WKE

MAR 2015

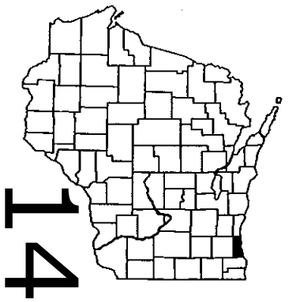
PROJECT ID: 1060-34-73

COUNTY: MILWAUKEE

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 = 296



14

N

DESIGN DESIGNATION

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

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (955.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

# ZOO IC, DPW SITE FACILITIES

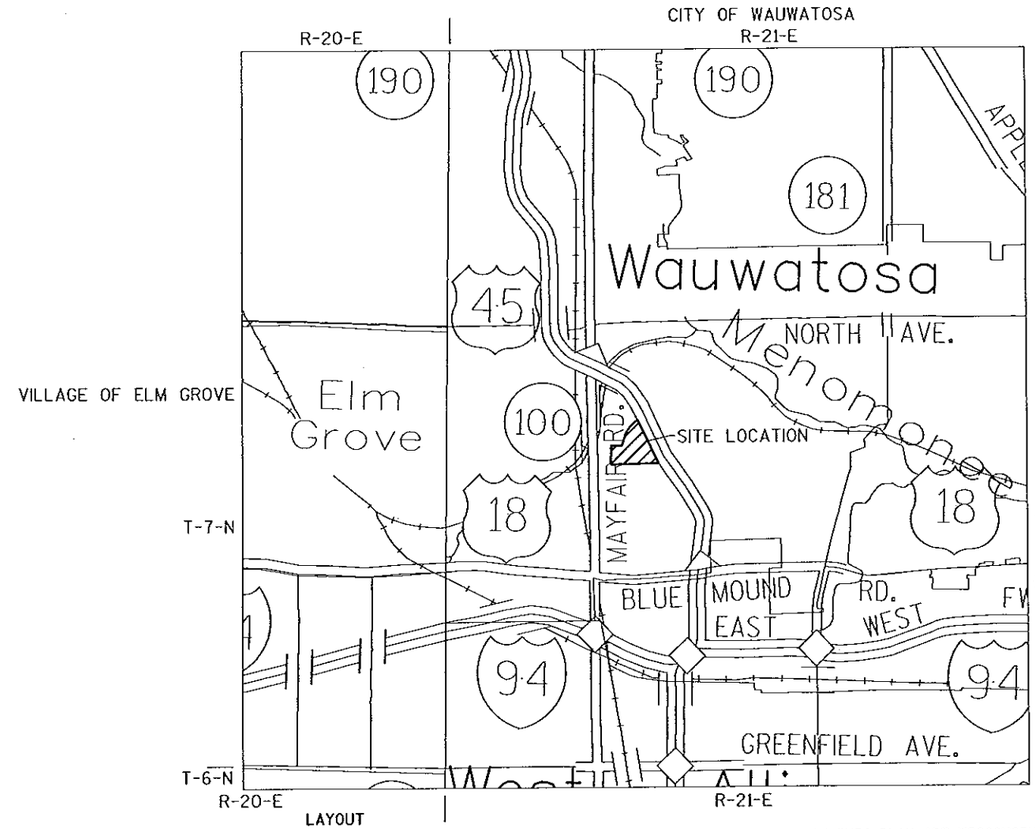
**MILWAUKEE CO DPW SITE**

## USH 45

## MILWAUKEE COUNTY

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 1060-34-73 | | |
| | | |
| | | |
| | | |

| STATE PROJECT NUMBER |
|---|
| 1060-34-73 |




TOTAL NET LENGTH OF CENTERLINE = 0.000

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, MILWAUKEE COUNTY, NAD83 (2007), 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 NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | |
| Designer | WISDOT |
| Project Manager | JEFF BOHEN |
| Regional Examiner | |
| Regional Supervisor | WAFA ELOAQ |

APPROVED FOR THE DEPARTMENT

DATE: 12/12/14 (Signature)

E

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DIGGERS HOTLINE
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www.DiggersHotline.com

## GENERAL NOTES

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

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

CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE. CURB AND GUTTER RADII ARE MEASURED TO THE FLANGE.

CURB HEIGHTS AT THE END OF THE CURB AND GUTTER SHALL BE TAPERD FROM 0 TO 6 INCHES IN 6 FEET. CURB SHALL TRANSITION IN 6 FEET FROM CONCRETE CURB & GUTTER 31-INCH TO CONCRETE CURB & GUTTER 6-INCH SLOPED 31-INCH AND SHALL BE MEASURED AND PAID FOR AS CONCRETE CURB & GUTTER 31-INCH.

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

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

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

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 FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

DO NOT PUMP WATER FROM THE CONSTRUCTION SITE TO A STORM WATER CONVEYANCE WITHOUT THE WATER FIRST PASSING THROUGH A SEDIMENT TRAP OR FILTER BAG.

CONSTRUCT HMA PAVEMENT WITH THE FOLLOWING LAYERS AND GRADATIONS:

| PAVEMENT TYPE | TOTAL LAYER PAVEMENT THICKNESS | LAYERS | NOMINAL MAXIMUM SIZE | ASPHALTIC MATERIAL |
|---|---|---|---|---|
| E-1 | 4" | 1-3/4" UPPER LAYER | 12.5 MM | PG 58-28 |
| | | 2-1/4" LOWER LAYER | 19.0 MM | PG 58-28 |
| E-1 | 5" | 1-3/4" UPPER LAYER | 12.5 MM | PG 58-28 |
| | | 3-1/4" LOWER LAYER | 19.0 MM | PG 58-28 |

## ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLANS
PLAN DETAILS
PAVING GRADES
EROSION CONTROL
STORM SEWER
SANITARY SEWER
WATER MAIN
UTILITY PLANS
LANDSCAPING PLANS
ELECTRICAL PLANS
EXISTING SIGNING
PERMANENT SIGNING
PAVEMENT MARKING
STAGED CONSTRUCTION
FENCING
ALIGNMENT LAYOUT
BUILDING/MEP PLANS
DEWATERING FACILITY PLANS

## STANDARD ABBREVIATIONS

| | |
|---|---|
| AEW | APRON END WALL |
| AGG | AGGREGATE |
| ASPH | ASPHALTIC |
| BAD | BASE AGGREGATE DENSE |
| BM | BENCH MARK |
| C&G | CURB AND GUTTER |
| C/L | CENTER OR CONSTRUCTION LINE |
| CMCP | CULVERT PIPE CORRUGATED METAL |
| CONC | CONCRETE |
| CP | CULVERT PIPE |
| CPRC | CULVERT PIPE REINFORCED CONCRETE |
| CSD | CONCRETE SURFACE DRAIN |
| CY | CUBIC YARD |
| D | DEGREE OF CURVE |
| Δ | DELTA |
| DISCH | DISCHARGE |
| EB | EASTBOUND |
| FE | FIELD ENTRANCE |
| FL | FLOW LINE |
| HMA | HOT MIX ASPHALT |
| HP | HIGH POINT |
| INV | INVERT |
| L | LENGTH OF CURVE |
| LHF | LEFT HAND FORWARD |
| LP | LOW POINT |
| LT | LEFT |
| M.E. | MATCH EXISTING |
| MIN | MINIMUM |
| M/L | MATCHLINE |
| NB | NORTHBOUND |
| NC | NORMAL CROWN |
| PAVT | PAVEMENT |
| PC | POINT OF CURVE |
| PCC | POINT OF COMPOUND CURVE |
| PE | PRIVATE ENTRANCE |
| PI | POINT OF INTERSECTION |
| PGL | PROFILE GRADE LINE |
| PLE | PERMANENT LIMITED EASEMENT |
| PRC | POINT OF REVERSE CURVE |
| PT | POINT OF TANGENT |
| R | RADIUS OF CURVE |
| R/L | REFERENCE LINE |
| R/W | RIGHT OF WAY |
| RC | REVERSE CROWN |
| RCAEW | APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE |
| REQD | REQUIRED |
| RHF | RIGHT HAND FORWARD |
| RO | RUN OFF LENGTH |
| RRSP | RAILROAD SPIKE |
| RT | RIGHT |
| SALV | SALVAGED |
| SAPBC | SALVAGED ASPHALTIC PAVEMENT BASE COARSE |
| SB | SOUTHBOUND |
| SDD | STANDARD DETAIL DRAWING |
| SE | SUPER ELEVATION |
| SF | SQUARE FOOT |
| SSPRC | STORM SEWER PIPE REINFORCED CONCRETE |
| STA | STATION |
| SY | SQUARE YARD |
| T | TANGENT LENGTH |
| TLE | TEMPORARY LIMITED EASEMENT |
| VCL | VERTICAL CURVE LENGTH |
| VPC | POINT OF VERTICAL CURVE |
| VPI | POINT OF VERTICAL INTERSECTION |
| VPT | POINT OF VERTICAL TANGENT |
| WB | WESTBOUND |

2

2

N

UNDERWOOD CREEK

UNDERWOOD CREEK PARKWAY

UNDERWOOD PARKWAY

ATHLETIC FIELD

ATHLETIC FIELD

PARKING

PKNG

N MAYFAIR

CANADIAN PACIFIC RY

STH 100

MAYFAIR POND OUTLET STORM SEWER STRUCTURE

640SS

640SN

MAYFAIR POND

WLC ACCESS ROAD

185BV

180BV

15XFN

10XFN

220UDW

5XFN

5XFS

10FWD

8PR

225UDE

HIGHWAY DEPT YARD

STORAGE BUILDING 1

SCALE

STORAGE BUILDING 2

180WG

177WD

175WG

175WD

BINS

DUMPSTERS

SALT BRINE BUILDING

20NSR

25NSR

30NSR

BRINE TANKS

20,000 TON SALT DOME

DEWATERING CATCH BASIN

USH 45 SB

USH 45 NB

380NS

375NS

175WA

775WH

770WA

370NS

770WG

770WH

770WD

CENTRAL FLEET MAINTENANCE BUILDING

FLEET MAINTENANCE YARD

55ESR

WANGARD

PARK & RIDE LOT

5PR

BUS SHELTER (BY OTHERS)

170BV

SWAN BOULEVARD

MILWAUKEE COUNTY SHERIFF/HIGHWAY MAINTENANCE BUILDING ADDITION (BY OTHERS)

PARKING (BY OTHERS)

FACILITIES PARKING

765WD

765WG

765WH

365NS

N. MAYFAIR ROAD

635SS

635SN

630SS

630SN

20WWB

20WEB

25WWB

25WEB

30WWB

30WEB

166BV

0PR

35WWB

35WEB

W. WATERTOWN PLANK ROAD

40WWB

40WEB

50ESR

45WWB

45WEB

50WWB

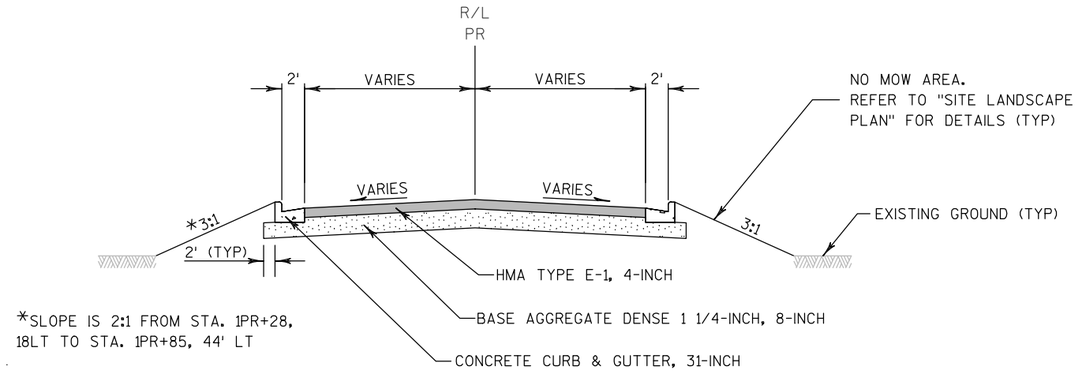
50WEB

750WG

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PROJECT OVERVIEW | SHEET 4 | E |
|---|---|---|---|---|---|

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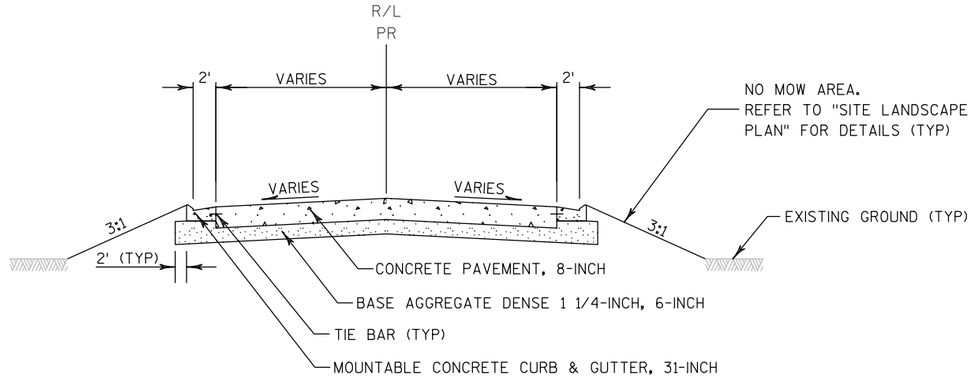
WISDOT/CADDS SHEET 42




*SLOPE IS 2:1 FROM STA. 1PR+28, 18LT TO STA. 1PR+85, 44' LT

TYPICAL FINISHED SECTION
PARK AND RIDE

STA. 1PR+30.91 TO STA. 5PR+39.03

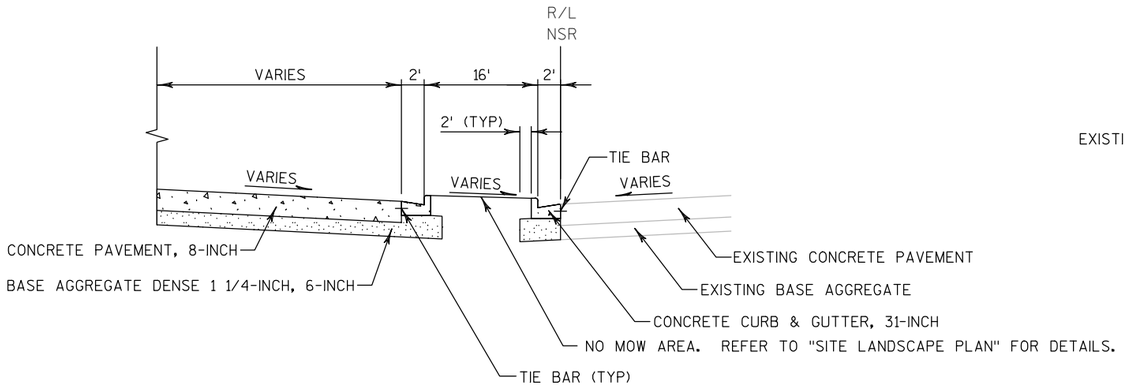



TYPICAL FINISHED SECTION
PARK AND RIDE

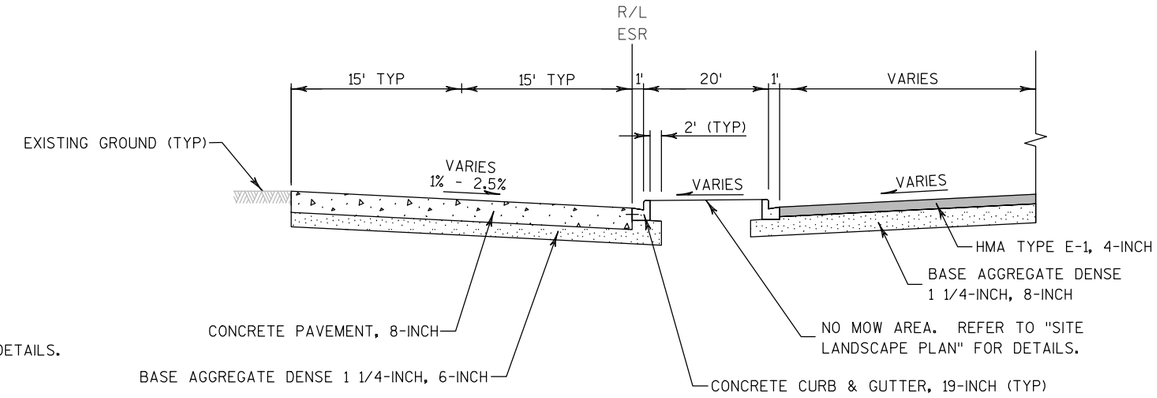
STA. 5PR+39.03 TO STA. 7PR+48.11

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | TYPICAL SECTIONS | SHEET 5 | E |
|---|---|---|---|---|---|

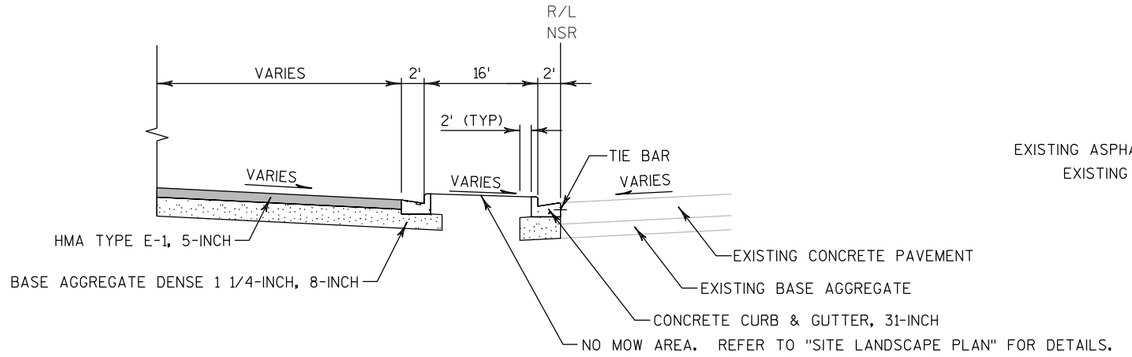
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WISDOT/CADDS SHEET 42



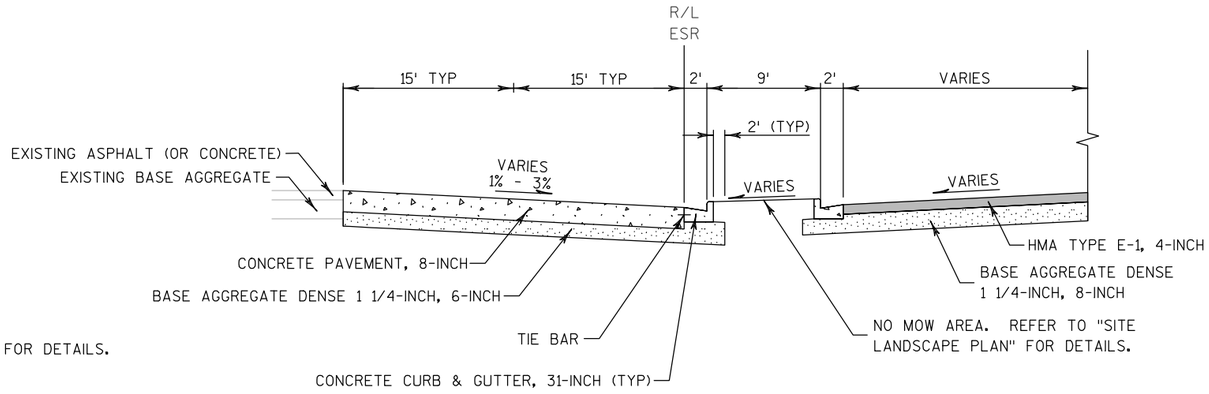

STA. 20NSR+94.68 TO STA. 24NSR+45.66




STA. 51ESR+30.49 TO STA. 53ESR+52.98




STA. 24NSR+45.66 TO STA. 27NSR+44.27



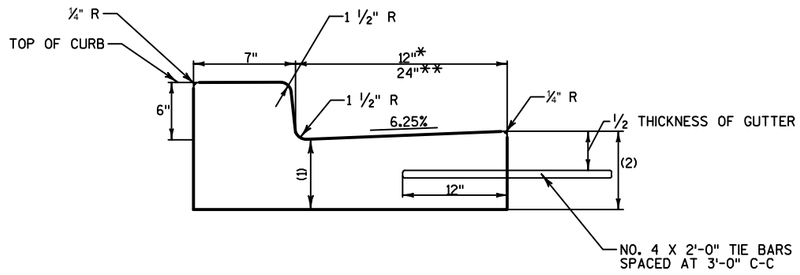

STA. 53ESR+52.98 TO STA. 57ESR+65.20

## TYPICAL FINISHED SECTION
## NORTH SERVICE ROAD

STA. 20NSR+94.68 TO STA. 27NSR+44.27

## TYPICAL FINISHED SECTION
## EAST SERVICE ROAD

STA. 51ESR+30.49 TO STA. 57ESR+65.20



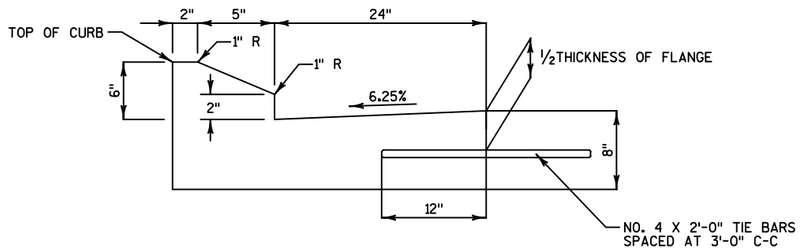

NOTES

1. TIE BARS ARE REQUIRED FOR CURB AND GUTTER ADJACENT TO NEW CONCRETE PAVEMENT.
2. OMIT TIE BARS WHERE INTEGRAL CURB AND GUTTER IS REQUIRED.
3. SEE STANDARD DETAIL DRAWING FOR DETAILS NOT SHOWN HERE.

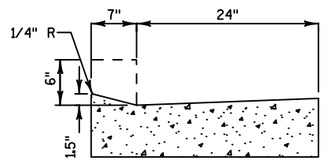
(1) 7" MIN

(2) 8-1/2" MIN IF BOTTOM OF CURB AND GUTTER CONSTRUCTED LEVEL

CONCRETE CURB AND GUTTER 19-INCH* AND 31-INCH**




CONCRETE CURB & GUTTER 6-INCH SLOPED 31-INCH

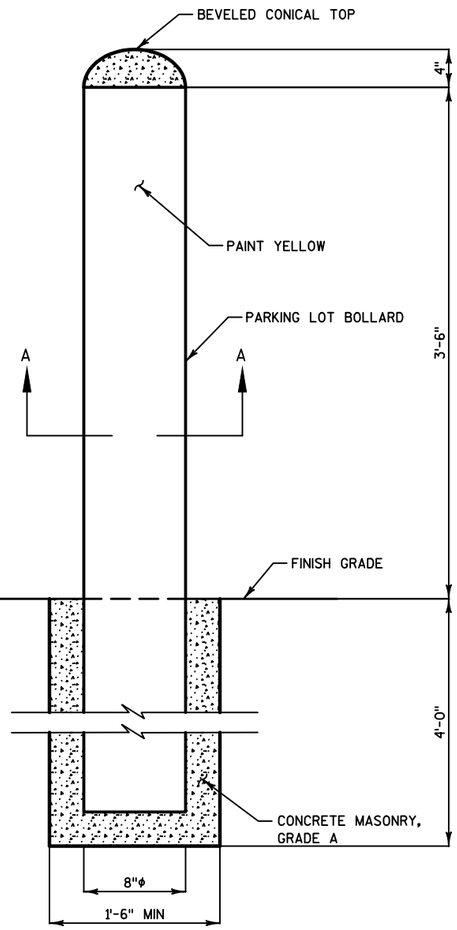



DEPRESSED CURB

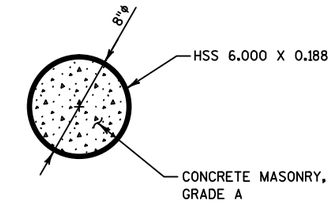
LOCATIONS AS NOTED ON THE PLAN DETAILS

NOTE

PAID FOR AS CONCRETE CURB AND GUTTER 31-INCH. MEASURED ALONG FLOW LINE.



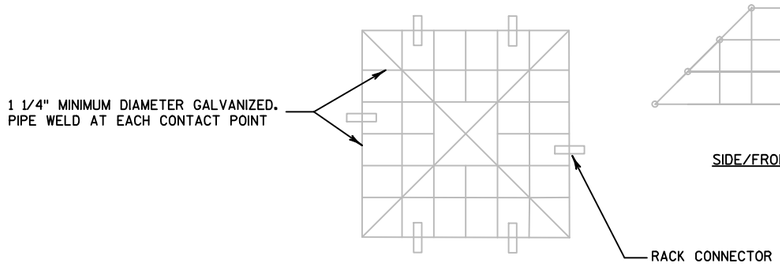

ELEVATION



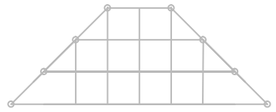

SECTION A-A

NOTE:
DISTANCE FROM OBJECT TO CENTER OF BOLLARD = 2'-0" (TYP)

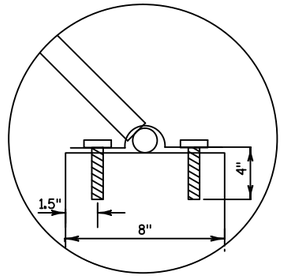
BOLLARD DETAIL




TOP VIEW



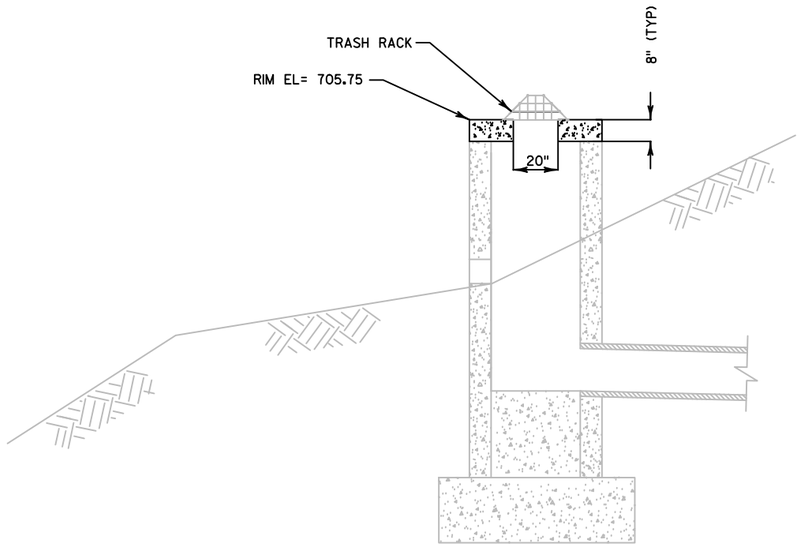
SIDE/FRONT DETAIL



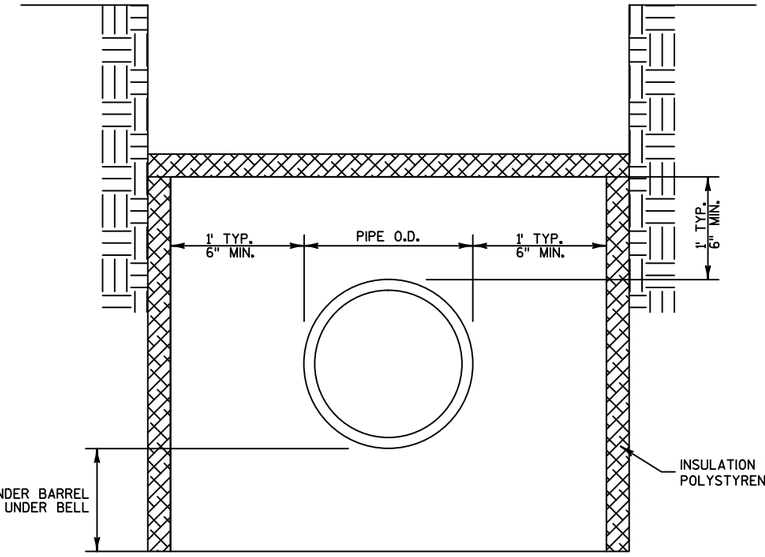

RACK CONNECTOR DETAIL

## TRASH RACK

STA 640SN+82.58, 291.42' RT



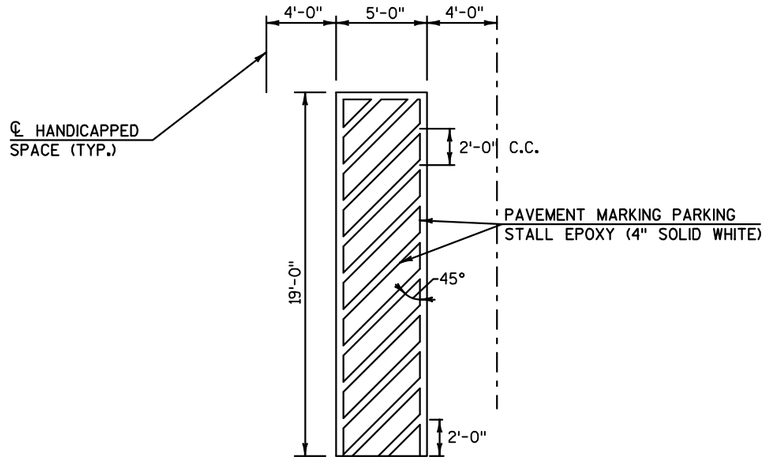

MAYFAIR POND OUTLET STORM SEWER STRUCTURE RECONSTRUCTION DETAIL



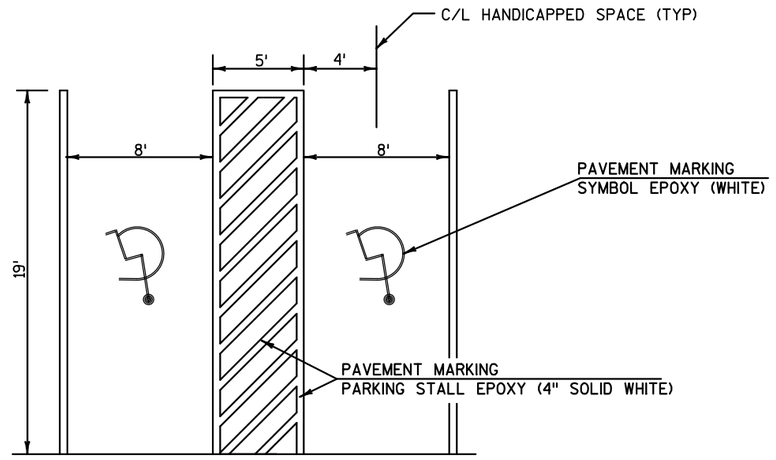

INSULATION PER DETAIL IS REQUIRED WHEREVER COVER OVER THE TOP OF THE PIPE IS LESS THAN 6 FEET.

INSULATE PIPE DETAIL

2




STRIPING DETAIL BETWEEN
HANDICAPPED SPACES




HANDICAP PAVEMENT MARKING DETAIL

| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CONSTRUCTION DETAILS | SHEET 9 | E |
|---|---|---|---|---|---|

2

N

WLC ACCESS ROAD

SWAN BOULEVARD

USH 45 SB

USH 45 NB

26NSR+87.97
635.93' LT

27NSR+26.62
646.25' LT

23NSR+65.92
429.90' LT

STORAGE BUILDING 1

23NSR+28.93
382.66' LT

24NSR+76.14
343.57' LT

24NSR+39.14
296.34' LT

STORAGE BUILDING 2

25NSR+33.97
218.31' LT

BINS

26NSR+84.97
218.31' LT

28NSR+52.99
172.82' LT

28NSR+14.34
162.50' LT

SALT DOME

23NSR+13.89
133.80' LT

25NSR+33.97
158.31' LT

26NSR+84.97
158.31' LT

BRINE BUILDING

22NSR+21.26
84.91' LT

21NSR+77.26
84.91' LT

22NSR+21.26
60.24' LT

21NSR+77.26
60.24' LT

21NSR+92.96
60.24' LT

22NSR+38.96
60.24' LT

20+00NSR

21+00NSR

22+00NSR

24+00NSR

25+00NSR

26+00NSR

27+00NSR

28+00NSR

29+00NSR

30+00NSR

22NSR+38.96
27.24' LT

21NSR+92.96
27.24' LT

EAST SERVICE ROAD

BRINE TANKS

CENTRAL FLEET MAINTENANCE BUILDING

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CONSTRUCTION DETAILS - BUILDING COORDINATES | SHEET 10 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\021003_CD.DWG
LAYOUT NAME - 01

PLOT DATE : 12/11/2014 7:23 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

2

UNDERWOOD PARKWAY

7+50PR

7+25PR

7+00PR

5PR

PR+40.61, 47.19'RT
741.48 M.E.

PR+40.61, 51.68'RT
741.11

A

A

8.2%

6.25%

2.0%

5.7%

1.5%

PR+34.61, 47.19'RT
741.60 M.E.

PR+34.61, 53.19'RT
741.26

PR+34.61, 57.79'RT
741.20

CONCRETE SIDEWALK

6'-0" RAMP

12:1 MAX

DETECTABLE WARNING FIELD

TOP OF PAVEMENT

1/2" EXPANSION JOINT

1.5%

DEPRESSED CURB & GUTTER

SECTION A-A

N

PR+40.61, 129.38'RT
740.66 M.E.

PR+40.61, 121.52'RT
740.46

6.25%

2.5%

2.0%

2.0%

1.6%

2.5%

PR+34.61, 129.38'RT
740.78 M.E.

