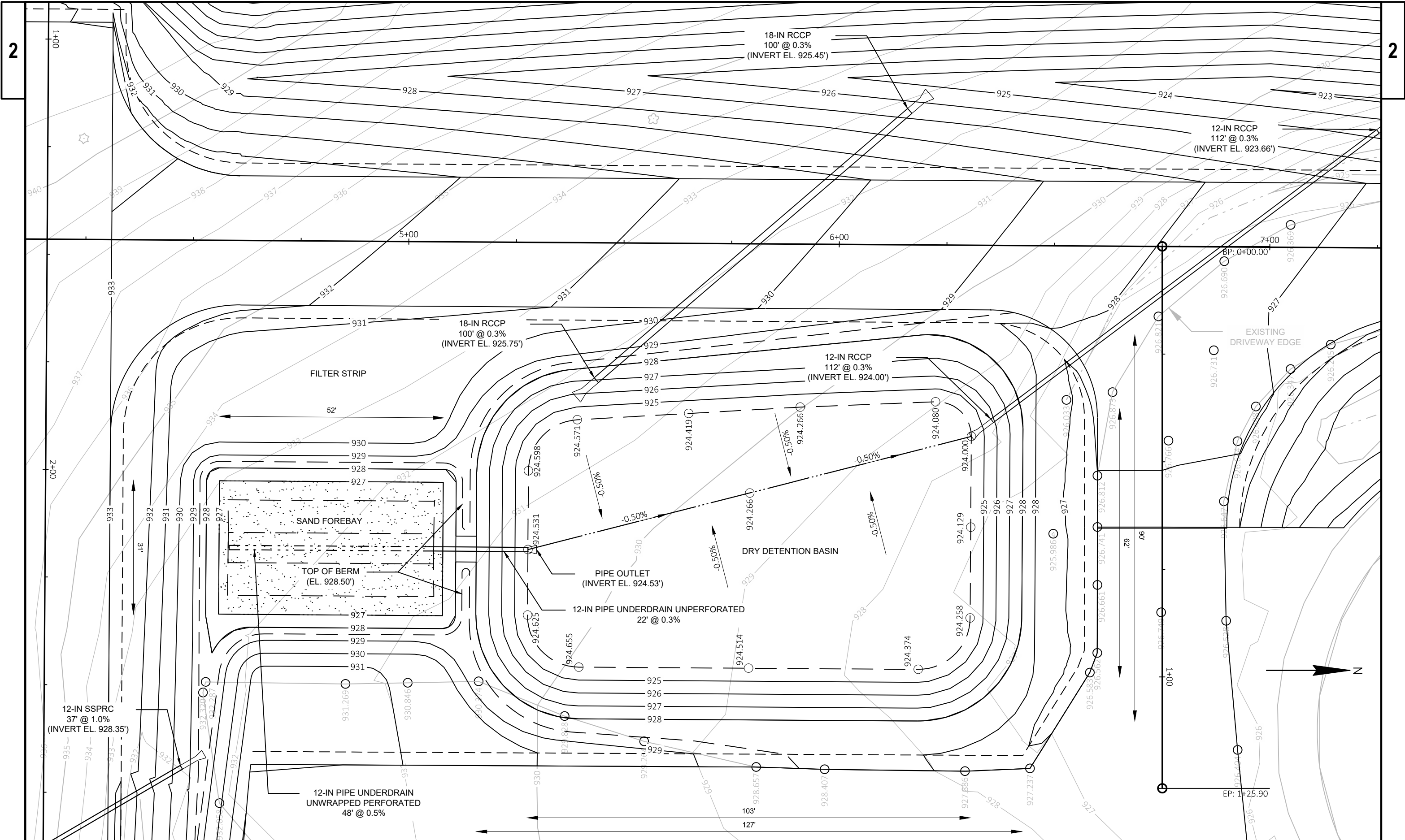
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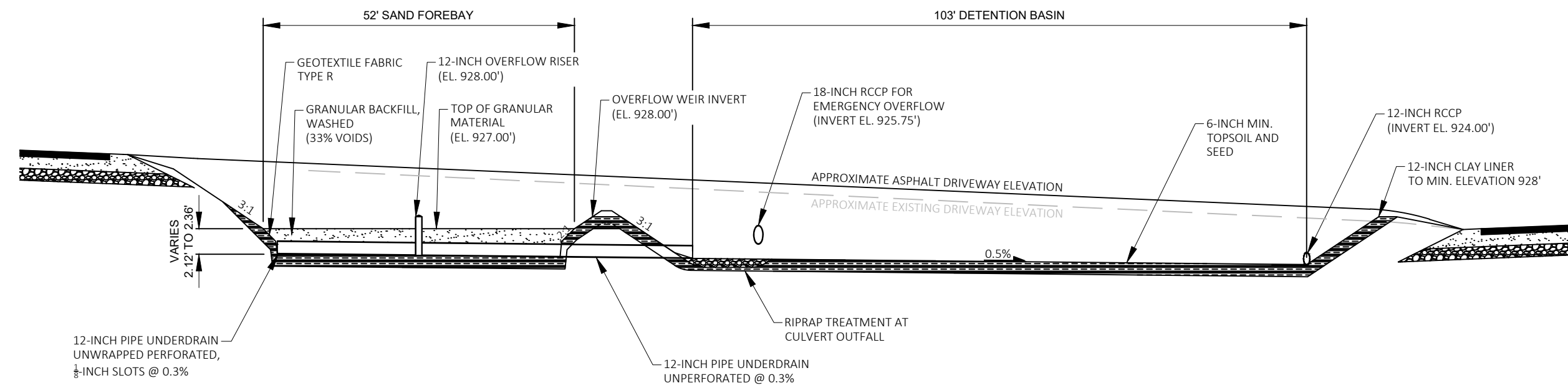
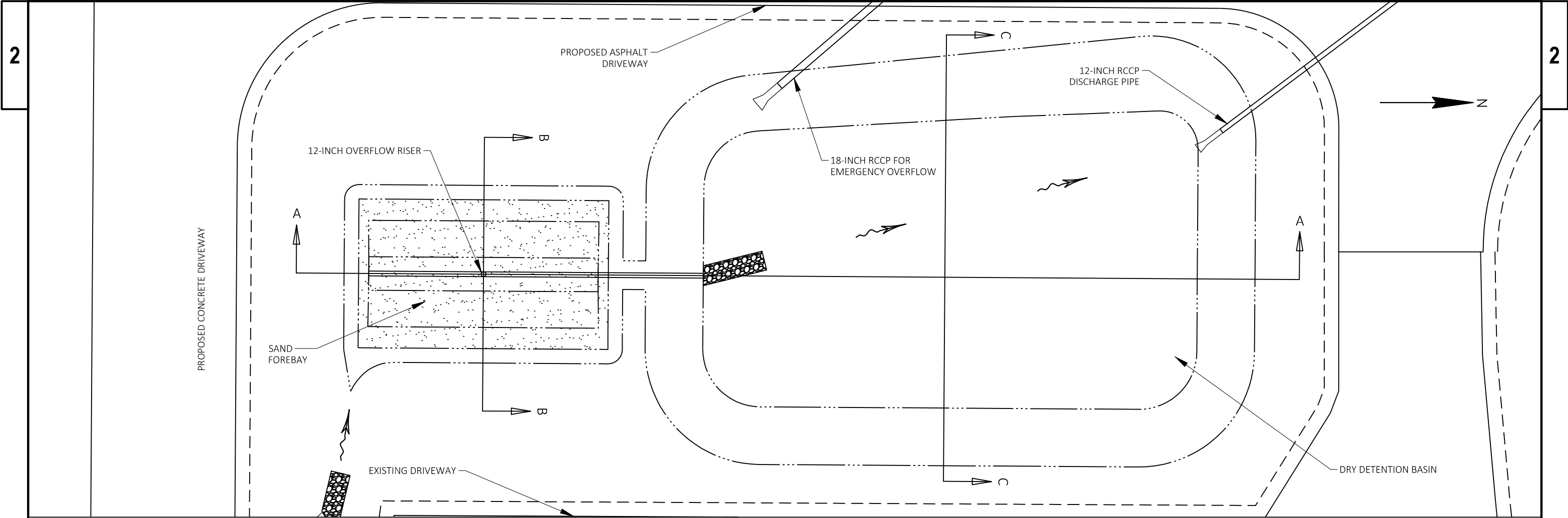
PROVIDE MONOLITHIC CONCRETE SHIMMING FOR FINAL ADJUSTMENT OF DRAINAGE STRUCTURES LOCATED WITHIN THE ROADWAY CONCRETE OR ASPHALIC PAVEMENT.

MONOLITHIC CONCRETE SHIMMING DETAILSTRUCTURE

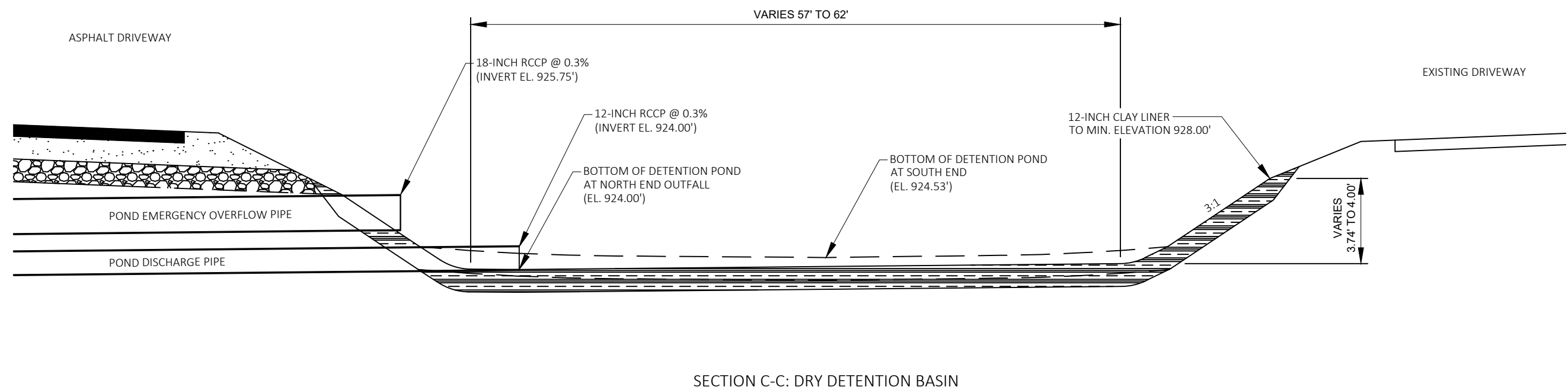
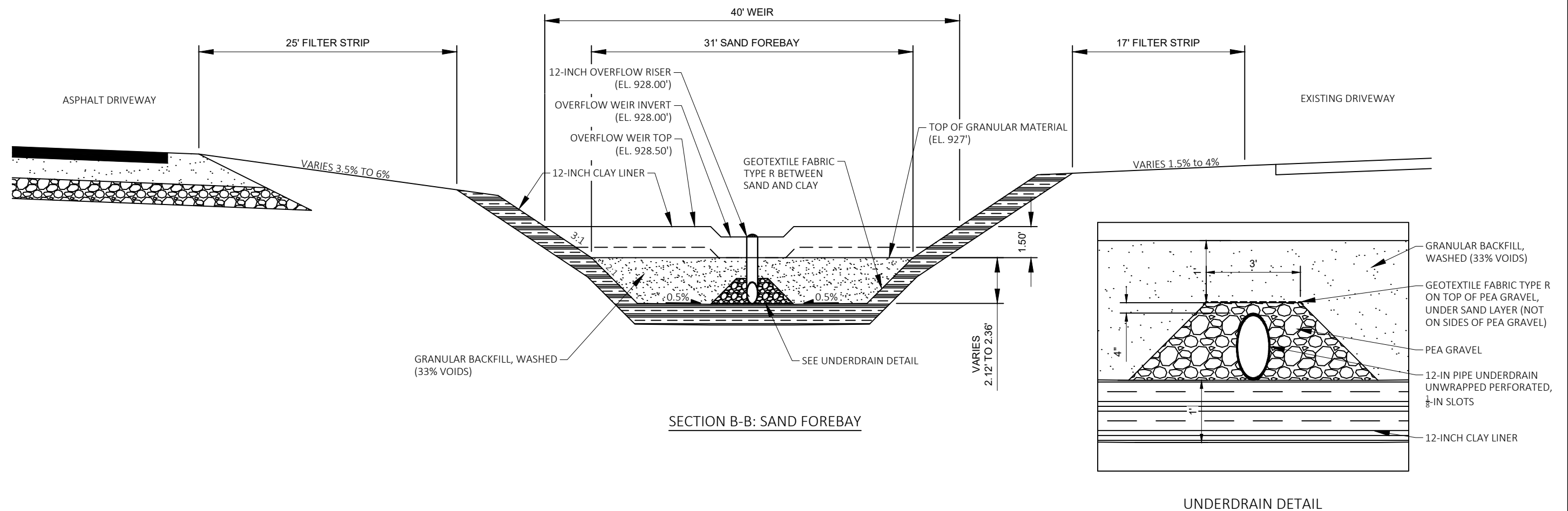
STA 2+88, 0' LT
STA 3+00, 0' LT
*STA 3+94.66, 23.5' LT

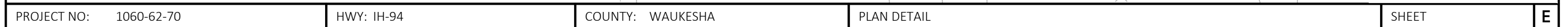
* TEMPORARY COVER PLATE REQUIRED,
ADJUST TO FINAL ELEVATION AFTER
ASPHALT PAVING

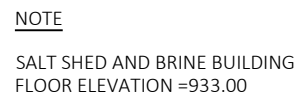


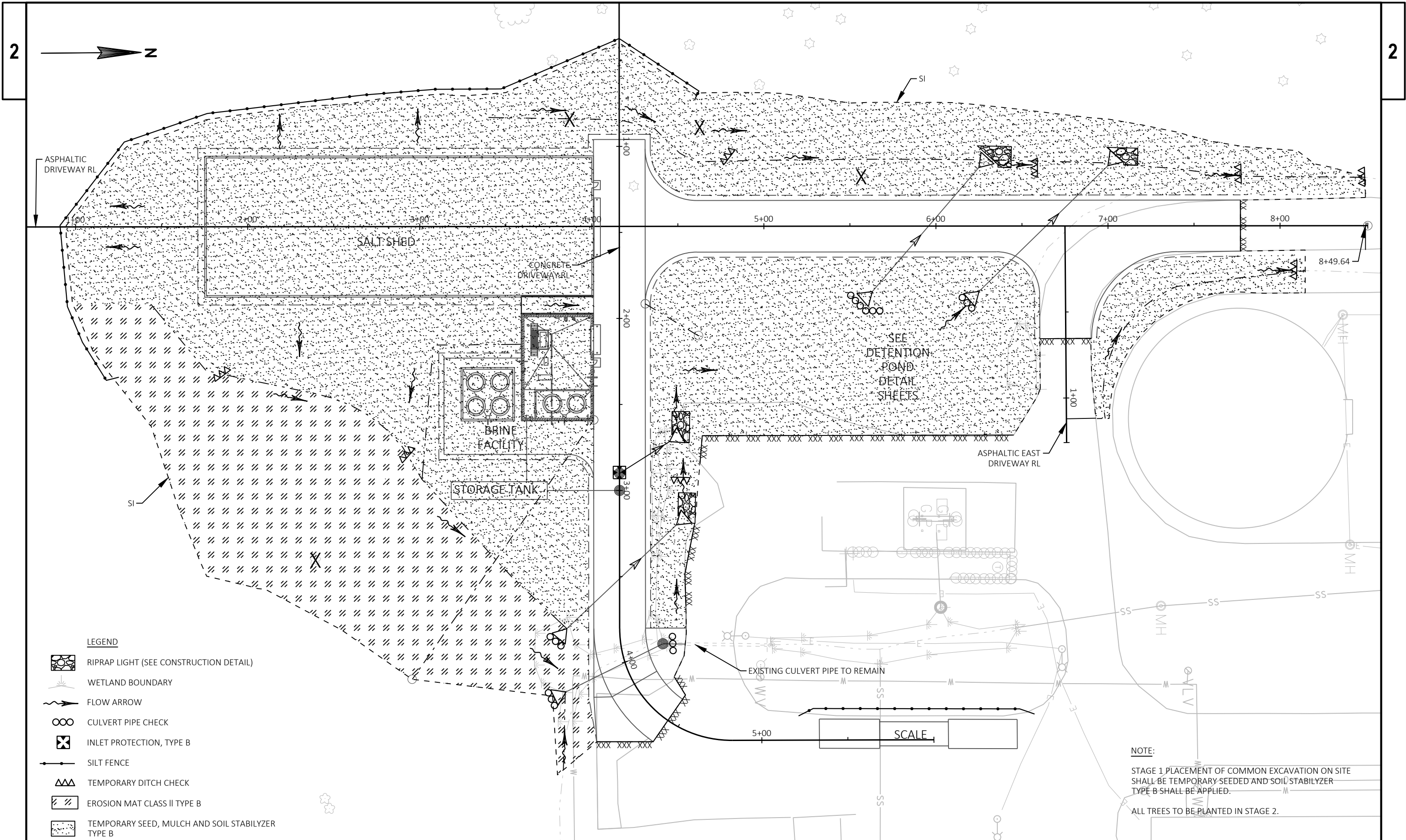


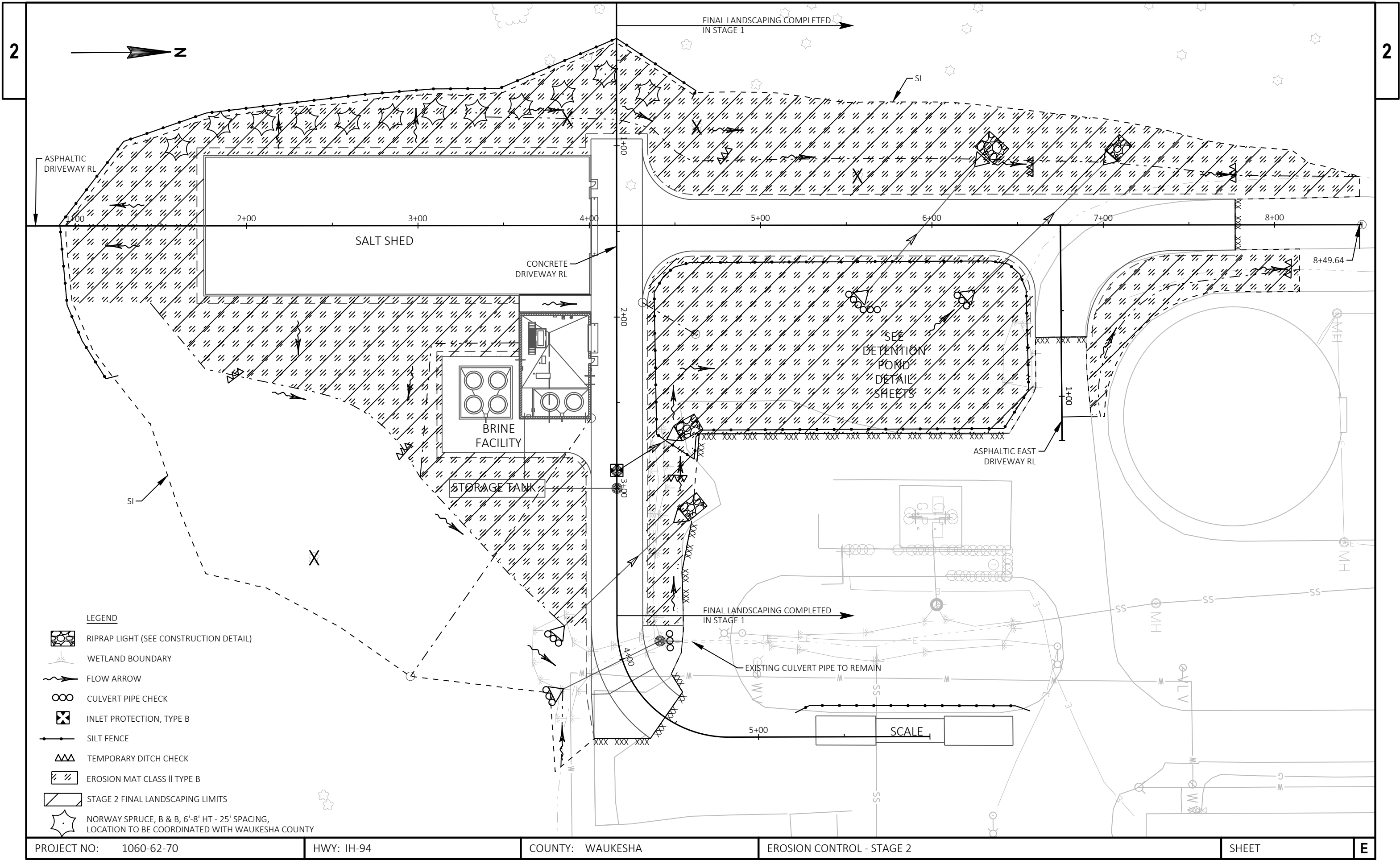
SECTION A-A: SAND FOREBAY AND DRY DETENTION BASIN

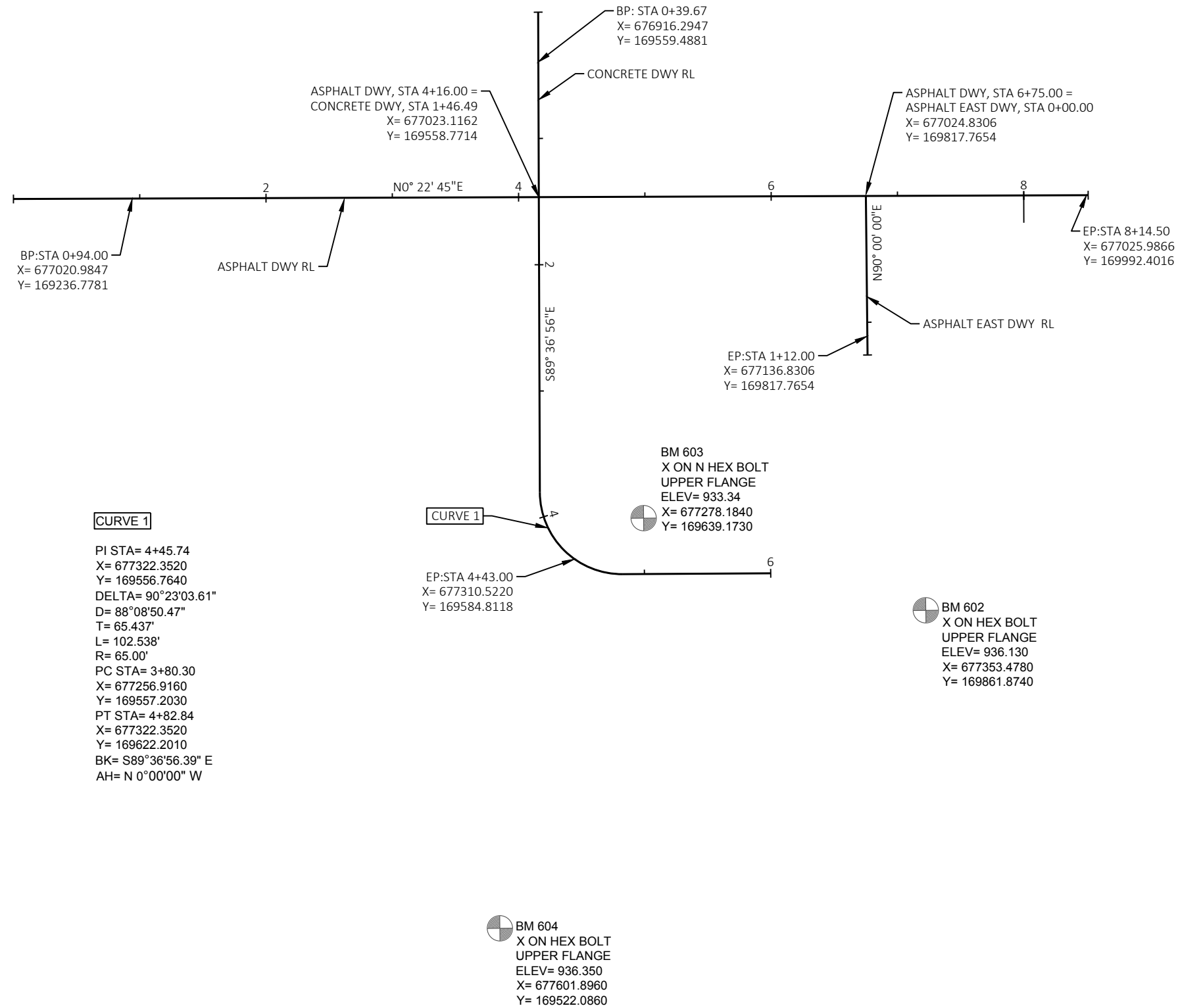












PROJECT NO: 1060-62-70

HWY: IH-94

COUNTY: WAUKESHA

ALIGNMENT LAYOUT

SHEET

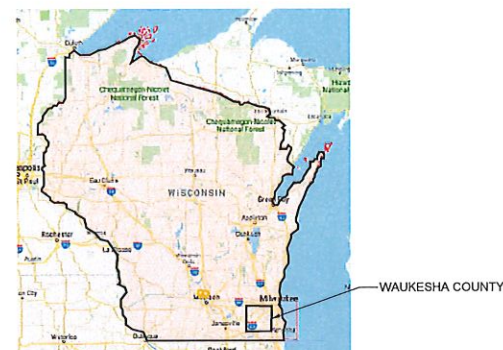
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WISCONSIN DEPARTMENT OF TRANSPORTATION

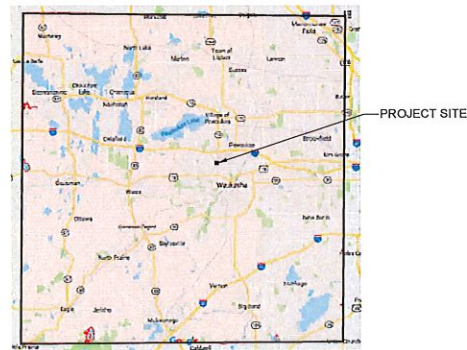
GRANDVIEW BOULEVARD SALT SHED

WAUKESHA, WISCONSIN

Project Location



STATE OF WISCONSIN



WAUKESHA COUNTY



WAUKESHA, WI

GRANDVIEW BOULEVARD
SALT SHED
IH-94
WAUKESHA COUNTY

STATE PROJECT NUMBER
1060-62-70

SHEET INDEX

GENERAL:
G0.00 COVER SHEET

CIVIL:
C0.00 UTILITY SITE PLAN - GENERAL NOTES
C1.00 UTILITY SITE PLAN

ARCHITECTURAL/STRUCTURAL:
AS2.00 SALT STORAGE: OVERALL FLOOR PLAN
AS2.01 BRINING BUILDING: FOUNDATION PLAN
AS2.02 SALT STORAGE SHED: FLOOR PLAN
AS2.03 BRINING BUILDING: FLOOR PLAN
AS2.04 BRINING BUILDING: ROOF PLAN
AS5.00 BRINING BUILDING: ELEVATIONS - 1
AS5.01 BRINING BUILDING: ELEVATIONS - 2
AS5.02 SALT STORAGE SHED: ELEVATIONS - 1
AS5.03 SALT STORAGE SHED: ELEVATIONS - 2
AS6.00 BRINING BUILDING: BUILDING SECTIONS - 1
AS6.01 BRINING BUILDING: BUILDING SECTIONS - 2
AS6.02 SALT STORAGE SHED: BUILDING SECTION
AS9.00 ARCHITECTURAL DETAILS - 1
AS9.01 ARCHITECTURAL DETAILS - 2
S9.00 STRUCTURAL GENERAL NOTES
S9.01 STRUCTURAL DETAILS - 1
S9.02 STRUCTURAL DETAILS - 2
S9.03 STRUCTURAL DETAILS - 3

PROCESS:
M2.00 BRINING BUILDING: BRINING PROCESS PLAN

HVAC & PLUMBING:
HP2.00 BRINING FACILITY: HVAC & PLUMBING FLOOR PLAN
HP2.10 SALT STORAGE SHED: HVAC PLAN
HP2.20 BRINING FACILITY: HVAC & PLUMBING SCHEDULES

ELECTRICAL:
CE1.00 BRINING FACILITY: ELECTRICAL SITE PLAN
E1.00 BRINING FACILITY ELECTRICAL SCHEDULES
E2.00 BRINING FACILITY: ELECTRICAL FLOOR PLAN
E2.10 SALT STORAGE SHED: ELECTRICAL PLAN
E3.00 BRINING FACILITY: ELECTRICAL SCHEDULES
E4.00 BRINING FACILITY: ELECTRICAL DETAILS



SHEET
G0.00

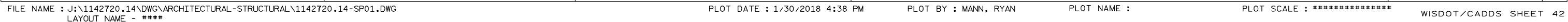


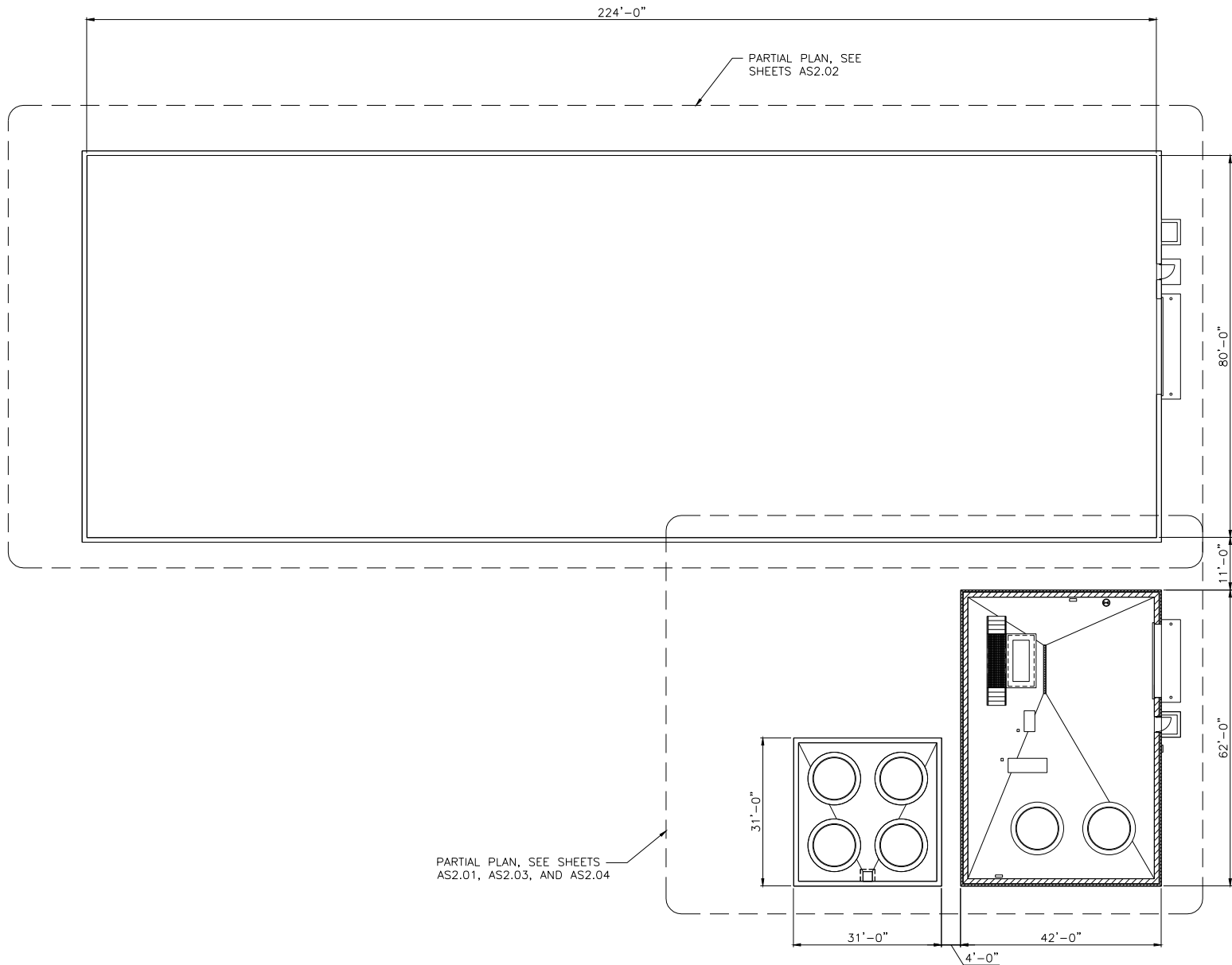
GENERAL NOTES:

- 1. CONTRACTOR SHALL PROVIDE EROSION CONTROL FACILITIES IN ACCORDANCE WITH THE MUNICIPALITY EROSION CONTROL ORDINANCE AND THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
- 2. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES.
- 3. R.A. SMITH, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITY OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THIS PLAN WITHOUT THE EXPRESSED WRITTEN CONSENT OF R.A. SMITH, INC.

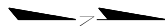
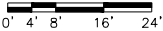
WATER MAIN NOTES:

- 1. WATER MAIN SHALL BE PVC DR-14 C-900.
- 2. WATER MAIN SHALL HAVE GRANULAR BACKFILL WITH MECHANICAL COMPACTION UNLESS OTHERWISE NOTED.
- 3. WATER MAIN CONSTRUCTION MUST COMPLY WITH THE "SPECIFICATIONS FOR WATER MAIN & SERVICE LATERAL MATERIALS AND THE INSTALLATION OF WATER MAIN & APPURTENANCES FOR WAUKESHA WATER UTILITY, CITY OF WAUKESHA" DATED AUGUST 29, 2014 (REFERRED TO AS "WAUKESHA WATER UTILITY SPECIFICATIONS"). THE WISCONSIN ADMINISTRATIVE CODE AND THE STANDARD SPECIFICATIONS FOR SEWER & WATER CONSTRUCTION IN WISCONSIN ARE INCORPORATED BY REFERENCE.
- 4. WAUKESHA WATER UTILITY SHALL OPERATE ALL EXISTING VALVES FOR WATER SHUT DOWNS.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UTILITY LOCATIONS. AT A MINIMUM, THE CONTRACTOR IS REQUIRED TO POTHOLE EXISTING UTILITIES AS SHOWN ON THESE PLANS FOR LOCATION & ELEVATION VERIFICATION. ALL POTHOLING SHALL BE COMPLETED AND INFORMATION GIVEN TO THE ENGINEER A MINIMUM OF TWO (2) WEEKS PRIOR TO CONSTRUCTION OF WATER MAIN AT THAT LOCATION, IN CASE WATER MAIN REDESIGN IS NECESSARY.
- 6. EXCAVATE TRENCHES IN CONFORMITY WITH THE REQUIRED ALIGNMENT AND GRADES AS SHOWN ON THESE PLANS AND AS LAID OUT IN THE FIELD BY THE ENGINEER. IT SHALL BE UNDERSTOOD THAT THE ELEVATIONS FOR WATER MAINS AS SHOWN ON THESE PLANS ARE SUBJECT TO REVISIONS AS MAY BE NECESSARY TO FIT FIELD CONDITIONS. THE ENGINEER RESERVES THE RIGHT TO ADJUST THE GRADES FROM THOSE SHOWN ON THESE PLANS. NO ADJUSTMENT IN COMPENSATION WILL BE MADE FOR GRADE ADJUSTMENTS OF TWO (2) FEET OR LESS ABOVE OR BELOW THE ELEVATIONS SHOWN ON THESE PLANS.
- 7. PROVIDE ALL SHEETING OR BRACING NEEDED TO PROTECT THE WORK, EXISTING PROPERTY, UTILITIES, PAVEMENT, ETC., AND PROVIDE SAFE WORKING CONDITIONS IN THE TRENCH.
- 8. WHEN A CONTRACTOR IS WORKING IN AN AREA WHERE EXISTING WATER MAINS OR OTHER UTILITIES ARE PRESENT, ADDITIONAL CARE MUST BE TAKEN TO ENSURE THAT THE EXISTING MAINS ARE PROPERLY AND ADEQUATELY SUPPORTED DURING CONSTRUCTION TO AVOID DAMAGE OR BREAKAGE.
- 9. A MINIMUM VERTICAL SEPARATION DISTANCE (EDGE TO EDGE) WHERE WATER MAINS CROSS OVER SEWERS SHALL BE 6" AND WHERE WATER MAINS CROSS UNDER SEWERS THE DISTANCE SHALL BE 18". THE MINIMUM HORIZONTAL SEPARATION (CENTER TO CENTER) SHALL BE 8' BETWEEN WATER MAIN AND SANITARY/STORM SEWERS.
- 10. ALL FITTINGS SHALL BE MECHANICAL JOINT. ALL VALVE JOINTS AND FITTINGS SHALL BE MADE WITH AN APPROVED MEGALUG PER THE WAUKESHA WATER UTILITY SPECIFICATIONS.
- 11. IN ADDITION TO MECHANICAL JOINT RESTRAINTS, THRUST BLOCKING SHALL BE CONSTRUCTED TO PREVENT MOVEMENT OF LINES UNDER PRESSURE BEHIND ALL BENDS, HYDRANTS, TEES, CAPS, PLUGS AND FITTINGS. THRUST BLOCKING SHALL BE PORTLAND CEMENT CONCRETE, A MINIMUM OF 12" THICK, OR SOLID CONCRETE BLOCKING PLACED BETWEEN THE APPURTENANCE AND THE UNDISTURBED WALL OF THE TRENCH.
- 12. ANY VALVE NUT THAT NEEDS TO BE PLACED DEEPER THAN SEVEN FEET (7.0') BELOW FINISHED GRADE, THE CONTRACTOR SHALL INSTALL A VALVE EXTENSION ON THE NUT. THE TOP OF THE VALVE NUT EXTENSION SHALL BE BETWEEN 4' AND 6' FROM FINISHED GRADE.
- 13. A CONTINUOUS TRACER WIRE SHALL BE INSTALLED WITH ALL WATER MAINS AND SERVICES. THE TRACER WIRE SYSTEM MUST PASS A CONDUCTIVITY TEST BEFORE THE WATER MAIN INSTALLATION IS ACCEPTED BY WAUKESHA WATER UTILITY. ALL TRACER WIRE MUST BE GROUNDED.

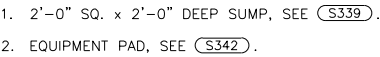


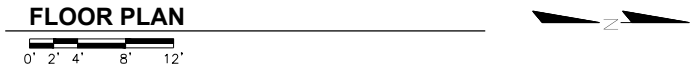
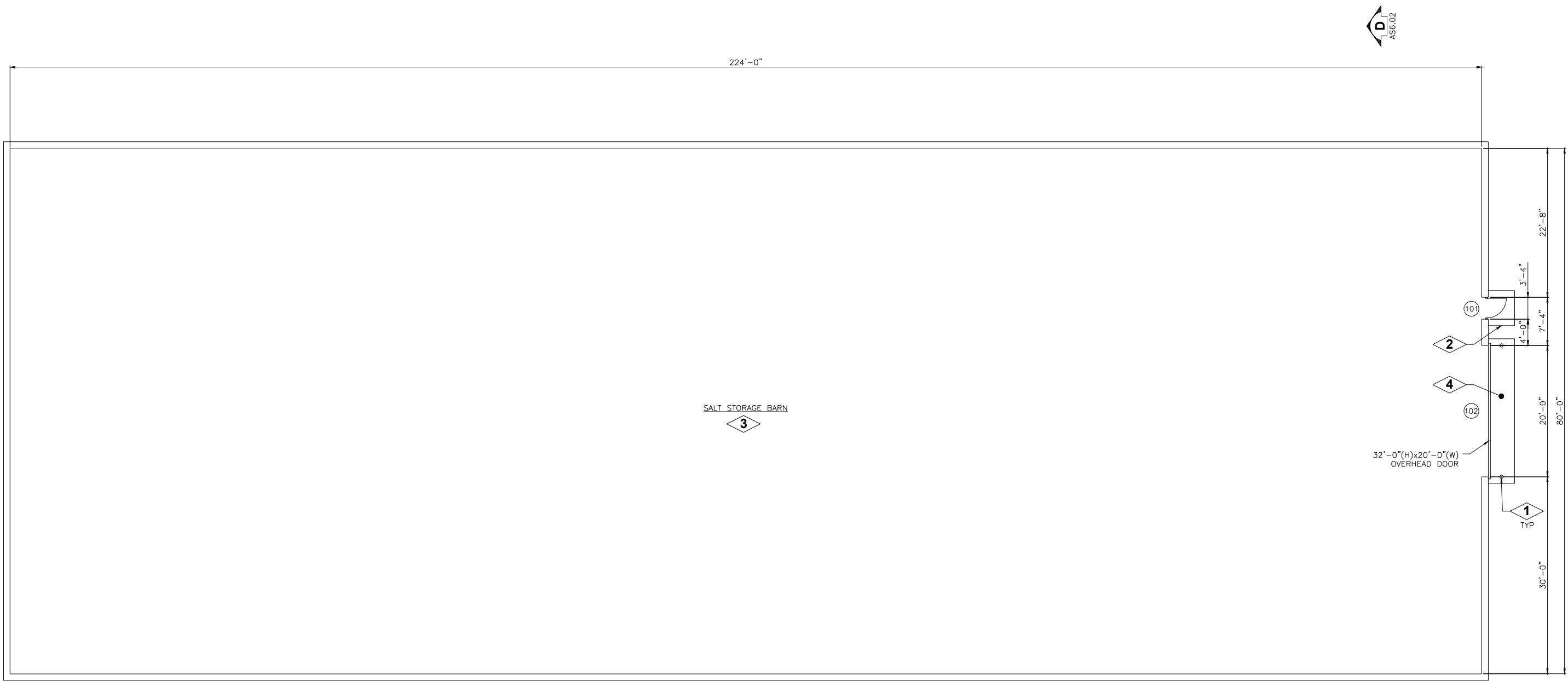


OVERALL PLAN



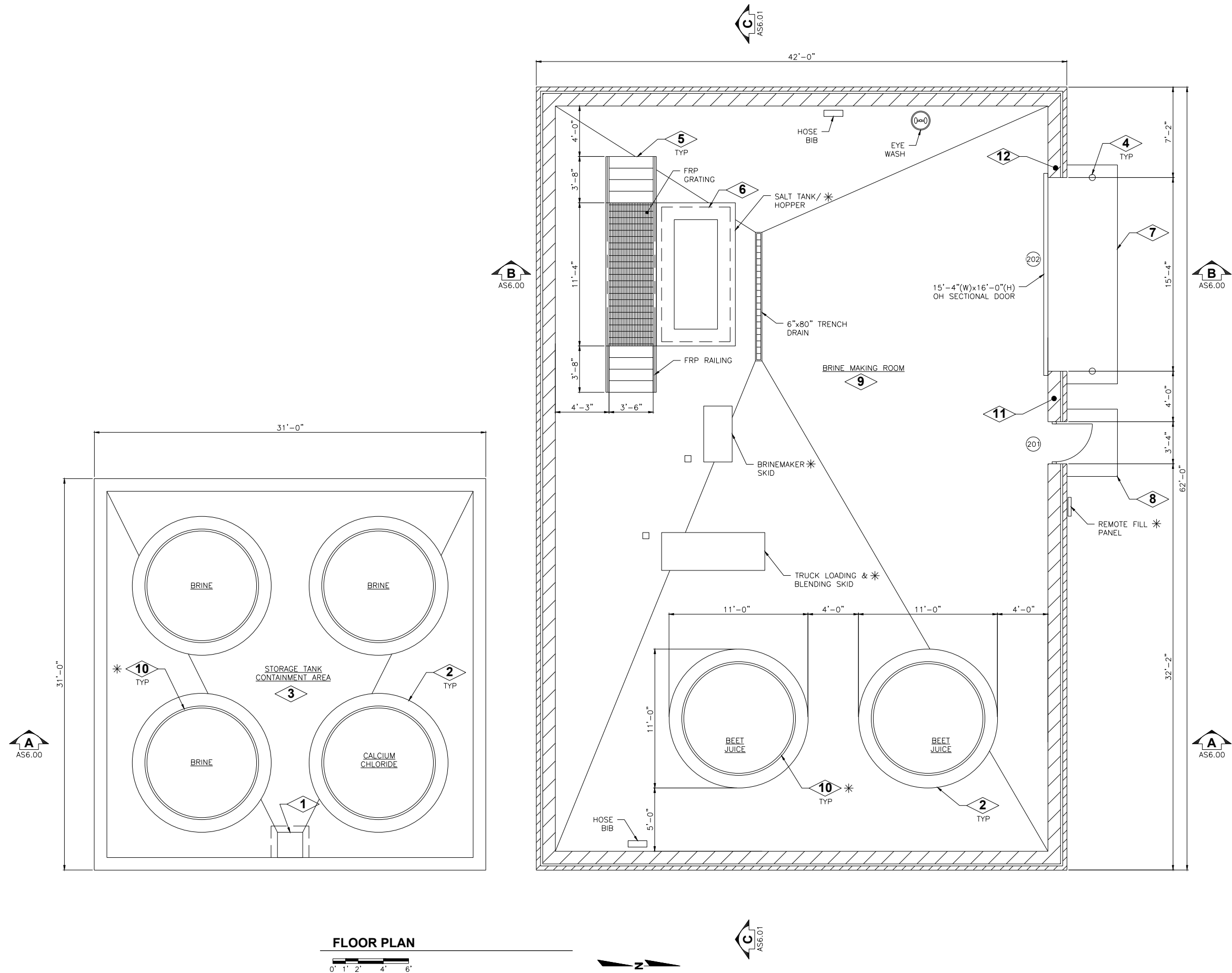
SHEET
AS2.00

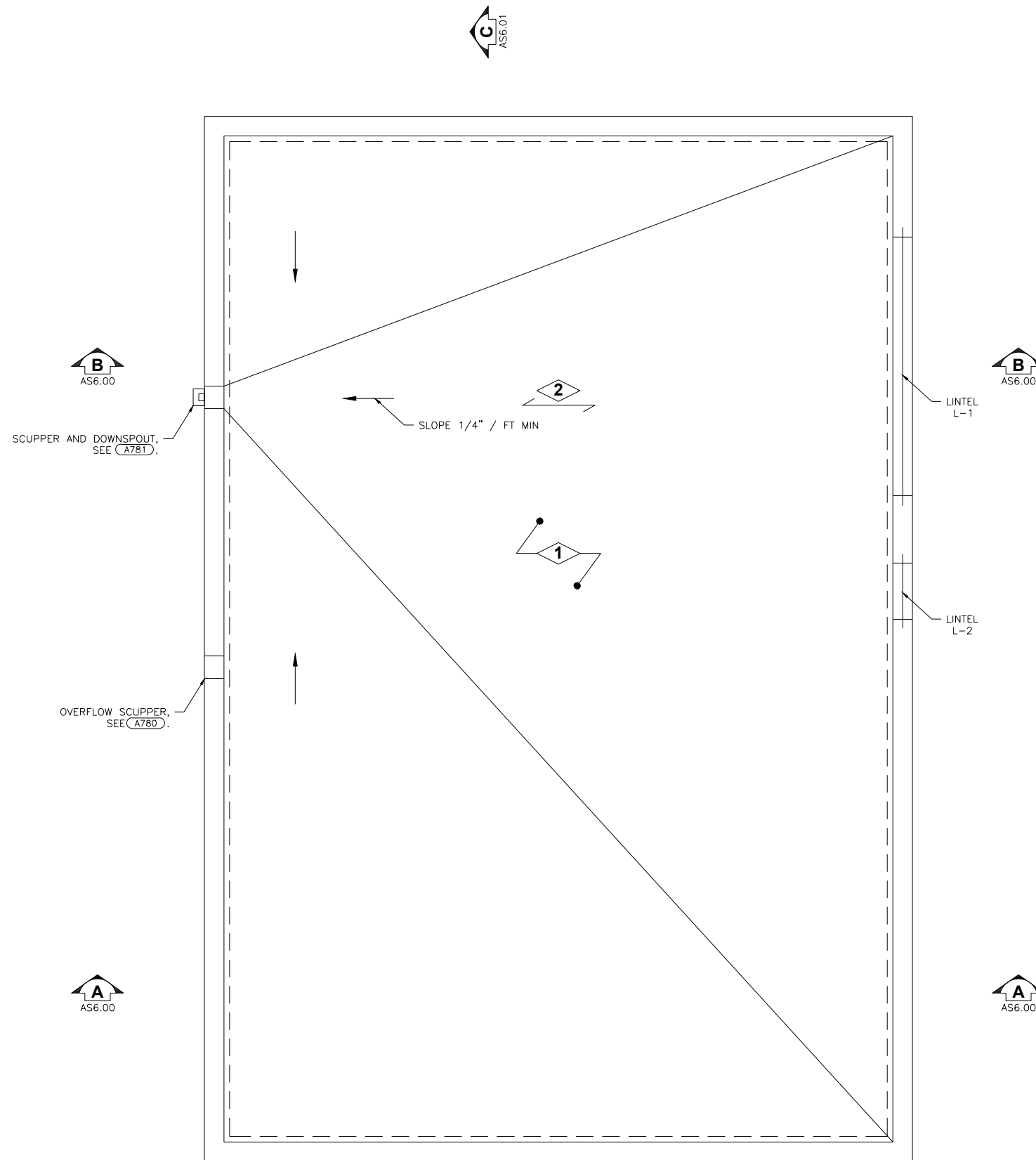




- PLAN NOTES:**
- 1. GUARD POST, SEE (S100).
 - 2. 5'-4"x4'-0" DOOR STOOP, SEE (S362).
 - 3. FLOOR SLAB TO BE 4" ASPHALT OVER 12" OF 1-1/4" DENSE BASE AGGREGATE.
 - 4. 22'-0"x4'-0" APPROACH SLAB, SEE (S365).

SHEET
AS2.02

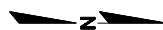


**PLAN NOTES:**

1. FULLY ADHERED EPDM MEMBRANE ROOFING OVER TAPERED INSULATION. PROVIDE SADDLES AND CRICKETS AS REQUIRED AT ROOF OPENINGS. MINIMUM INSULATION THICKNESS IS 2".
2. 12" PRECAST CONCRETE HOLLOW CORE ROOF PLANK SPAN DIRECTION.

ROOF PLAN

0' 1' 2' 4' 6'



PROJECT NO: 1060-62-70

HWY: GRANDVIEW BOULEVARD

COUNTY: WAUKESHA

BRINING BUILDING: ROOF PLAN

SHEET

SHEET
AS2.04**E**

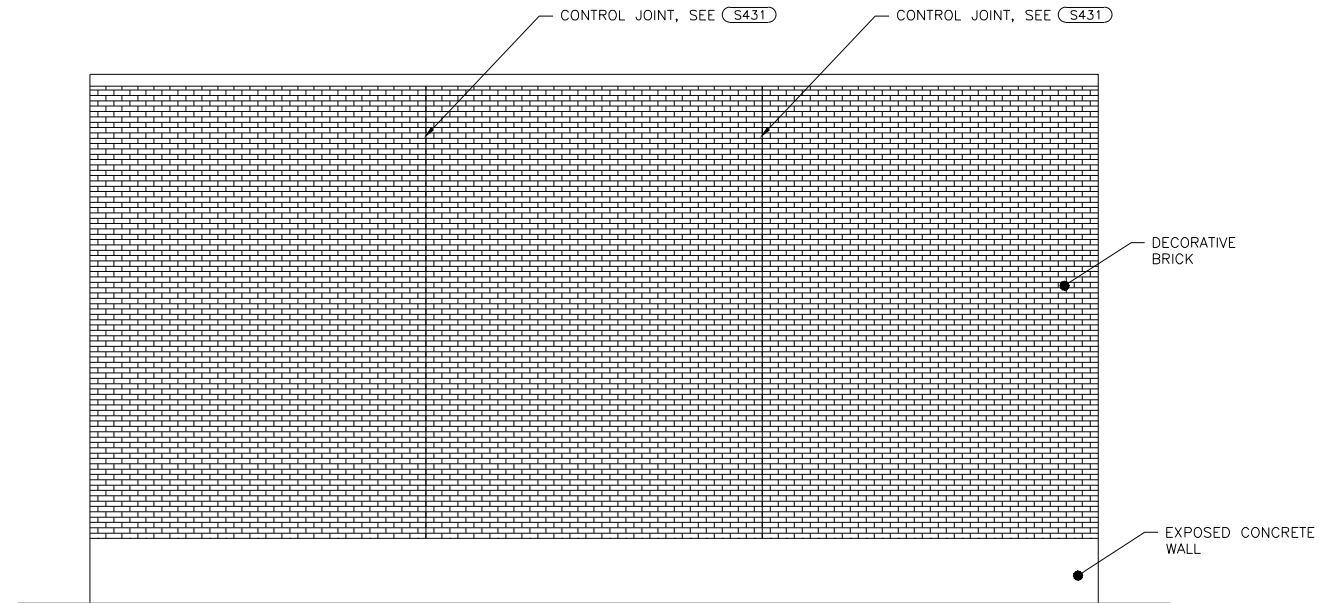
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PLOT BY : MCELVAIN, RICK

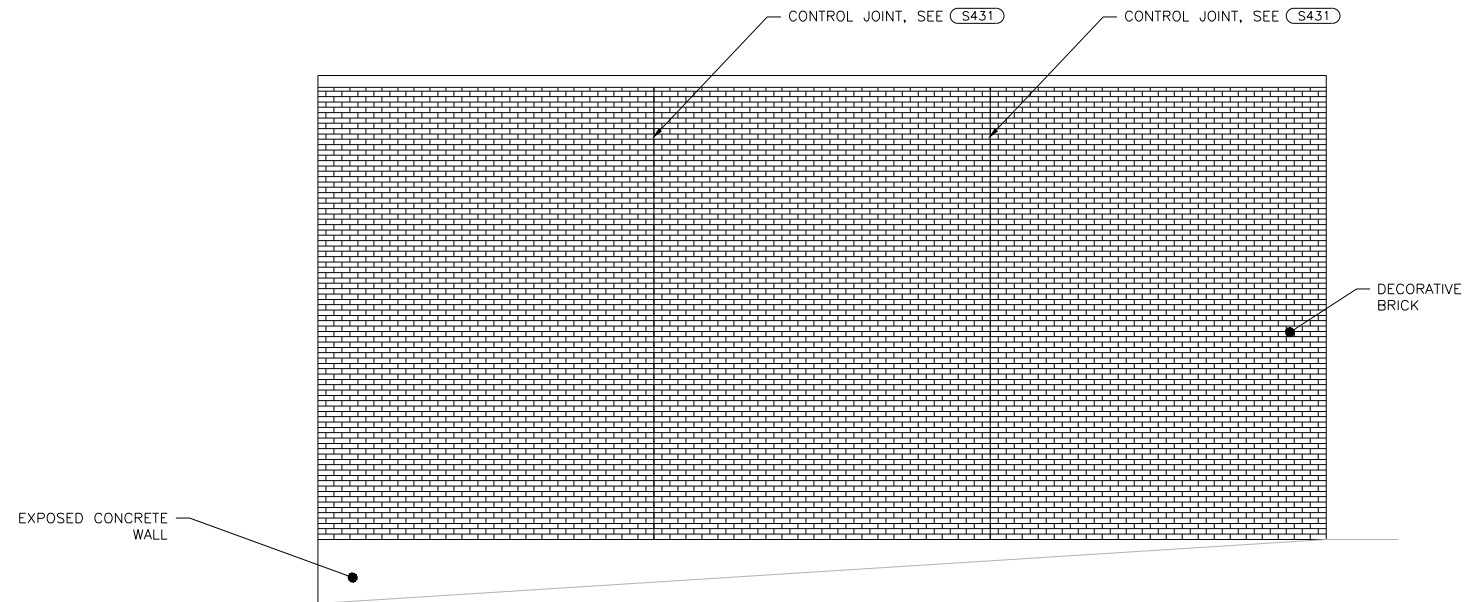
PLOT NAME :

WISDOT/CADDs SHEET 42



**EAST
ELEVATION**

0' 1' 2' 4' 6'



**WEST
ELEVATION**

0' 1' 2' 4' 6'

SHEET
AS5.00

PROJECT NO: 1060-62-70

HWY: GRANDVIEW BOULEVARD

COUNTY: WAUKESHA

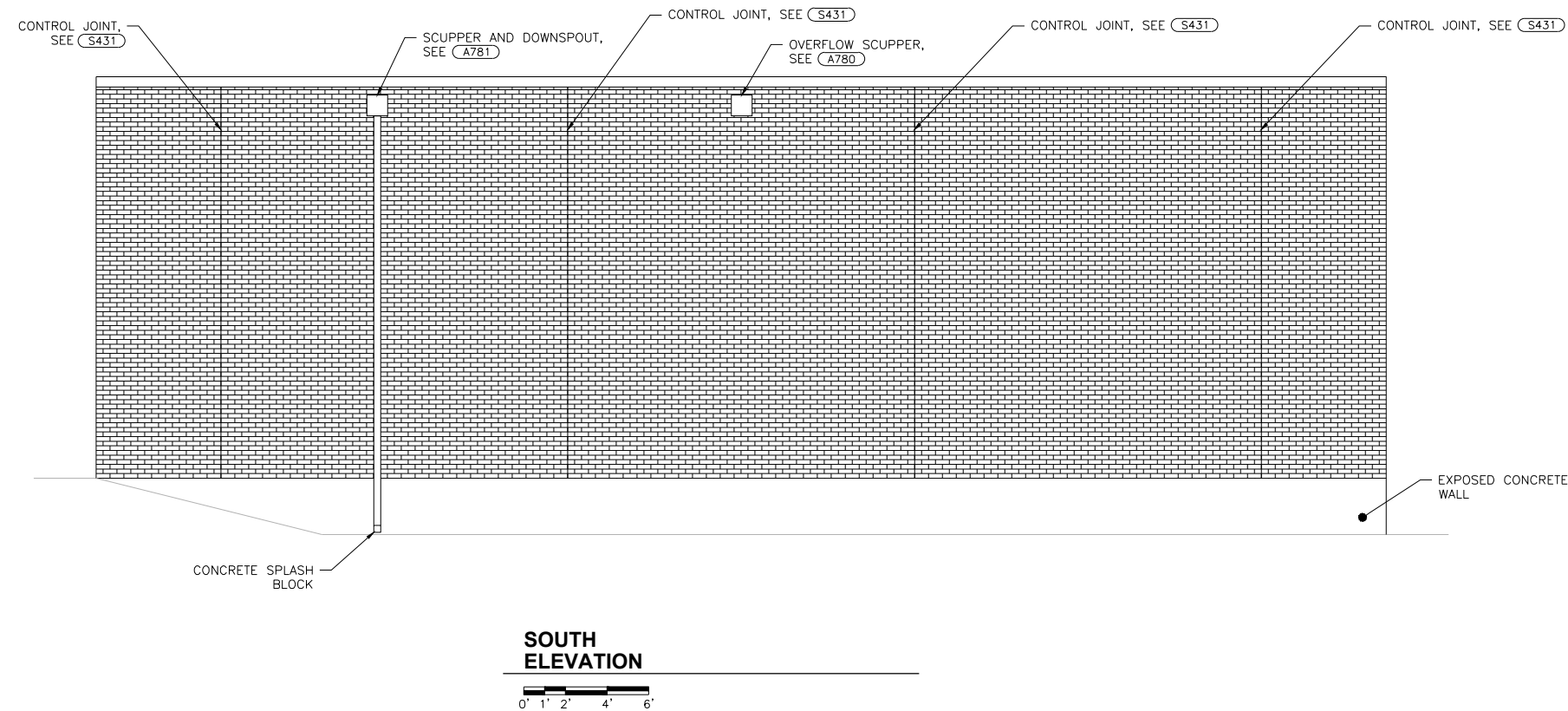
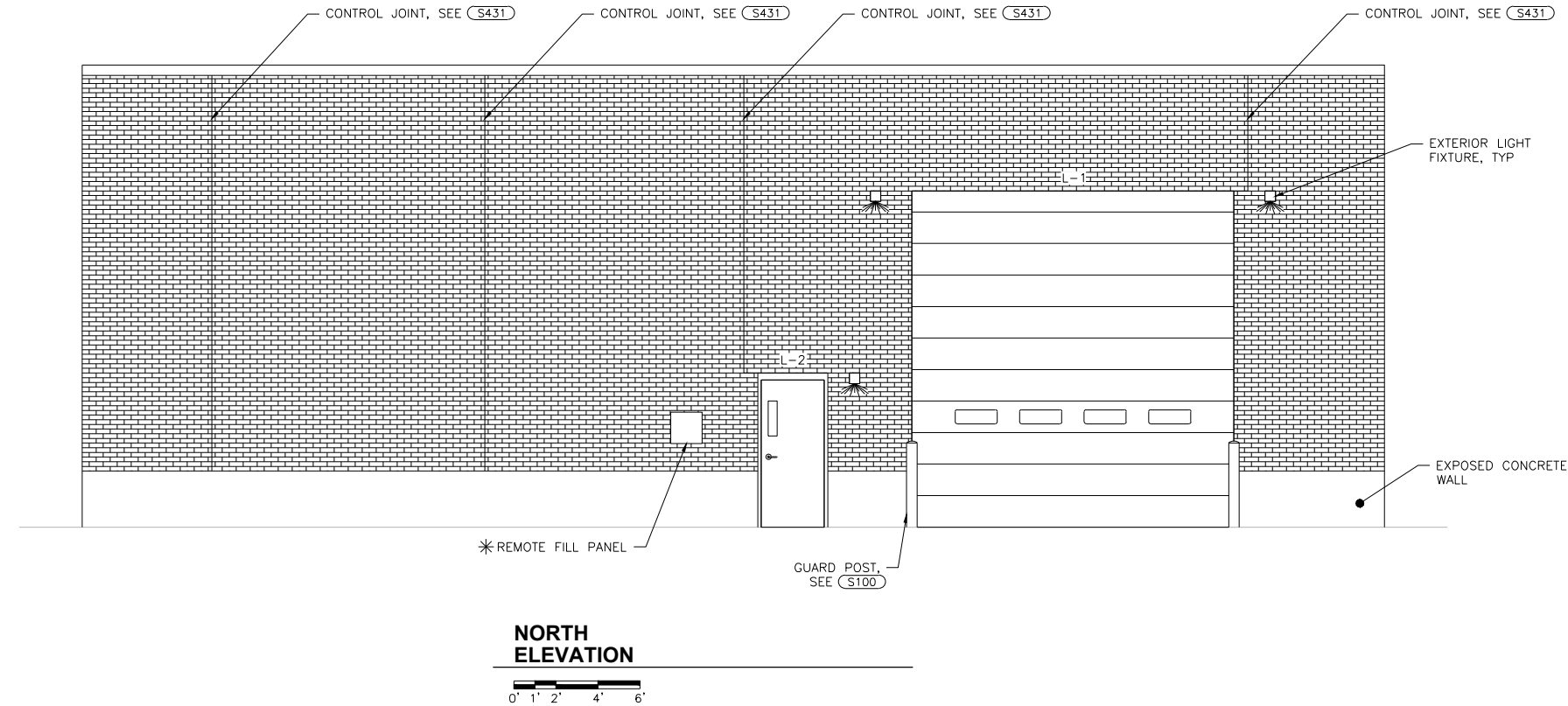
BRINING BUILDING: ELEVATIONS - 1

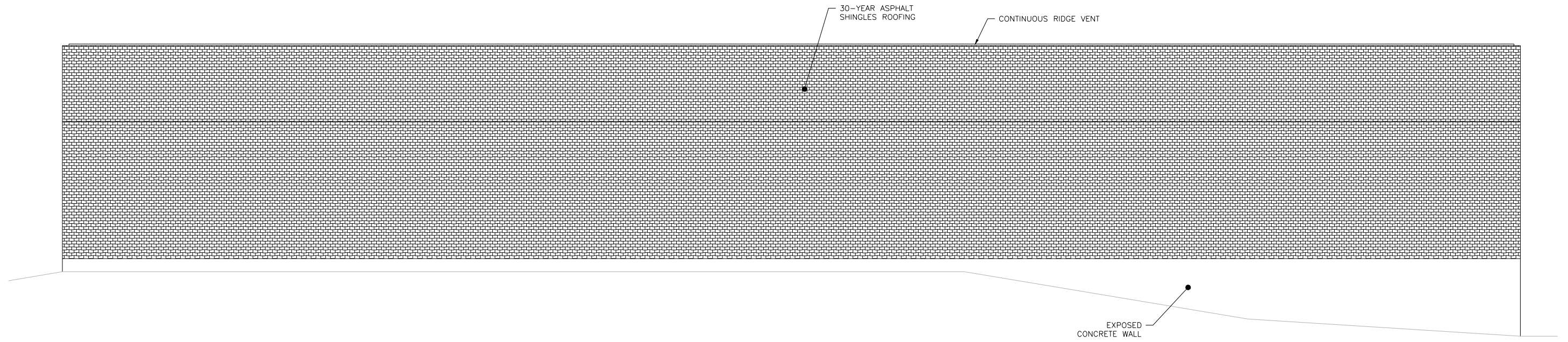
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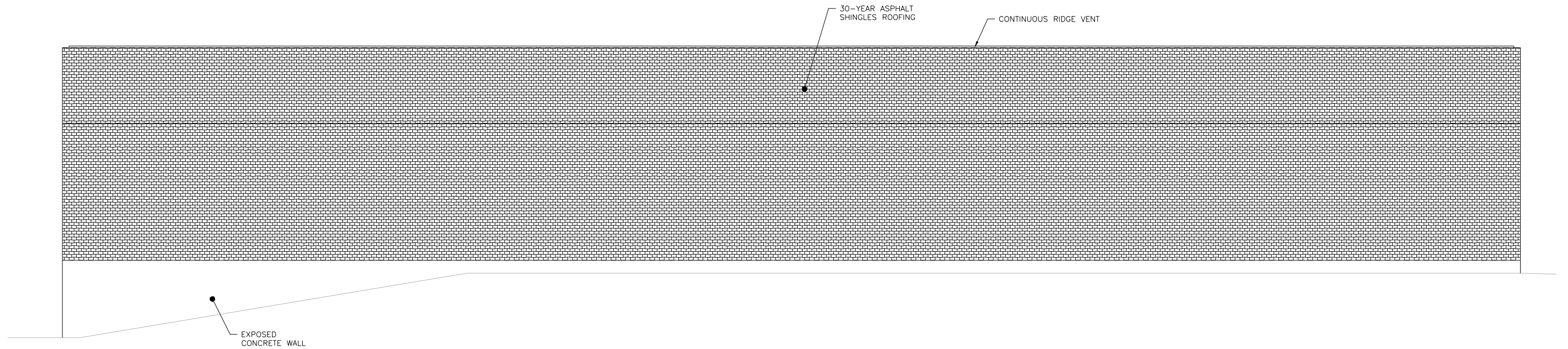
GENERAL NOTES:

1. * = EQUIPMENT AND PIPING PROVIDED AND INSTALLED BY OTHERS AND IS NOT INCLUDED IN THE SCOPE OF WORK.



**EAST
ELEVATION**

0' 2' 4' 8' 12'

**WEST
ELEVATION**

0' 2' 4' 8' 12'

SHEET
AS5.02

PROJECT NO: 1060-62-70

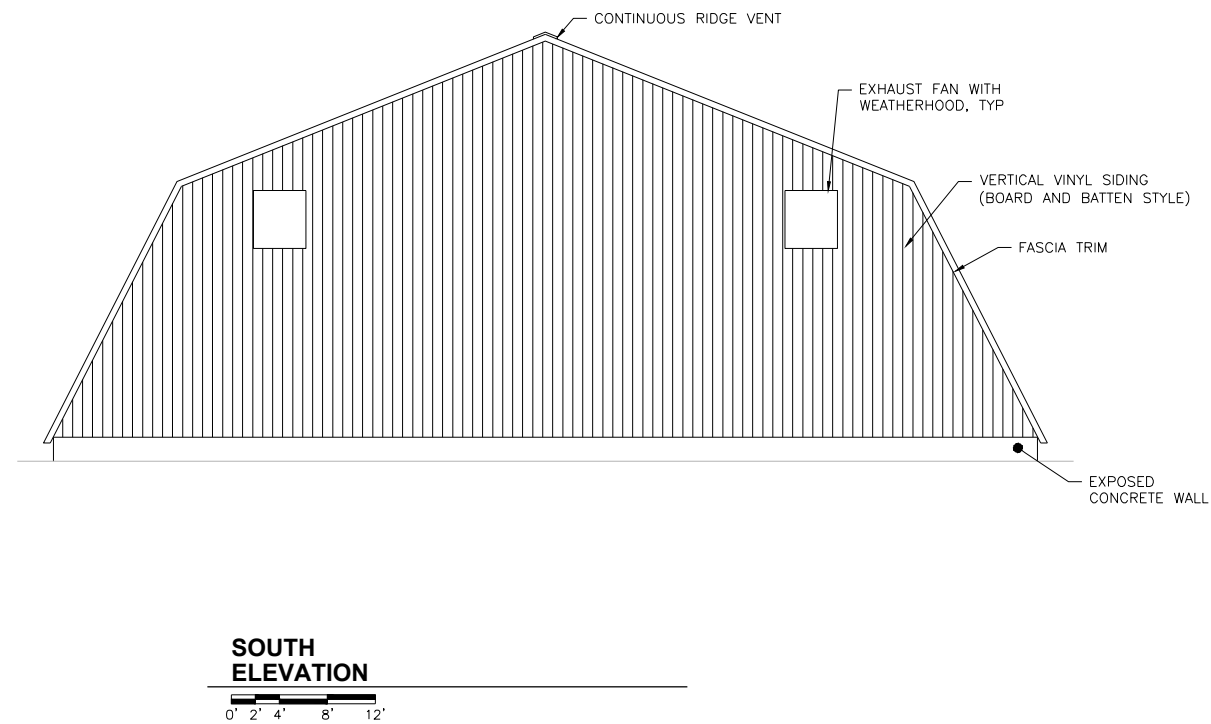
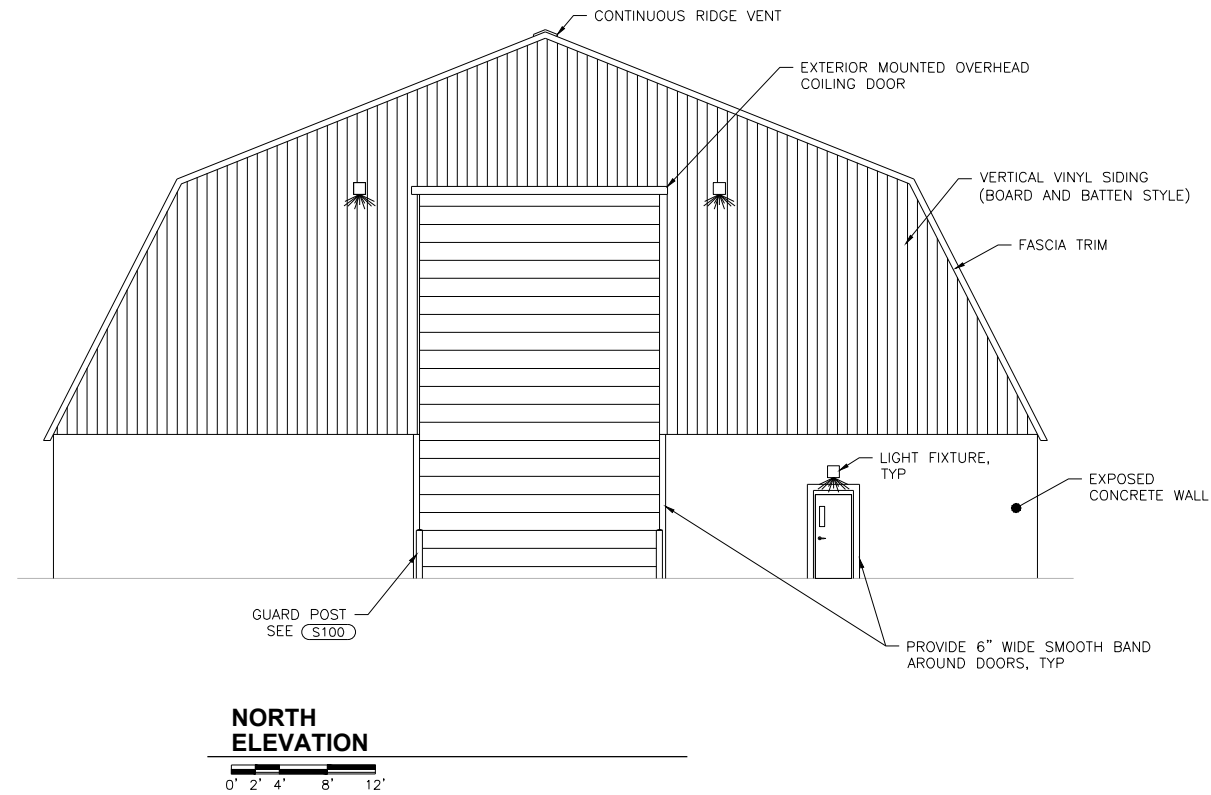
HWY: GRANDVIEW BOULEVARD

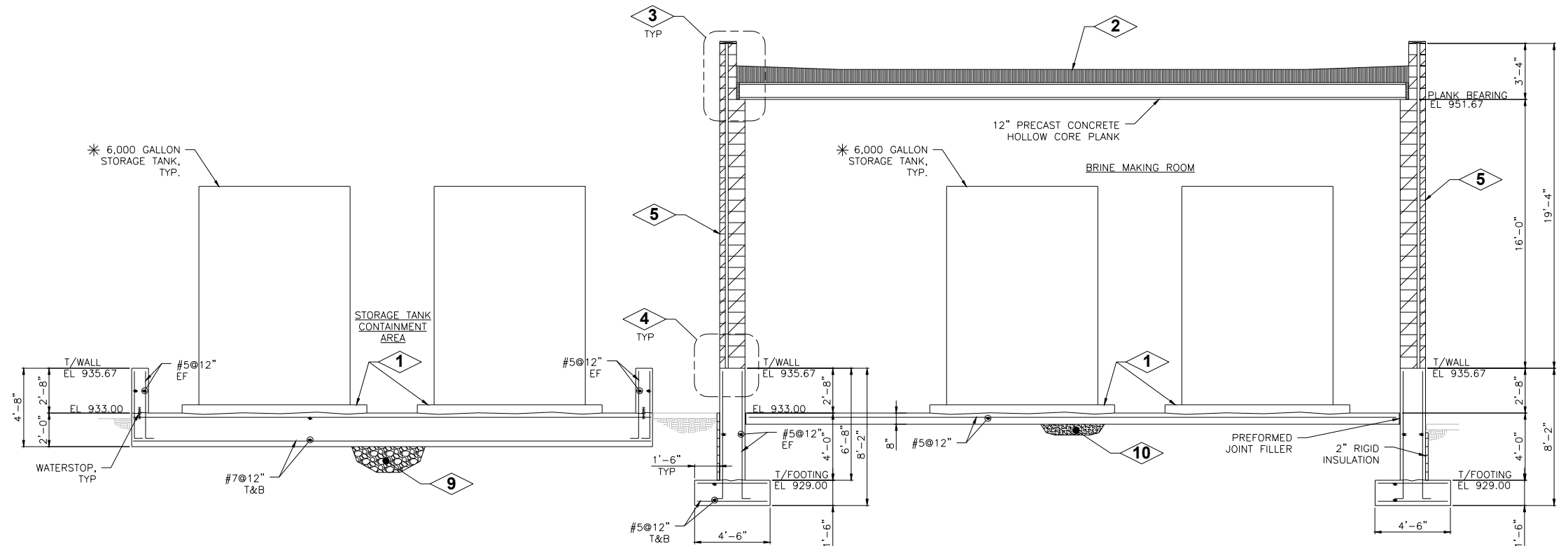
COUNTY: WAUKESHA

SALT STORAGE SHED: ELEVATIONS - 1

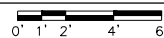
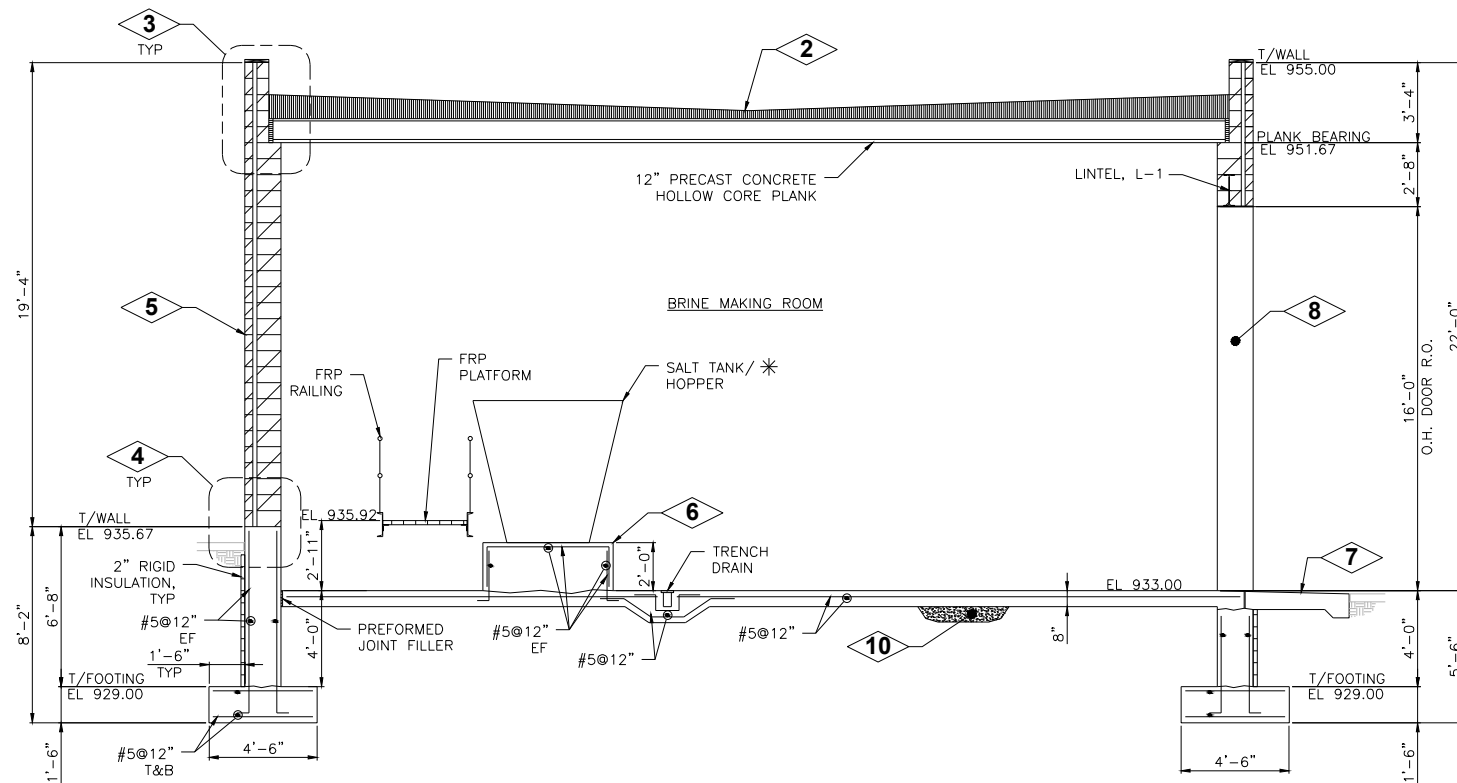
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E

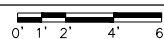




SECTION A

AS2.01
AS2.03
AS2.04

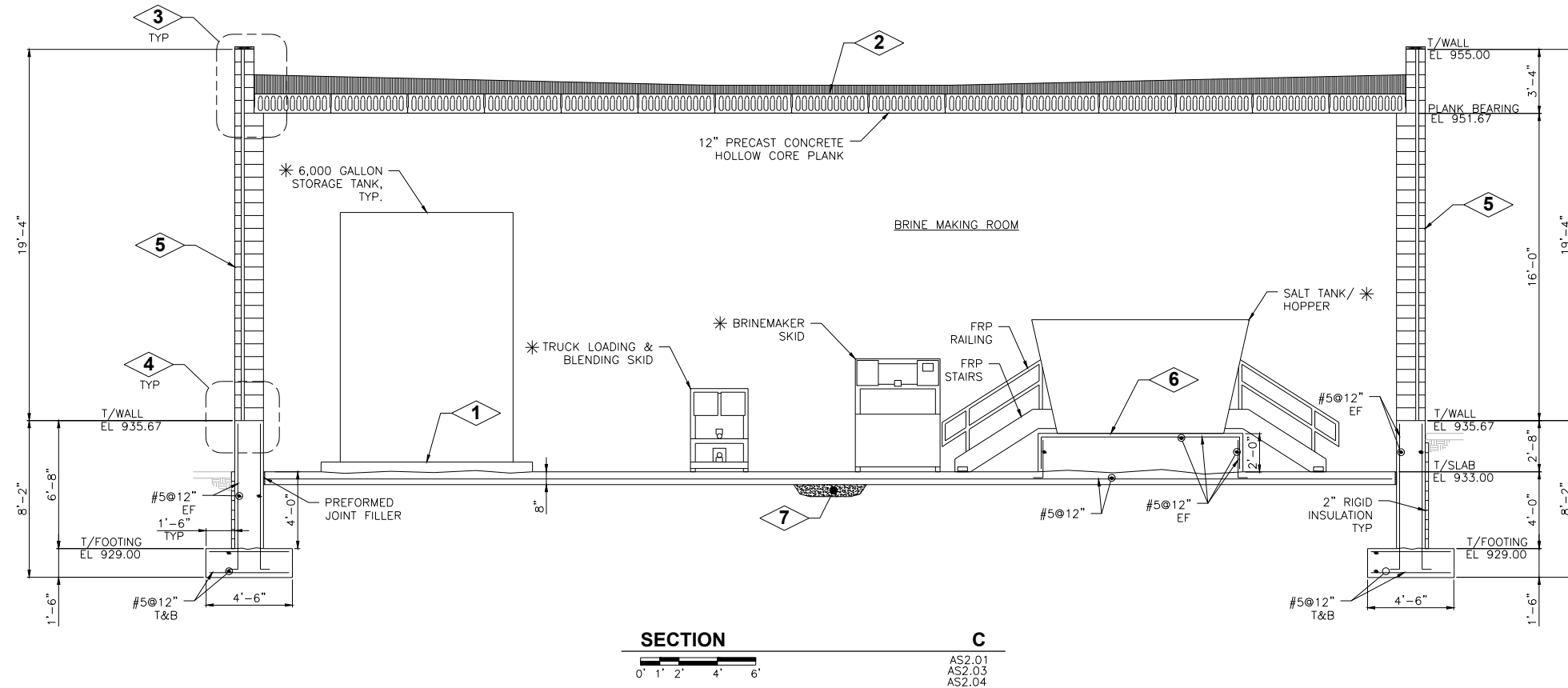
SECTION B

AS2.01
AS2.03
AS2.04**GENERAL NOTES:**

1. * = EQUIPMENT AND PIPING PROVIDED AND INSTALLED BY OTHERS AND IS NOT INCLUDED IN THE SCOPE OF WORK.

PLAN NOTES:

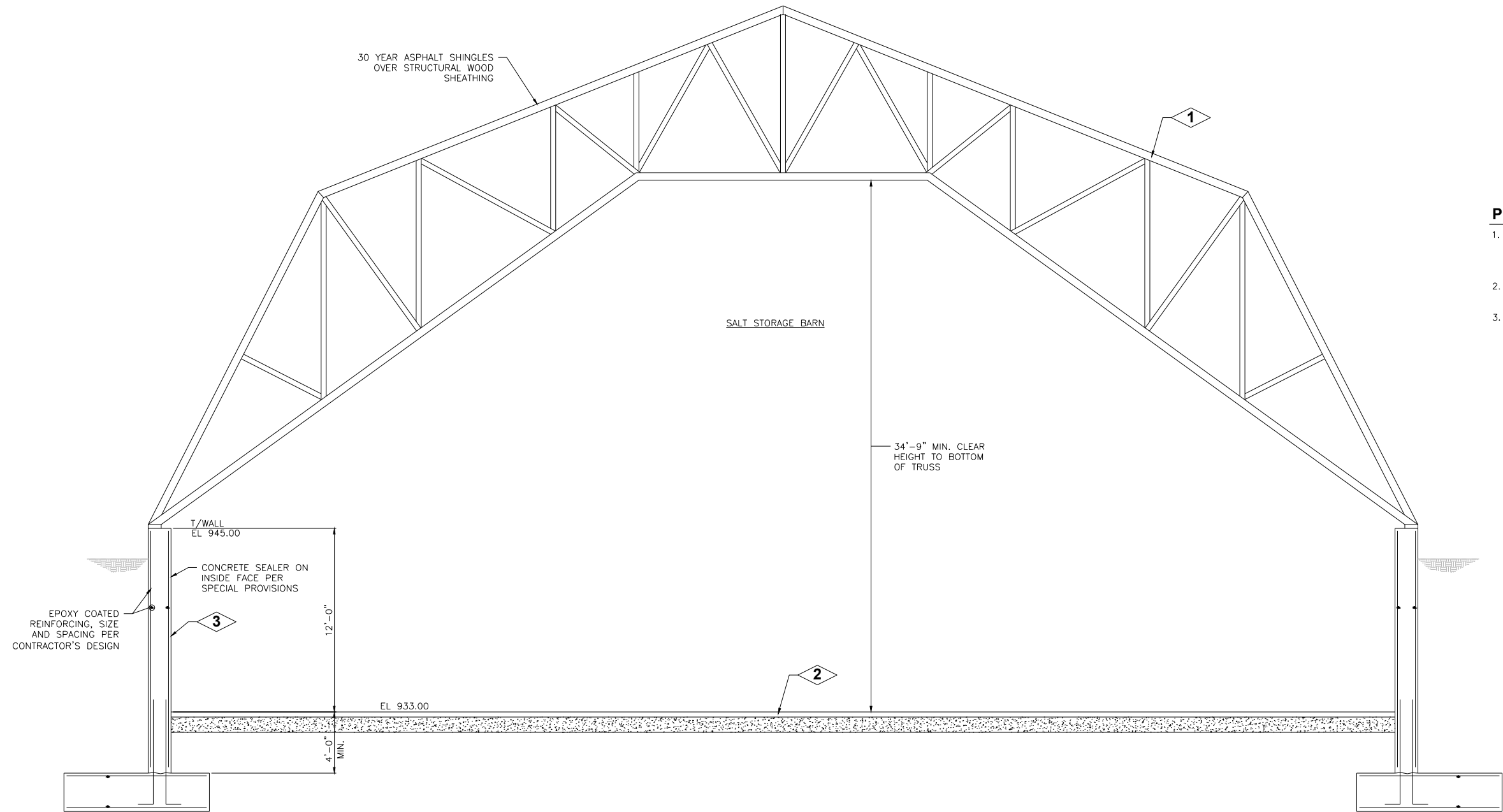
- EQUIPMENT PAD, SEE (S342).
- FULLY ADHERED EPDM MEMBRANE ROOFING OVER TAPERED INSULATION. PROVIDE SADDLES AND CRICKETS AS REQUIRED AT ROOF OPENINGS. MINIMUM INSULATION THICKNESS IS 2".
- ROOF EDGE DETAIL, SEE (A432).
- WALL BASE DETAIL, SEE (A402).
- 12" CMU, 2" RIGID INSULATION, 4" DECORATIVE BRICK. SEE PLAN FOR REINFORCEMENT.
- CONCRETE PEDESTAL: 10'-8"(L) x 5'-5"(W) x 2'-0"(H).
- 17'-4"x4'-0" APPROACH SLAB, SEE (S365).
- DOOR JAMB PLATE, SEE (A804).
- PROVIDE 14" THICK BASE COURSE OF AGGREGATE DENSE 3/4" PER WISDOT SPECIFICATION SECTION 305. PROVIDE FILTER FABRIC BELOW BASE AGGREGATE.
- PLACE SLAB-ON-GRADE OVER A 15 MIL POLY VAPOR RETARDER OVER A MINIMUM 4" THICK FREE DRAINING AGGREGATE BASE COURSE.

**GENERAL NOTES:**

1. * = EQUIPMENT AND PIPING PROVIDED AND INSTALLED BY OTHERS AND IS NOT INCLUDED IN THE SCOPE OF WORK.

PLAN NOTES:

1. EQUIPMENT PAD, SEE (S342).
2. FULLY ADHERED EPDM MEMBRANE ROOFING OVER TAPERED INSULATION. PROVIDE SADDLES AND CRICKETS AS REQUIRED AT ROOF OPENINGS. MINIMUM INSULATION THICKNESS IS 2".
3. ROOF EDGE DETAIL, SEE (A432).
4. WALL BASE DETAIL, SEE (A402).
5. 12" CMU, 2" RIGID INSULATION, 4" DECORATIVE BRICK. SEE PLAN FOR REINFORCEMENT.
6. CONCRETE PEDESTAL: 10'-8"(L) x 5'-5"(W) x 2'-0"(H).
7. PLACE SLAB-ON-GRADE OVER A 15 MIL POLY VAPOR RETARDER OVER A MINIMUM 4" THICK FREE DRAINING AGGREGATE BASE COURSE.



PLAN NOTES:

- 1. HEAVY TIMBER ROOF TRUSSES SHOWN CONCEPTUALLY. ACTUAL DIMENSIONS AND PROFILE TO BE DESIGNED BY MANUFACTURER. REFER TO SPECIFICATIONS FOR DESIGN REQUIREMENTS.
- 2. FLOOR SLAB TO BE 4" ASPHALT OVER 12" OF 1-1/4" DENSE BASE COURSE.
- 3. WALL AND FOOTING SIZE AND THICKNESS SHOWN CONCEPTUALLY. ACTUAL DIMENSIONS TO BE SIZED IN ACCORDANCE WITH THE CONTRACTOR'S BUILDING DESIGN. SEE SPECIAL PROVISIONS FOR DESIGN CRITERIA.

SECTION D
AS2.02
0' 1' 2' 4' 6'

COPING COVER

CONTINUOUS ANCHOR CLIP

CONCEALED SPLICE PLATE AT EACH JOINT

HEX HEAD FASTENERS

CONTINUOUS TREATED WOOD NAILER ANCHORED @ 32' O.C.

MIN 2"

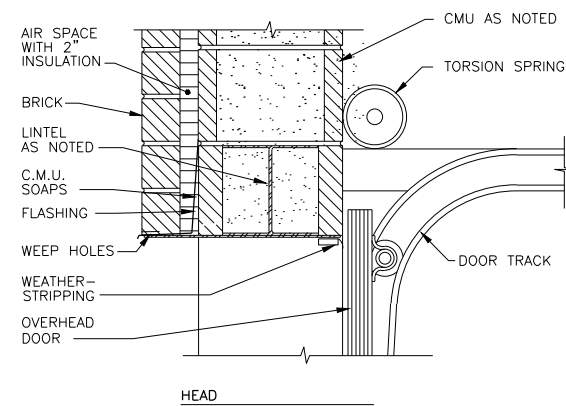
EPDM MEMBRANE

BONDING ADHESIVE

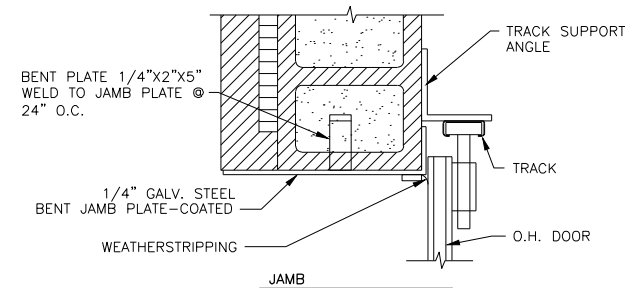
METAL COPING DETAIL

A700

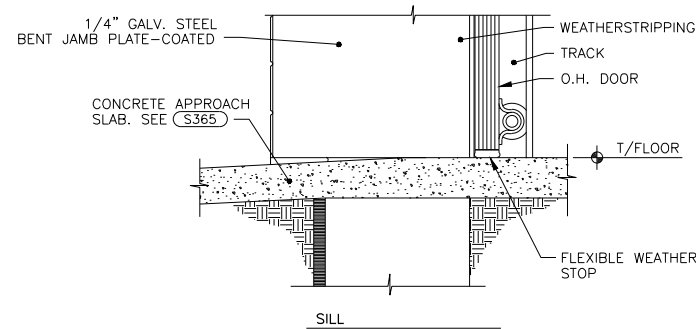
NTS



HEAD



JAMB

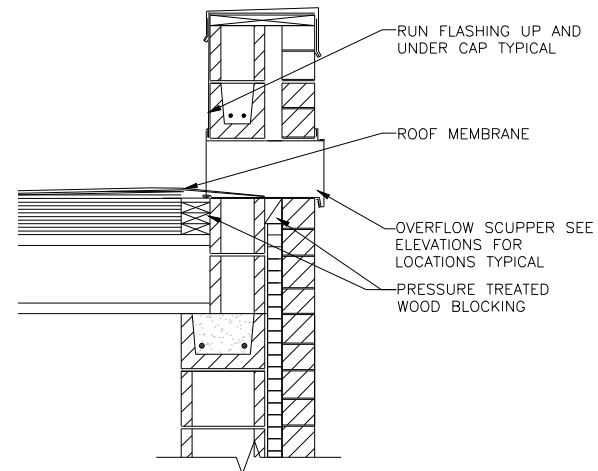


SILL

OVERHEAD DOOR

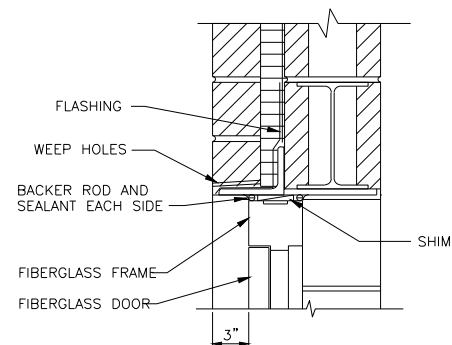
A804

NTS



OVERFLOW SCUPPER DETAIL A780

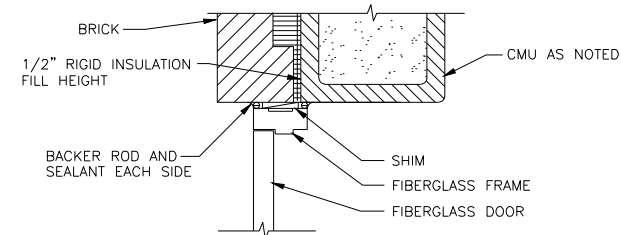
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EXTERIOR FIBERGLASS DOOR HEAD

A833

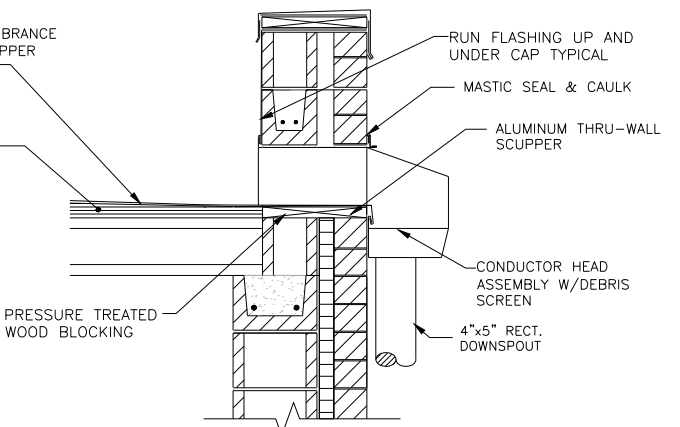
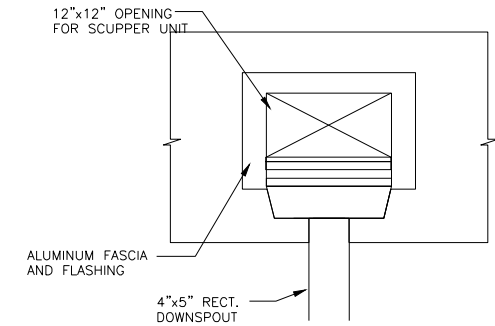
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EXTERIOR FIBERGLASS DOOR JAMB

A834

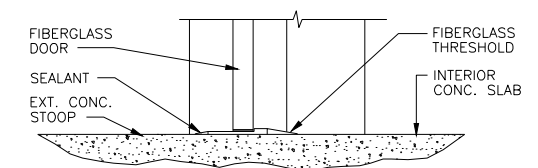
NTS



SCUPPER DETAIL

A781

NTS



EXTERIOR FIBERGLASS DOOR SILL

A835

NTS

GENERAL STRUCTURAL NOTES

GENERAL

1. THE GENERAL STRUCTURAL NOTES AND STANDARD STRUCTURAL DETAILS APPLY TO THE ENTIRE PROJECT UNLESS SPECIFICALLY NOTED OTHERWISE.
- DESIGN CRITERIA
1. DESIGN AND CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE PROVISIONS OF THE WISCONSIN COMMERCIAL BUILDING CODE AND THE INTERNATIONAL BUILDING CODE BY REFERENCE.
2. SUPERIMPOSED DESIGN LOADS

A. WIND LOAD:

B. FLAT ROOF SNOW LOAD:

C. ROOFING DEAD LOAD:

D. MECHANICAL EQUIPMENT:

E. STAIRS AND WALKWAYS:

F. FLOOR SLABS

1. BRINING BUILDING:

PER ASCE 7

21 PSF

25 PSF

VERIFY WITH EQUIPMENT SUPPLIER

100 PSF OR

1000 LBS CONCENTRATED

150 PSF OR 10,000 LBS VEHICLE LOAD

FOUNDATIONS

1. GEOTECHNICAL INVESTIGATION BY PROFESSIONAL SERVICE INDUSTRIES, INC.
2. NET SOIL BEARING CAPACITIES PER GEOTECHNICAL INVESTIGATION:

A. BRINING BUILDING

B. SALT SHED

4000 PSF

4000 PSF
3. PLACE FOOTINGS ON NATURAL UNDISTURBED EARTH OR STRUCTURAL FILL
4. PLACE FILL AGAINST FOUNDATION WALLS ENCLOSING INTERIOR SPACES AFTER CONSTRUCTION SUCH AS CROSS WALLS, BEAMS OR SLABS ARE IN PLACE TO BRACE WALL AND SUCH CONSTRUCTION HAS REACHED ITS DESIGN STRENGTH.
5. TO MINIMIZE LATERAL FORCES AGAINST THE STRUCTURE DUE TO WEDGING ACTION OF THE SOIL, BEGIN COMPACTION OF EACH LAYER AT THE STRUCTURE WALL.

REINFORCEMENT

1. REINFORCEMENT STEEL

A. DEFORMED BARS:

B. WELDED WIRE FABRIC (WWF):

ASTM A615 – GRADE 60

ASTM A185
2. UNLESS NOTED OTHERWISE PROVIDE CLEAR COVER FOR REINFORCEMENT AS FOLLOWS:

A. CAST AGAINST:

1. EARTH:

2. MUD SLAB:

3 INCHES

2 INCHES

B. EXPOSED TO EARTH, WEATHER, OR WATER

1. SLABS

A. #5 BARS OR SMALLER:

B. #6 THROUGH #11 BARS:

1 1/2 INCHES

2 INCHES

2. WALLS, BEAMS, AND COLUMNS:

2 INCHES

C. NOT EXPOSED TO EARTH, WEATHER, OR WATER

1. SLABS AND WALLS

A. #3 THROUGH #7 BARS:

B. #8 THROUGH #11 BARS:

1 INCH

1 1/2 INCHES

2. BEAMS AND COLUMNS:

1 1/2 INCHES
3. PLACE DOWELS BEFORE PLACING CONCRETE.
4. DO NOT FIELD WELD OR FIELD BEND REINFORCING BARS.

CONCRETE

1. DESIGN STRENGTH

A. INTERIOR EQUIPMENT BASES AND WHERE SPECIFICALLY NOTED

CLASS B:

F'C = 3000 PSI

B. ALL LOCATIONS, EXCEPT WHERE CLASS B SPECIFIED

CLASS A:

F'C = 4000 PSI

F'C = 4000 PSI
2. PROVIDE WATERSTOP IN CONSTRUCTION JOINTS WHERE SHOWN.
3. UNLESS NOTED OTHERWISE, CONSTRUCTION JOINTS SHOWN ARE OPTIONAL CONSTRUCTION JOINTS NOT SHOWN SHALL BE APPROVED BY ENGINEER.
4. LIMIT SIZE OF CONCRETE POURS. MAXIMUM LENGTH OF WALL AND SLAB POURS SHALL NOT EXCEED 60 FT.
5. BEFORE CONCRETE IS PLACED, CONSTRUCTION JOINTS SHALL BE CLEANED, LAITANCE REMOVED, AND SURFACE WETTED. REMOVE STANDING WATER.
6. LOCATE CONSTRUCTION JOINTS IN FLOORS WITHIN MIDDLE THIRD OF SPAN. CONSTRUCTION JOINTS IN FLOORS SUPPORTED BY WALLS MAY BE LOCATED AT CENTER OF WALL.
7. LOCATE VERTICAL JOINTS IN WALL A MIN OF ONE-HALF WALL HEIGHT FROM CORNERS OR OTHER INTERSECTING WALLS. LOCATE HORIZONTAL JOINTS IN WALLS WITHIN THE MIDDLE THIRD OF WALL HEIGHT.
8. CONSTRUCTION JOINTS SHALL HAVE KEYS OR ROUGHENED SURFACES. WHERE ROUGHENED SURFACE IS USED, SURFACE SHALL HAVE AMPLITUDE OF 1/4 IN. MIN.
9. PROVIDE 3/4 IN. CHAMFER ON EXTERNAL CORNERS OF EXPOSED EDGES OF CONSTRUCTION JOINTS.
10. VERIFY EQUIPMENT PAD AND CURB LOCATIONS, DIMENSIONS, AND ELEVATIONS WITH EQUIPMENT MANUFACTURERS.

MASONRY

1. MASONRY OPENINGS LESS THAN 4 FT IN WIDTH THAT DO NOT HAVE A LINTEL SCHEDULED SHALL HAVE AN 8 IN. HIGH REINFORCED MASONRY LINTEL WITH 2-#5 BARS OR DOUBLE ANGLE STEEL ANGLE LINTEL.
2. UNLESS NOTED OTHERWISE, PROVIDE A CONTINUOUS BOND BEAM REINFORCED WITH 2-#5 AROUND THE TOP OF BUILDINGS.
3. UNLESS NOTED OTHERWISE, PROVIDE HORIZONTAL MASONRY REINFORCING IN WALLS AT 16 IN. ON CENTER.
4. FILL JAMB CORES OR OPENINGS OVER 3 FT IN WIDTH WITH MASONRY GROUT FROM BOTTOM OF LINTEL TO BOTTOM OF WALL. REINFORCE CORES WHERE NOTED.
5. BRACE MASONRY WALLS UNTIL ROOF OR FLOOR SYSTEM IS IN PLACE.
6. DESIGN STRENGTH (TYPICAL):
- F'M = 1500 PSI (MIN.)

METALS

1. STEEL

A. STRUCTURAL STEEL:

WF, WT SECTIONS

ALL OTHER SECTIONS AND PLATES

ASTM A992

ASTM A36

B. SQUARE OR RECTANGULAR TUBE:

ASTM A500

C. PIPE:

ASTM A53

D. BOLTED CONNECTIONS:

ASTM A325
2. ALUMINUM

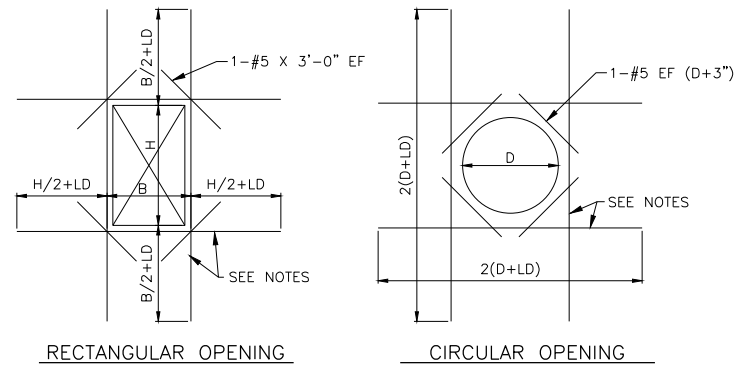
A. SHAPES AND PLATES:

ALLOY 6061-T6 OR 6063-T6
3. WELD STRUCTURAL STEEL WITH E70XX ELECTRODES IN ACCORDANCE WITH AWS REQUIREMENTS.
4. WELD ALUMINUM IN ACCORDANCE WITH AWS AND AA REQUIREMENTS.
5. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE IN ACCORDANCE WITH AA REQUIREMENTS. UNDER NO CIRCUMSTANCES SHALL ALUMINUM CONTACT DISSIMILAR METALS.

MISCELLANEOUS

1. VERIFY PERTINENT EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING CONSTRUCTION AND/OR FABRICATION.
2. DO NOT FIELD CUT PRESTRESSING STRANDS IN PRECAST PRESTRESSED CONCRETE MEMBERS WITHOUT WRITTEN APPROVAL OF FABRICATOR AND ENGINEER.
3. FOR ADDITIONAL OPENINGS, ANCHORS, AND EMBEDDED ITEMS SEE ARCHITECTURAL, PROCESS, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS.

MINIMUM REINFORCEMENT BAR SPLICE AND ANCHORAGE LENGTH (INCHES) S010					
BAR SIZE	LAPPED SPLICE LENGTH		EMBEDMENT LENGTH		COMPRESSION LAP LENGTH
	TOP BARS	OTHERS	TOP BARS	OTHERS	
3	18	16	14	12	12
4	24	19	19	15	15
5	30	23	23	18	19
6	36	28	28	22	23
7	43	33	33	26	26
8	57	44	44	34	30
9	72	56	56	43	34
10	92	70	70	54	38
11	112	86	86	67	42
NOTES:					
1. TOP BARS ARE HORIZONTAL BARS SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.					
2. FOR BARS SPACED LESS THAN 6 BAR DIAMETER OC INCREASE LENGTH BY 25%.					
3. WHEN LAPPING TWO DIFFERENT SIZE BARS USE THE LAP LENGTH OF THE SMALLER BAR UNLESS NOTED OTHERWISE.					
4. EMBEDMENT LENGTH IS MINIMUM LENGTH OF EMBEDMENT FOR STRAIGHT DOWELS WHERE END HOOK IS NOT SHOWN, UNLESS OTHERWISE NOTED.					
5. COMPRESSION LAP LENGTH FOR VERICAL COLUMN BARS ONLY.					
6. HOOKS SHALL BE ACI STANDARD UNLESS OTHERWISE NOTED.					
7. FOR EPOXY COATED REINFORCEMENT, INCREASE LENGTH BY 20% FOR TOP BARS AND 50% FOR OTHERS.					

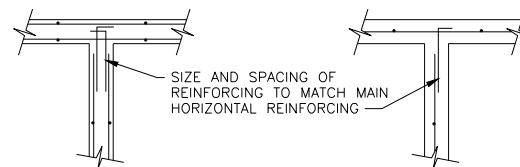
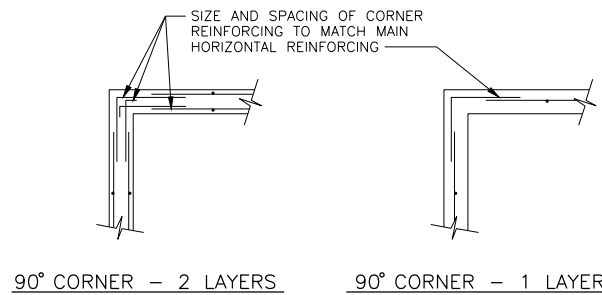
**NOTES:**

1. THESE DETAILS APPLY TO ALL OPENINGS IN CONCRETE WALLS AND SLABS WHEN THE LARGEST OPENING DIMENSION IS GREATER THAN TWO TIMES SECTION THICKNESS OR GREATER THAN REINFORCING SPACING IN THE SECTION, UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
2. THE AREA OF ADDITIONAL REINFORCING REQUIRED IN EACH FACE ON EACH SIDE OF AN OPENING SHALL EQUAL OR EXCEED ONE-HALF OF THE AREA OF THE INTERCEPTED BARS IN EACH FACE, IN EACH DIRECTION, RESPECTIVELY WITH A MINIMUM OF 1-#5 BAR EACH FACE.
3. PLACE THE ADDED BARS IN THE SAME LAYERS AS THE WALL OR SLAB REINFORCING.
4. LD = EMBEDMENT LENGTH. SEE (S010)

**ADDITIONAL REINFORCEMENT
AT OPENINGS IN WALLS
AND SLABS DETAIL**

S020

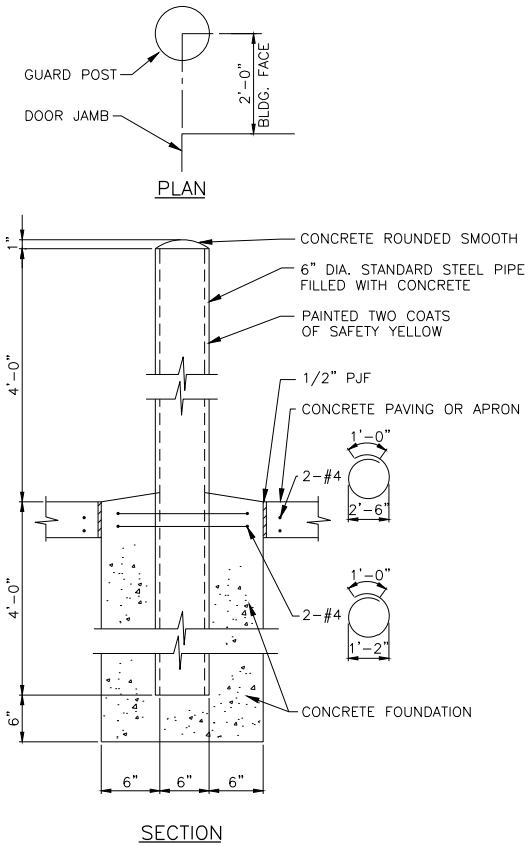
NTS



**HORIZONTAL
REINFORCEMENT DETAIL**

S030

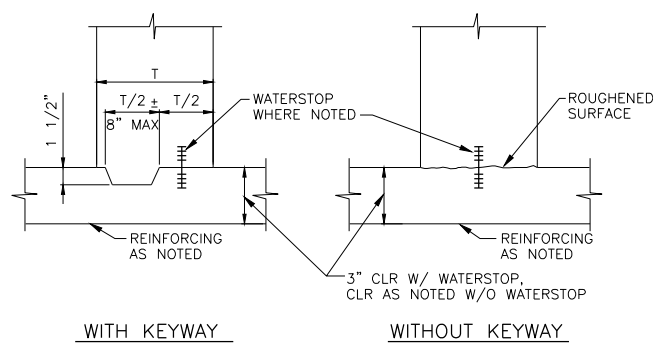
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GUARD POST DETAIL

S100

NTS

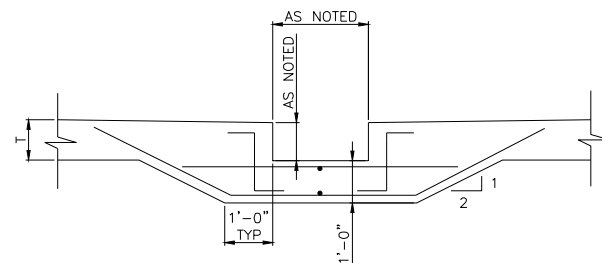


BASE OF WALL

**CONSTRUCTION
JOINT DETAILS**

S300

NTS

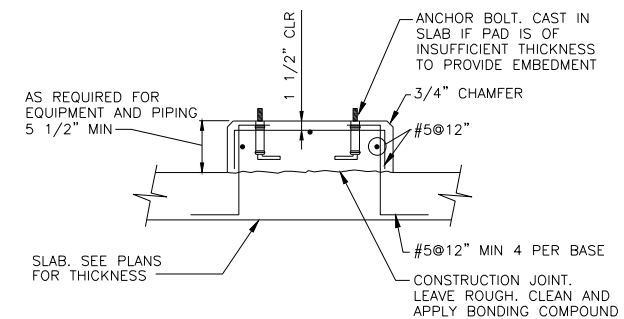
**NOTES:**

1. REINFORCEMENT #5@ 12" AS SHOWN.
1. T = SLAB THICKNESS, SEE PLAN.

SUMP DETAIL

S339

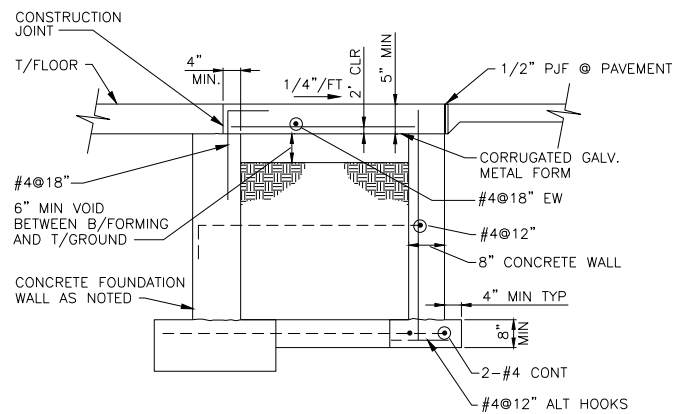
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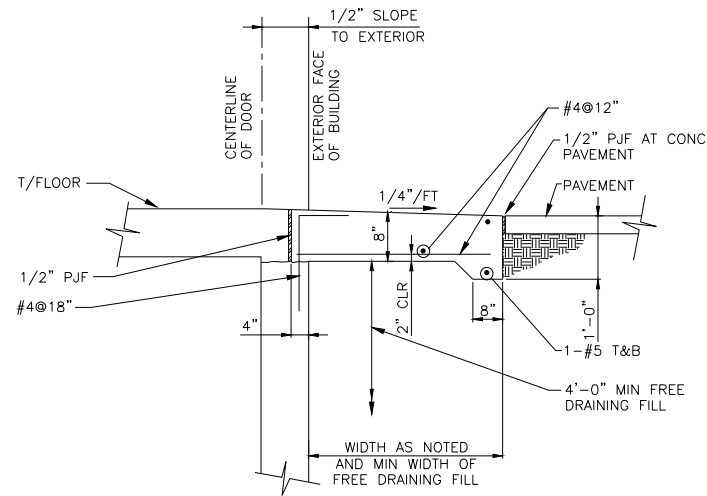
EQUIPMENT PAD DETAIL

S342

NTS

**DOOR STOOP DETAIL S362**

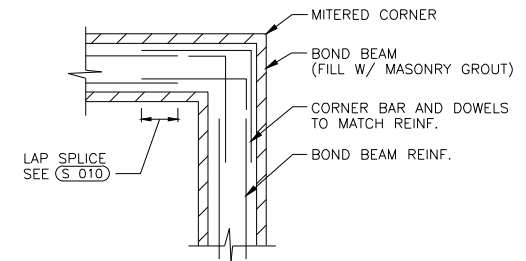
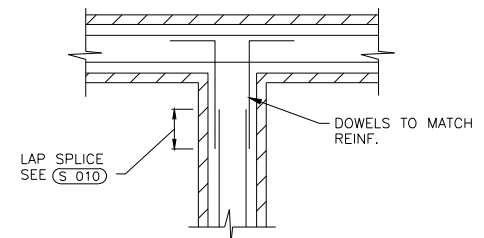
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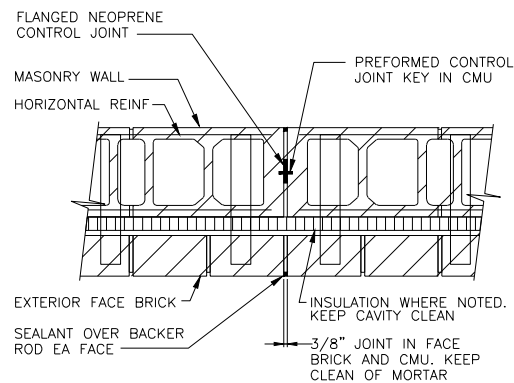
NOTES:
1. FREE DRAINING FILL MUST BE KEPT CLEAN UNTIL SLAB IS POURED.

APPROACH SLAB DETAIL S365

NTS

**CORNER****INTERSECTION****BOND BEAM REINFORCEMENT DETAIL S400**

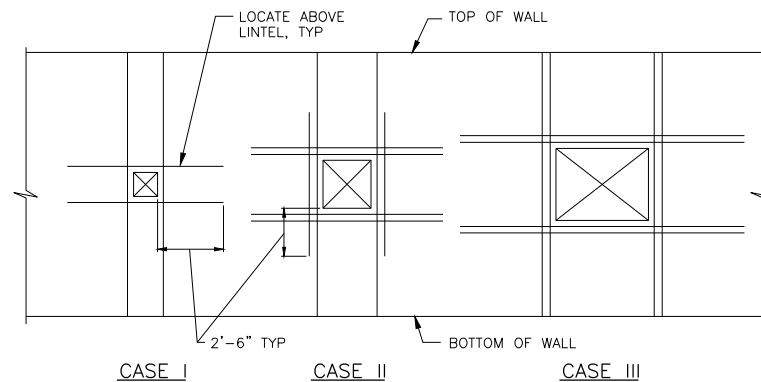
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NOTES:
1. DISCONTINUE HORIZONTAL REINFORCING AT CONTROL JOINT.

BRICK AND CMU CONTROL JOINT DETAIL S431

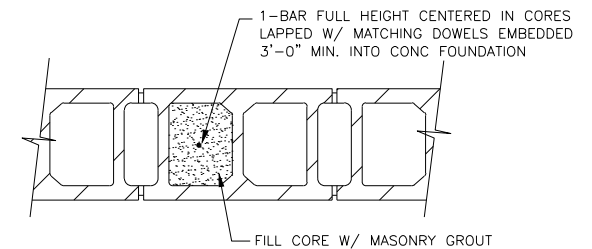
NTS



NOTES:
1. ALL REINFORCING SHOWN TO BE #4 BARS. SEE (S451).
2. CASE I APPLIES TO ALL OPENINGS GREATER THAN 100 SQ INCHES WITH LARGEST DIMENSION LESS THAN 2'-0".
3. CASE II APPLIES TO ALL OPENINGS WITH ANY DIMENSION GREATER THAN OR EQUAL TO 2'-0" BUT LESS THAN 4'-0".
4. CASE III APPLIES TO ALL OPENINGS WITH ANY DIMENSION GREATER THAN OR EQUAL TO 4'-0".

ADDITIONAL MASONRY REINF AT OPENINGS DETAIL S440

NTS

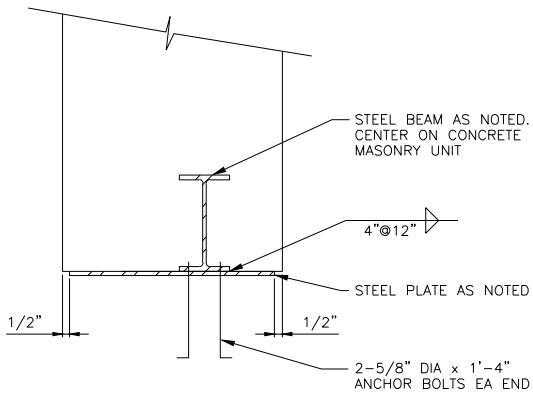


NOTES:
1. REINFORCING SIZE AND SPACING AS NOTED.
2. LAP LENGTHS: #4 BAR = 1'-8", #5 BAR = 2'-2"

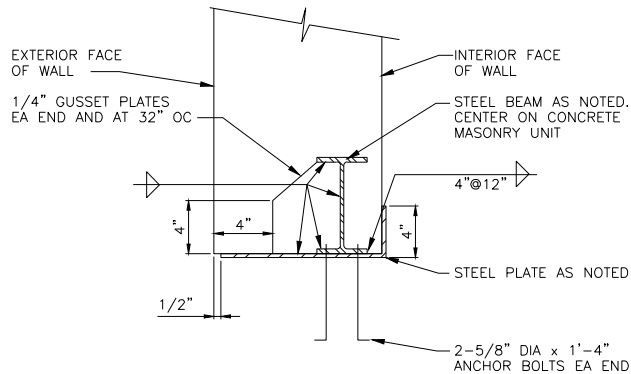
REINFORCED MASONRY DETAIL S451

NTS

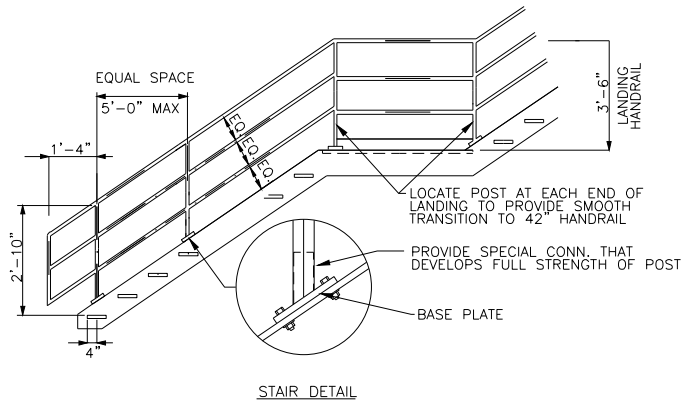
LINTEL SCHEDULE S510			
MARK	DESCRIPTION	TYPE	REMARKS
L-1	W16x26 W/ 5/16" P	I	8" BEARING EACH END. SEE S514
L-2	W8x18 W/ 5/16" P	I	8" BEARING EACH END. SEE S513
NOTES: 1. MASONRY OPENINGS LESS THAN 4'-0" IN WIDTH THAT DO NOT HAVE A LINTEL SCHEDULED SHALL HAVE A BOND BEAM WITH 2-#5 BARS OR STEEL ANGLE LINTEL WITH A TOTAL WIDTH OF HORIZONTAL LEGS APPROXIMATELY 1" LESS THAN WALL THICKNESS. 2. PROVIDE A MINIMUM OF 8" BEARING AT EACH END FOR STEEL BEAM LINTELS AND BOND BEAM LINTELS AND 6" BEARING AT EACH END FOR ANGLE LINTELS UNLESS NOTED OTHERWISE. 3. HOT DIP GALVANIZE LINTELS AFTER FABRICATION.			