PR+34.61, 109.28'RT
740.78

PR+34.61, 121.52'RT
740.58

2

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CONSTRUCTION DETAILS - PARK & RIDE | SHEET 11 | E |
|---|---|---|---|---|---|

2

N

PR+90.59, 71.43'LT
741.63

PR+88.81, 64.68'LT
741.34

PR+84.97, 63.58'LT
741.62

PR+83.33, 69.37'LT
741.71

PR+70.20, 65.61'LT
741.17

PR+71.02, 59.61'LT
741.26

PR+64.22, 65.65'LT
740.76

PR+64.19, 59.65'LT
740.69

6.25%
7.0%
1.1%
1.5%
4.0%
2.5%
1.5%
6.9%
8.3%
6.25%

5+75PR

CONCRETE CURB
PEDESTRIAN

DETECTABLE
WARNING FIELD

TOP OF PAVEMENT

1.5%

DEPRESSED
CURB & GUTTER

SECTION A-A

5+50PR

PR+37.02, 65.82'LT
740.25

PR+36.98, 59.82'LT
740.16

PR+36.92, 52.66'LT
740.48

PR+34.25, 65.84'LT
740.29

PR+31.18, 105.80'LT
740.90

PR+31.13, 74.97'LT
740.13

PR+32.39, 52.69'LT
740.40

PR+29.94, 59.86'LT
740.27

PR+28.57, 63.90'LT
740.20

PR+29.73, 110.06'LT
740.98

PR+21.72, 102.57'LT
740.15

PR+20.27, 106.83'LT
740.23

PR+25.45, 73.03'LT
740.04

PR+16.04, 100.64'LT
740.06

PR+14.59, 104.90'LT
740.14

6.25%
4.4%
1.5%
1.6%
1.7%
7.5%
A
B

CONCRETE
CURB & GUTTER

CONCRETE CURB
PEDESTRIAN

TOP OF PAVEMENT

6'

SECTION B-B

5+25PR

0PR

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CONSTRUCTION DETAILS - PARK & RIDE | SHEET 12 | E |
|---|---|---|---|---|---|

2

2

CONCRETE

ASPHALT

EAST SERVICE ROAD

54+75ESR

54+50ESR

54+25ESR

54+00ESR

N

FLEET AREA

SPACE REQUIREMENT
FOR BIKE RACK
(TYP)

9.17' (110")

4.00'

13.92' (167")

5.00'

4.00'

8.31'

6'

SECTION A-A

A

A

ESR+13.00, 2.58'RT
734.34

ESR+13.00, 8.58'RT
734.40

1.0%

6.25%

1.5%

1.8%

5.3%

ESR+07.00, 19.46'RT
735.07

ESR+07.00, 2.58'RT
734.38

ESR+07.00, 8.58'RT
734.49

FACILITIES PARKING

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CONSTRUCTION DETAILS - FACILITIES PARKING (DPW SITE) | SHEET 13 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\021002_CD.DWG
LAYOUT NAME - 021002C

PLOT DATE : 10/28/2014 7:49 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:10_XREF

NOTES

FOR SIGN REMOVALS REFER TO SIGN PLANS

LEGEND

| | |
|---|---|
| X | CLEARING AND GRUBBING (STA.) |
| | CLEARING AND GRUBBING (STA.) |
| | REMOVING PAVEMENT |
| | REMOVING CONCRETE SIDEWALK |
| | REMOVING BUILDING SLAB |
| | REMOVING CONCRETE SLOPE PAVING |
| | REMOVING CURB AND GUTTER |
| | REMOVING ASPHALTIC SURFACE |
| —x— | REMOVING FENCE |
| — — — | SLOPE INTERCEPT |
| X X X | SAWING ASPHALT |
| | SAWING CONCRETE PAVEMENT |
| | REMOVING INLETS |
| | REMOVING MANHOLES |
| —RM— | REMOVING STORM SEWER/SANITARY SEWER |
| | BULKHEAD PIPE MASONRY |
| X X | ABANDONING UTILITIES |
| | REMOVE AND CAP EXISTING DRAINAGE STORM SEWER STRUCTURE |
| | REMOVE LIGHT POLE |

2

WATERTOWN PLANK ROAD

PRIVATE DRIVE

SWAN BOULEVARD

UNDERWOOD PARKWAY

LIGHTING MAST ARMS ON PALLETS

1+00PR 2+00PR 3+00PR 4+00RR 5+00PR 6+00PR 7+00PR 8+00PR

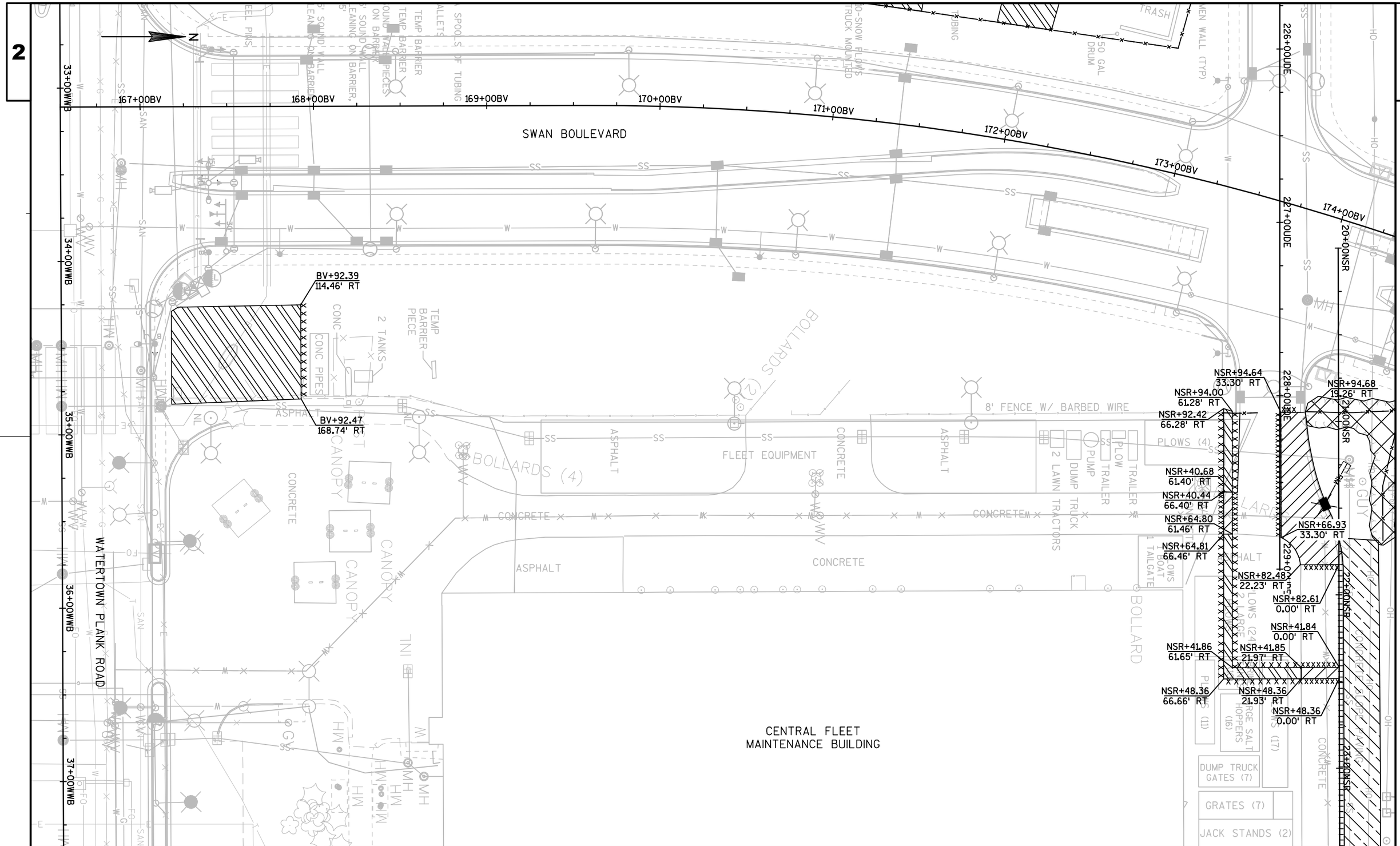
167+00BV 168+00BV 169+00BV 170+00BV 171+00BV

4+00 11+00RND 12+00RND 5+00 10+00RND 6+00XF 224+00UDE 225+00UDE 226+00UDE

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | REMOVAL PLANS | SHEET 15 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\021101_RM.DWG PLOT DATE : 10/29/2014 2:15 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | REMOVAL PLANS | SHEET 16 | E |
|---|---|---|---|---|---|

2

N

CENTRAL FLEET
MAINTENANCE BUILDING

SHERIFF BUILDING
(REMOVED BY OTHERS)

ABANDONED MANHOLE
(TO BE REMOVED)

REPLACE ALL INSULATION THAT MAY BE DISTURBED BY GRADING ACTIVITIES BETWEEN THESE LIMITS (REFER TO "INSULATE PIPE DETAIL").

CAUTION

WATERTOWN PLANK ROAD

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD WB ON RAMP

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD EB ON RAMP

ESR+08.08 29.90' LT
ESR+24.38 29.92' LT
ESR+70.33 29.84' LT
ESR+36.80 29.60' LT
ESR+97.95 29.70' LT
ESR+08.25 30.16' LT
ESR+65.32 29.82' LT
ESR+30.16 30.16' LT
ESR+78.25 29.34' LT
ESR+50.84 46.91' LT
ESR+22.59 1.74' RT
ESR+02.94 42.30' RT
ESR+02.94 168.64' RT
ESR+06.99 185.78' RT
ESR+02.07 244.39' RT
ESR+38.10 236.25' RT

51+00ESR
52+00ESR
53+00ESR
54+00ESR
55+00ESR
56+00ESR
57+00ESR
25+00NSR
26+00NSR
27+00NSR
28+00NSR
29+00NSR
30+00NSR
766+00WD
767+00WD
769+00WD
770+00WD
771+00WD
772+00WD
773+00WD
774+00WD
772+00WG
773+00WG
774+00W

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | REMOVAL PLANS | SHEET 17 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\021101_RM.DWG PLOT DATE : 10/29/2014 2:22 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF

NSR+94.64
33.30' RT

NSR+94.58
56.88' RT

NSR+18.79
58.44' RT

NSR+94.68
19.26' RT

NSR+66.93
33.30' RT

NSR+82.48
22.23' RT

NSR+82.61
0.00' RT

228+00DE

229+00DE

227+00NSR

224+00NSR

225+00NSR

CAUTION

REMOVE EXISTING FOUNDATION (TYP)

WAREHOUSE BUILDING
(REMOVED BY OTHERS)

177+00BV

178+00BV

179+00BV

180+00BV

181+00BV

182+00BV

13+00XFN

14+00XFN

15+00XFN

16+00XFN

WLC ACCESS

SWAN BOULEVARD

BOLLARD

CONCRETE

PLOWS (24)

PLOWS (11)

PLOWS (17)

BRINE TANKS (10)

LARGE SALT HOPPERS (16)

DUMP TRUCK GATES (7)

GRATES (7)

JACK STANDS (2)

SMALL SALT HOPPERS (48)

LARGE SALT HOPPERS (11)

6' FENCE

SAND

SAND

COLD PATCH

CONCRETE BARRIER (TYP)

HYDRANT ON GROUND

TEMPORARY SHED

CONC FORMS

5 2-GAL GAS TANKS

GUY

MH

OH

SS

RM

W

E

C

X

N

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | REMOVAL PLANS | SHEET 18 | E |
|---|---|---|---|---|---|

2

N

WAREHOUSE BUILDING
(REMOVED BY OTHERS)

SWAN BOULEVARD

184+00BV

185+00

782+00WG

781+00WG

780+00WG

779+00WG

778+00WG

777+00WD

777+00WG

776+00WD

776+00WG

775+00WD

775+00WG

USH 45 SB OFF RAMP/WATERTOWN PLANK ON RAMP

USH 45 SB

381+00NS

380+00NS

379+00NS

378+00NS

USH 45 NB

ASPHALT

CONCRETE PAVT

GRAVEL ENTRANCE

6' FENCE

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | REMOVAL PLANS | SHEET 19 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\021101_RM.DWG PLOT DATE : 10/28/2014 8:13 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42

2

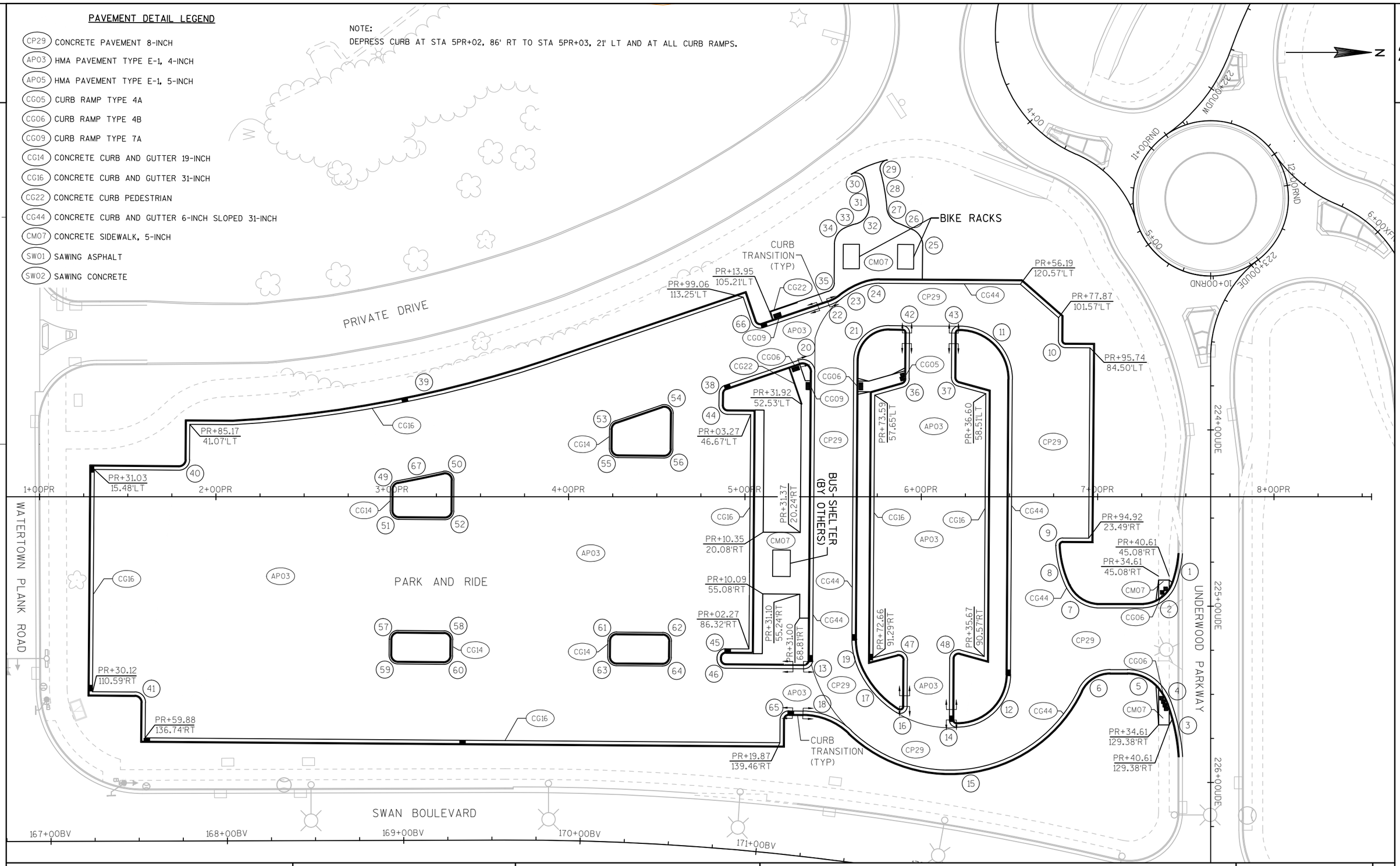
| RADIUS TABLE | | | | | | | | RADIUS TABLE | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | RADIUS | PC | | PT | | POINT | STATION | OFFSET | RADIUS | PC | | PT | |
| | | | | STATION | OFFSET | STATION | OFFSET | | | | | STATION | OFFSET | STATION | OFFSET |
| 1 | 6PR+77.81 | 26.50′ RT | 71′ | 7PR+44.64 | 49.07′ RT | 7PR+48.11 | 32.31′ RT | 35 | 5PR+45.61 | 121.28′ RT | 5′ | 5PR+47.22 | 116.55′ LT | 5PR+50.61 | 121.25′ LT |
| 2 | 7PR+25.15 | 42.49′ RT | 21′ | 7PR+26.07 | 63.04′ RT | 7PR+44.64 | 49.07′ RT | 36 | 5PR+88.15 | 67.00′ LT | 5′ | 5PR+89.52 | 62.20′ LT | 5PR+93.15 | 66.97′ LT |
| 3 | 6PR+36.51 | 154.68′ RT | 112′ | 7PR+41.67 | 116.62′ RT | 7PR+48.11 | 147.41′ RT | 37 | 6PR+22.16 | 67.66′ LT | 5′ | 6PR+17.16 | 67.69′ LT | 6PR+20.83 | 62.84′ LT |
| 4 | 7PR+12.44 | 127.20′ RT | 31′ | 7PR+35.15 | 105.96′ RT | 7PR+41.67 | 116.62′ RT | 38 | 4PR+90.36 | 58.51′ LT | 5′ | 4PR+85.36 | 58.55′ LT | 4PR+88.75 | 63.25′ LT |
| 5 | 7PR+16.89 | 123.04′ RT | 25′ | 7PR+16.89 | 98.04′ RT | 7PR+35.15 | 105.96′ RT | 39 | 1PR+67.93 | 734.97′ LT | 695′ | 2PR+09.76 | 40.89′ LT | 3PR+87.35 | 75.16′ LT |
| 6 | 7PR+07.13 | 118.04′ RT | 20′ | 6PR+89.13 | 109.32′ RT | 7PR+07.13 | 98.04′ RT | 40 | 1PR+79.02 | 21.12′ LT | 6′ | 1PR+78.97 | 15.12′ LT | 1PR+85.02 | 21.08′ LT |
| 7 | 7PR+01.08 | 42.03′ RT | 21′ | 6PR+82.02 | 51.00′ RT | 6PR+99.68 | 63.04′ RT | 41 | 1PR+54.03 | 116.69′ RT | 6′ | 1PR+54.08 | 110.69′ RT | 1PR+60.03 | 116.74′ RT |
| 8 | 7PR+37.46 | 24.91′ RT | 61′ | 6PR+76.26 | 27.55′ RT | 6PR+82.02 | 51.00′ RT | 42 | 5PR+89.31 | 93.00′ LT | 4′ | 5PR+89.34 | 97.00′ LT | 5PR+93.31 | 92.98′ LT |
| 9 | 6PR+80.25 | 27.38′ RT | 4′ | 6PR+76.26 | 27.55′ RT | 6PR+80.28 | 23.38′ RT | 43 | 6PR+21.31 | 92.79′ LT | 4′ | 6PR+17.31 | 92.82′ LT | 6PR+21.82 | 96.79′ LT |
| 10 | 6PR+81.77 | 88.61′ LT | 4′ | 6PR+77.77 | 88.64′ LT | 6PR+81.74 | 84.61′ LT | 44 | 4PR+90.31 | 51.77′ LT | 5′ | 4PR+85.31 | 51.81′ LT | 4PR+90.28 | 46.77′ LT |
| 11 | 6PR+21.63 | 66.79′ LT | 30′ | 6PR+21.82 | 96.79′ LT | 6PR+51.63 | 66.60′ LT | 45 | 4PR+89.23 | 91.23′ RT | 5′ | 4PR+84.23 | 91.19′ RT | 4PR+89.27 | 86.23′ RT |
| 12 | 6PR+20.58 | 100.67′ RT | 30′ | 6PR+19.84 | 130.66′ RT | 6PR+50.58 | 100.86′ RT | 46 | 4PR+89.22 | 92.23′ RT | 5′ | 4PR+84.23 | 92.19′ RT | 4PR+89.19 | 97.23′ RT |
| 13 | 5PR+33.40 | 92.56′ RT | 5′ | 5PR+33.37 | 97.56′ RT | 5PR+38.40 | 92.60′ RT | 47 | 5PR+87.15 | 92.67′ RT | 5′ | 5PR+85.89 | 87.83′ RT | 5PR+92.15 | 92.70′ RT |
| 14 | 6PR+19.94 | 126.89′ RT | 4′ | 6PR+15.94 | 126.87′ RT | 6PR+20.22 | 130.88′ RT | 48 | 6PR+21.16 | 91.77′ RT | 5′ | 6PR+16.16 | 91.74′ RT | 6PR+22.48 | 86.95′ RT |
| 15 | 6PR+16.23 | 74.02′ RT | 81′ | 5PR+60.31 | 132.62′ RT | 6PR+89.13 | 109.32′ RT | 49 | 3PR+03.95 | 4.18′ LT | 5′ | 2PR+98.95 | 4.21′ LT | 3PR+03.04 | 9.09′ LT |
| 16 | 5PR+87.99 | 118.87′ RT | 4′ | 5PR+85.86 | 122.26′ RT | 5PR+91.99 | 118.90′ RT | 50 | 3PR+29.99 | 9.49′ LT | 5′ | 3PR+28.90 | 14.37′ LT | 3PR+34.99 | 9.46′ LT |
| 17 | 6PR+16.23 | 74.02′ RT | 57′ | 5PR+64.25 | 97.41′ RT | 5PR+85.86 | 122.26′ RT | 51 | 3PR+03.86 | 7.82′ RT | 5′ | 2PR+98.86 | 7.79′ RT | 3PR+03.82 | 12.82′ RT |
| 18 | 5PR+32.69 | 161.56′ RT | 40′ | 5PR+32.99 | 121.56′ RT | 5PR+60.31 | 132.62′ RT | 52 | 3PR+29.86 | 8.02′ RT | 5′ | 3PR+29.82 | 13.02′ RT | 3PR+34.86 | 8.06′ RT |
| 19 | 6PR+00.73 | 81.00′ RT | 40′ | 5PR+60.73 | 80.75′ RT | 5PR+64.25 | 97.41′ RT | 53 | 4PR+28.21 | 38.38′ LT | 5′ | 4PR+23.21 | 38.42′ LT | 4PR+26.60 | 43.11′ LT |
| 20 | 5PR+32.64 | 70.82′ LT | 7′ | 5PR+30.38 | 77.44′ LT | 5PR+39.64 | 70.76′ LT | 54 | 4PR+54.28 | 47.27′ LT | 5′ | 4PR+52.67 | 52.00′ LT | 4PR+59.28 | 47.23′ LT |
| 21 | 5PR+81.71 | 77.05′ LT | 20′ | 5PR+61.71 | 77.18′ LT | 5PR+81.84 | 97.05′ LT | 55 | 4PR+28.13 | 27.24′ LT | 5′ | 4PR+23.13 | 27.28′ LT | 4PR+28.09 | 22.24′ LT |
| 22 | 5PR+39.62 | 132.36′ LT | 25′ | 5PR+47.69 | 108.70′ LT | 5PR+55.02 | 112.66′ LT | 56 | 4PR+54.13 | 27.04′ LT | 5′ | 4PR+54.09 | 22.04′ LT | 4PR+59.13 | 27.00′ LT |
| 23 | 5PR+82.20 | 77.87′ LT | 44′ | 5PR+55.02 | 112.66′ LT | 5PR+68.55 | 119.86′ LT | 57 | 3PR+03.31 | 80.82′ RT | 5′ | 2PR+98.31 | 80.78′ RT | 3PR+03.35 | 75.82′ RT |
| 24 | 5PR+76.28 | 96.09′ LT | 25′ | 5PR+68.55 | 119.86′ LT | 5PR+76.46 | 121.09′ LT | 58 | 3PR+29.31 | 81.02′ RT | 5′ | 3PR+29.35 | 76.02′ RT | 3PR+34.31 | 81.06′ RT |
| 25 | 5PR+90.76 | 142.53′ LT | 10′ | 5PR+95.21 | 151.48′ LT | 6PR+00.76 | 142.46′ LT | 59 | 3PR+03.24 | 89.82′ RT | 5′ | 2PR+98.24 | 89.78′ RT | 3PR+03.20 | 94.82′ RT |
| 26 | 5PR+47.24 | 54.86′ LT | 108′ | 5PR+86.80 | 155.22′ LT | 5PR+95.21 | 151.48′ LT | 60 | 3PR+29.24 | 90.02′ RT | 5′ | 3PR+29.20 | 95.02′ RT | 3PR+34.24 | 90.06′ RT |
| 27 | 5PR+90.46 | 164.53′ LT | 10′ | 5PR+80.50 | 163.69′ LT | 5PR+86.80 | 155.22′ LT | 61 | 4PR+27.31 | 81.76′ RT | 5′ | 4PR+22.31 | 81.72′ RT | 4PR+27.34 | 76.76′ RT |
| 28 | 4PR+61.07 | 153.73′ LT | 120′ | 5PR+76.80 | 184.85′ LT | 5PR+80.50 | 163.69′ LT | 62 | 4PR+53.30 | 81.95′ RT | 5′ | 4PR+53.34 | 76.95′ RT | 4PR+58.30 | 81.99′ RT |
| 29 | 5PR+81.63 | 186.15′ LT | 5′ | 5PR+76.80 | 184.85′ LT | 5PR+80.52 | 191.03′ LT | 63 | 4PR+27.24 | 90.76′ RT | 5′ | 4PR+22.24 | 90.72′ RT | 4PR+27.20 | 95.76′ RT |
| 30 | 5PR+62.90 | 178.67′ LT | 5′ | 5PR+60.35 | 182.97′ LT | 5PR+67.76 | 179.86′ LT | 64 | 4PR+53.24 | 90.95′ RT | 5′ | 4PR+53.20 | 95.95′ RT | 4PR+58.24 | 90.99′ RT |
| 31 | 4PR+61.07 | 153.73′ LT | 110′ | 5PR+67.76 | 179.86′ LT | 5PR+70.28 | 165.54′ LT | 65 | 5PR+24.97 | 126.50′ RT | 5′ | 5PR+19.97 | 126.46′ RT | 5PR+25.01 | 121.50′ RT |
| 32 | 5PR+60.33 | 164.47′ LT | 10′ | 5PR+62.76 | 154.77′ LT | 5PR+70.28 | 165.54′ LT | 66 | 5PR+08.63 | 100.67′ LT | 5′ | 5PR+03.90 | 99.05′ LT | 5PR+10.25 | 95.93′ LT |
| 33 | 5PR+70.38 | 124.32′ LT | 31′ | 5PR+56.27 | 152.35′ LT | 5PR+62.76 | 154.77′ LT | 67 | 1PR+69.73 | 727.83′ LT | 731′ | 3PR+03.04 | 9.09′ LT | 3PR+28.90 | 14.37′ LT |
| 34 | 5PR+60.77 | 143.42′ LT | 10′ | 5PR+50.77 | 143.49′ LT | 5PR+56.27 | 152.35′ LT | | | | | | | | |

NOTE:
CURB AND GUTTER RADII ARE MEASURED TO THE FLANGE

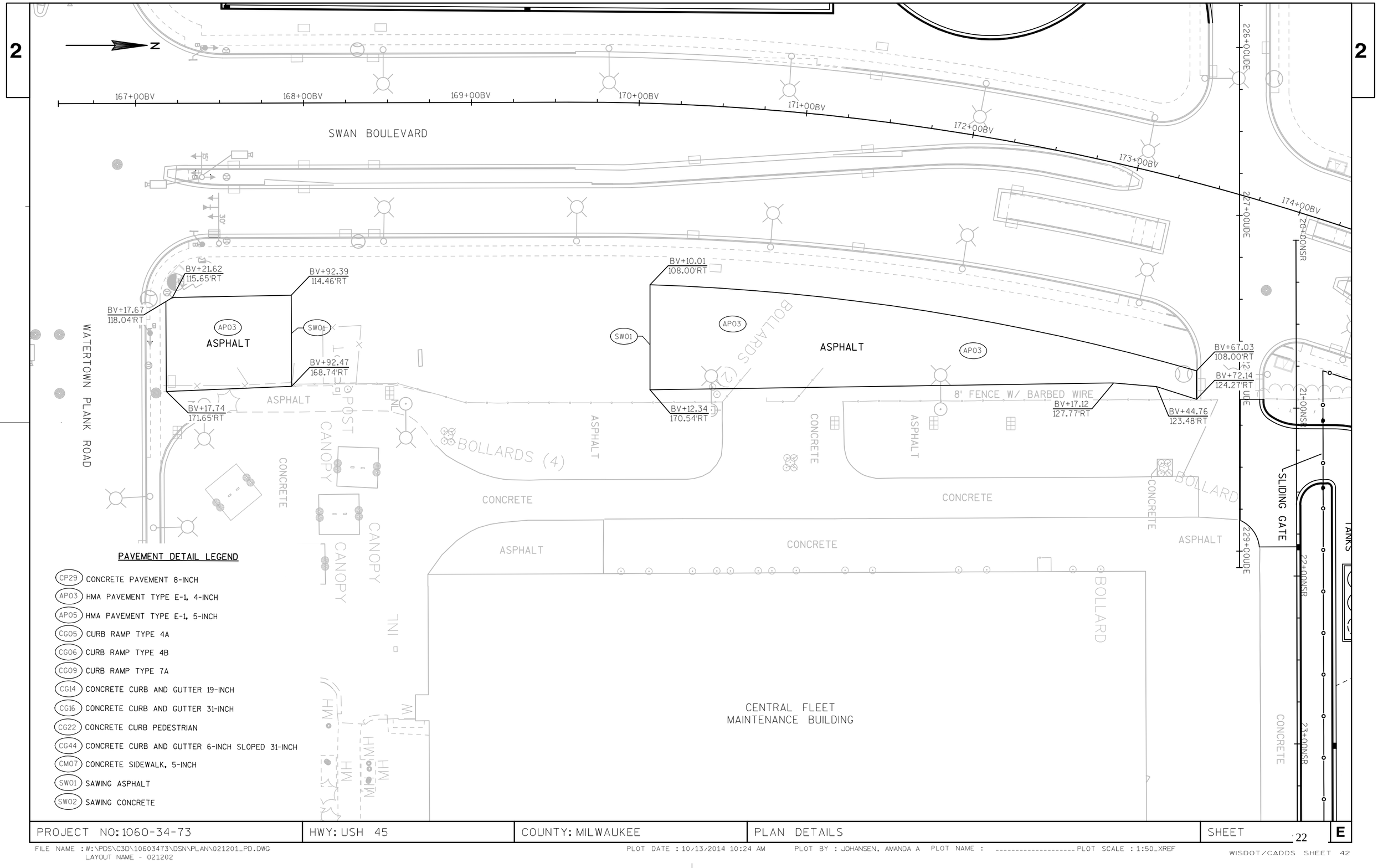
## PAVEMENT DETAIL LEGEND

- (CP29) CONCRETE PAVEMENT 8-INCH
- (APO3) HMA PAVEMENT TYPE E-1, 4-INCH
- (APO5) HMA PAVEMENT TYPE E-1, 5-INCH
- (CGO5) CURB RAMP TYPE 4A
- (CGO6) CURB RAMP TYPE 4B
- (CGO9) CURB RAMP TYPE 7A
- (CG14) CONCRETE CURB AND GUTTER 19-INCH
- (CG16) CONCRETE CURB AND GUTTER 31-INCH
- (CG22) CONCRETE CURB PEDESTRIAN
- (CG44) CONCRETE CURB AND GUTTER 6-INCH SLOPED 31-INCH
- (CMO7) CONCRETE SIDEWALK, 5-INCH
- (SW01) SAWING ASPHALT
- (SW02) SAWING CONCRETE

NOTE:
DEPRESS CURB AT STA 5PR+02, 86' RT TO STA 5PR+03, 21' LT AND AT ALL CURB RAMPS.




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PLAN DETAILS - PARK & RIDE | SHEET 21 | E |
|---|---|---|---|---|---|




## PAVEMENT DETAIL LEGEND

- CP29 CONCRETE PAVEMENT 8-INCH
- AP03 HMA PAVEMENT TYPE E-1, 4-INCH
- AP05 HMA PAVEMENT TYPE E-1, 5-INCH
- CG05 CURB RAMP TYPE 4A
- CG06 CURB RAMP TYPE 4B
- CG09 CURB RAMP TYPE 7A
- CG14 CONCRETE CURB AND GUTTER 19-INCH
- CG16 CONCRETE CURB AND GUTTER 31-INCH
- CG22 CONCRETE CURB PEDESTRIAN
- CG44 CONCRETE CURB AND GUTTER 6-INCH SLOPED 31-INCH
- CM07 CONCRETE SIDEWALK, 5-INCH
- SW01 SAWING ASPHALT
- SW02 SAWING CONCRETE

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PLAN DETAILS | SHEET 22 E |
|---|---|---|---|---|

2

| RADIUS TABLE | | | | | | | |
|---|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | RADIUS | PC | | PT | |
| | | | | STATION | OFFSET | STATION | OFFSET |
| 1 | 51ESR+46.79 | 48.90' LT | 19' | 51ESR+27.87 | 49.42' LT | 51ESR+45.69 | 30.00' LT |
| 2 | 51ESR+18.52 | 3.62' RT | 5' | 51ESR+18.52 | 1.38' LT | 51ESR+23.52 | 3.62' RT |
| 3 | 51ESR+18.52 | 17.04' RT | 5' | 51ESR+18.52 | 22.04' RT | 51ESR+23.52 | 17.04' RT |
| 4 | 51ESR+18.44 | 172.04' RT | 6' | 51ESR+18.44 | 166.04' RT | 51ESR+21.47 | 177.22' RT |
| 5 | 51ESR+54.52 | 5.00' RT | 5' | 51ESR+49.52 | 5.00' RT | 51ESR+54.52 | 0.00' |
| 6 | 51ESR+80.52 | 5.00' RT | 5' | 51ESR+80.52 | 0.00' | 51ESR+85.52 | 5.00' RT |
| 7 | 51ESR+54.52 | 17.04' RT | 5' | 51ESR+49.52 | 17.04' RT | 51ESR+54.52 | 22.04' RT |
| 8 | 51ESR+80.52 | 17.04' RT | 5' | 51ESR+80.52 | 22.04' RT | 51ESR+85.52 | 17.04' RT |
| 9 | 52ESR+16.52 | 5.00' RT | 5' | 52ESR+11.52 | 5.00' RT | 52ESR+16.52 | 0.00' |
| 10 | 52ESR+42.52 | 5.00' RT | 5' | 52ESR+42.52 | 0.00' | 52ESR+47.52 | 5.00' RT |
| 11 | 52ESR+16.52 | 17.04' RT | 5' | 52ESR+11.52 | 17.04' RT | 52ESR+16.52 | 22.04' RT |
| 12 | 52ESR+42.52 | 17.04' RT | 5' | 52ESR+42.52 | 22.04' RT | 52ESR+47.52 | 17.04' RT |
| 13 | 52ESR+78.52 | 5.00' RT | 5' | 52ESR+73.52 | 5.00' RT | 52ESR+78.52 | 0.00' |
| 14 | 53ESR+04.52 | 5.00' RT | 5' | 53ESR+04.52 | 0.00' | 53ESR+09.52 | 5.00' RT |
| 15 | 52ESR+78.52 | 14.04' RT | 5' | 52ESR+73.52 | 14.04' RT | 52ESR+78.52 | 19.04' RT |
| 16 | 53ESR+04.52 | 14.04' RT | 5' | 53ESR+04.52 | 19.04' RT | 53ESR+09.52 | 14.04' RT |
| 17 | 53ESR+40.52 | 5.00' RT | 5' | 53ESR+35.52 | 5.00' RT | 53ESR+40.52 | 0.00' |
| 18 | 53ESR+66.52 | 5.00' RT | 5' | 53ESR+66.52 | 0.00' | 53ESR+71.52 | 5.00' RT |
| 19 | 53ESR+40.52 | 14.04' RT | 5' | 53ESR+35.52 | 14.04' RT | 53ESR+40.52 | 19.04' RT |
| 20 | 53ESR+66.52 | 14.04' RT | 5' | 53ESR+66.52 | 19.04' RT | 53ESR+71.52 | 14.04' RT |
| 21 | 54ESR+00.18 | 225.04' RT | 5' | 53ESR+95.31 | 226.14' RT | 54ESR+00.18 | 220.04' RT |
| 22 | 54ESR+02.52 | 17.04' RT | 5' | 53ESR+97.52 | 17.04' RT | 54ESR+02.52 | 22.04' RT |
| 23 | 54ESR+02.52 | 5.00' RT | 5' | 53ESR+97.52 | 5.00' RT | 54ESR+02.52 | 0.00' |
| 24 | 54ESR+55.69 | 5.00' RT | 5' | 54ESR+55.69 | 0.00' | 54ESR+60.69 | 5.00' RT |
| 25 | 54ESR+55.69 | 8.04' RT | 5' | 54ESR+55.69 | 13.04' RT | 54ESR+60.69 | 8.04' RT |
| 26 | 54ESR+95.69 | 5.00' RT | 5' | 54ESR+90.69 | 5.00' RT | 54ESR+95.69 | 0.00' |
| 27 | 54ESR+95.69 | 8.04' RT | 5' | 54ESR+90.69 | 8.04' RT | 54ESR+95.69 | 13.04' RT |

| RADIUS TABLE | | | | | | | |
|---|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | RADIUS | PC | | PT | |
| | | | | STATION | OFFSET | STATION | OFFSET |
| 28 | 57ESR+36.25 | 44.00' LT | 14' | 57ESR+36.25 | 30.00' LT | 57ESR+50.09 | 41.93' LT |
| 29 | 57ESR+41.39 | 5.00' RT | 5' | 57ESR+41.39 | 0.00' | 57ESR+46.39 | 5.00' RT |
| 30 | 57ESR+41.39 | 8.04' RT | 5' | 57ESR+41.39 | 13.04' RT | 57ESR+46.39 | 8.04' RT |
| 31 | 26NSR+89.45 | 36.33' LT | 36' | 26NSR+90.61 | 0.00' | 27NSR+06.78 | 4.38' LT |
| 32 | 27NSR+02.28 | 12.67' LT | 9' | 27NSR+06.78 | 4.38' LT | 27NSR+11.69 | 11.92' LT |
| 33 | 27NSR+06.68 | 18.24' LT | 5' | 27NSR+06.68 | 23.24' LT | 27NSR+11.68 | 18.25' LT |
| 34 | 27NSR+46.70 | 5.00' LT | 5' | 27NSR+41.70 | 4.99' LT | 27NSR+46.70 | 0.00' |
| 35 | 27NSR+49.75 | 5.00' LT | 5' | 27NSR+49.75 | 0.00' | 27NSR+54.75 | 5.01' LT |
| 36 | 27NSR+46.60 | 55.77' LT | 5' | 27NSR+41.60 | 55.76' LT | 27NSR+46.60 | 60.77' LT |
| 37 | 20NSR+96.25 | 9.25' RT | 13' | 20NSR+96.38 | 21.83' RT | 21NSR+06.53 | 16.51' RT |
| 38 | 20NSR+81.11 | 1.46' LT | 31' | 21NSR+06.53 | 16.51' RT | 21NSR+12.24 | 1.38' LT |
| 39 | 21NSR+59.83 | 22.97' LT | 47' | 21NSR+12.42 | 23.35' LT | 21NSR+15.47 | 39.71' LT |
| 40 | 21NSR+57.68 | 15.00' LT | 15' | 21NSR+42.68 | 15.00' LT | 21NSR+57.68 | 0.00' |
| 41 | 21NSR+47.68 | 18.24' LT | 5' | 21NSR+42.68 | 18.24' LT | 21NSR+47.68 | 23.24' LT |
| 42 | 24NSR+54.80 | 5.00' LT | 5' | 24NSR+54.80 | 0.00' | 24NSR+59.80 | 5.00' LT |
| 43 | 24NSR+54.80 | 18.24' LT | 5' | 24NSR+54.80 | 23.24' LT | 24NSR+59.80 | 18.24' LT |
| 44 | 25NSR+04.80 | 5.00' LT | 5' | 24NSR+99.80 | 5.00' LT | 25NSR+04.80 | 0.00' |
| 45 | 25NSR+04.80 | 18.24' LT | 5' | 24NSR+99.80 | 18.24' LT | 25NSR+04.80 | 23.24' LT |
| 46 | 53ESR+37.95 | 633.77' RT | 1348' | 21NSR+15.47 | 39.71' LT | 22NSR+62.91 | 322.76' LT |
| 47 | 22NSR+83.56 | 308.66' LT | 25' | 22NSR+62.91 | 322.76' LT | 22NSR+74.29 | 331.88' LT |
| 48 | 22NSR+67.92 | 356.26' LT | 25' | 22NSR+77.19 | 333.04' LT | 22NSR+87.91 | 341.25' LT |
| 49 | 23NSR+18.28 | 427.63' LT | 25' | 23NSR+38.28 | 412.62' LT | 23NSR+43.17 | 425.21' LT |
| 50 | 23NSR+68.34 | 425.77' LT | 25' | 23NSR+43.46 | 428.20' LT | 23NSR+48.91 | 441.50' LT |
| 51 | 53ESR+11.50 | 723.99' RT | 1438' | 23NSR+48.91 | 441.50' LT | 26NSR+98.20 | 752.18' LT |
| 52 | 27NSR+96.15 | 129.54' LT | 10' | 27NSR+86.15 | 129.52' LT | 27NSR+96.16 | 119.54' LT |
| 53 | 27NSR+91.12 | 153.30' LT | 5' | 27NSR+86.12 | 153.29' LT | 27NSR+91.12 | 158.30' LT |
| 54 | 21NSR+84.44 | 41.42' RT | 19' | 21NSR+66.93 | 33.30' RT | 21NSR+82.61 | 22.20' RT |