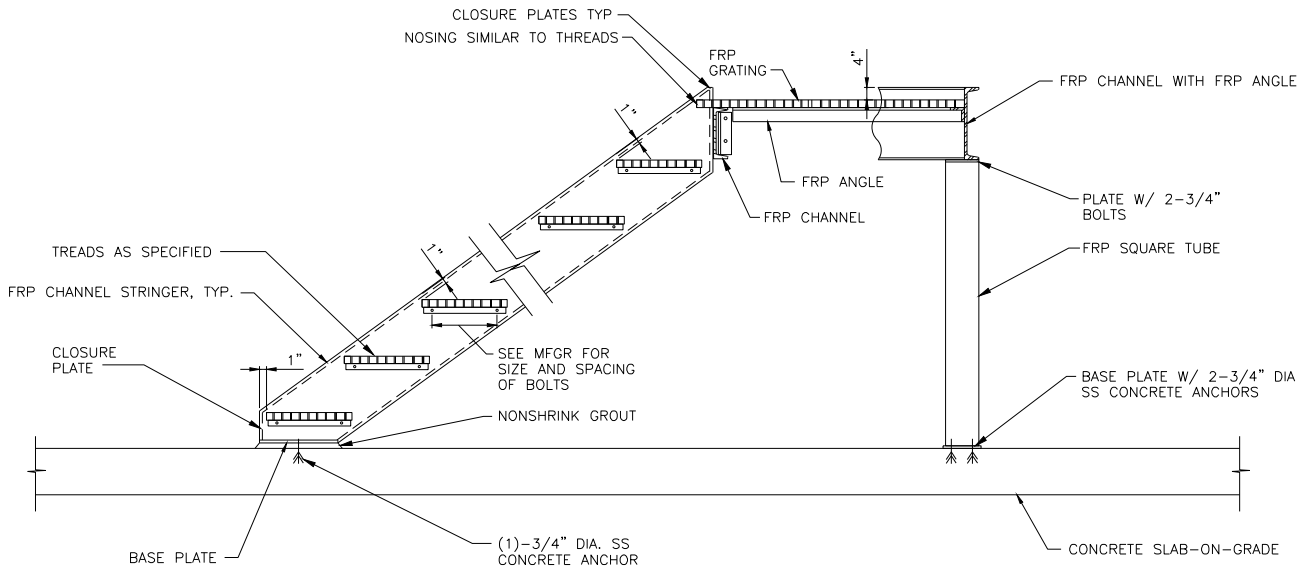
STEEL LINTEL DETAIL S513
NTS



STEEL LINTEL DETAIL S514
NTS

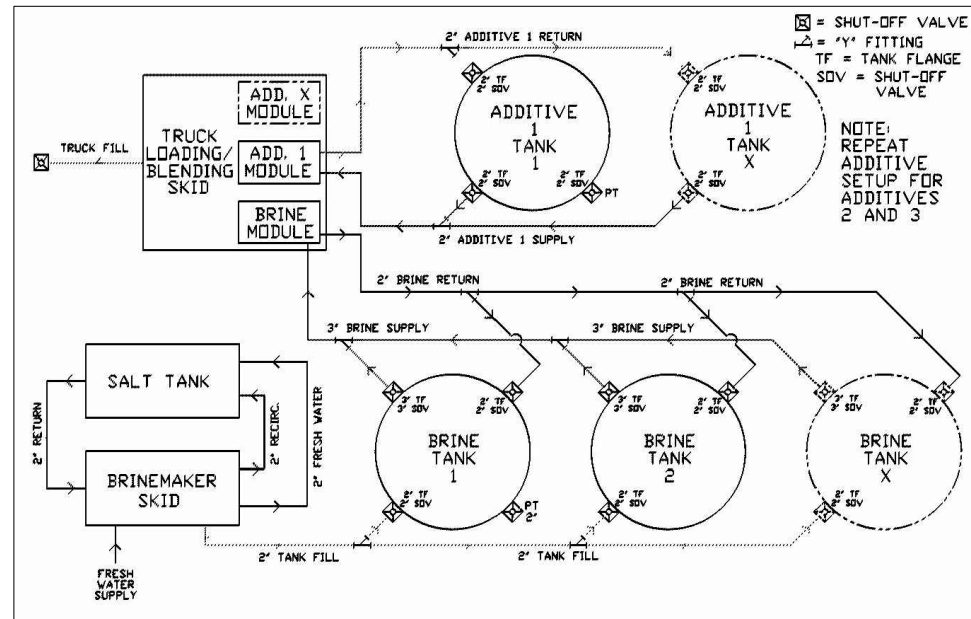


RAILING DETAIL S530
NTS



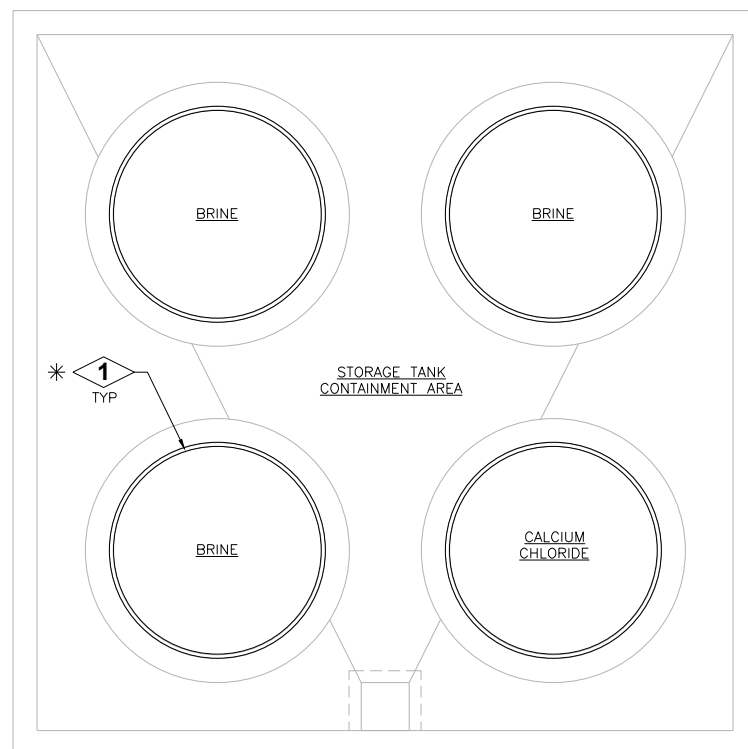
- NOTES:
1. SPACE STRINGERS 3'-0" CLEAR MIN.
 2. SEE DRAWINGS FOR SIZE AND NUMBER OF RISERS AND TREADS.
 3. HANDRAIL NOT SHOWN FOR CLARITY.

FRP STAIR DETAIL S575
NTS



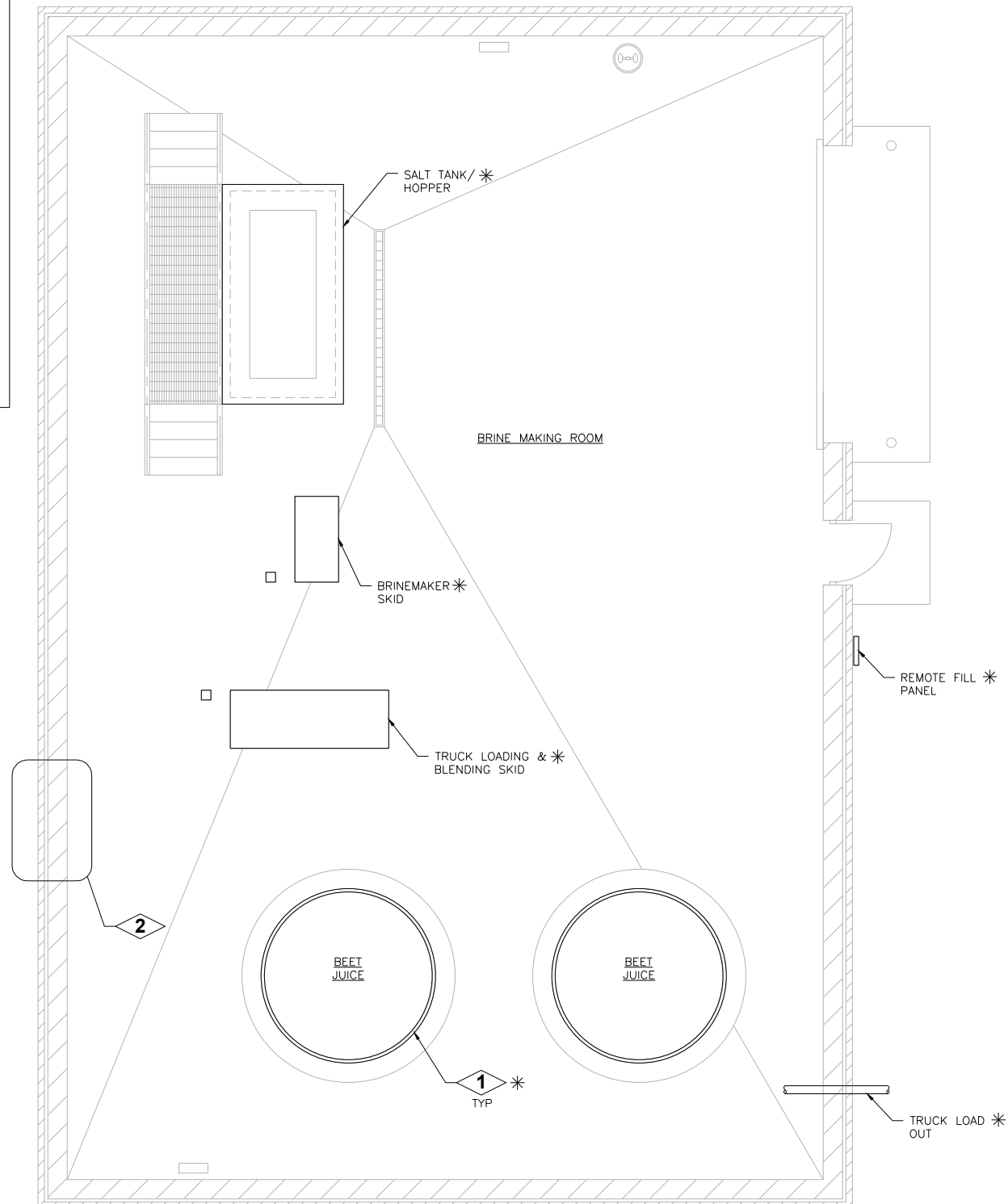
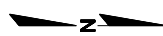
PLUMBING SCHEMATIC FOR STORAGE TANKS

EQUIPMENT AND PIPING IS SUPPLIED AND INSTALLED BY OTHERS. SCHEMATIC IS PRELIMINARY IN NATURE AND SHOWS THE GENERAL LAYOUT FOR THE BRINING PROCESS. ACTUAL LAYOUT AND ARRANGEMENT WILL BE DETERMINED BY THE EQUIPMENT SUPPLIER.



FLOOR PLAN

0' 1' 2' 4' 6'

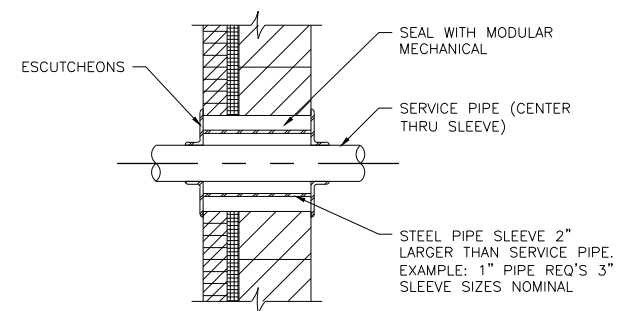


GENERAL NOTES:

- * = EQUIPMENT AND PIPING PROVIDED AND INSTALLED BY OTHERS AND IS NOT INCLUDED IN THE SCOPE OF WORK.

PLAN NOTES:

- EXISTING 6,000 GALLON STORAGE TANK.
- REFER TO DETAIL 1 THIS SHEET FOR PROCESS PIPE/HOSING WALL PENETRATION DETAIL. PROCESS PIPE AND HOSING IS PROVIDED AND INSTALLED BY OTHERS AND IS NOT INCLUDED IN THIS SCOPE OF WORK.

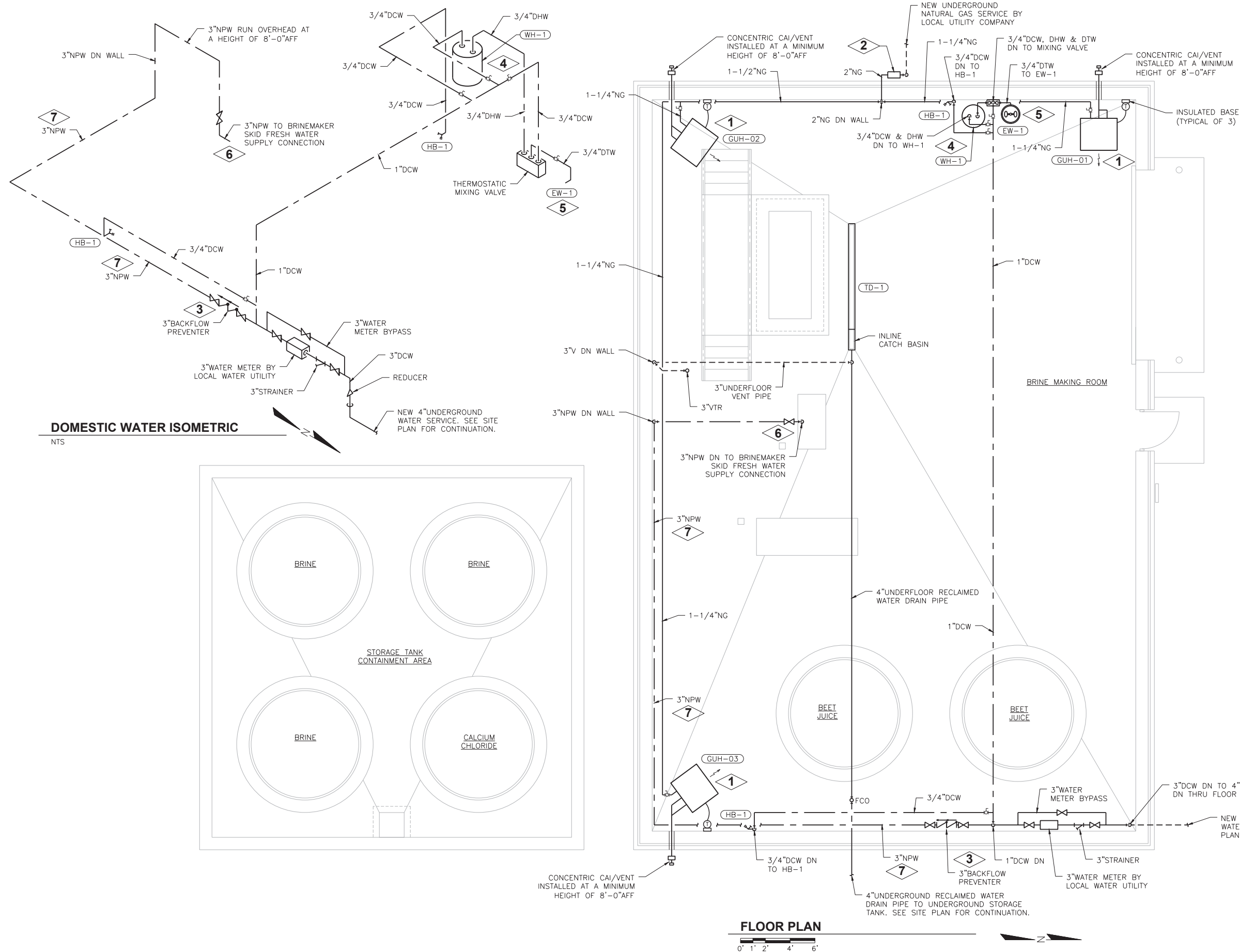


PIPE PENETRATION THRU MASONRY WALL

1

NTS

SHEET
M2.00

**GENERAL NOTES:**

1. ALL NATURAL GAS PIPING SHALL BE THREADED, SCHEDULE 40 BLACK STEEL PIPE.
2. ALL NEW NATURAL GAS PIPING SHOWN IS SCHEMATIC AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION TO AVOID CONFLICTS WITH EQUIPMENT, CONDUIT, PIPING, DUCTWORK, AND LIGHT FIXTURES.
3. NATURAL GAS PIPING SHALL BE LOCATED JUST BELOW THE CEILING ELEVATION AND SUPPORT PER THE SPECIFICATIONS.
4. REFER TO SHEET M2.00 FOR PLUMBING SCHEMATIC FOR STORAGE TANKS.

PLAN NOTES:

1. MOUNT UNIT HEATER SUCH THAT THE BOTTOM OF THE UNIT IS AT A HEIGHT OF 8'-0\"/>

PLAN NOTES: 
1. FAN SHALL BE MOUNTED ON TOP OF 12'-0" HIGH CONCRETE WALL. FIELD VERIFY EXACT LOCATION. SEE ELECTRICAL DRAWINGS FOR FAN CONTROL.

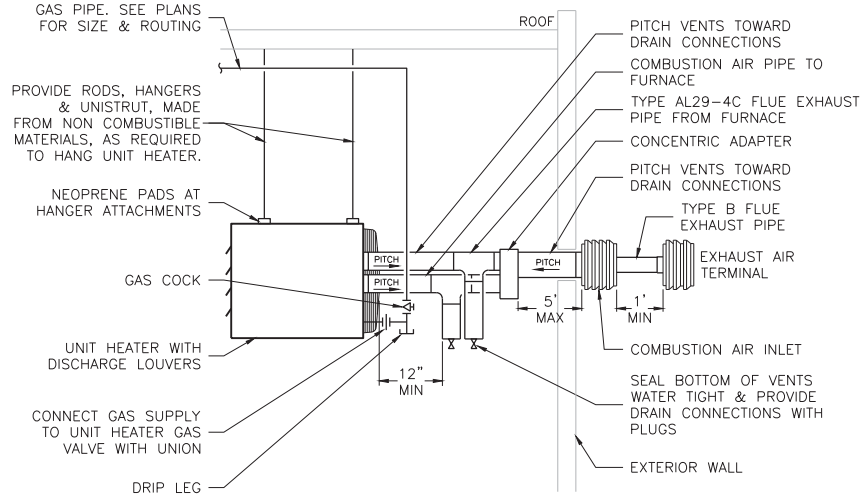


SALT STORAGE SHED FLOOR PLAN

0' 2' 4' 8' 12'

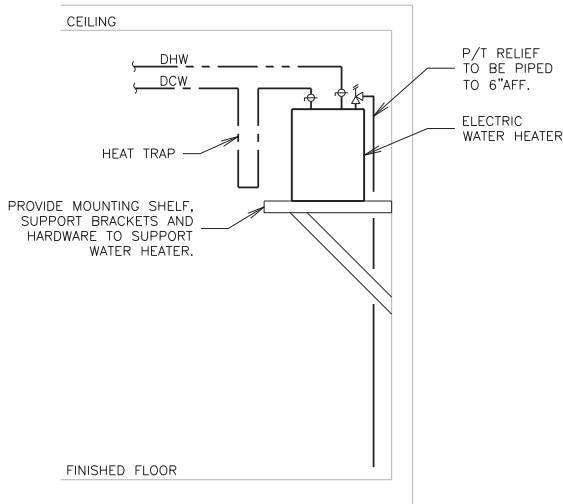


SHEET
HP2.10



GAS FIRED UNIT HEATER DETAIL

NTS



ELECTRIC WATER HEATER DETAIL

NTS

EXHAUST FANS

PLAN DESIGNATION		EF-01	EF-02		
MANUFACTURER		GREENHECK	GREENHECK		
MODEL		SE2-36-607-C	SE2-36-607-C		
SERVICE		SALT STORAGE	SALT STORAGE		
LOCATION		SALT STORAGE	SALT STORAGE		
CONSTRUCTION	TYPE	SIDEWALL PROP	SIDEWALL PROP		
	CASING MATERIAL	GALV. STEEL	GALV. STEEL		
	FAN MATERIAL	ALUMINUM	ALUMINUM		
	DRIVE	DIRECT	DIRECT		
AIR	CFM	7,000	7,000		
	ESP - IN WC	0.25	0.25		
	FAN RPM	860	860		
	ESP - IN WC	0.25	0.25		
ELECTRICAL	FAN MOTOR HP	1	1		
	FAN MOTOR BHP	0.8	0.8		
	VOLTS/PHASE	460V / 3Ø	460V / 3Ø		
	THER OVERLOAD PROTECTION	BY DIV. 16	BY DIV. 16		
INLET dBA		78	78		
INLET SONES		28	28		
REMARKS		1, 2, 3	1, 2, 3		

1. PROVIDE FACTORY MOUNTED AND WIRED DISCONNECT SWITCH.
2. PROVIDE WALL HOUSING, OSHA FAN GUARD AND ALUMINUM WEATHERHOOD.
3. PROVIDE HI-PRO POLYESTER COATING ON ALL FAN PARTS AND FAN ACCESSORIES. COLOR TO BE EITHER GREY OR IVORY. FINAL SELECTION BY OWNER/ARCHITECT.

GAS FIRED UNIT HEATERS

PLAN DESIGNATION		GUH-01	GUH-02	GUH-03	
MANUFACTURER		MODINE	MODINE	MODINE	
MODEL		HDS-125	HDS-125	HDS-125	
NATURAL GAS INPUT - MBH		125	125	125	
MIN EFFICIENCY		80%	80%	80%	
CFM		1,980	1,980	1,980	
MOTOR	HP	1/8	1/8	1/8	
	RPM	1,625	1,625	1,625	
ELECTRICAL	AMPS	4.75	4.75	4.75	
	VOLTS/PHASE	115V / 1Ø	115V / 1Ø	115V / 1Ø	
OPERATING WEIGHT		125 LBS	125 LBS	125 LBS	
REMARKS		1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	

1. PROVIDE DISCONNECT.
2. PROVIDE WITH CONCENTRIC COMBUSTION AIR INTAKE/VENT KIT.
3. MOUNT HEATER SUCH THAT THE BOTTOM OF UNIT IS AT A HEIGHT OF 8'-0" AFF.
4. PROVIDE STAINLESS STEEL HEAT EXCHANGER & FLUE COLLECTOR BOX.

PLUMBING FIXTURE SCHEDULE

MARK	MANUFACTURER	MODEL	DESCRIPTION	WSFU			DFU VALUE
				HW	CW	TOTAL	
EW-1	BRADLEY	S19224EW	WALL MOUNT, BARRIER FREE, EYE WASH UNIT TO INCLUDE AN ABS PLASTIC HALO EYEWASH SYSTEM WITH INTEGRAL FLOW CONTROL AND FLIP TOP DUST COVERS, A 1/2"CHROME PLATED BRASS STAY-OPEN BALL VALVE ACTIVATED BY A STAINLESS STEEL PUSH HANDLE, HEAVY-GAUGE CAST ALUMINUM WALL BRACKET, 1/2" WATER SUPPLY INLET, 1-1/4"DRAIN OUTLET AND ABS PLASTIC BOWL. PROVIDE WITH NAVIGATOR S19-2000 EFX8 THERMOSTATIC MIXING VALVE IN SURFACE MOUNTED STAINLESS STEEL CABINET.	--	--	--	--
HB-1	WOODFORD	24	NON-FREEZE AREA, ANTI-SIPHON VACUUM BREAKER PROTECTED WALL FAUCET, 3/4" MALE HOSE THREAD NOZZLE, BRASS VALVE BODY, ONE PIECE VALVE PLUNGER, HARDENED STAINLESS STEEL OPERATING STEM, AND POLYCARBONATE WHEEL HANDLE. PROVIDE WITH POLISHED CHROME FINISH.	--	4.0	4.0	--
TD-1	ACO	KS200	8"WIDE PRE-SLOPED, MODULAR TRENCH DRAINAGE SYSTEM, POLYMER CONCRETE DRAIN CHANNEL BODY WITH STAINLESS STEEL EDGE RAIL AND LOAD CLASS E SLOTTED IRON GRATES. PROVIDE WITH TYPE 900 IN-LINE CATCH BASIN WITH PLASTIC TRASH BUCKET AND FOUL AIR TRAP.	--	--	--	6.0
WH-1	A.O. SMITH	DEL-20	ELECTRIC WATER HEATER WITH 20 GALLON GLASS LINED STORAGE TANK, A SINGLE 2500 WATT, 277V/1P HEATING ELEMENT CONTROLLED BY AN INTEGRALLY MOUNTED THERMOSTAT WITH HIGH TEMPERATURE CUTOFF SWITCH, TEMPERATURE/PRESSURE RELIEF VALVE AND DRAIN VALVE.	--	--	--	--

PLUMBING GEN NOTES

1. THESE DRAWINGS DO NOT ATTEMPT TO SHOW THE COMPLETE DETAILS OF BUILDING CONSTRUCTION, WHICH AFFECT THE PLUMBING INSTALLATION. THE CONTRACTOR SHALL REFER TO OTHER TRADES DRAWINGS FOR ADDITIONAL DETAILS WHICH AFFECT THE PROPER INSTALLATION OF THIS WORK. NO EXTRA PAYMENT WILL BE ALLOWED FOR THE FAILURE TO OBTAIN THIS INFORMATION.
2. PLUMBING CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF OTHER TRADES. RESOLVE ALL CONFLICTS AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT.
3. THESE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION OF WORK TO BE ACCOMPLISHED AND AS SUCH DO NOT SHOW ALL REQUIRED OFFSETS OF PIPING. PLUMBING CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT AS TO CONFORM TO THE STRUCTURE, EQUIPMENT CONNECTIONS AND MAINTAIN HEADROOM AND PASSAGEWAY.
4. PLAN NOTES PERTAIN ONLY TO THE DRAWING THEY ARE LOCATED ON.
5. ALL NON-POTABLE WATER PIPING AND FIXTURES SHALL CLEARLY BE LABELED AS SUCH.

PLUMBING LEGEND

- — PLUMBING EQUIPMENT
- DCW — DOMESTIC COLD WATER
- DHW — DOMESTIC HOT WATER
- DTW — DOMESTIC TEMPERED WATER
- NPW — NON-POTABLE WATER
- DRAIN — RECLAIMED WATER DRAIN PIPE
- V — VENT PIPE
- B — BALL VALVE
- G — GATE VALVE
- C — CHECK VALVE
- S — STRAINER
- H — HOSE BIB
- G++G+ — PIPE ELBOW/TEE DOWN
- O++O+ — PIPE ELBOW/TEE UP
- E — CAPPED PIPE END

PLUMBING ABBREV'S

- BFP — BACKFLOW PREVENTER
- DN — DOWN
- EW — EYE WASH
- FCO — FLOOR CLEANOUT
- HB — HOSE BIB
- TD — TRENCH DRAIN
- UG — UNDERGROUND
- WH — WATER HEATER
- VTR — VENT THRU ROOF

HVAC GENERAL NOTES

1. THESE DRAWINGS DO NOT ATTEMPT TO SHOW THE COMPLETE DETAILS OF BUILDING CONSTRUCTION, WHICH AFFECT THE MECHANICAL INSTALLATION. THE CONTRACTOR SHALL REFER TO OTHER TRADES DRAWINGS FOR ADDITIONAL DETAILS WHICH AFFECT THE PROPER INSTALLATION OF THIS WORK. NO EXTRA PAYMENT WILL BE ALLOWED FOR THE FAILURE TO OBTAIN THIS INFORMATION.
2. MECHANICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF OTHER TRADES. RESOLVE ALL CONFLICTS AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT.
3. THESE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION OF WORK TO BE ACCOMPLISHED AND AS SUCH DO NOT SHOW ALL REQUIRED OFFSETS OF DUCTWORK AND PIPING. MECHANICAL CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT AS TO CONFORM TO THE STRUCTURE, EQUIPMENT CONNECTIONS AND MAINTAIN HEADROOM AND PASSAGEWAY.
4. PLAN NOTES PERTAIN ONLY TO THE DRAWING THEY ARE LOCATED ON.
5. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
6. ALL CONTROL WIRING SHALL BE RUN IN CONDUIT.
7. MAINTAIN 10' MINIMUM DISTANCE FROM OUTSIDE AIR INTAKE TO ANY EXHAUST OR TOILET VENTS.

HVAC LEGEND

- — HVAC EQUIPMENT
- Ⓢ — THERMOSTAT
- — AIR FLOW INDICATOR
- NG — NATURAL GAS PIPING
- B — BALL VALVE
- R — GAS PRESSURE REGULATOR
- G++G+ — PIPE ELBOW/TEE DOWN
- O++O+ — PIPE ELBOW/TEE UP
- E — CAPPED PIPE END

HVAC ABBREVIATIONS

- AFF — ABOVE FINISHED FLOOR
- CAI — COMBUSTION AIR INTAKE
- CFM — CUBIC FEET PER MINUTE
- DN — DOWN
- EA — EXHAUST AIR
- MIN — MINIMUM
- MAX — MAXIMUM
- NG — NATURAL GAS

LEGEND:

X-XX LIGHTING UNIT NUMBER
XXXX+XX.XX'XX' X' XX-LOCATION
XXX-XXX-XX-XX-XX-X-XX
CIRCUIT
PANEL
MAST ARM LENGTH IN FEET
POLE SHAFT LENGTH IN FEET
FIXTURE VERTICAL TILT ANGLE
LAMP WATTAGE
FIXTURE IES DISTRIBUTION TYPE

DESIGN CRITERIA:

ROADWAY CLASSIFICATION: LOCAL
AREA CLASSIFICATION: LOW
PAVEMENT CLASSIFICATION: R1

SHEET NOTES:

1. FOR ROADWAYS, CONDUIT SHALL NOT BE PLACED WITHIN FIVE (5) FEET OF ASPHALTIC CONCRETE SHOULDER.
2. INDICATED DIMENSIONS ARE NOMINAL, MINOR VARIATIONS BEING PERMITTED.
3. SHARE TRENCHES AND PULL BOX SYSTEM WITH POWER WHERE PRACTICAL.
4. CONDUIT SHALL BE 2-INCH UNLESS OTHERWISE SHOWN OR INDICATED.
5. ALL WIRING INSTALLED WITHIN LIGHT POLE AND MOUNTING ARM WHERE APPLICABLE TO THE LIGHTING FIXTURE SHALL BE #12 AWG UNLESS OTHERWISE NOTED.
6. ISOLATED-NEUTRAL WIRING SYSTEM SHALL BE UTILIZED FOR 277V LIGHT POLE HANDHOLE WIRING.

PLAN NOTES:

1. PROVIDE NEW 200A/3P CIRCUIT BREAKER IN EXISTING MAIN SWITCHBOARD.
2. REMOTE INTERFACE RECEIVER FOR SCALE. PROVIDE 120V CIRCUIT FROM NEAREST PANEL, AND CAT6 DATA CONNECTION TO BUILDING DATA NETWORK SYSTEM. COORDINATE REQUIREMENTS WITH SCALE SUPPLIER AND LOCATIONS WITH OWNER.

HIGHWAY OPERATIONS BUILDING PLAN

0' 15' 30' 60' 120'

SITE PLAN

0' 7'6"15' 30' 60'

SHEET
CE1.00

PROJECT NO: 1060-62-70

HWY: GRANDVIEW BOULEVARD

COUNTY: WAUKESHA

BRINING FACILITY: ELECTRICAL SITE PLAN

SHEET

E

FILE NAME : M:\2016\2016079.00 - GRANDVIEW BLVD SALT SHED\DRAWINGS\1142720.14-CE1.00.DWG

PLOT DATE : 1/30/2018 11:04 AM

PLOT BY : JOHN FRY

PLOT NAME :

WISDOT/CADDs SHEET 42

LIGHTING FIXTURE SCHEDULE									
FIXT.	DESCRIPTION	LAMPING			VOLT	MANUFACTURER	CATALOG NUMBER	MOUNTING	SEE NOTE
		NO.	TYPE	INPUT					
A	2' PENDANT MOUNT FIXTURE	-	4,000 LUMEN, 4000K LED	40W	277V	LITHONIA	DMV2-L24-400LM-ACL-MD-277-40K-PMP4X-STSL	PENDANT MOUNTED 15' AFF	4
B	4' PENDANT MOUNT FIXTURE	-	12,000 LUMEN, 4000K LED	107W	277V	LITHONIA	VAP-12000LM-PCL-MD-277-40K-STSL-CMB	PENDANT MOUNTED - SEE PLAN	4
EX1	EXTERIOR WALL MOUNT FIXTURE	-	7,924 LUMEN, 4000K LED	69W	277V	LITHONIA	CSXW-LED-30C-700-40K-T4M-MVOLT-DOBXD	WALL AT ELEVATION NOTED ON PLAN	
EX2	EXTERIOR WALL MOUNT FIXTURE	-	11,735 LUMEN, 4000K LED	104W	277V	LITHONIA	CSXW-LED-30C-1000-40K-T4M-MVOLT-DOBXD	WALL AT ELEVATION NOTED ON PLAN	
LED-A	DOT STANDARD UTILITY LED-A FIXTURE DISTRIBUTION TYPE III ROADWAY	-	4000K LED	72 - 113W	277V	COOPER LIGHTING (STREETWORKS) CREE LEOTEK	NVN-AE-02-D-VOLT-T3R-700-10K-4N7-AP-WISD STR-LWY-3M-HT-05-E-UL-SV-700-40K-7PIN-UTL GC1-40F-MV-ANW-3-GY-700-PCR7-WL-WISDOT-A-SC	35' POLE WITH 6' MAST ARM AND TRANSFORMER BASE, MOUNTED ON CONCRETE BASE	6, 7
EBU-1	EMERGENCY BATTERY UNIT	2	1.9W, 9.6V LED LAMP HEADS	2.7W	277V	LITHONIA	WLTU-LED / ELA-T-QWP-L0309	WALL MOUNTED 7'-6" AFF	5
X1	NEMA 4X EXIT SIGN	-	LED	3.3W	277V	LITHONIA	LV-S-W-1-R-120/277-EL-N-4X	WALL MOUNTED ABOVE DOOR	1,2,3
REMARKS: A. CONTRACTOR SHALL CONFIRM CEILING TYPE REQUIREMENTS PRIOR TO THE RELEASE OF THE ORDER. B. CATALOG NUMBERS ARE TO PROVIDE GUIDANCE ONLY AND MAY NOT BE COMPLETE. C. FIXTURES SPECIFIED TO MEET DESIGN INTENT. EQUALS MAY BE SUBSTITUTED SUBJECT TO DESIGN TEAM'S APPROVAL. D. PROVIDE ALL PARTS AND PIECES NECESSARY FOR A COMPLETE AND FUNCTIONAL INSTALLATION. E. ARCHITECT TO DETERMINE ALL FINISHES.									
NOTES: 1. FIELD SELECTABLE CHEVRONS SHALL BE APPLIED OR INSTALLED/REMOVED AS INDICATED ON PLANS AND AS REQUIRED BY ALL GOVERNING CODES. 2. PROVIDE NUMBER OF FACES AS INDICATED ON PLANS AND AS REQUIRED BY ALL GOVERNING CODES. 3. ALL EXIT SIGNS MUST MEET ALL CITY, STATE, AND NATIONAL CODES INCLUDING BUT NOT LIMITED TO IBC 1011 AND ANSI-A117.1 SEC 703. 4. PROVIDE CHAIN ACCESSORY OR STEMS IN LENGTH NECESSARY TO ACCOMMODATE MOUNTING HEIGHTS AS INDICATED. 5. TWIN LED WEATHER-PROOF REMOTE HEAD. 6. INCLUDE W&DOT CATEGORY LABEL. 7. FIXTURE EQUALS ALSO INCLUDE AMERICAN ELECTRIC LIGHTING (AEL) AND PHILLIPS.									

SPECIAL PURPOSE OUTLET SCHEDULE

MARK	TO FEED	LOCATION	KW	FLA	VOLT	PH	FEED FROM		BREAKER		TYPE			SEE NOTE
							PANEL	CKT	SIZE	POLE	RECPT	DIRECT	OTHER	
1	BRINEMAKER SKID	BRINE MAKING RM.		24	208	3	2BF	2,4,6	30	3	X			1,3,5,6,7,8,10,11
2	TRUCK LOADING & BLENDING SKID	BRINE MAKING RM.		48	208	3	2BF	8,10,12	60	3	X			2,3,7,8,9
3	REMOTE TRUCK LOADING STATION (HMI)	OUTSIDE	-	-	24	-	-	-	-	-		X		4
4	ELECTRIC WATER HEATER WH-1	BRINE MAKING RM.	2.5	9.0	277	1	4BF	14	15	1		X		
5	REMOTE TRUCK SCALE	OUTSIDE	-	-	120	1	2BF	11	20	1		X		
NOTES: 1. 30A, 3 PHASE RECEPTACLE FURNISHED BY CARGILL, INSTALLED AND WIRED BY E.C. PROVIDE 6"X6"X4" JUNCTION BOX. 2. 100A, 3 PHASE RECEPTACLE FURNISHED BY CARGILL, INSTALLED AND WIRED BY E.C. PROVIDE 6"X6"X4" JUNCTION BOX. 3. LOCATE WITHIN 5 FT. OF THE CONTROL PANEL ELECTRICAL ENCLOSURE LOCATION. 4. PROVIDE 3/4" CONDUIT FROM REMOTE TRUCK FILL STATION TO THE TRUCK LOADING & BLENDING SKID. WIRING BY CARGILL. 5. PROVIDE 3/4" CONDUIT FROM BRINEMAKER SKID CONTROL PANEL TO SALT TANK PRESSURE TRANSMITTER (PT). WIRING BY GCARGILL. 6. PROVIDE 3/4" CONDUIT FROM BRINEMAKER SKID CONTROL PANEL TO EACH BRINE STORAGE TANK PRESSURE TRANSMITTER (PT). WIRING BY CARGILL. 7. PROVIDE 3/4" CONDUIT FROM TRUCK FILL SKID BRINE FLOWMETER TO BRINEMAKER SKID - PLC/HMI PANEL. WIRING BY CARGILL. 8. PROVIDE 3/4" CONDUIT FROM TRUCK FILL SKID BLENDING SKID TO BRINEMAKER SKID. WIRING BY CARGILL. 9. PROVIDE 3/4" CONDUIT FROM TRUCK LOADING/BLENDING SKID JUNCTION PANEL TO EACH ADDITIVE STORAGE TANK PRESSURE TRANSMITTER (PT). WIRING BY CARGILL. 10. PROVIDE 1" CONDUIT FROM BRINEMAKER SKID CONTROL PANEL TO RECYCLE WATER STORAGE TANK PRESSURE TRANSMITTER. WIRING BY CARGILL. 11. PROVIDE 3/4" CONDUIT FROM BRINEMAKER SKID TO RECYCLE WATER CONTROL PANEL. WIRING BY CARGILL.														

MOTOR WIRING SCHEDULE

NO.	DRIVING	LOC.	HP	FLA	VOLT	PH.	FEED FROM		BREAKER		STARTER		DISCONNECT		SEE NOTE
							PANEL	CIRCUIT	SIZE	POLE	TYPE	LOC.	TYPE	LOC.	
1	RECYCLE WATER PUMP	BRINE RM.	5	17.5	208	3	2BF	14,16,18	30	3	COMB. MAG	BRINE RM.	FUSIBLE	IN STR.	
2	SUBMERSIBLE PUMP	STORAGE TANK	7 1/2	25.3	208	3	2BF	20,22,24	50	3	COMB. MAG	BRINE RM.	FUSIBLE	IN STR.	
3	OVERHEAD DOOR MOTOR	BRINE RM.	1 1/2	3	480	3	4BF	1,3,5	15	3	COMB. MAG	BRINE RM.	FUSIBLE	IN STR.	
4	OVERHEAD DOOR MOTOR	SALT STORAGE	1 1/2	3	480	3	4BF	7,9,11	15	3	COMB. MAG	SALT BARN	FUSIBLE	IN STR.	
5	EXHAUST FAN EF-01	SALT STORAGE	1	2.1	480	3	4BF	2,4,6	15	3	COMB. MAG	SALT BARN	FUSIBLE	IN STR.	
6	EXHAUST FAN EF-02	SALT STORAGE	1	2.1	480	3	4BF	8,10,12	15	3	COMB. MAG	SALT BARN	FUSIBLE	IN STR.	
7	GAS FIRED UNIT HEATER GUH-01	BRINE RM.	1/8	3.8	120	1	2BF	13	15	1		BRINE RM.	TOGGLE	N.U.	
8	GAS FIRED UNIT HEATER GUH-02	BRINE RM.	1/8	3.8	120	1	2BF	15	15	1		BRINE RM.	TOGGLE	N.U.	
9	GAS FIRED UNIT HEATER GUH-03	BRINE RM.	1/8	3.8	120	1	2BF	17	15	1		BRINE RM.	TOGGLE	N.U.	
REMARKS: A.															
NOTES:															

GENERAL NOTES

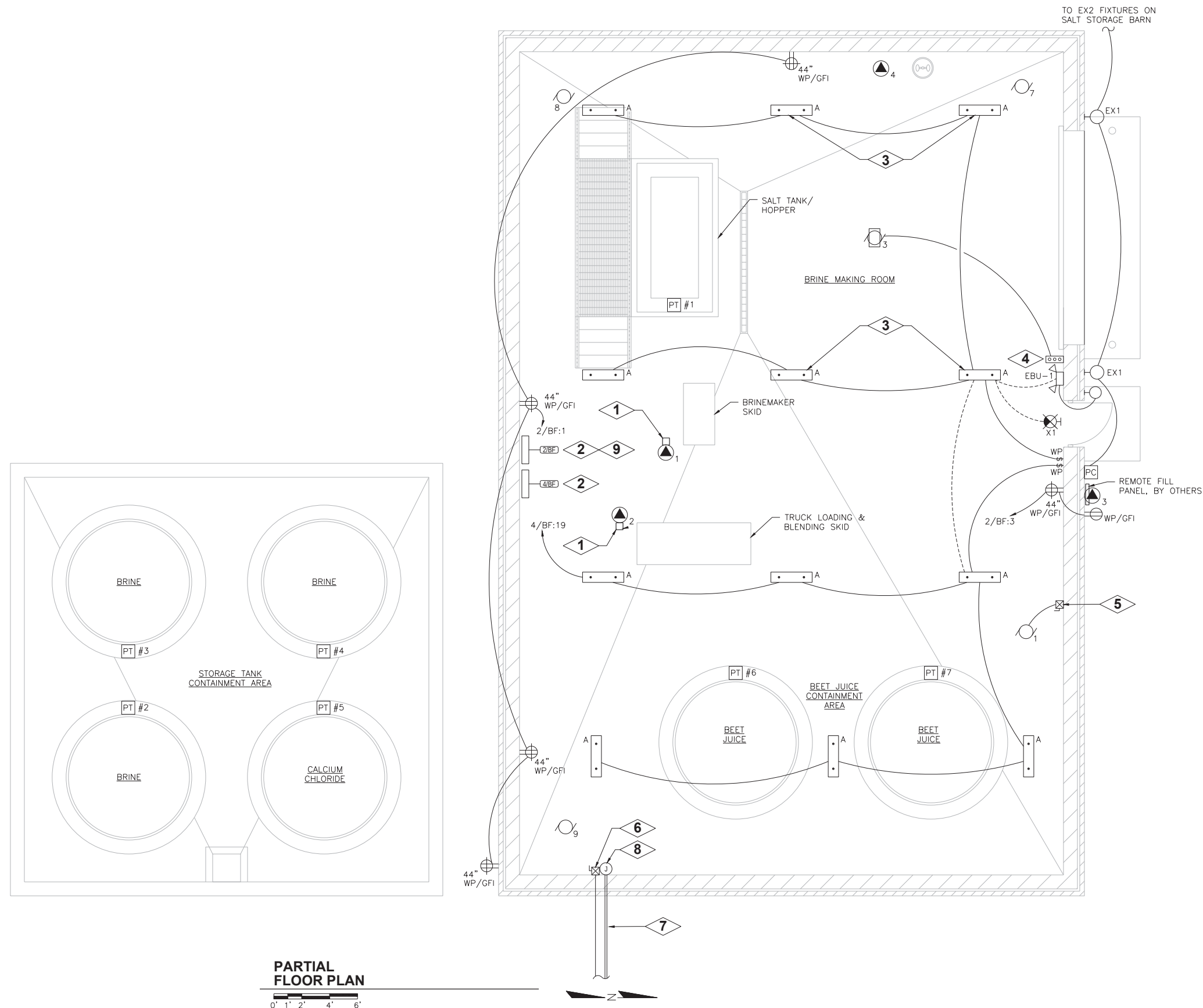
- DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL REQUIRED COMPONENTS FOR A COMPLETE INSTALLATION. CONTRACTOR SHALL FURNISH AND INSTALL MATERIAL EQUIPMENT, DEVICES, FIXTURES, SERVICE REQUIREMENTS NECESSARY TO CONFORM TO THE STRUCTURE, EQUIPMENT CONNECTIONS, FOR A COMPLETE AND FUNCTIONAL INSTALLATION AND SHALL MAINTAIN APPROPRIATE CLEARANCES.
- ALL WORK SHALL COMPLY WITH APPLICABLE NATIONAL, STATE, LOCAL CODES, FEDERAL AND STATE REGULATIONS, AND ALL REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE FULL EXTENT OF WORK AND PROJECT CONDITIONS. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
- THE CONTRACTOR SHALL CHECK ALL DRAWINGS AND SPECIFICATIONS OF OTHER TRADES AND INCLUDE IN THEIR BID ANY ADDITIONAL WORK REQUIRED BY THIS TRADE.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL LIGHT SWITCHES, POWER, AND COMMUNICATIONS OUTLETS. ALL OUTLETS SHALL BE MOUNTED VERTICALLY UNLESS OTHERWISE NOTED. COORDINATE ALL FINAL DEVICE REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION.
- ALL CONDUITS SHOULD BE SUPPORTED IN COMPLIANCE WITH CODE REQUIREMENTS AND INSTALLED IN A MANNER AS TO AFFORD MINIMUM INTERFERENCE WITH OTHER TRADES. ALL CONDUITS ABOVE CEILING SHALL BE RIGIDLY SUPPORTED BY SUITABLE HANGERS FROM THE STRUCTURAL SLAB DECK OR FRAMING ABOVE INDEPENDENT OF THE CEILING, CEILING SUPPORT SYSTEM AND OTHER TRADE COMPONENTS. ALL CONDUITS SHALL BE CONCEALED UNLESS OTHERWISE NOTED ON DRAWINGS.
- FIRE RATED SEALS SHALL BE PROVIDED FOR ALL CONDUIT PENETRATIONS THROUGH FIRE RATED FLOORS, WALLS, AND CEILINGS.
- CONTRACTOR SHALL VERIFY ALL EQUIPMENT CONNECTION CONFIGURATIONS BEFORE PURCHASE. ALL DEVICES SHOWN ARE FOR REFERENCE ONLY, TO COMMUNICATE DESIGN INTENT, FINAL LOCATIONS SHALL BE VERIFIED PRIOR TO INSTALLATION. THIS NOTE SHALL APPLY TO, BUT NOT BE LIMITED TO, RECEPTACLES, SWITCHES, DATA PORTS, AUDIO/VIDEO DEVICES, AND TELEPHONE JACKS.
- THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL ABOVE CEILING REQUIREMENTS (PLENUM, NON-PLENUM, AIR HANDLING, ETC.) AS REQUIRED BY LOCAL AUTHORITY BEFORE THE INSTALLATION AND PURCHASE OF ELECTRICAL EQUIPMENT, MATERIALS AND DEVICES, WIRING, CABLING, AND THE ORDERING OF LIGHTING FIXTURES.
- CONDUCTOR SIZES INDICATED ARE MINIMUM SIZES BASED ON 75°C COPPER CONDUCTOR. AMPACITIES OF CONDUCTORS DO NOT TAKE VOLTAGE DROP INTO CONSIDERATION. CONTRACTOR SHALL SIZE CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS TO PREVENT A VOLTAGE DROP EXCEEDING 3 PERCENT AT THE FARTHEST OUTLET OF POWER, HEATING, AND LIGHTING LOADS, OR COMBINATION OF SUCH LOADS, AND WHERE THE MAXIMUM TOTAL VOLTAGE DROP ON BOTH FEEDERS AND BRANCH CIRCUITS TO THE FARTHEST OUTLET DOES NOT EXCEED 5 PERCENT, TO PROVIDE REASONABLE EFFICIENCY OF OPERATION.

LEGEND

	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE AT HEIGHT INDICATED
	DOUBLE DUPLEX RECEPTACLE
	SPECIAL PURPOSE OUTLET
	SURFACE MOUNT PANEL
	COMBINATION STARTER
	MOTOR
	SWITCH
	EXTERIOR MOUNTED PHOTOELECTRIC SWITCH
	2' PENDANT FIXTURE
	4' PENDANT FIXTURE
	WALL MOUNTED FIXTURE
	SINGLE FACE EXIT SIGN
	EMERGENCY BATTERY UNIT
	PRESSURE TRANSMITTER
	SINGLE HEAD POLE MOUNT LUMINAIRE
	HAND HOLE

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
CKT	CIRCUIT
COMB	COMBINATION
EC	ELECTRICAL CONTRACTOR
FLA	FULL LOAD AMPS
FVNR	FULL VOLTAGE NON-REVERSING
GA	GUAGE
HP	HORSEPOWER
K	KILOWATT
MAG	MAGNETIC
MTR	MOTOR
NU	NEAR UNIT
PC	PHOTOCCELL
PH	PHASE
RECEPT	RECEPTACLE
SPO	SPECIAL PURPOSE OUTLET
STR	STARTER
PT	PRESSURE TRANSMITTER
WH	WATER HEATER

**SHEET NOTES:**

1. ALL CONDUIT AND BOXES INSTALLED IN THE BRINING FACILITY TO BE PVC.
2. ALL MOUNTING HARDWARE TO BE STAINLESS STEEL.
3. ALL TYPE A LIGHT FIXTURES INSTALLED IN THE BRINING FACILITY TO BE PENDANT MOUNTED 15' AFF.
4. TYPE EX1 FIXTURE TO BE MOUNTED 12' ABOVE FINISHED GRADE.
5. PROVIDE EMPTY CONDUITS AND BOXES TO PRESSURE TRANSDUCERS, BRINEMAKER SKID CONTROL PANEL, TRUCK LOADING/BLENDING SKID CONTROL PANEL, REMOTE TRUCK FILL PANEL, RECYCLE WATER CONTROL PANEL, RECYCLE WATER PLUMBING MODULE, AND RECYCLE WATER PUMP FOR WIRING BY OTHERS (CARGILL). SEE WIRING SCHEMATICS 2 AND 3 ON SHEET E3.00 FOR MORE INFORMATION.

PLAN NOTES:

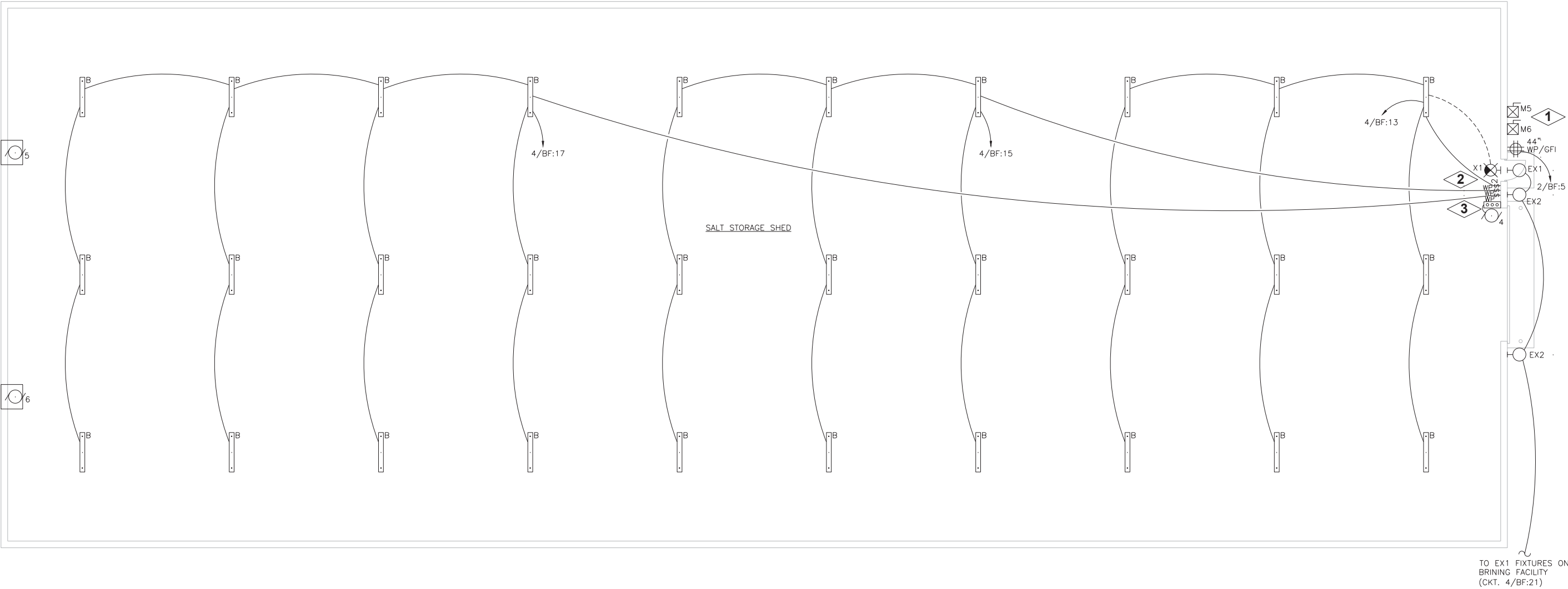
1. OUTLET STANCHIONS FOR BRINEMAKER SKID AND TRUCK LOADING & BLENDING SKID.
2. ELECTRICAL PANELS TO BE FASTENED TO WALL WITH STAINLESS STEEL UNISTRUT AND STAINLESS STEEL CONCRETE ANCHORS. CENTER OF PANEL TO BE 4'-6" ABOVE FINISHED FLOOR. PANEL ENCLOSURE TO BE NEMA 4X.
3. LOCATE LIGHTS ADJACENT TO OVERHEAD DOOR SO AS NOT TO INTERFERE WITH DOOR OPERATION.
4. OPEN/CLOSE/STOP PUSHBUTTON FOR DOOR OOPERATOR.
5. CARGILL SUPPLIED MOTOR DISCONNET/CONTROL ENCLOSURE FOR RECYCLE WATER PUMP, INSTALLED AND WIRED BY E.C.
6. COMBINATION MOTOR STARTER FOR SUBMERSIBLE PUMP LOCATED IN THE RECYCLE WATER UNDERGROUND STORAGE TANK.
7. PROVIDE (3)-1" CONDUITS FROM THE BUILDING TO THE ACCESS MANWAY ON TOP OF THE RECYCLE WATER UNDERGROUND STORAGE TANK:
 - a. (1)-1" C. FOR POWER
 - b. (1)-1" C. FOR LEVEL CONTROLS
 - c. (1)-1" C. SPARE
8. PROVIDE 1" C. TO BRINEMAKER SKID CONTROL PANEL.
9. PROVIDE 45KVA, 3 PHASE TRANSFORMER TO SERVE PANEL 2/BF. WALL MOUNT ABOVE PANEL.

SHEET NOTES:

- 1. ALL CONDUIT AND BOXES INSTALLED IN THE SALT STORAGE SHED TO BE PVC.
- 2. ALL MOUNTING HARDWARE TO BE STAINLESS STEEL.
- 3. ALL TYPE B LIGHT FIXTURES INSTALLED IN THE SALT STORAGE SHED TO BE PENDANT MOUNTED. EAST AND WEST ROWS TO BE 30' AFF.; CENTER ROW TO BE 38' AFF.
- 4. TYPE EX1 FIXTURE TO BE MOUNTED 10' ABOVE FINISHED GRADE.
- 5. TYPE EX2 FIXTURES TO BE MOUNTED 24' ABOVE FINISHED GRADE.

PLAN NOTES:

- 1. EXHAUST FAN MOTOR STARTERS TO BE FVNR, NEMA SIZE 1, COMBINATION TYPE WITH FUSIBLE DISCONNECT SWITCH IN A NEMA 4X ENCLOSURE. STARTER SHALL HAVE 120V FUSED CONTROL TRANSFORMER, GREEN "RUN" AND RED "STARTER OVERLOAD" PILOT LIGHTS, AND H-O-A SELECTOR SWITCH ON THE ENCLOSURE DOOR. H-O-A SWITCH IN "HAND" POSITION THE FAN SHALL RUN CONTINUOUSLY. H-O-A SWITCH IN "OFF" POSITION THE FAN SHALL BE OFF. H-O-A SWITCH IN THE "AUTO" POSITION THE FAN SHALL BE CONTROLLED BY THE LIGHT SWITCH CONTROLLING LIGHTS CLOSEST TO THE OVERHEAD DOOR (CIRCUIT 4/BF:13).
- 2. LIGHT SWITCH FOR CIRCUIT 4/BF:13 TO BE A 2-POLE SWITCH. SECOND POLE OF SWITCH TO CONTROL THE EXHAUST FANS.
- 3. OPEN/CLOSE/STOP PUSHBUTTON FOR DOOR OPERATOR.