NOTE:
CURB AND GUTTER RADII ARE MEASURED TO THE FLANGE

## PAVEMENT DETAIL LEGEND

- CP29 CONCRETE PAVEMENT 8-INCH
- AP03 HMA PAVEMENT TYPE E-1, 4-INCH
- AP05 HMA PAVEMENT TYPE E-1, 5-INCH
- CG05 CURB RAMP TYPE 4A
- CG06 CURB RAMP TYPE 4B
- CG09 CURB RAMP TYPE 7A
- CG14 CONCRETE CURB AND GUTTER 19-INCH
- CG16 CONCRETE CURB AND GUTTER 31-INCH
- CG22 CONCRETE CURB PEDESTRIAN
- CG44 CONCRETE CURB AND GUTTER 6-INCH SLOPED 31-INCH
- CM07 CONCRETE SIDEWALK, 5-INCH
- SW01 SAWING ASPHALT
- SW02 SAWING CONCRETE

CENTRAL FLEET MAINTENANCE BUILDING

PICNIC TABLE
COMMUNICATION VAULT
DOOR (TYP)
CONC PAD WITH EQUIPMENT BACKUP GENERATOR
DOOR (TYP)
DUMPSTER
DOOR (TYP)
6' FENCE
NORTH SERVICE ROAD
CONCRETE
ASPHALT
CONCRETE
ASPHALT
CONCRETE
ASPHALT
CONCRETE
ASPHALT
CONCRETE
ASPHALT

EAST SERVICE ROAD

WATERTOWN PLANK ROAD

FACILITIES PARKING

FLEET AREA
64,000 SF

SLIDING GATE

BIKE RACKS

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD WB ON RAMP

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD EB ON RAMP

ALUM
METAL
ALUM
WOOD
SWEEP
TIRE

51+00ESR
52+00ESR
53+00ESR
54+00ESR
55+00ESR
56+00ESR
57+00ESR
26+00NSR
28+00NSR
29+00NSR
766+00WD
767+00WD
769+00WD
770+00WD
771+00WD
772+00WD
773+00WD
774+00WD
772+00WG
773+00WG
774+00WG

ESR+05.52 22.06'RT
ESR+05.52 42.30'RT
ESR+40.69 13.06'RT
ESR+15.52 22.06'RT
ESR+05.52 166.06'RT
ESR+09.19 184.41'RT
ESR+15.52 220.06'RT
ESR+98.98 242.44'RT
ESR+40.69 233.02'RT
ESR+55.57 207.09'RT
NSR+46.00 9.93'RT
NSR+46.05 0.00'RT
NSR+76.50 9.92'RT
NSR+76.55 0.00'RT
NSR+90.61 2.00'RT
NSR+94.90 2.00'RT
NSR+94.86 25.66'RT
NSR+54.73 11.80'LT
NSR+96.10 11.99'LT

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PLAN DETAILS - DPW SITE | SHEET 24 | E |
|---|---|---|---|---|---|

## PAVEMENT DETAIL LEGEND

N

- CP29 CONCRETE PAVEMENT 8-INCH
- AP03 HMA PAVEMENT TYPE E-1, 4-INCH
- AP05 HMA PAVEMENT TYPE E-1, 5-INCH
- CG05 CURB RAMP TYPE 4A
- CG06 CURB RAMP TYPE 4B
- CG09 CURB RAMP TYPE 7A
- CG14 CONCRETE CURB AND GUTTER 19-INCH
- CG16 CONCRETE CURB AND GUTTER 31-INCH
- CG22 CONCRETE CURB PEDESTRIAN
- CG44 CONCRETE CURB AND GUTTER 6-INCH SLOPED 31-INCH
- CM07 CONCRETE SIDEWALK, 5-INCH
- SW01 SAWING ASPHALT
- SW02 SAWING CONCRETE

SWAN BOULEVARD

177+00BV
178+00BV
179+00BV
180+00BV
181+00BV
182+00BV
13+00XFN
16+00XFN
WLC ACCESS

NSR+94.64 33.30'RT
NSR+94.67 21.84'RT
NSR+92.42 66.28'RT
NSR+94.00 61.28'RT
NSR+40.44 66.40'RT
NSR+40.68 61.40'RT
NSR+64.81 66.46'RT
NSR+64.80 61.46'RT
NSR+41.84 0.00'RT
NSR+41.86 61.65'RT
NSR+41.85 21.97'RT
NSR+48.36 66.66'RT
NSR+48.36 21.93'RT
NSR+48.36 0.00'RT
NSR+45.64 112.91'LT
NSR+23.24 112.91'LT
NSR+65.34 23.24'LT
NSR+04.86 305.91'LT
NSR+24.78 385.90'LT
NSR+20.63 388.39'LT
NSR+56.95 435.10'LT
NSR+96.76 469.26'LT
NSR+74.31 408.50'LT
NSR+86.49 268.31'LT
NSR+04.80 244.15'LT
NSR+04.80 48.24'LT
NSR+43.97 23.24'LT
NSR+44.43 217.21'LT
NSR+51.86 347.74'LT

28+00UDE
21+00NSR
22+00NSR
23+00NSR
24+00NSR
25+00NSR
229+00UDE

SLIDING GATE
4-6,000 GAL HOLDING TANKS
SALT BRINE
4" PVC, SCHEDULE 80
SPARE
4" PVC, SCHEDULE 80
SCALE
BOLLARD (TYP)
20,000 TON SALT DOME
CONVEYOR
PIT
ENGINEER TO DETERMINE CONVEYOR AND PIT LOCATION IN THE FIELD
PAVEMENT SWALE (TYP)
STORAGE BUILDING 1
SAND SALT
SNOW FENCE
TOTES
T.C. STUFF
HOT LOADS
TAR
HOT LOADS
COLD PATCH
NORTH SERVICE ROAD
6' FENCE
TEMPORARY SHED
SAND
SAND
COLD PATCH
SLIDING GATE
METAL
BINS
SAND
ASPHALT
HIGHWAY DEPARTMENT YARD
PAVEMENT SW
ASPHALT
CONCRETE
CONCRETE
ASPHALT
ASPHALT
CONCRETE
ELEC MH

37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 54

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PLAN DETAILS - DPW SITE | SHEET 25 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\021201_PD.DWG PLOT DATE : 12/11/2014 7:31 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : ---------- PLOT SCALE : 1:50 _XREF
WISDOT/CADDS SHEET 42

2

N

BINS

| | |
|---|---|
| SAND | ASPHALT |
| PEA GRAVEL | MILLING |
| TB | CONC |
| MIX | SWEEP |
| TOP SOIL | JUNK |
| WOOD CHIPS | WOOD |

ETAL
LUM
ETAL
LUM
OOD
WEEPING
IRE

DUMPSTERS

ASPHALT

AP05

NSR+11.40
157.58'LT

CP29

CONCRETE

CG16

52

CG16

53

DEWATERING BASIN

NSR+61.43
158.30'LT

PAVEMENT SWALE (TYP)

NSR+34.20
268.23'LT

NSR+56.14
171.78'LT

AP05

NSR+51.86
347.74'LT

PAVEMENT SWALE (TYP)

HIGHWAY DEPARTMENT YARD

STORAGE BUILDING 2

NSR+00.40
425.40'LT

ASPHALT

AP05

NSR+36.99
659.19'LT

NSR+02.56
687.80'LT

SHELTER

NSR+35.83
638.25'LT

NSR+98.20
751.45'LT

SWAN BOULEVARD

184+00BV

185+

VLV

MP

782+00WG

781+00WG

780+00WG

779+00WG

778+00WG

777+00WD

777+00WG

776+00WD

776+00WG

775+00WD

775+00WG

OWD

+00WG

USH 45 SB OFF RAMP

USH 45 SB

379+00NS

378+00NS

USH 45 NB

PAVEMENT DETAIL LEGEND

| | |
|---|---|
| CP29 | CONCRETE PAVEMENT 8-INCH |
| AP03 | HMA PAVEMENT TYPE E-1, 4-INCH |
| AP05 | HMA PAVEMENT TYPE E-1, 5-INCH |
| CG05 | CURB RAMP TYPE 4A |
| CG06 | CURB RAMP TYPE 4B |
| CG09 | CURB RAMP TYPE 7A |
| CG14 | CONCRETE CURB AND GUTTER 19-INCH |
| CG16 | CONCRETE CURB AND GUTTER 31-INCH |
| CG22 | CONCRETE CURB PEDESTRIAN |
| CG44 | CONCRETE CURB AND GUTTER 6-INCH SLOPED 31-INCH |
| CM07 | CONCRETE SIDEWALK, 5-INCH |
| SW01 | SAWING ASPHALT |
| SW02 | SAWING CONCRETE |

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PLAN DETAILS - DPW SITE | SHEET 26 | E |
|---|---|---|---|---|---|

NOTE:
CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE.

WATERTOWN PLANK ROAD

PRIVATE DRIVE

BIKE RACKS

SEE DETAIL A

SWAN BOULEVARD

UNDERWOOD PARKWAY

TRASH

RETAINING WALL (TYP)

1+00PR 2+00PR 3+00PR 4+00PR 5+00PR 6+00PR 7+00PR 8+00PR

167+00BV 168+00BV 169+00BV 170+00BV 171+00BV

4+00 5+00 6+00XFT 10+00RND 11+00RND 12+00RND 222+00UDW 223+00UDE 224+00UDE 225+00UDE 226+00UDE

50' TYP

25' TYP

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PAVING GRADES: PARK AND RIDE | SHEET 27 | E |
|---|---|---|---|---|---|

2

2

BUS SHELTER
(BY OTHERS)

DEPRESSED CURB & GUTTER

6+00PR

5+00PR

739.68
739.61
739.72
739.64
739.55
739.29
739.30
739.16
739.23
739.08
738.33
738.26
737.63
737.56
737.34
737.27
736.89
736.63

10'
15'
2.0%
2.0%
2.0%

742
741
740
739
738
737
736
735
734

N

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PAVING GRADES: PARK AND RIDE - DETAIL A | SHEET 28 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\021301_JD.DWG
LAYOUT NAME - 021301A

PLOT DATE : 9/17/2014 11:20 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : ---------- PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 42

2

N

167+00BV
168+00BV
169+00BV
170+00BV
171+00BV
172+00BV
173+00BV
174+00BV

SWAN BOULEVARD

226+00UDE
227+00UDE
228+00UDE
229+00UDE
230+00UDE
231+00UDE
232+00UDE
233+00UDE
234+00UDE
235+00UDE
236+00UDE
237+00UDE
238+00UDE
239+00UDE
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251+00UDE
252+00UDE
253+00UDE
254+00UDE
255+00UDE
256+00UDE
257+00UDE
258+00UDE
259+00UDE
260+00UDE
261+00UDE
262+00UDE
263+00UDE
264+00UDE
265+00UDE

NOTE:
CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE.

CENTRAL FLEET
MAINTENANCE BUILDING

EAST SERVICE ROAD

SLIDING GATE

BIKE RACKS

FACILITIES PARKING

FLEET AREA
64,000 SF

NORTH SERVICE ROAD

SLIDING GATE

WATERTOWN PLANK ROAD

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD WB ON RAMP

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD EB ON RAMP

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PAVING GRADES | SHEET 30 | E |
|---|---|---|---|---|---|

NOTE:
CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE.

N

WLC ACCESS

SWAN BOULEVARD

EXISTING RETAINING WALL

LEET MAINTENANCE YARD

4" PVC, SCHEDULE 80

4-6,000 GAL HOLDING TANKS

SALT BRINE

SLIDING GATE

20,000 TON SALT DOME

CONVEYOR

ASPHALT

CONCRETE

NORTH SERVICE ROAD

6' FENCE

TEMPORARY SHED

SAND

COLD PATCH

BOLLARD (TYP)

SCALE

TOPAGE BUILDING

SAND SALT

SNOW FENCE

TOTES

T.C. STUFF

HOT LOADS

TAR

HOT LOADS

COLD PATCH

BINS

SAND

ASPHALT

METAL

PAVEMENT SWALE (TYP)

PAVEMENT SW

FFE = 738.25

FFE = 739.00

FFE = 739.00

| | | | | |
|---|---|---|---|---|
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PAVING GRADES | SHEET 31 E |

2

N

BINS

| | |
|---|---|
| SAND | ASPHALT |
| PEA GRAVEL | MILLING |
| TB | CONC |
| MIX | SWEEP |
| TOP SOIL | JUNK |
| WOOD CHIPS | WOOD |

DUMPSTERS

ASPHALT

CONCRETE

PAVEMENT SWALE (TYP)

PAVEMENT SWALE (TYP)

HIGHWAY DEPARTMENT YARD

ASPHALT

SHELTER

STORAGE BUILDING 2

FFE = 741.00

DEWATERING BASIN

REFER TO DEWATERING FACILITY PLANS

USH 45 SB OFF RAMP/WATERTOWN PLANK ON RAMP

USH 45 SB

USH 45 NB

SWAN BOULEVARD

VLV

MP

NOTE:
CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE.

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PAVING GRADES | SHEET 32 | E |
|---|---|---|---|---|---|

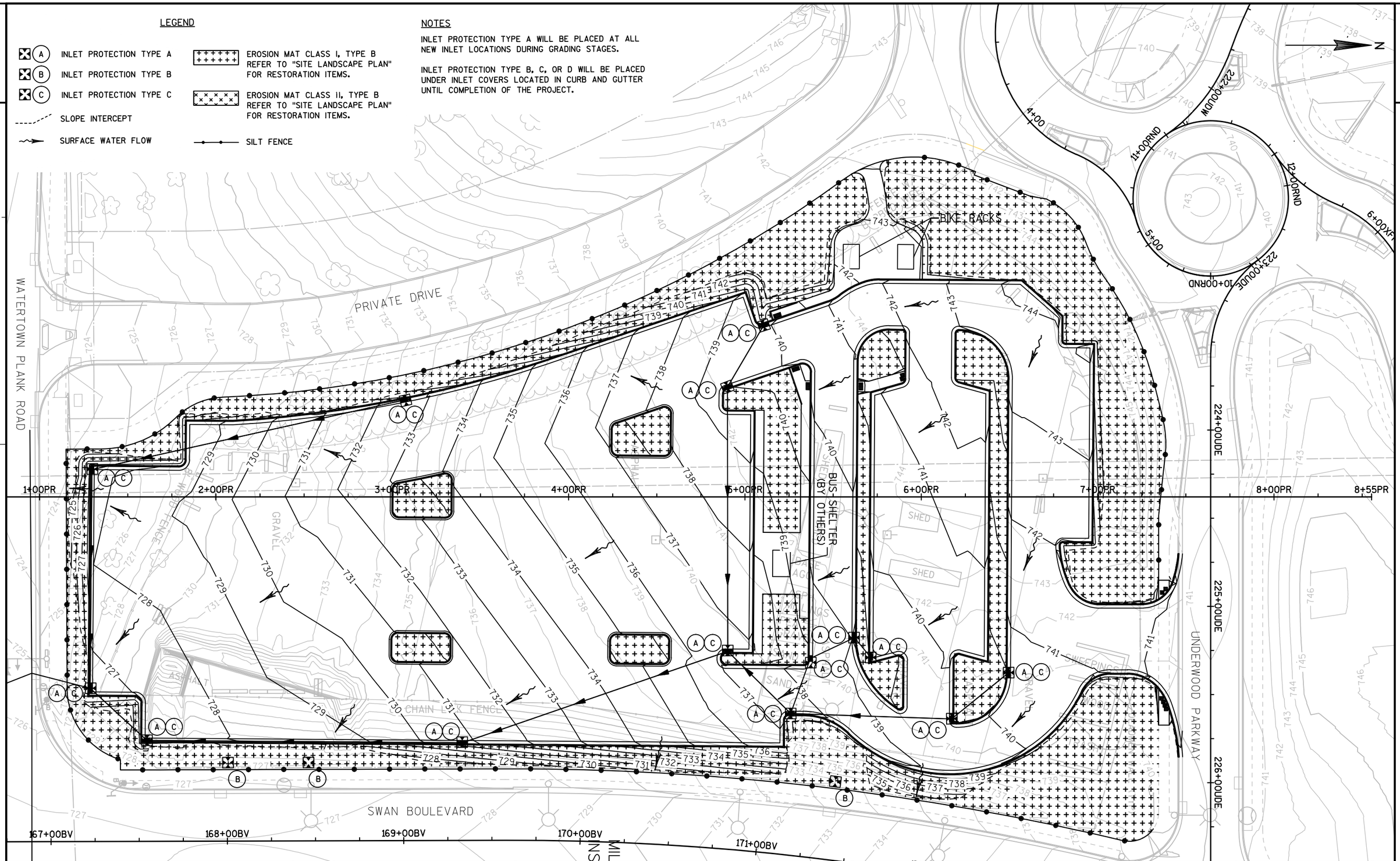
LEGEND

- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- EROSION MAT CLASS I, TYPE B REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- EROSION MAT CLASS II, TYPE B REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- SILT FENCE

NOTES

INLET PROTECTION TYPE A WILL BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES.

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN CURB AND GUTTER UNTIL COMPLETION OF THE PROJECT.




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | EROSION CONTROL - PARK AND RIDE | SHEET 33 | E |
|---|---|---|---|---|---|

2

N

166+54BV
167+00BV
168+00BV
169+00BV
170+00BV
171+00BV
172+00BV
173+00BV
174+00BV

SWAN BOULEVARD

MILWAUKEE COUNTY INSTITUTIONS ZONE I

226+00UDE
227+00UDE
228+00UDE
229+00UDE
20+00NSR
21+00NSR
22+00NSR

ASPHALT
CONCRETE
BOLLARDS (4)
BOLLARD
8' FENCE W/ BARBED WIRE
SLIDING GATE
TANKS
NORTH SERVICE ROAD
WATERTOWN PLANK ROAD
POST CANOPY

CENTRAL FLEET
MAINTENANCE BUILDING

LEGEND

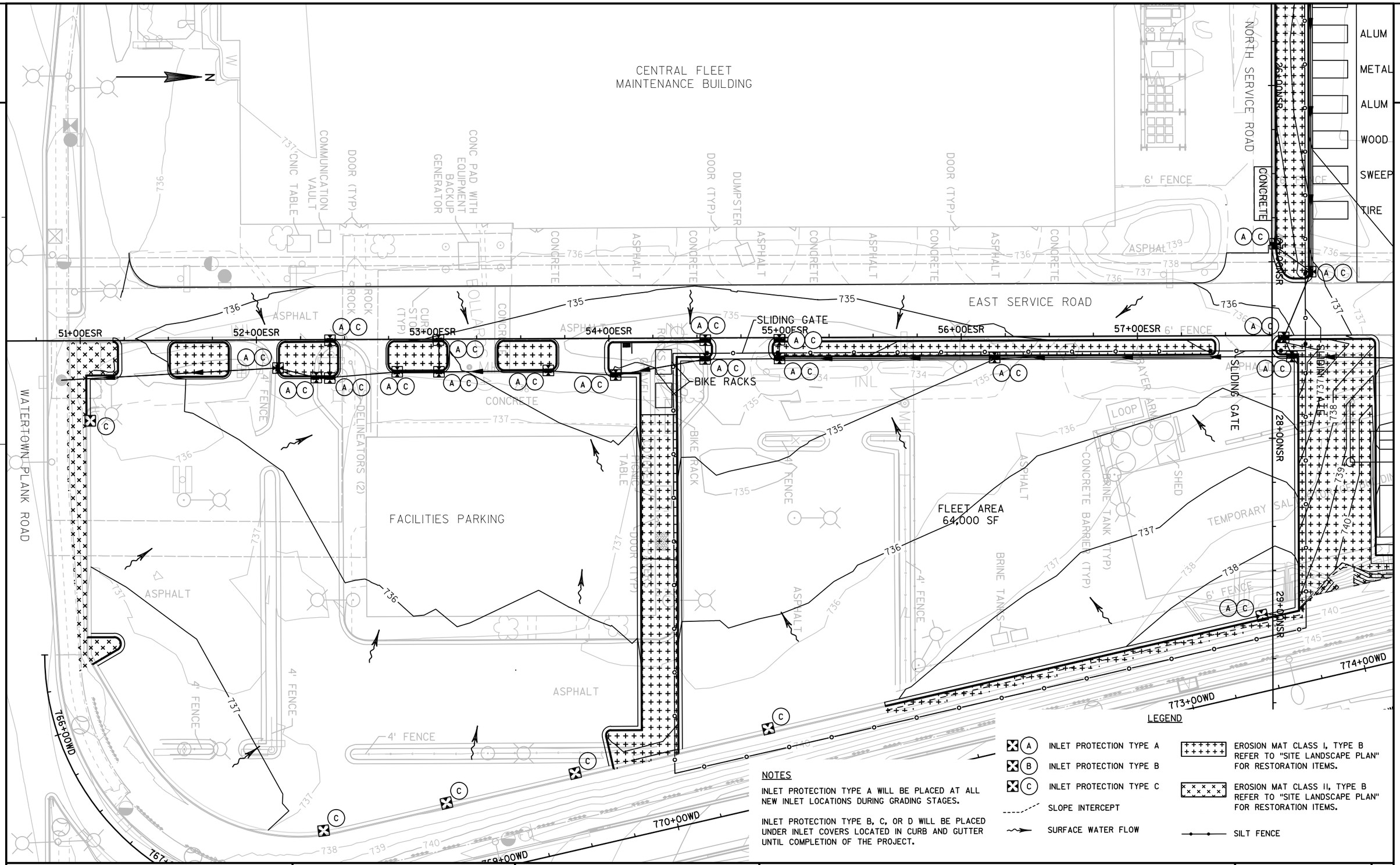
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- EROSION MAT CLASS I, TYPE B REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- EROSION MAT CLASS II, TYPE B REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- SILT FENCE

NOTES

INLET PROTECTION TYPE A WILL BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES.

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN CURB AND GUTTER UNTIL COMPLETION OF THE PROJECT.

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | EROSION CONTROL | SHEET 34 | E |
|---|---|---|---|---|---|




NOTES

INLET PROTECTION TYPE A WILL BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES.

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN CURB AND GUTTER UNTIL COMPLETION OF THE PROJECT.

LEGEND

- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- EROSION MAT CLASS I, TYPE B REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- EROSION MAT CLASS II, TYPE B REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- SILT FENCE

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | EROSION CONTROL | SHEET 35 | E |
|---|---|---|---|---|---|

NOTES

INLET PROTECTION TYPE A WILL BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES.

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN CURB AND GUTTER UNTIL COMPLETION OF THE PROJECT.

LEGEND

- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- EROSION MAT CLASS I, TYPE B REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- EROSION MAT CLASS II, TYPE B REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- SILT FENCE

N

177+00BV
178+00BV
179+00BV
180+00BV
181+00BV
182+00BV
14+00XFN
15+00XFN
16+00XFN
28+00UDE
29+00UDE
21+00NSR
22+00NSR
35+00NSR
MILWAUKEE COUNTY INSTITUTIONS ZONE II
WLC ACCESS
SWAN BOULEVARD
HIGHWAY DEPARTMENT YARD
CONCRETE
ASPHALT
4-6,000 GAL HOLDING TANKS
SALT BRINE
4" PVC SCHEDULE 80
SLOPE PAVEMENT SWALE (TYP)
PAVEMENT SWALE (TYP)
20,000 TON SALT DOME
CONVEYOR
BOLLARD (TYP)
SCALE
SLIDING GATE
NORTH SERVICE ROAD
6' FENCE
TEMPORARY SHED
SAND
COLD PATCH
METAL
BINS
SAND
ASPHALT
STORAGE BUILDING 1
SAND SALT
SNOW FENCE
TOTES
T.C. STUFF
HOT LOADS
TAR
HOT LOADS
COLD PATCH
PAVEMENT SW
PLT
MH

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | EROSION CONTROL | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\022001_EC.DWG PLOT DATE : 12/11/2014 1:35 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42

2

BINS

| | |
|---|---|
| SAND | ASPHALT |
| PEA GRAVEL | MILLING |
| TB | CONC |
| MIX | SWEEP |
| TOP SOIL | JUNK |
| WOOD CHIPS | WOOD |

ETAL
LUM
ETAL
LUM
OOD
WEEPING
RE

BUMPSTERS

ASPHALT

CONCRETE

CONCRETE PATCH

ASPHALT

PAVEMENT SWALE (TYP)

PAVEMENT SWALE (TYP)

HIGHWAY DEPARTMENT YARD

ASPHALT

MH

VLV

SWAN BOULEVARD

184+00BW

185+00

N

SHELTER

STORAGE BUILDING 2

GRAVEL ENTRANCE

DEWATERING BASIN

782+00WG

781+00WG

780+00WG

779+00WG

778+00WG

777+00WD

777+00WG

776+00WD

776+00WG

775+00WD

775+00WG

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD ON RAMP

381+00NS

380+00NS

USH 45 SB

OWD

+00WG

1100012-U03-1(75)

PENDING

nane

LEGEND

- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- C — INLET PROTECTION TYPE C
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- EROSION MAT CLASS I, TYPE B — REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- EROSION MAT CLASS II, TYPE B — REFER TO "SITE LANDSCAPE PLAN" FOR RESTORATION ITEMS.
- SILT FENCE

NOTES

INLET PROTECTION TYPE A WILL BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES.

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN CURB AND GUTTER UNTIL COMPLETION OF THE PROJECT.

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | EROSION CONTROL | SHEET 37 | E |
|---|---|---|---|---|---|

## GENERAL DRAINAGE NOTES

ADJUSTMENT RINGS MAY BE USED TO A COMBINED MAXIMUM THICKNESS OF 6-INCHES.

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

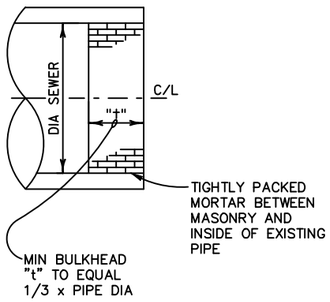
UTILITY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE. LOCATIONS SHOWN ARE TAKEN FROM EXISTING RECORDS AND BEST INFORMATION AVAILABLE FROM EXISTING PLANS. IT IS EXPECTED THAT THERE MAY BE DISCREPANCIES AND OMISSIONS IN THE LOCATION OF UTILITIES AND STRUCTURES SHOWN. VERIFY ALL LOCATIONS IN THE FIELD.

VERIFY THE EXISTING STORM SEWER SYSTEM CONNECTION LOCATIONS AND ELEVATIONS PRIOR TO ORDERING DRAINAGE STRUCTURES AND PIPES. NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE INFORMATION SHOWN ON THE PLANS PRIOR TO INSTALLING THE PROPOSED STORM SEWER.

ALL DRAINAGE STRUCTURES, EXISTING OR PROPOSED, SUBJECT TO TRAFFIC LOADING SHALL HAVE NON-ROCKING COVERS AS DIRECTED BY THE ENGINEER IN THE FIELD. COST INCIDENTAL TO NEW COVER ON PROPOSED STRUCTURE OR "RECONSTRUCTING/ADJUSTING MANHOLES OR INLETS" ON EXISTING STRUCTURE UNLESS SPECIFICALLY CALLED OUT FOR WELDING STORM SEWER STRUCTURES.

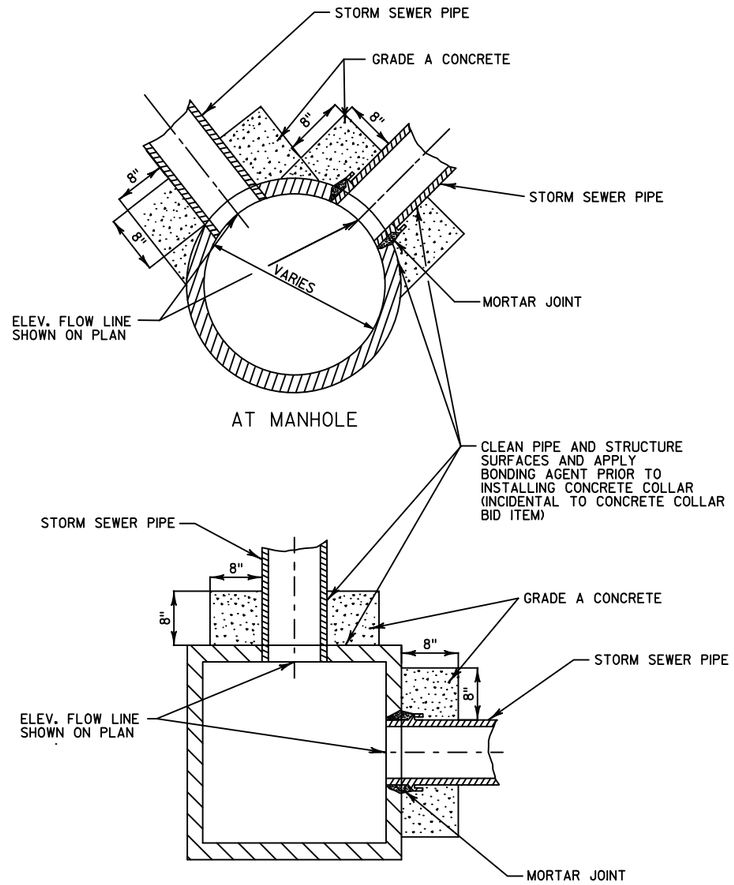
PROVIDE TEMPORARY POSITIVE DRAINAGE THROUGHOUT THE PROJECT DURING ALL PROJECT STAGES.

SUPPORTING UTILITIES DURING STORM SEWER CONSTRUCTION IS INCIDENTAL TO STORM SEWER PIPE AND/OR STORM SEWER STRUCTURE.



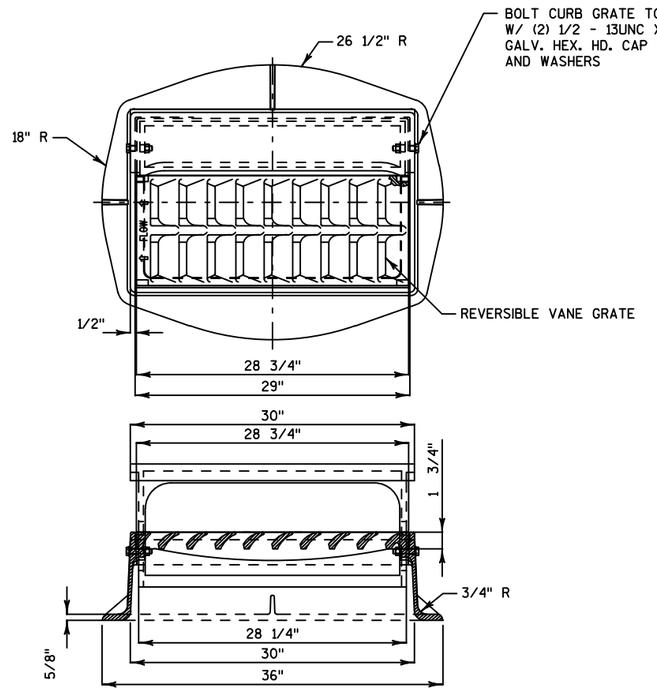

## BULKHEAD PIPE MASONRY

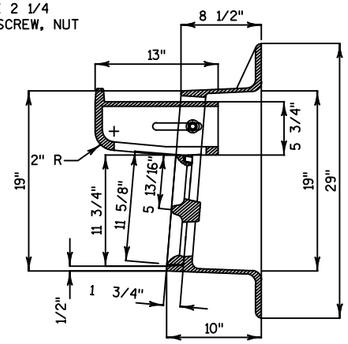
ITEM TO BE PAID FOR UNDER ITEM "SEALING PIPES"

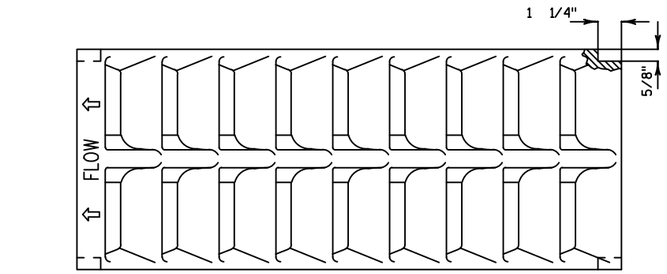


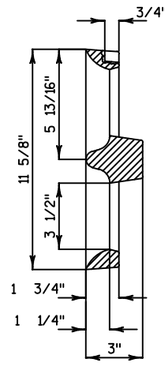

## CONCRETE COLLAR DETAIL

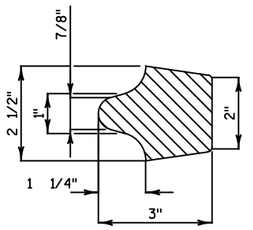
2



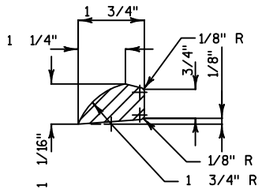



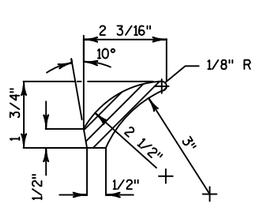



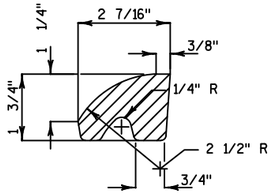

MIDDLE RIB DETAIL




SIDE RIB DETAIL



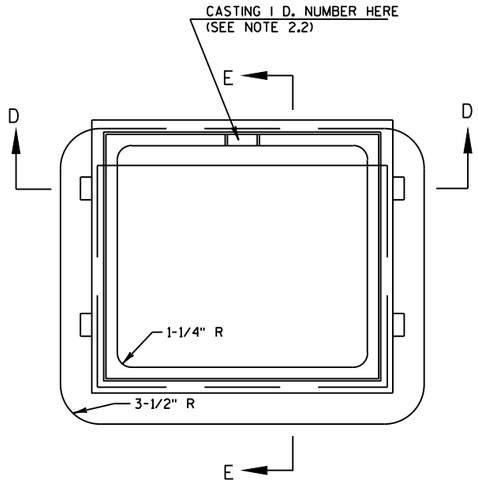

VANE DETAIL

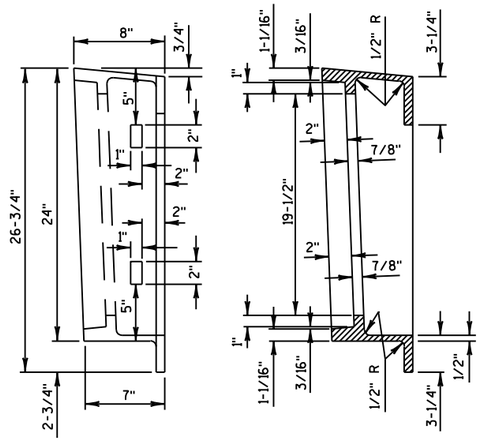



FRONT VANE DETAIL

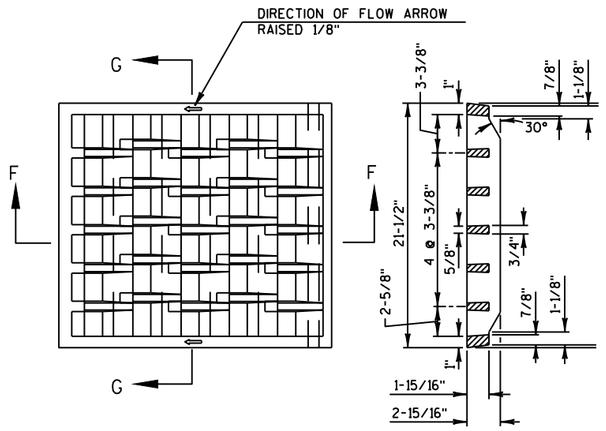
INLET COVERS TYPE R-SPECIAL

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - CONSTRUCTION DETAILS | SHEET 39 | E |
|---|---|---|---|---|---|



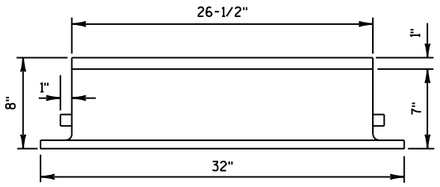




SECTION E-E

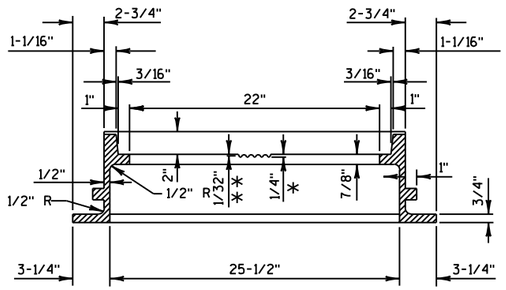



GRATE

SECTION G-G



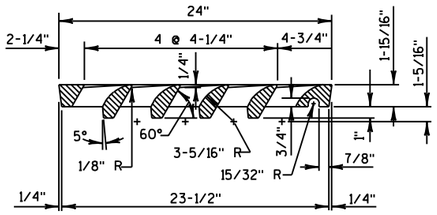

FRAME




SECTION D-D

* DEPRESSION FOR LETTERS

* * CLEARANCE FROM TOP OF LETTERS TO FACE OF SEAT




SECTION F-F

GENERAL NOTES

1. ALL EDGES ARE TO BE GROUND.

2. ALL CASTINGS SHALL BEAR THE FOLLOWING IDENTIFICATION MARKS IN THE FORM OF LEGIBLE LETTERS OR NUMERALS RAISED 1 /8":

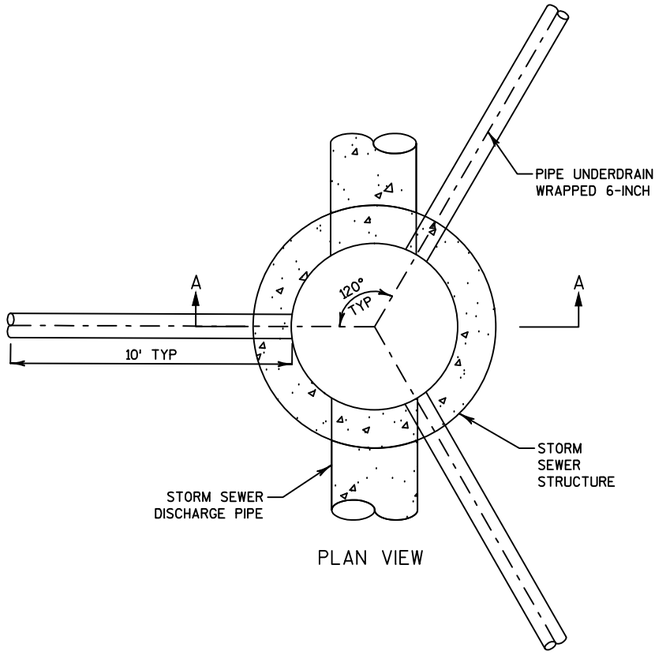
   ON THE FRAME
   1. ON THE UPPER FACE OF THE FLANGE IN 1 INCH HIGH LETTERS THE INITIALS OR MONOGRAM OF THE FOUNDRY, THE YEAR MADE AND THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.

   2. ON THE SEAT OF THE FRAME IN 1 INCH HIGH LETTERS, THE CASTING IDENTIFICATION NUMBER (M.S.51).

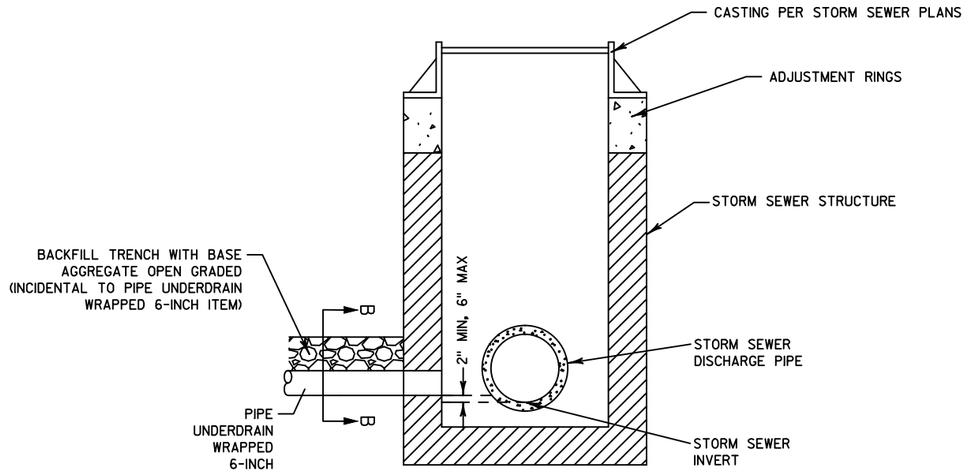
   ON THE GRATE
   1. ON THE UPPER SIDE OF THE GRATE IN 1 INCH HIGH LETTERS, THE INITIALS OR MONOGRAM OF THE FOUNDRY, THE YEAR MADE, THE CASTING IDENTIFICATION NUMBER (M.S.57) AND THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.

## CASTING - TYPE 57

LID-145 LBS., FRAME-204 LBS.

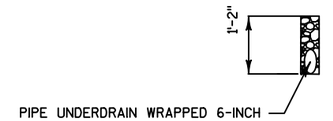



PLAN VIEW




SECTION A-A

TYPICAL MANHOLE/INLET
CONFIGURATION
WITH UNDERDRAIN




SECTION B-B

# PIPE UNDERDRAIN WRAPPED 6-INCH PERFORATED AT MANHOLE/INLET

NOTES

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

2. PROVIDE UNDERDRAIN PIPE AT A MINIMUM OF 2" (MAXIMUM OF 6") ABOVE THE INVERT ELEVATION OF THE REINFORCED CONCRETE STORM SEWER PIPE AS SHOWN IN SECTION A-A.

3. SEE STORM SEWER PLANS FOR PIPE UNDERDRAIN LOCATIONS. STRUCTURES: S600, S601A, S700, S701, AND S702.

4. PROVIDE POSITIVE DRAINAGE (0.25% MINIMUM GRADE) THROUGH PIPE UNDERDRAIN WRAPPED 6-INCH.

5. ALIGN PIPE UNDERDRAIN AS CLOSE AS POSSIBLE TO THE STORM SEWER PIPE TRENCH, AVOIDING CONFLICTS WITH THE STORM SEWER PIPE.

2

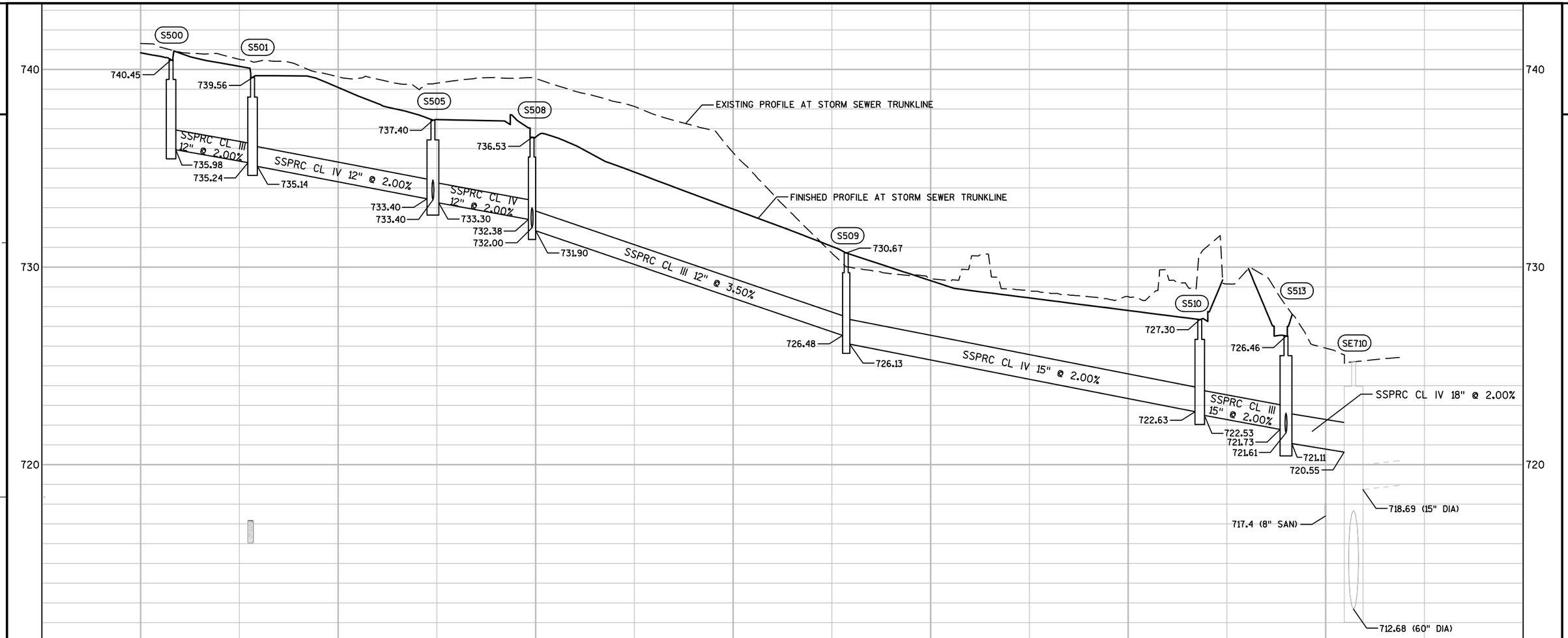
STORM SEWER LEGEND

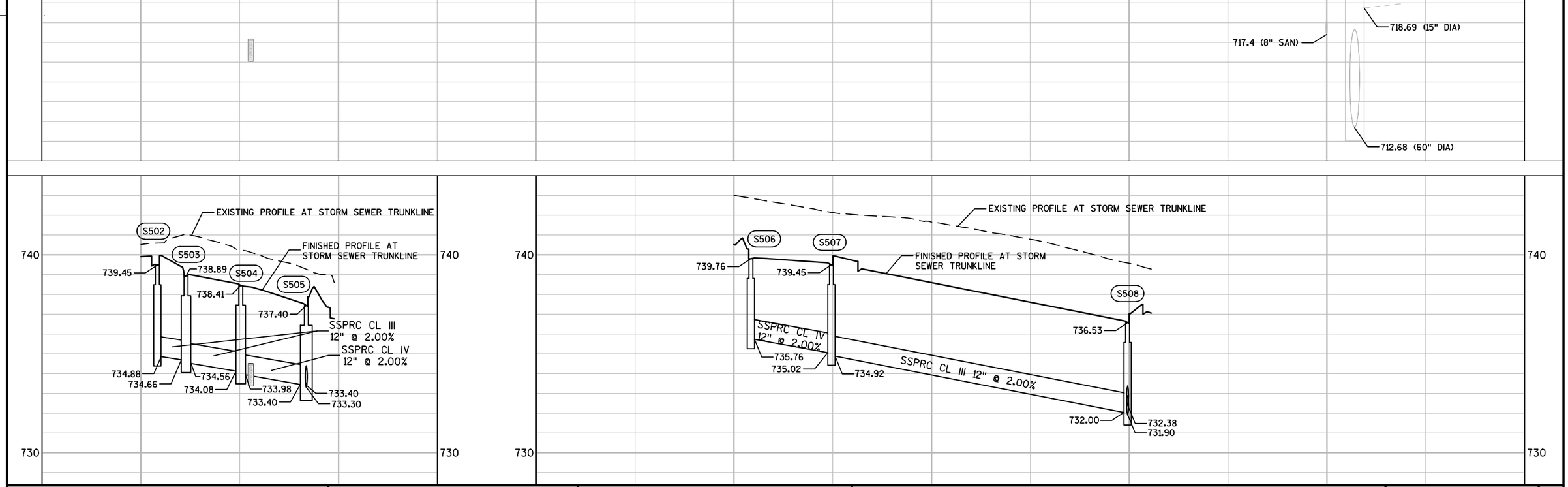
EXISTING
SE*** EXISTING STRUCTURE
S*** PROPOSED DRAINAGE STRUCTURE
● PROPOSED MANHOLE
■ PROPOSED INLET
△ PROPOSED ENDWALL
EXISTING
PE*** EXISTING PIPE
P*** PROPOSED PIPE

PRIVATE DRIVE
WATERTOWN PLANK ROAD
PARK & RIDE
SWAN BOULEVARD
UNDERWOOD PARKWAY
6' CHAIN LINK FENCE
8' FENCE W/ BARBED WIRE
BIKE RACKS
BUS SHELTER (BY OTHERS)
CONNECT TO EXISTING STRUCTURE 1-CONCRETE COLLAR REQUIRED
EXISTING SE710
S512 P511 S511 P512 S513 P513 S510 P510 S509 P509 S508 P508 S507 P507 S506 P506 S505 P505 S504 P504 S503 P503 S502 P502 S501 P501 S500 P500
1+00PR 2+00PR 3+00PR 4+00PR 5+00PR 6+00PR 7+00PR 8+00PR
167+00BV 168+00BV 169+00BV 170+00BV 171+00BV
4+00 5+00 6+00XF 11+00RND 12+00RND 222+00UDE 223+00UDE 224+00UDE 225+00UDE 226+00UDE
R/W
N

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - PARK & RIDE | SHEET 42 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\022501_SS.DWG PLOT DATE : 10/29/2014 2:29 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - PARK & RIDE | SHEET 43 | E |
|---|---|---|---|---|---|

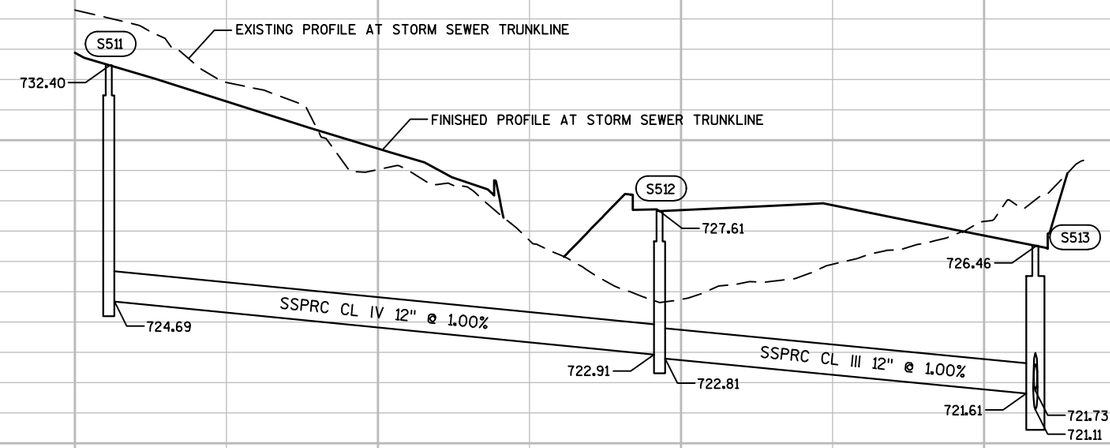
2

740

730

720

710



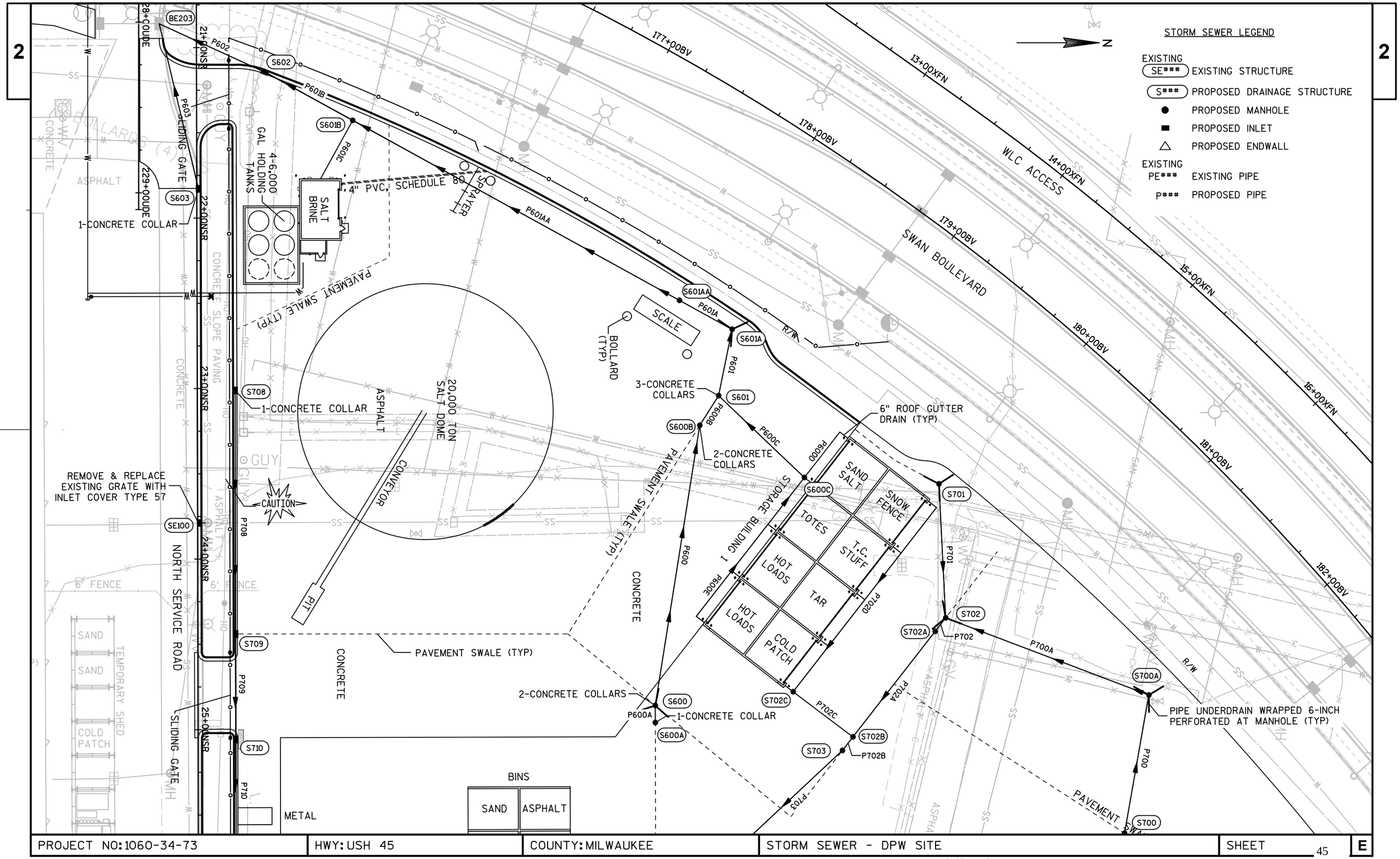

740

730

720

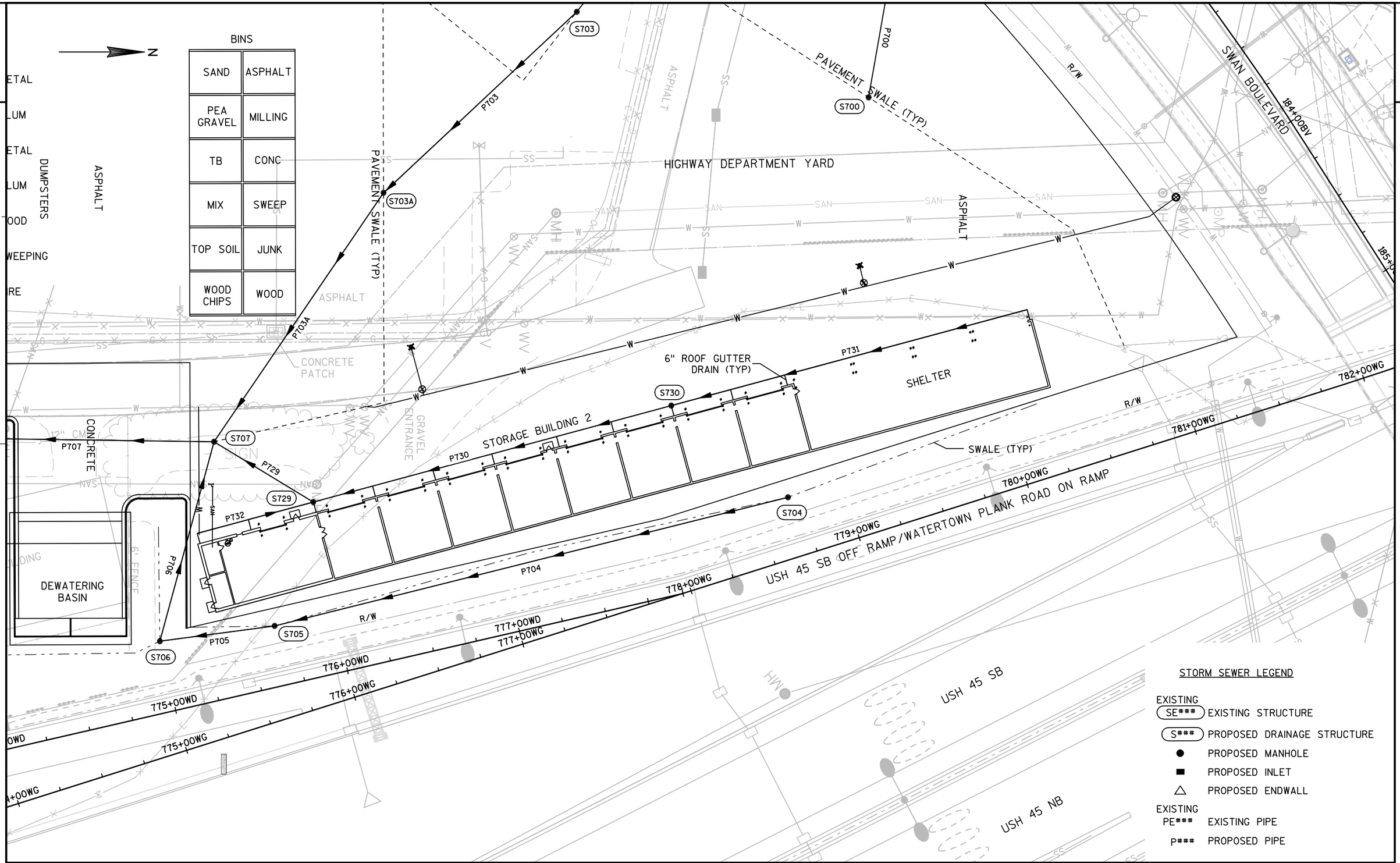
710

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - PARK & RIDE | SHEET 44 | E |
|---|---|---|---|---|---|




| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - DPW SITE | SHEET 45 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\022501_SS.DWG PLOT DATE : 12/8/2014 11:31 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1" = 50'_XREF




| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - DPW SITE | SHEET 46 | E |
|---|---|---|---|---|---|

STORM SEWER LEGEND

N

EXISTING
- SE*** EXISTING STRUCTURE
- S*** PROPOSED DRAINAGE STRUCTURE
- ● PROPOSED MANHOLE
- ■ PROPOSED INLET
- △ PROPOSED ENDWALL

EXISTING
- PE*** EXISTING PIPE
- P*** PROPOSED PIPE

CENTRAL FLEET MAINTENANCE BUILDING

EAST SERVICE ROAD

NORTH SERVICE ROAD

WATERTOWN PLANK ROAD

FACILITIES PARKING

FLEET AREA 64,000 SF

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD WB ON RAMP

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD EB ON RAMP

TEMPORARY SALT STORAGE BUILDING

SLIDING GATE

BIKE RACKS

CONNECT TO EXISTING STRUCTURE 1-CONCRETE COLLAR REQUIRED

REMOVE & REPLACE EXISTING GRATE WITH INLET COVER TYPE 57

| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - DPW SITE | SHEET 47 | E |
|---|---|---|---|---|---|

2

2

750

740

730

720

710

EXISTING PROFILE AT STORM SEWER TRUNKLINE

FINISHED PROFILE AT STORM SEWER TRUNKLINE

S600 S600A 737.68 737.77 SSPRC CL IV 15" @ 0.30%

SSPRC CL IV 18" @ 0.30% 734.30 734.55 734.57

S600B 737.06 SSPRC CL III 24" @ 0.30% 733.81 733.31

S601 736.85 734.59 733.26

SSPRC CL III 24" @ 0.30% 733.26 733.16

S601A 738.22 SSPRC CL III 24" @ 0.30% 733.16 733.06

S601AA 738.44 733.06

SSPRC CL III 24" @ 0.30% 733.06 733.06

S601B 737.58 733.90 732.40

SSPRC CL III 24" @ 0.30% 732.40 732.40

S602 737.18 732.24

64 LF - SSPRC CL III 24" @ 0.30% 732.24 732.05

BE203 732.80 732.55 (18" DIA) 732.05 (24" DIA)

SSPRC CL IV 15" @ 0.30% 732.05 733.09

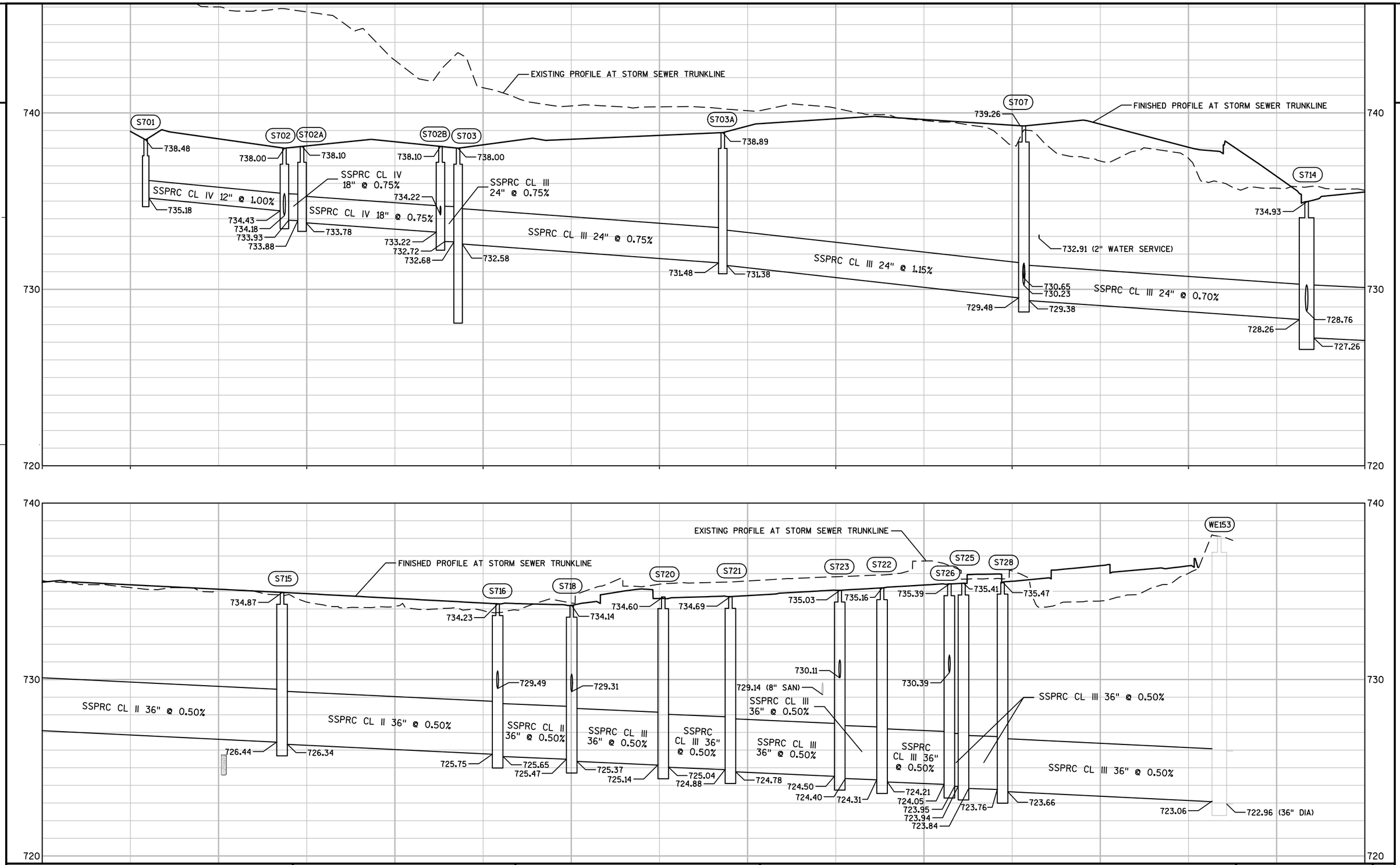
S603 735.62

728.35 (15" RCCP)

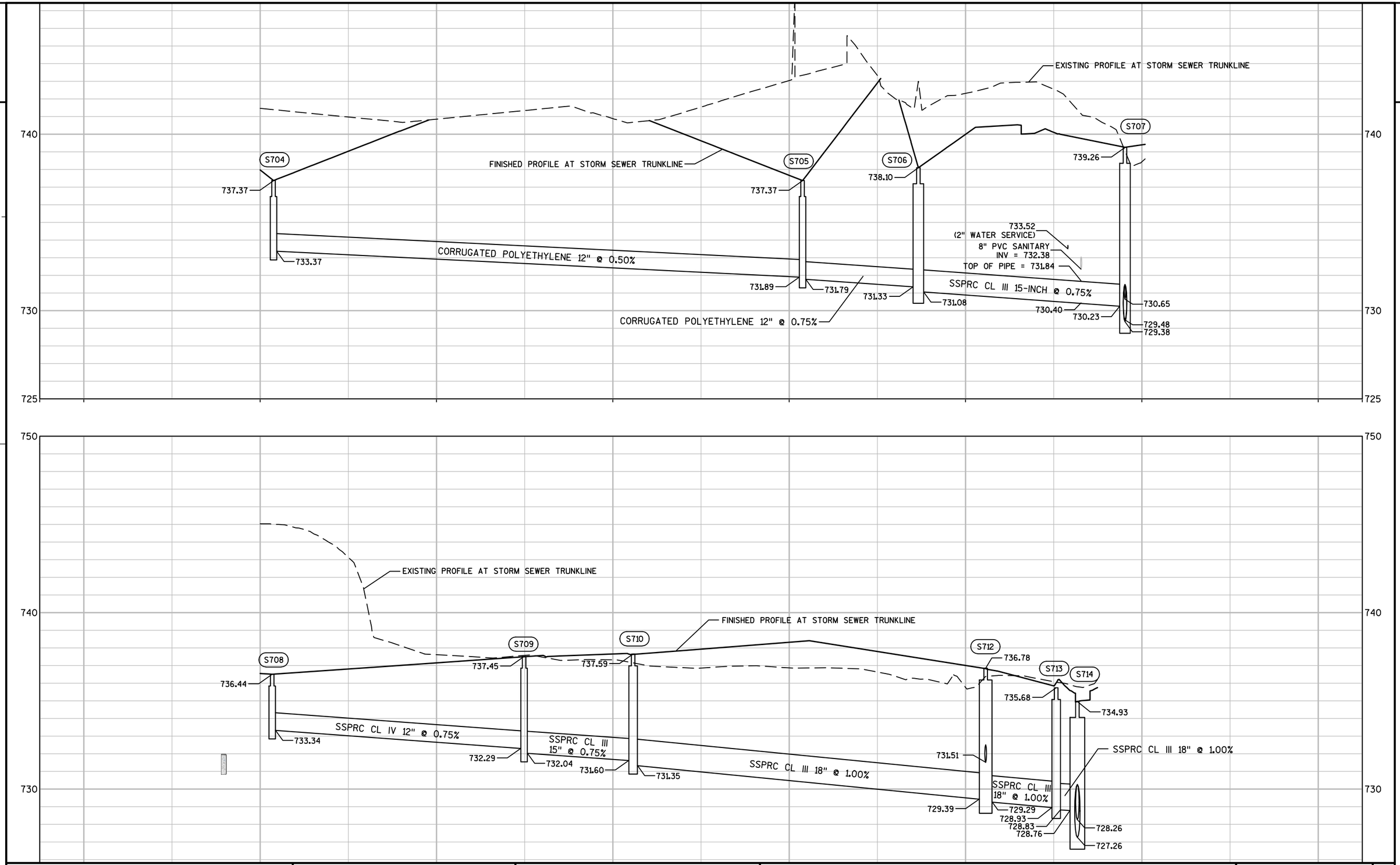
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - DPW SITE | SHEET 48 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\022501_SS.DWG PLOT DATE : 11/26/2014 10:13 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1" = 50'

WISDOT/CADDS SHEET 42



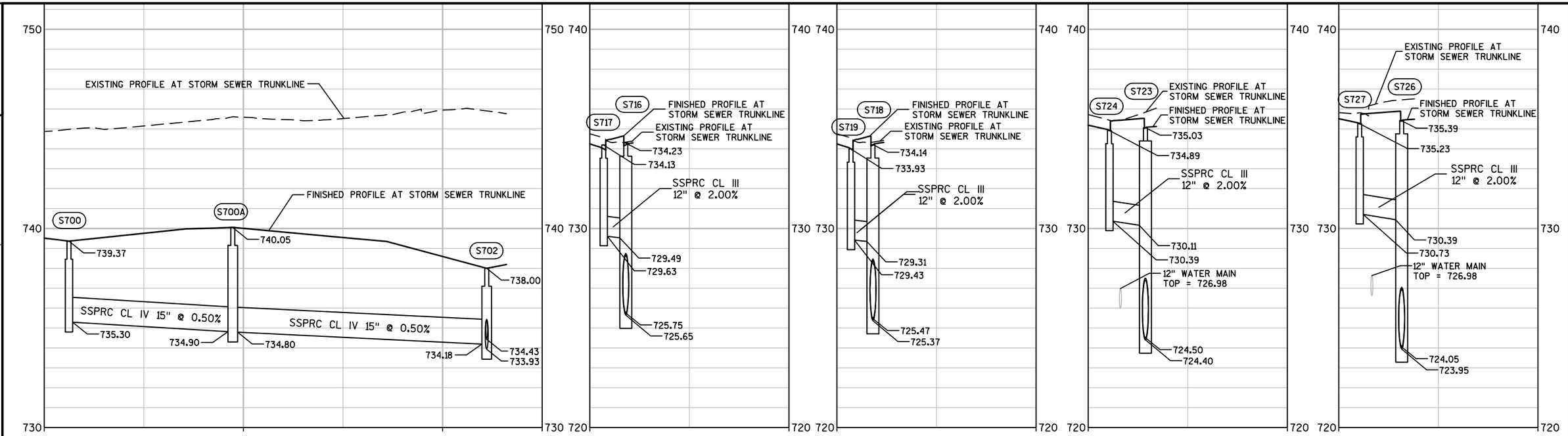

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - DPW SITE | SHEET 49 | E |
|---|---|---|---|---|---|