SALT STORAGE SHED FLOOR PLAN

0' 2' 4' 8' 12'



SHEET
E2.10

PROJECT NO: 1060-62-70

HWY: GRANDVIEW BOULEVARD

COUNTY: WAUKESHA

SALT STORAGE SHED: ELECTRICAL PLAN

SHEET

E

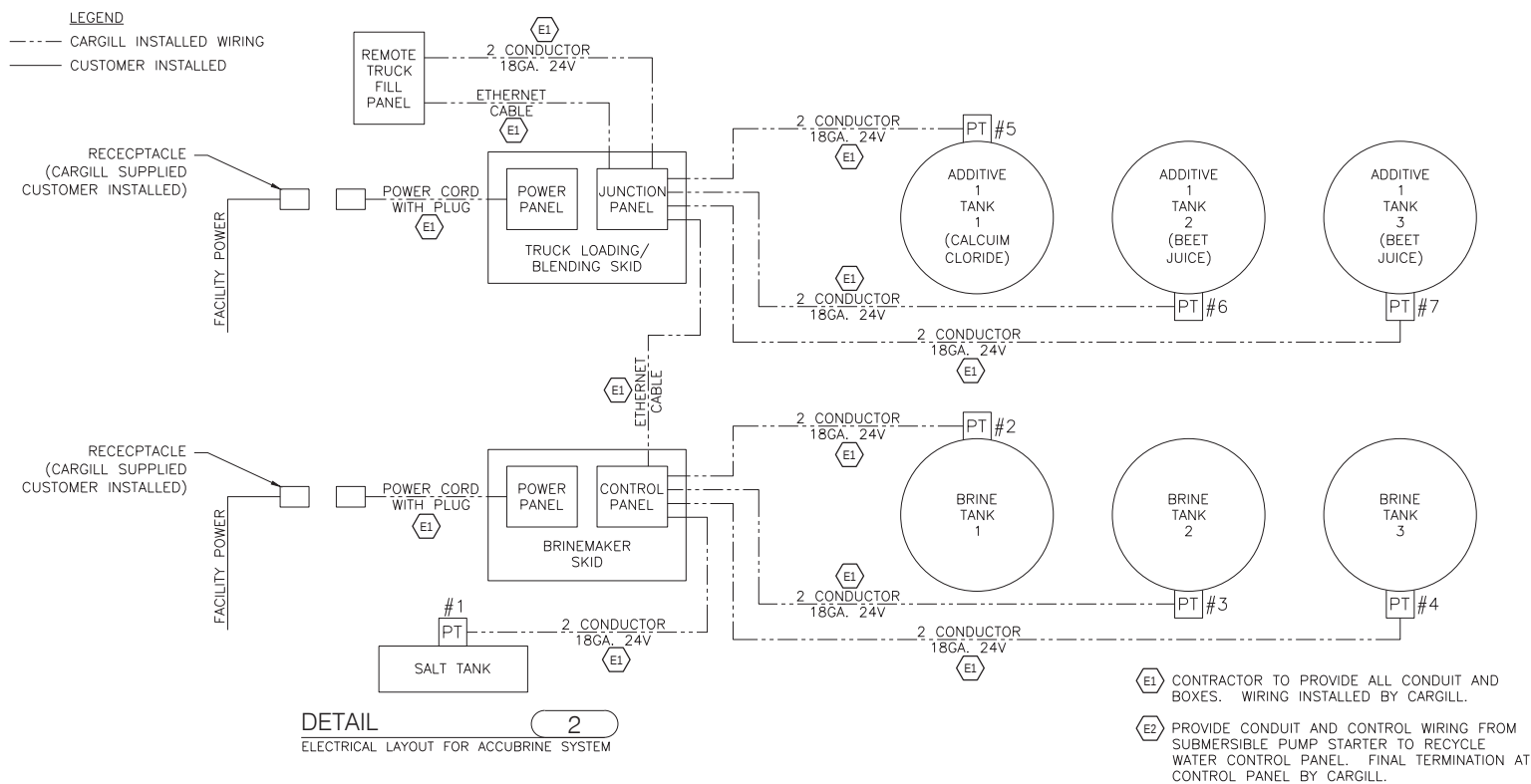
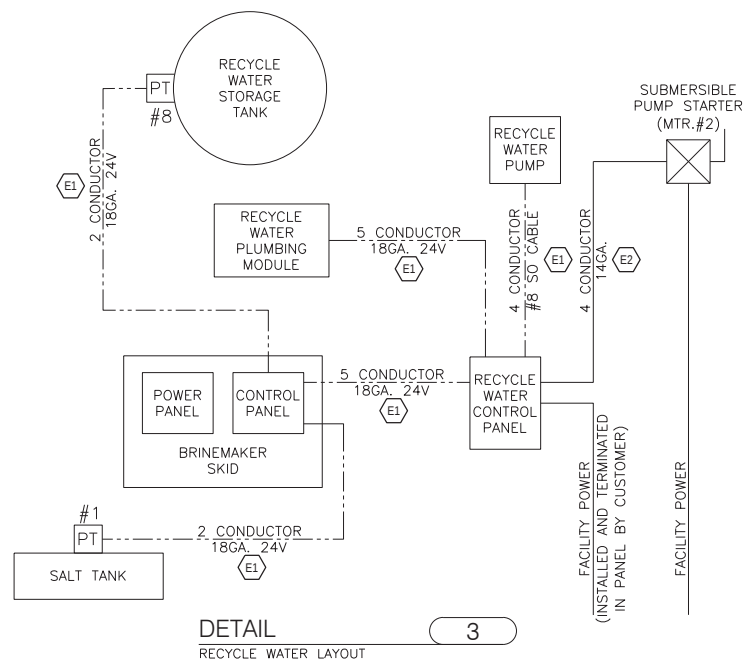
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PLOT DATE : 1/30/2018 1:13 PM

PLOT BY : MARK BRESNEHAN

PLOT NAME :

WISDOT/CADDS SHEET 42



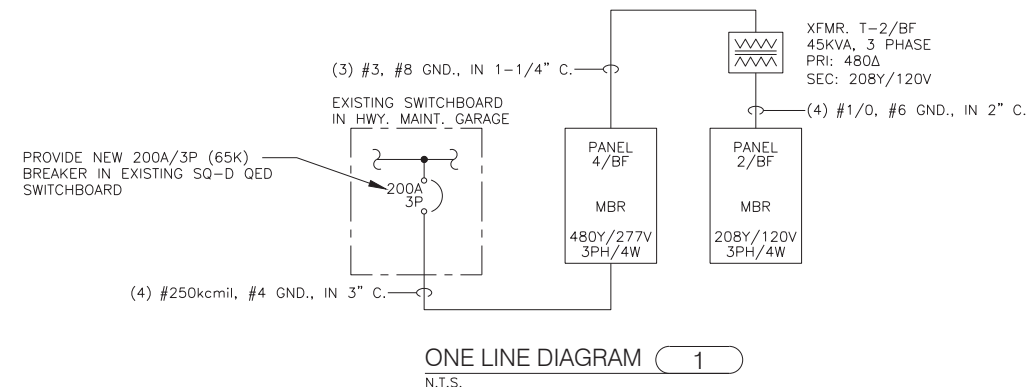
PANEL 2/BF

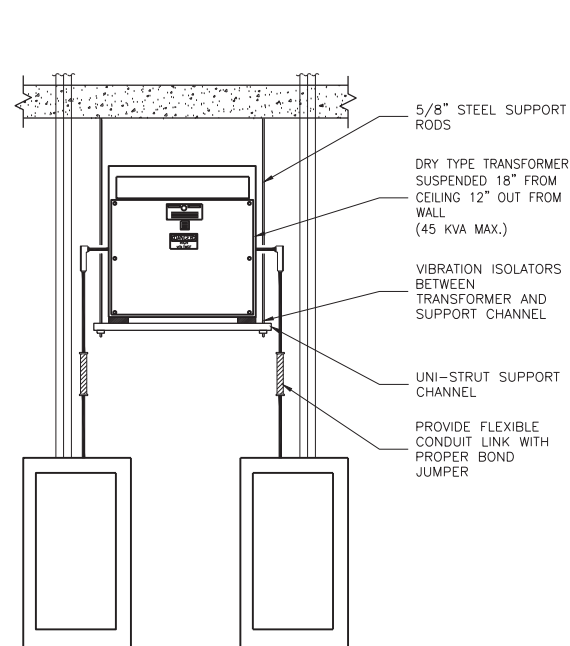
MOUNT			SPACES		LOCATION		VOLTAGE		PH	WIRE	MAIN BUS RATING			MCB	MLO		WIRE			CONDUIT		
SURFACE			42		BRINE MAKING RM.		120/208V		3	4	225A			150A	-		-			-		
POLE NO.	BREAKER		OUTLET			DESCRIPTION	VA	PHASE LOAD VA			VA	DESCRIPTION	OUTLET			BREAKER		POLE NO.				
	POLE	AMP	LGT	REC	MIS			A	B	C			LGT	REC	MIS	POLE	AMP					
1	1	20		X		RECEPTS - BRINE MAKING ROOM	720	3602			2882	BRINEMAKER SKID (SPO #1)				X	3	30	2			
3	1	20		X		RECEPTS - BRINE MAKING ROOM	360			3242	2882								4			
5	1	20		X		RECEPTS - SALT STORAGE BARN	360				3242		2882						6			
7	1	20				SPARE		5764			5764								8			
9	1	20				SPARE				5764	5764	TRUCK LOADING & BLENDING SKID (SPO #2)				X	3	60	10			
11	1	20			X	REMOTE TRUCK SCALE (SPO #5)	500				5764								12			
13	1	15			X	GAS FIRED UNIT HEATER GUH-01 (MTR. #7)	456	2558			2102	RECYCLE WATER PUMP (MTR. #1)							14			
15	1	15			X	GAS FIRED UNIT HEATER GUH-02 (MTR. #8)	456			2558	2102						X	3	30	16		
17	1	15			X	GAS FIRED UNIT HEATER GUH-03 (MTR. #9)	456				2558		2102							18		
19								3038			3038									20		
21										3038	3038	SUBMERSIBLE PUMP (MTR. #2)				X	3	50	22			
23											3038									24		
25																			26			
27																			28			
29																			30			
31																			32			
33																			34			
35																			36			
37																			38			
39																			40			
41																			42			

SQUARE D TYPE NF
WITH NEMA 4X ENCLOSURE.PHASE TOTALS:
TOTAL VA: 3,308

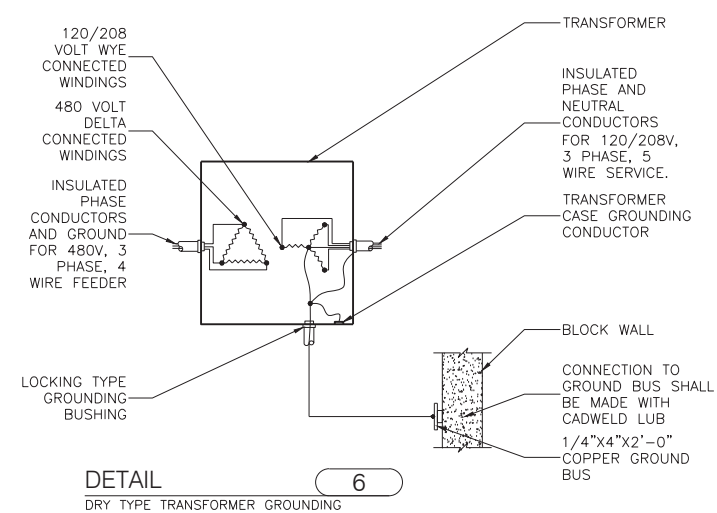
PANEL 4/BF

MOUNT			SPACES		LOCATION		VOLTAGE		PH	WIRE	MAIN BUS RATING			MCB	MLO	WIRE			CONDUIT		
SURFACE			30		BRINE MAKING RM.		277/480V		3	4	250A			200A	-	-			-		
POLE NO.	BREAKER		OUTLET			DESCRIPTION	VA	PHASE LOAD VA			VA	DESCRIPTION	OUTLET			BREAKER		POLE			
	POLE	AMP	LGT	REC	MIS			A	B	C			LGT	REC	MIS	POLE	AMP				
1						OVERHEAD DOOR - BRINE RM. (MTR. #3)	831	1413			582	EXHAUST FAN EF-01 (MTR. #5)				X	3	15			
3	3	15					831			1413	582										
5							831				1413		582								
7						OVERHEAD DOOR - SALT STORAGE BARN (MTR. #4)	831	1413			582	EXHAUST FAN EF-02 (MTR. #6)				X	3	15			
9	3	15					831				1413		582								
11							831						1413	582							
13	1	20	X			LIGHTS - SALT STORAGE BARN (NORTH)	963	3463			2500	ELECTRUC WATER HEATER WH-1 (SPO #4)				X	1	15			
15	1	20	X			LIGHTS - SALT STORAGE BARN (CENTER)	963			963		SPARE						1	20		
17	1	20	X			LIGHTS - SALT STORAGE BARN (SOUTH)	1284				1284	SPARE						1	20		
19	1	20	X			LIGHTS - BRINING FACILITY	480	480				SPACE									
21	1	20	X			LIGHTS - EXTERIOR	415			415		SPACE									
23	1	20	X			LIGHTS - ROADWAY	376				376	SPACE									
25								14962			14962	TRANSFORMER - PANEL 2/BF				X	3	90			
27									14602		14602										
29										15102	15102										

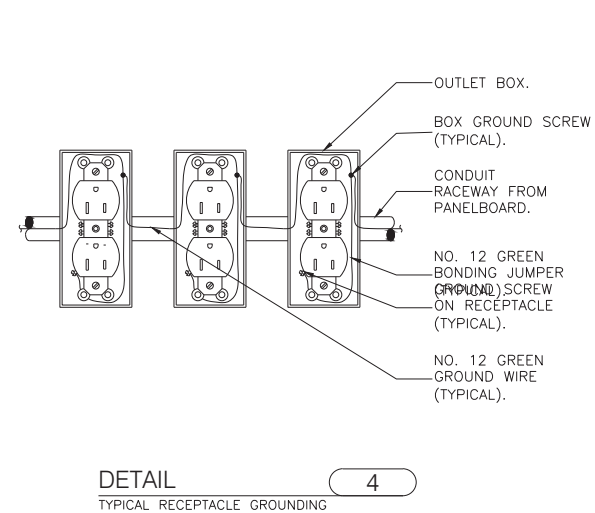
SQUARE D TYPE NF
WITH NEMA 4X ENCLOSURE.PHASE TOTALS:
TOTAL VA: 9,467



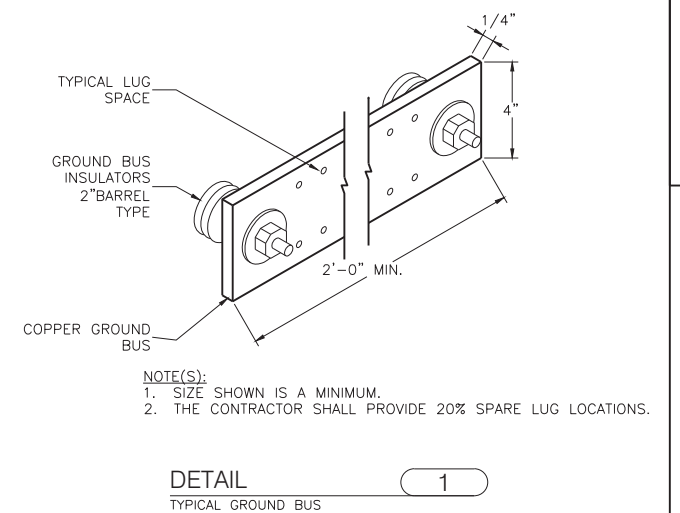
DETAIL 8
PANEL AND TRANSFORMER MOUNTING DETAIL



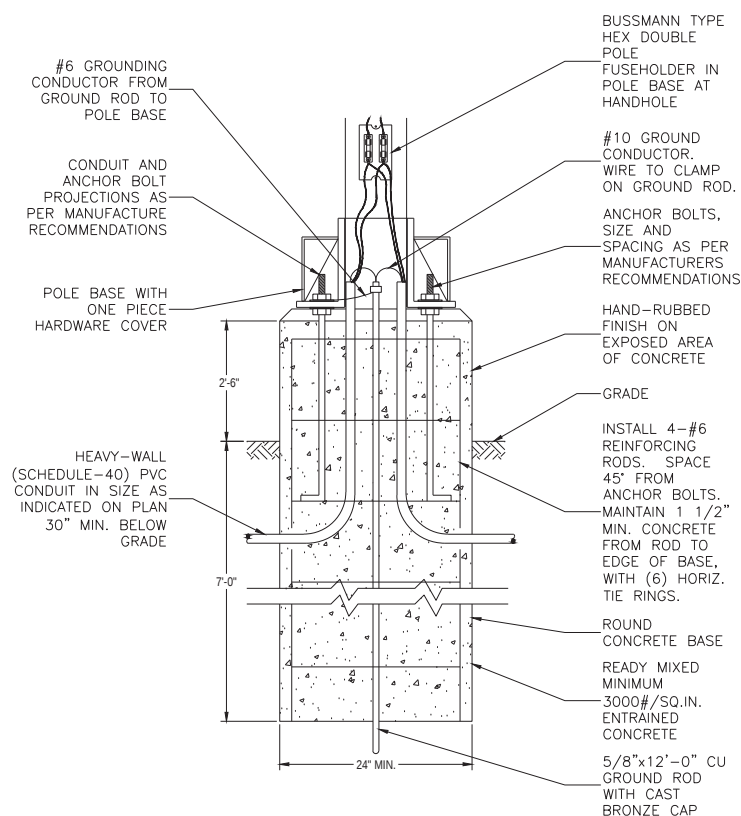
DETAIL 6
DRY TYPE TRANSFORMER GROUNDING



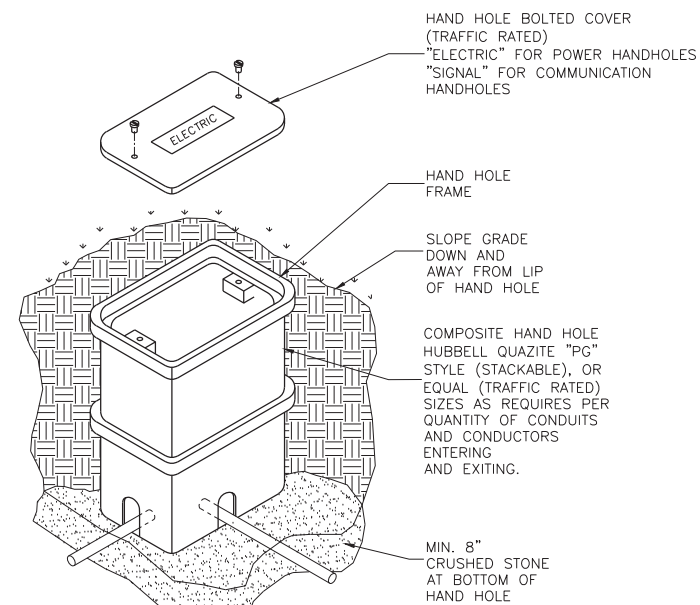
DETAIL 4
TYPICAL RECEPTACLE GROUNDING



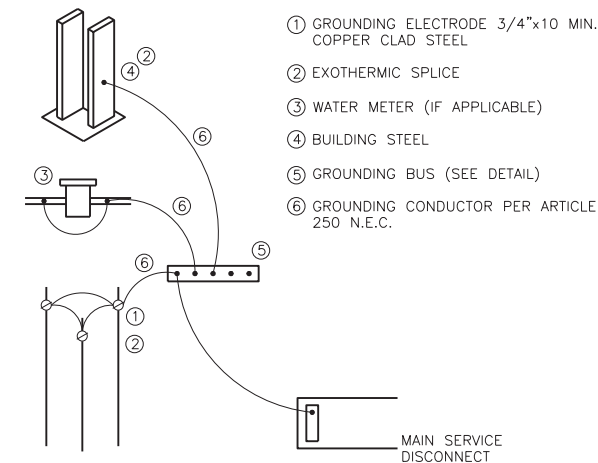
DETAIL 1
TYPICAL GROUND BUS



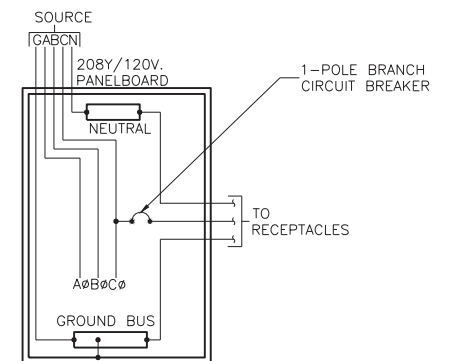
DETAIL 9
PARKING LOT FIXTURE BASE AND POLE MOUNTING



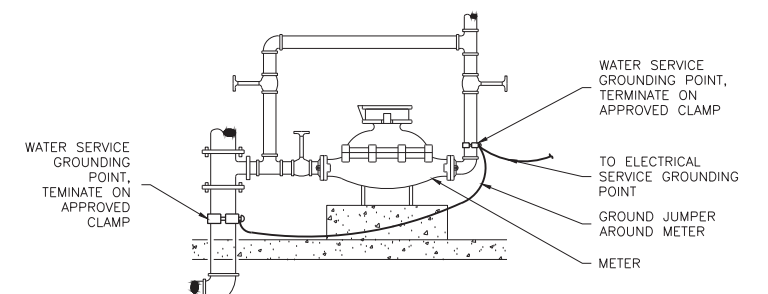
DETAIL 7
TYPICAL BRANCH CIRCUIT HANDHOLE



DETAIL 5
GROUNDING RISER DIAGRAM



DETAIL 2
TYPICAL EQUIPMENT GROUNDING



DETAIL 3
TYPICAL WATER METER GROUNDING JUMPER

Estimate Of Quantities

1060-62-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	5.000	5.000
0004	201.0205	Grubbing	STA	5.000	5.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	204.0110	Removing Asphaltic Surface	SY	861.000	861.000
0010	205.0100	Excavation Common	CY	37,210.000	37,210.000
0012	208.0100	Borrow	CY	2,561.000	2,561.000
0014	209.1500	Backfill Granular Grade 1	TON	119.000	119.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,506.000	3,506.000
0018	310.0110	Base Aggregate Open-Graded	TON	246.000	246.000
0020	311.0110	Breaker Run	TON	1,568.000	1,568.000
0022	415.0080	Concrete Pavement 8-Inch	SY	1,130.000	1,130.000
0024	455.0605	Tack Coat	GAL	388.100	388.100
0026	460.2000	Incentive Density HMA Pavement	DOL	410.000	410.000
0028	460.6223	HMA Pavement 3 MT 58-28 S	TON	418.800	418.800
0030	460.6224	HMA Pavement 4 MT 58-28 S	TON	209.400	209.400
0032	465.0105	Asphaltic Surface	TON	487.400	487.400
0034	522.0412	Culvert Pipe Reinforced Concrete Class IV 12-Inch	LF	112.000	112.000
0036	522.0418	Culvert Pipe Reinforced Concrete Class IV 18-Inch	LF	184.000	184.000
0038	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	3.000	3.000
0040	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	5.000	5.000
0042	606.0100	Riprap Light	CY	7.090	7.090
0044	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	37.000	37.000
0046	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	71.000	71.000
0048	611.0545	Manhole Covers Type L	EACH	2.000	2.000
0050	611.0612	Inlet Covers Type C	EACH	1.000	1.000
0052	611.3003	Inlets 3-FT Diameter	EACH	2.000	2.000
0054	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0056	611.8120.S	Cover Plates Temporary	EACH	1.000	1.000
0058	612.0106	Pipe Underdrain 6-Inch	LF	334.000	334.000
0060	612.0112	Pipe Underdrain 12-Inch	LF	50.000	50.000
0062	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	65.000	65.000
0064	619.1000	Mobilization	EACH	1.000	1.000
0066	624.0100	Water	MGAL	53.190	53.190
0068	625.0100	Topsoil	SY	2,654.000	2,654.000
0070	625.0500	Salvaged Topsoil	SY	9,890.000	9,890.000
0072	627.0200	Mulching	SY	12,462.000	12,462.000
0074	628.1504	Silt Fence	LF	1,402.000	1,402.000

Estimate Of Quantities

1060-62-70

Line	Item	Item Description	Unit	Total	Qty
0076	628.1520	Silt Fence Maintenance	LF	701.000	701.000
0078	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0082	628.2023	Erosion Mat Class II Type B	SY	12,544.000	12,544.000
0084	628.6510	Soil Stabilizer Type B	ACRE	2.570	2.570
0086	628.7010	Inlet Protection Type B	EACH	1.000	1.000
0088	628.7504	Temporary Ditch Checks	LF	167.000	167.000
0090	628.7555	Culvert Pipe Checks	EACH	6.000	6.000
0092	628.7570	Rock Bags	EACH	35.000	35.000
0094	629.0210	Fertilizer Type B	CWT	7.890	7.890
0096	630.0160	Seeding Mixture No. 60	LB	169.100	169.100
0098	630.0200	Seeding Temporary	LB	336.500	336.500
0100	632.0101	Trees (species) (size) (root) 01. Norway Spruce 6-8' Ht B+B	EACH	12.000	12.000
0102	633.5200	Markers Culvert End	EACH	8.000	8.000
0104	640.1303.S	Pond Liner Clay	CY	639.000	639.000
0106	642.5001	Field Office Type B	EACH	1.000	1.000
0108	645.0111	Geotextile Type DF Schedule A	SY	148.000	148.000
0110	645.0130	Geotextile Type R	SY	849.600	849.600
0112	650.4000	Construction Staking Storm Sewer	EACH	7.000	7.000
0114	650.4500	Construction Staking Subgrade	LF	1,038.000	1,038.000
0116	650.5000	Construction Staking Base	LF	1,038.000	1,038.000
0118	650.6000	Construction Staking Pipe Culverts	EACH	4.000	4.000
0120	650.7000	Construction Staking Concrete Pavement	LF	334.000	334.000
0122	650.9910	Construction Staking Supplemental Control (project) 01. 1060-62-70	LS	1.000	1.000
0124	650.9920	Construction Staking Slope Stakes	LF	1,336.000	1,336.000
0126	690.0150	Sawing Asphalt	LF	431.000	431.000
0128	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0130	SPV.0035	Special 01. Pea Gravel	CY	16.000	16.000
0132	SPV.0055	Special 01. Natural Gas Service	DOL	5,000.000	5,000.000
0134	SPV.0105	Special 01. STATIC SCALE SYSTEM	LS	1.000	1.000
0136	SPV.0105	Special 02. UNDERGROUND DETENTION WASTEWATER TANK, 10-FT DIAMETER	LS	1.000	1.000
0138	SPV.0105	Special 03. Brining Building General Construction	LS	1.000	1.000
0140	SPV.0105	Special 04. Brining Building Plumbing	LS	1.000	1.000
0142	SPV.0105	Special 05. Brining Building Heating and Ventilation	LS	1.000	1.000
0144	SPV.0105	Special 06. Brining Building Electrical	LS	1.000	1.000
0146	SPV.0105	Special 07. Salt Storage Shed	LS	1.000	1.000
0148	SPV.0105	Special 08. Water Service	LS	1.000	1.000

Estimate Of Quantities

1060-62-70

Line	Item	Item Description	Unit	Total	Qty
0150	SPV.0105	Special 09. Electrical Service	LS	1.000	1.000
0152	SPV.0105	Special 10. Site Lighting	LS	1.000	1.000

LOCATION	SAWING ASPHALT 690.0150 LF	REMOVING ASPHALTIC SURFACE 204.0110 SY	REMOVING SMALL PIPE CULVERTS 203.0100 EACH
ASPHALT DRIVEWAY RL			
STA 6+60 - 7+77	30	460	--
STA 4+52.5 - 6+45 RT	197	209	--
ASPHALT EAST DRIVEWAY RL			
STA 0+65	30	--	--
CONCRETE DRIVEWAY RL			
STA 3+20 - 3+65 LT	45	11	1
STA 3+80 - 4+43 RT & LT	108	140	--
UNDISTRIBUTED	21	41	--
TOTAL	431	861	1

LOCATION	CLEARING 201.0105 STA	GRUBBING 201.0205 STA
ASPHALTIC DRIVEWAY RL		
STA 3+00 - 6+00 LT	3	3
CONCRETE DRIVEWAY RL		
STA 3+00 - 4+00 RT	1	1
UNDISTRIBUTED	1	1
TOTAL	5	5

LOCATION	CONCRETE PAVEMENT 8-INCH 415.0080 SY
CONCRETE DRIVEWAY RL	
STA 0+96 TO STA 4+14	1,076
UNDISTRIBUTED	54
TOTAL	1,130

LOCATION	BASE AGGREGATE		BREAKER RUN 311.0110 TON	WATER 624.0100* MGAL
	DENSE 1 1/4-INCH 305.0120* TON	OPEN-GRADED 310.0110 TON		
ASPHALT DRIVEWAY RL				
STA 4+31 TO STA 7+77	1,209	--	1,128	23.37
ASPHALT EAST DRIVEWAY RL				
STA 0+15 TO STA 0+65	251	--	232	4.83
CONCRETE DRIVEWAY RL				
STA 0+96 TO STA 4+14	458	234	--	6.92
STA 3+80 TO STA 4+37 LT	41	--	36	0.77
STA 4+14 TO STA 4+43	111	--	97	2.08
UNDISTRIBUTED	104	12	75	1.90
TOTAL	2,174	246	1,568	39.87

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

LOCATION	TACK	HMA PAVEMENT		ASPHALTIC
	COAT	3 MT58-28S	4 MT58-28S	SURFACE
	455.0605*	460.6223*	460.6224*	465.0105*
	GAL	TON	TON	TON
ASPHALT DRIVEWAY RL				
STA 4+31 TO STA 7+77	167.0	286.9	143.5	--
ASPHALT EAST DRIVEWAY RL				
STA 0+15 TO STA 0+65	34.0	58.5	29.2	--
CONCRETE DRIVEWAY RL				
STA 1+87 - 1+97 RT	3.3	--	--	8.4
STA 3+80 TO STA 4+37 LT	9.0	14.9	7.4	--
STA 4+14 TO STA 4+43	23.0	38.6	19.3	--
UNDISTRIBUTED	11.8	19.9	10.0	--
TOTAL	248.1	418.8	209.4	8.4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

LOCATION	FROM INVERT	TO OUTFALL	INLET ELEV.	DISCH. ELEV.	CULVERT PIPE REINFORCED CONCRETE CLASS IV 12-INCH 522.0412 LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH 522.0418 LF	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH 522.1012* EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH 522.1018* EACH	MARKERS CULVERT END 633.5200* EACH
ASPHALT DRIVEWAY RL	STA 5+44, 31.9' RT	STA 6+16, 31.1' LT	925.75	925.45	--	96	--	2	2
ASPHALT DRIVEWAY RL	STA 6+36, 40.7' RT	STA 7+25, 27.7' LT	924.00	923.66	112	--	2	--	2
CONCRETE DRIVEWAY RL	STA 3+80, 31' RT	STA 3+20, 33' LT	929.65	928.80	--	88	--	2	2
TOTALS					112	184	2	4	6

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

PIPE	FROM INLET	TO OUTFALL	INVERT ELEV.	DISCH. ELEV.	PIPE UNDERDRAIN UNPERFORATED NON-CORRUGATED 12-INCH 612.0212* LF	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH 608.0412 LF	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH 608.0418 LF	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH 522.1012* EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH 522.1018* LF	MARKERS CULVERT END 633.5200* EACH
CONCRETE DRIVEWAY RL										
P-1	STA 3+00, 0.0' LT	STORAGE TANK	927.61	927.19	42	--	--	--	--	--
P-2	STA 2+88, 0.0' LT	STA 2+69, 32' LT	928.72	928.35	--	37	--	1	--	1
P-3	STA 4+04, 38' RT	STA 3+94, 24' LT	930.00	929.00	--	--	63	--	1	1
P-4	STA 3+94, 24' LT	MATCH EXISTING PIPE	928.60	EXISTING	--	--	8	--	--	--
TOTALS					42	37	71	1	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

		MANHOLE COVERS			INLET COVERS	INLETS	INLETS	COVER PLATES	
STRUCTURE		GRATE	DEPTH*	TYPE L	TYPE C	3-FT DIAMETER	4-FT DIAMETER	TEMPORARY	
NO.		ELEVATION	(FT.)	611.0545	611.0612	611.3003	611.3004	611.8120.S	
LOCATION				EACH	EACH	EACH	EACH	EACH	REMARKS
CONCRETE DRIVEWAY RL									
1		STA 3+00, 0.0' LT	932.28	4.16	1	--	1	--	--
2		STA 2+88, 0.0' LT	932.32	3.60	--	1	1	--	--
3		STA 3+94.66, 23.5' LT	932.00	3.40	1	--	--	1	1
TOTALS				2	1	2	1	1	

* DEPTH OF STRUCTURE IS MEASURED FROM RIM ELEVATION TO LOWEST PIPE INVERT ELEVATION

LOCATION	TOPSOIL	SALVAGED	EROSION MAT	FERTILIZER	SEEDING	TREES	RIPRAP	GEOTEXTILE
	625.0100 SY	TOPSOIL 625.0500 SY	CLASS II TYPE B 628.2023 SY	TYPE B 629.0210 CWT	MIXTURE NO. 60 630.0160 LB	(NORWAY SPRUCE) (B&B, 6-8' HT) 632.0101 EACH	LIGHT 606.0100* CY	TYPE R 645.0130* SY
STAGE 1								
ASPHALT DRIVEWAY RL								
STA 4+16 - 8+49.64 LT	--	--	--	--	--	--	3.04	16.00
CONCRETE DRIVEWAY RL								
STA 1+87 - 4+43 RT	--	3,202	3,202	2.02	43.2	--	--	--
STA 2+68 - 3+80 LT	--	--	--	--	--	--	3.04	16.00
STAGE 2								
ASPHALT DRIVEWAY RL								
STA 4+16 - 8+49.64 LT	--	2,199	2,199	1.39	29.7	--	--	--
STA 6+90 - 8+14.5 RT	--	323	323	0.20	4.4	--	--	--
STA 0+94 - 4+16 LT	--	1,189	1,189	0.75	16.1	12	--	--
DETENTION POND LIMITS	2,528	---	2,528	1.59	34.1	--	--	--
CONCRETE DRIVEWAY RL								
STA 1+46.50- 3+80 RT	--	2,116	2,116	1.33	28.6	--	--	--
STA 2+68 - 3+80 LT	--	390	390	0.25	5.3	--	--	--
UNDISTRIBUTED	126	471	597	0.36	7.8	--	0.30	1.60
TOTALS	2,654	9,890	12,544	7.89	169.1	12	6.38	33.60

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

LOCATION	MULCHING	SILT FENCE		MOBILIZATION	MOBILIZATION	SOIL	INLET	TEMPORARY	CULVERT	ROCK	SEEDING
	627.0200 SY	628.1504 LF	MAINTENANCE 628.1520 LF	EROSION CONTROL 628.1905 EACH	EROSION CONTROL 628.1910 EACH	STABILIZER TYPE B 628.6510 ACRE	PROTECTION TYPE B 628.701 EACH	DITCH CHECK 628.7504 LF	PIPE CHECK 628.7555 EACH	BAGS 628.7570 EACH	TEMPORARY 630.0200 LB
STAGE 1											
ASPHALT DRIVEWAY RL											
STA 0+94 - 8+49.64	8,628	555	278	2	4	1.78	--	80	--	--	233.0
STA 6+90 - 8+14.5 RT	323	--	--	--	--	0.07	--	20	--	--	8.7
DETENTION POND	2,528	620	310	--	--	0.52	--	--	3	--	68.3
CONCRETE DRIVEWAY RL											
STA 0+39.67 - 4+43 RT	--	--	--	--	--	--	1	40	2	--	--
STA 0+39.67 - 4+43 LT	390	--	--	--	--	0.08	--	20	1	--	10.5
STATIC SCALE SYSTEM	--	160	80	--	--	--	--	--	--	--	--
UNDISTRIBUTED	593	67	33	--	--	0.12	--	7	--	35	16.0
TOTALS	12,462	1,402	701	2	4	2.57	1	167	6	35	336.5

LOCATION	CONSTRUCTION STAKING						
	SUBGRADE	BASE	STORM	PIPE	CONCRETE	SLOPE	SUPPLEMENTAL
	650.4500	650.5000	650.4000	650.6000	650.7000	650.9920	CONTROL
	LF	LF	EACH	EACH	LF	LF	(1060-62-70) 650.9910 LS
ASPHALT DRIVEWAY RL							
STA 0+94.5 - 8+50	605	605	--	3	--	756	--
ASPHALT EAST DRIVEWAY RL							
STA 0+00 - 1+12	66	66	--	--	--	112	--
CONCRETE DRIVEWAY RL							
STA 0+39 - 4+43	318	318	7	1	318	404	--
UNDISTRUBTED	49	49	--	--	16	64	1
TOTAL	1,038	1,038	7	4	334	1,336	1

LOCATION	PIPE UNDERDRAIN	GEOTEXTILE FABRIC
	6-INCH 612.0106 LF	TYPE DF SCHEDULE A 645.0111 SY
CONCRETE DRIVEWAY RL		
STA 0+96 TO STA 4+14	318	141
UNDISTRIBUTED	16	7
TOTALS	334	148

FIELD OFFICE TYPE B 642.5001 EACH	
LOCATION	
PROJECT	1
TOTAL	1

MOBILIZATION 619.1000 EACH	
LOCATION	
PROJECT	1
TOTAL	1

	BACKFILL GRANULAR GRADE 1 209.1100 CY	GEOTEXTILE TYPE R 645.0130* SY	POND LINER CLAY 640.1303.S CY	PIPE UNDERDRAIN 12-INCH 612.0112 LF	PIPE UNDERDRAIN UNPERFORATED 12-INCH, 1/8-INCH SLOTS 612.0212* LF	RIPRAP LIGHT 606.0100* CY	PEA GRAVEL SPV.0035.01 CY
DETENTION POND							
DETENTION POND							
SAND FOREBAY	106	349.00	181	48	--	--	15
OVERFLOW WEIR	--	8.00	8	--	22	--	--
DRY DETENTION BASIN	--	420.00	420	--	--	0.67	--
UNDISTRIBUTED	13	39.00	30	2	1	0.04	1
TOTALS	119	816.00	639	50	23	0.71	16

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

	SITE LIGHTING SPV.0105.10 LS
LOCATION	
PROJECT	1
TOTAL	1

	WATER SERVICE SPV.0105.08 LS
LOCATION	
PROJECT	1
TOTAL	1

	STATIC SCALE SYSTEM SPV.0105.01 LS
LOCATION	
CONCRETE DRIVEWAY RL STA 6+00 LT	1
TOTAL	1

	ELECTRICAL SERVICE SPV.0105.09 LS
LOCATION	
PROJECT	1
TOTAL	1

	NATURAL GAS SERVICE SPV.0055.01 DOL
LOCATION	
PROJECT	5000
TOTAL	5000

	UNDERGROUND DETENTION WASTEWATER TANK, 10-FT DIAMETER SPV.0105.02 LS
LOCATION	
CONCRETE DRIVEWAY RL STA 3+00 RT	1
TOTAL	1

LOCATION	BRINE BUILDING			
	GENERAL	PLUMBING	HEATING AND	ELECTRICAL
	CONSTRUCTION	SPV.0105.04	VENTILATION	SPV.0105.06
	SPV.0105.03	LS	SPV.0105.05	LS
CONCRETE DRIVEWAY RL				
STA 2+25 RT	1	1	1	1
TOTAL	1	1	1	1

LOCATION	SALT STORAGE SHED				
	SPV.0105.07	FLOOR SLAB			
		BASE AGGREGATE DENSE	TACK	ASPHALTIC	WATER
		1 1/4-INCH	COAT	SURFACE	
CONCRETE DRIVEWAY RL		305.0120*	455.0605*	465.0105*	624.0100*
STA 2+25 RT	1	1,265	135	455	13.00
UNDISTRIBUTED	--	67	5	24	0.32
TOTAL	1	1,332	140	479	13.32

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

Division	From/To Station	Location	205.0100 Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Expanded EBS Backfill (6)	Unexpanded Fill	Expanded Fill (7)	Waste (5)	208.0100 Borrow (8)	Comment:
			Cut (2)	EBS Excavation (3)			Factor 1.10		Factor 1.00			
Division 1												
Asphalt_DWY_XML.xml	00+94.54/08+14.58		20,219	0	0	0	0	280	280	20,219	280	
Asphalt East_DWY_XML.xml	00+00/01+12.07		250	0	0	0	0	0	0	250	0	
Concrete_DWY_XML.xml	00+39.67/04+43		12,060	0	0	0	0	81	81	12,060	81	
UNDISTRIBUTED			0	2,000	0	0	2,200	0	0	2,000	2,200	
Division 1 Subtotal			32,529	2,000	0	0	2,200	361	361	34,529	2,561	
Grand Total			32,529	2,000	0	0	2,200	361	361	34,529	2,561	
Total Common Exc			34,529		Plus Detention Pond Excavation (2,681 CY) = 37,210 CY							

Notes:

(1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

(2) Salvaged/Unsuable Pavement Material is included in Cut.

(3) Salvaged/Unusable Pavement Material

(4) Available Material = Cut - Salvaged/Unusable Pavement Material

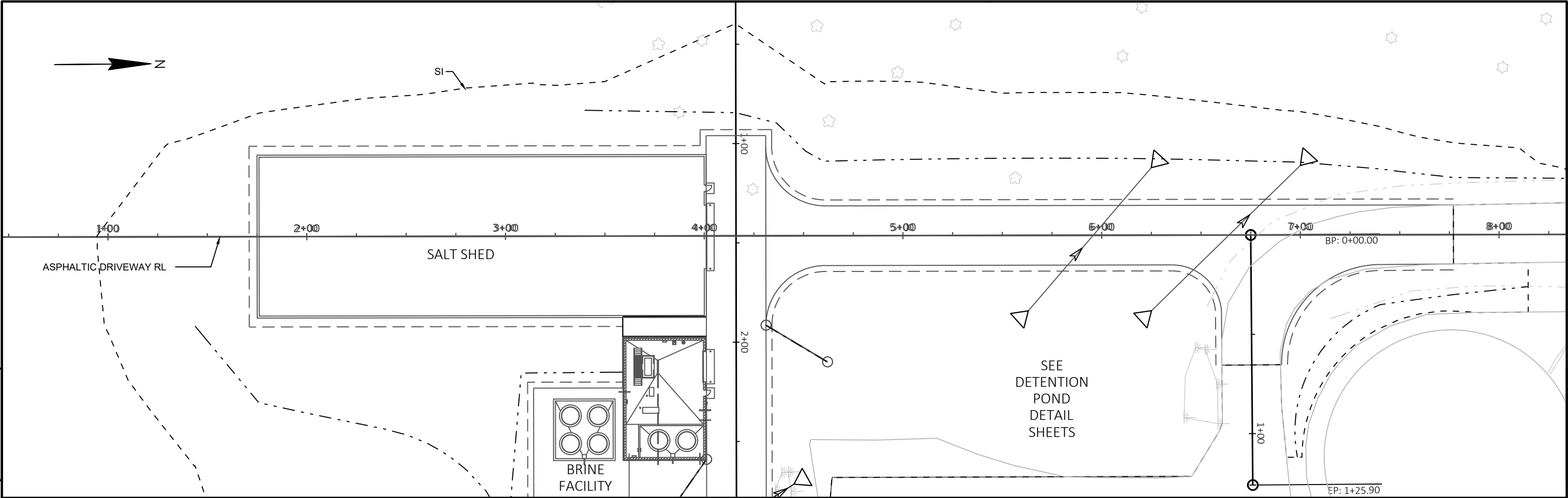
(5) Common Excavation not to be used as fill material.

(6) Expanded EBS Backfill - This is to be filled with Borrow material. EBS Backfill Factor = 1.1. Item number 208.0100

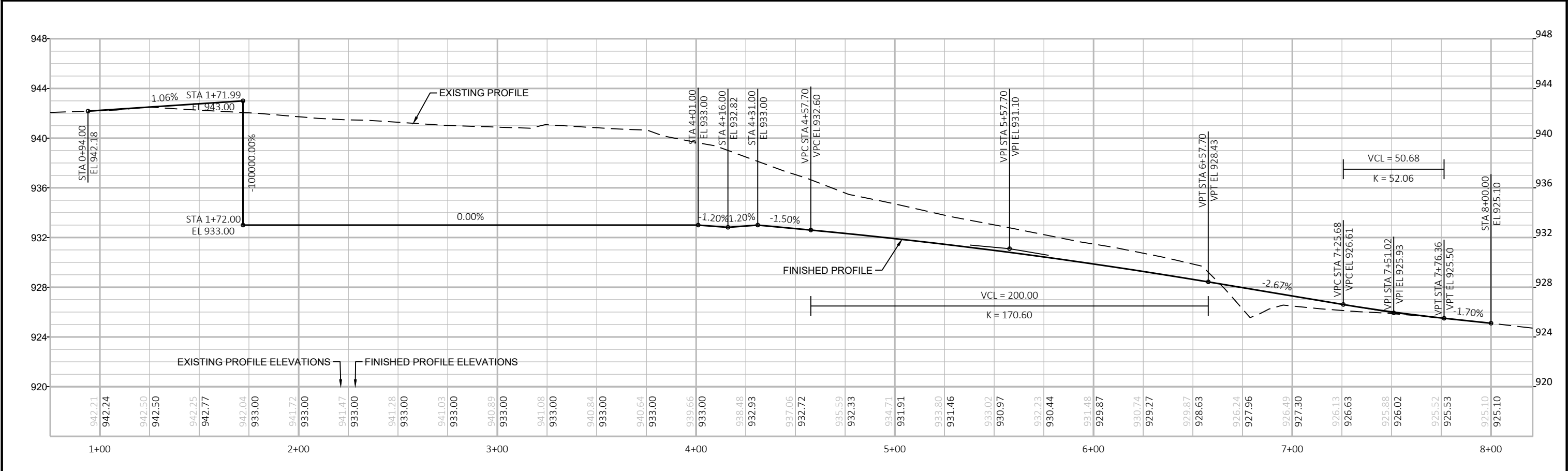
(7) Expanded Fill Factor = 1

(8) Borrow is required in all fill areas.

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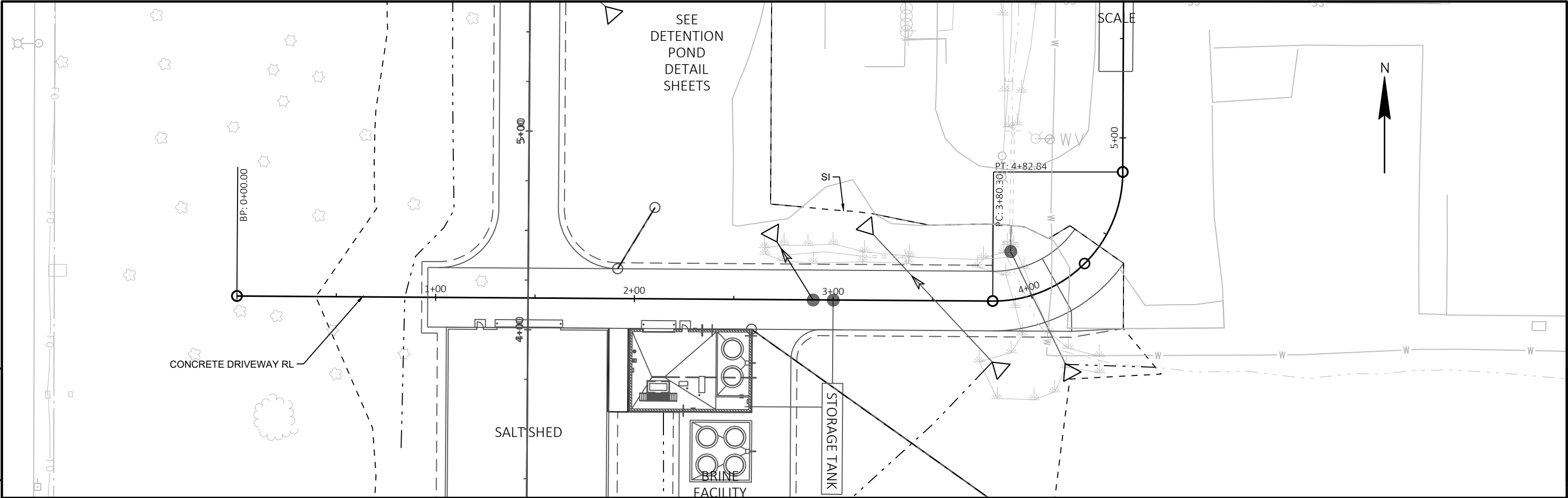


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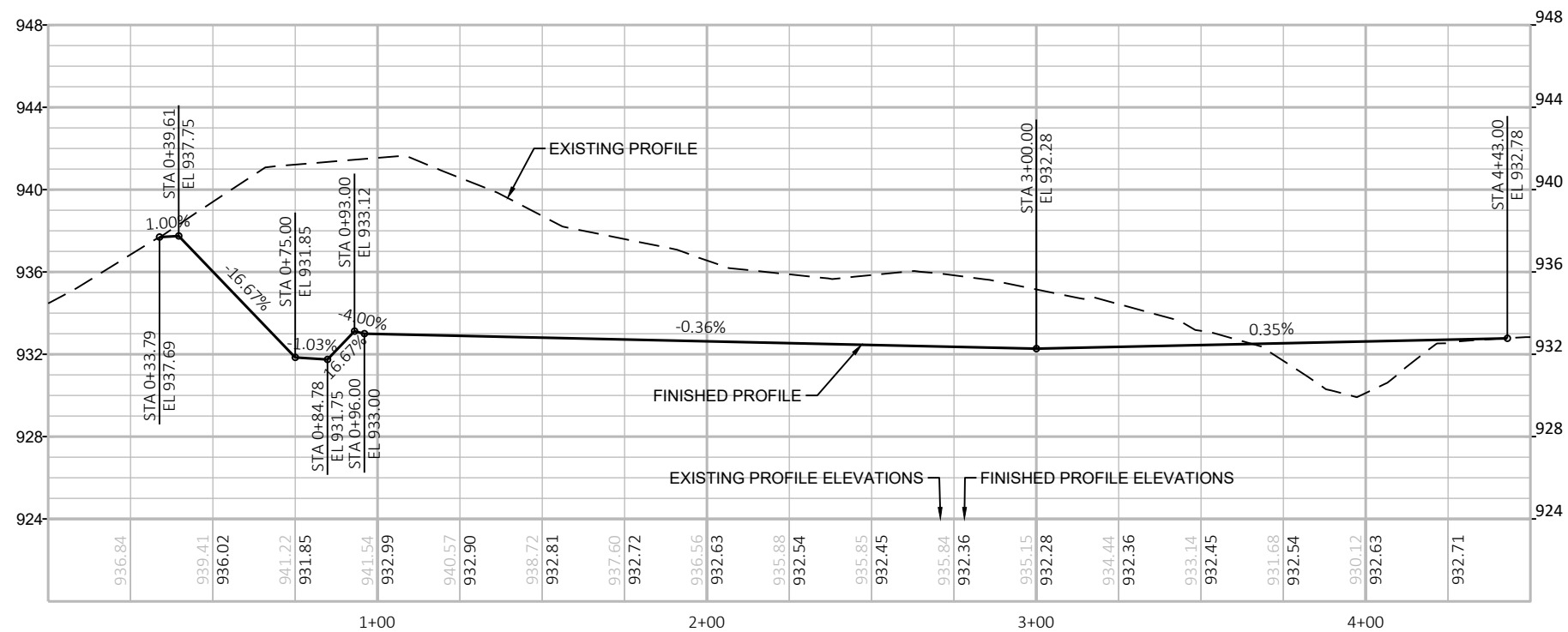


PROJECT NO: 1060-62-70	HWY: IH-94	COUNTY: WAUKESHA	PLAN AND PROFILE: ASPHALTIC DRIVEWAY	SHEET	E
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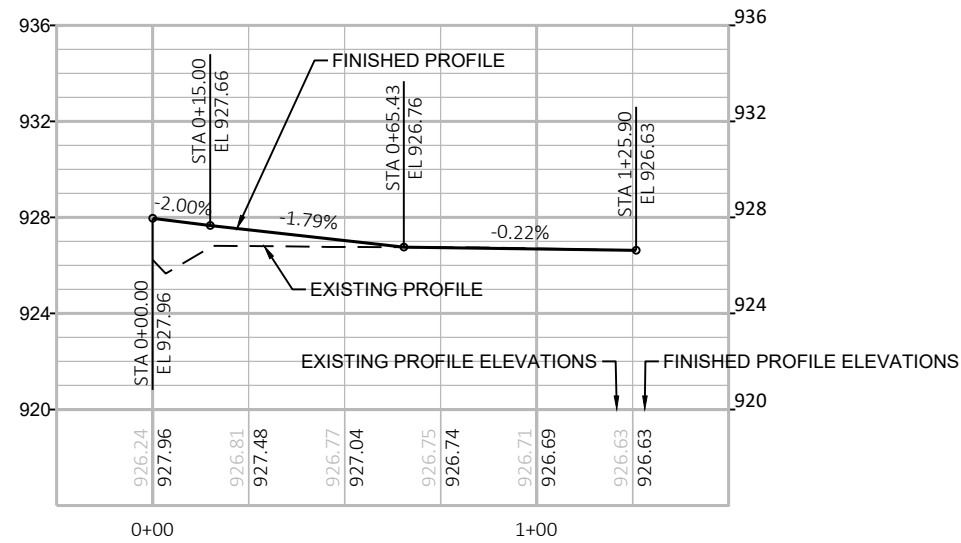
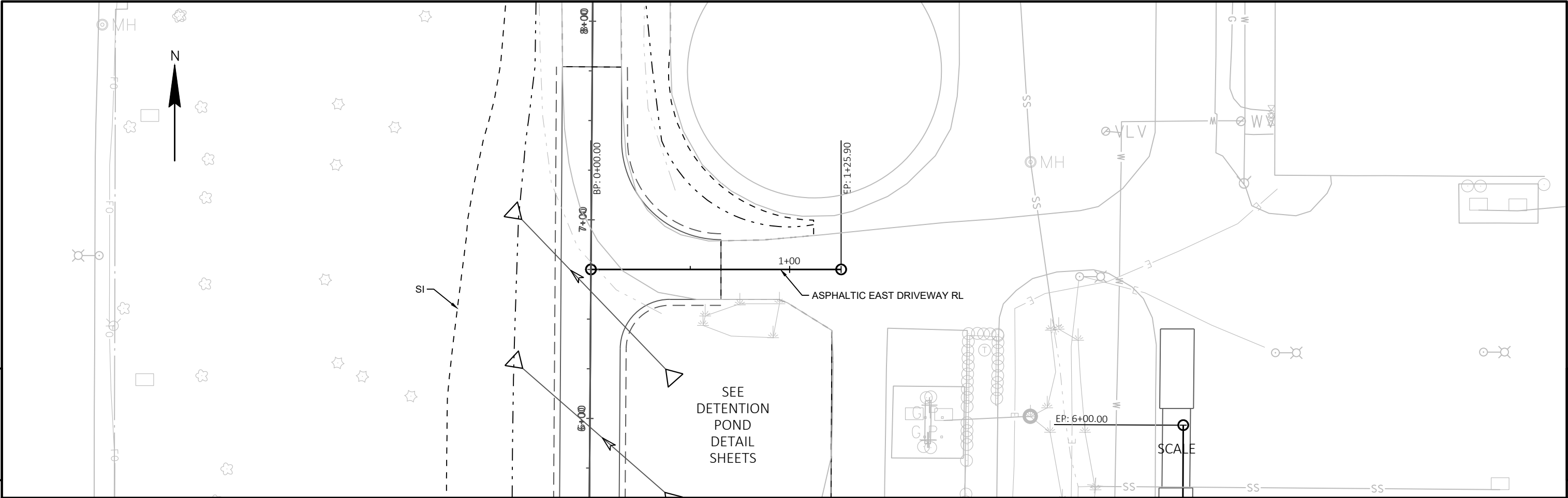
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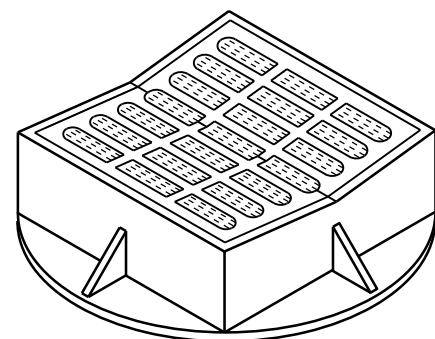
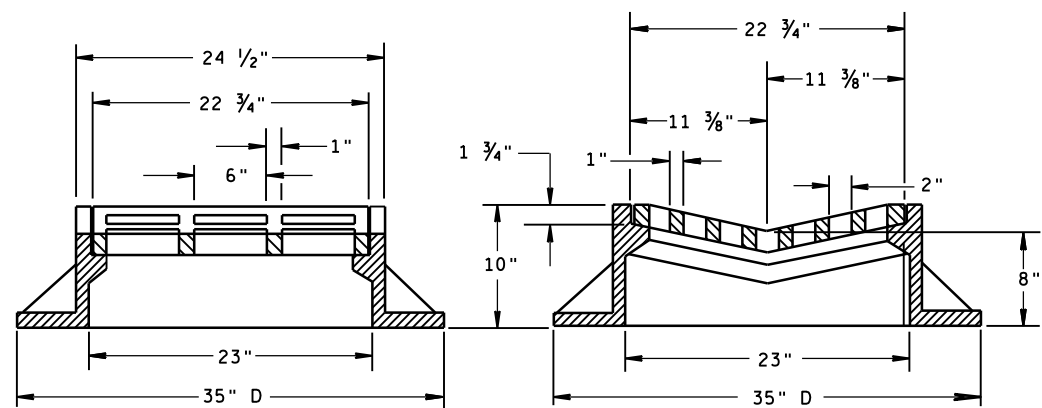


PROJECT NO: 1060-62-70	HWY: IH-94	COUNTY: WAUKESHA	PLAN AND PROFILE: CONCRETE DRIVEWAY	SHEET	E
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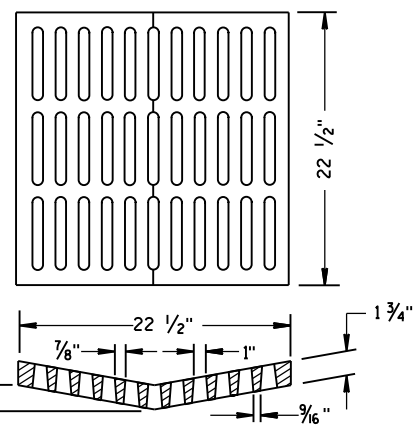


Standard Detail Drawing List

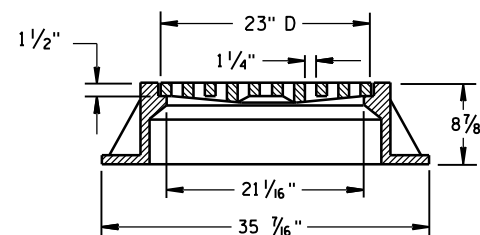
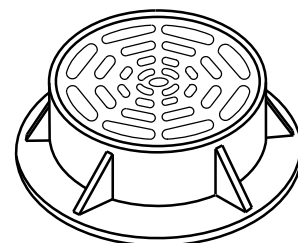
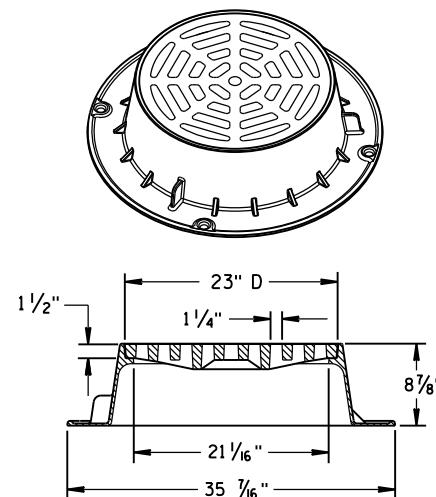
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08D15-05B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C18-05A	CONCRETE PAVEMENT JOINTING
13C18-05B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-05C	CONCRETE PAVEMENT JOINT TYPES
13C18-05D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14A02-01	TREE PLANTING DETAIL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END



TYPE "B"

ALTERNATIVE GRATE FOR
TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
 NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

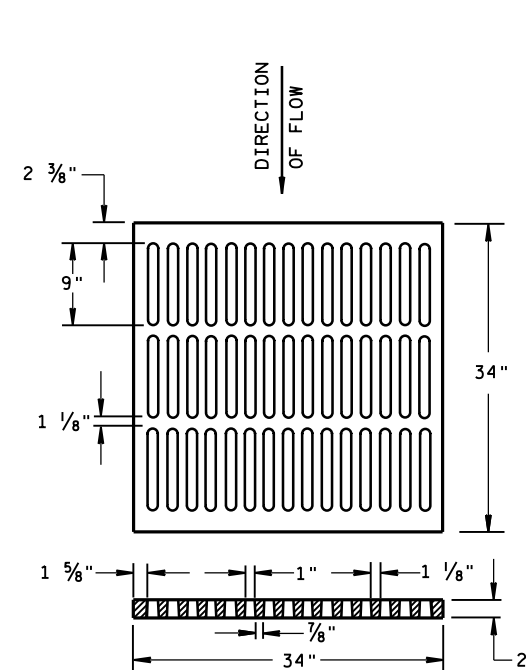
NOTE: EITHER CASTING IS ACCEPTABLE

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.

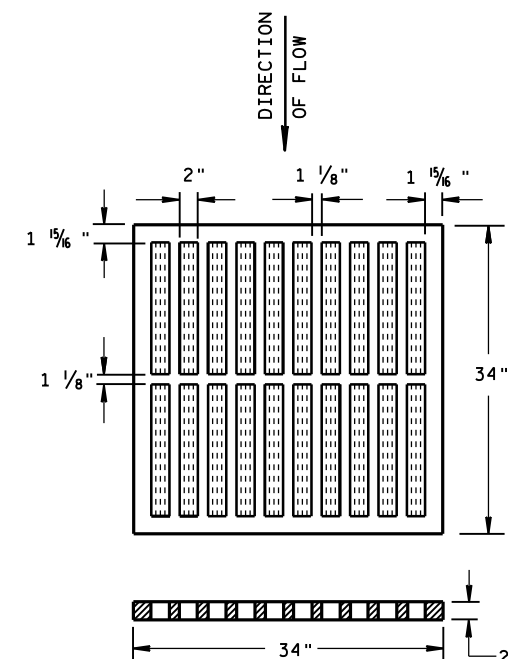
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



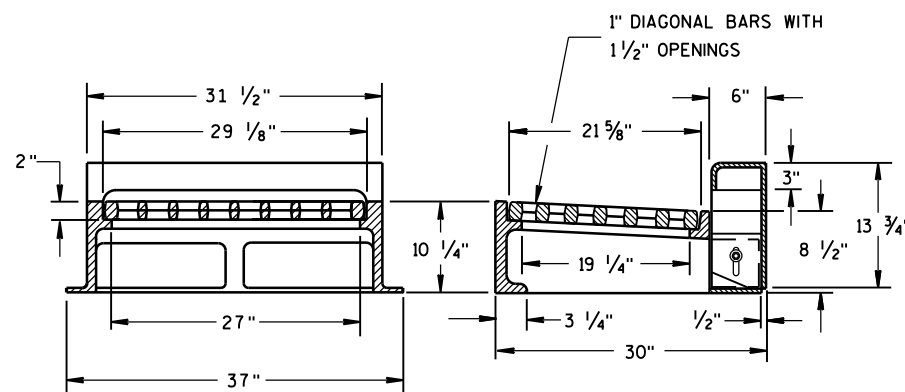
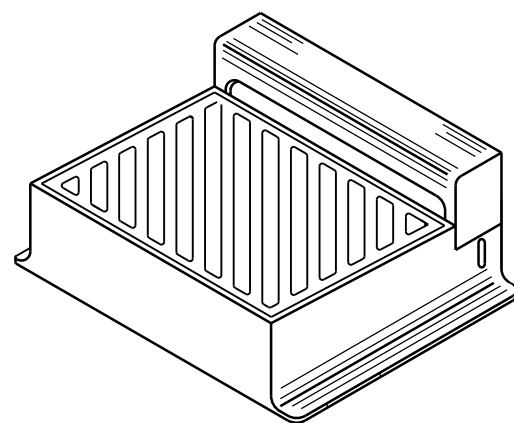
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
 NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
 NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

DIAGONAL SLOTS, SHALL BE ORIENTED
 TO THE DIRECTION OF FLOW AS ILLUSTRATED.
 GRATES ARE MANUFACTURED TO BE REVERSIBLE.