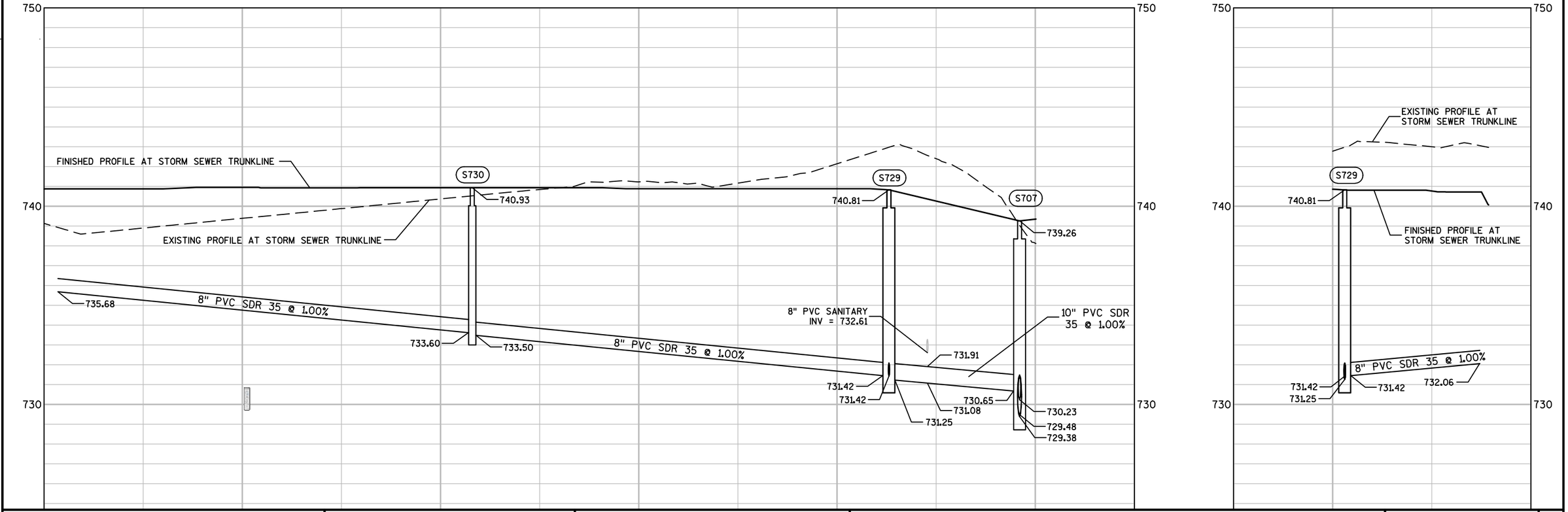



| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - DPW SITE | SHEET 50 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\022501_SS.DWG PLOT DATE : 12/8/2014 11:58 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1" = 50'

WISDOT/CADDS SHEET 42

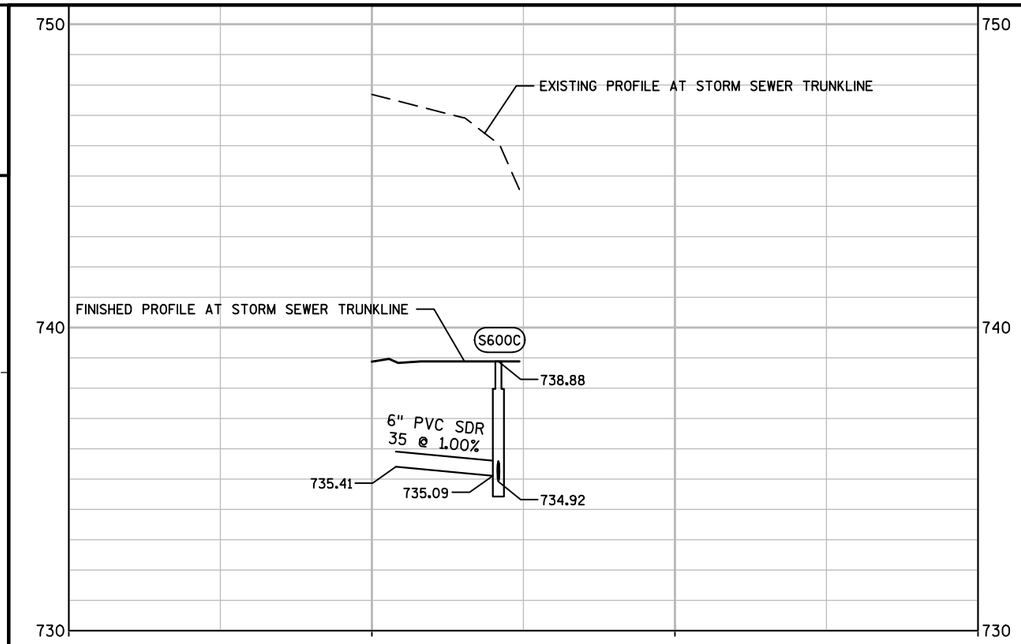


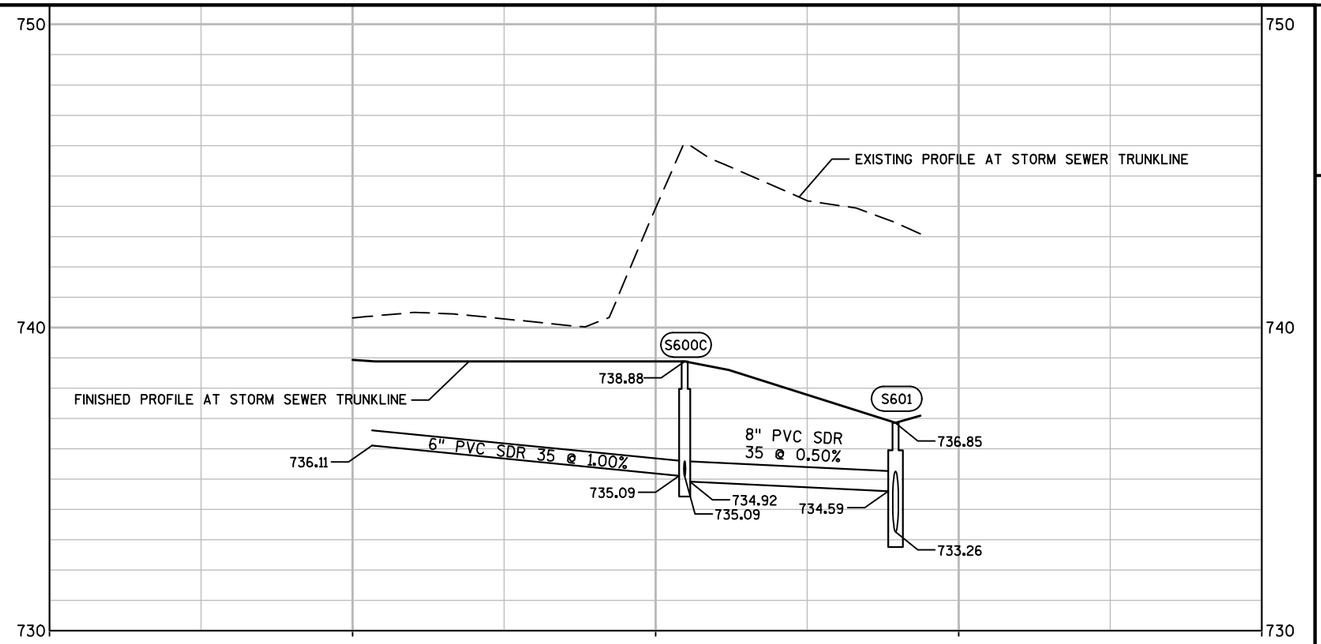



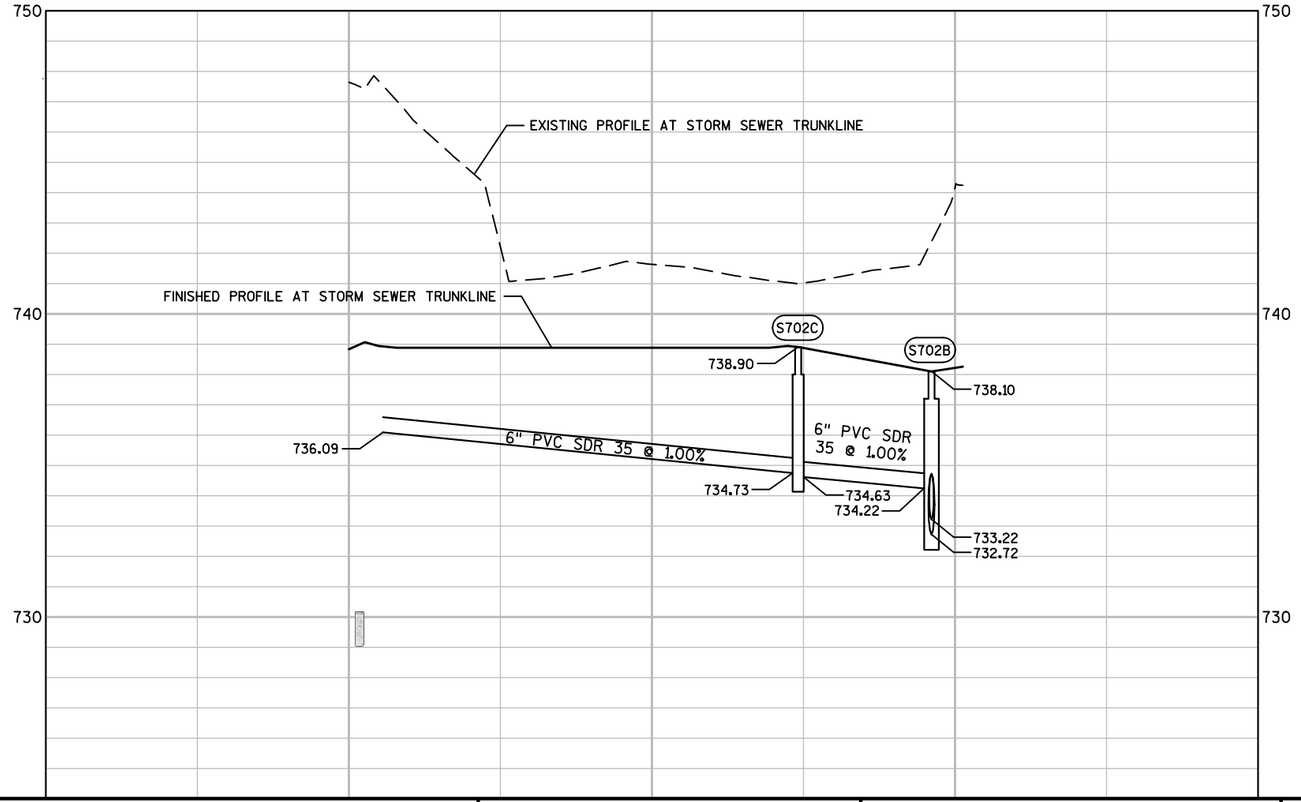

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - DPW SITE | SHEET | E |
|---|---|---|---|---|---|

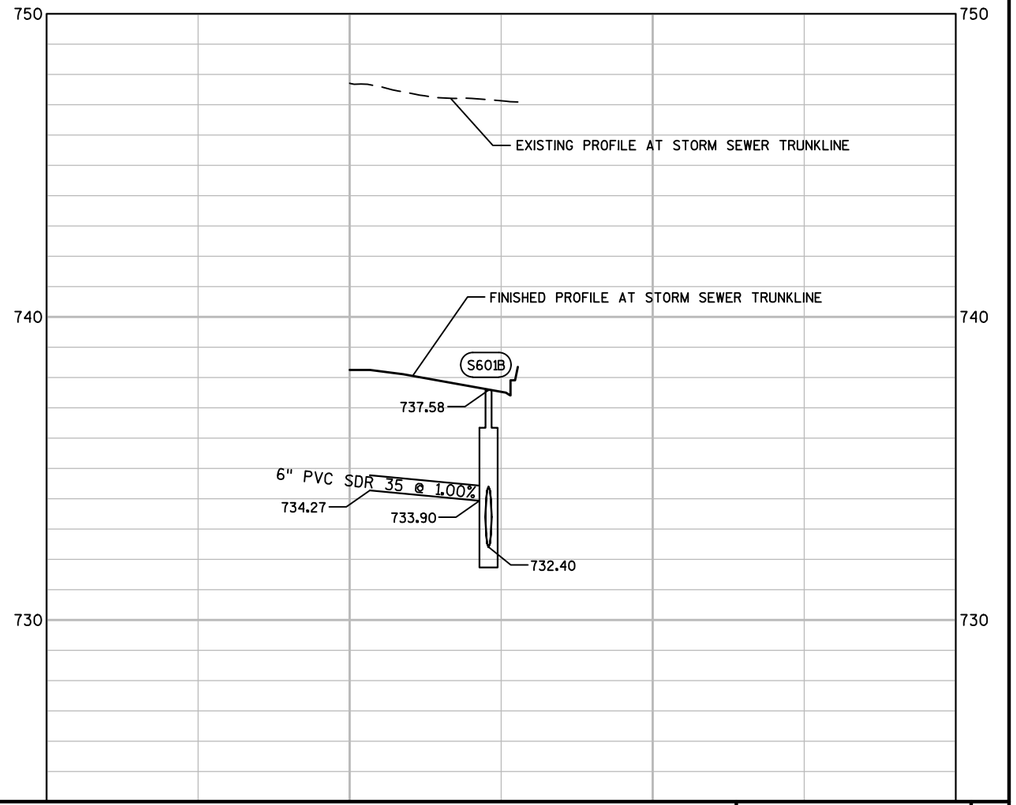


FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\022501_SS.DWG PLOT DATE : 10/29/2014 6:53 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1" = 50'



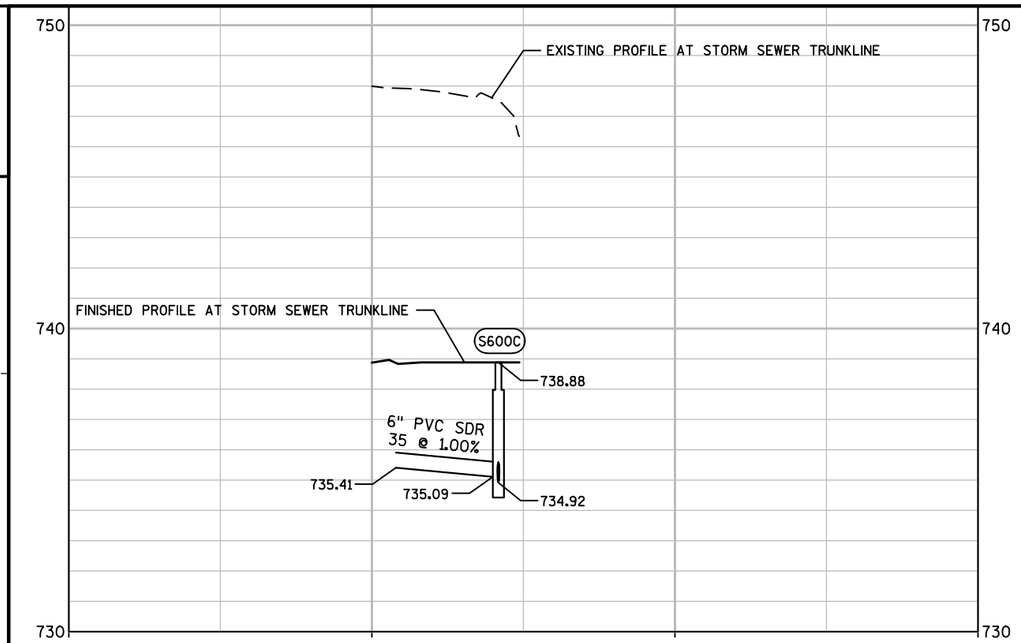



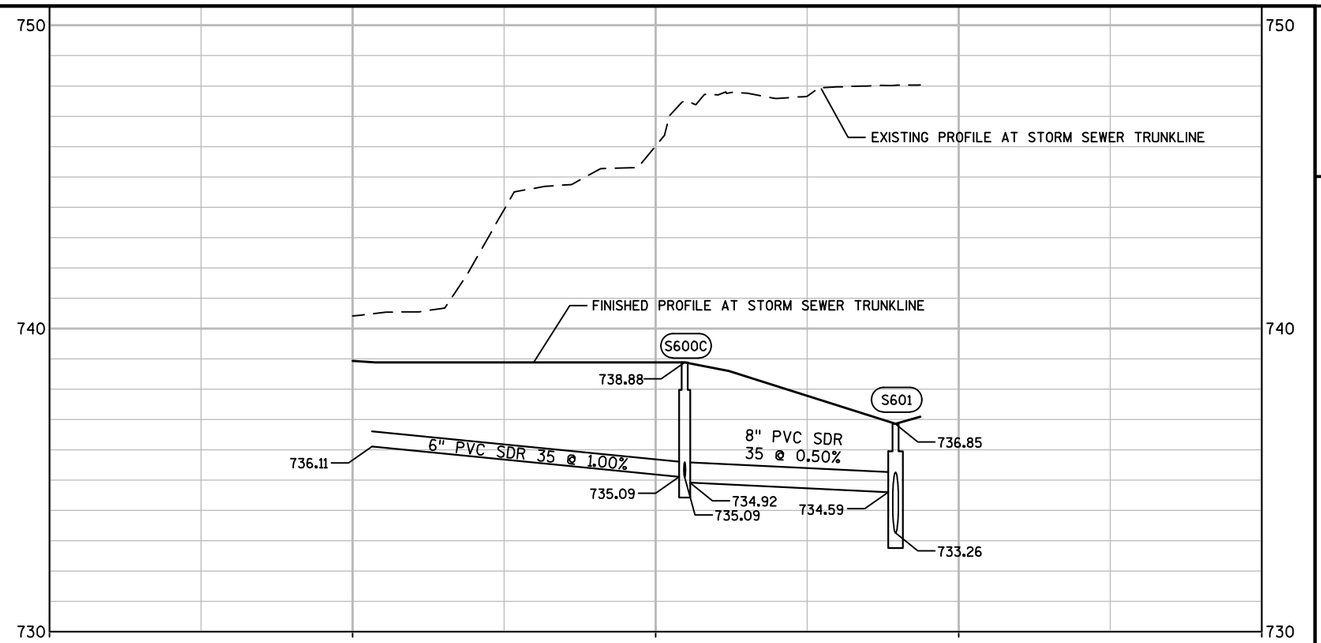



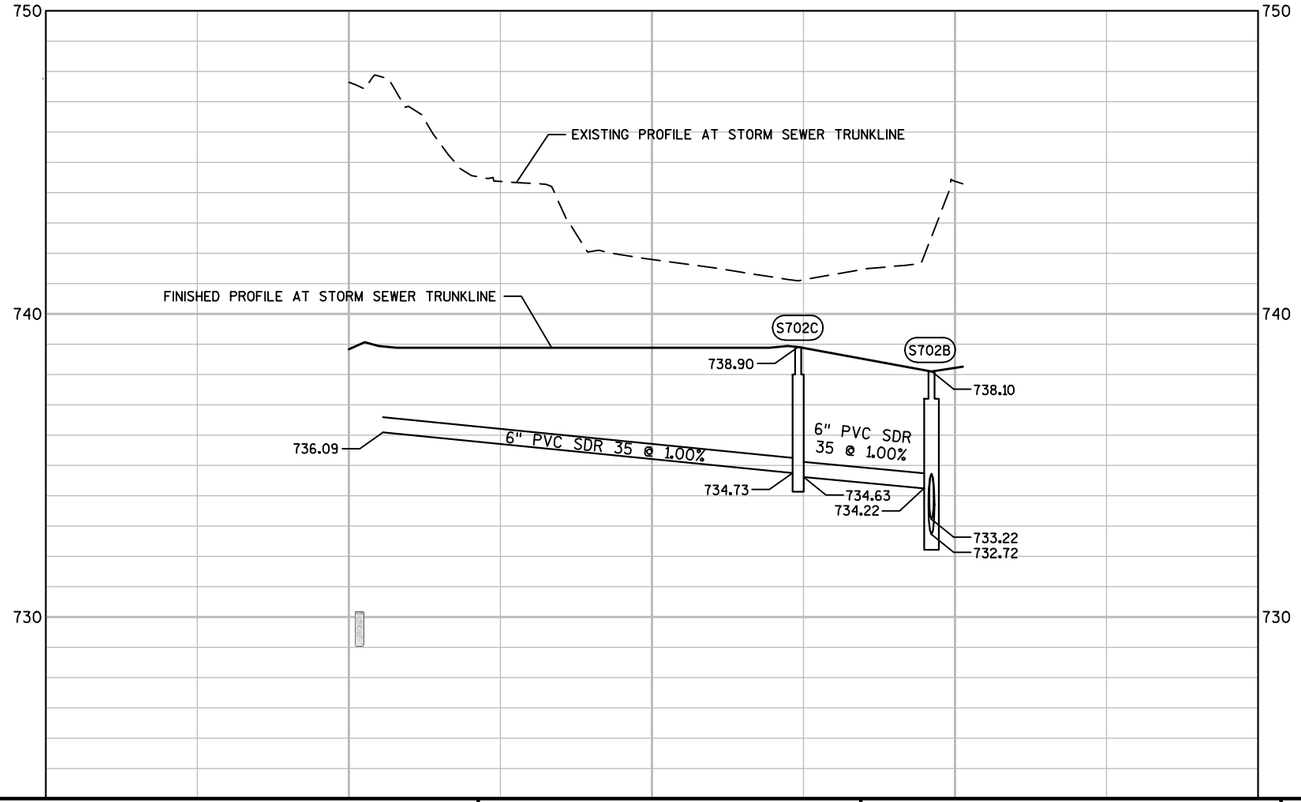

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - DPW SITE | SHEET | E |
|---|---|---|---|---|---|

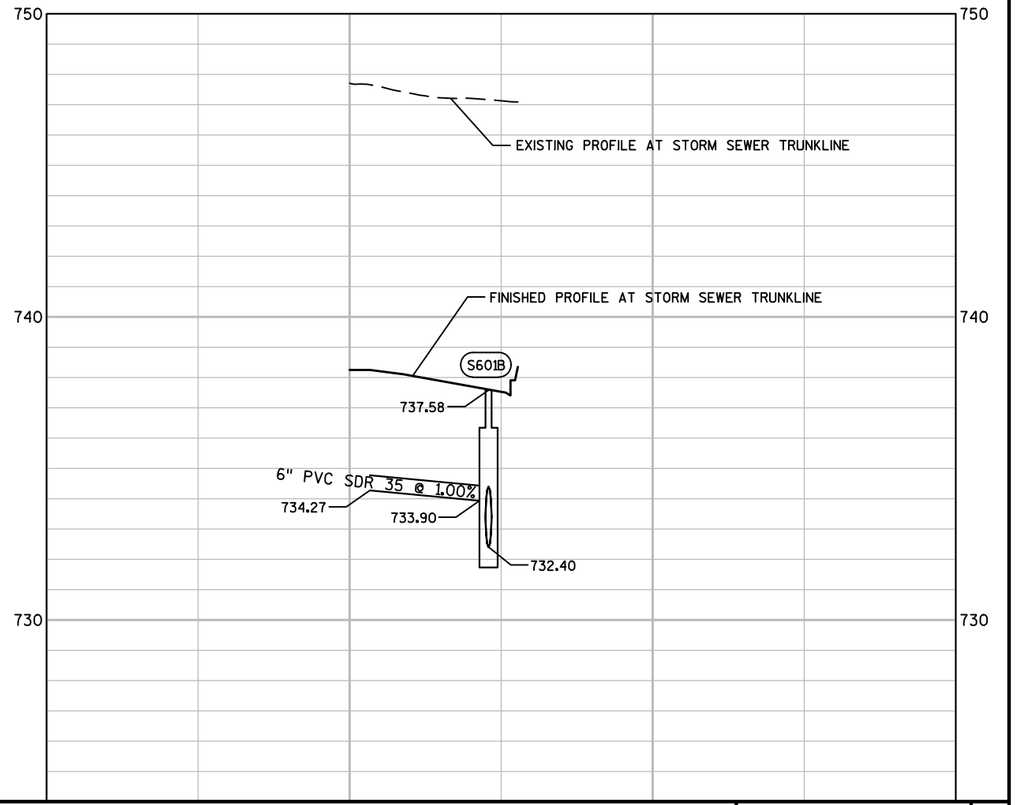


FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\022501_SS.DWG PLOT DATE : 11/17/2014 8:47 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1" = 50'

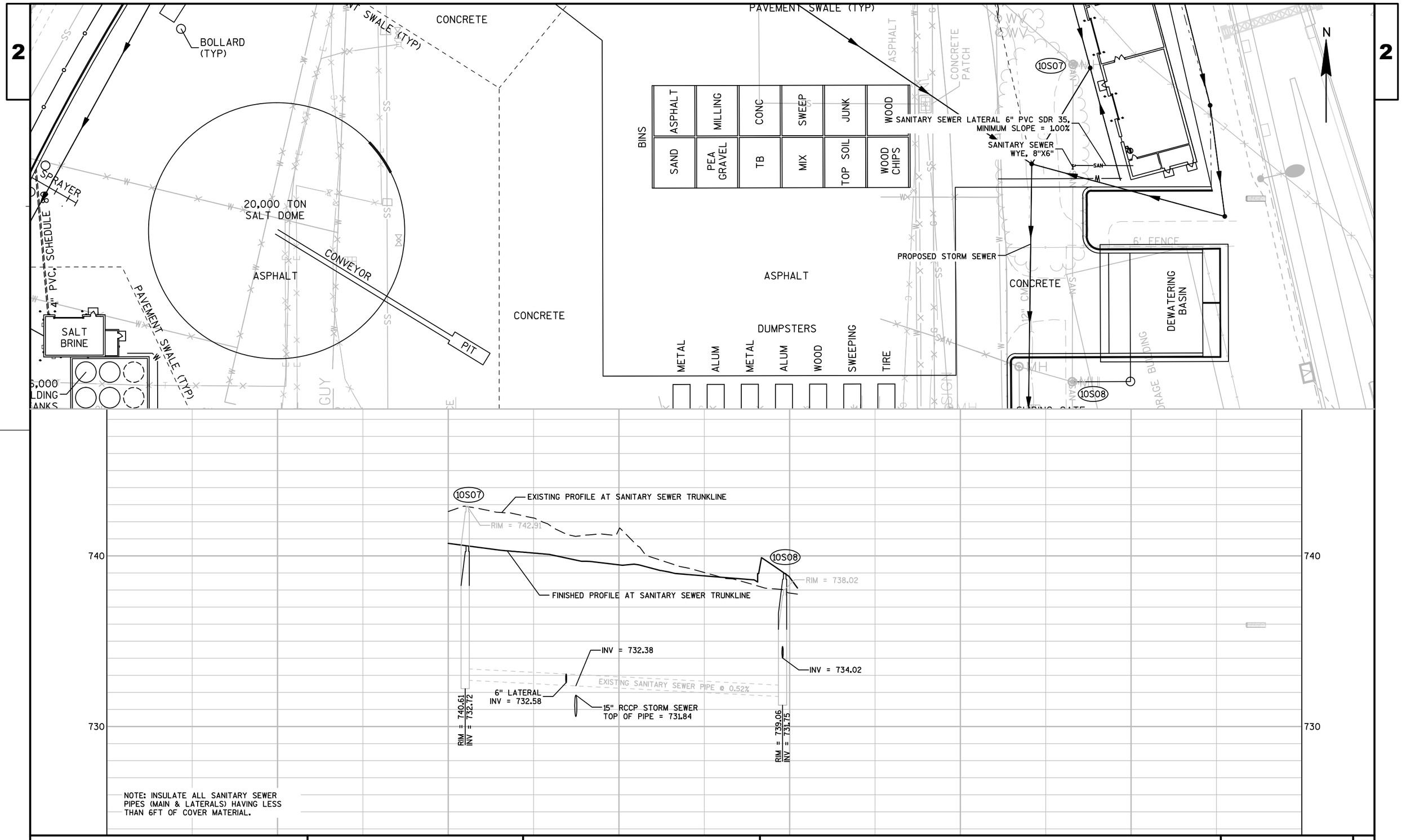


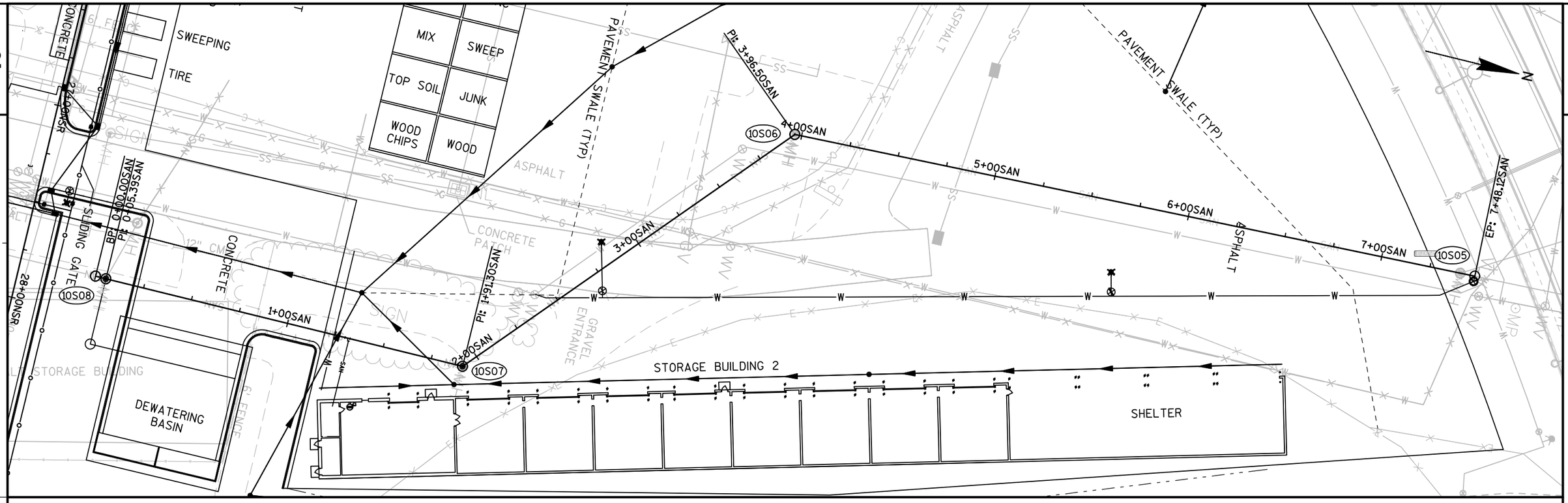



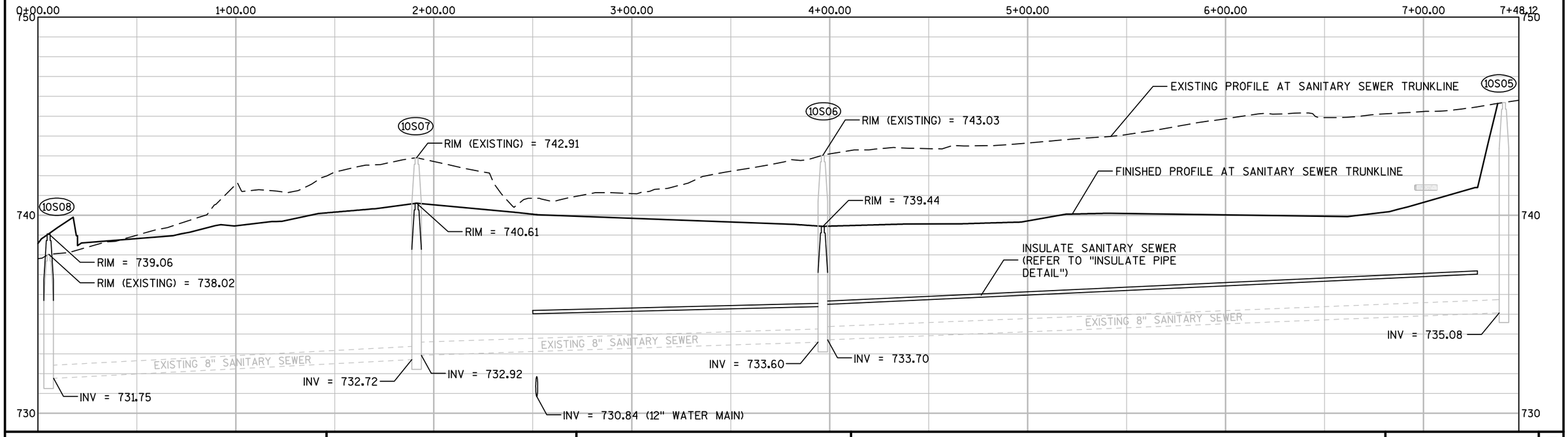




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORM SEWER - DPW SITE | SHEET 53 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SANITARY SEWER | SHEET 54 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PLAN AND PROFILE: EXISTING SANITARY SEWER PROFILE | SHEET 55 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\023003_UP_EXSAN.DWG
LAYOUT NAME - SHEET - (4)
PLOT DATE : 12/8/2014 12:15 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF
WISDOT/CADDS SHEET 44

## GENERAL NOTES:

SEE DETAIL SHEET FOR LIST OF GENERAL NOTES THAT PERTAIN TO THIS SHEET

12" WATER MAIN
STATION=5+15.98
X = 570920.44
Y = 303635.94

5+16

N35°55'32"W 12" WATER MAIN
STATION=4+95.33
X = 570932.56
Y = 303619.22

5+00

4+00

3+00

2+00

1+00

0+00

12" WATER MAIN
STATION=3+29.10
X = 570972.30
Y = 303457.81

HYDRANT #2
STATION=3+29.10
X = 570960.26
Y = 303454.84

CASTINGS & BLOCKS
BRIDGE RAIL & MISC
CULVERTS
SOUND WALLS
PALLETS
GM WALLS & STEEL PLATES
MISC STEEL
MISC
GUARDRAIL

N13°49'55"W

12" WATER MAIN
STATION=0+71.60
X = 571033.86
Y = 303207.78

SIGN POSTS & MISC 100'X30'
FENCE

HYDRANT #1
STATION=0+71.60
OFFSET=28.44L
X=571006.25
Y=303200.98

LIGHT POLES 175'X30'

12" WATER MAIN
STATION=0+42.87
X = 571040.73
Y = 303179.88

N04°41'02"E

12" WATER MAIN
STATION=0+37.15
X = 571040.27
Y = 303174.18

AUGER BITS

72' – 2"
COPPER WATER SERVICE

CONTRACTOR TO PROVIDE
CONTINUATION OF 2"
WATER SERVICE AT
5 FEET FROM BUILDING.
2" W IE 734.00

CONNECT 2" COPPER SERVICE
TO EXISTING 12" W.M.
CORPORATION STOP DIRECT TAP
CONTRACTOR SHALL VERIFY EXACT
LOCATION OF EXISTING WATER MAIN.
12" I.E. 731.87±
2" I.E. 732.37±

CONTRACTOR TO PROVIDE
CONTINUATION OF 2"
WATER SERVICE AT
5 FEET FROM BUILDING.
2" E IE 732.25

2" WATER SERVICE
X = 570530.57
Y = 302977.94

2" WATER SERVICE
X = 570545.15
Y = 302977.94

2" WATER SERVICE
X = 570548.16
Y = 302974.94

142 LF 2"
COPPER SERVICE
INSTALL CORPORATION STOP
AND 2" GATE VALVE

RELOCATE EXIST
HYDRANT
ABANDON VALVE
R.J. PLUG TEE

2" WATER SERVICE
X = 571040.66
Y = 303080.07

2" WATER SERVICE
X = 571112.92
Y = 303080.41

PROP 24" RCP
I.E. 729.97
2" WATER SERVICE
I.E. 732.91

EX. 8" SAN
I.E. 732.62
2" WATER SERVICE
I.E. 733.35

PROP. 15" RCP
I.E. 731.11
2" WATER SERVICE
I.E. 733.52

8" WATERMAIN
DEFLECTION
STATION=21+12.50
OFFSET=63.83ST

S89°59'49"E

MILWAUKEE COUNTY
INSTITUTIONS ZONE II

MILWAUKEE COUNTY
INSTITUTIONS ZONE III

GREGORY L. GOVERNATORI
E 36034
RACINE, WI
WISCONSIN
PROFESSIONAL ENGINEER

12-5-14

N

0 40 80
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

FORWARD 45

CITY OF WAUWATOSA, WISCONSIN
WATER UTILITY

# PROPOSED 2" WATER MAIN SERVICE

DEPARTMENT OF PUBLIC WORKS

FROM: DPW STORAGE YARD
TO:

REFERENCES:

CONTRACT:

SCALE: HORIZ.:1" = 40'
VERT.:1" = 4'

DRAWN BY: G.L.G.
CHECKED BY: B.W.J.

DATE: 12-09-2014
D. 56 14

SHEET 1 OF 5 SHEETS

FILE NO.