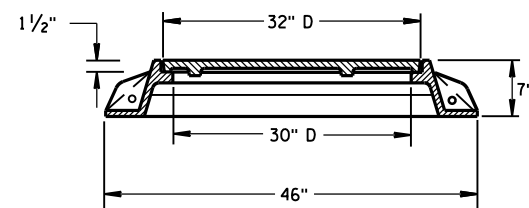
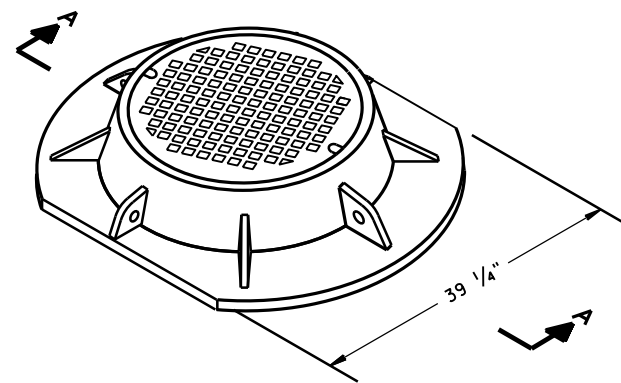
DIRECTION
OF FLOW

INLET COVERS
 TYPE B, B-A, C,
 MS, MS-A, & WM

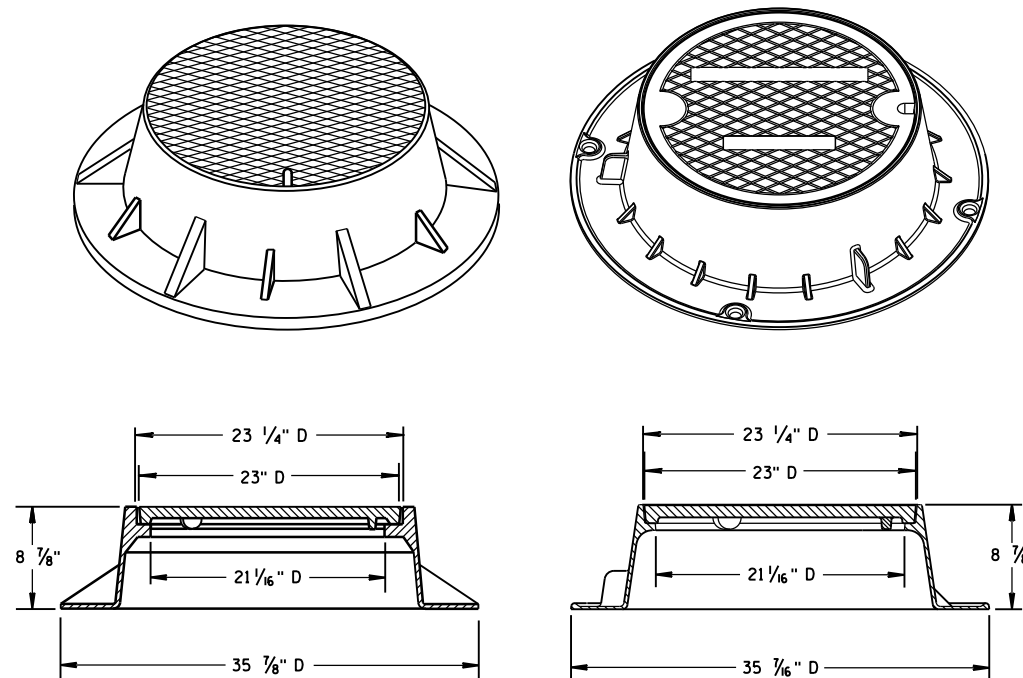
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 11/27/2013
 DATE
 FHWA

/S/ Jerry H. Zogg
 ROADWAY STANDARDS DEVELOPMENT
 ENGINEER

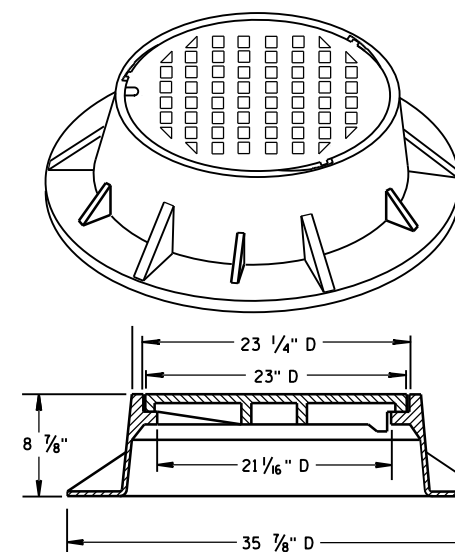
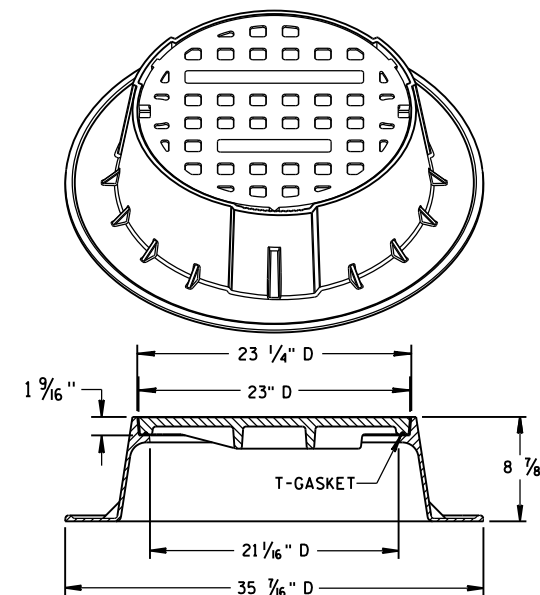


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

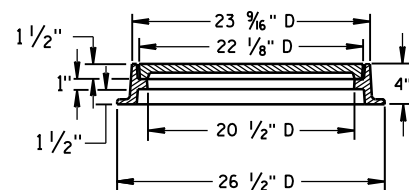
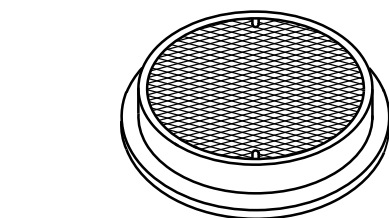


TYPE "J" SPECIAL

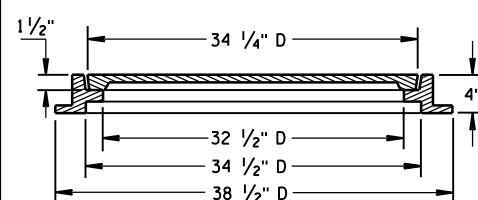
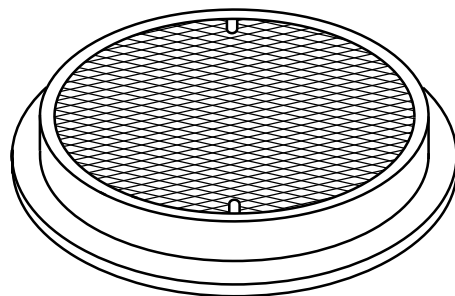
TYPE "B" NON-ROCKING SELF-SEAL LID

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

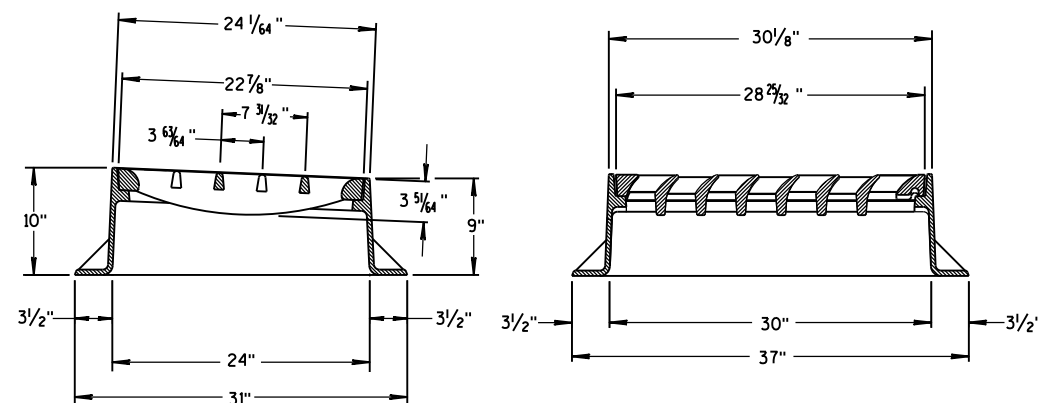
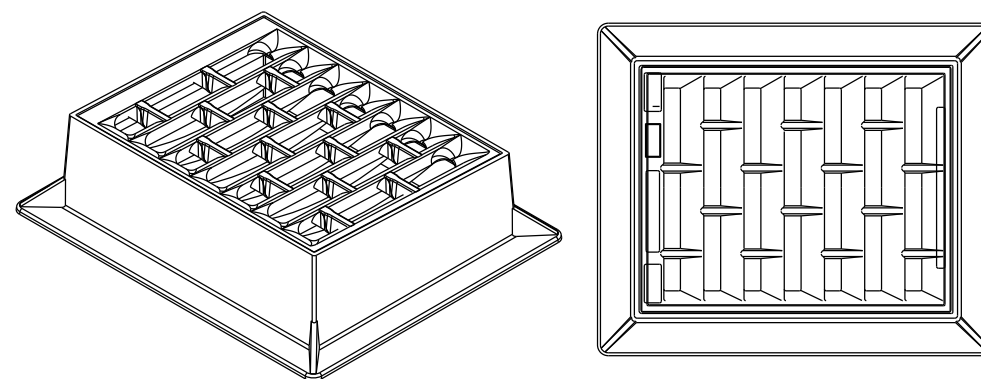
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

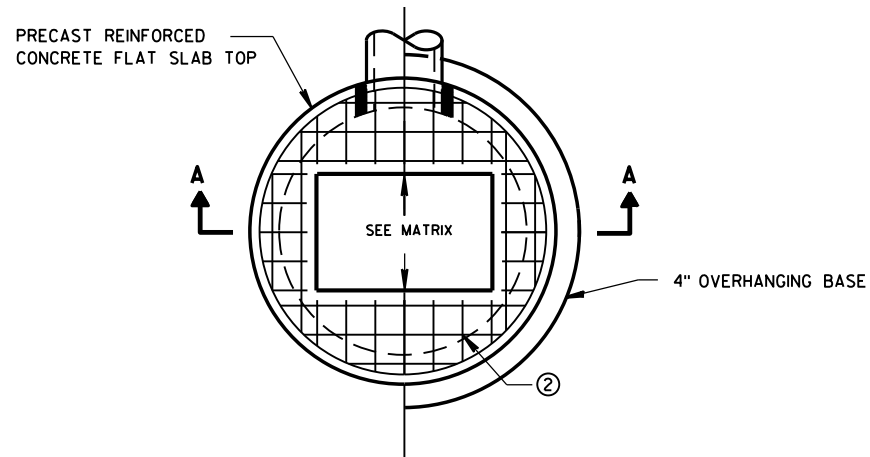
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K,
J, J-S, L & M

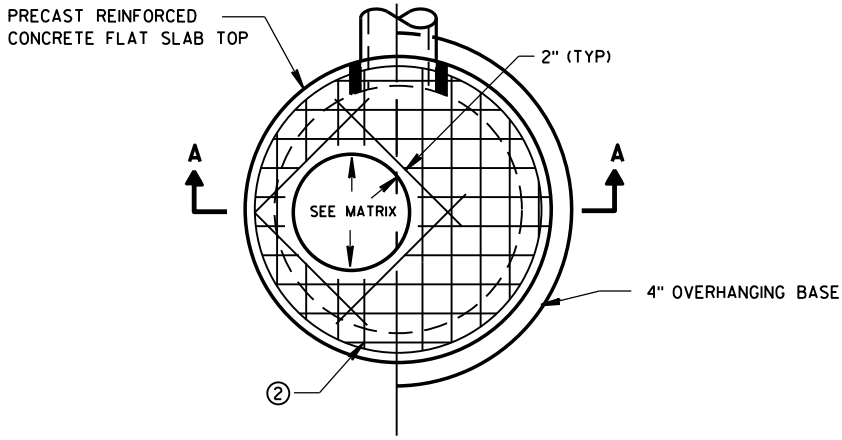
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

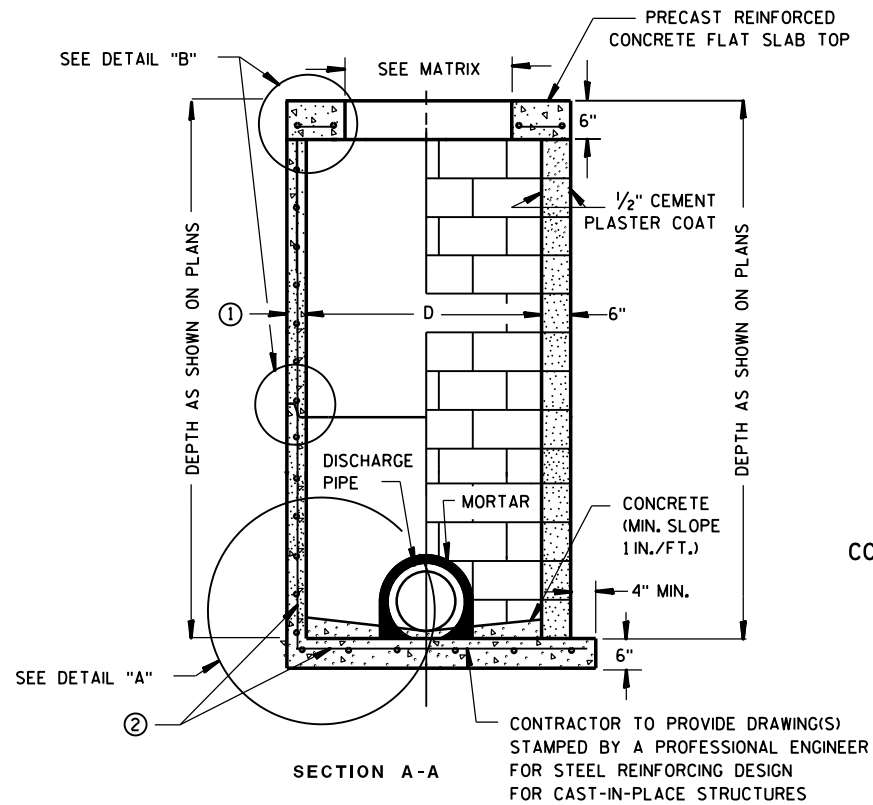
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



PLAN VIEW RECTANGULAR OPENING

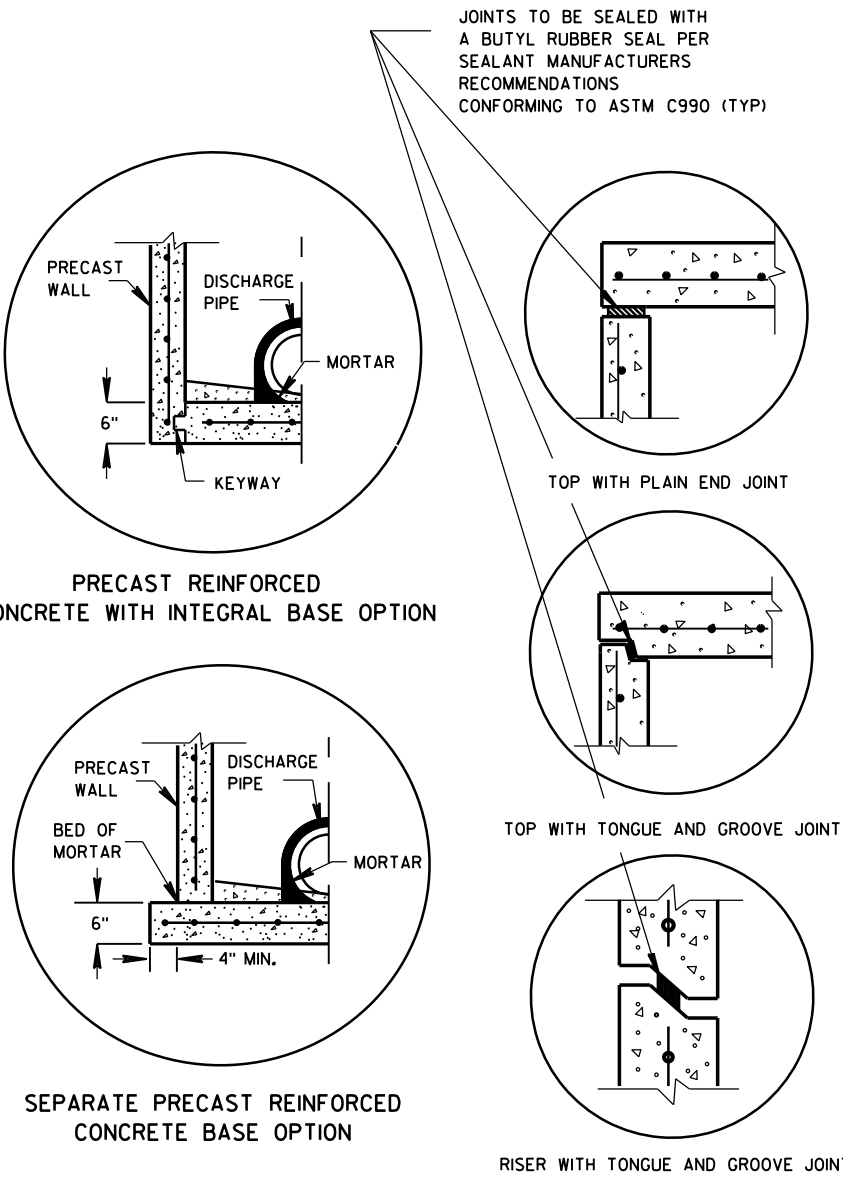


PLAN VIEW CIRCULAR OPENING



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP



DETAIL "A"

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

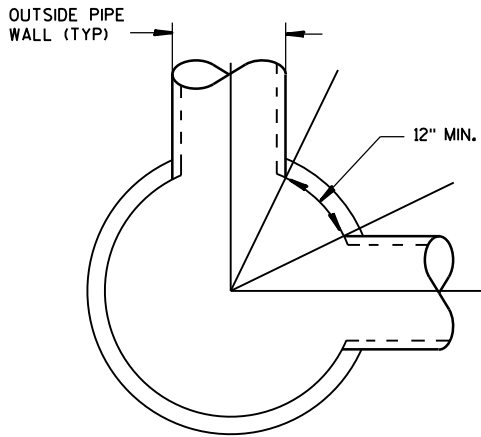
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

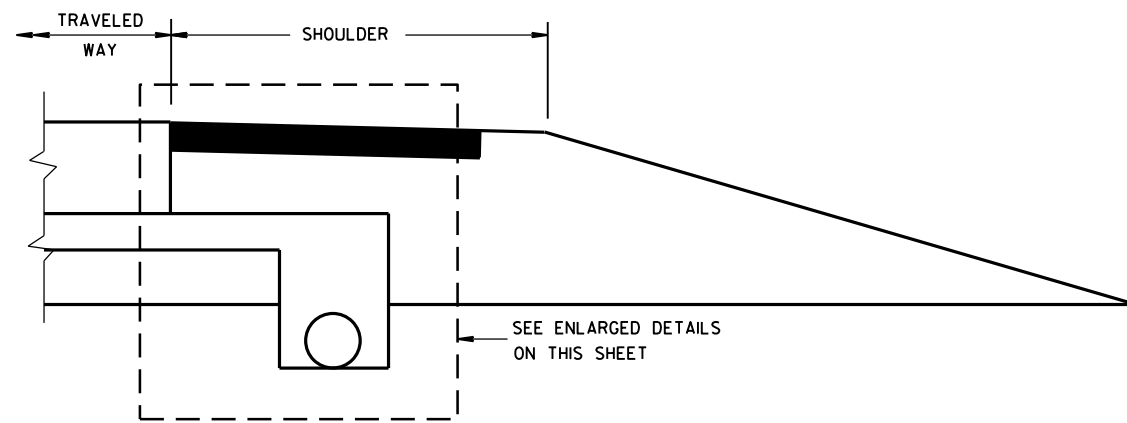
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



RURAL CROSS SECTION

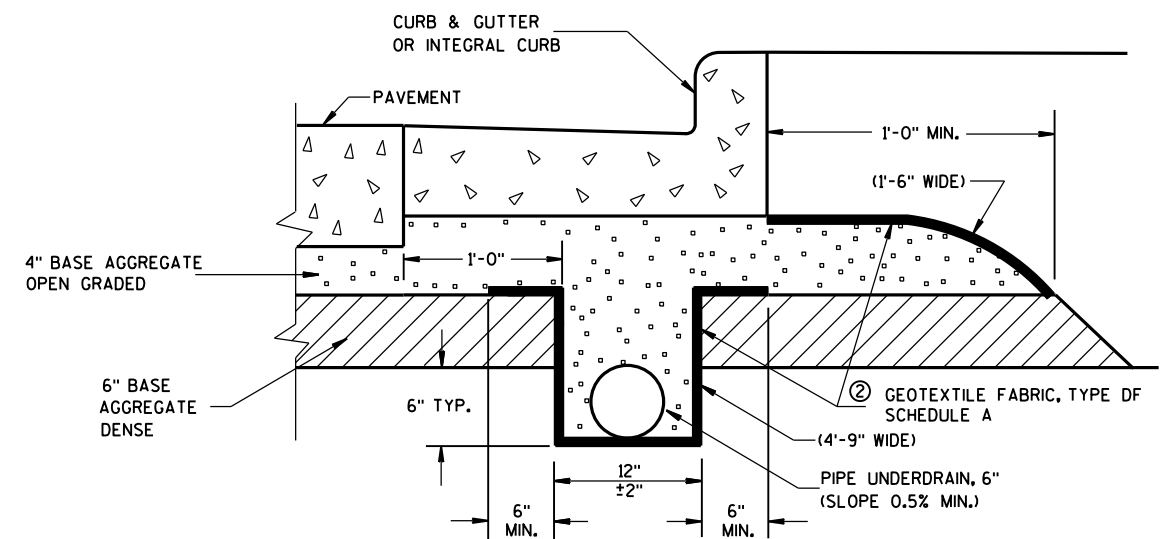
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

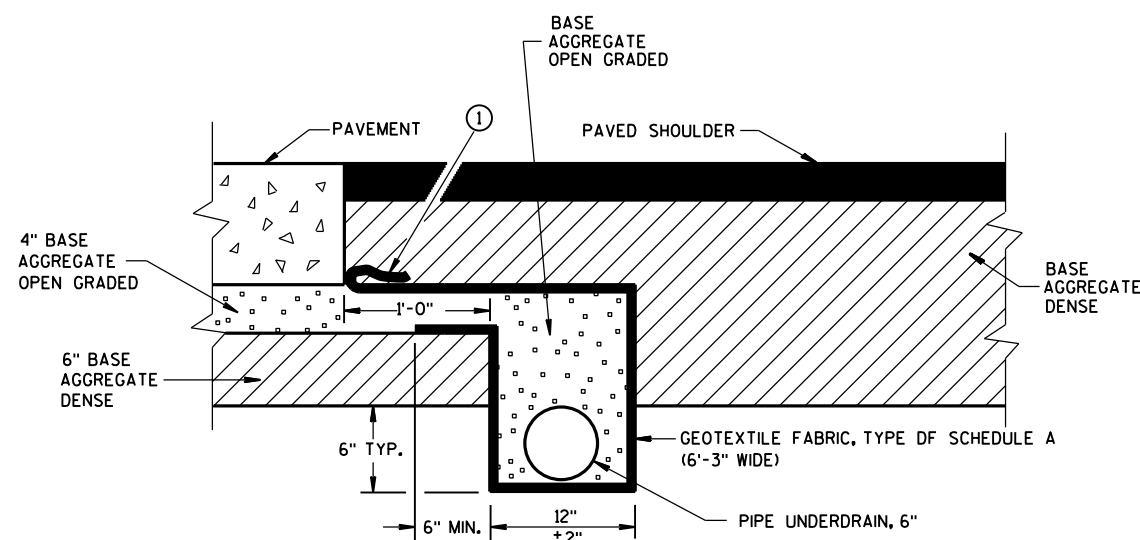
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

① FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

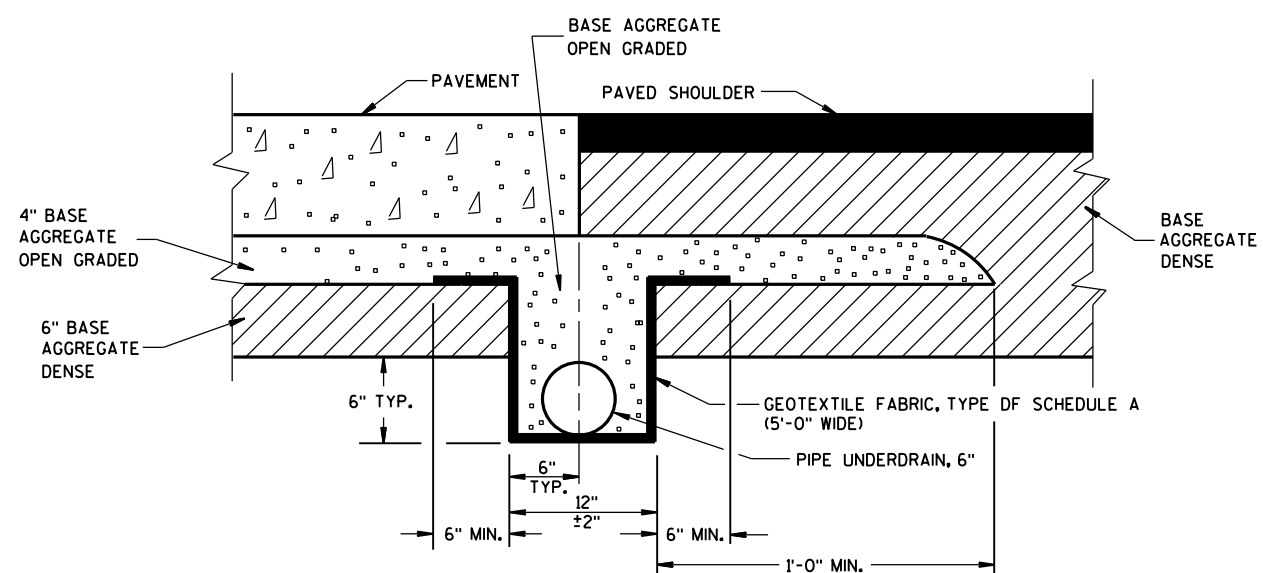
② TOTAL FABRIC WIDTH IS 6'-3" FOR PAYMENT.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



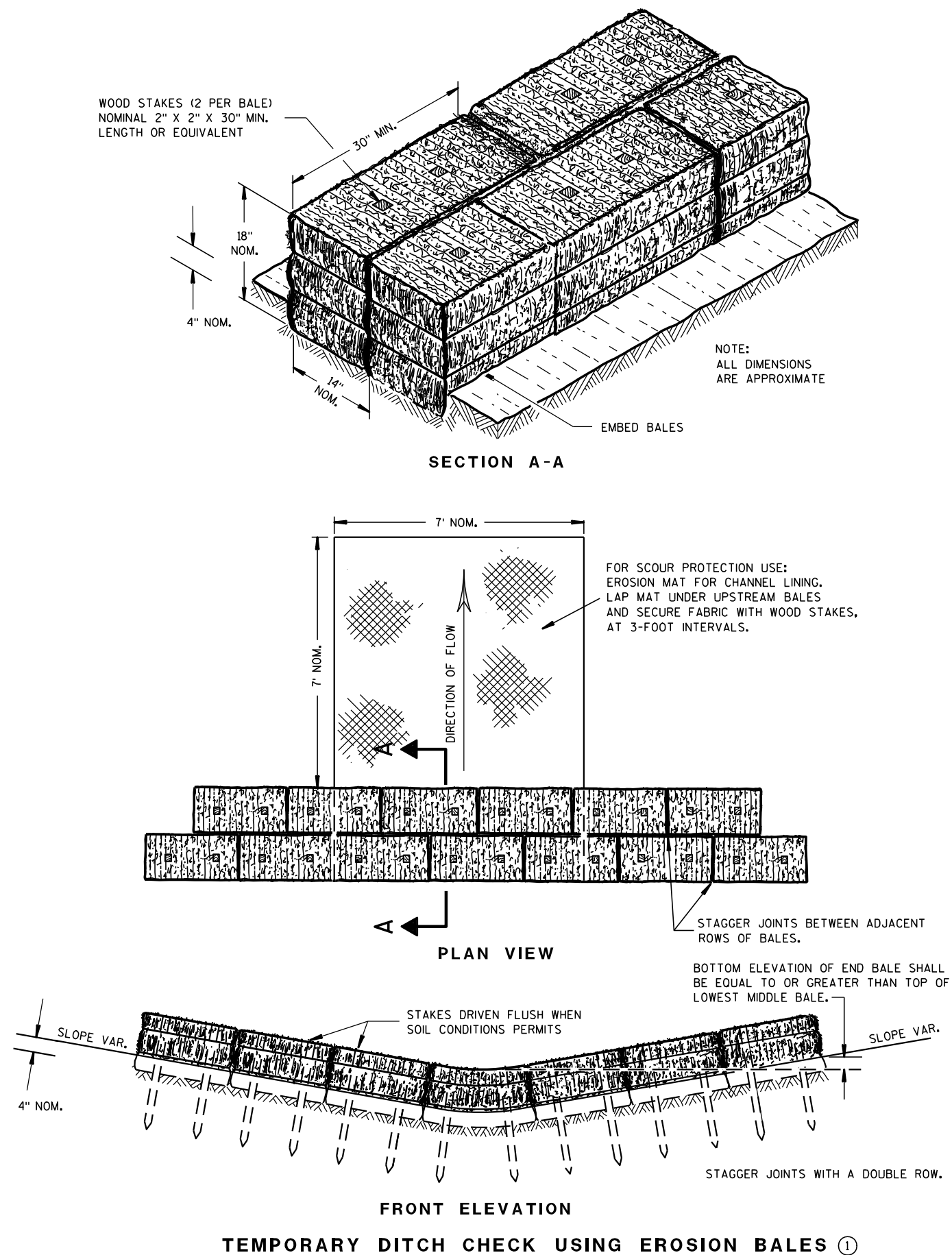
PRE-PAVING INSTALLATION ALTERNATE

EDGEDRAIN IN RURAL ROADWAY

**EDGEDRAIN AND BASE
AGGREGATE OPEN GRADED**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

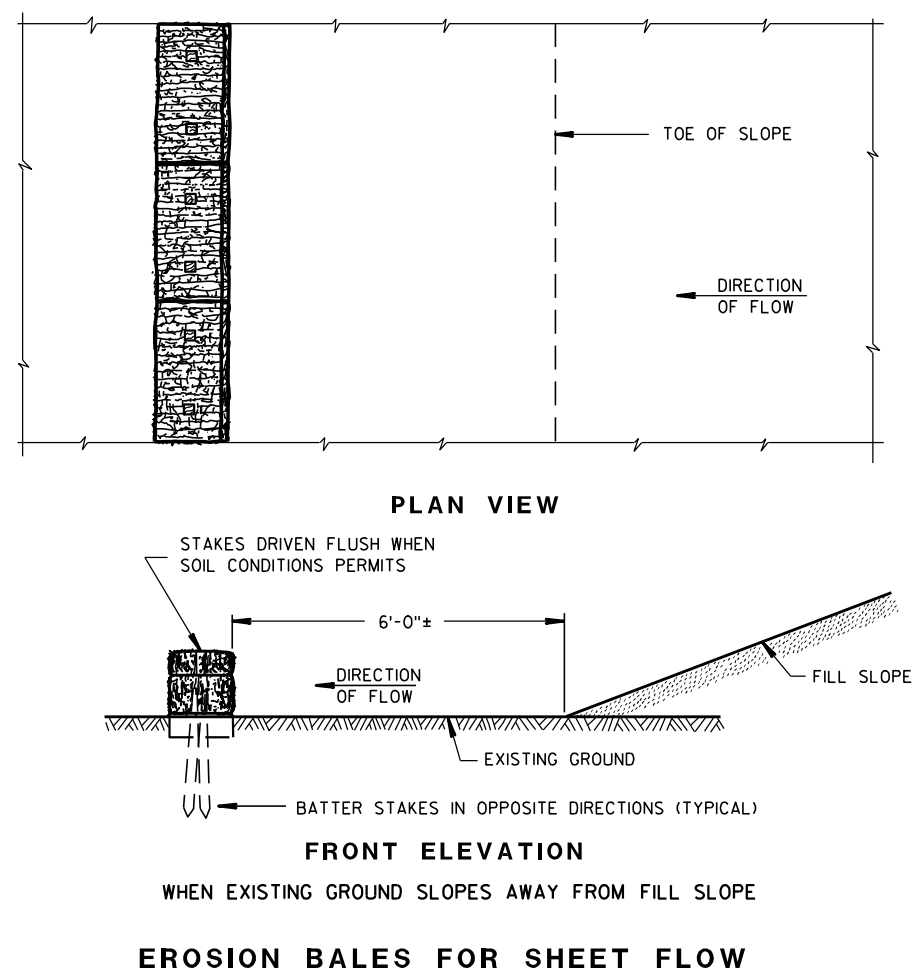
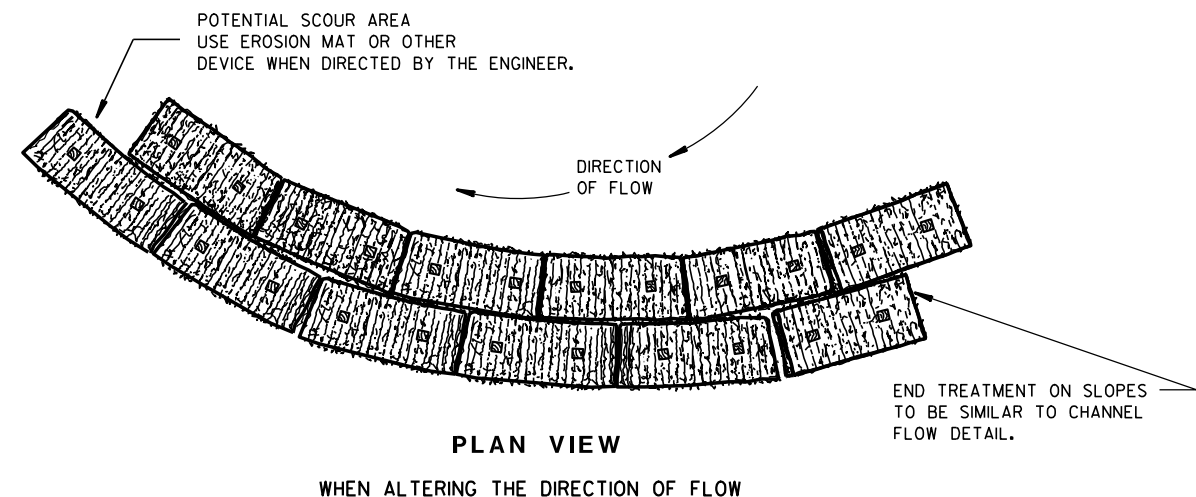
APPROVED
Sept. 2015
DATE /S/ Peter Kemp, P.E.
PAVEMENT SUPERVISOR
FHWA



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

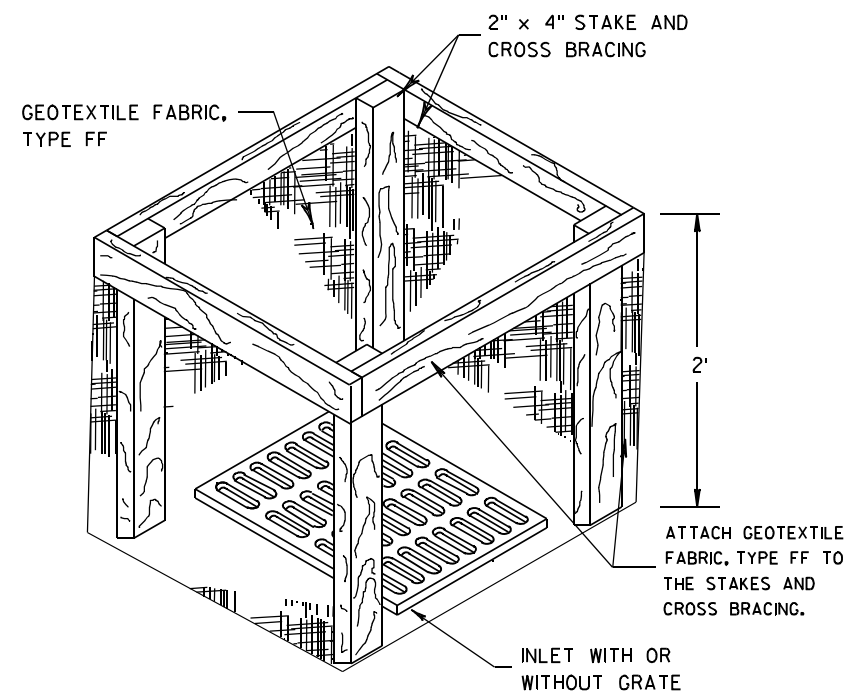
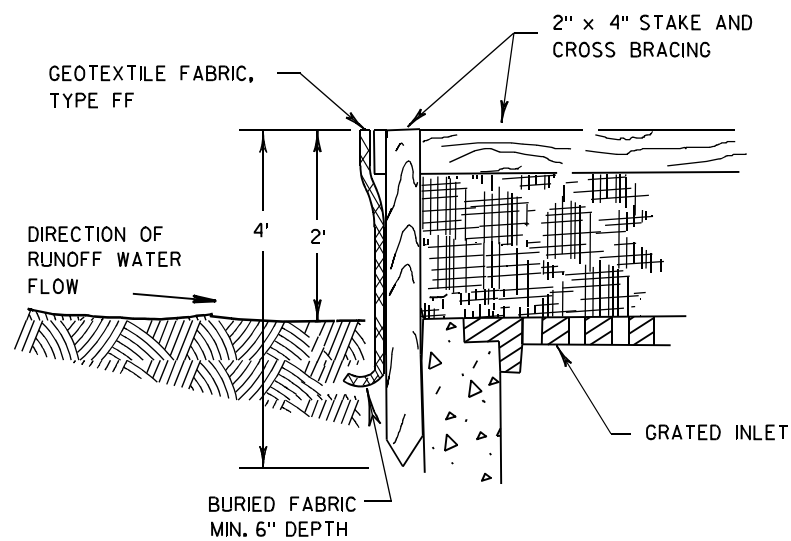
FHWA



- 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 1½" X 1½" 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.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

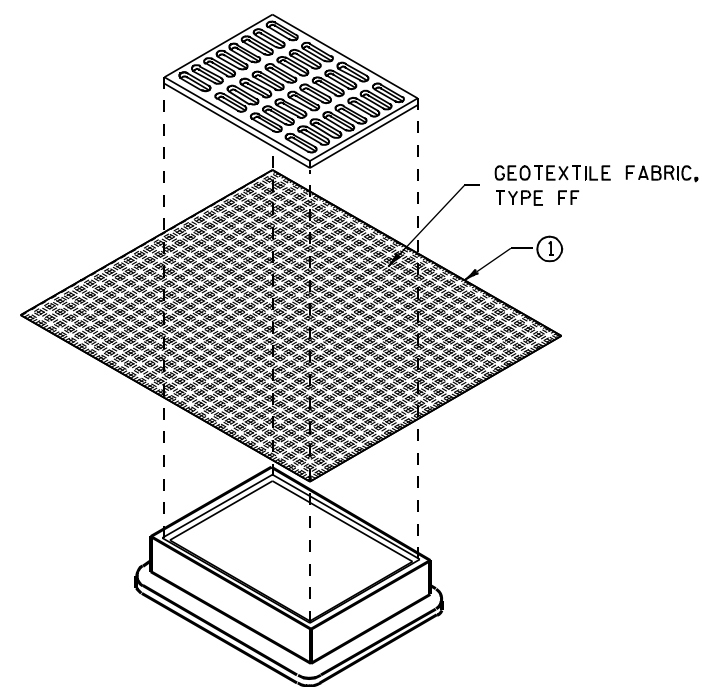
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

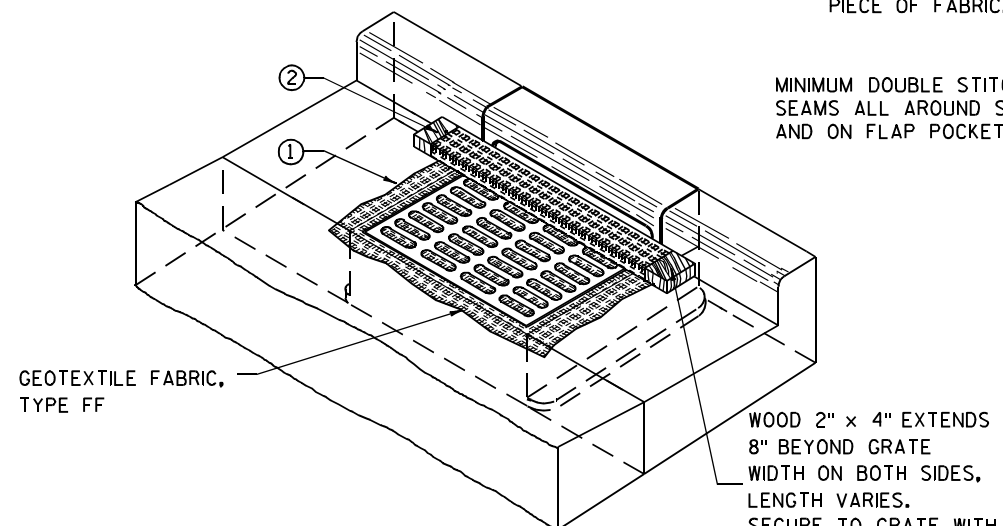
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

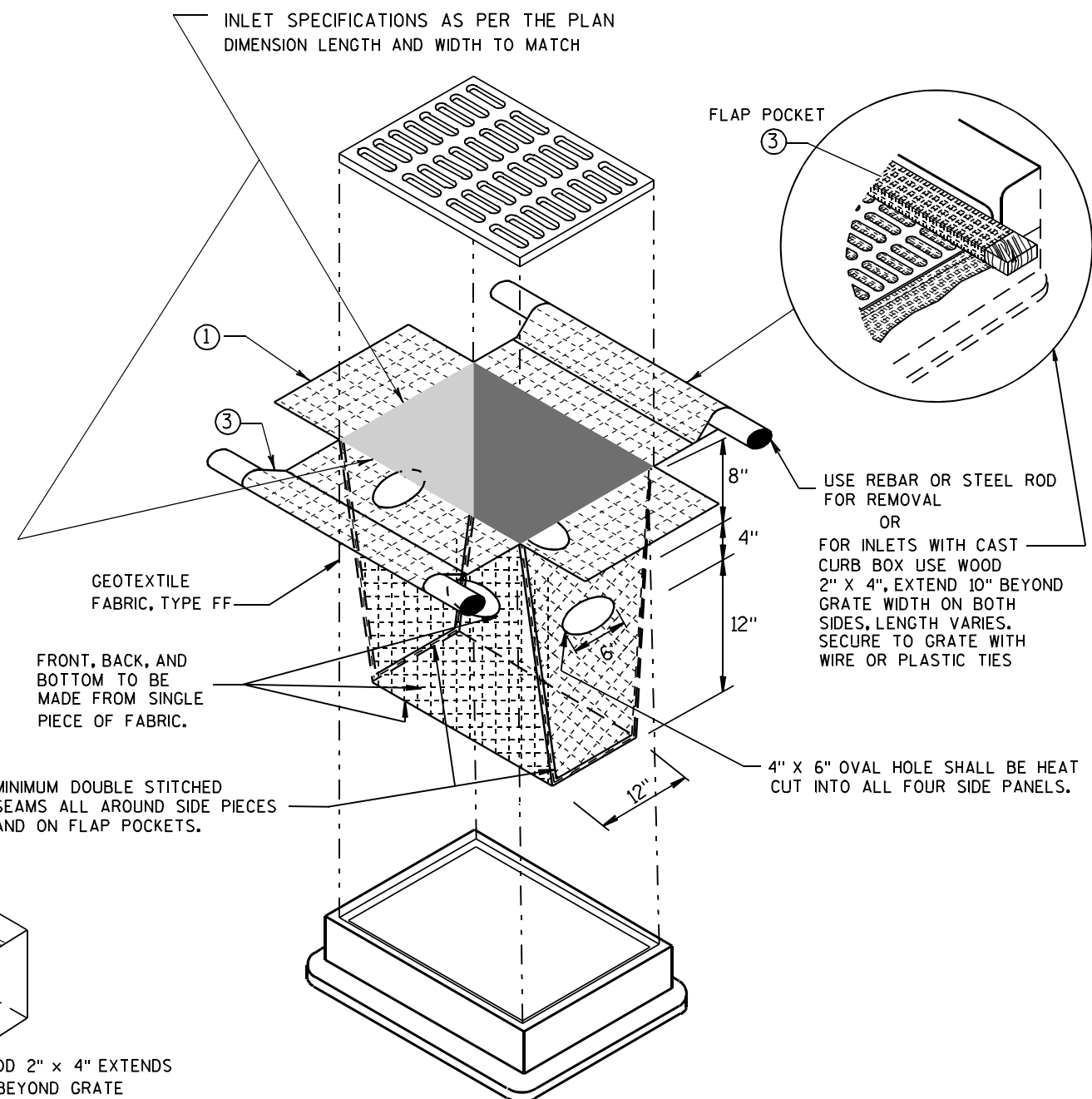
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

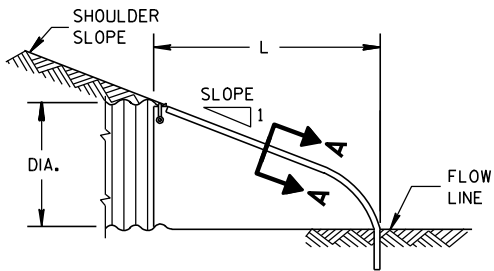
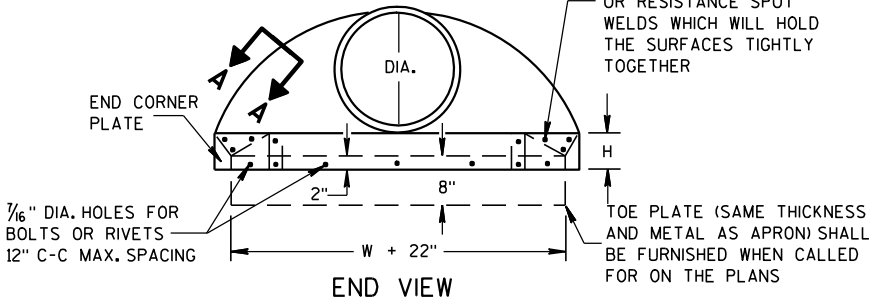
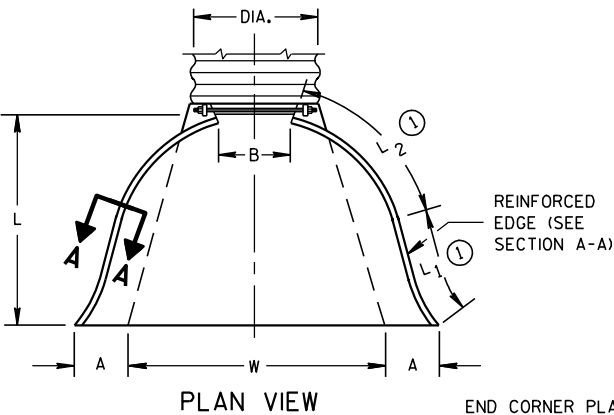
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Cannestra
DATE
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1½")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17½	24	2½ to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21¾	30	2½ to 1	1 Pc.	
18	.064	.060	8	10	6	31	15	28¼	36	2½ to 1	1 Pc.	
21	.064	.060	9	12	6	36	18	29⅝	42	2½ to 1	1 Pc.	
24	.064	.075	10	13	6	41	18	37¼	48	2½ to 1	1 Pc.	
30	.079	.075	12	16	8	51	18	52¼	60	2½ to 1	1 Pc.	
36	.079	.105	14	19	9	60	24	59¾	72	2½ to 1	2 Pc.	
42	.109	.105	16	22	11	69	24	75⅝	84	2½ to 1	2 Pc.	
48	.109	.105	18	27	12	78	24	81	90	2¼ to 1	3 Pc.	
54	.109	.105	18	30	12	84	30	85½	102	2¼ 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	1½ to 1	3 Pc.	
84	.109x	.105x	18	45	12	87	—	—	138	1½ to 1	3 Pc.	
90	.109x	.105x	18	37	12	87	—	—	144	1½ to 1	3 Pc.	
96	.109x	.105x	18	35	12	87	—	—	150	1½ to 1	3 Pc.	

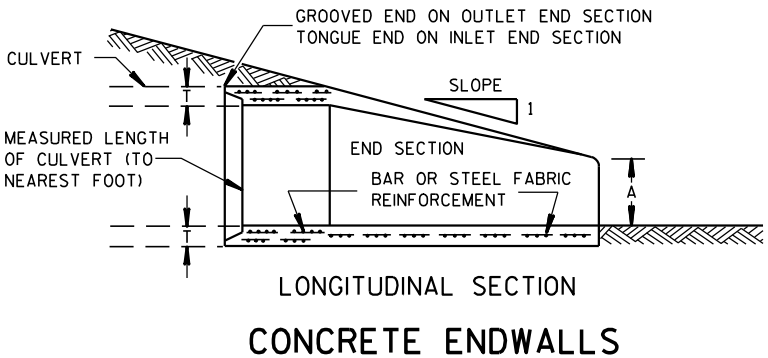
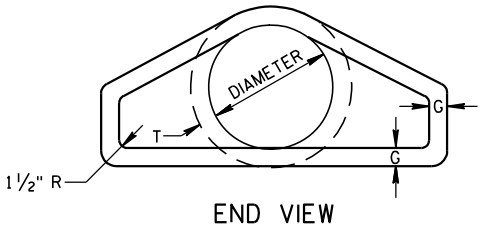
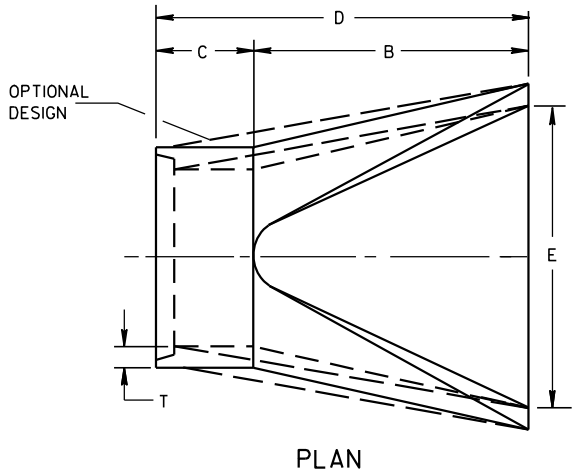
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

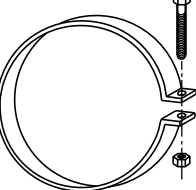
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43 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 ¹ / ₂ 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

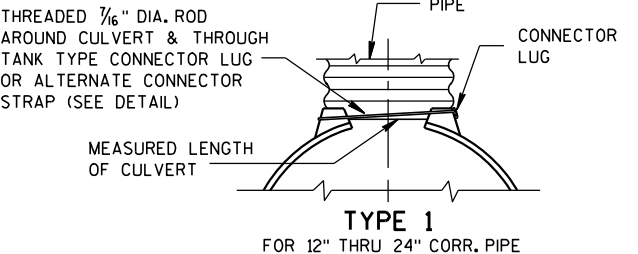


LONGITUDINAL SECTION
CONCRETE ENDWALLS

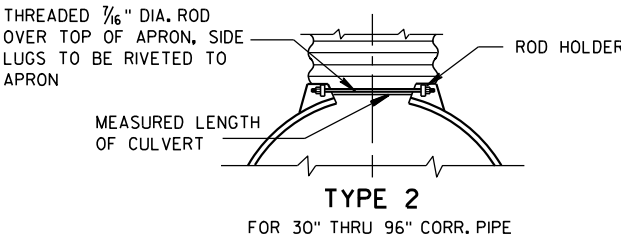
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



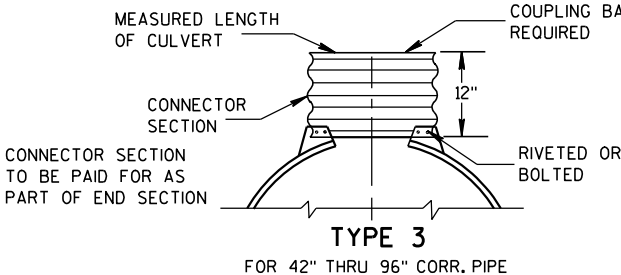
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



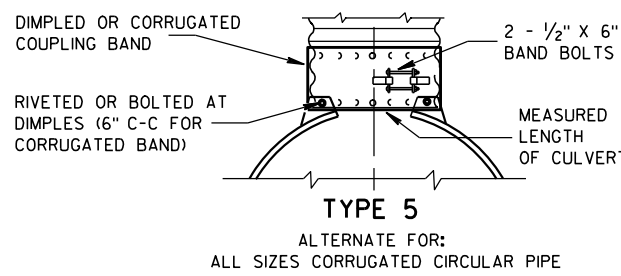
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

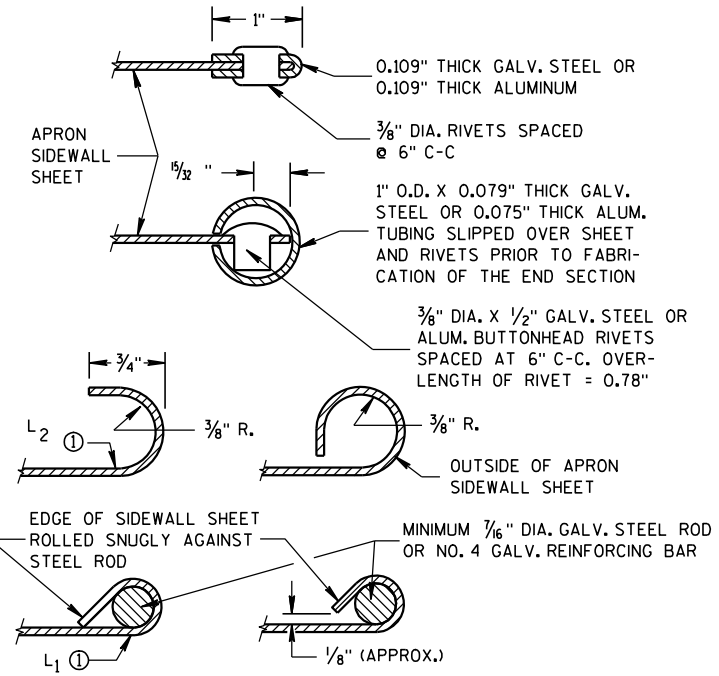
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

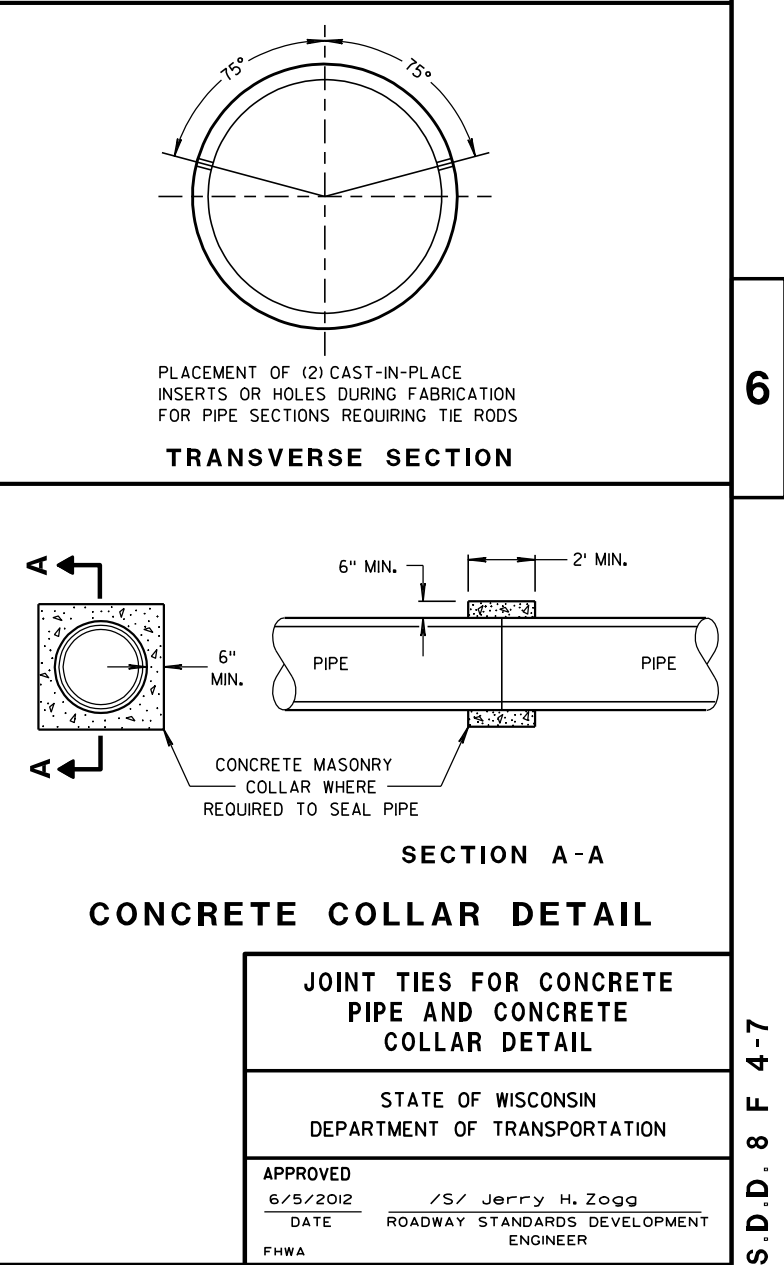
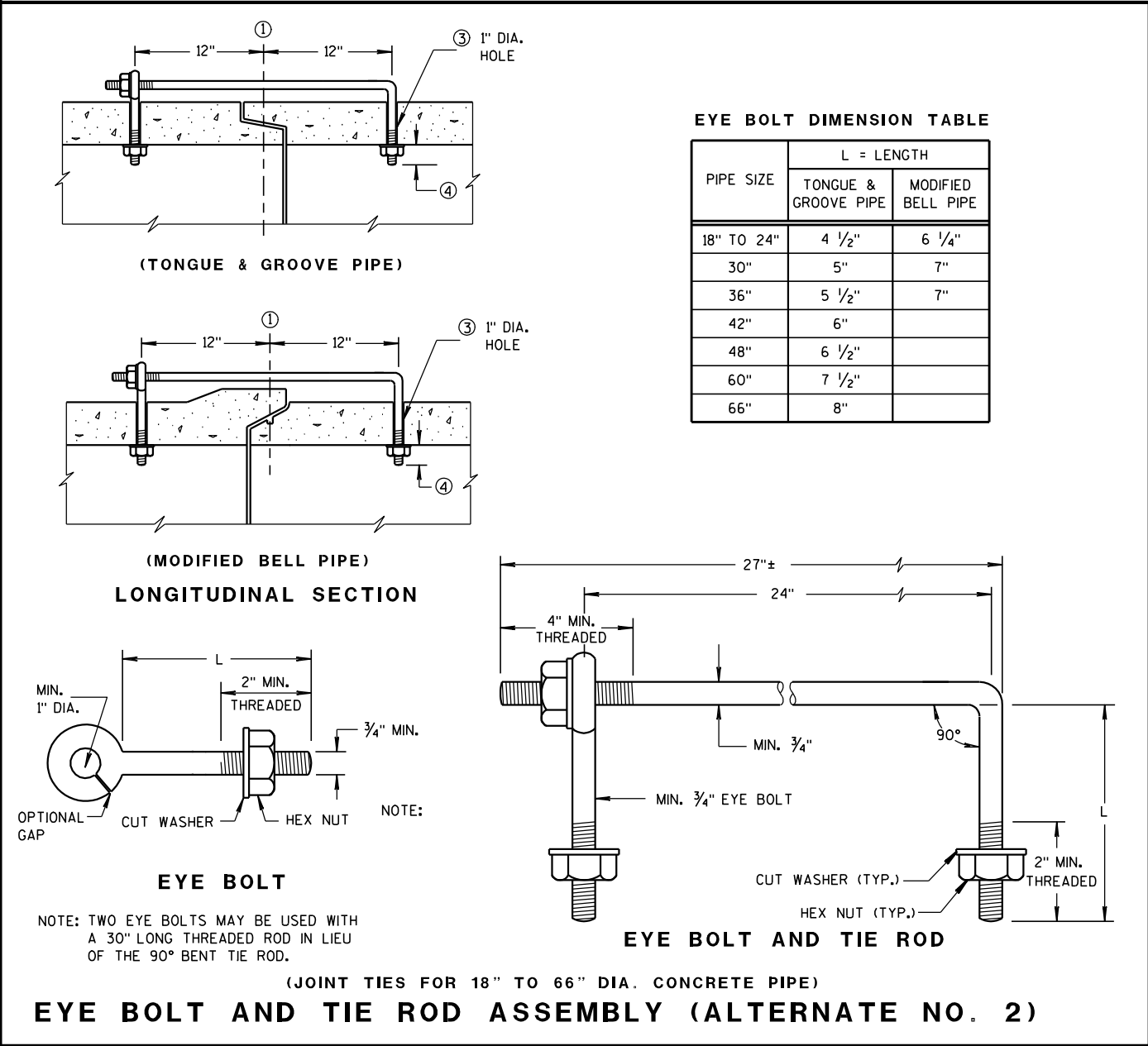
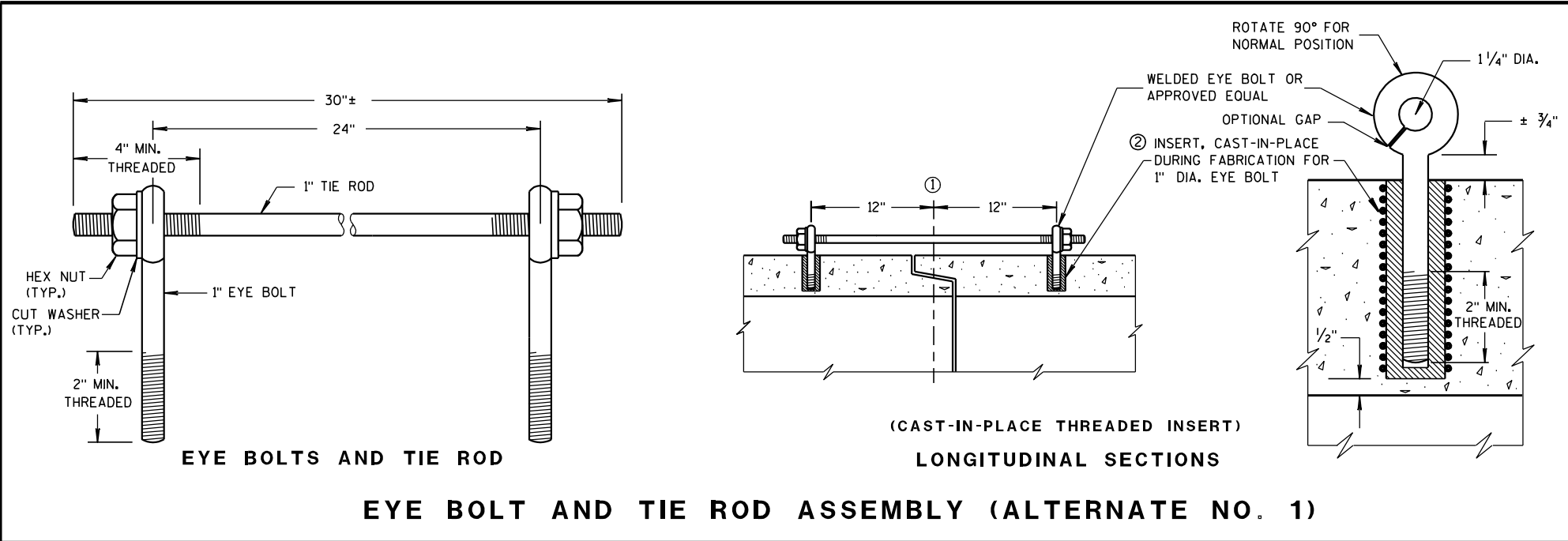
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

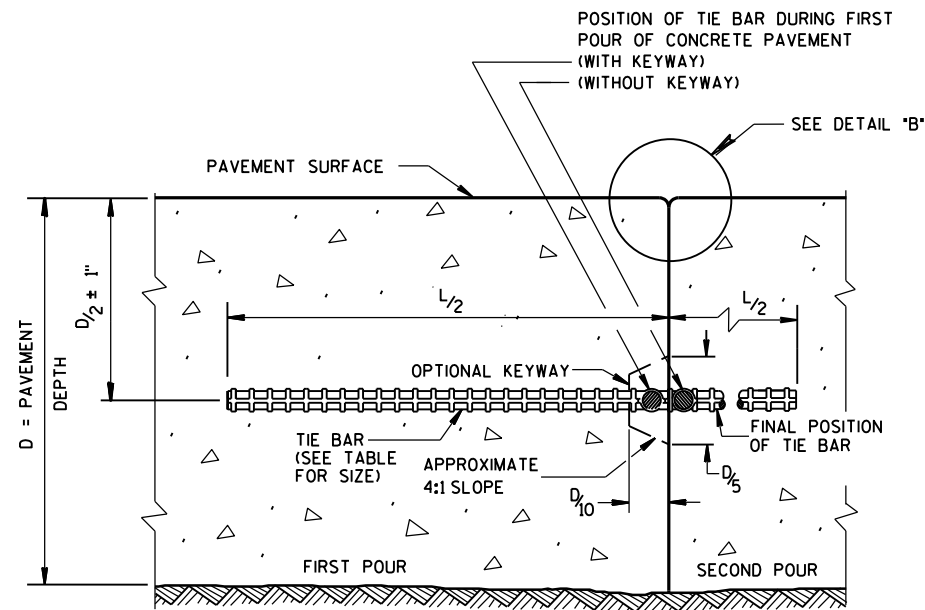
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
CULVERT PIPE

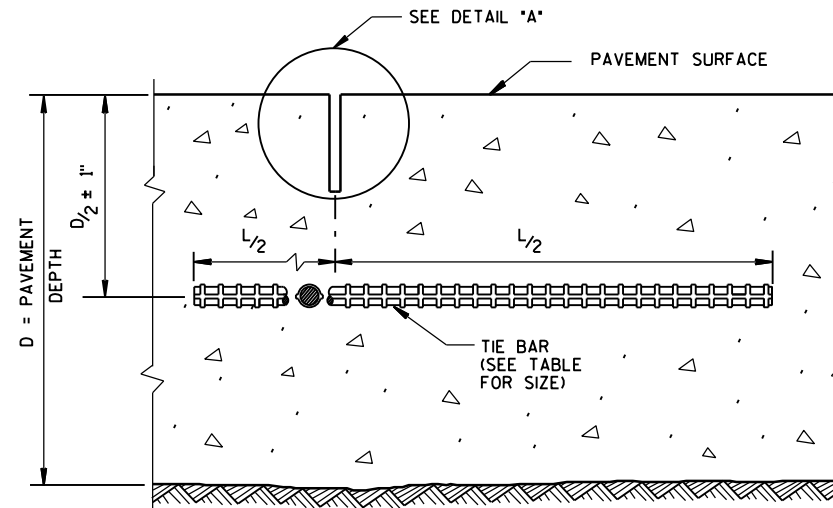
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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





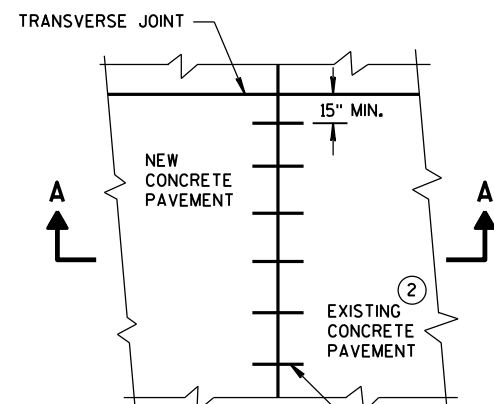
CONSTRUCTION JOINT



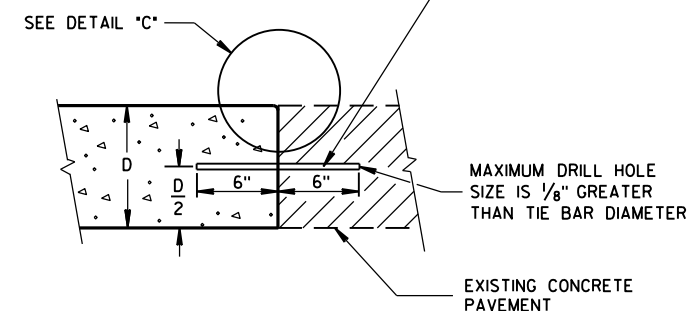
SAWED JOINT

GENERAL NOTES

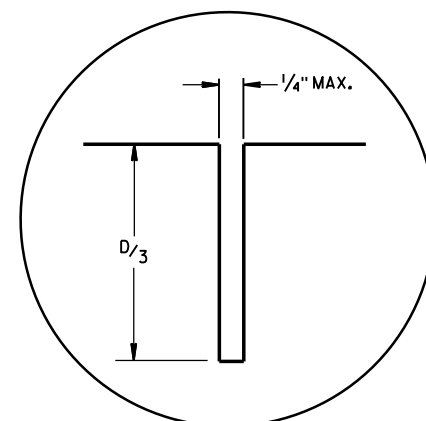
- DO NOT SEAL OR FILL LONGITUDINAL JOINTS.
- CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



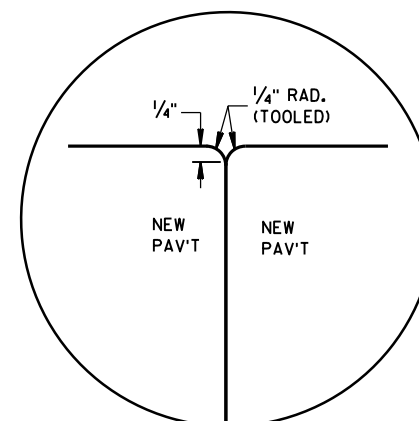
PLAN VIEW



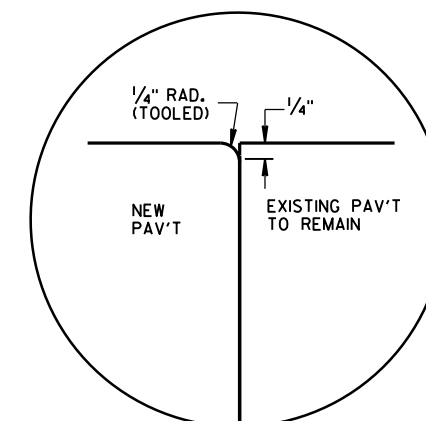
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"

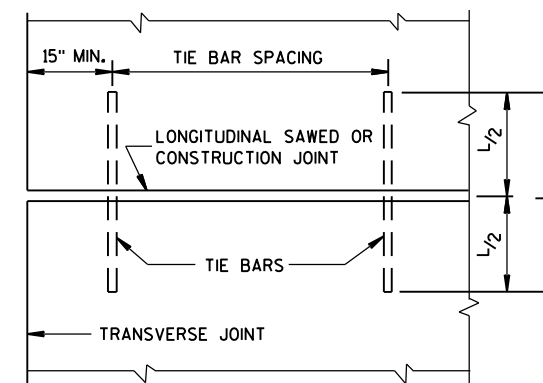


DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

- * SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)
- ** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

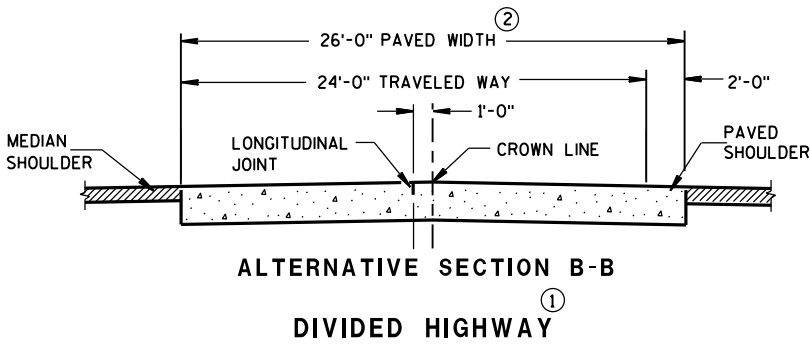
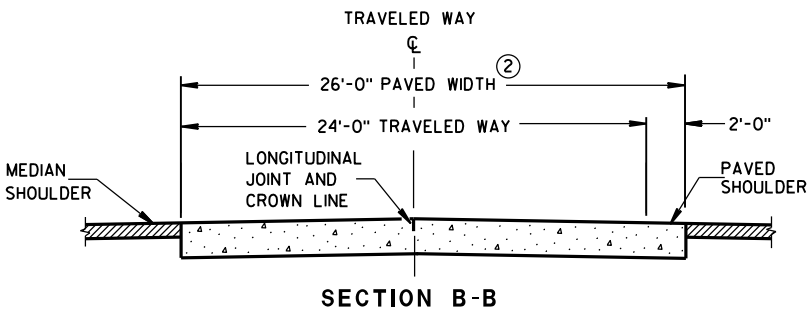
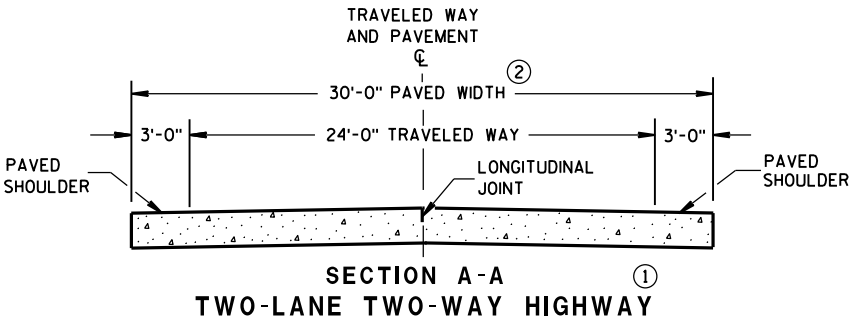


PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

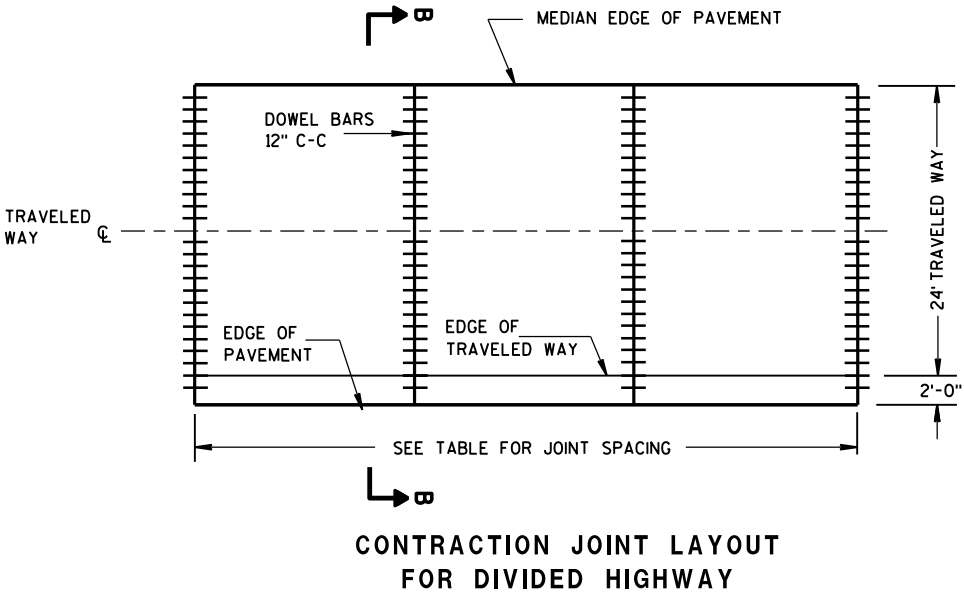
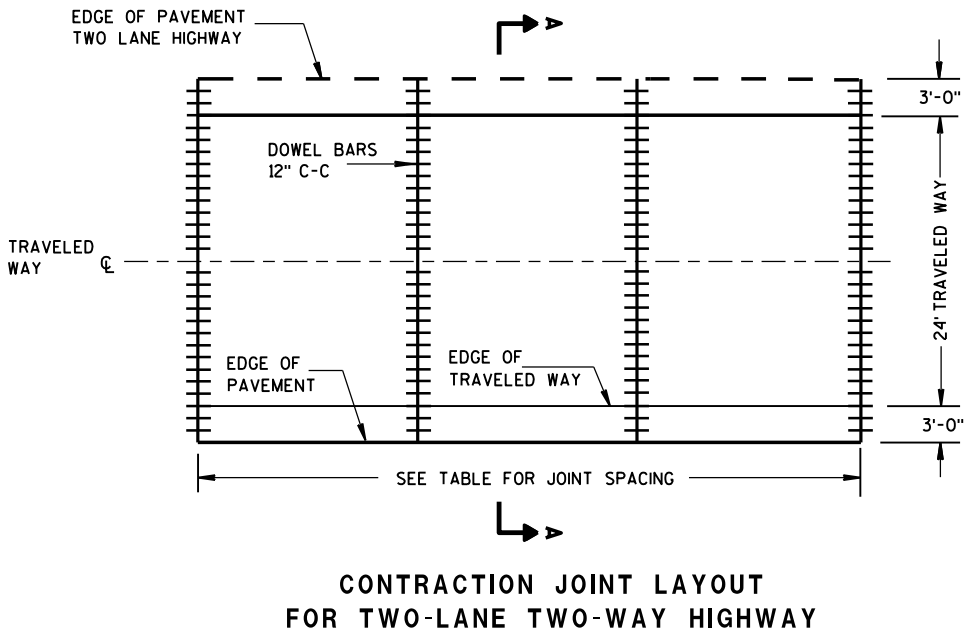
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

- ① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.
- ② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

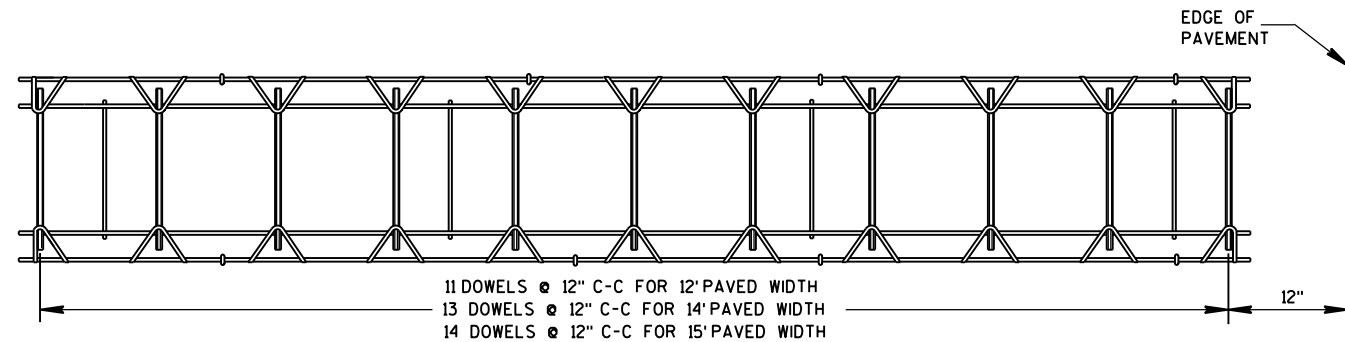
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

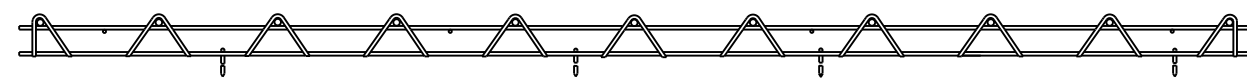


RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



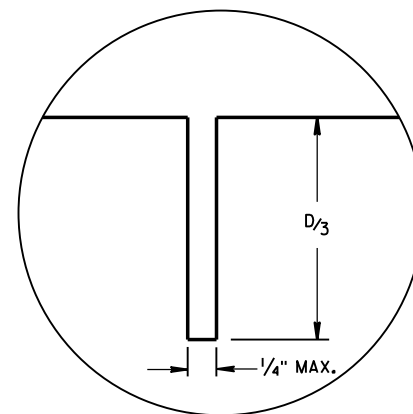
PLAN VIEW



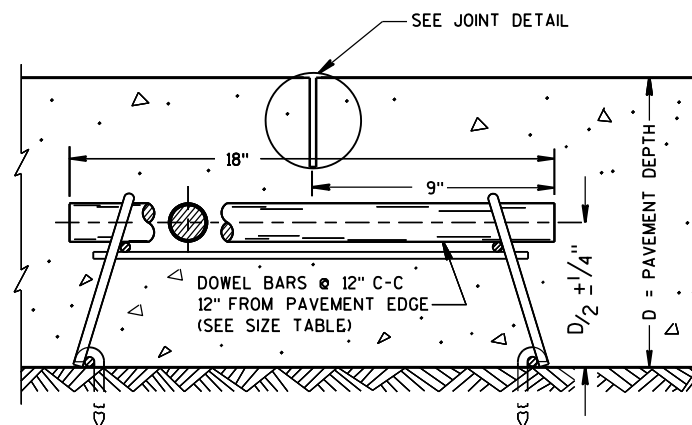
SIDE VIEW

(NORMAL TO CENTERLINE)

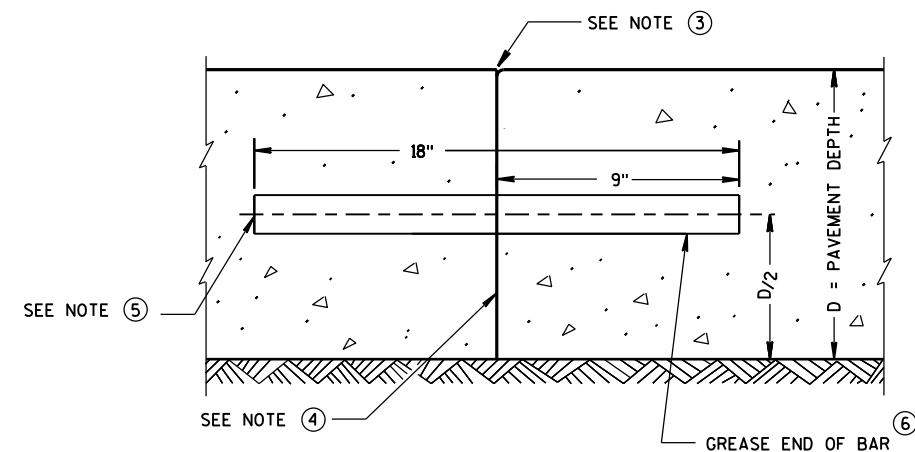
CONTRACTION JOINT DOWEL ASSEMBLY ①



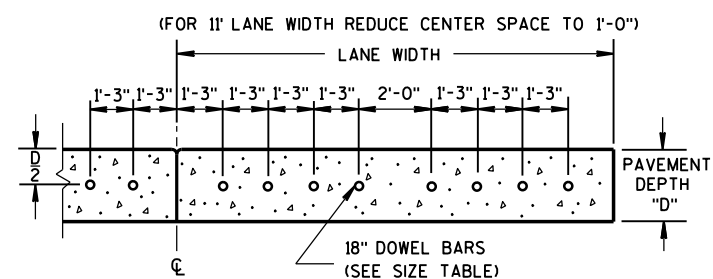
JOINT DETAIL



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

GENERAL NOTES

- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A $1/4$ -INCH RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS $1/8$ -INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.

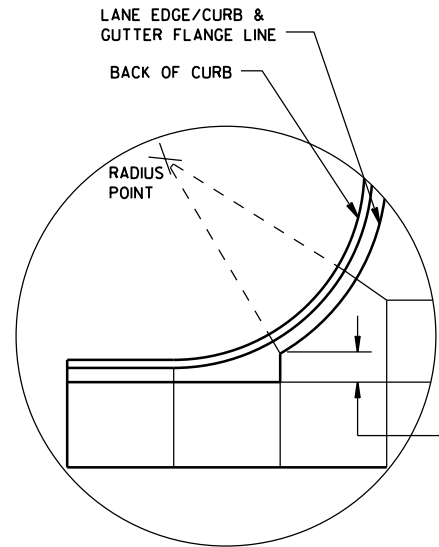
RURAL DOWELED
CONCRETE PAVEMENTSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

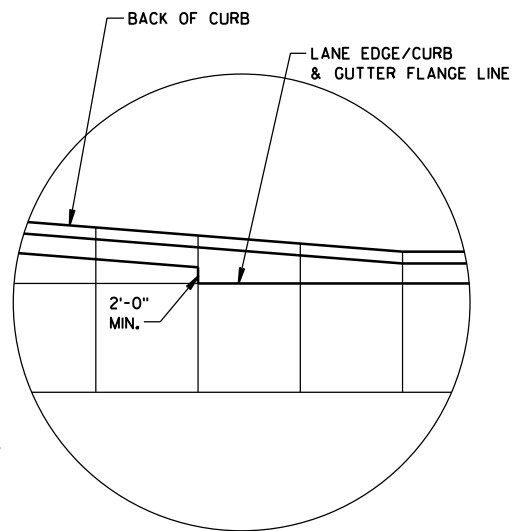
5/3/2013
DATE

FHWA

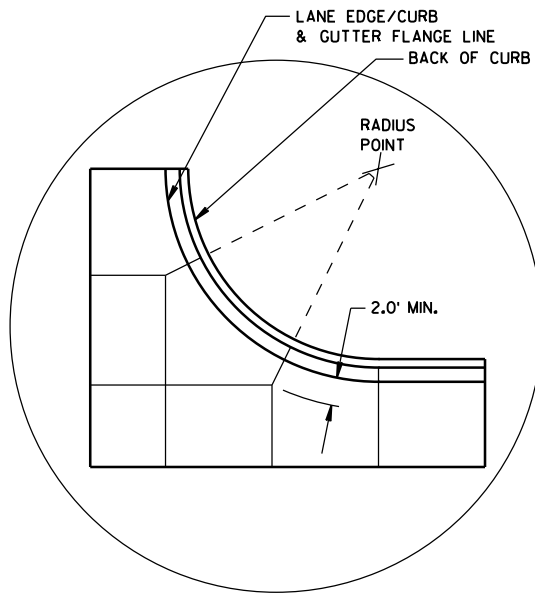
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



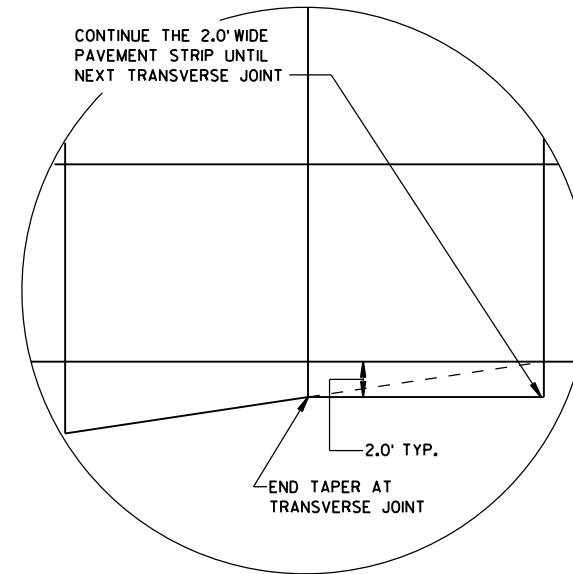
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

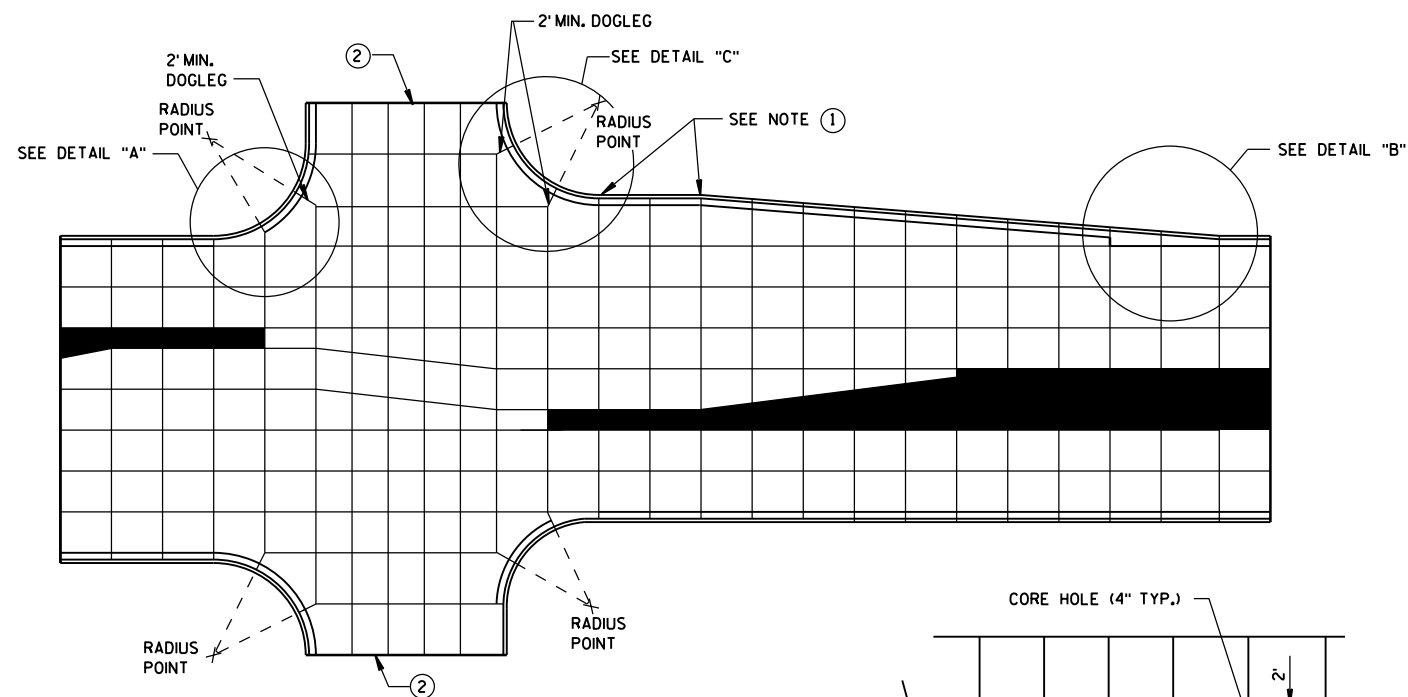
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

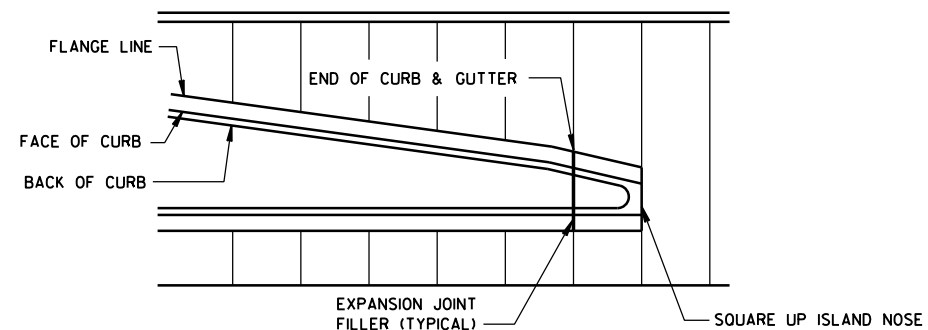
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

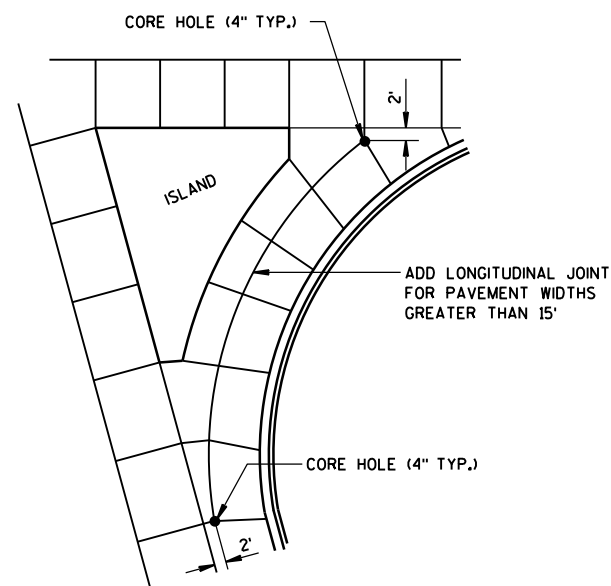
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



STANDARD INTERSECTION



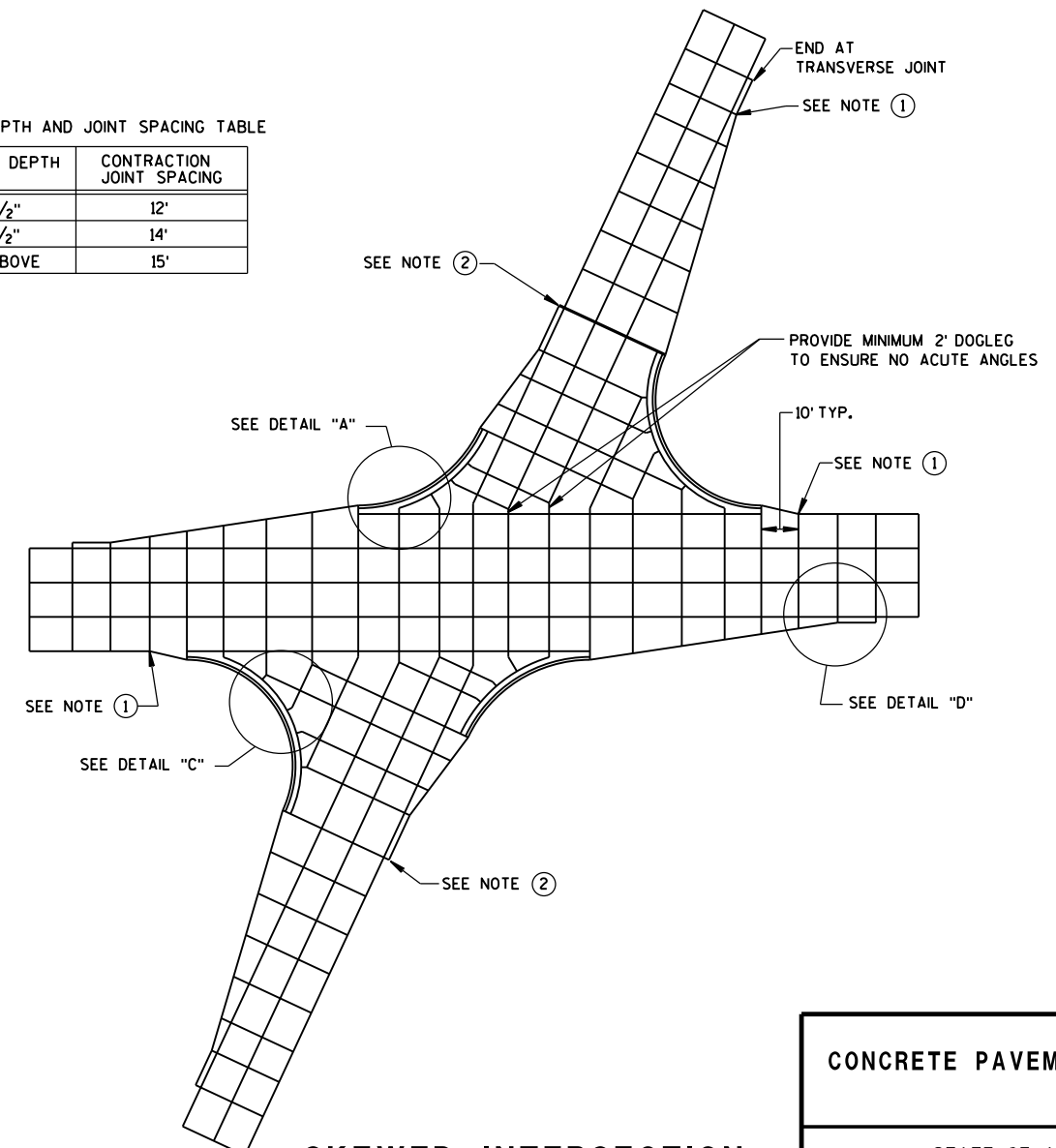
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

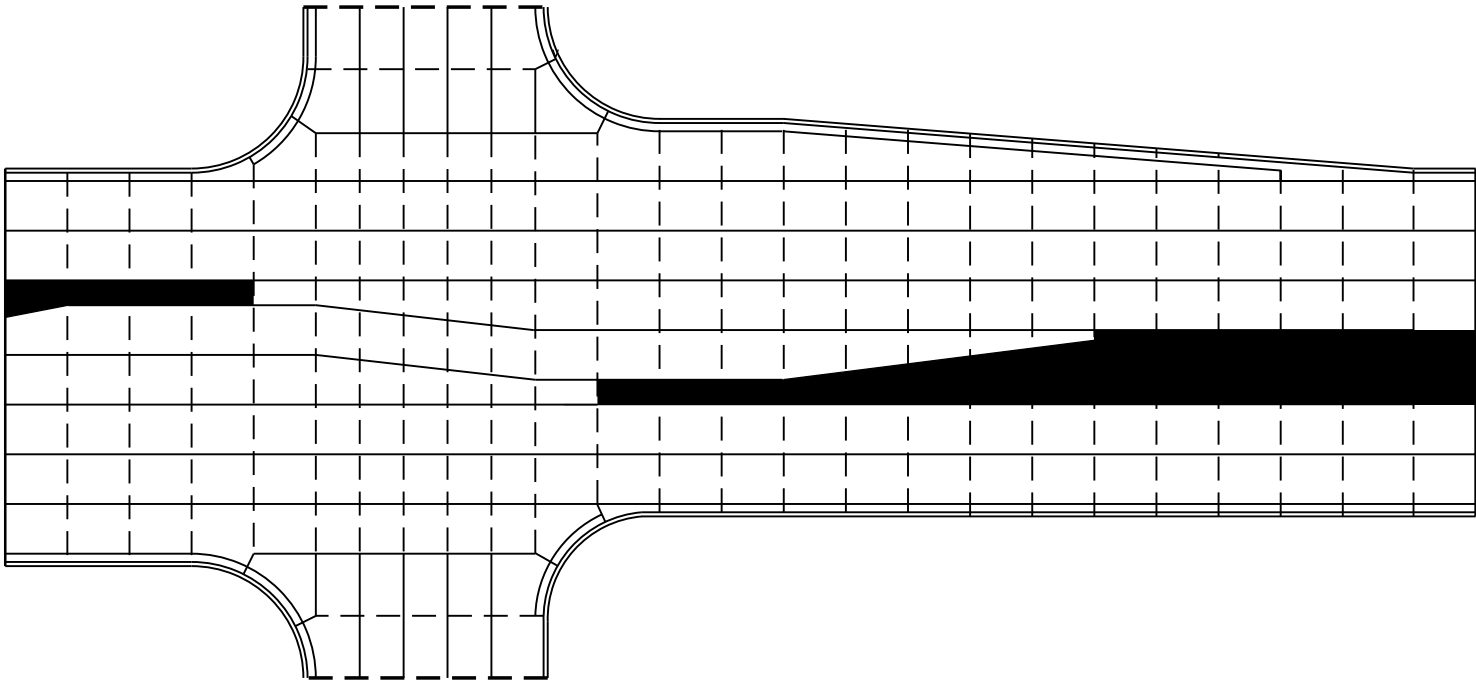
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

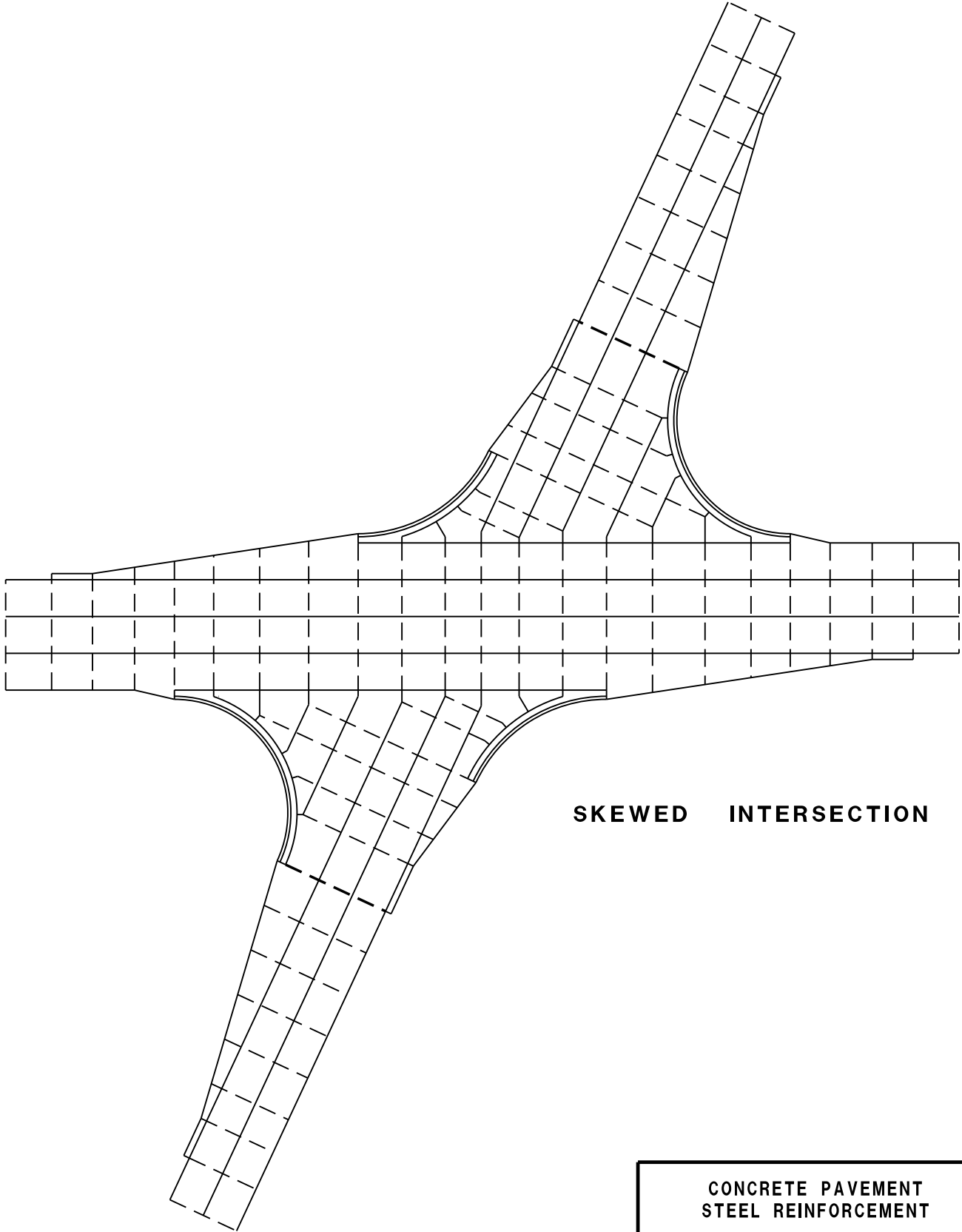
- POTENTIAL DOWELED EXPANSION JOINT
- DOWELED JOINT
- TIED JOINT

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



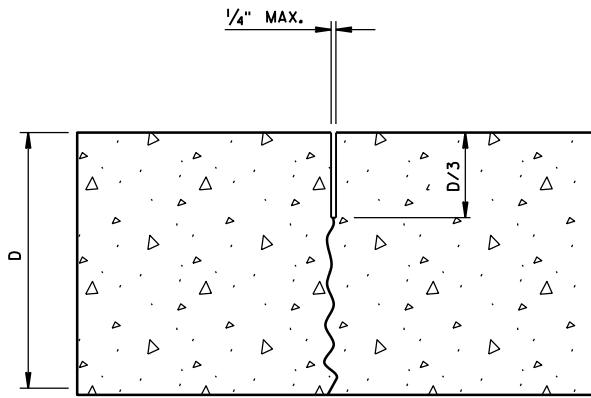
STANDARD INTERSECTION



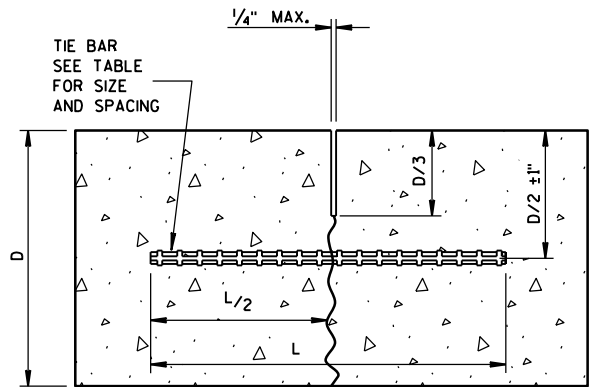
SKewed INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

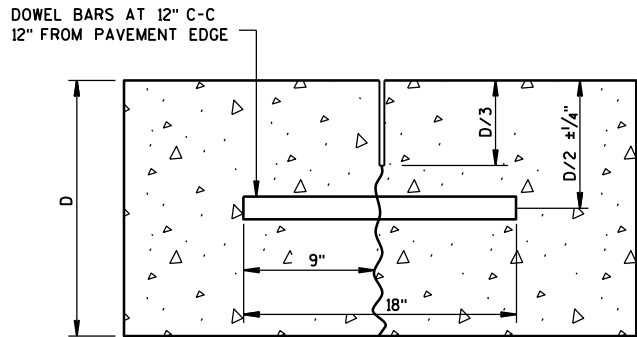
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



UNDOWELED-TRANSVERSE



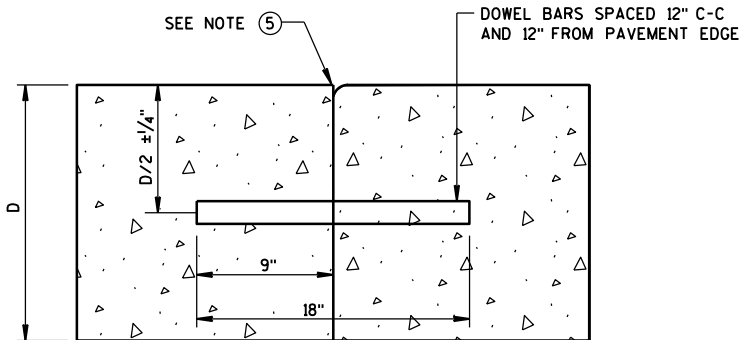
TIED LONGITUDINAL



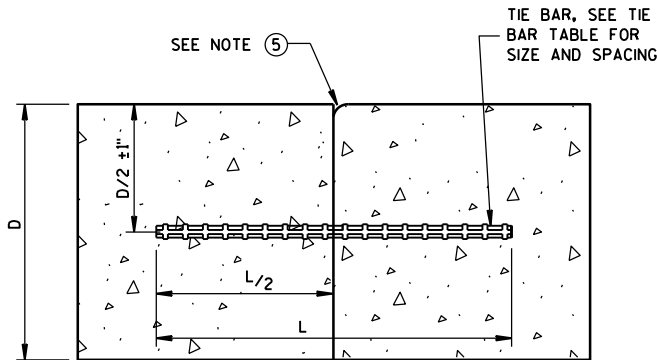
DOWELED-TRANSVERSE

CONTRACTION JOINTS

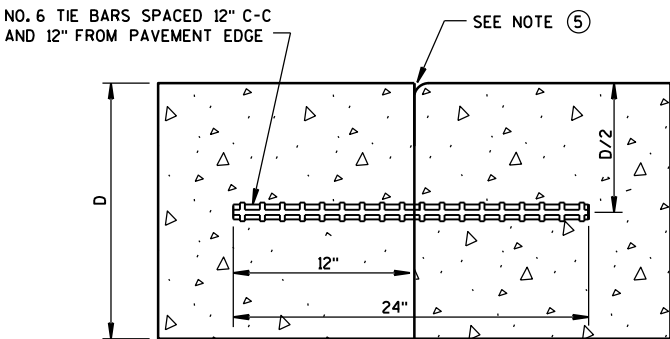
SEE NOTE ②



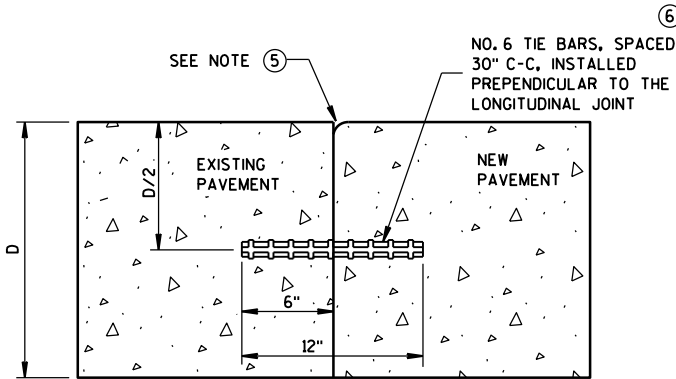
DOWELED TRANSVERSE ③



TIED LONGITUDINAL



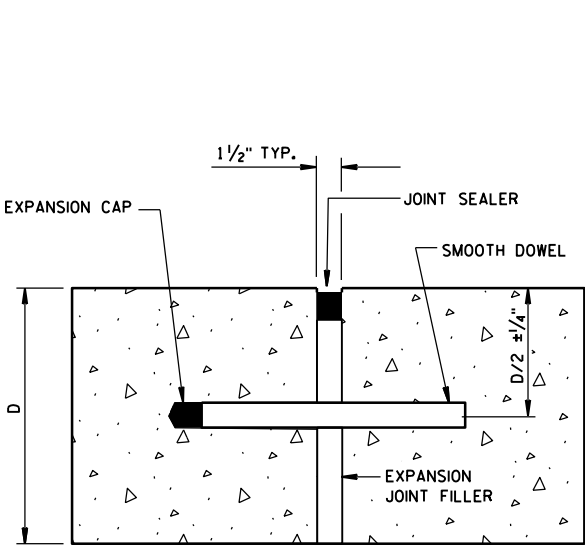
TIED TRANSVERSE ③
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



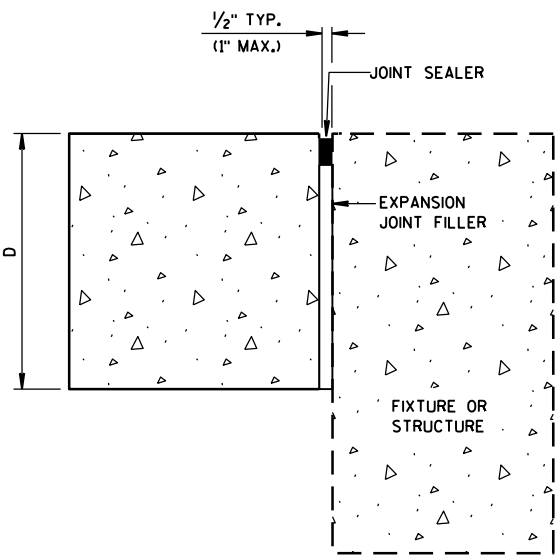
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE ④



DOWELED-TRANSVERSE
SEE NOTE ①



UNTIED-LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE			
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
	NO. 5	36"	36"
	NO. 4 *	30"	24" **
≥ 10 1/2"			

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

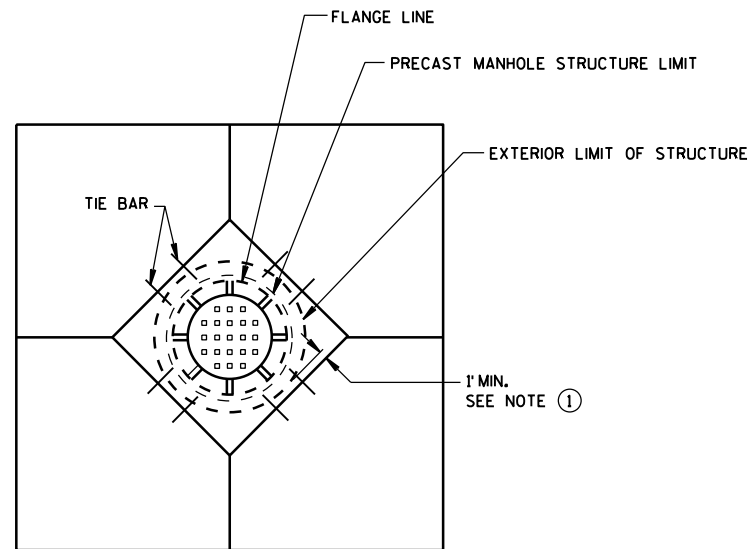
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

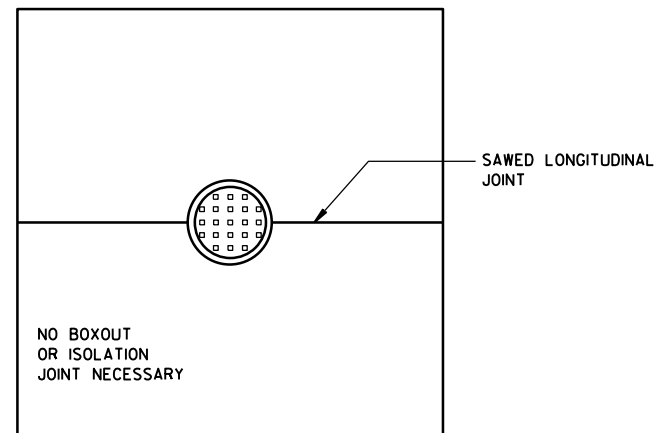
- ① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- ② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
- ③ LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
- ④ CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
- ⑤ IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
- ⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

CONCRETE PAVEMENT
JOINT TYPES

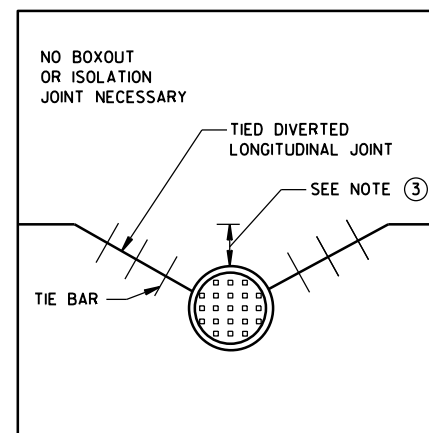
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



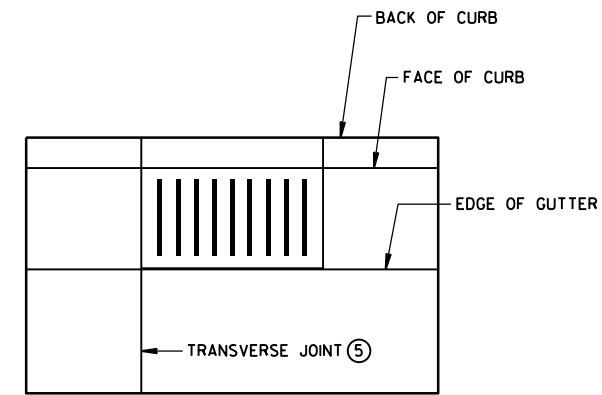
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**



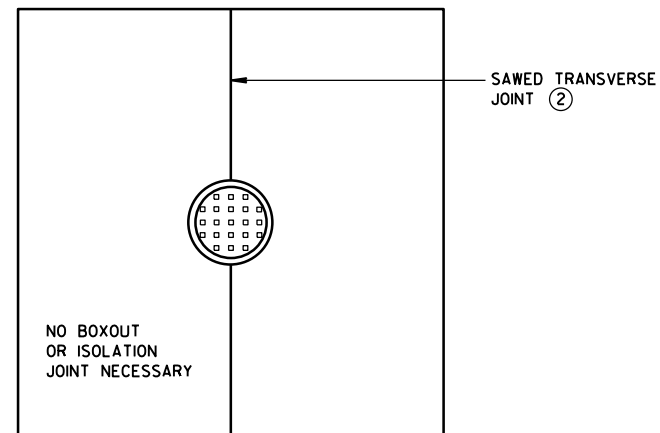
**MANHOLE WITH
LONGITUDINAL JOINT**



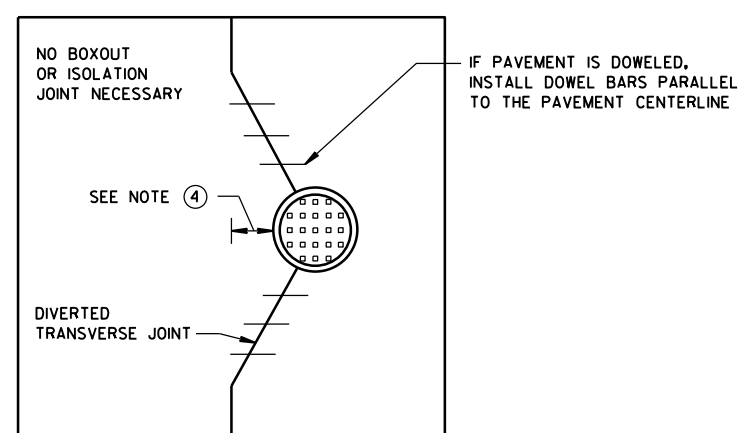
**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**INLET WITH
TRANSVERSE JOINT**



**MANHOLE WITH
TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**

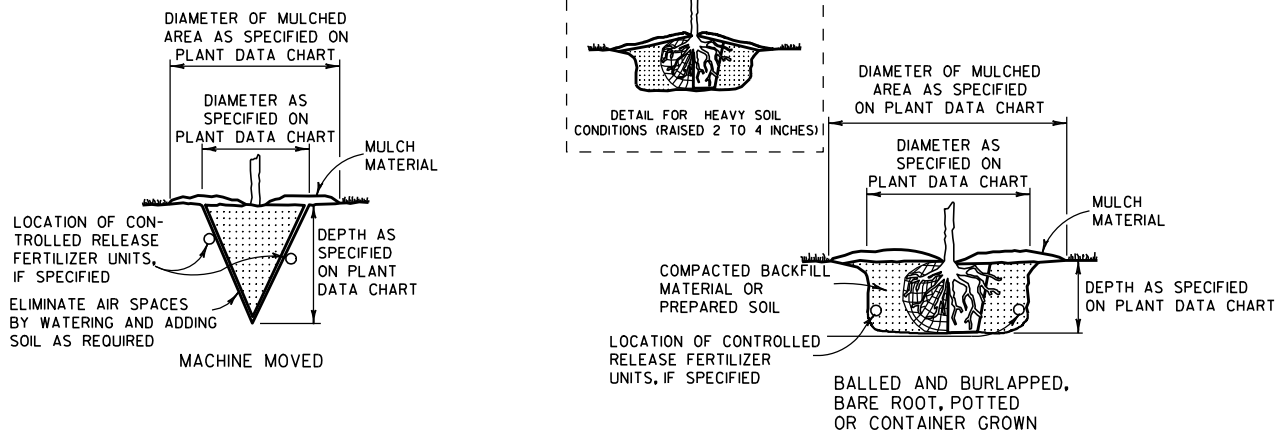
GENERAL NOTES

- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.
- ④ IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.
- ⑤ ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

**CONCRETE PAVEMENT
JOINTING AT UTILITY FIXTURES**

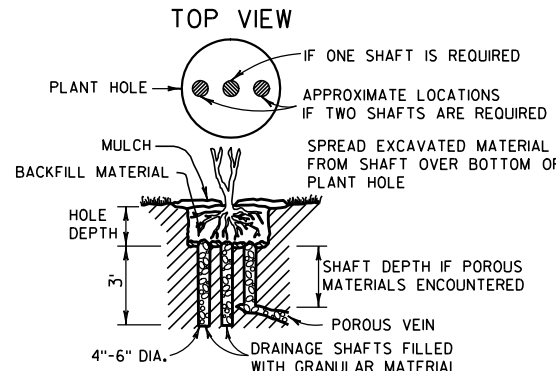
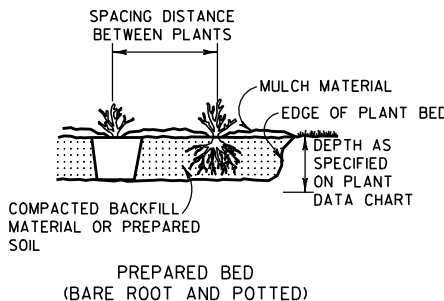
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



ACCOMMODATE ROOTS (SMOOTH AND STAGHORN SUMAC)

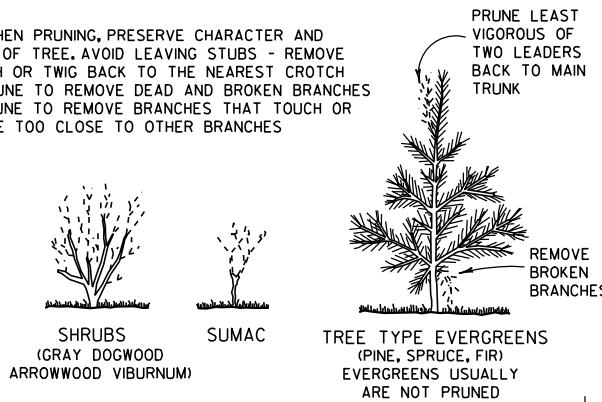
NOTE:
1) ENGINEER SHALL REQUIRE 3 SLITS IN POT TO SPEED DETERIORATION
2) METAL, PLASTIC OR OTHER NONDEGRADABLE POTS SHALL BE REMOVED PRIOR TO PLANTING



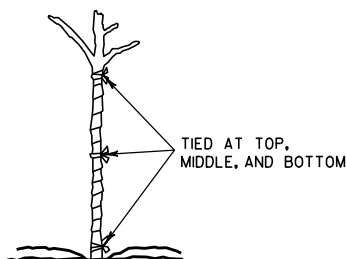
NOTE:
DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

DRAINING

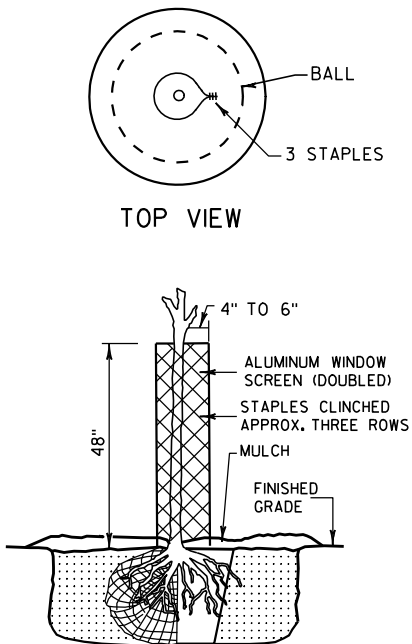
NOTE: WHEN PRUNING, PRESERVE CHARACTER AND SHAPE OF TREE. AVOID LEAVING STUBS - REMOVE BRANCH OR TWIG BACK TO THE NEAREST CROTCH
1) PRUNE TO REMOVE DEAD AND BROKEN BRANCHES
2) PRUNE TO REMOVE BRANCHES THAT TOUCH OR ARE TOO CLOSE TO OTHER BRANCHES



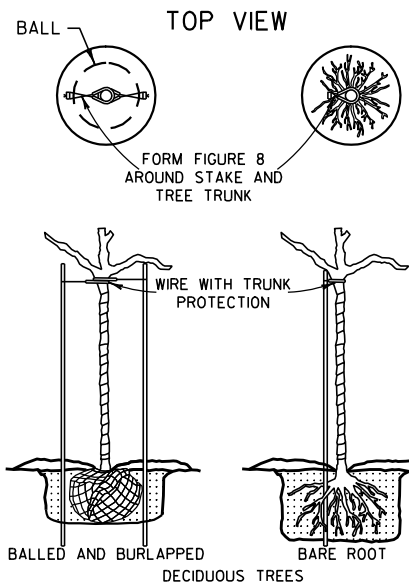
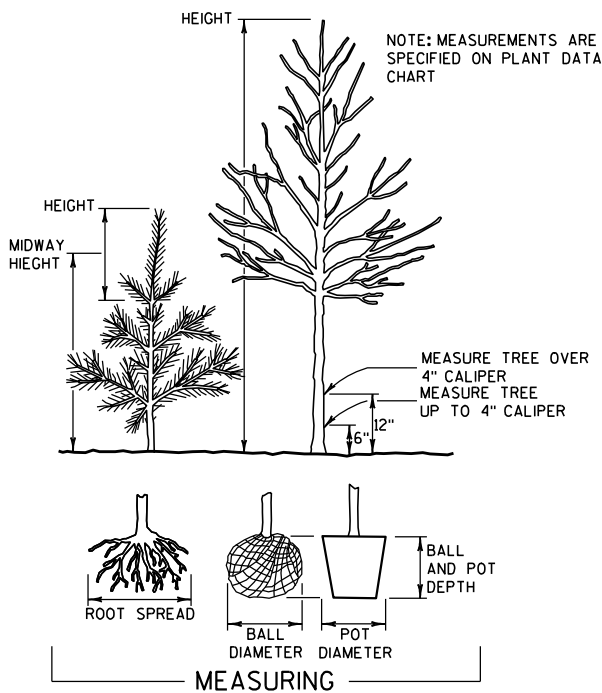
PRUNING



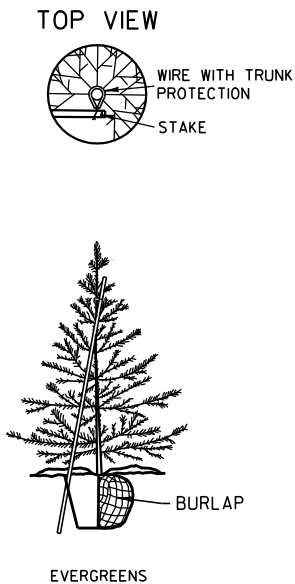
WRAPPING



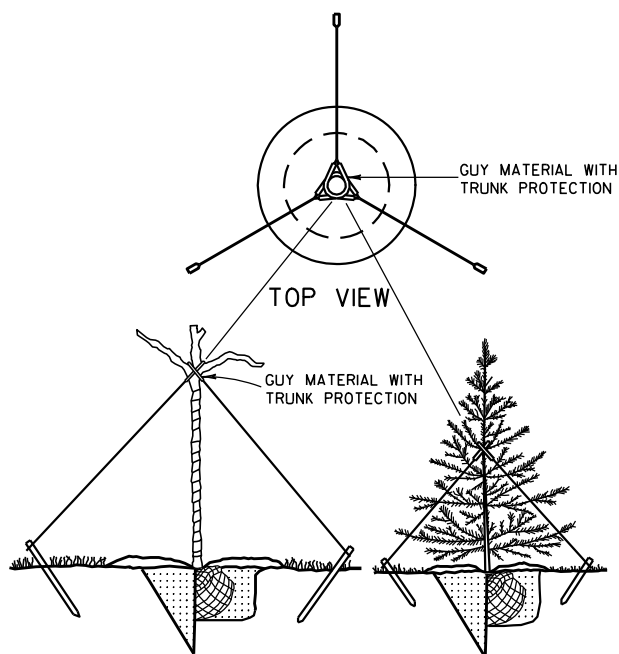
RODENT PROTECTION



BRACING

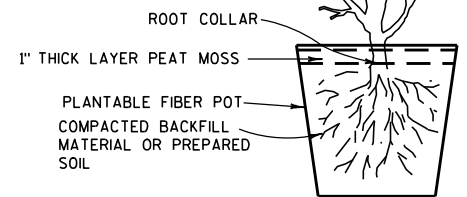


NOTE: BRACING STAKE
1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.
2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.
3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND
4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD THE WIRE IN PLACE.