CONTRACTOR TO PROVIDE
CONTINUATION OF 2"
WATER SERVICE AT
5 FEET FROM BUILDING.
2" E IE 732.25

TO EXISTING 12" W.M.
CORPORATION STOP DIRECT TAP
CONTRACTOR SHALL VERIFY EXACT
LOCATION OF EXISTING WATER MAIN.
12" I.E. 731.87±
2" I.E. 732.37±

5 FEET FROM BUILDING.
2" W IE 734.00

## GENERAL NOTES:

SEE DETAIL SHEET FOR LIST OF GENERAL NOTES THAT PERTAIN TO THIS SHEET

2" WATER SERVICE
X = 570545.15
Y = 302977.94

2" WATER SERVICE
X = 570548.16
Y = 302974.94

142 LF 2"
COPPER SERVICE
INSTALL CORPORATION STOP
AND 2" GATE VALVE

RELOCATE EXIST
HYDRANT
ABANDON VALVE
R.J. PLUG TEE

PROP 24" RCP
I.E. 729.97
2" WATER SERVICE
I.E. 732.91

EX. 8" SAN
I.E. 732.62
2" WATER SERVICE
I.E. 733.35

PROP. 15" RCP
I.E. 731.11
2" WATER SERVICE
I.E. 733.52

8" WATERMAIN
DEFLECTION
STATION=21+12.50
OFFSET=63.83RT
X=570417.03
Y=302851.56

S89°59'49"E

8" WATERMAIN
STATION=20+62.50
OFFSET=63.71RT
X=570367.03
Y=302851.57

2" SERVICE
STATION=22+43.96
OFFSET=64.14RT
X=570548.49
Y=302851.57

8" WATERMAIN
A.T. 8"x6"
STATION=22+45.96
OFFSET=64.15RT
X=570550.49
Y=302851.57

ABANDON EXIST 8"
WATER MAIN

PROP. HYDRANT RELOCATION
A.T. 8"x6"
PLUG 8" EAST
STA 22+45.96NSR (64.15'RT)
V. 6"
HYD 7'-6" BURY DEPTH
STA 22+45.96NSR (8.49'LT)

PROP. HYDRANT
RELOCATION
A.T. 12"x6"
STA 27+38.75NSR (15.91'LT)
V. 6"
HYD 7'-6" BURY DEPTH
STA 27+47.26NSR (15.91'LT)

RELOCATE EXIST HYDRANT
ABANDON VALVE
R.J. PLUG TEE

REMOVE VALVE
R.J. PLUG TEE
CAP EXISTING
MAIN

REMOVE VALVE
R.J. PLUG TEE
CAP EXISTING
LATERAL

WISCONSIN
GREGORY L.
GOVERNATORI
E 36034
RACINE,
WI
PROFESSIONAL ENGINEER

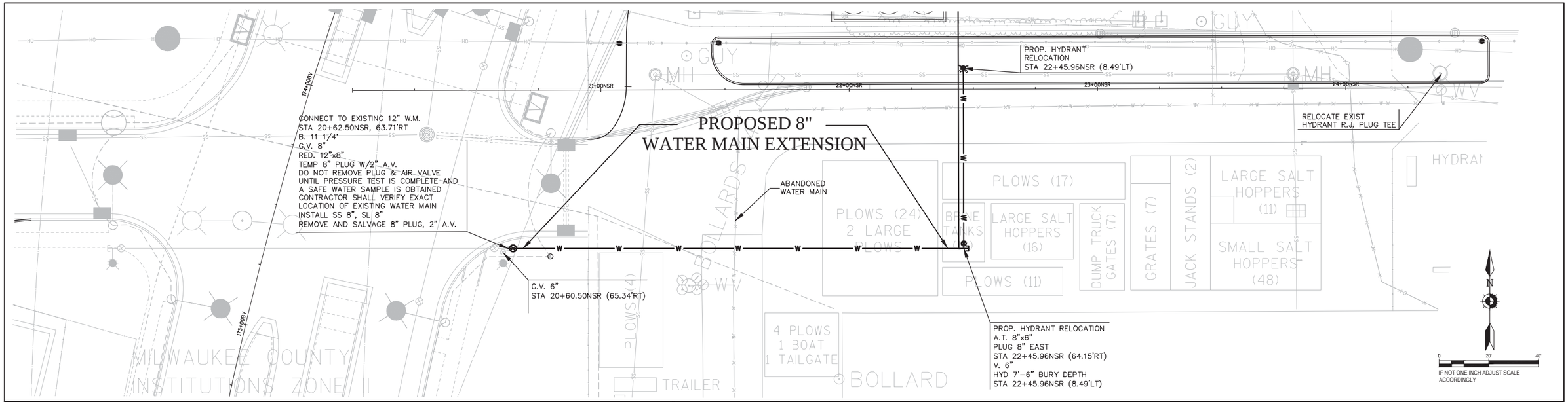
12-5-14

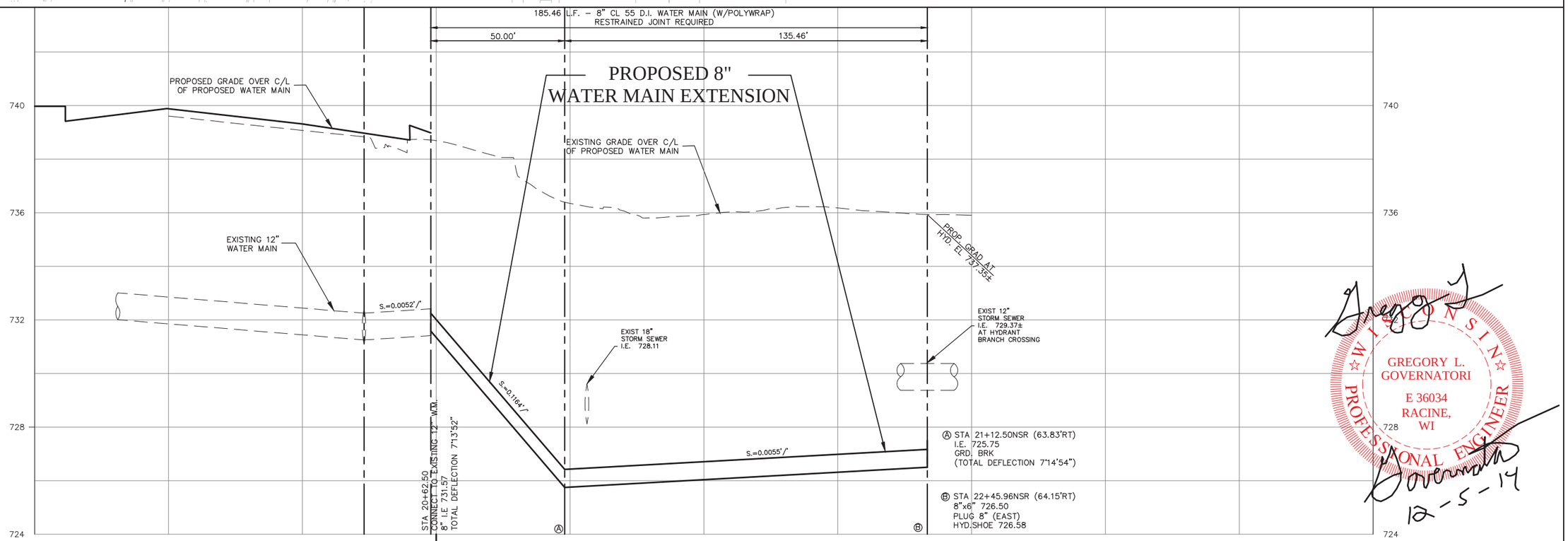
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| | |
|---|---|
| CITY OF WAUWATOSA, WISCONSIN<br>WATER UTILITY | |
| MISC. WATER MAIN ADJUSTMENTS<br>AND 2" WATER SERVICE (BRINE BUILDING) | |
| DEPARTMENT OF<br>PUBLIC WORKS | BRINE BUILDING AND GENERAL<br>FLEET MAINTENANCE BUILDING |
| REFERENCES: | CONTRACT: |
| SCALE: HORIZ.:1" = 40'<br>VERT.:1" = 4' | DRAWN BY: G.L.G.<br>CHECKED BY: B.W.J. |
| SHEET 2 OF 5 SHEETS | FILE NO. |

FORWARD 45
A JOINT VENTURE OF KAPUR, CRAM MILL AND SMITH

DATE: 12-09-2014
D. 57 14




IN ACCORDANCE WITH WISCONSIN STATUE 180.0175, DAMAGE TO TRANSMISSION FACILITIES, EXCAVATOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE ADVANCE NOTICE TO THE DESIGNATED "ONE CALL SYSTEM" NOT LESS THAN THREE WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION REQUIRED TO PERFORM WORK CONTAINED ON THIS DRAWING, AND FURTHER, EXCAVATOR SHALL COMPLY WITH ALL OTHER REQUIREMENTS OF THIS STATUE RELATIVE TO EXCAVATORS WORK.

## GENERAL NOTES:

SEE DETAIL SHEET FOR LIST OF GENERAL NOTES THAT PERTAIN TO THIS SHEET

FORWARD 45
A JOINT VENTURE OF KAPUR, GUHE HILL AND HNTB

WISCONSIN
GREGORY L. GOVERNATORI
E 36034
RACINE, WI
PROFESSIONAL ENGINEER
12-5-14

CITY OF WAUWATOSA, WISCONSIN
WATER UTILITY

# PROPOSED 8" WATER MAIN EXTENSION

| | | |
|---|---|---|
| DEPARTMENT OF PUBLIC WORKS | FROM: | 0+00 (DPW PROPERTY) |
| | TO: | 5+20 (DPW PROPERTY) |
| REFERENCES: | CONTRACT: | |
| SCALE: HORIZ.: 1" = 20' VERT.: 1" = 2' | DRAWN BY: G.L.G. CHECKED BY: B.W.J. | DATE: 12-20-2014 D. 58 14 |
| SHEET 3 OF 5 SHEETS | FILE NO. | |

# PROPOSED 12" WATER MAIN RELAY

ABANDON EXIST BF V.

EXIST SAN MH.
RIM 743.00
8" N 733.77
8" SE 733.57

ABANDON EXIST 12" WATER MAIN

PROTECTIVE BOLLARDS

PROP. HYD. #1
A.T. 12"x6" 730.92
STA 0+71.60, 0+00'LT
V. 6"
HYD. 7'-6" BURY DEPTH
STA 0+71.60, 28.45'LT

ABANDONED GAS/CABLE

ABANDONED WATER MAIN

ABANDONED ELECTRIC

CONNECT TO EXISTING 12" W.M.
NORTH OF EXISTING VALVE
STA 0+37.15, 0.00'RT
TEMP 12" PLUG W/2" A.V.
DO NOT REMOVE PLUG & AIR VALVE
UNTIL PRESSURE TEST IS COMPLETE AND
A SAFE WATER SAMPLE IS OBTAINED
CONTRACTOR SHALL VERIFY EXACT
LOCATION OF EXISTING WATER MAIN.
INSTALL SS 12", SL 12"
REMOVE AND SALVAGE 12" PLUG
2" A.V. TO REMAIN IN PLACE

CAP EXISTING 12" WATER MAIN

REMOVE EXIST HYDRANT & VALVE R.J. PLUG TEE

B. 12"x22.5'
TOTAL DEFLECTION 18°30'58"
STA 0+42.87

PROTECTIVE BOLLARDS

PROP. HYD. #2
A.T. 12"x6" 732.18
STA 3+29.10, 0+00'LT
V. 6"
HYD. 7'-6" BURY DEPTH
STA 03+29.10, 12.41'LT

ABANDON EXIST 12" WATER MAIN

CAP EXISTING 12" WATER MAIN

B. 12"x22.5'
TOTAL DEFLECTION 22°05'36"
STA 4+95.33

CONNECT TO EXISTING 16" W.M.
AT EXISTING 12" TEE
BF.V. 12"
STA 5+15.98, 0.00'RT
TEMP 12" PLUG W/2" A.V.
DO NOT REMOVE PLUG & AIR VALVE
UNTIL PRESSURE TEST IS COMPLETE AND
A SAFE WATER SAMPLE IS OBTAINED
CONTRACTOR SHALL VERIFY EXACT
LOCATION OF EXISTING WATER MAIN
INSTALL SS 12", SL 12"
REMOVE AND SALVAGE 12" PLUG, 2" A.V.

GREGORY L. GOVERNATORI
E 36034
RACINE, WI
PROFESSIONAL ENGINEER
WISCONSIN

12-5-14

0 20' 40'
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

478.83 L.F. – 12" CL 55 D.I. WATER MAIN (W/POLYWRAP)

5.72' | 2.60' | 10' | 16.14' | 257.50' | 166.23' | 17.65' | 3.00'

50 L.F. – RESTRAINED JOINT REQUIRED

25 L.F. – RESTRAINED JOINT REQUIRED

# PROPOSED 12" WATER MAIN RELAY

EXISTING GRADE OVER C/L OF PROPOSED WATER MAIN

PROPOSED GRADE OVER C/L OF PROPOSED WATER MAIN

PROP. GRAD. AT HYD. EL 739.75±

PROP. GRAD. AT HYD. EL 740.47±

EXISTING 12" WATER MAIN

EXISTING 12" WATER MAIN

EXISTING 16" WATER MAIN I.E 737.94

S.=0.2900'/

EXISTING 12" WATER MAIN

EXIST 8" SANITARY SEWER I.E. 733.32

S.=0.00'/

S.=0.00'/

S.=0.619'/

S.=0.0051'/

Ⓐ STA 0+37.15
CONNECT TO EXISTING 12" W.M.
12" I.E 732.45

Ⓑ STA 0+42.87
B. 12"x22.5' (HORZ)
B. 12"x45' (VERT)
A.V. 2"
12" I.E. 732.45

Ⓒ STA 0+45.46
B. 12"x45' (VERT)
12" I.E. 730.84

Ⓓ STA 0+55.46
DEFLECTION (VERT)
DEFLECTION 00°17'32"
12" I.E. 730.84

STA 0+71.60
A.T. 12"x6" 730.92
HYD.SHOE 731.17

STA 3+29.10
A.T. 12"x6" 732.15
HYD.SHOE 732.40

Ⓔ STA 4+95.33
B 22 1/2° (HORZ)
B 22 1/2° (VERT)
I.E 733.00

Ⓕ STA 5+12.98
B 22 1/2° (VERT)
BF.V
I.E 738.12±

Ⓖ STA 5+15.98
REMOVE 12" PLUG
CONNECT TO EXISTING W.M.
738.12±

746 744 742 740 738 736 734 732 730 728

IN ACCORDANCE WITH WISCONSIN STATUE 180.0175, DAMAGE TO TRANSMISSION FACILITIES, EXCAVATOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE ADVANCE NOTICE TO THE DESIGNATED "ONE CALL SYSTEM" NOT LESS THAN THREE WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION REQUIRED TO PERFORM WORK CONTAINED ON THIS DRAWING, AND FURTHER, EXCAVATOR SHALL COMPLY WITH ALL OTHER REQUIREMENTS OF THIS STATUE RELATIVE TO EXCAVATORS WORK.

## GENERAL NOTES:

SEE DETAIL SHEET FOR LIST OF GENERAL NOTES THAT PERTAIN TO THIS SHEET

FORWARD 45
A JOINT VENTURE OF RAPID, GRAM HILL AND HOTA

CITY OF WAUWATOSA, WISCONSIN
WATER UTILITY

PROPOSED 12" WATER MAIN RELAY

DEPARTMENT OF PUBLIC WORKS

FROM: 0+00 (DPW PROPERTY)
TO: 5+20 (DPW PROPERTY)

REFERENCES:
CONTRACT:

SCALE: HORIZ.:1" = 20'
VERT.:1" = 2'

DRAWN BY: G.L.G.
CHECKED BY: B.W.J.

DATE: 12-09-2014

SHEET 4 OF 5 SHEETS

FILE NO.

D 59 14

## GENERAL NOTES

1. CONTRACTOR SHALL EXPOSE EXISTING WATER MAIN AT ALL LOCATIONS PRIOR TO START OF CONSTRUCTION TO VERIFY EXACT LOCATION AND INVERT OF EXISTING WATER MAIN. ANY DISCREPANCIES SHALL BE REPORTED TO ENGINEER TO ALLOW DESIGN MODIFICATIONS AS REQUIRED. WATER MAIN RELAY SHALL BE A MINIMUM 2 FEET AWAY FROM EXISTING MAIN AS LOCATED IN THE FIELD. ELEVATIONS OF EXISTING WATER MAIN BETWEEN CONNECTION POINTS ARE APPROXIMATE BASED ON BEST AVAILABLE RECORDS. ANY DIFFERENCES BETWEEN EITHER LOCATION OR DEPTH OF EXISTING WATER MAIN SHALL BE MODIFIED IN THE FIELD, AND ANY CHANGES IN ELEVATION AND LOCATION SHALL BE INCIDENTAL TO WATER MAIN PRICE.

2. EXISTING STORM SEWER AND SANITARY MAIN LINE CROSSINGS HAVE BEEN SHOWN IN THE PROFILE ALONG THE MAIN BASED ON BEST AVAILABLE RECORDS. ELECTRIC, TELEPHONE, GAS, STREET LIGHTING, WATER AND SANITARY SERVICES ARE SHOWN IN PLAN VIEW. BUT NOT PROFILE VIEW, BASED ON BEST AVAILABLE RECORDS. CONTRACTOR SHALL LOCATE SERVICES IN THE FIELD AND LOCATION AND CROSSING OF THESE SERVICES ARE INCIDENTAL TO WATER MAIN PRICE.

3. LOCATION OF PROPOSED WATER LATERALS ON PLANS ARE APPROXIMATE. FINAL LOCATION OF LATERALS SHALL BE DETERMINED IN THE FIELD AND SHALL BE INCIDENTAL TO CONTRACT PRICE. ANY DAMAGE TO EXISTING SANITARY SERVICES DURING CONSTRUCTION SHALL BE REPAIRED AND IS INCIDENTAL TO WATER MAIN.

4. THE CONTRACTOR IS TO EXERCISE GREAT CARE WHEN WORKING IN THE VICINITY OF THE EXISTING WATER MAIN. ALL COST OF REPAIRING THE PROPOSED AND/OR EXISTING WATER MAIN SHALL BE INCLUDED IN THE PRICE BID OF WATER MAIN ITEMS.

5. CONTRACTOR SHALL BULKHEAD ALL HYDRANT DRAINS THAT CONNECT TO EXISTING SEWERS.

6. RIGHT OF WAY, PROPERTY LINE, WATER SERVICE, SANITARY LATERAL, BURIED CONDUIT, BURIED ELECTRICAL, WATER MAINS, & STORM SEWER INFORMATION WAS PROVIDED BY THE CITY AND IS APPROXIMATE ONLY.

7. ALL WATER MAIN ELEVATIONS ON PLANS ARE INVERT ELEVATIONS. STATIONING OF WATER MAIN IS OFF THE CENTER OFF PROPOSED WATER MAIN.

8. All WATER MAIN, SERVICES, EXCAVATION PITS, AND HYDRANT LEADS SHALL HAVE CRUSHED CONCRETE BACKFILL.

9. CONTRACTOR SHALL SUPPORT ALL EXISTING UTILITIES & STRUCTURES.

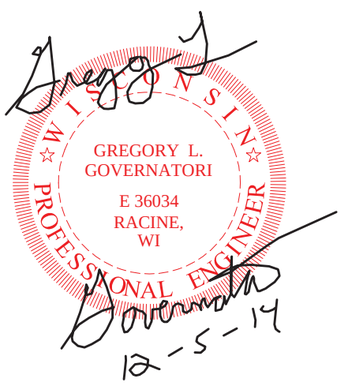
10. ABANDONING THE EXISTING WATER MAIN, HYDRANT, VALVES, SERVICES, SERVICES BOXES, (MAINLINE & AUXILIARY VALVES FOR HYDRANTS) SHALL BE INCLUDED IN NEW PIPE COSTS. BACKFILL AND ALL RESTORATION INVOLVED WITH ABANDONMENT SHALL BE INCLUDED.

11. CONTRACTOR SHALL NOTIFY ALL EFFECTED CUSTOMERS OF UNSCHEDULED WATER SHUT-OFFS. CITY TO APPROVE WORDING OF NOTICES.

12. CONTRACTOR TO PROVIDE 2 WORKING DAYS ADVANCE NOTICE OF SCHEDULED WATER SERVICE SHUT-OFFS TO WATER UTILITY.

13. ALL WATER MAIN, VALVES, HYDRANTS, AND FITTINGS SHALL HAVE POLYWRAP.

14. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 3" SAND BEDDING AND COVER AROUND INTERCONNECT CABLE, DUCT OR CONDUIT WHEREVER IT IS EXPOSED.




## BID ITEM DESCRI PTION

**DUCTILE IRON (DI) CLASS 55 WATER MAIN, 12 - INCH**
LINEAR FEET OF 12-INCH DIAMETER, D.I.P. WATER MAIN CLASS 55 WITH POLYWRAP, SAND BEDDING AND COVER, CRUSHED CONCRETE BACKFILL, FLUSHING TESTING AND SAMPLING, INCLUDING ABANDONING EXISTING WATER MAIN W/ R.J. CAP.

**DUCTILE IRON (DI) CLASS 55 WATER MAIN, 8 - INCH**
LINEAR FEET OF 8-INCH DIAMETER, D.I.P. WATER MAIN CLASS 55 WITH POLYWRAP, SAND BEDDING AND COVER, CRUSHED CONCRETE BACKFILL, FLUSHING TESTING AND SAMPLING, INCLUDING ABANDONING EXISTING WATER MAIN W/ R.J. CAP.

**BUTTERFLY VALVE, 12 - INCH**
EACH 12-INCH MJ BUTTERFLY GATE VALVE WITH ADAPTOR, POLYWRAP, ROADWAY BOX, AND COVER, INCLUDING CRUSHED CONCRETE BACKFILL.

**RESILIENT WEDGE GATE VALVE, 8-INCH**
EACH 8-INCH MJ RESILIENT WEDGE GATE VALVE WITH ADAPTOR, POLYWRAP, ROADWAY BOX, AND COVER, INCLUDING CRUSHED CONCRETE BACKFILL.

**RESILIENT WEDGE GATE VALVE, 6-INCH**
EACH 6-INCH MJ RESILIENT WEDGE GATE VALVE WITH ADAPTOR, POLYWRAP, ROADWAY BOX, AND COVER, INCLUDING CRUSHED CONCRETE BACKFILL.

**HYDRANT ASSEMBLY**
EACH HYDRANT FURNISHED AND INSTALLED WITH MEGALUGS AND RESTRAINED JOINTS, MJ RESILIENT WEDGE GATE VALVE, POLYWRAP, ROADWAY BOX AND COVER, RESTRAINED JOINT 6-INCH DIAMETER DUCTILE IRON, CLASS 55 WATER MAIN, FLUSHING TESTING AND SAMPLING , INCLUDING CRUSHED CONCRETE BACKFILL.

**HYDRANT ASSEMBLY RELOCATION**
EACH HYDRANT RELOCATION INCLUDING REMOVING EXISTING HYDRANTS, VALVES, AND PIPE AS NEEDED, FURNISHING AND INSTALLING NEW OR REINSTALLING EXISTING HYDRANT, 6" M.J. GATE VALVE, FITTINGS, SLEEVES, 6" D.I. R.J. CLASS 55 WATER MAIN PIPE. FLUSHING, TESTING AND SAMPLING, EXCAVATION, AND CRUSHED CONCRETE BACKFILL.

**AIR RELEASE VALVE, 2 - INCH**
EACH AIR RELEASE VALVE FURNISHED AND INSTALLED WITH HOUSING AND COVER. INCLUDING CRUSHED CONCRETE BACKFILL

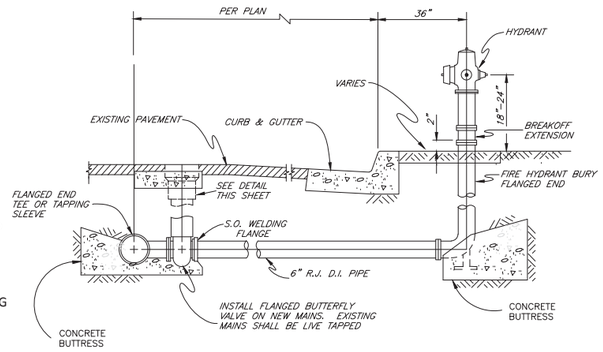
**ABANDON VALVE BOXES**
EACH VALVE BOX ABANDONMENT INCLUDING REMOVING BOX, BASE SECTION, VALVES AS SPECIFIED, AND PIPE AS NEEDED. EXCAVATION, CAPPING, BULKHEADING AND CRUSHED STONE BACKFILL AS DETAILED ON PLANS.

**ADJUSTING VALVE BOXES**
EACH VALVE BOX ADJUSTMENT TO PROPOSED ELEVATION, INCLUDING CLEAN-OUT, EXCAVATION, ADJUSTING, BACKFILL AND RESTORATION

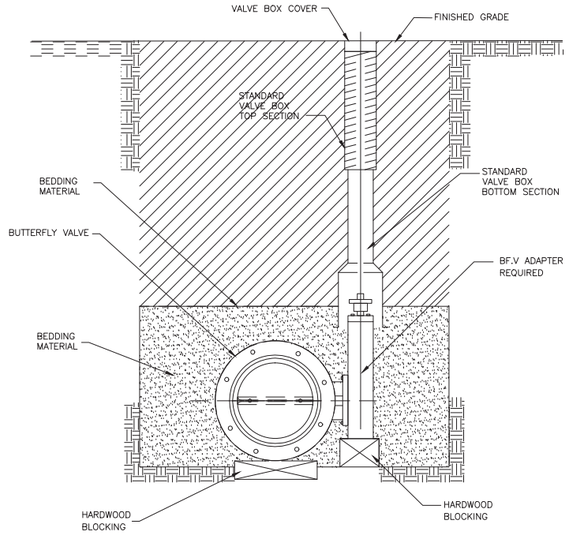
**REMOVING HYDRANT**
EACH HYDRANT REMOVAL INCLUDING REMOVING EXISTING HYDRANT, VALVE AND BOX, AND PIPE AS NEEDED. EXCAVATION, CAPPING, BULKHEADING AND CRUSHED STONE BACKFILL AS DETAILED ON PLANS.

**COPPER WATER SERVICE, 2 - INCH**
LINEAR FEET OF 2-INCH TYPE K" COPPER WATER SERVICE, INCLUDING CONNECTIONS, WET TAP, DRY THREADING, SADDLE AND ALL OTHER MATERIALS, EXCAVATION, CRUSHED CONCRETE BACKFILL, AND CONNECTION TO EXISTING.

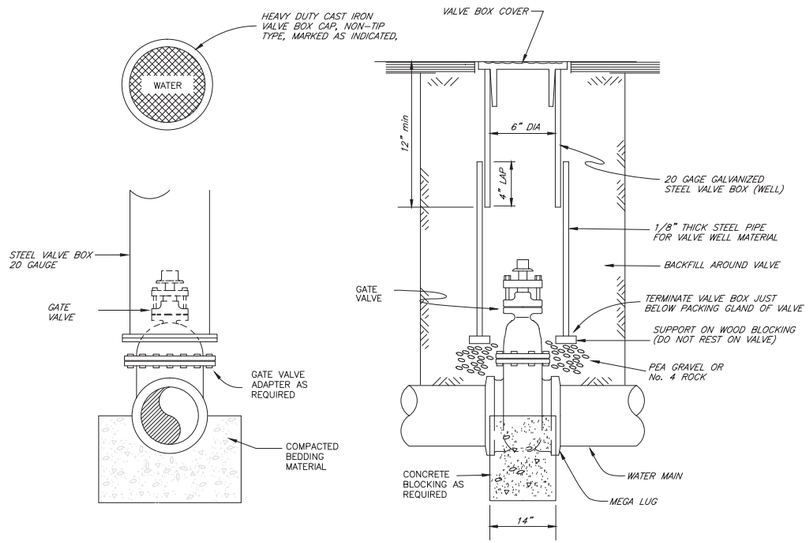
**CUT AND CAP WATER MAI N**
EACH CUT & CAP FURNISHED AND INSTALLED WITH RESTRAINED JOINT CAP, EXCAVATION, AND ALL OTHER MATERIALS INCLUDING CRUSHED CONCRETE BACKFILL.



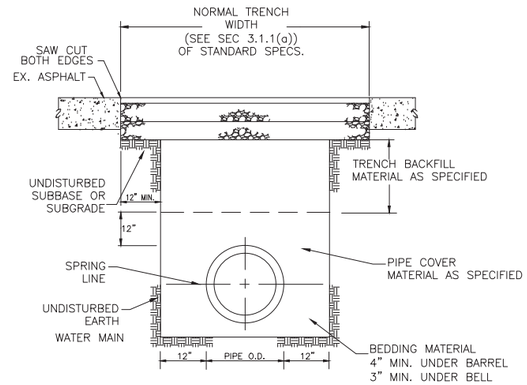

FIRE HYDRANT SETTING DETAIL
N.T.S.




STANDARD BUTTERFLY VALVE DETAIL
N.T.S.




STANDARD GATE VALVE BOX SETTING
N.T.S.




WATER MAIN TRENCH DETAIL
N.T.S.

FORWARD 45
A JOINT VENTURE OF KAPUR, GOSE HILL AND SMITH

CITY OF WAUWATOSA, WISCONSIN
WATER UTILITY

# DETAILS AND GENERAL NOTES

DEPARTMENT OF PUBLIC WORKS — FROM: TO:

REFERENCES: CONTRACT:

SCALE: HORIZ.: 1" = 20' VERT.: 1" = 2' DRAWN BY: G.L.G. CHECKED BY: B.W.J. DATE: 12-09-2014

SHEET 5 OF 5 SHEETS FILE NO. D. 60 14

2

STA. 55ESR+68, 37.5' RT
ADJUST SANITARY MANHOLE
PROP. RIM ELEV. = 735.0±

STA. 55ESR+07, 0.5' LT
ADJUST VALVE BOX
PROP. ELEV. = 734.3±

STA. 55ESR+07, 6.8' RT
ADJUST HYDRANT
PROP. FLANGE ELEV. = 735.6±

STA. 53ESR+70, 2.9' LT
ADJUST VALVE BOX
PROP. ELEV. = 734.7±

STA. 53ESR+58, 4.7' LT
ADJUST VALVE BOX
PROP. ELEV. = 734.8±

STA. 53ESR+33, 3.6' LT
ADJUST VALVE BOX
PROP. ELEV. = 734.9±

STA. 53ESR+22, 6.1' RT
ADJUST VALVE BOX
PROP. ELEV. = 734.9±

STA. 53ESR+32, 2.4' LT
ADJUST VALVE BOX
PROP. ELEV. = 734.9±

STA. 53ESR+12, 14.5' LT
ADJUST SANITARY
MANHOLE
PROP. RIM ELEV. = 735.2±

STA. 53ESR+14, 41.0' RT
RECONSTRUCT SANITARY MANHOLE
PROP. RIM ELEV. = 735.2±

STA. 53ESR+02, 6.1' RT
ADJUST VALVE BOX
PROP. ELEV. = 735.4±

STA. 52ESR+73, 5.2' RT
ADJUST VALVE BOX
PROP. ELEV. = 735.1±

STA. 27NSR+39, 1.6' RT
ADJUST VALVE BOX
PROP. ELEV. = 735.7±

STA. 27NSR+36, 6.5' RT
ADJUST VALVE BOX
PROP. ELEV. = 735.8±

STA. 27NSR+37, 11.7' RT
ADJUST VALVE BOX
PROP. ELEV. = 735.8±

STA. 27NSR+80, 44.3' LT
RECONSTRUCT SANITARY MANHOLE
PROP. RIM ELEV. = 739.1±

STA. 21NSR+22, 6.1' LT
RECONSTRUCTING MANHOLES
PROP. RIM ELEV. = 737.6±

STA. 26NSR+27, 366.2' LT
RECONSTRUCT SANITARY MANHOLE
PROP. RIM ELEV. = 739.4±

STA. 27NSR+81, 230.1' LT
RECONSTRUCT SANITARY MANHOLE
PROP. RIM ELEV. = 740.6±

STA. 24NSR+38, 5.9' LT
ADJUST HYDRANT
PROP. FLANGE ELEV. = 737.1±

EAST SERVICE ROAD
NORTH SERVICE ROAD
SWAN BOULEVARD
SLIDING GATE
BIKE RACKS
DEWATERING BASIN
SALT BRINE
STORAGE BUILDING 2
CONVEYOR
PIT
TEMPORARY SHED
CONCRETE
ASPHALT

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | UTILITY ADJUSTMENTS | SHEET 61 E |
|---|---|---|---|---|

2

N

PRIVATE DRIVE

WATERTOWN PLANK ROAD

SWAN BOULEVARD

UNDERWOOD PARKWAY

8' FENCE W/ BARBED WIRE

6' CHAIN LINK FENCE

ASPHALT

GRAVEL

SHED

BASE AGG

ASPH MILLINGS

PEA GRAVEL

SAND

SWEEPINGS

WOOD

TRASH

DEADMEN WALL (TYP)

1+00PR 2+00PR 3+00PR 4+00PR 5+00PR 6+00PR 7+00PR 8+00PR

167+00BV 168+00BV 169+00BV 170+00BV 171+00BV

4+00 5+00 10+00RND 11+00RND 12+00RND 22+00UDE 22+00UDW 23+00UDE 224+00UDE 225+00UDE 226+00UDE

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | EXISTING UTILITIES | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\023001_UP.DWG PLOT DATE : 10/29/2014 2:31 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF

2

N

SWAN BOULEVARD

167+00BV
168+00BV
169+00BV
170+00BV
171+00BV
172+00BV
173+00BV
174+00BV

226+00UDE
227+00UDE
228+00UDE
229+00UDE

20+00NSR
21+00NSR
22+00NSR
23+00NSR

SS
W
HO
OH
G
T
SAN
FO
E
M
INL
MH
WV
GV
HW

ASPHALT
CONCRETE
CONCRETE SLOPE PAVING
BOLLARDS (4)
BOLLARD
8' FENCE W/ BARBED WIRE
TRASH
MEN WALL (TYP)
CANOPY
POST

WATERTOWN PLANK ROAD

CENTRAL FLEET
MAINTENANCE BUILDING

2

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | EXISTING UTILITIES | SHEET 63 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\023001_UP.DWG
LAYOUT NAME - 05015

PLOT DATE : 10/29/2014 2:32 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42

CENTRAL FLEET
MAINTENANCE BUILDING

N

51+00ESR
52+00ESR
53+00ESR
54+00ESR
55+00ESR
56+00ESR
57+00ESR
26+00NSR
27+00NSR
28+00NSR
29+00NSR
166+50WD
167+00WD
770+00WD
771+00WD
772+00WD
773+00WD
774+00WD
772+00WG
773+00WG
774+00WG

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD WB ON RAMP
USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD EB ON RAMP
WATERTOWN PLANK ROAD

ASPHALT
CONCRETE
GRAVEL
INL
6' FENCE
4' FENCE
BRINE TANKS
BRINE TANK (TYP)
CONCRETE BARRIER (TYP)
TEMPORARY SALT STORAGE BUILDING
SHED
SPRAYER LOOP
PICNIC TABLE
COMMUNICATION VAULT
DOOR (TYP)
CONC PAD WITH EQUIPMENT BACKUP GENERATOR
DUMPSTER
BIKE RACK
COVERED PICNIC TABLE
PAVERS
DELINEATORS (2)
ROCK (TYP)
CURB STOP (TYP)
PRECAST CONCRETE BARRIER (TYP)

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | EXISTING UTILITIES | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\023001_UP.DWG PLOT DATE : 10/29/2014 7:56 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF

2

N

177+00BV
178+00BV
179+00BV
180+00BV
181+00BV
182+00BV
13+00XFN
14+00XFN
15+00XFN
16+00XFN
21+00NSR
22+00NSR
23+00NSR
24+00NSR
25+00NSR
28+00UDE
229+00UDE

WLC ACCESS
SWAN BOULEVARD
BOLLARDS (4)
CONCRETE
ASPHALT
CONCRETE SLOPE PAVING
GUY
MH
HH
GV
WV
SAN
SS
W
E
C
T
M
HO
OH
6' FENCE
SAND
SAND
TEMPORARY SHED
COLD PATCH

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | EXISTING UTILITIES | SHEET 65 | E |
|---|---|---|---|---|---|

2

N

ASPHALT

CONCRETE PATCH

12" CMP

SIGN

GRAVEL ENTRANCE

6' FENCE

BUILDING

SWAN BOULEVARD

USH 45 SB OFF RAMP/WATERTOWN PLANK ON RAMP

USH 45 SB

USH 45 NB

MH

WV

SS

SAN

W

E

G

D

184+00BV

185+00

782+00WG

781+00WG

780+00WG

779+00WG

778+00WG

777+00WD

777+00WG

776+00WD

776+00WG

775+00WD

775+00WG

381+00NS

380+00NS

379+00NS

378+00NS

## Master Plant Schedule

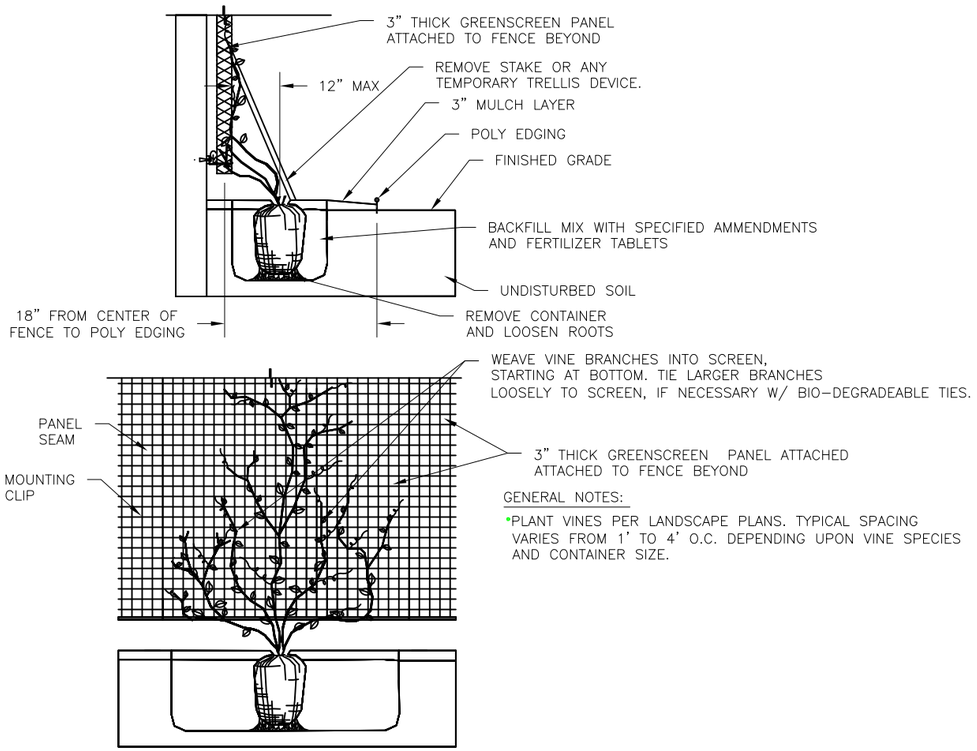
| | Scientific Name | Common Name | Quantity | Spacing | Size | Size |
|---|---|---|---|---|---|---|
| | | | | | Install | Maturity in ft. (Height/Spread) |
| **Deciduous Trees** | | | | | | |
| BO | Quercus macrocarpa | Bur Oak | 18 | Per Plan | 3" caliper B&B | 75'/75' |
| CH | Celtis occidentalis | Common Hackberry | 6 | Per Plan | 3" caliper B&B | 40-60'/40-60' |
| CM | Acer x freemanii 'Celzam' | Celebration Maple | 21 | Per Plan | 3" caliper B&B | 45-50'/20-25' |
| ECT | Gymnocladus dioicus 'Espresso' | Espresso Coffeetree | 36 | Per Plan | 3" caliper B&B | 50'/35' |
| LP | Plantanus occidentalis | London Plane Tree | 12 | Per Plan | 3" caliper B&B | 60'/60' |
| SM | Acer saccharum | Sugar Maple | 3 | Per Plan | 3" caliper B&B | 50-75'/50' |
| SWO | Quercus bicolor | Swamp White Oak | 13 | Per Plan | 3" caliper B&B | 75'/65' |
| VFE | Ulmus americana 'Valley Forge' | Valley Forge Elm | 9 | Per Plan | 3" caliper B&B | 45'/40-60' |
| | | | | | | |
| **Ornamental Trees** | | | | | | |
| AC | Malus 'Adirondak' | Adirondak Carbapple | 6 | Per Plan | 3" caliper B&B | 20'/12' |
| CD | Cornus mas | Corneliancherry Dogwood: Tree Form | 8 | Per Plan | 3" caliper B&B | 20-25'/10-15' |
| RHS | Amelanchier x grandiflora 'Robin Hill' | Robin Hill Serivceberry: multi-stem | 26 | Per Plan | 3" caliper B&B | 20-25'/10-15' |
| WKH | Crataegus viridis 'Winter King' | Winter King Hawthorn | 14 | Per Plan | 3" caliper B&B | 20-30'/20-30' |
| | | | | | | |
| **Evergreen Trees** | | | | | | |
| BHS | Picea glauca var. depressa | Black Hills Spruce | 18 | Per Plan | 5' tall B&B | 20-40'/15-25' |
| ERC | Juniperus virginiana | Eastern Redcedar | 40 | Per Plan | 5' tall B&B | 30-40'/8-20' |
| | | | | | | |
| **Deciduous Shrubs** | | | | | | |
| BMV | Viburnum dentatum 'J.N. Select' | Blue Muffin Arrowwood Viburnum | 3 | Per Plan | #2 cont. | 5-7'/5-7' |
| DBH | Diervilla lonicera | Dwarf Bush-honeysuckle | 9 | Per Plan | #2 cont. | 3-4'/5' |
| DNB | Physocarpa opuliflius 'Monlo' | Diablo Ninebark | 4 | Per Plan | #2 cont. | 5-7'/5-7' |
| GBC | Aronia melanocarpa var. elata | Glossy Black Chokeberry | 21 | Per Plan | #2 cont. | 5-6'/4-5' |
| GLS | Rhus aromatica 'Gro-low' | Gro-low Sumac | 65 | Per Plan | #2 cont. | 3'/6-8' |
| ICC | Symphoricarpos orbiculatus | Indiancurrant Coralberry | 85 | Per Plan | #2 cont. | 2-3'/4-6' |
| | | | | | | |
| **Deciduous Vines** | | | | | | |
| ABV | Celustrus scandens | American Bittersweet Vine | 43 | 4' o.c. | #2 cont. | |
| LHV | Lonicera dioica | Limber Honeysuckle | 45 | 4' o.c. | #2 cont. | |

NOTE: Contractor is responsible for verifying plant count from plan. Plan quantities take precedence over list.