GUYING

PRUNE LARGER SHRUBS BY REMOVING FROM ONE-THIRD TO ONE-HALF TOP GROWTH AS INDICATED BY DOTTED LINE



POTTING

NOTES

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

BRACING, WRAPPING, GUYING, RODENT PROTECTION, FERTILIZER AND MULCH SHALL BE USED ONLY WHEN SPECIFIED ON THE PLANT DATA CHART (PART OF PLAN) OR SPECIAL PROVISIONS.

TREE PLANTING DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

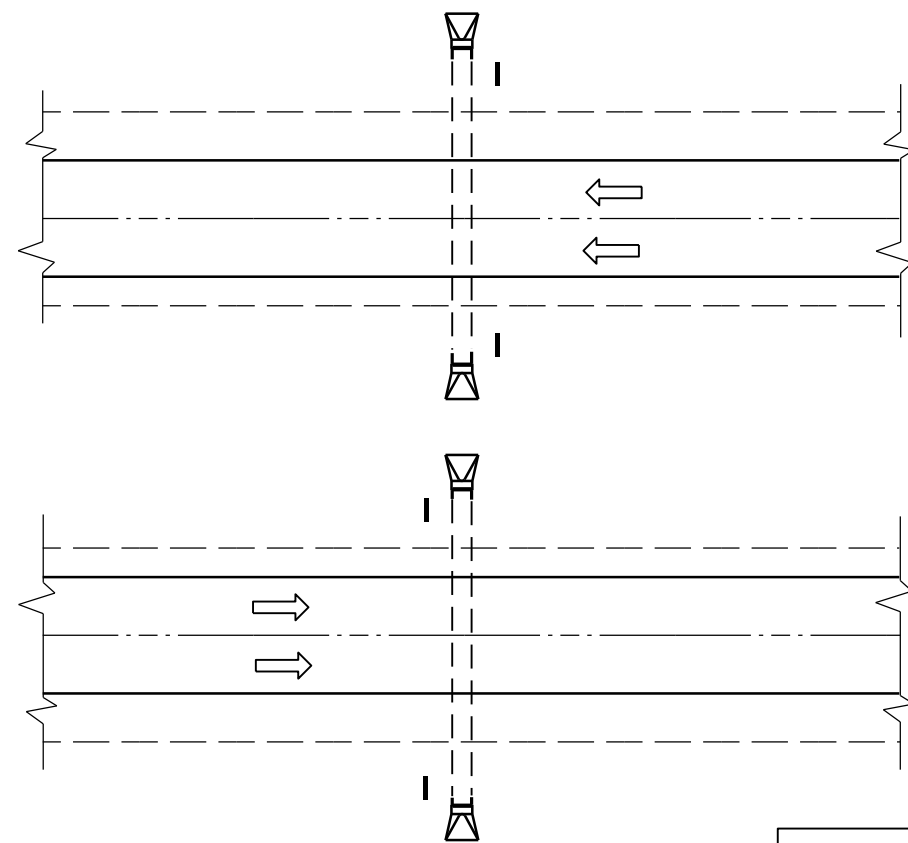
4/11/94

DATE

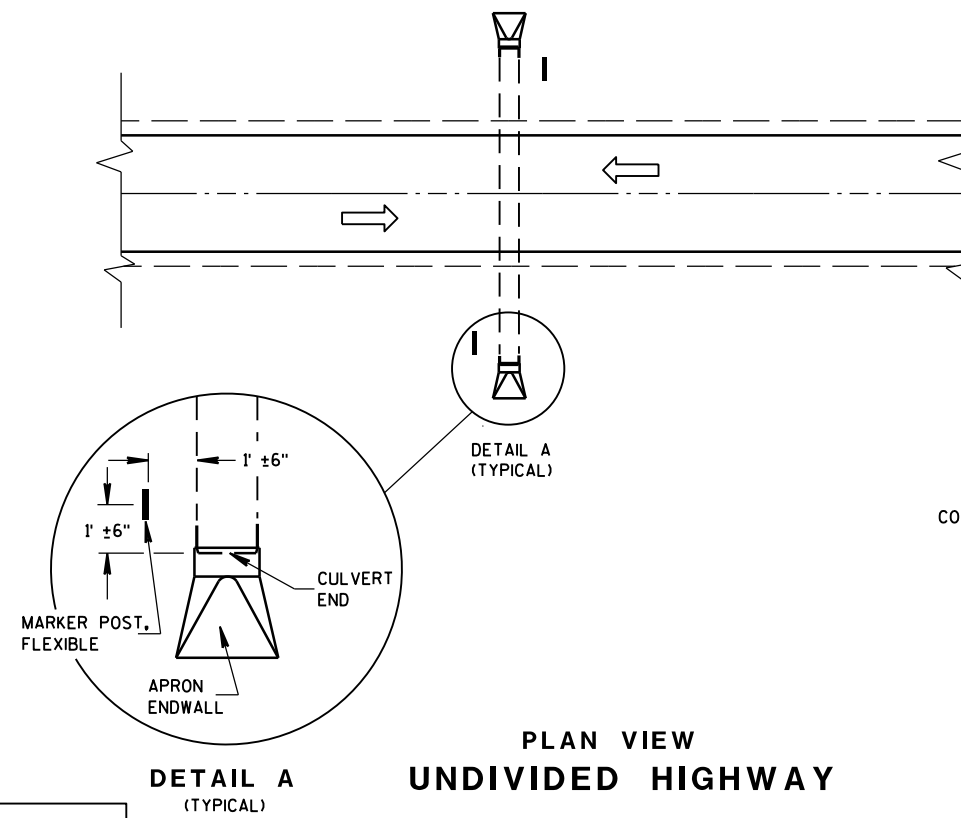
FHWA

/S/ Rory L. Rhinesmith

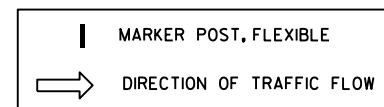
CHIEF METHODS DEVELOPMENT ENGINEER



PLAN VIEW
DIVIDED HIGHWAY



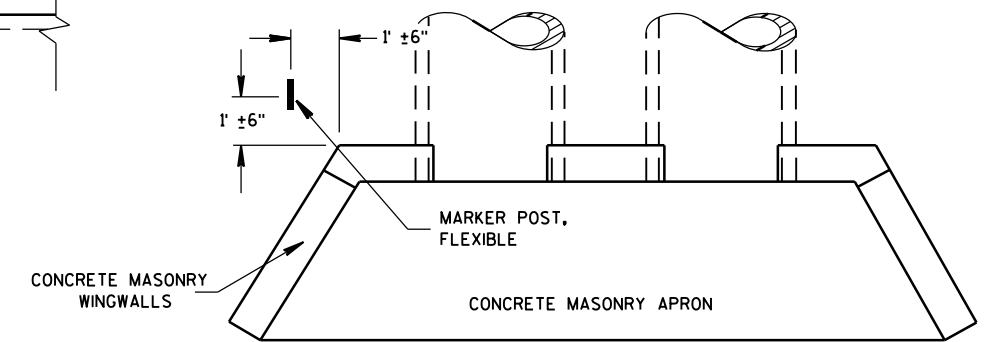
PLAN VIEW
UNDIVIDED HIGHWAY



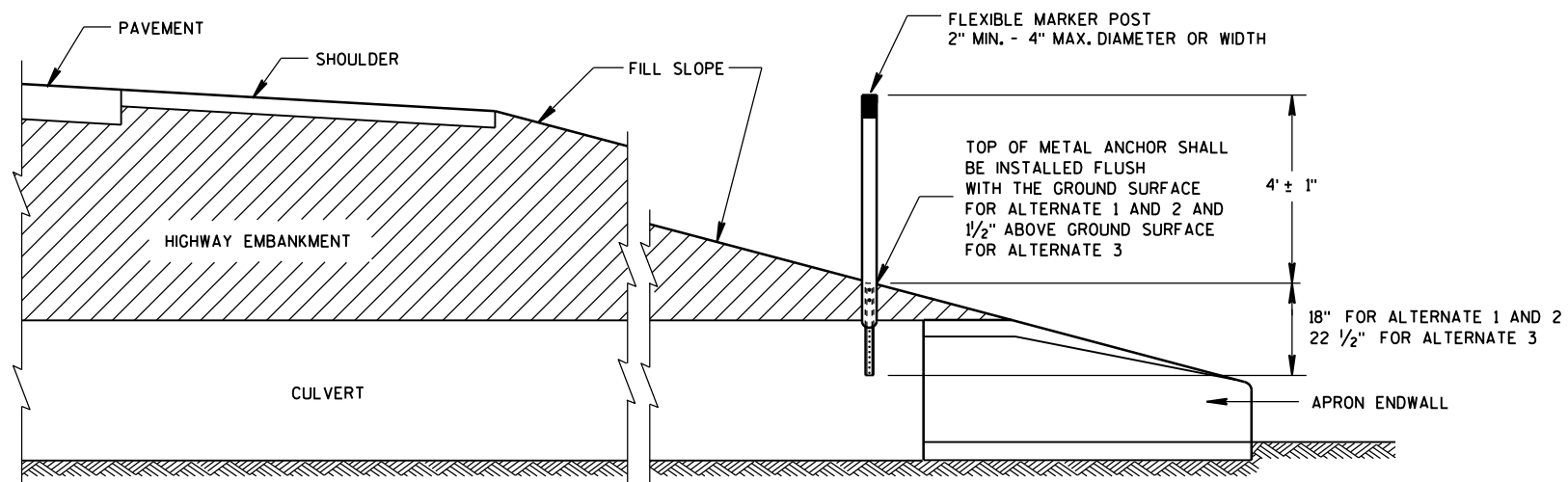
FLEXIBLE MARKER POST LOCATION

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.



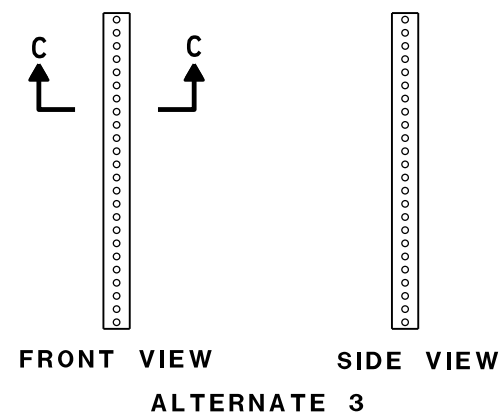
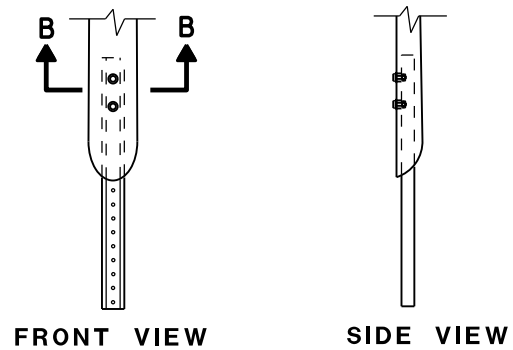
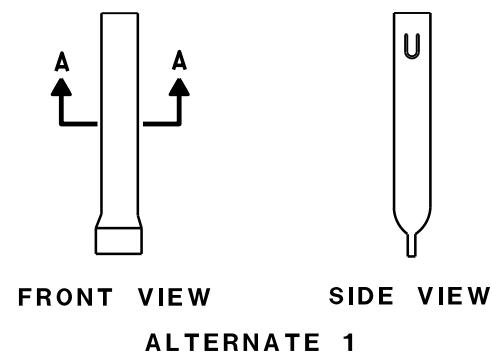
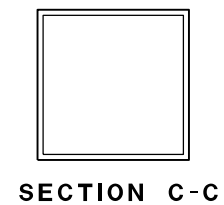
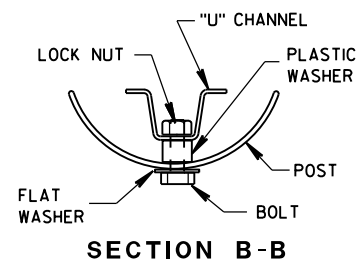
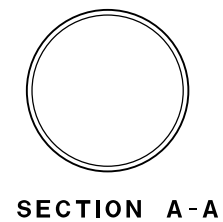
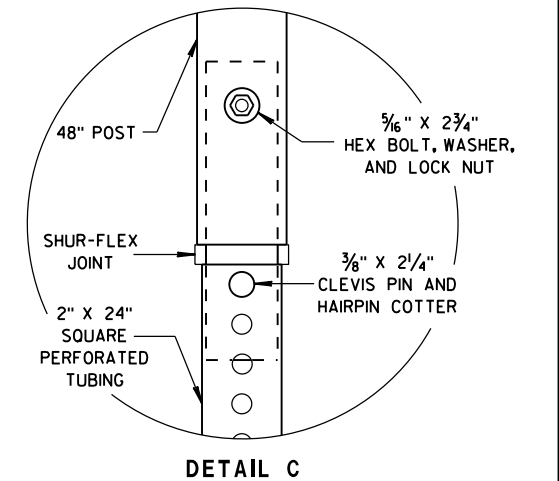
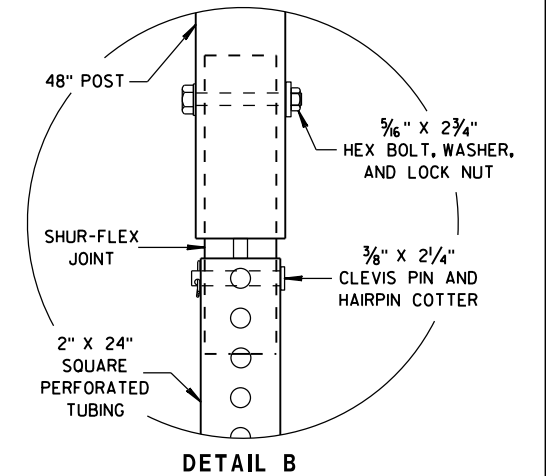
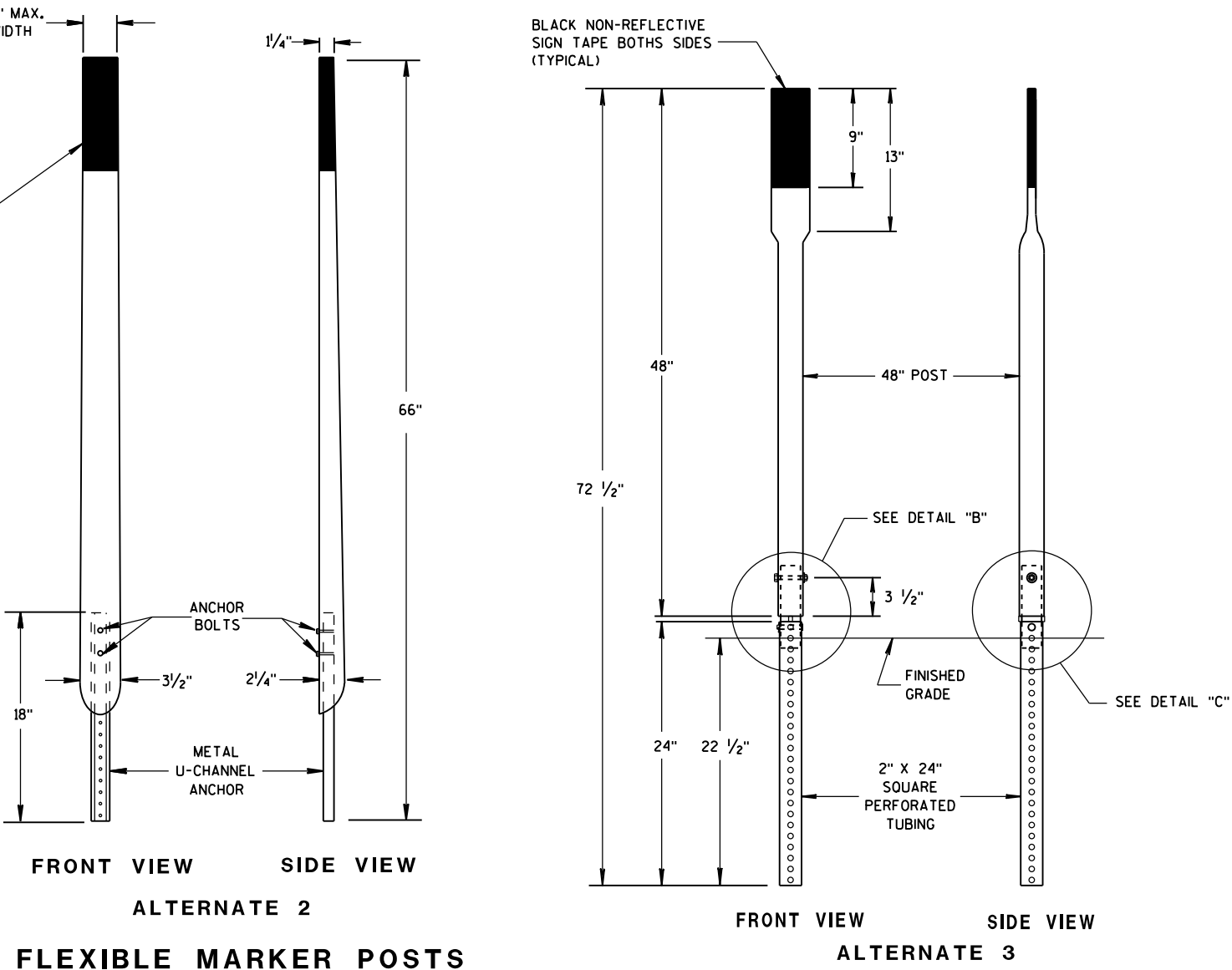
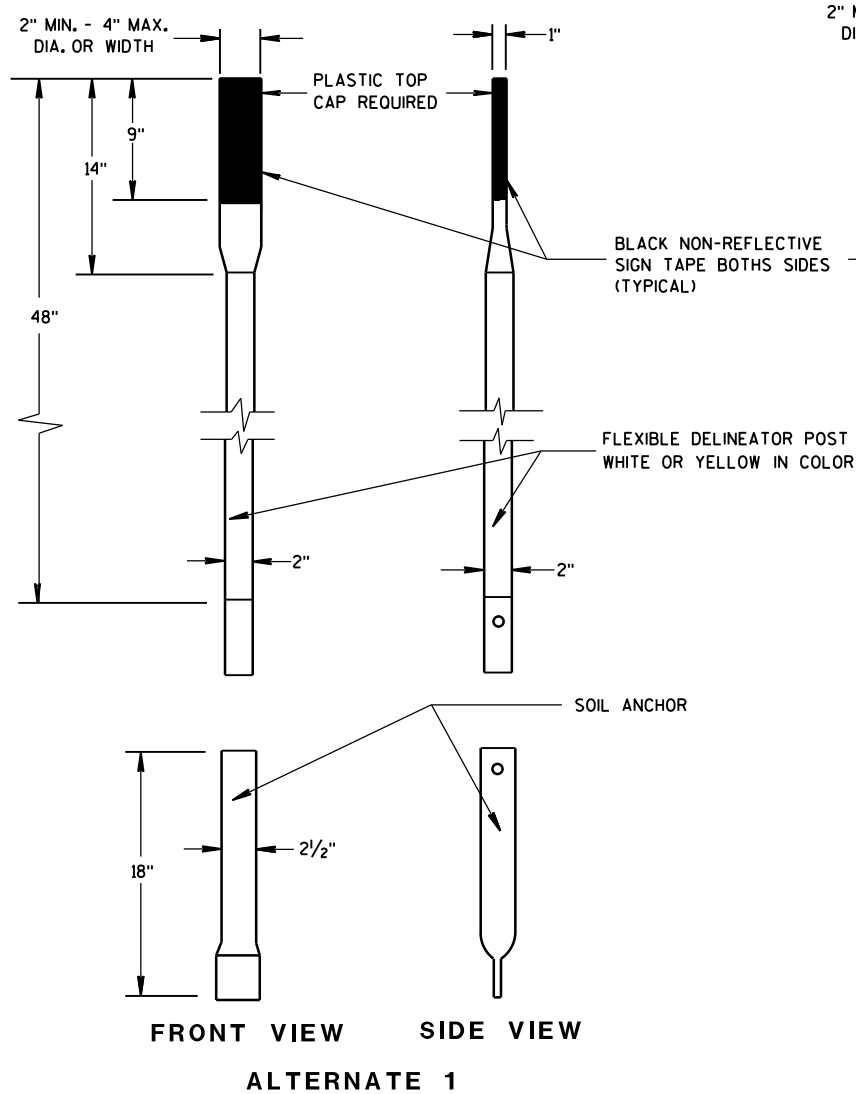
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

ASPHALT DWY									
STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
		Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Fill	Cut 1.30	Expanded Fill 1.00	Mass Ordinate
00+94.54	0.00	0.00	0.00	0.00	0	0	0	0	0
00+98.14	3.60	6.03	0.00	2.78	0	0	1	0	0
01+00	1.86	17.95	0.00	0.00	1	0	2	0	1
01+10	10.00	123.52	0.00	0.00	26	0	36	0	27
01+20	10.00	258.29	0.00	0.00	71	0	128	0	98
01+30	10.00	393.60	0.00	0.75	121	0	285	0	218
01+40	10.00	567.44	0.00	4.65	178	1	516	1	395
01+43.31	3.31	653.21	0.00	6.70	75	1	613	2	470
01+50	6.69	771.12	0.00	9.56	176	2	843	4	644
01+60	10.00	950.86	0.00	22.46	319	6	1,257	10	957
01+70	10.00	1190.31	0.00	46.41	397	13	1,773	23	1,341
01+73.36	3.36	2175.18	0.00	15.99	210	4	2,045	27	1,546
01+76.48	3.12	2259.83	0.00	18.09	256	2	2,378	29	1,801
01+80	3.52	2261.42	0.00	19.23	294	2	2,761	31	2,093
01+90	10.00	2263.39	0.00	22.70	838	8	3,850	39	2,923
02+00	10.00	2275.39	0.00	26.40	841	9	4,943	48	3,754
02+10	10.00	2287.29	0.00	30.32	845	11	6,041	58	4,589
02+20	10.00	2248.78	0.00	34.40	840	12	7,133	70	5,417
02+30	10.00	2206.64	0.00	38.20	825	13	8,206	84	6,228
02+40	10.00	2178.05	0.00	40.32	812	15	9,262	98	7,026
02+50	10.00	2145.73	0.00	42.48	801	15	10,302	114	7,811
02+51.5	1.50	2140.98	0.00	42.80	119	2	10,458	116	7,928
02+60	8.50	2099.42	0.00	44.68	667	14	11,325	130	8,582
02+70	10.00	2037.60	0.00	47.84	766	17	12,321	147	9,331
02+80	10.00	1984.34	0.00	51.75	745	18	13,289	165	10,057
02+90	10.00	1868.92	0.00	53.82	714	20	14,217	185	10,751
03+00	10.00	1707.14	0.00	55.93	662	20	15,078	205	11,393
03+10	10.00	1525.23	0.00	57.96	599	21	15,856	226	11,970
03+20	10.00	1369.64	0.00	57.36	536	21	16,553	248	12,485
03+30	10.00	1232.73	0.00	37.35	482	18	17,179	265	12,949
03+40	10.00	1132.28	0.00	17.36	438	10	17,749	275	13,377
03+50	10.00	1047.48	0.00	0.76	404	3	18,273	279	13,778
03+60	10.00	974.62	0.00	0.00	374	0	18,760	279	14,152
03+70	10.00	843.29	0.00	0.00	337	0	19,198	279	14,489
03+80	10.00	642.54	0.00	0.00	275	0	19,556	279	14,764
03+90	10.00	447.90	0.00	0.00	202	0	19,818	279	14,966
04+00	10.00	257.49	0.00	0.00	131	0	19,988	279	15,096
04+01	1.00	245.42	0.00	0.00	9	0	20,000	279	15,106
04+05	4.00	176.78	0.00	0.00	31	0	20,041	279	15,137
04+10	5.00	95.13	0.00	0.00	25	0	20,073	279	15,162
04+15	5.00	15.46	0.00	0.00	10	0	20,087	279	15,172
04+18.02	3.02	30.52	0.00	0.00	3	0	20,090	279	15,175
04+20	1.98	59.30	0.00	0.00	3	0	20,094	279	15,178
04+25	5.00	127.07	0.00	0.00	17	0	20,117	279	15,195
04+30	5.00	187.83	0.00	0.00	29	0	20,155	279	15,225
04+31	1.00	199.21	0.00	0.00	7	0	20,164	279	15,232
04+35	4.00	265.35	0.00	0.00	34	0	20,209	279	15,266
04+40	5.00	351.75	0.00	0.00	57	0	20,283	279	15,323
04+45	5.00	416.55	0.00	0.00	71	0	20,375	279	15,394
04+50	5.00	478.56	0.00	0.00	83	0	20,483	279	15,477
04+60	10.00	609.46	0.00	0.00	201	0	20,745	279	15,679
04+70	10.00	675.56	0.00	0.00	238	0	21,054	279	15,917
04+80	10.00	661.14	0.00	0.00	248	0	21,376	279	16,164
04+90	10.00	637.79	0.00	0.00	241	0	21,689	279	16,405
04+99.43	9.43	607.77	0.00	0.00	218	0	21,972	279	16,622
05+00	0.57	606.45	0.00	0.00	13	0	21,988	279	16,635
05+10	10.00	583.50	0.00	0.00	220	0	22,275	279	16,856
05+20	10.00	561.17	0.00	0.00	212	0	22,550	279	17,068
05+30	10.00	539.46	0.00	0.00	204	0	22,815	279	17,271
05+40	10.00	518.11	0.00	0.00	196	0	23,070	279	17,467
05+50	10.00	497.18	0.00	0.00	188	0	23,314	279	17,655
05+60	10.00	477.24	0.00	0.00	180	0	23,549	279	17,836
05+62.76	2.76	473.27	0.00	0.00	49	0	23,612	279	17,884
05+70	7.24	462.77	0.00	0.00	126	0	23,775	279	18,010
05+80	10.00	448.46	0.00	0.00	169	0	23,995	279	18,178
05+90	10.00	434.38	0.00	0.00	163	0	24,207	279	18,342
06+00	10.00	420.46	0.00	0.00	158	0	24,413	279	18,500
06+10	10.00	407.23	0.00	0.00	153	0	24,612	279	18,654
06+20	10.00	392.86	0.00	0.00	148	0	24,805	279	18,802
06+30	10.00	377.75	0.00	0.00	143	0	24,990	279	18,944
06+40	10.00	342.95	0.00	0.00	133	0	25,164	279	19,078
06+50	10.00	288.77	0.00	0.00	117	0	25,316	279	19,195
06+60	10.00	232.12	0.00	0.07	96	0	25,441	279	19,291
06+70	10.00	181.68	0.00	0.00	77	0	25,541	279	19,368
06+75	5.00	158.12	0.00	0.00	31	0	25,582	279	19,399
06+80	5.00	142.67	0.00	0.00	28	0	25,618	279	19,427
06+90	10.00	138.88	0.00	0.00	52	0	25,686	279	19,479
07+00	10.00	141.46	0.00	0.01	52	0	25,753	279	19,531
07+10	10.00	147.00	0.00	0.05	53	0	25,823	279	19,585
07+20	10.00	148.52	0.00	0.09	55	0	25,894	279	19,639
07+30	10.00	149.12	0.00	0.02	55	0	25,966	279	19,695
07+40	10.00	137.83	0.00	0.00	53	0	26,035	279	19,748
07+50	10.00	130.54	0.00	0.00	50	0	26,099	279	19,797
07+60	10.00	132.31	0.00	0.00	49	0	26,163	279	19,846
07+70	10.00	133.51	0.00	0.00	49	0	26,227	279	19,895
07+77	7.00	112.33	0.00	0.00	32	0	26,268	279	19,927
07+80	3.00	7.59	0.00	0.59	7	0	26,277	279	19,934
07+87.07	7.07	7.59	0.00	1.12	2	0	26,279	279	19,936
07+90	2.93	6.16	0.00	1.09	1	0	26,280	279	19,936
08+00	10.00	4.68	0.00	0.46	2	0	26,283	280	19,938
08+10	10.00	2.02	0.00	0.12	1	0	26,284	280	19,939
08+14.58	4.58	0.34	0.00	0.12	0	0	26,285	280	19,939
COLUMN TOTALS					20,219	280			

Notes:

- (1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- (2) Salvaged/Unsuable Pavement Material is included in Cut.
- (3) Salvaged/Unusable Pavement Material
- (4) Available Material = Cut - Salvaged/Unusuable Pavement Material
- (5) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 1
- (6) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.1. Item number 208.1100
- (7) Expanded Fill Factor = 1
- (9) 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.
- (10) Common Excavation not to be used as fill material. Borrow is required in all fill areas.

CONCRETE DWY

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
		Cut	Fill	Cut	Fill	Cut 1.30	Expanded	
							Fill 1.00	Mass Ordinate
				Note 1	Note 3	Note 1		Note 8
00+39.67	0.00	0.00	0.00	0	0	0	0	0
00+40	0.33	0.05	0.00	0	0	0	0	0
00+50	10.00	52.32	0.00	10	0	13	0	10
00+60	10.00	215.30	0.00	50	0	77	0	59
00+63.06	3.06	284.86	0.00	28	0	114	0	88
00+68.72	5.66	437.41	0.00	76	0	212	0	163
00+70	1.28	478.47	0.00	22	0	241	0	185
00+70.85	0.85	506.44	0.00	15	0	261	0	200
00+71.4	0.56	527.42	0.00	11	0	274	0	211
00+72.53	1.13	575.06	0.00	23	0	304	0	234
00+80	7.47	853.93	0.00	198	0	561	0	432
00+90	10.00	938.04	0.00	332	0	993	0	764
01+00	10.00	851.28	0.00	331	0	1,423	0	1,095
01+10	10.00	732.98	0.00	293	0	1,805	0	1,388
01+20	10.00	507.07	0.00	230	0	2,103	0	1,618
01+30	10.00	291.25	0.00	148	0	2,296	0	1,766
01+40	10.00	107.05	0.00	74	0	2,391	0	1,840
01+44.24	4.24	2208.62	0.00	182	0	2,628	0	2,022
01+46.49	2.25	2192.49	0.00	184	0	2,867	0	2,205
01+50	3.51	51.32	0.00	146	0	3,056	0	2,351
01+60	10.00	179.34	0.00	43	0	3,111	0	2,393
01+70	10.00	300.55	0.00	89	0	3,227	0	2,482
01+80	10.00	423.14	0.00	134	0	3,401	0	2,616
01+90	10.00	531.31	0.00	177	0	3,631	0	2,793
02+00	10.00	616.72	0.00	213	0	3,907	0	3,006
02+10	10.00	686.46	0.00	241	0	4,221	0	3,247
02+20	10.00	765.82	0.00	269	0	4,571	0	3,516
02+30	10.00	883.05	0.00	305	0	4,968	0	3,821
02+31.05	1.05	897.45	0.00	34	0	5,013	0	3,856
02+40	8.95	1036.28	0.00	321	0	5,429	0	4,176
02+50	10.00	1223.72	0.12	419	0	5,973	0	4,595
02+59.1	9.10	1422.09	0.83	446	0	6,553	0	5,041
02+60	0.90	1436.62	0.89	48	0	6,615	0	5,088
02+70	10.00	1578.89	1.92	558	1	7,341	1	5,646
02+80	10.00	1707.17	2.72	609	1	8,132	2	6,254
02+90	10.00	1809.43	3.26	651	1	8,979	3	6,904
03+00	10.00	1901.48	3.73	687	1	9,872	4	7,590
03+10	10.00	1914.62	4.36	707	1	10,791	5	8,295
03+20	10.00	1844.78	0.00	696	1	11,696	6	8,990
03+30	10.00	1716.72	0.00	660	0	12,553	6	9,650
03+40	10.00	1533.98	5.19	602	1	13,336	7	10,251
03+50	10.00	1311.38	8.99	527	3	14,021	10	10,775
03+57.23	7.23	1121.78	11.63	326	3	14,444	13	11,098
03+60	2.77	1053.27	12.61	111	1	14,589	14	11,209
03+65.2	5.20	913.43	14.47	189	3	14,835	16	11,395
03+70	4.80	795.96	16.18	152	3	15,033	19	11,545
03+80	10.00	577.63	22.20	254	7	15,364	26	11,792
03+83.14	3.14	461.28	26.31	60	3	15,442	29	11,849
03+85.05	1.92	388.60	29.78	30	2	15,481	31	11,878
03+90	4.95	181.26	43.72	52	7	15,549	38	11,923
03+90.51	0.51	161.28	46.10	3	1	15,553	39	11,925
03+95.5	4.99	33.81	70.02	18	11	15,577	49	11,933
04+00	4.50	13.47	70.37	4	12	15,582	61	11,925
04+03.67	3.67	4.99	54.91	1	9	15,584	70	11,918
04+10	6.33	19.13	14.93	3	8	15,587	78	11,912
04+14.1	4.10	39.15	5.88	4	2	15,593	79	11,915
04+20	5.90	59.86	1.97	11	1	15,607	80	11,925
04+25.71	5.71	75.37	0.64	14	0	15,626	81	11,939
04+25.75	0.04	74.64	0.25	0	0	15,626	81	11,939
04+30	4.25	70.39	0.00	11	0	15,641	81	11,951
04+40	10.00	54.52	0.00	23	0	15,671	81	11,974
04+43	3.00	48.79	0.00	6	0	15,678	81	11,980
CUMULATIVE TOTALS				12,060	81			

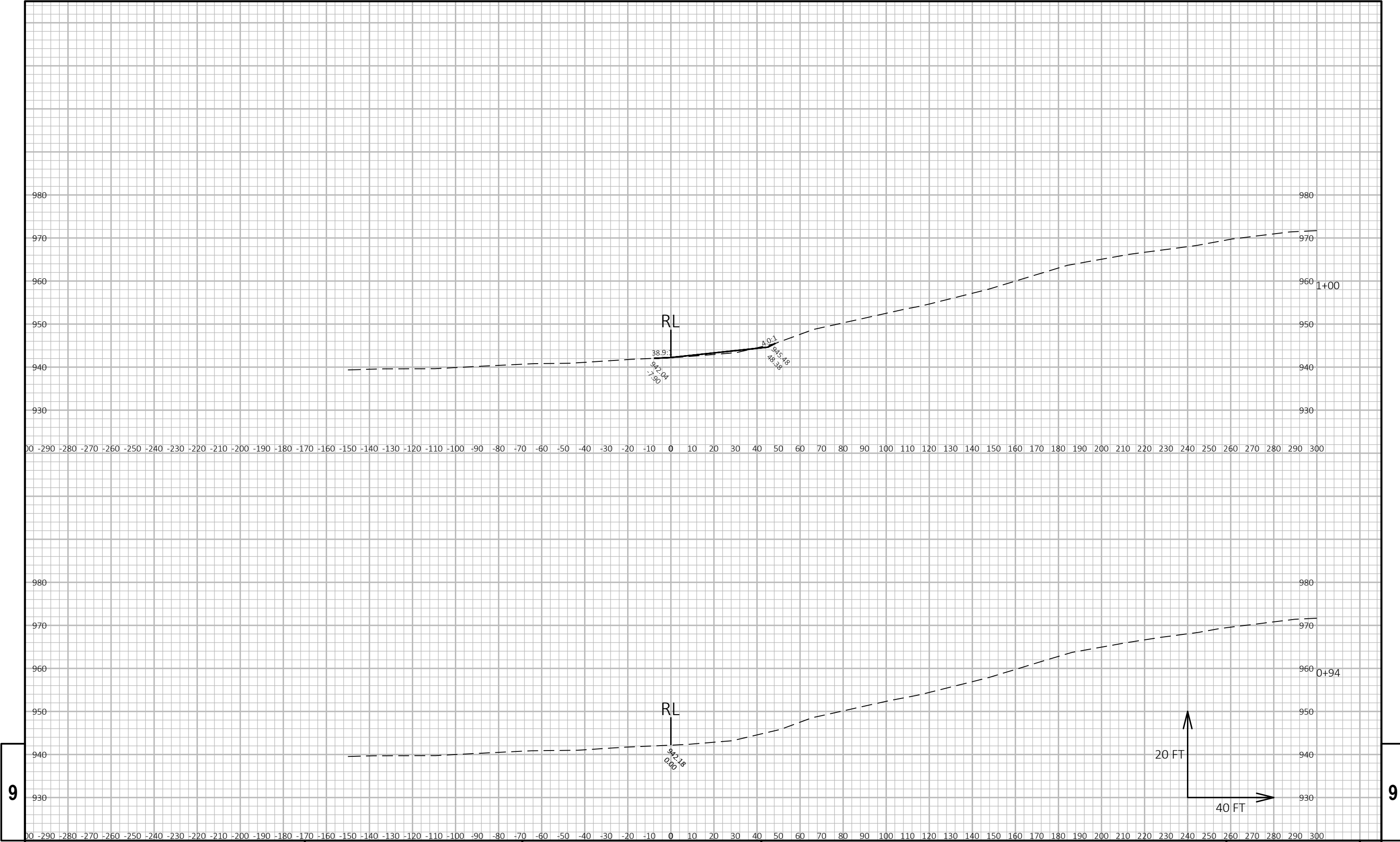
Notes:

- (1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- (2) Salvaged/Unsuable Pavement Material is included in Cut.
- (3) Salvaged/Unusable Pavement Material
- (4) Available Material = Cut - Salvaged/Unusuable Pavement Material
- (5) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 1
- (6) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.1. Item number 208.1100
- (7) Expanded Fill Factor = 1
- (9) 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.
- (10) Common Excavation not to be used as fill material. Borrow is required in all fill areas.

ASPHALT EAST DWY

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
		Cut	Fill	Cut	Fill	Cut 1.30	Expanded Fill 1.00	Mass Ordinate
00+10	0.00	21.39	0.00	0	0	0	0	0
00+20	10.00	58.13	0.00	15	0	19	0	15
00+30	10.00	104.85	0.00	30	0	58	0	45
00+38.43	8.43	155.93	0.00	41	0	111	0	86
00+40	1.57	145.22	0.00	9	0	123	0	94
00+43.46	3.46	148.87	0.00	19	0	147	0	113
00+50	6.54	168.68	0.00	38	0	197	0	152
00+60	10.00	152.07	0.00	59	0	274	0	211
00+65.18	5.18	131.91	0.00	27	0	310	0	238
00+65.24	0.06	32.15	0.00	0	0	310	0	239
00+65.43	0.19	11.81	0.37	0	0	310	0	239
00+70	4.57	13.65	0.02	2	0	313	0	241
00+80	10.00	8.96	0.00	4	0	319	0	245
00+90	10.00	7.05	0.01	3	0	322	0	248
01+00	10.00	1.44	0.24	2	0	324	0	249
01+10	10.00	0.43	0.21	0	0	325	0	250
01+12.07	2.07	0.22	0.17	0	0	325	0	250
CUMULATIVE TOTALS				250	0			

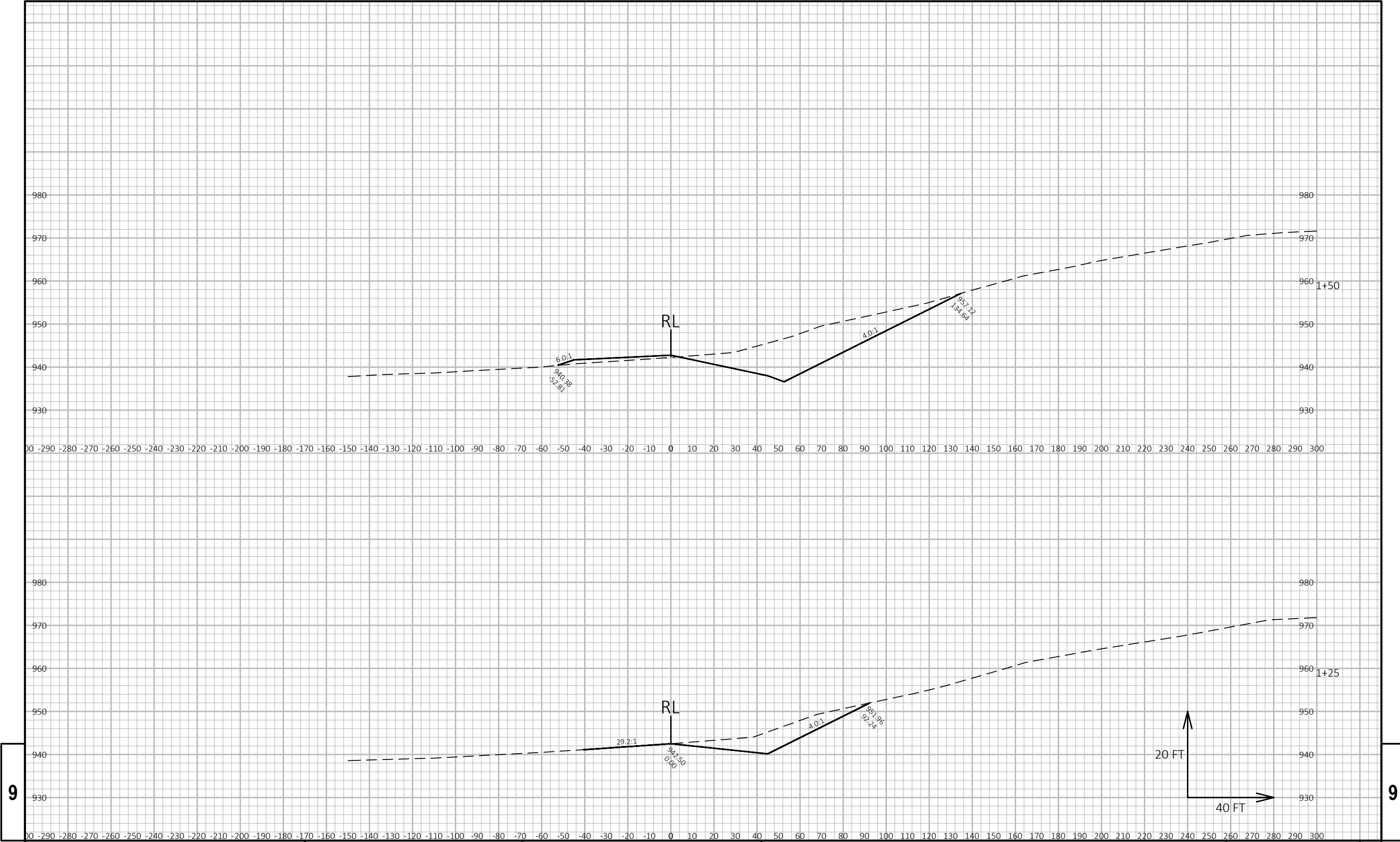
Notes:
 (1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
 (2) Salvaged/Unsuable Pavement Material is included in Cut.
 (3) Salvaged/Unusable Pavement Material
 (4) Available Material = Cut - Salvaged/Unusuable Pavement Material
 (5) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 1
 (6) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.1. Item number 208.1100
 (7) Expanded Fill Factor = 1
 (9) 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.
 (10) Common Excavation not to be used as fill material. Borrow is required in all fill areas.