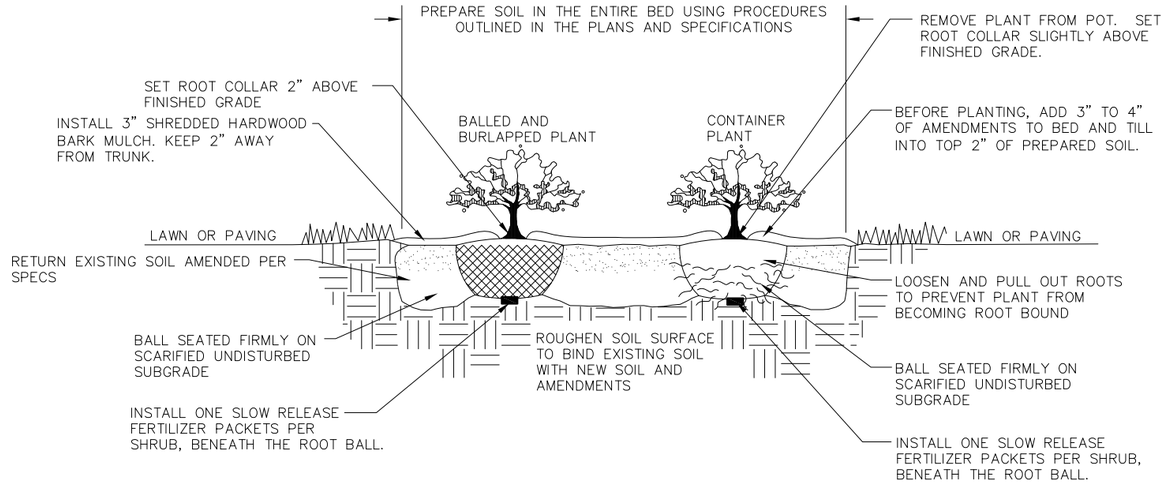
1 MASTER LANDSCAPE SCHEDULE
REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION

1. CONTRACTOR TO PROVIDE SAMPLE TO THE ENGINEER OF ALL BARK AND MINERAL/STONE MULCHES, DECORATIVE GRAVELS, MAINTENANCE STRIP STONE, OR OTHER GROUND COVER MATERIALS FOR APPROVAL PRIOR TO INSTALLATION.
2. ALL PLANTING AREAS TO RECEIVE A 3–INCH THICK LAYER OF HARDWOOD SHREDDED BARK MULCH OVER WEED FABRIC WITH POLY EDGING EXPECT BETWEEN PARKING LOT AND FENCE/EDGING ALONG THE WEST PROPERTY LINE OF THE PARK N RIDE AS NOTED ON PLAN. EDGING TO BE INSTALLED BETWEEN DIFFERENT TYPES OF MULCHES, BETWEEN MULCHES AND TURF, AND/OR WHERE SPECIFICALLY NOTED ON THE PLAN.
3. INSTALL SHOVEL CUT EDGE AROUND ALL INDIVIDUAL TREES AND SHRUBS IN LAWN AREAS AND ALONG PAVEMENT WHERE PLANTING AREAS ABUT TO PREVENT HARDWOOD SHREDDED BARK MULCH FROM SPILLING OUT OF PLANTING AREA. SHOVEL CUT EDGE IS INCIDENTAL TO TREE AND SHRUB PLANTING.
4. CLEANLY PRUNE AND REMOVE DAMAGED BRANCHES, DEAD WOOD, AND ROOTS IMMEDIATELY PRIOR TO PLANTING. DO NOT CUT LEADERS OR LEAVE "V" CROTCHES OR DOUBLE LEADERS UNLESS A MULTI–STEM TREE IS SPECIFIED. ADDITIONAL PRUNING SHOULD BE ONLY FOR SHAPING PURPOSES.
5. REMOVE BURLAP, WIRE BASKET, ROPE, TWINE, AND ALL SYNTHETIC MATERIAL FROM THE ROOTS, TRUNK, OR CROWN OF PLANT.
6. REMOVE EXCESS SOIL ABOVE ROOT COLLAR.
7. PLANT TREES AND SHRUBS SO THAT THE ROOT COLLAR IS 2" ABOVE FINISHED GRADE OR SEVERAL INCHES ABOVE GRADE IF PLANT IS INSTALLED IN POOR SOILS.
8. PLANT TREES AND SHRUBS WITH SAME ORIENTATION AS WHEN HARVESTED FROM THE NURSERY OR TO SHOWCASE THE MOST AESTHETIC VIEW.
9. PLANT ALL TREES WITH THREE SLOW RELEASE FERTILIZER PACKETS, SPACED EQUIDISTANT AROUND THE EDGE OF THE ROOT BALL.
10. PLANT ALL SHRUBS WITH ONE SLOW RELEASE FERTILIZER PACKET, PLACED BELOW THE ROOTING SYSTEM.
11. WATER AND TAMP BACKFILL AND ROOTS OF ALL NEWLY SET PLANT MATERIAL SO THE SOIL AND ROOTS ARE THOROUGHLY SOAKED AND AIR POCKETS ARE REMOVED.
12. FOR INDIVIDUAL TREES & SHRUBS PLANTED IN TURF AREAS, PROVIDE CONTINUOUS 3" SOIL SAUCER TO CONTAIN WATER & MULCH (TREES ON SLOPES SHALL BE SAUCERED ON THE DOWNHILL SIDE).
13. INSTALL 3" THICK SHREDDED HARDWOOD BARK MULCH RING 3'–0" DIA. FOR DECIDUOUS TREES AND ALL INDIVIDUAL SHRUBS IN LAWN AREAS, 5'–0" DIA. FOR EVERGREEN TREES. KEEP MULCH 2" AWAY FROM TRUNKS.
14. FOR ALL INDIVIDUAL TREE AND SHRUBS IN LAWN/NO MOW AREAS, INSTALL SHOVEL CUT EDGING. DO NOT INSTALL POLY EDGING.
15. STAKING – ONLY STAKE EVERGREEN TREES 5'–0" OR GREATER IN HEIGHT OR TREES THAT ARE UNABLE TO REMAIN UPRIGHT AFTER PLANTING. TREES WILL BECOME STRONGER FASTER WHEN THE TOP 2/3 OF THE TREE IS FREE TO SWAY. ATTACH WIRE TO THREE STAKES POSITIONED EVENLY AROUND THE TREE. STAKES SHOULD BE DRIVEN DEEPLY INTO THE GROUND TO PREVENT DISLODGING. CHECK AT LEAST EVERY THREE MONTHS FOR BINDING OR OTHER PROBLEMS. STAKES AND TIES SHOULD BE REMOVED SIX MONTHS TO ONE YEAR AFTER PLANTING. STAKING IS INCIDENTAL TO TREE AND SHRUB PLANTING.
16. SHREDDED BARK MULCH, WEED FABRIC AND PRE–EMERGENT HERBICIDE ARE INCIDENTAL TO TREE AND SHRUB PLANTING.
17. CONTRACTOR SHALL MARK ALL PLANT LOCATIONS. PLANTING SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.
18. ALL GREEN SCREEN FENCES IN OPEN NO MOW AREA SHALL HAVE POLY EDGING, INSTALLED 18–INCHES OFF FENCE LINE WITH HARDWOOD SHREDDED BARK MULCH, 3" THICK OVER WEED FABRIC WITH PRE–EMERGENT HERBICIDE. PLANT VINES 4–FEET O.C., 4 TO 6–INCHES OFF GREEN SCREEN FENCE.
19. INSTALL POLY EDGING ALONG FENCE WHEN ABUTTING PLANTING BEDS AND SEPARATE MULCHES. POLY EDGING TO BE 1'–0" FROM CENTER OF DECORATIVE STEEL FENCE.
20. INSTALL 1–2" RIVER STONE, 3" THICK OVER WEED FABRIC BETWEEN PARKING LOT AND FENCE/EDGING ALONG THE WEST PROPERTY LINE PROPERTY LINE OF THE PARK N RIDE AS NOTED ON PLAN.
21. DO NOT PLANT VINES ON GABION PILLARS.
22. NO MOW AREAS TO BE NO MOW FESCUE GRASS SEED MIX.
23. ALL AREAS THAT ARE OUTSIDE OF PLANTING BEDS DISTURBED DURING CONSTRUCTION AND/OR TREE PLANTING SHALL BE RESTORED AND SEEDED WITH NO MOW FESCUE GRASS SEED MIX.

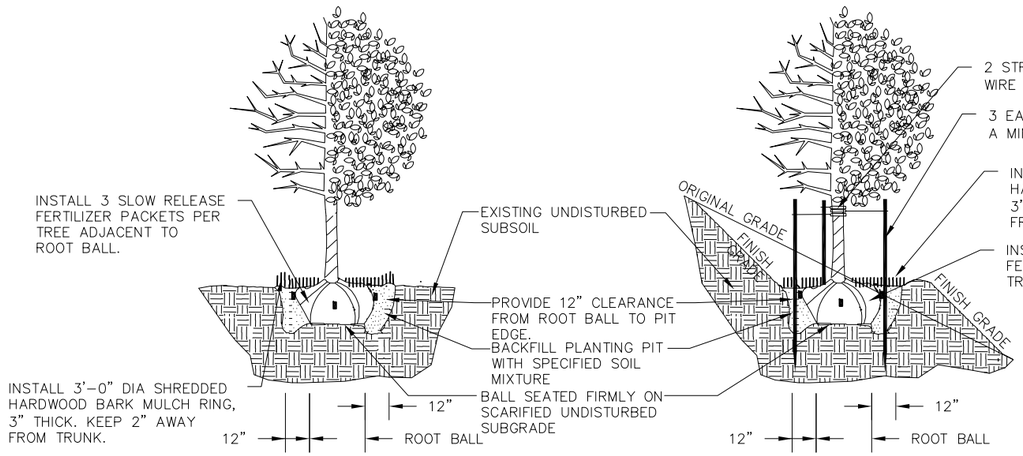
2 LANDSCAPE NOTES
REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION



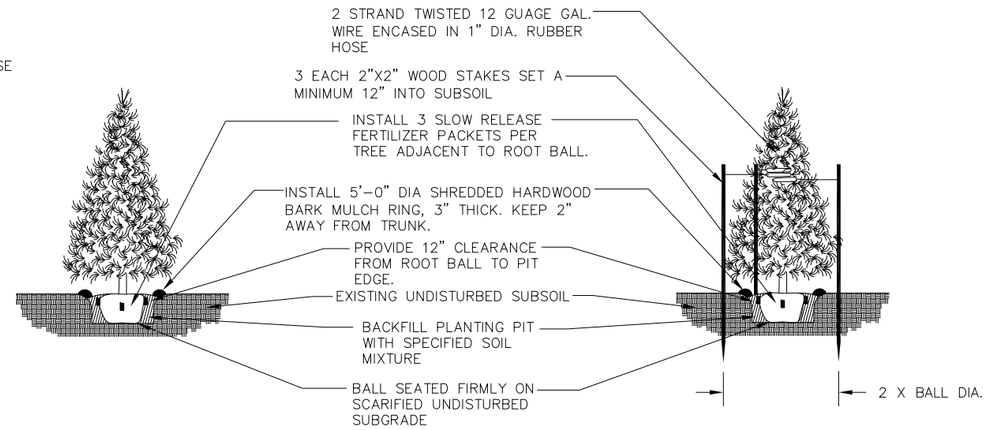

3 VINE PLANTING AND POLY EDGING ALONG GREEN SCREEN FENCE
N.T.S.




4 DECIDUOUS & EVERGREEN SHRUB PLANTING
N.T.S.

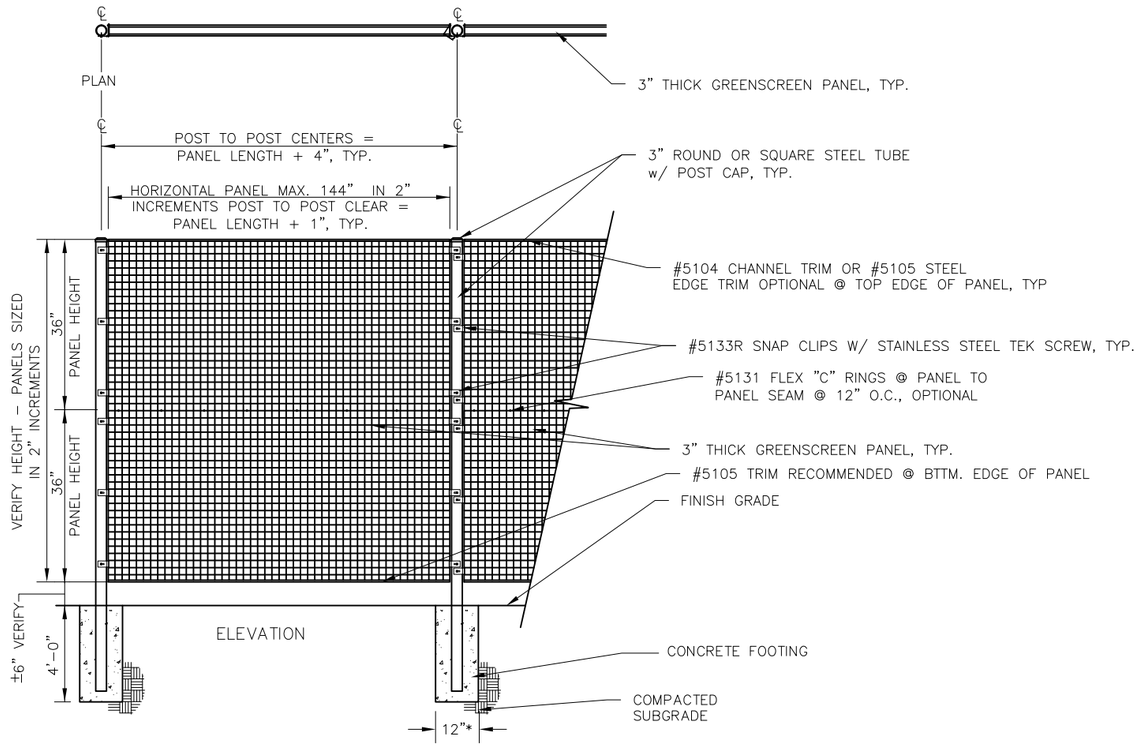



5 DECIDUOUS TREE PLANTING, STAKING, & PLANTING ON A SLOPE
N.T.S.



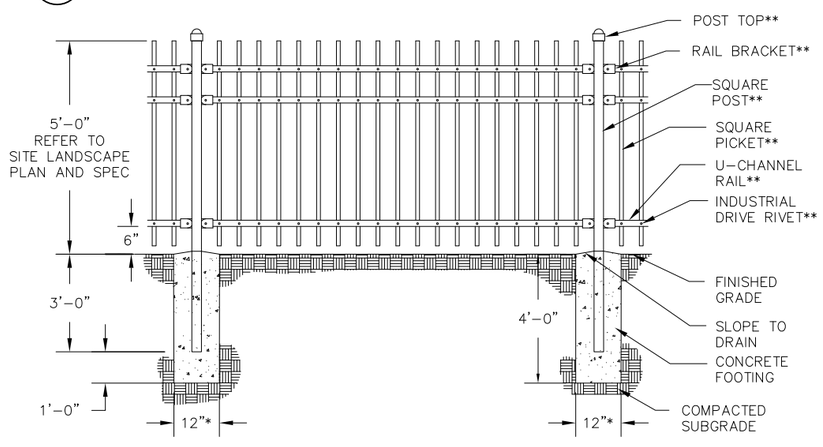

6 EVERGREEN TREE PLANTING & STAKING
N.T.S.

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SITE LANDSCAPE DETAILS | SHEET 68 | E |
|---|---|---|---|---|---|




NOTE: VERIFY PANEL SPAN + CLIP SPACING FOR ALL INSTALLATIONS – ALL INSTALLATIONS 20' ABOVE GRADE REQUIRE ADDITIONAL CONSIDERATION
*FOOTING WIDTH TO BE 4 TIMES THE POST WIDTH

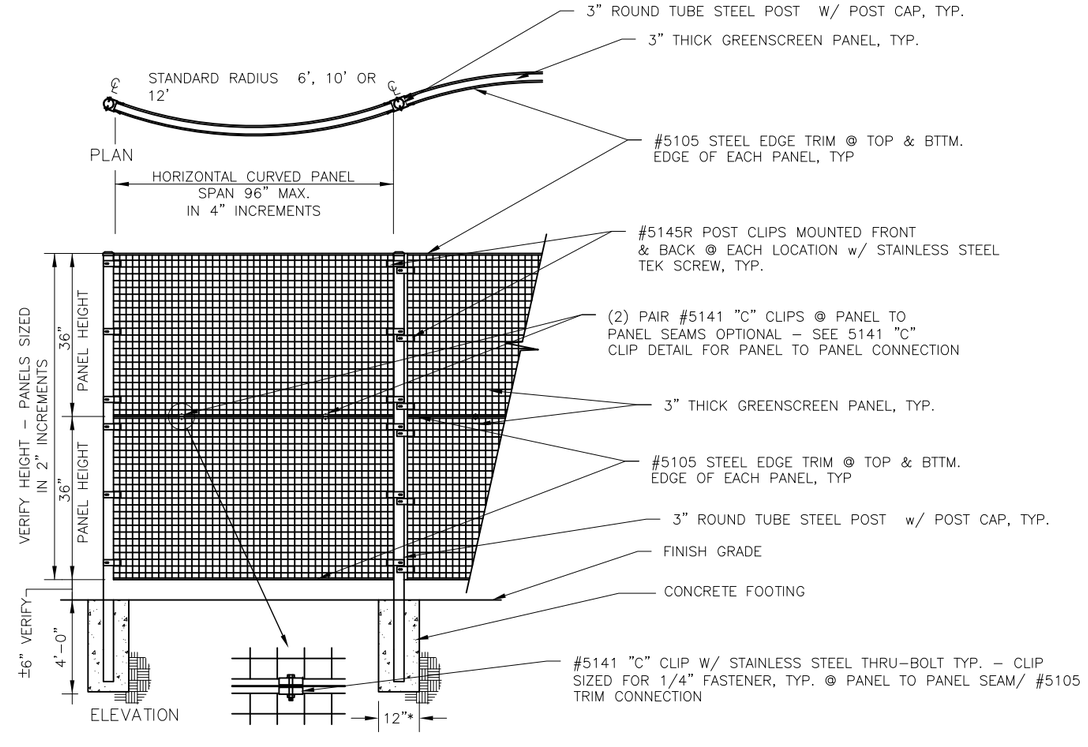
## 7 FREESTANDING HORIZONTAL GREEN SCREEN FENCE
N.T.S.




*FOOTING WIDTH TO BE 4 TIMES THE POST WIDTH

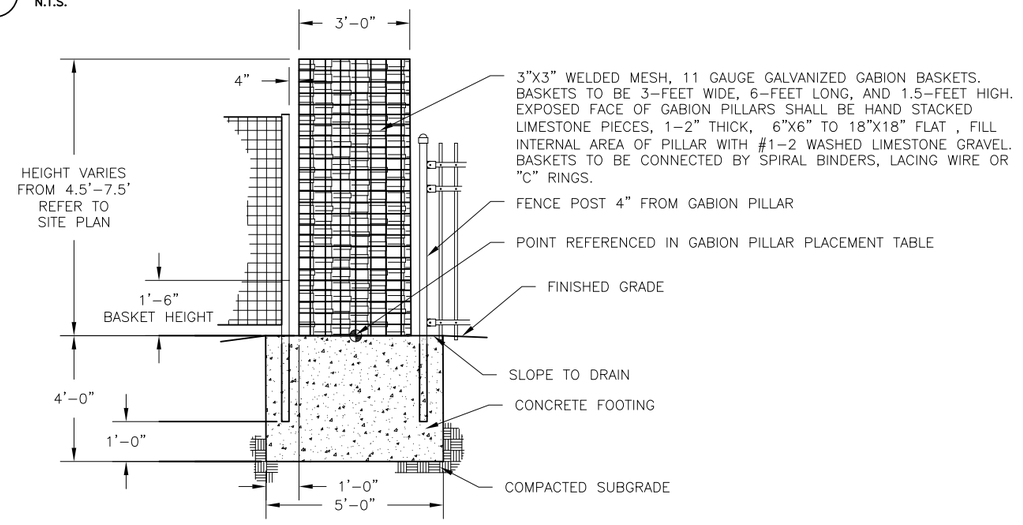
**SAMPLE MATERIALS FOR ILLUSTRATION PURPOSES ONLY. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

## 9 5'-0" HIGH DECORATIVE STEEL FENCE
N.T.S.




NOTE: VERIFY PANEL SPAN + CLIP SPACING FOR ALL INSTALLATIONS – ALL INSTALLATIONS 20' ABOVE GRADE REQUIRE ADDITIONAL CONSIDERATION
*FOOTING WIDTH TO BE 4 TIMES THE POST WIDTH

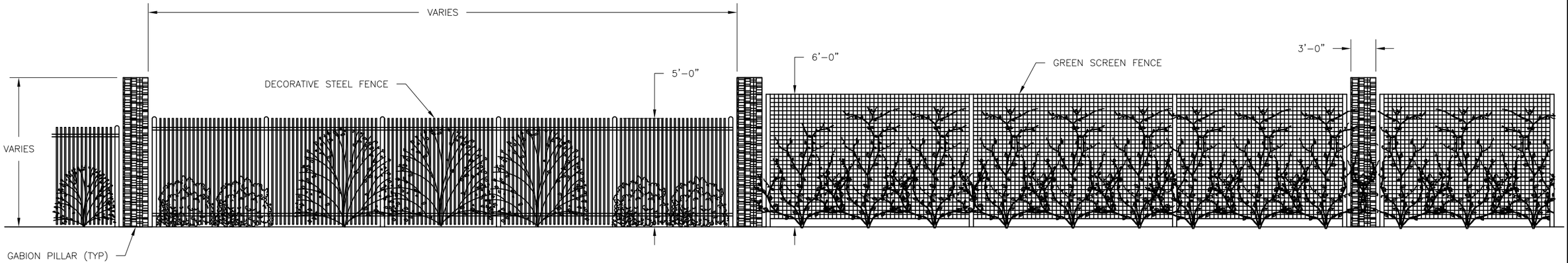
## 8 FREESTANDING HORIZONTAL CURVED GREEN SCREEN FENCE
N.T.S.




## 10 GABION PILLAR
N.T.S.

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SITE LANDSCAPE DETAILS | SHEET 69 | E |
|---|---|---|---|---|---|

GENERAL NOTES:
1. REFER TO THE SITE LANDSCAPE PLAN FOR LOCATIONS




11 COMPOSITE ELEVATION
N.T.S.

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SITE LANDSCAPE DETAILS | SHEET 70 | E |
|---|---|---|---|---|---|

| GREEN SCREEN FENCE PLACEMENT TABLE | | | |
|---|---|---|---|
| GSF POINT | NORTHING | EASTING | |
| 1 | N = 302804.741 | E = 569924.879 | |
| 2 | N = 302774.230 | E = 569897.330 | |
| 3 | N = 302746.151 | E = 569899.867 | |
| 4 | N = 302741.853 | E = 569890.832 | RADUIS 10' |
| 5 | N = 302732.560 | E = 569894.525 | |
| 6 | N = 302722.993 | E = 569897.436 | RADUIS 10' |
| 7 | N = 302721.609 | E = 569887.530 | |
| 8 | N = 302664.590 | E = 569887.498 | |
| 9 | N = 302662.813 | E = 569893.229 | RADUIS 6' |
| 10 | N = 302657.955 | E = 569889.708 | |
| 11 | N = 302648.103 | E = 569882.856 | RADUIS 12' |
| 12 | N = 302641.252 | E = 569892.708 | |
| 13 | N = 302635.309 | E = 569900.751 | RADUIS 10' |
| 14 | N = 302627.266 | E = 569894.808 | |
| 15 | N = 302619.073 | E = 569889.076 | RADUIS 10' |
| 16 | N = 302616.213 | E = 569898.657 | |
| 17 | N = 302590.580 | E = 569912.361 | |
| 18 | N = 302558.641 | E = 569923.269 | |
| 19 | N = 302557.092 | E = 569928.023 | |
| 20 | N = 302525.004 | E = 569939.268 | |
| 21 | N = 302487.073 | E = 569951.838 | |
| 22 | N = 302418.311 | E = 569969.074 | |
| 23 | N = 302414.621 | E = 569965.700 | |
| 24 | N = 302381.326 | E = 569971.247 | |
| 25 | N = 302294.887 | E = 570002.198 | |
| 26 | N = 302275.142 | E = 570002.198 | |
| 27 | N = 302272.145 | E = 570006.200 | |
| 28 | N = 302238.908 | E = 570006.200 | |

| DECORATIVE STEEL FENCE PLACEMENT TABLE | | |
|---|---|---|
| DSF POINT | NORTHING | EASTING |
| 1 | N = 302804.659 | E = 569935.822 |
| 2 | N = 302804.741 | E = 569924.879 |
| 3 | N = 302774.230 | E = 569897.330 |
| 4 | N = 302749.170 | E = 569897.176 |
| 5 | N = 302613.443 | E = 569899.830 |
| 6 | N = 302591.964 | E = 569907.144 |
| 7 | N = 302521.196 | E = 569937.397 |
| 8 | N = 302489.103 | E = 569948.112 |
| 9 | N = 302378.763 | E = 569974.628 |
| 10 | N = 302299.303 | E = 569982.646 |
| 11 | N = 302294.880 | E = 569990.038 |

| GABION PILLAR PLACEMENT TABLE | | | |
|---|---|---|---|
| GP POINT | NORTHING | EASTING | PILLAR HEIGHT |
| 1 | N = 302812.711 | E = 569937.383 | 4.5' |
| 2 | N = 302806.711 | E = 569937.337 | 7.5' |
| 3 | N = 302747.658 | E = 569898.913 | 7.5' |
| 4 | N = 302720.099 | E = 569888.992 | 7.5' |
| 5 | N = 302666.088 | E = 569888.371 | 7.5' |
| 6 | N = 302615.442 | E = 569901.028 | 7.5' |
| 7 | N = 302613.505 | E = 569895.349 | 4.5' |
| 8 | N = 302592.863 | E = 569914.273 | 7.5' |
| 9 | N = 302590.926 | E = 569908.594 | 4.5' |
| 10 | N = 302557.866 | E = 569925.646 | 7.5' |
| 11 | N = 302522.939 | E = 569937.859 | 7.5' |
| 12 | N = 302487.947 | E = 569949.495 | 7.5' |
| 13 | N = 302416.466 | E = 569967.387 | 7.5' |
| 14 | N = 302380.113 | E = 569973.433 | 7.5' |
| 15 | N = 302296.382 | E = 569993.038 | 7.5' |
| 16 | N = 302296.385 | E = 569999.040 | 6' |
| 17 | N = 302296.389 | E = 570005.040 | 4.5' |
| 18 | N = 302273.644 | E = 570004.199 | 7.5' |
| 19 | N = 302237.421 | E = 570008.210 | 7.5' |
| COORDS ARE TO CENTER OF GABION PILLAR | | | |

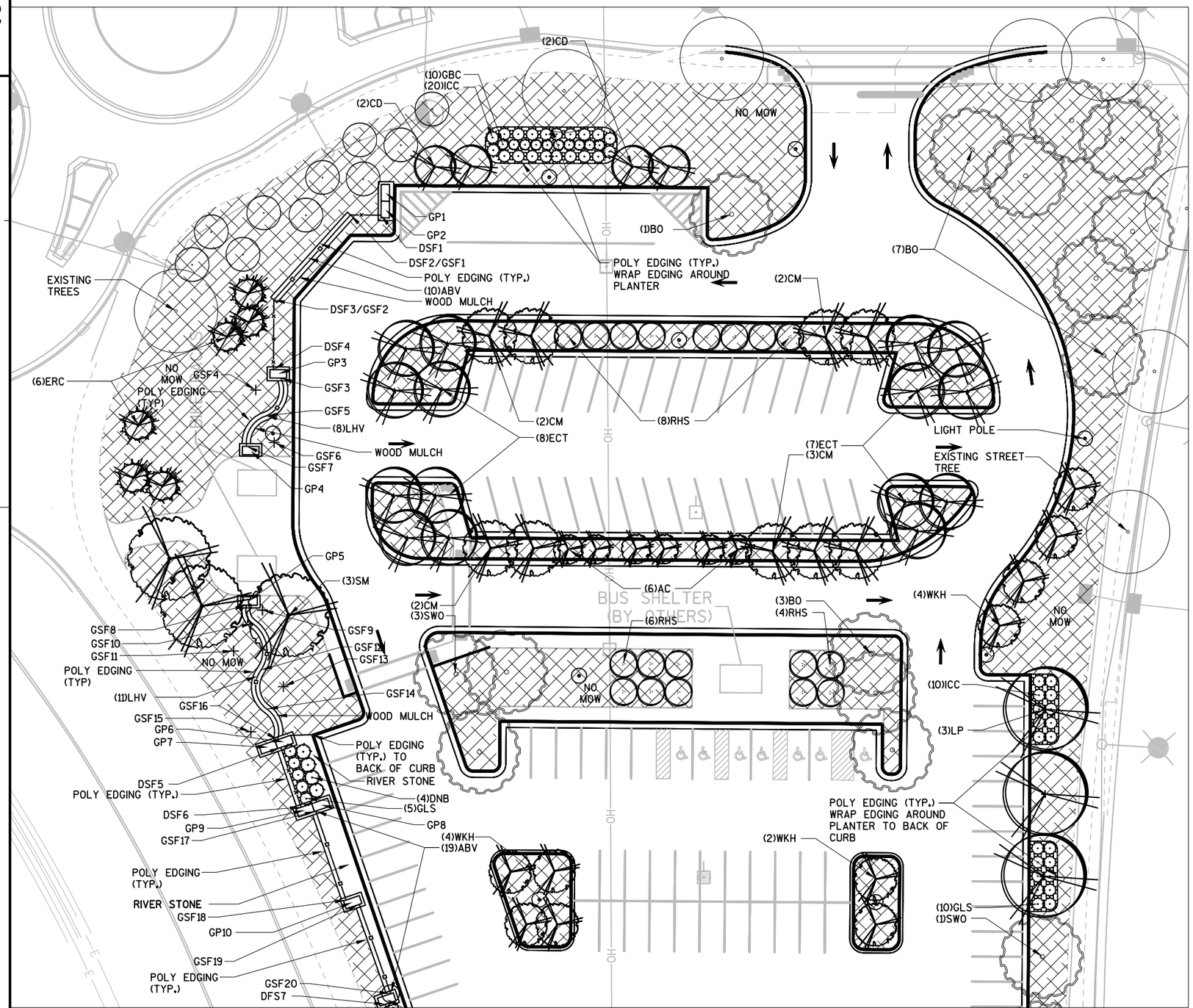
| POLY EDGING PLACEMENT TABLE | | | |
|---|---|---|---|
| PE POINT | NORTHING | EASTING | |
| 1 | N = 302377.090 | E = 569969.811 | |
| 2 | N = 302310.377 | E = 569976.930 | |
| 3 | N = 302312.568 | E = 569994.759 | RADUIS 18' |
| 4 | N = 302299.303 | E = 569982.646 | |
| 5 | N = 302293.880 | E = 569989.038 | |

GENERAL NOTES:
1. REFER TO THE SITE LANDSCAPE PLAN FOR LOCATIONS

2

2

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SITE LANDSCAPE DETAILS | SHEET 71 | E |
|---|---|---|---|---|---|