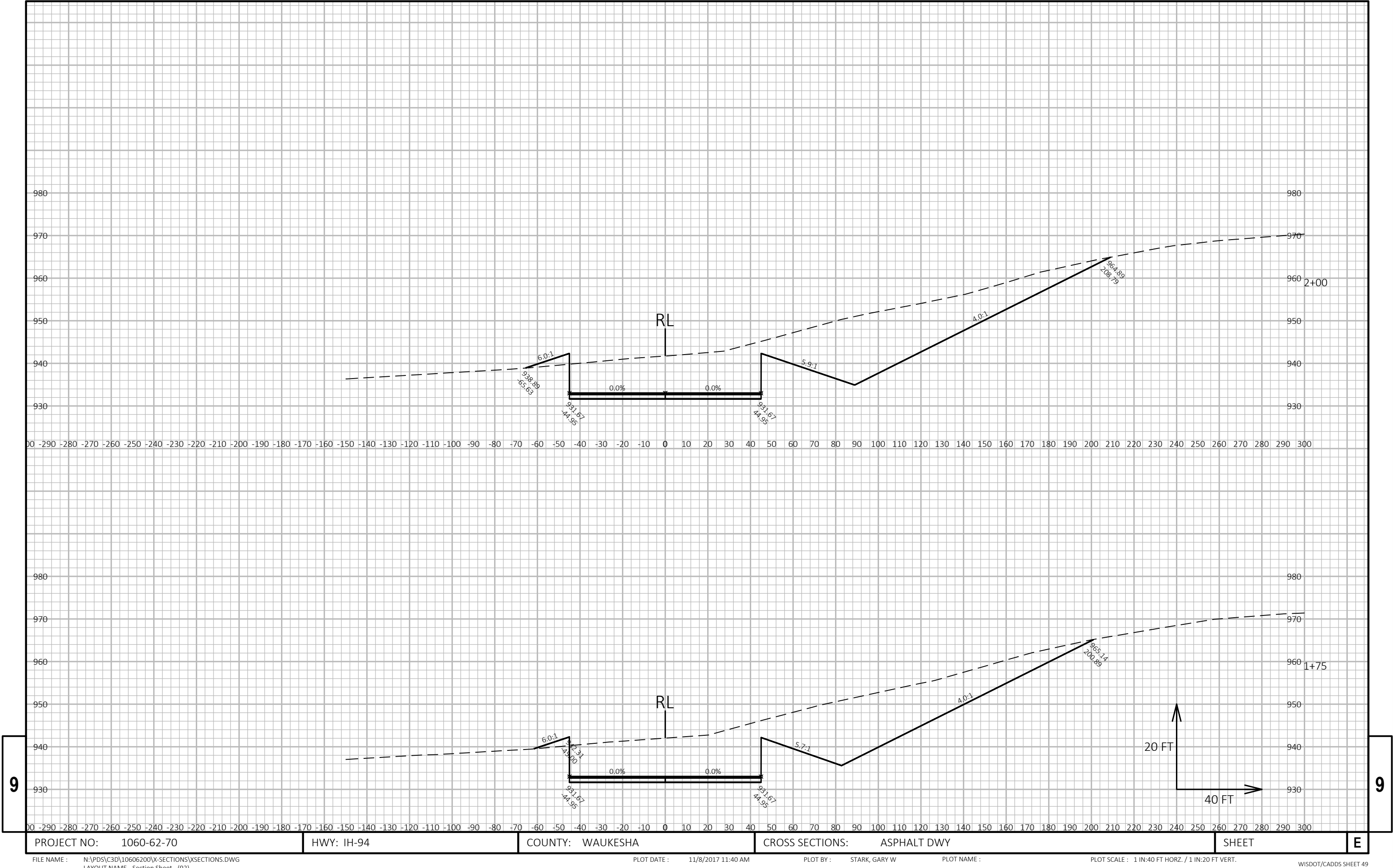
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PROJECT NO: 1060-62-70	HWY: IH-94	COUNTY: WAUKESHA	CROSS SECTIONS: ASPHALT DWY	SHEET	E
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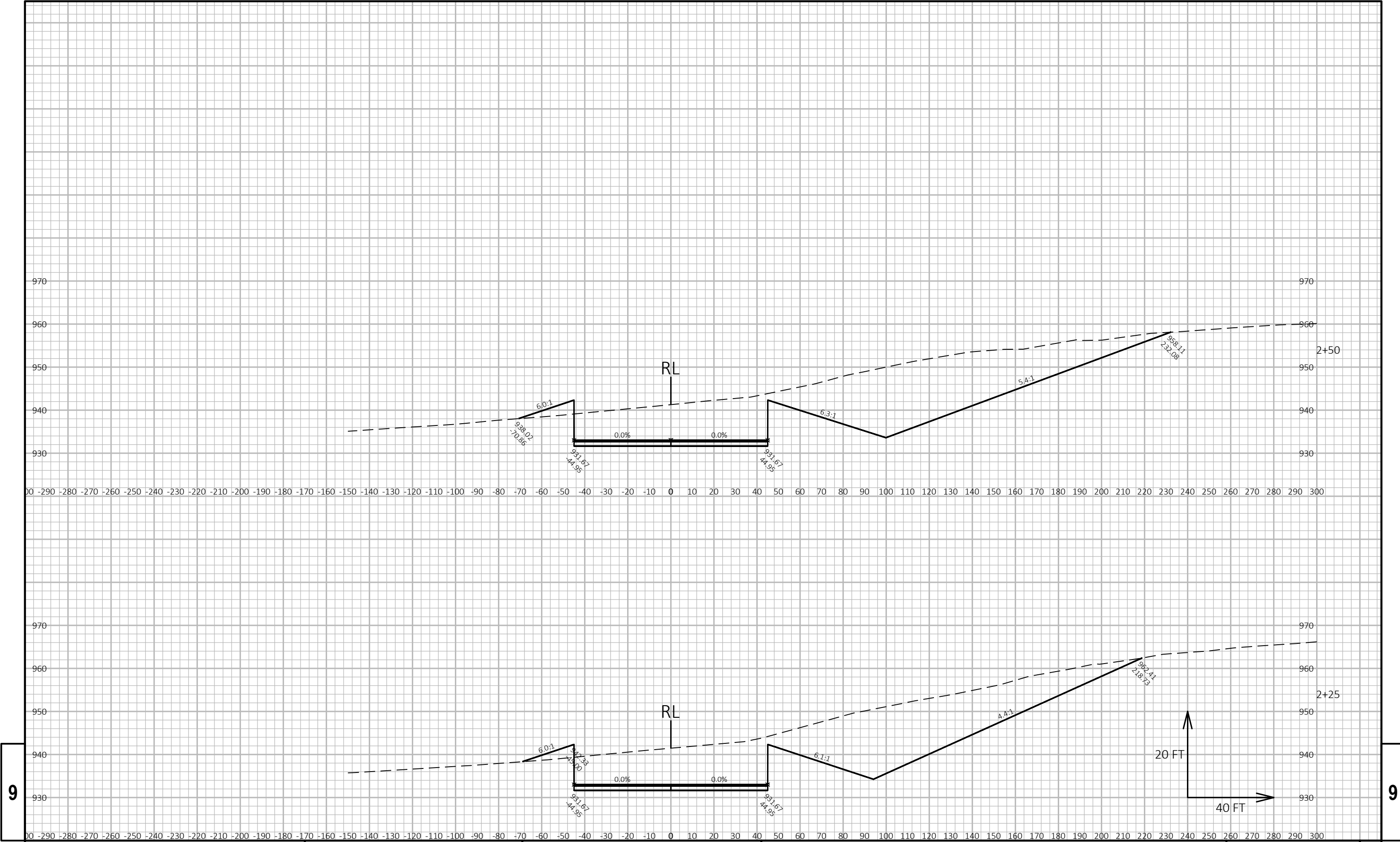
PROJECT NO:	1060-62-70	HWY:	IH-94	COUNTY:	WAUKESHA	CROSS SECTIONS:	ASPHALT DWY	SHEET	E
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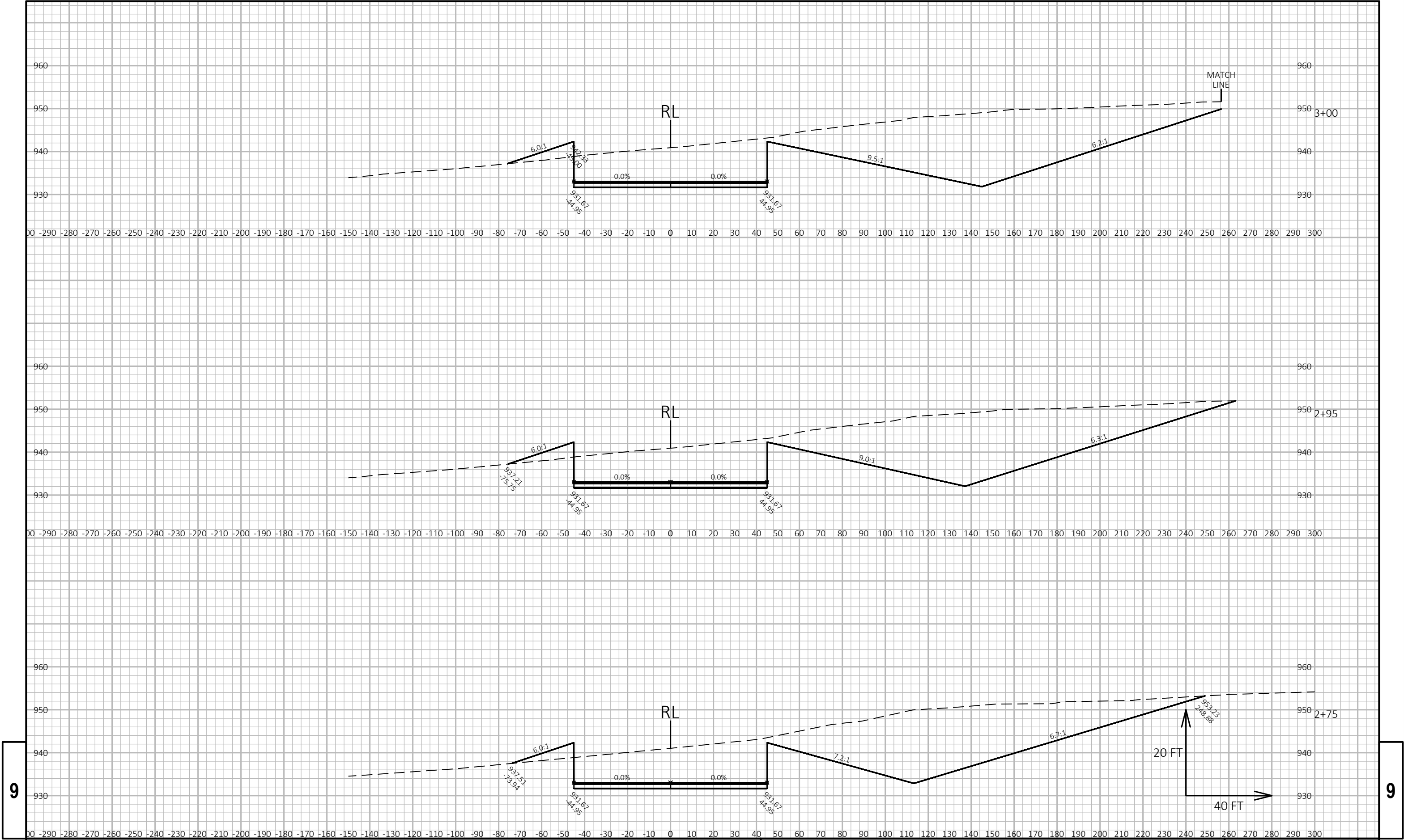
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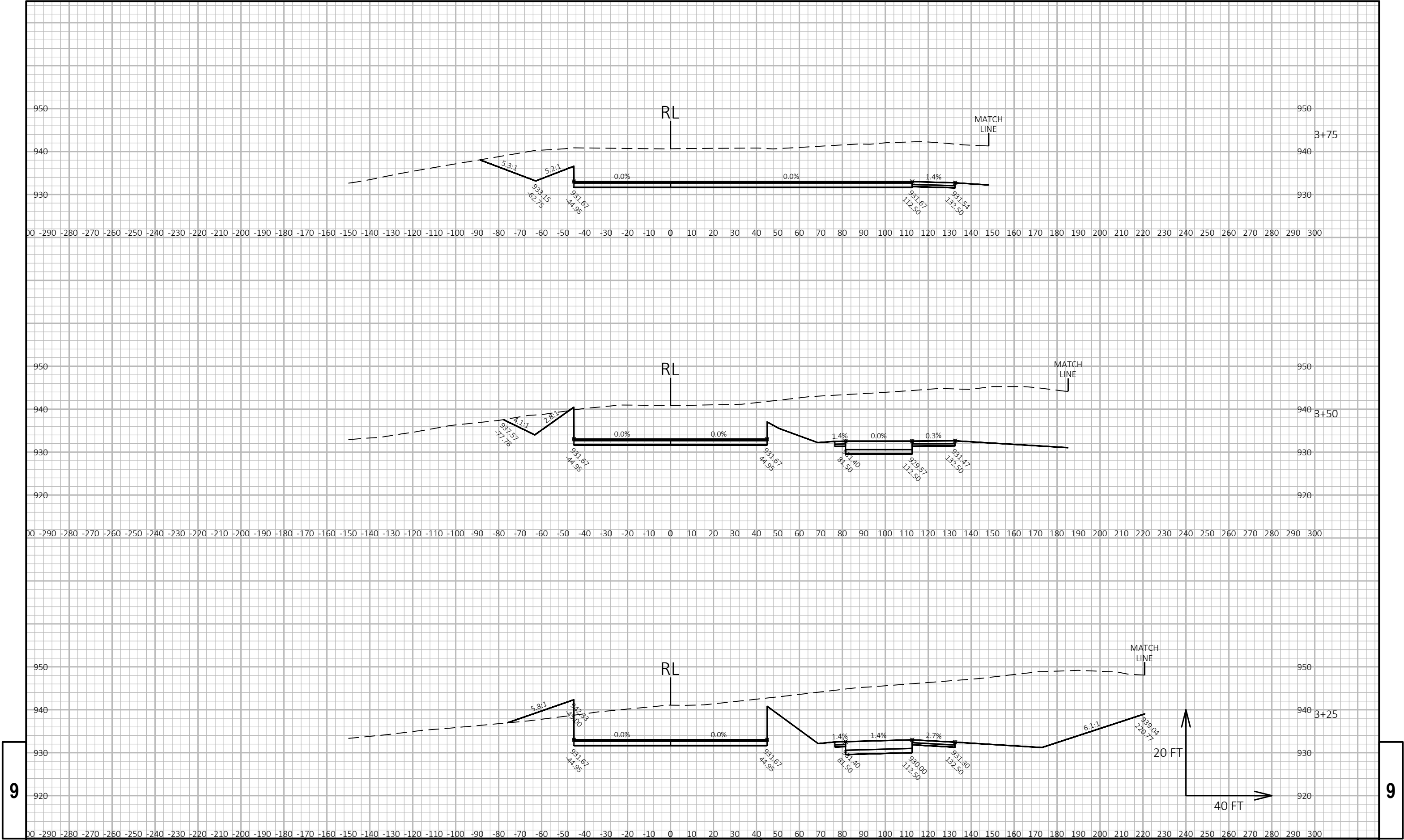
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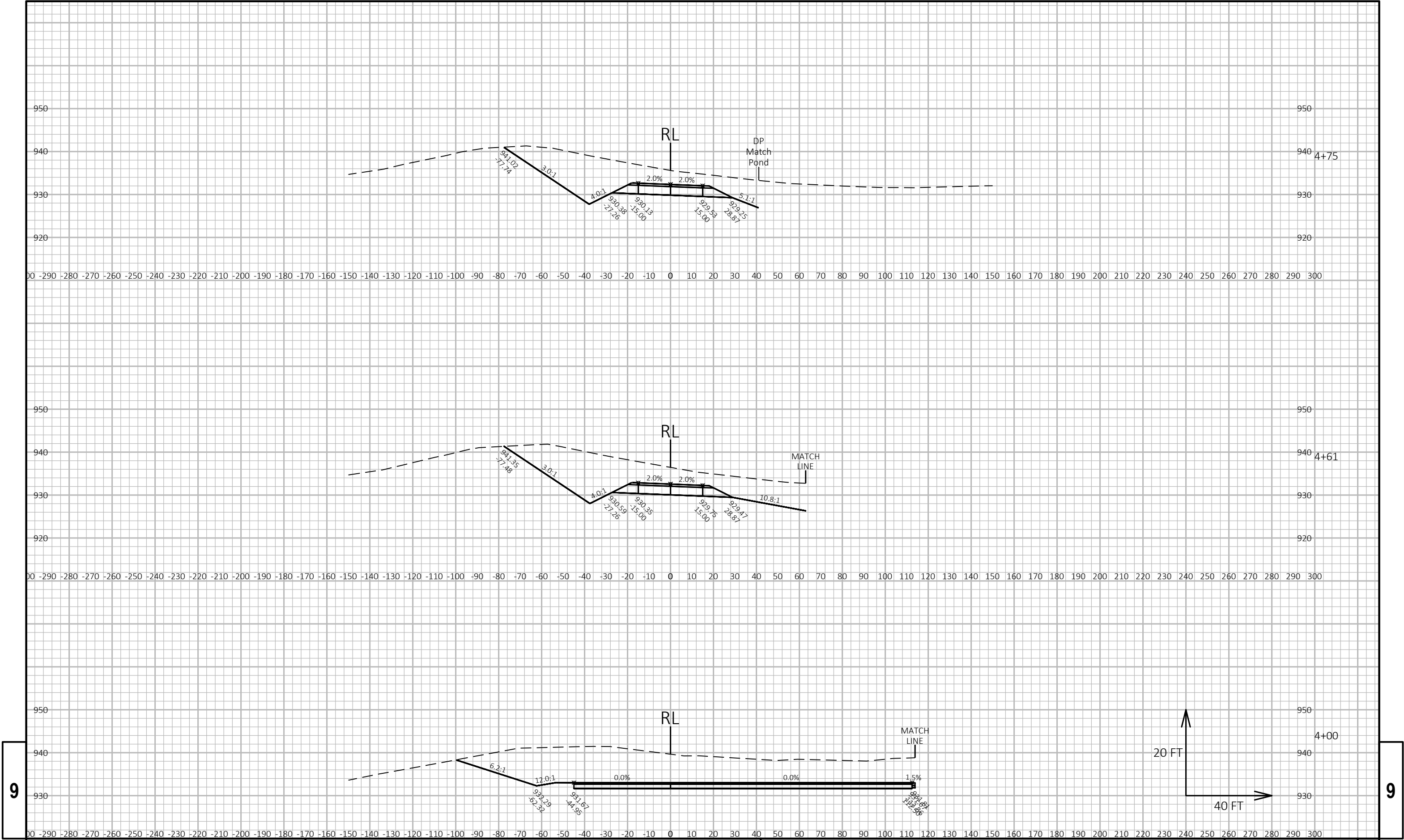
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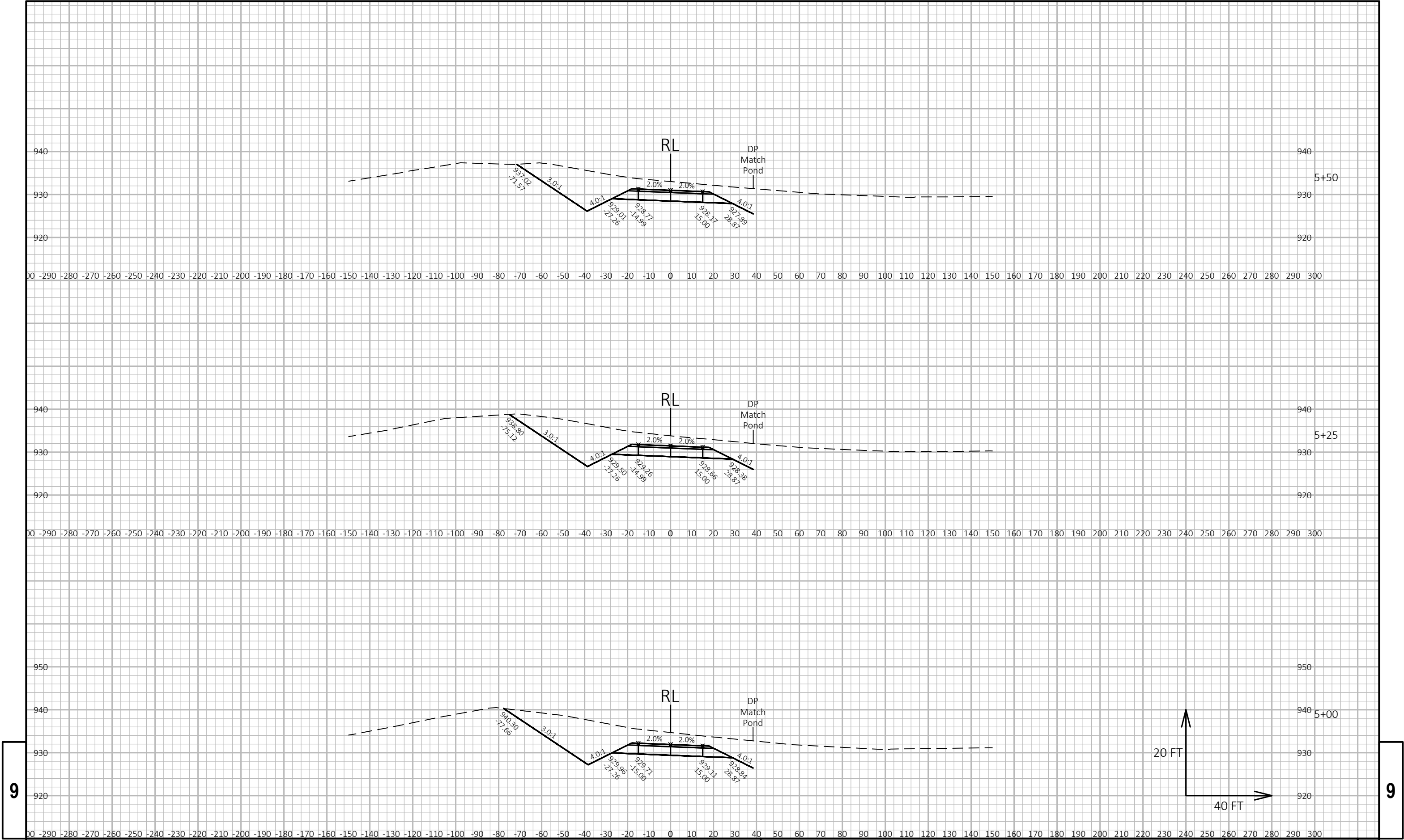
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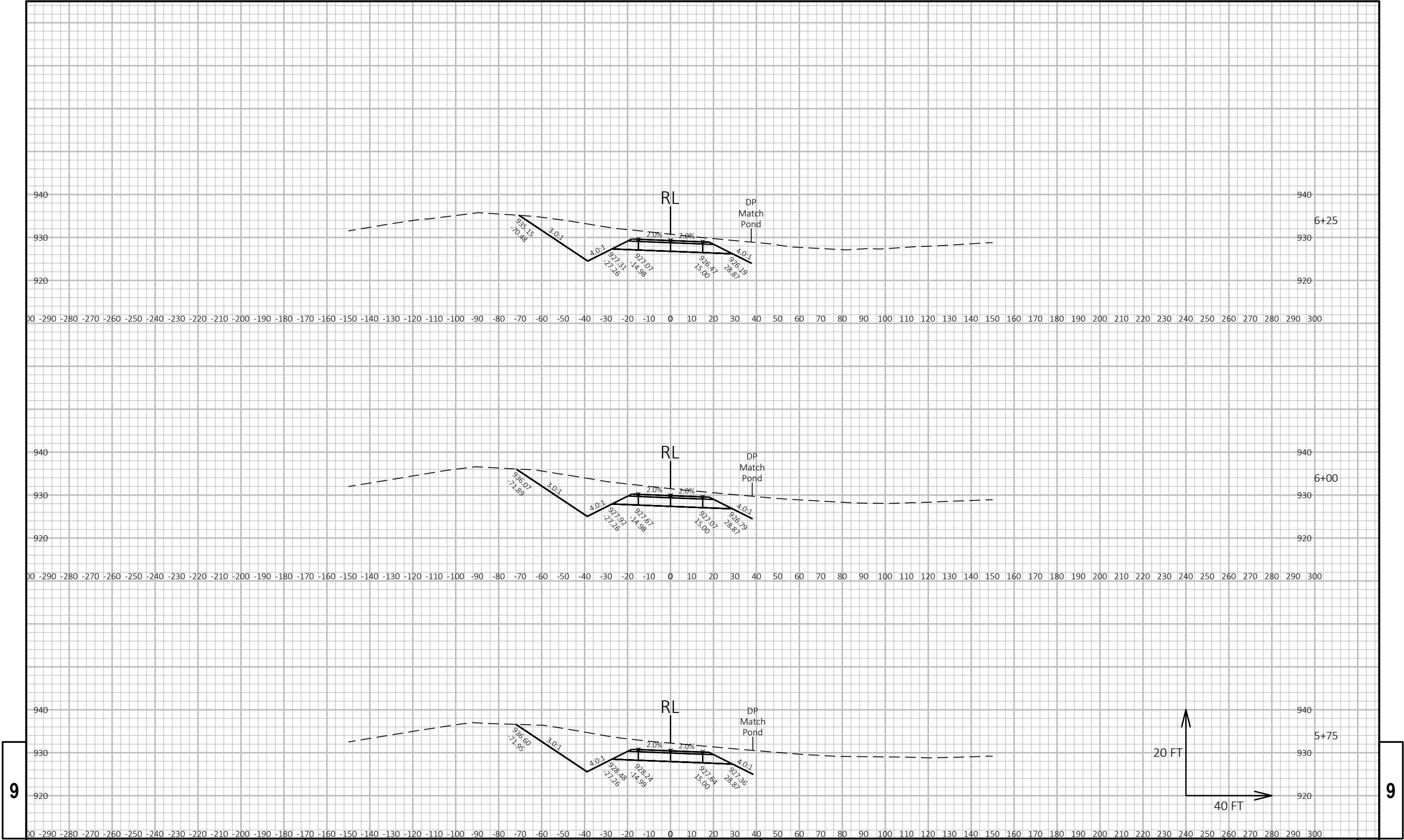


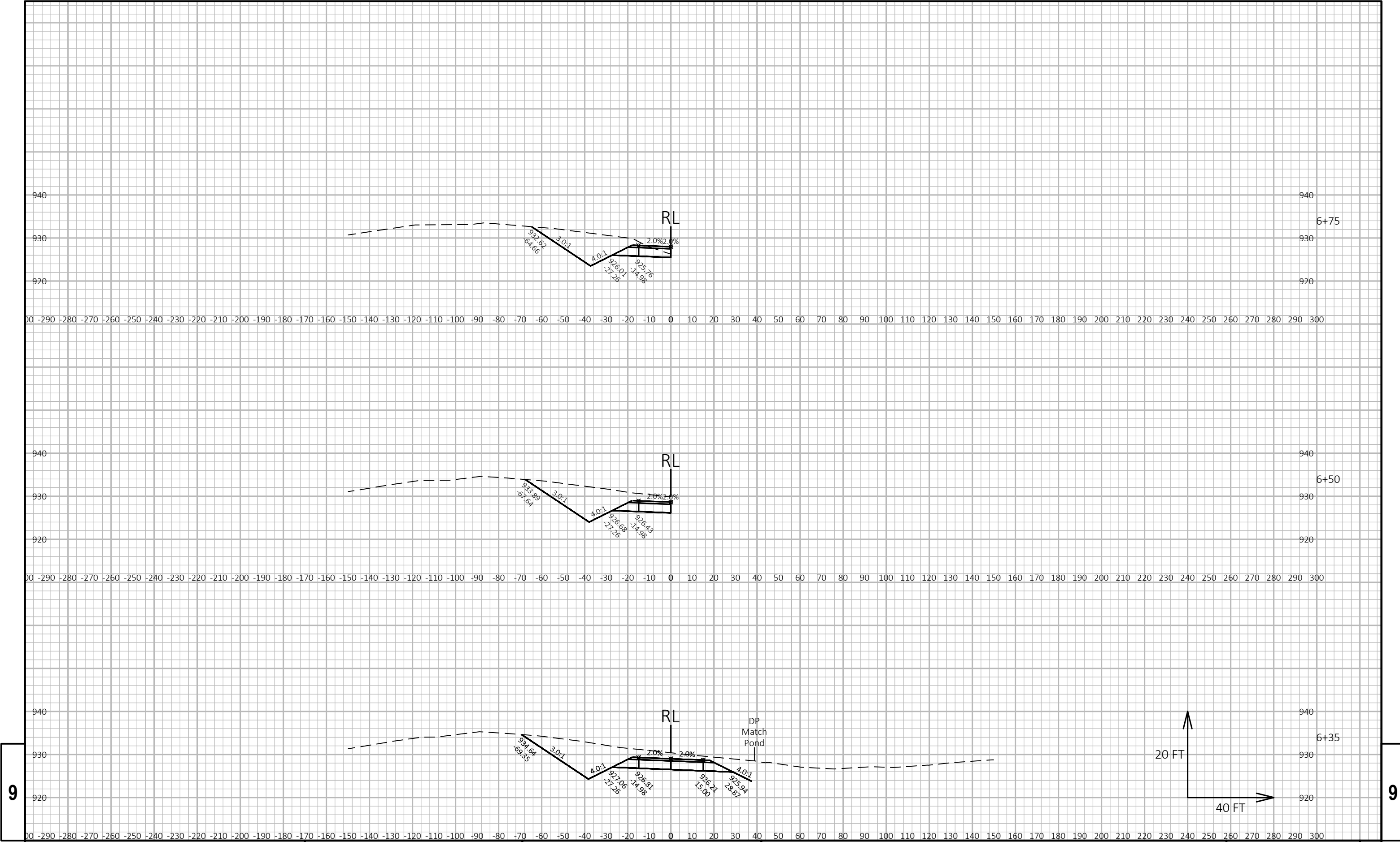
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9		PROJECT NO: 1060-62-70	HWY: IH-94	COUNTY: WAUKESHA	CROSS SECTIONS: ASPHALT DWY	SHEET	E	9
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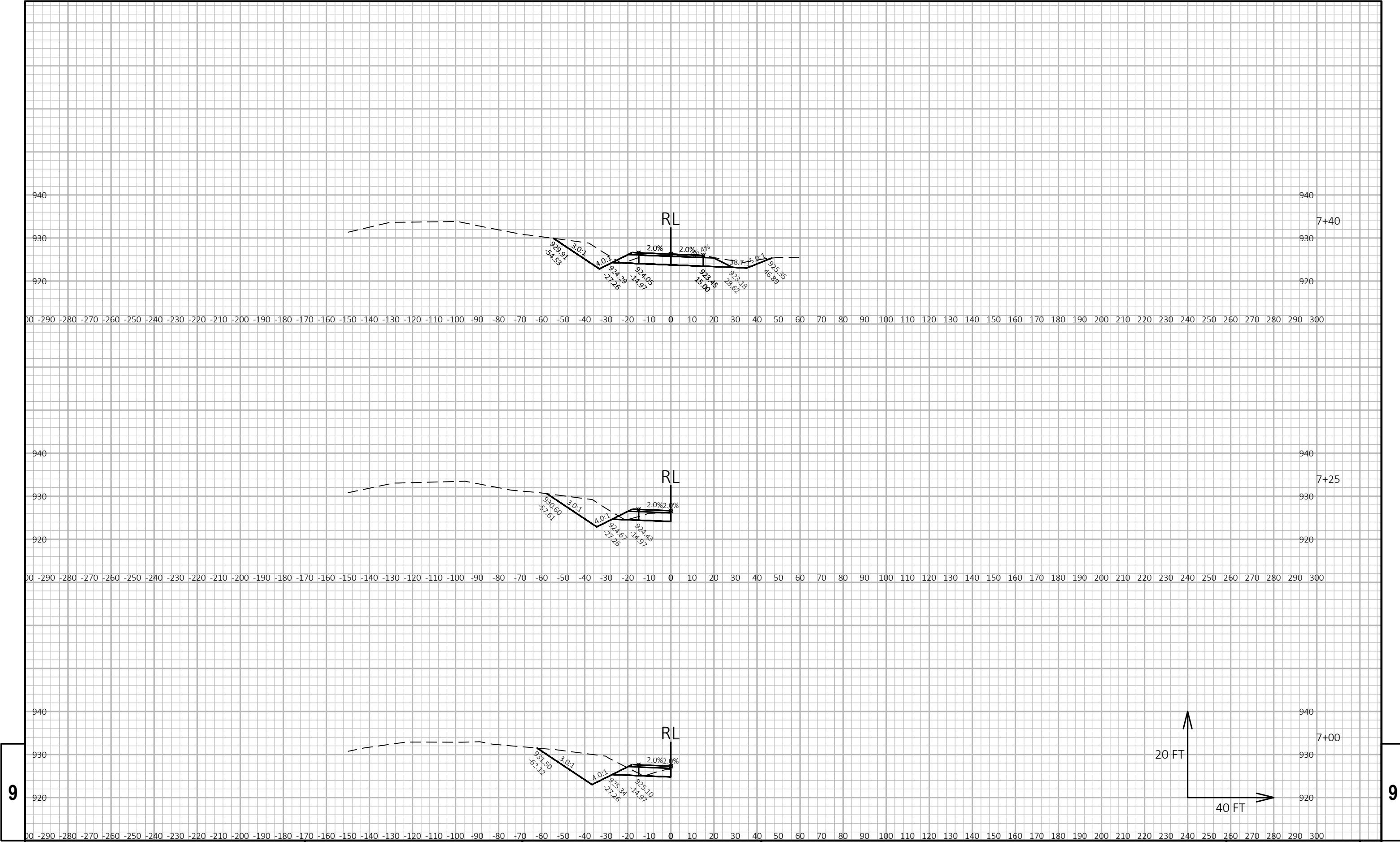




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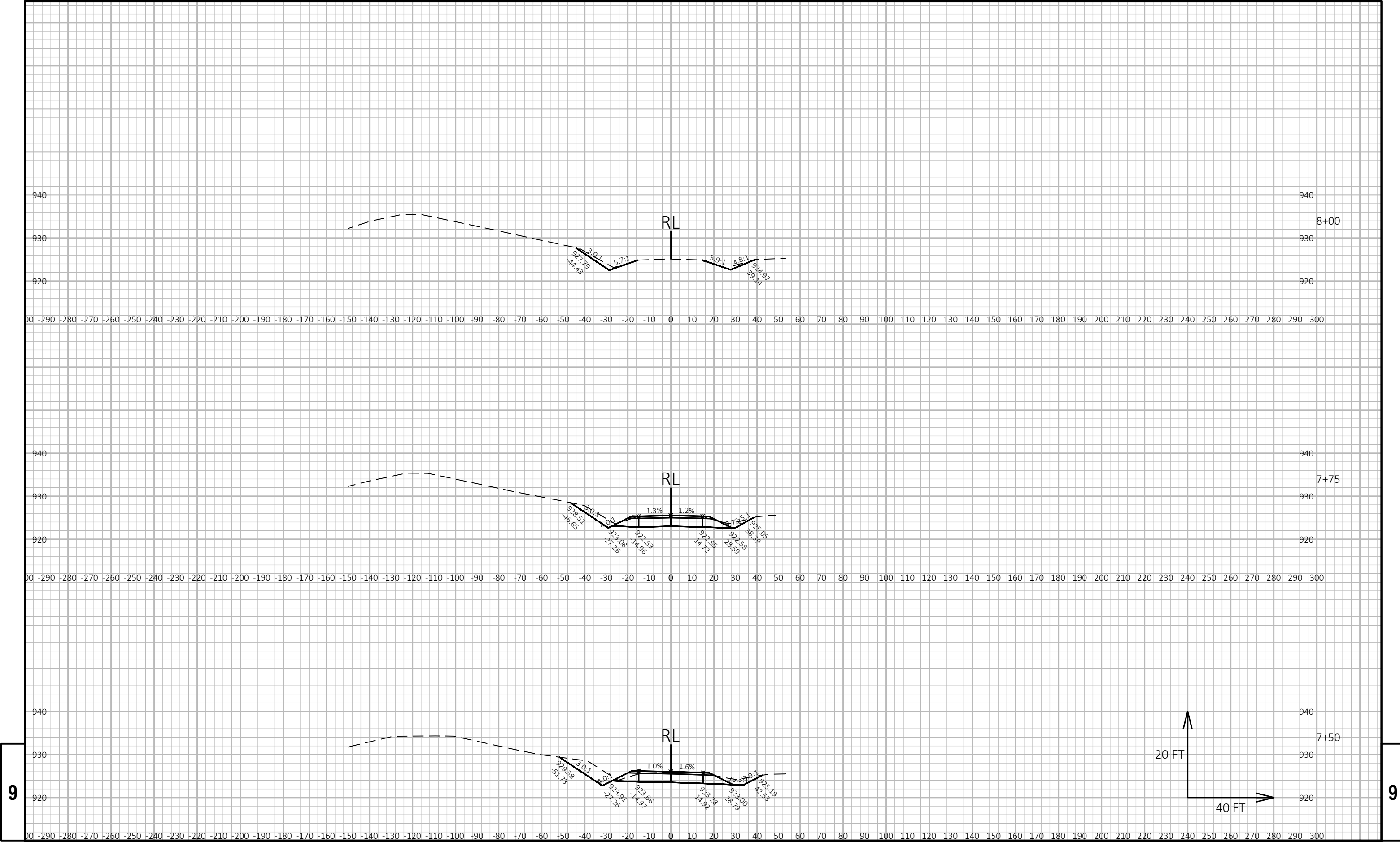
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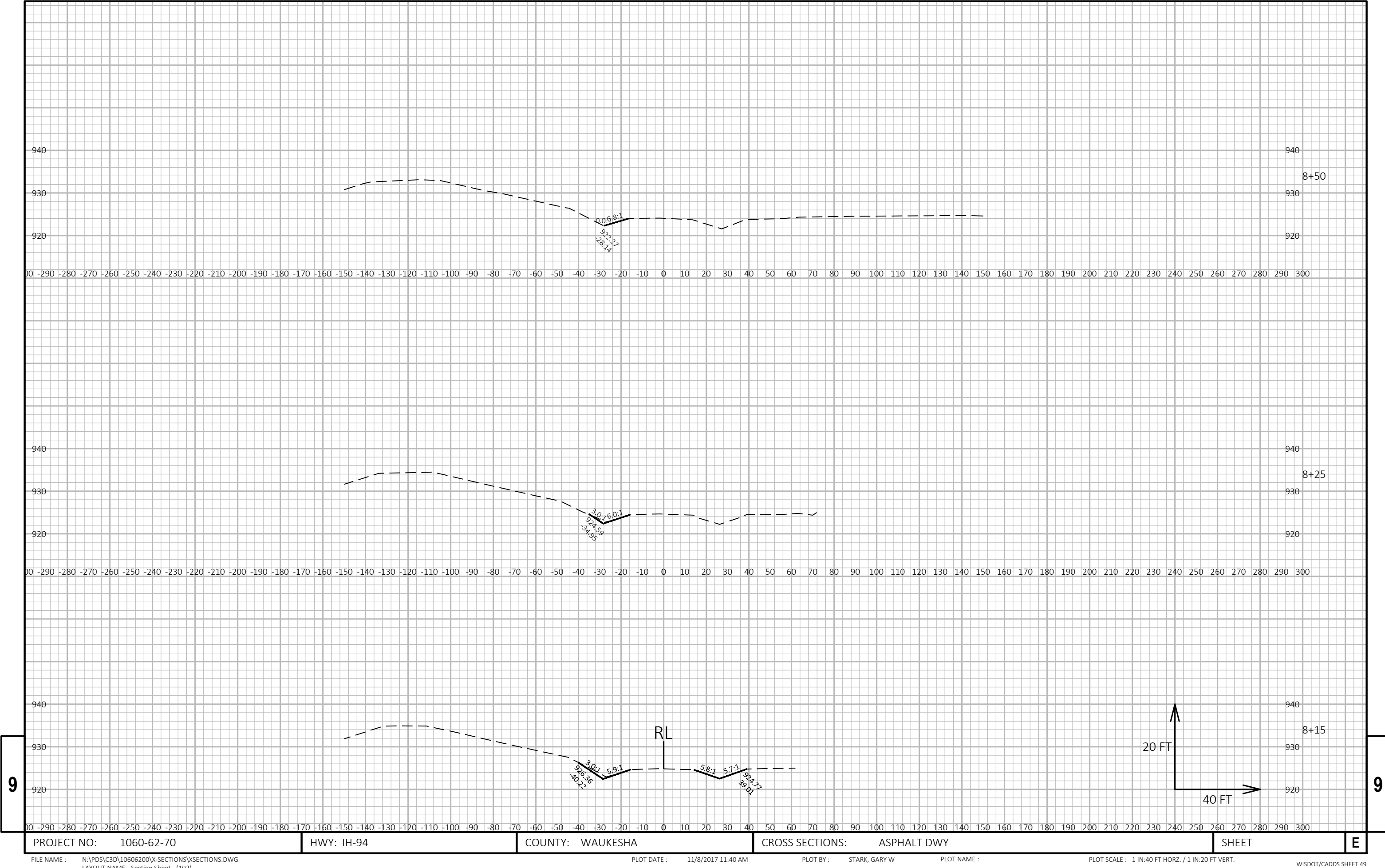
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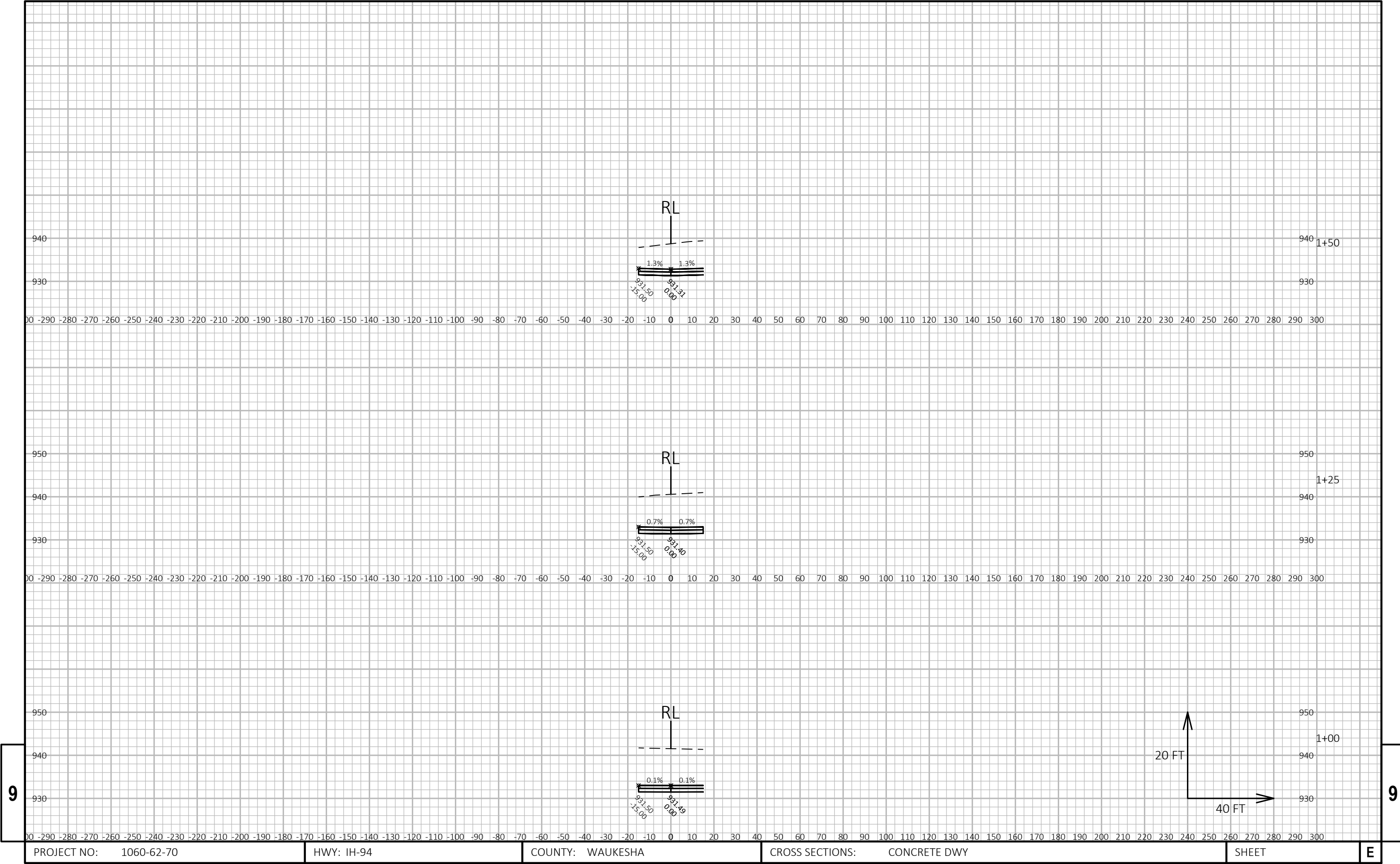
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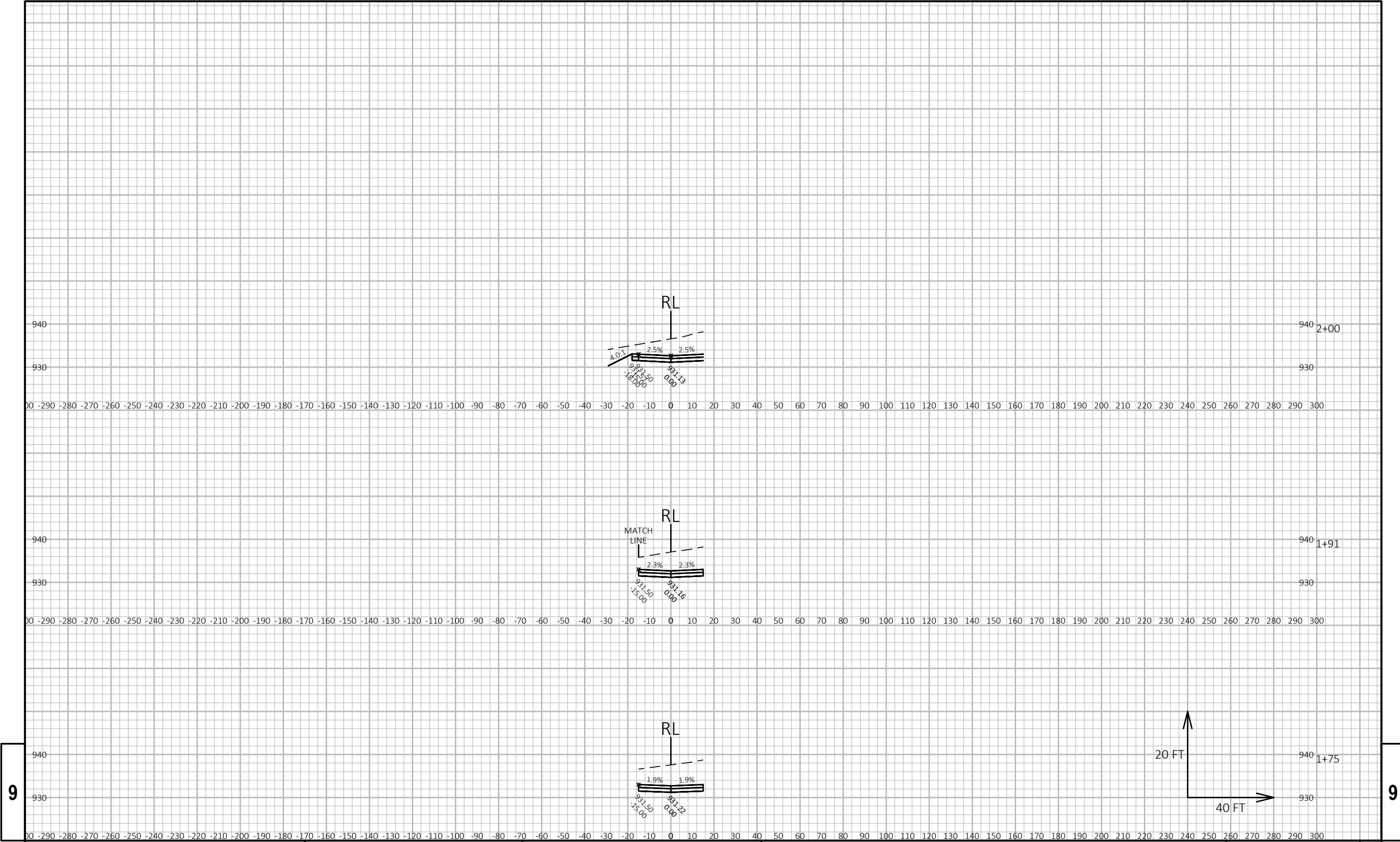
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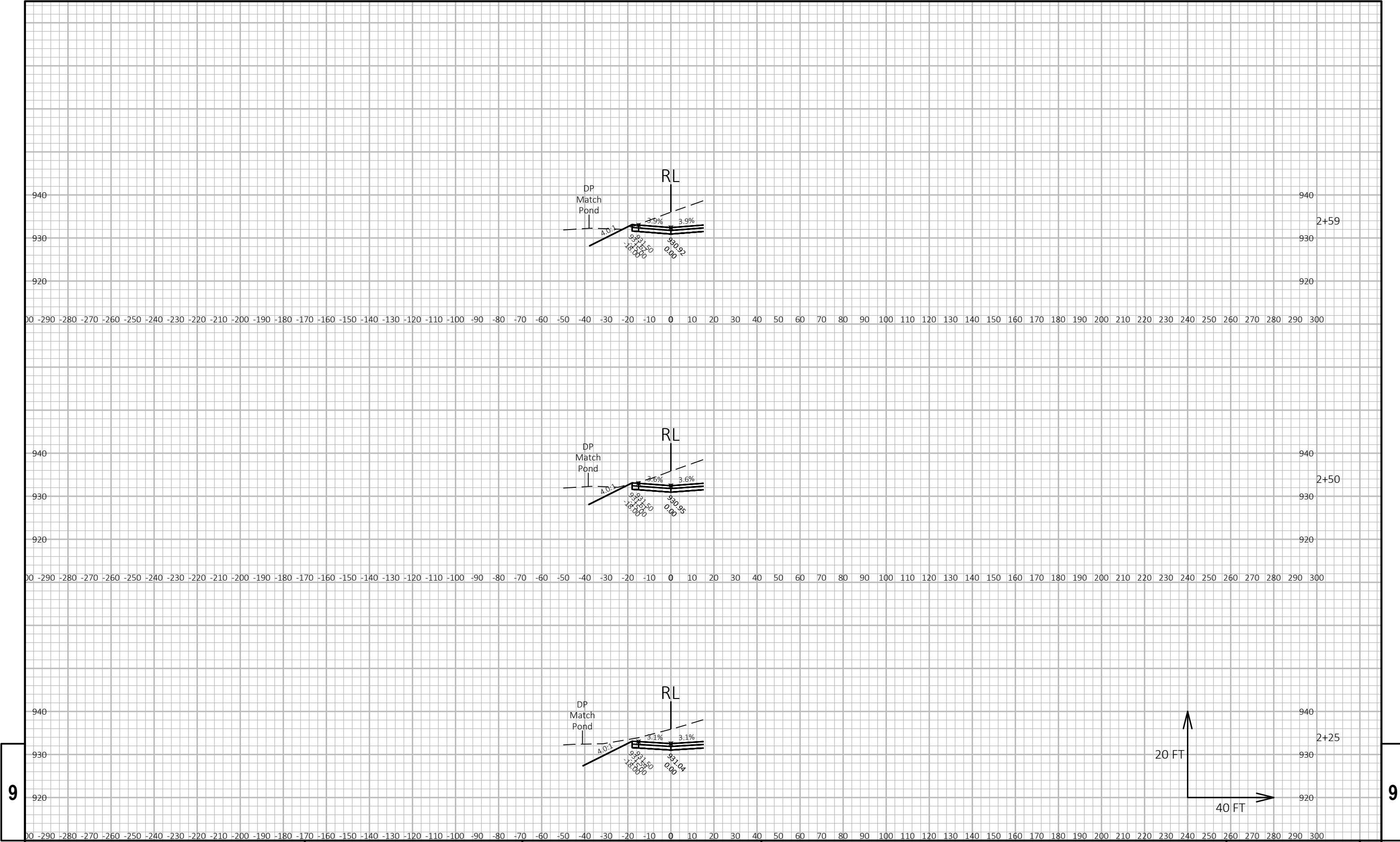
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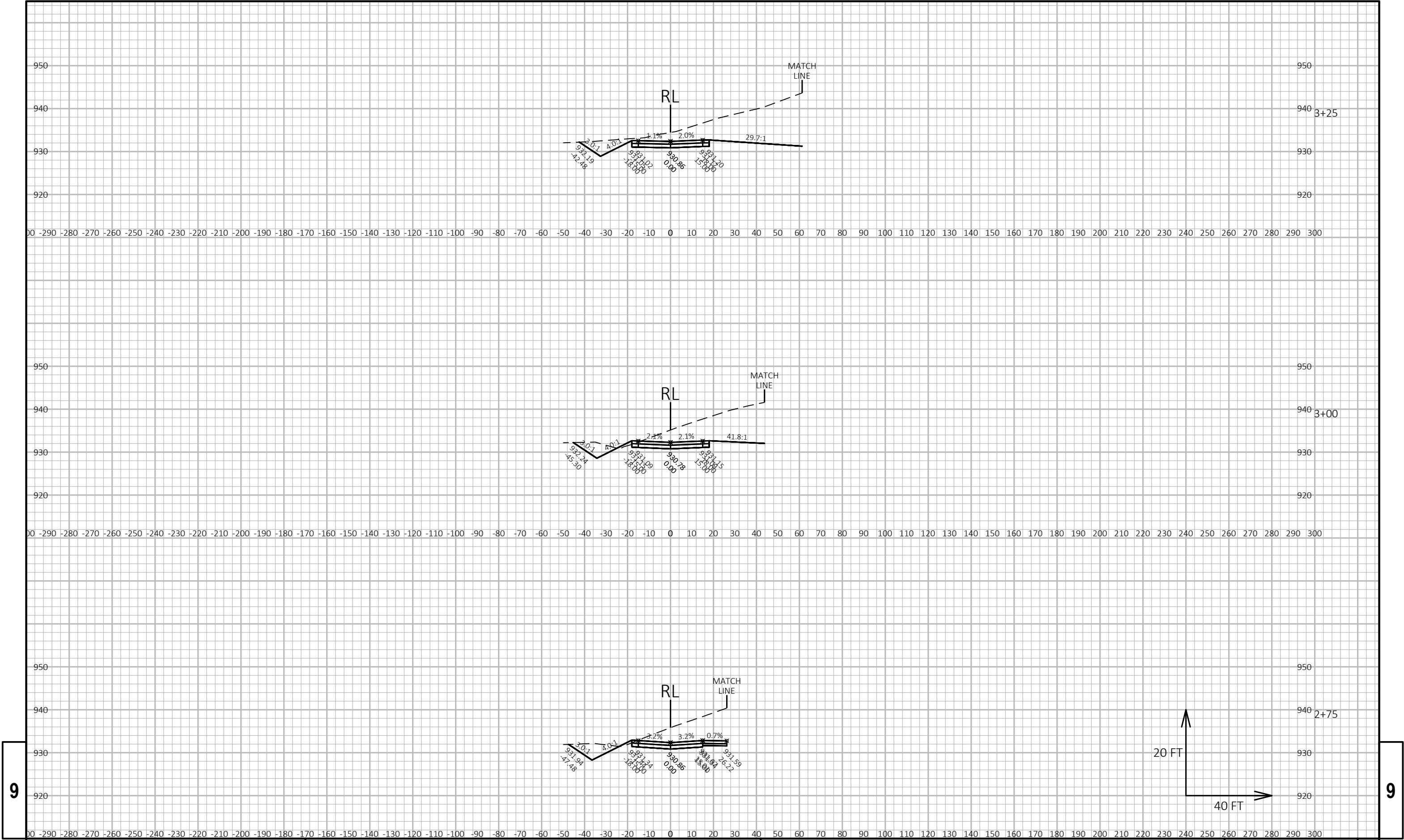
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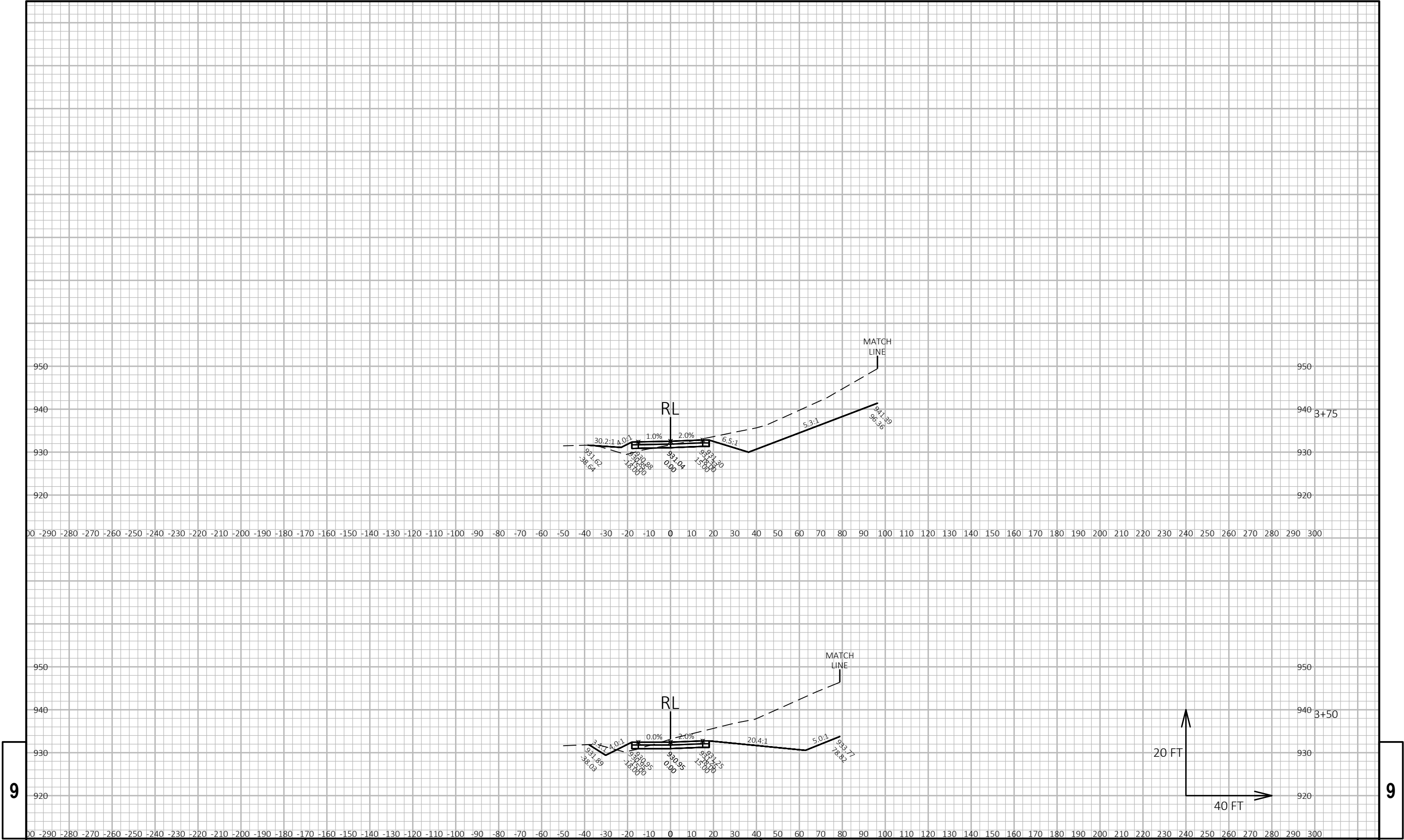
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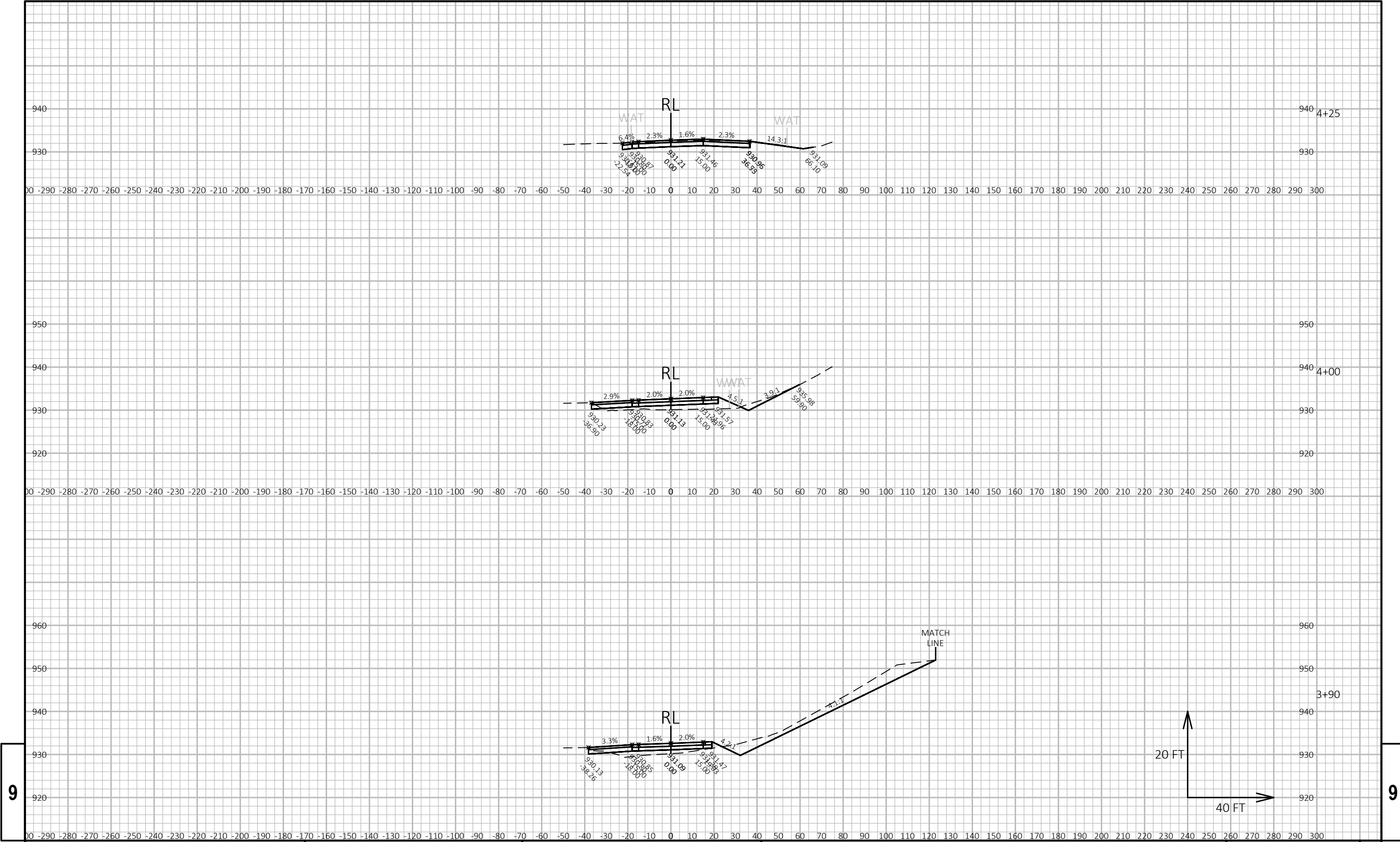


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PROJECT NO: 1060-62-70	HWY: IH-94	COUNTY: WAUKESHA	CROSS SECTIONS: CONCRETE DWY	SHEET	E
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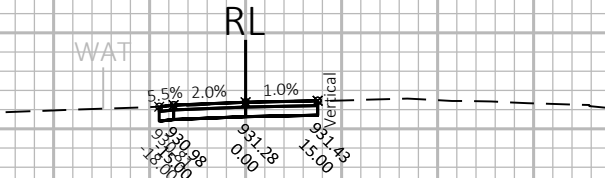
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940
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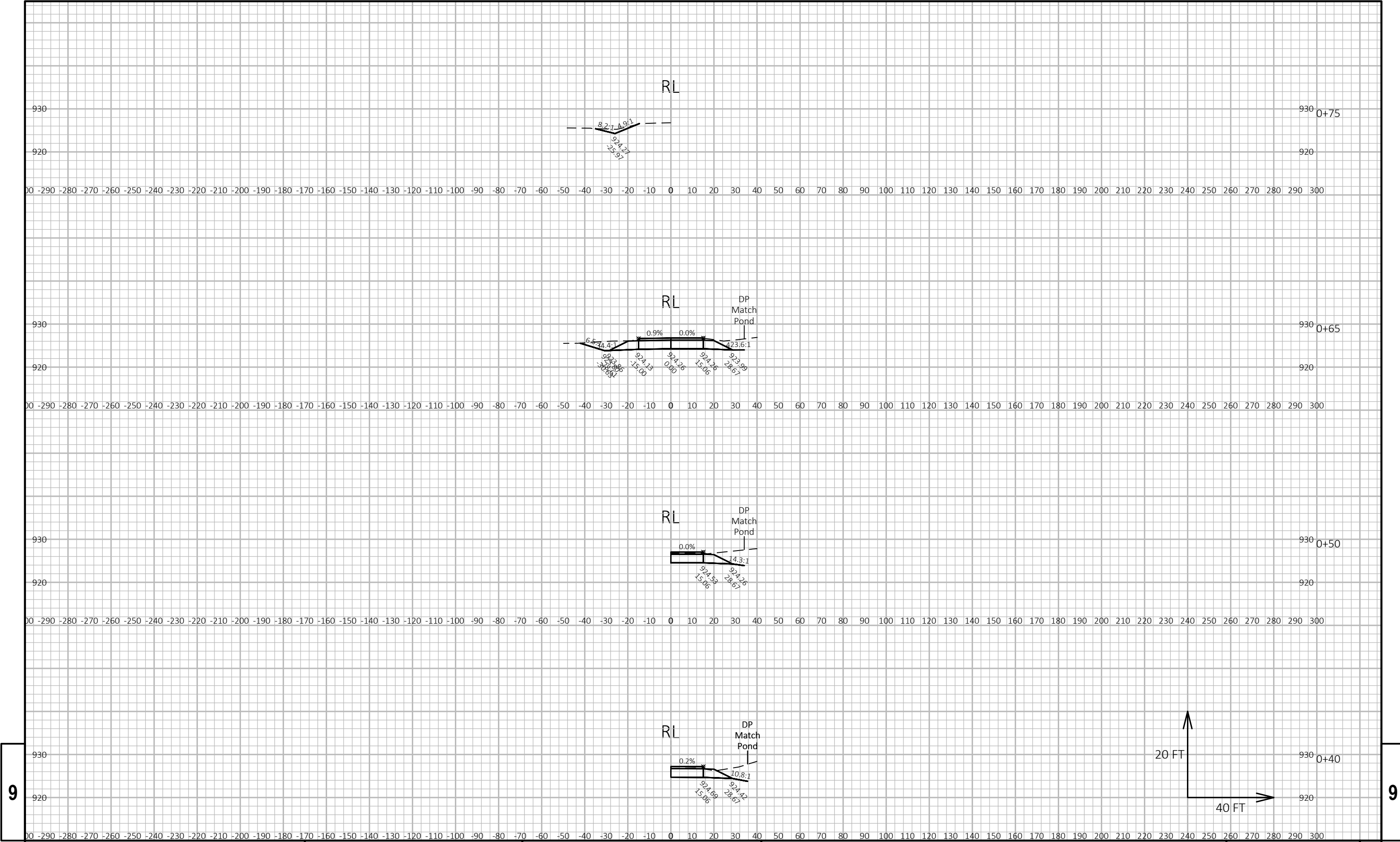
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PROJECT NO: 1060-62-70	HWY: IH-94	COUNTY: WAUKESHA	CROSS SECTIONS: CONCRETE DWY	SHEET	E
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940 4+43
930

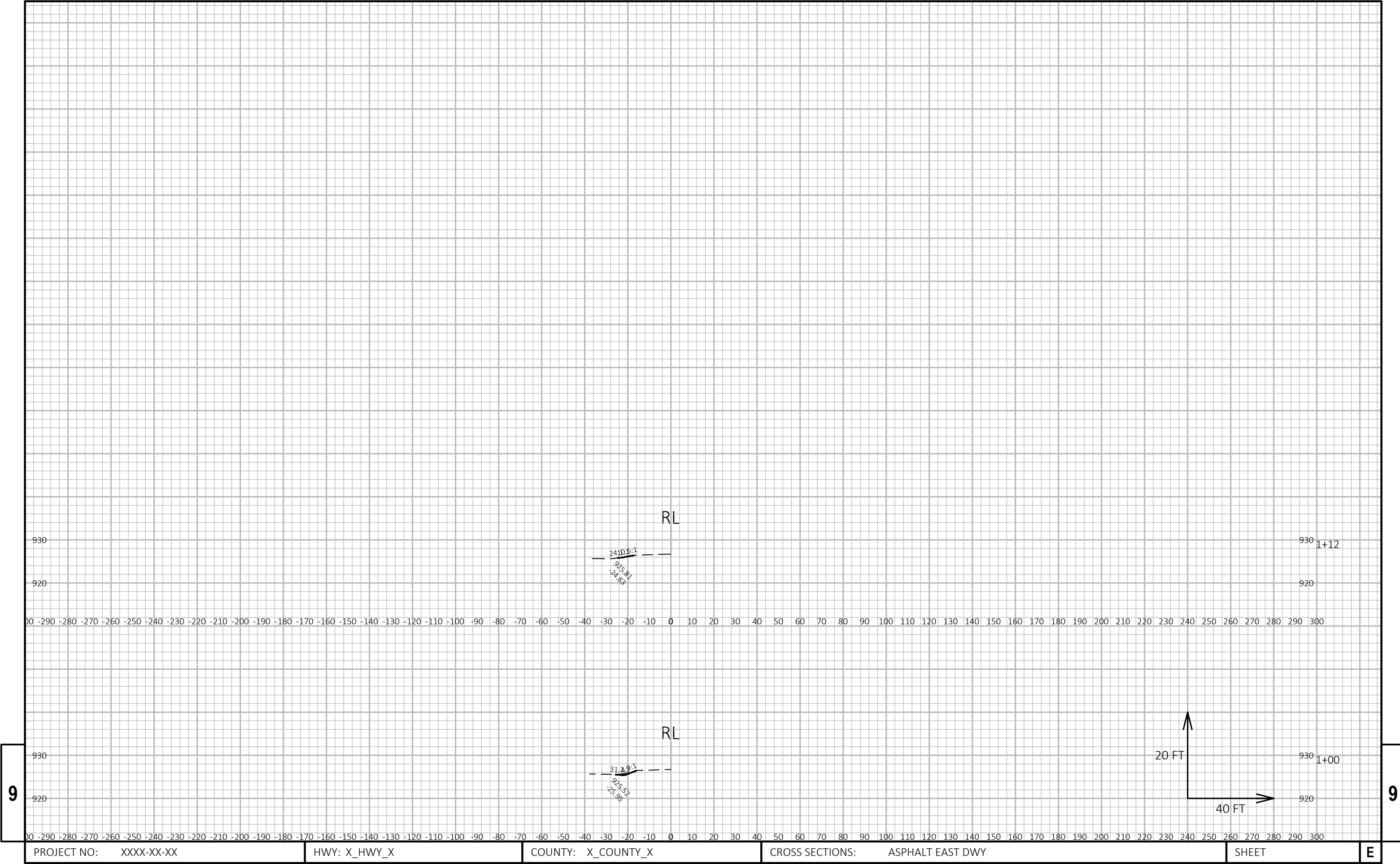
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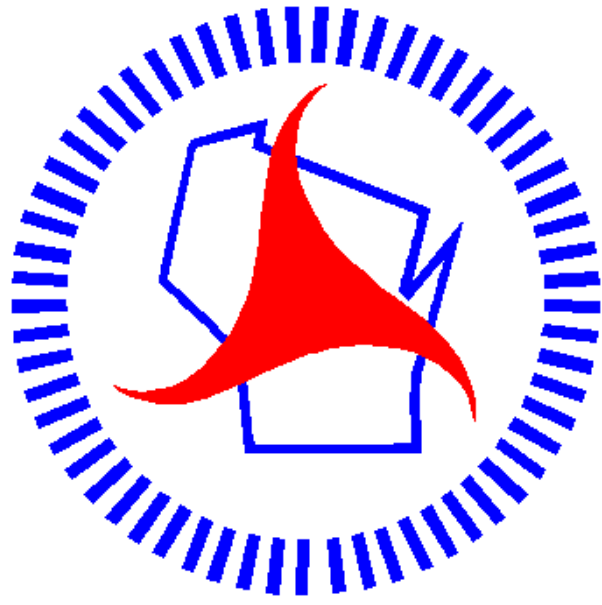
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PROJECT NO:	XXXX-XX-XX	HWY: X_HWY_X	COUNTY: X_COUNTY_X	CROSS SECTIONS:	ASPHALT EAST DWY	SHEET	E
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PROJECT NO: XXXX-XX-XX	HWY: X_HWY_X	COUNTY: X_COUNTY_X	CROSS SECTIONS: ASPHALT EAST DWY	SHEET	E
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Wisconsin Department of Transportation

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