LEGEND

NO MOW

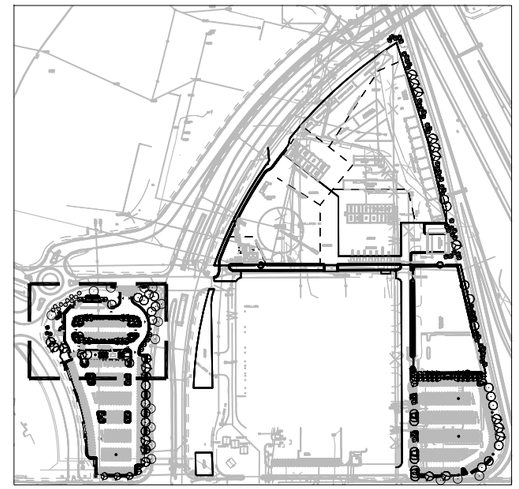
GABION PILLAR (GP)

DECORATIVE STEEL FENCE (DSF)

GREEN SCREEN FENCE (GSF)

N

**LANDSCAPE REFERENCE MAP**



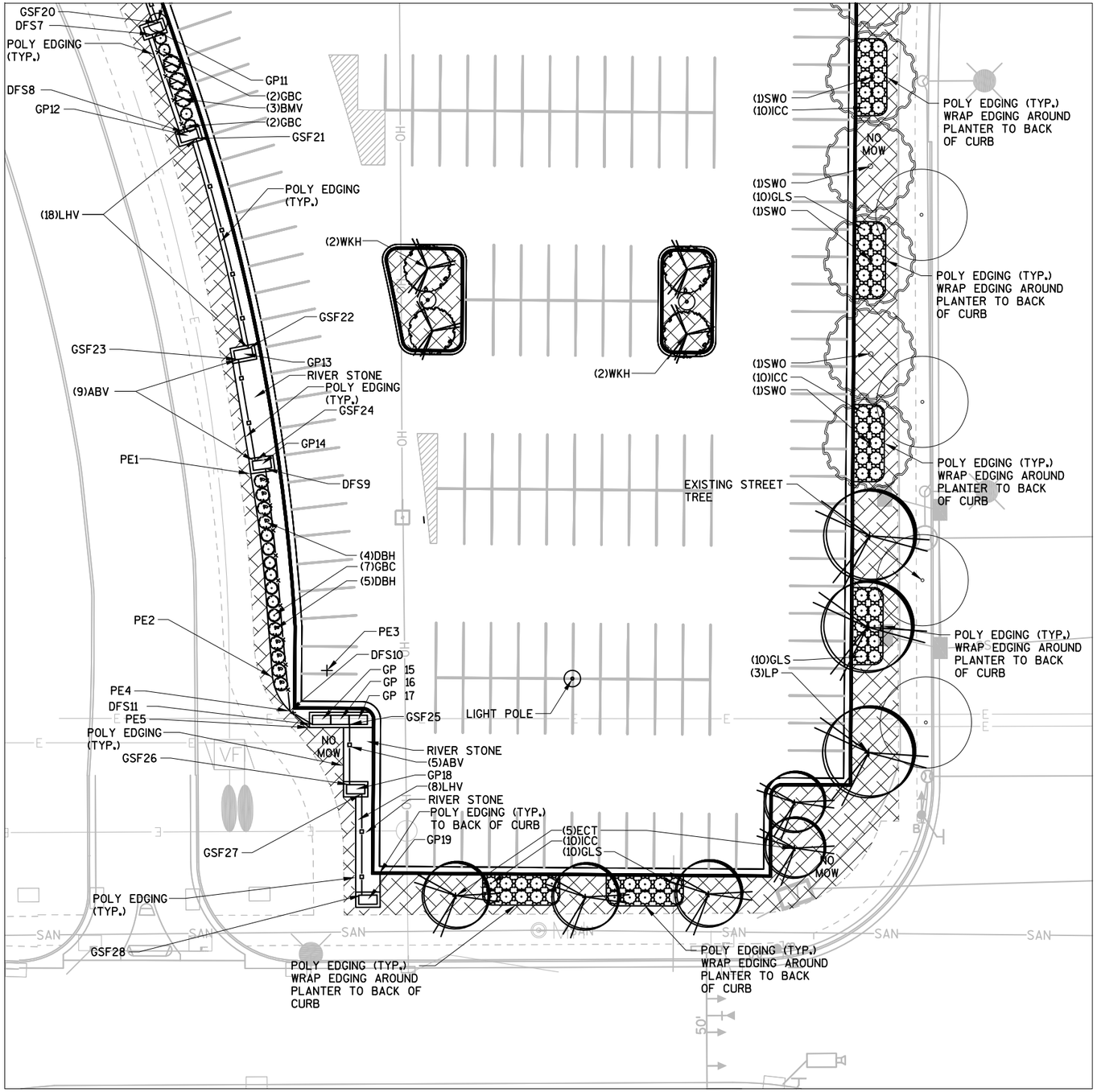
## Plant Schedule: Park N Ride Lot - North

| | Scientific Name | Common Name | Quantity | Spacing | Size | Size |
|---|---|---|---|---|---|---|
| | | | | | Install | Maturity in ft. (Height/Spread) |
| **Deciduous Trees** | | | | | | |
| BO | Quercus macrocarpa | Bur Oak | 11 | Per Plan | 3" caliper B&B | 75'/75' |
| CM | Acer x freemanii 'Celzam' | Celebration Maple | 9 | Per Plan | 3" caliper B&B | 45-50'/20-25' |
| ECT | Gymnocladus dioicus 'Espresso' | Espresso Coffeetree | 15 | Per Plan | 3" caliper B&B | 50'/35' |
| LP | Plantanus occidentalis | London Plane Tree | 3 | Per Plan | 3" caliper B&B | 60'/60' |
| SM | Acer saccharum | Sugar Maple | 3 | Per Plan | 3" caliper B&B | 50-75'/50' |
| SWO | Quercus bicolor | Swamp White Oak | 4 | Per Plan | 3" caliper B&B | 75'/65' |
| **Evergreen Trees** | | | | | | |
| ERC | Juniperus virginiana | Eastern Red Cedar | 6 | Per Plan | 5' tall B&B | 30-40'/8-20' |
| **Ornamental Trees** | | | | | | |
| AC | Malus 'Adirondak' | Adirondak Carbapple | 6 | Per Plan | 3" caliper B&B | 20'/12' |
| CD | Cornus mas | Cornelliancherry Dogwood: tree form | 4 | Per Plan | 3" caliper B&B | 20-25'/10-15' |
| RHS | Amelanchier x grandiflora 'Robin Hill' | Robin Hill Serlviceberry: multi-stem | 18 | Per Plan | 3" caliper B&B | 20'/10-15' |
| WKH | Crataegus viridis 'Winter King' | Winter King Hawthorn | 10 | Per Plan | 3" caliper B&B | 20-30'/20-30' |
| **Declduous Shrubs** | | | | | | |
| DNB | Physocarpa opulifilius 'Monlo' | Diablo Ninebark | 4 | Per Plan | #2 cont. | 5-7'/5-7' |
| GBC | Aronia melanocarpa var. elata | Glossy Black Chokeberry | 10 | Per Plan | #2 cont. | 5-6'/4-5' |
| GLS | Rhus aromatica 'Gro-low' | Gro-low Sumac | 15 | Per Plan | #2 cont. | 3'/6-8' |
| ICC | Symphoricarpos orbiculatus | Indiancurrant Coralberry | 30 | Per Plan | #2 cont. | 2-3'/4-6' |
| **Deciduous Vines** | | | | | | |
| ABV | Celustrus scandens | American Bittersweet Vine | 29 | 4' o.c. | #2 cont. | |
| LHV | Lonicera dioica | Limber Honeysuckle | 19 | 4' o.c. | #2 cont. | |

NOTE: Contractor is responsible for verifying plant count from plan. Plan quantities take precedence over list.

GENERAL NOTES:
1. REFER TO THE LANDSCAPE DETAIL SHEETS.

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SITE LANDSCAPE PLAN | SHEET 72 | E |
|---|---|---|---|---|---|




N

LEGEND

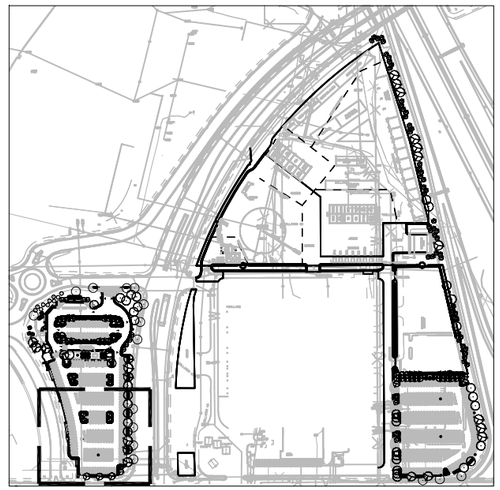
NO MOW

GABION PILLAR (GP)

DECORATIVE STEEL FENCE (DSF)

GREEN SCREEN FENCE (GSF)

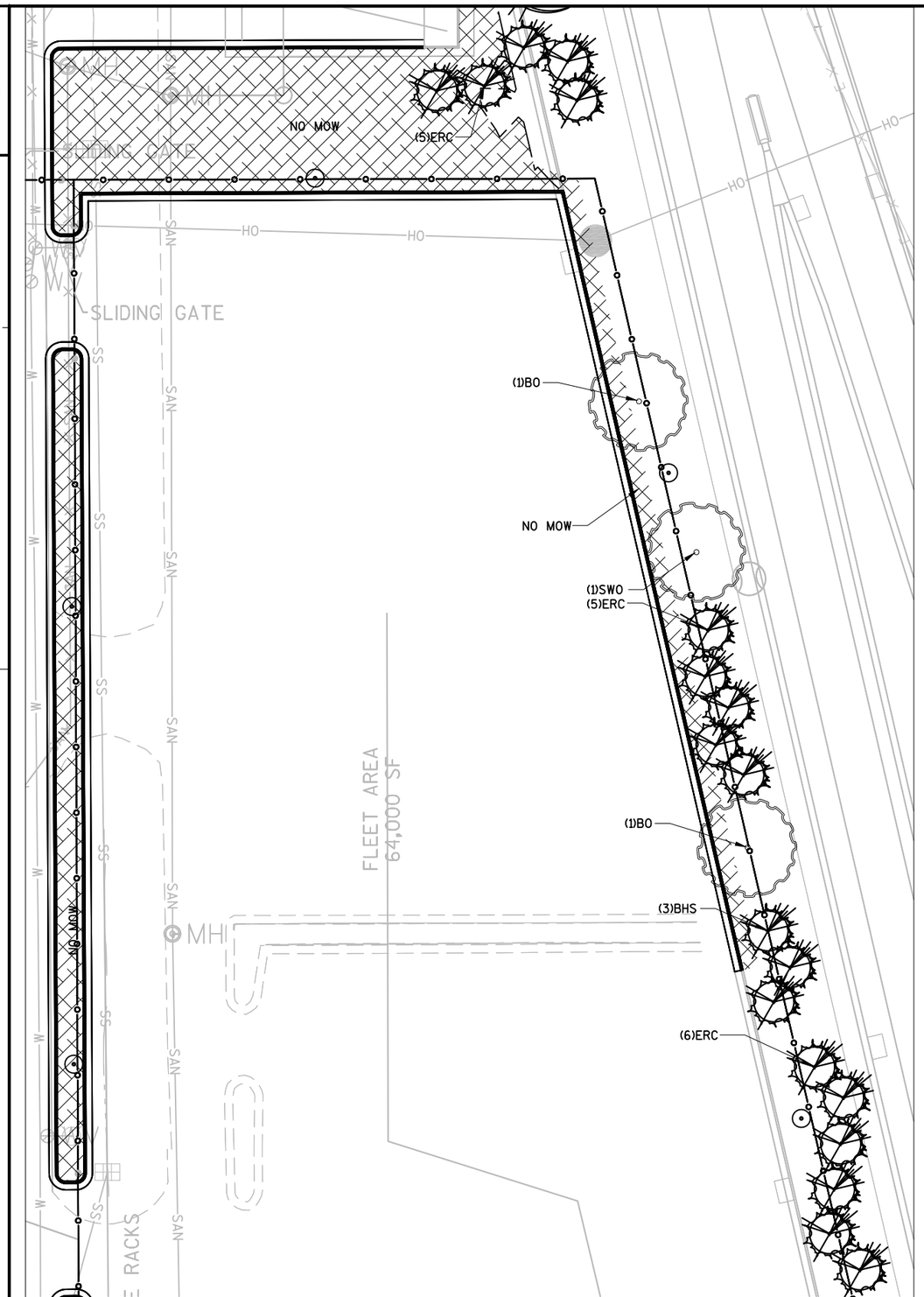
**LANDSCAPE REFERENCE MAP**



## Plant Schedule: Park N Ride - South

| | Scientific Name | Common Name | Quantity | Spacing | Size | Size |
|---|---|---|---|---|---|---|
| | | | | | Install | Maturity in ft. (Height/Spread) |
| **Decidduous Trees** | | | | | | |
| ECT | Gymnocladus dioicus 'Espresso' | Espresso Coffeetree | 5 | Per Plan | 3" caliper B&B | 50'/35' |
| LP | Plantanus occidentalis | London Plane Tree | 3 | Per Plan | 3" caliper B&B | 60'/60' |
| SWO | Quercus bicolor | Swamp White Oak | 5 | Per Plan | 3" caliper B&B | 75'/65' |
| | | | | | | |
| **Ornamental Trees** | | | | | | |
| WKH | Crataegus viridis 'Winter King' | Winter King Hawthorn | 4 | Per Plan | 3" caliper B&B | 20-30'/20-30' |
| | | | | | | |
| **Deciduous Shrubs** | | | | | | |
| BMV | Viburnum dentatum 'J.N. Select' | Blue Muffin Arrowwood Viburnum | 3 | Per Plan | #2 cont. | 5-7'/5-7' |
| DBH | Diervilla lonicera | Dwarf Bush-honeysuckle | 9 | Per Plan | #2 cont. | 3-4'/5' |
| GBC | Aronia melanocarpa var. elata | Glossy Black Chokeberry | 11 | Per Plan | #2 cont. | 5-6'/4-5' |
| GLS | Rhus aromatica 'Gro-low' | Gro-low Sumac | 30 | Per Plan | #2 cont. | 3'/6-8' |
| ICC | Symphoricarpos orbiculatus | Indiancurrant Coralberry | 30 | Per Plan | #2 cont. | 2-3'/4-6' |
| | | | | | | |
| **Deciduous Vines** | | | | | | |
| ABV | Celustrus scandens | American Bittersweet Vine | 14 | 4' o.c. | #2 cont. | |
| LHV | Lonicera dioica | Limber Honeysuckle | 26 | 4' o.c. | #2 cont. | |
| | | | | | | |
| NOTE: Contractor is responsible for verifying plant count from plan. Plan quantities take precedence over list. | | | | | | |

GENERAL NOTES:
1. REFER TO THE LANDSCAPE DETAIL SHEETS.

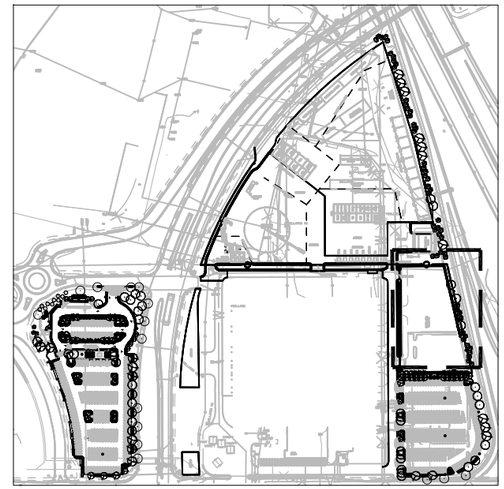



LEGEND

- NO MOW
- GABION PILLAR (GP)
- DECORATIVE STEEL FENCE (DSF)
- GREEN SCREEN FENCE (GSF)

N

**LANDSCAPE REFERENCE MAP**

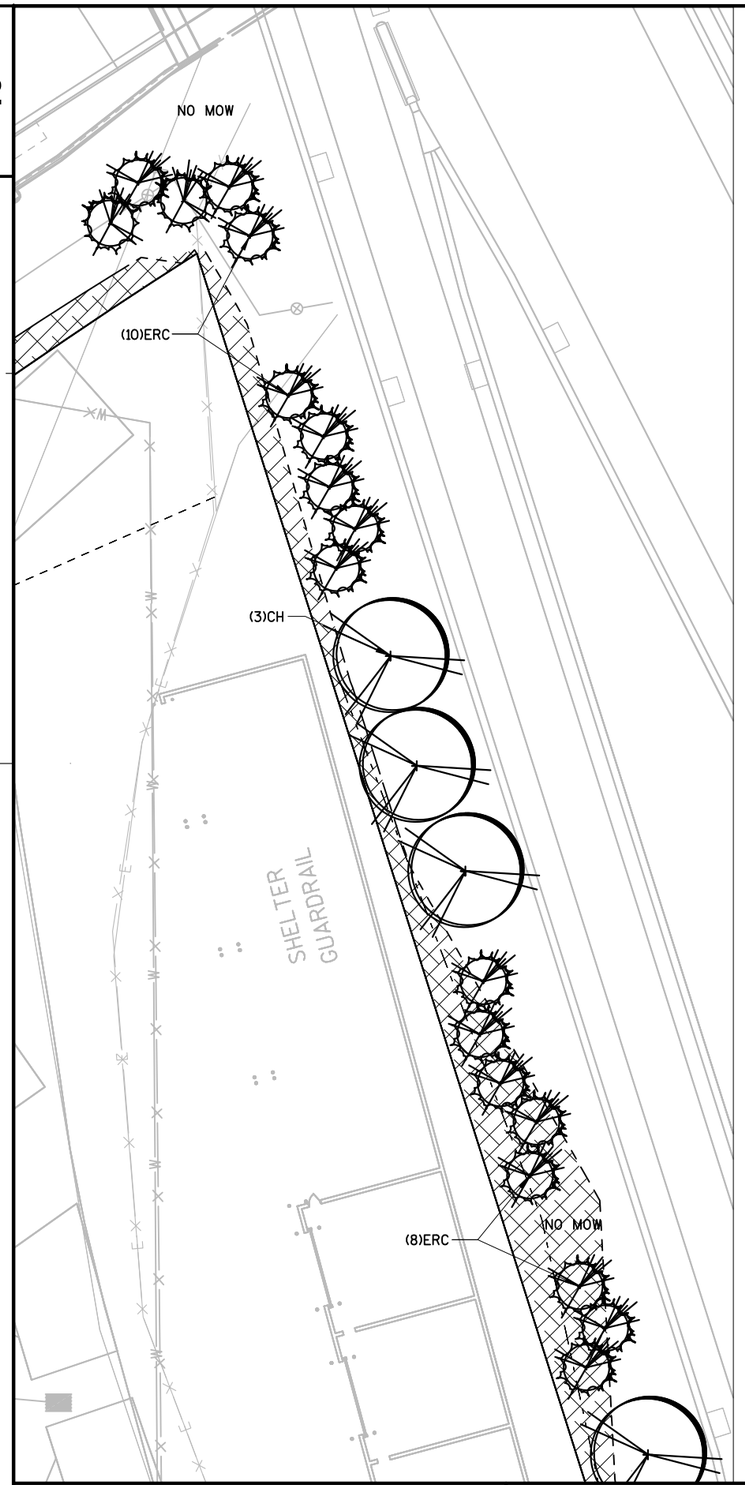


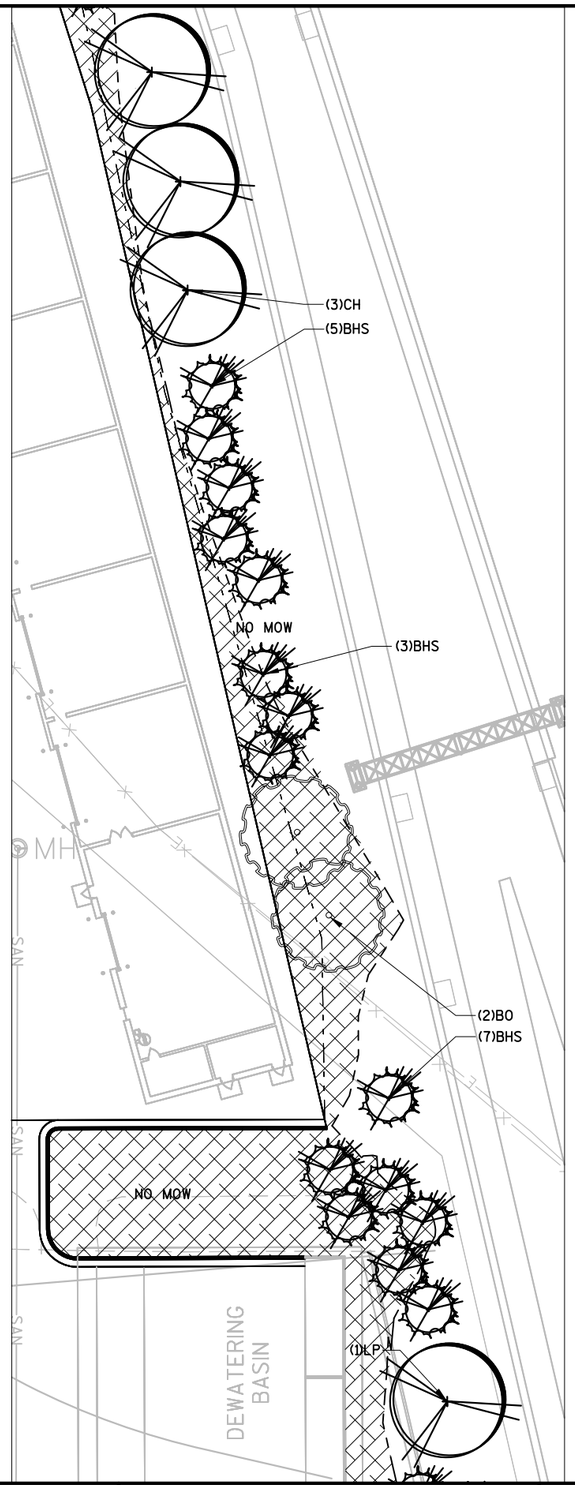
## Plant Schedule: DPW Maintenance Lot

| | Scientific Name | Common Name | Quantity | Spacing | Size | Size |
|---|---|---|---|---|---|---|
| | | | | | Install | Maturity in ft. (Height/Spread) |
| **Deciduous Trees** | | | | | | |
| BO | Quercus macrocarpa | Bur Oak | 2 | Per Plan | 3" caliper B&B | 75'/75' |
| SWO | Quercus bicolor | Swamp White Oak | 1 | Per Plan | 3" caliper B&B | 75'/65' |
| | | | | | | |
| **Evergreen Trees** | | | | | | |
| BHS | Picea glauca var. depressa | Black Hills Spruce | 3 | Per Plan | 5' tall B&B | 20-40'/15-25' |
| ERC | Juniperus virginiana | Eastern Redcedar | 16 | Per Plan | 5' tall B&B | 30-40'/8-20' |
| | | | | | | |
| NOTE: Contractor is responsible for verifying plant count from plan. Plan quantities take precedence over list. | | | | | | |

GENERAL NOTES:
1. REFER TO THE LANDSCAPE DETAIL SHEETS.

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SITE LANDSCAPE PLAN | SHEET 74 | E |
|---|---|---|---|---|---|



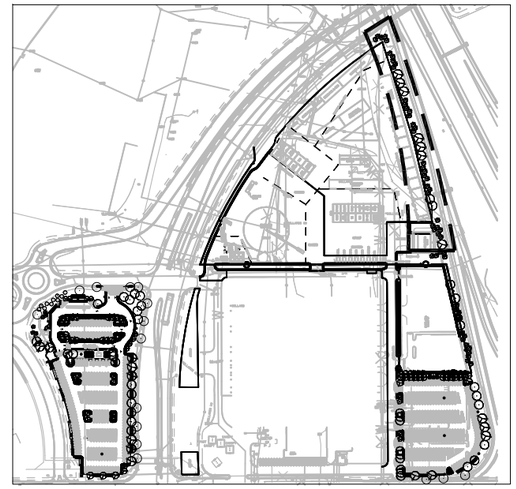




LEGEND

- NO MOW
- GABION PILLAR (GP)
- DECORATIVE STEEL FENCE (DSF)
- GREEN SCREEN FENCE (GSF)

N

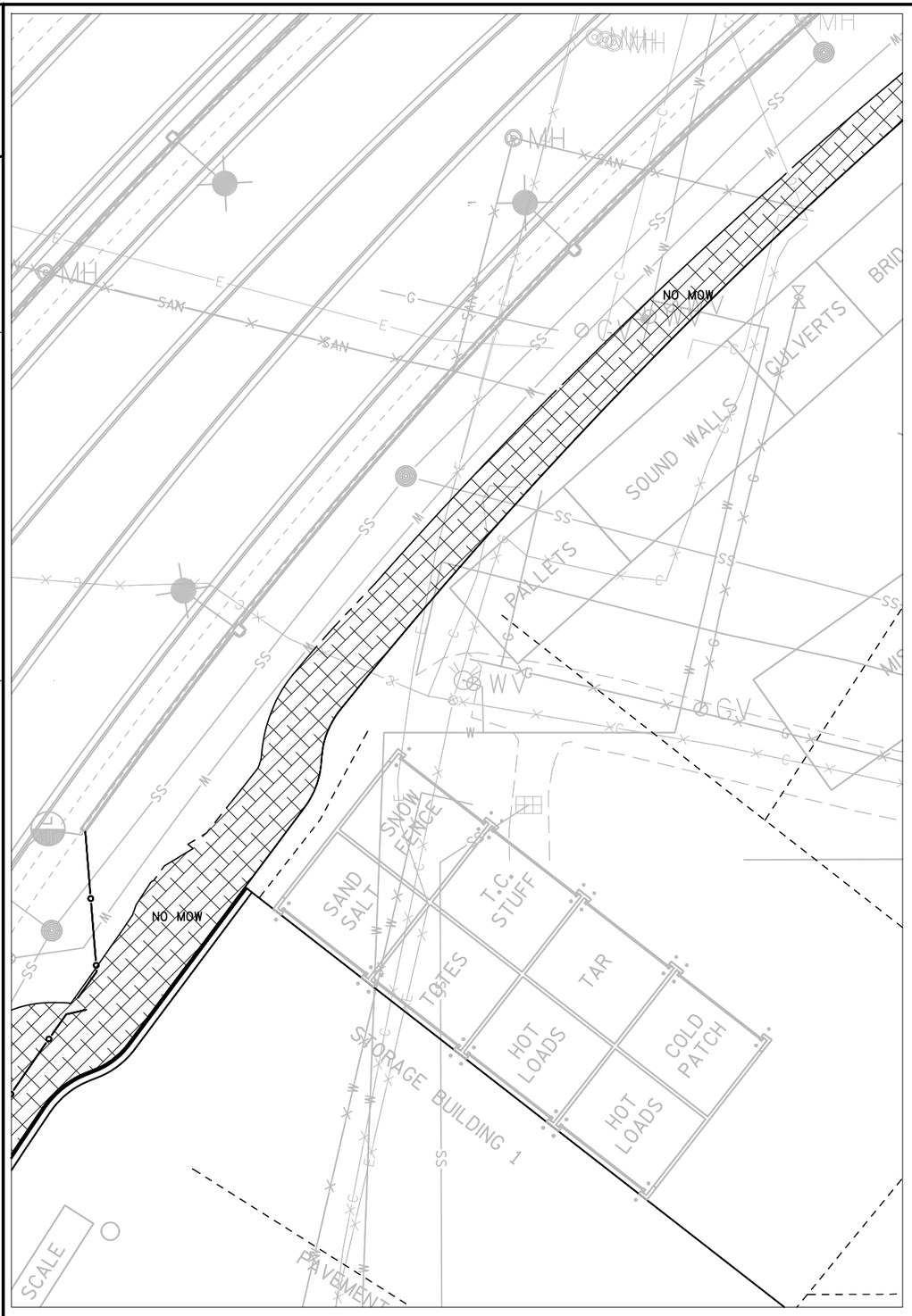
**LANDSCAPE REFERENCE MAP**

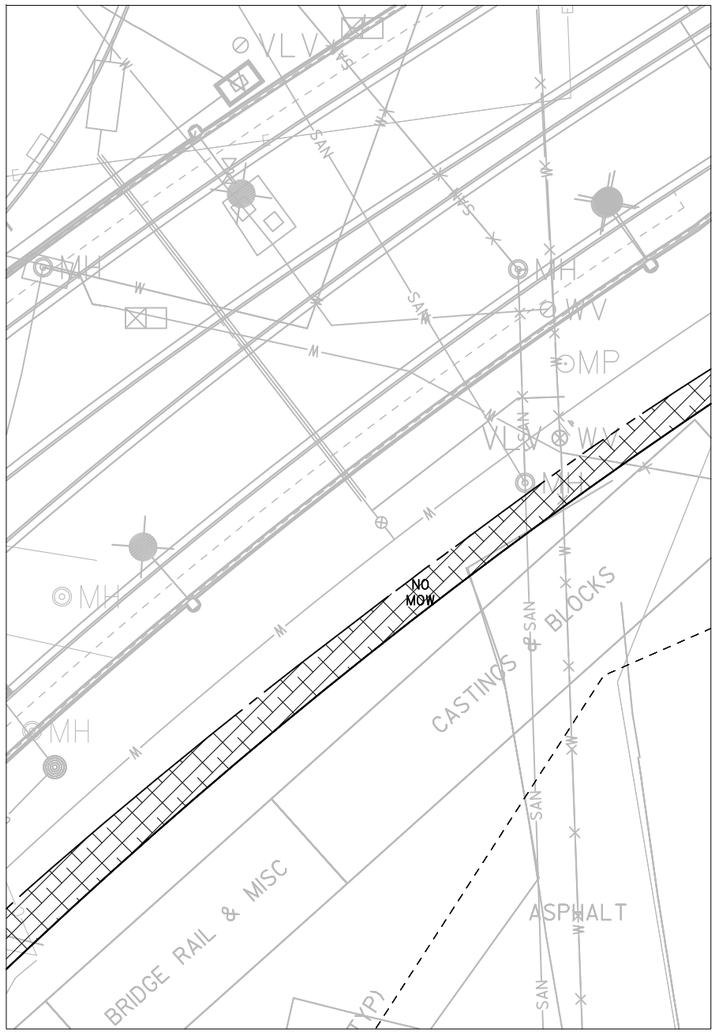


## Plant Schedule: DPW Lot - East

| | Scientific Name | Common Name | Quantity | Spacing | Size | Size |
|---|---|---|---|---|---|---|
| | | | | | Install | Maturity in ft. (Height/Spread) |
| **Deciduous Trees** | | | | | | |
| BO | Quercus macrocarpa | Bur Oak | 2 | Per Plan | 3" caliper B&B | 75'/75' |
| CH | Celtis occidentalis | Common Hackberry | 6 | Per Plan | 3" caliper B&B | 40-60'/40-60' |
| LP | Plantanus occidentalis | London Plane Tree | 1 | Per Plan | 3" caliper B&B | 60'/60' |
| | | | | | | |
| **Evergreen Trees** | | | | | | |
| BHS | Picea glauca var. depressa | Black Hills Spruce | 15 | Per Plan | 5' tall B&B | 20-40'/15-25' |
| ERC | Juniperus virginiana | Eastern Redcedar | 18 | Per Plan | 5' tall B&B | 30-40'/8-20' |
| | | | | | | |
| NOTE: Contractor is responsible for verifying plant count from plan. Plan quantities take precedence over list. | | | | | | |

GENERAL NOTES:
1. REFER TO THE LANDSCAPE DETAIL SHEETS.




LEGEND

NO MOW

GABION PILLAR (GP)

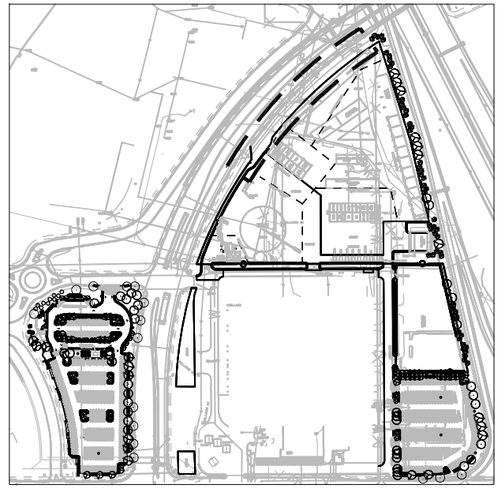
DECORATIVE STEEL FENCE (DSF)

GREEN SCREEN FENCE (GSF)

GENERAL NOTES:
1. REFER TO THE LANDSCAPE DETAIL SHEETS.

N

**LANDSCAPE REFERENCE MAP**



2

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SITE LANDSCAPE PLAN | SHEET 76 | E |
|---|---|---|---|---|---|

2

LEGEND

NO MOW

GABION PILLAR (GP)

DECORATIVE STEEL FENCE (DSF)

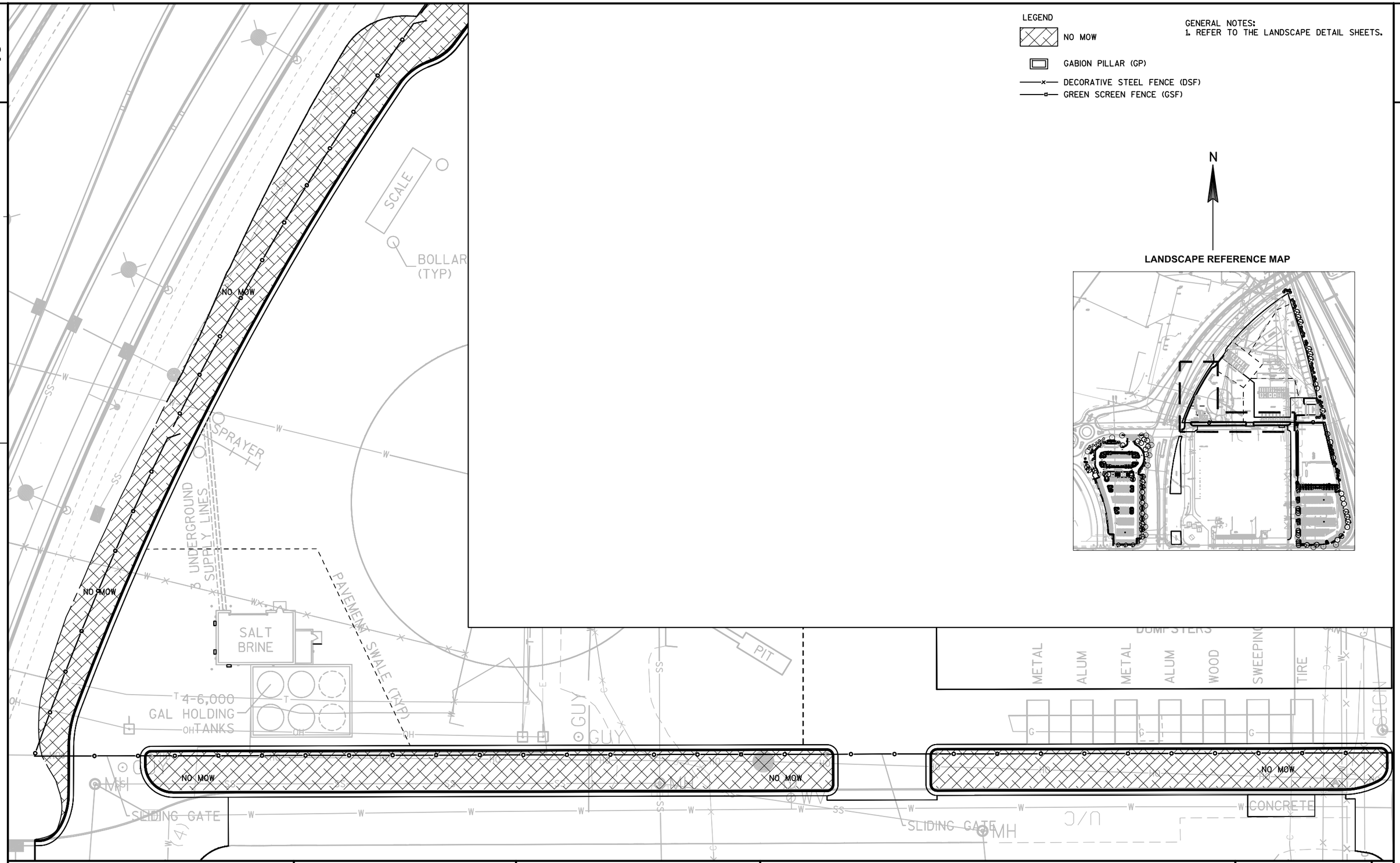
GREEN SCREEN FENCE (GSF)

GENERAL NOTES:
1. REFER TO THE LANDSCAPE DETAIL SHEETS.

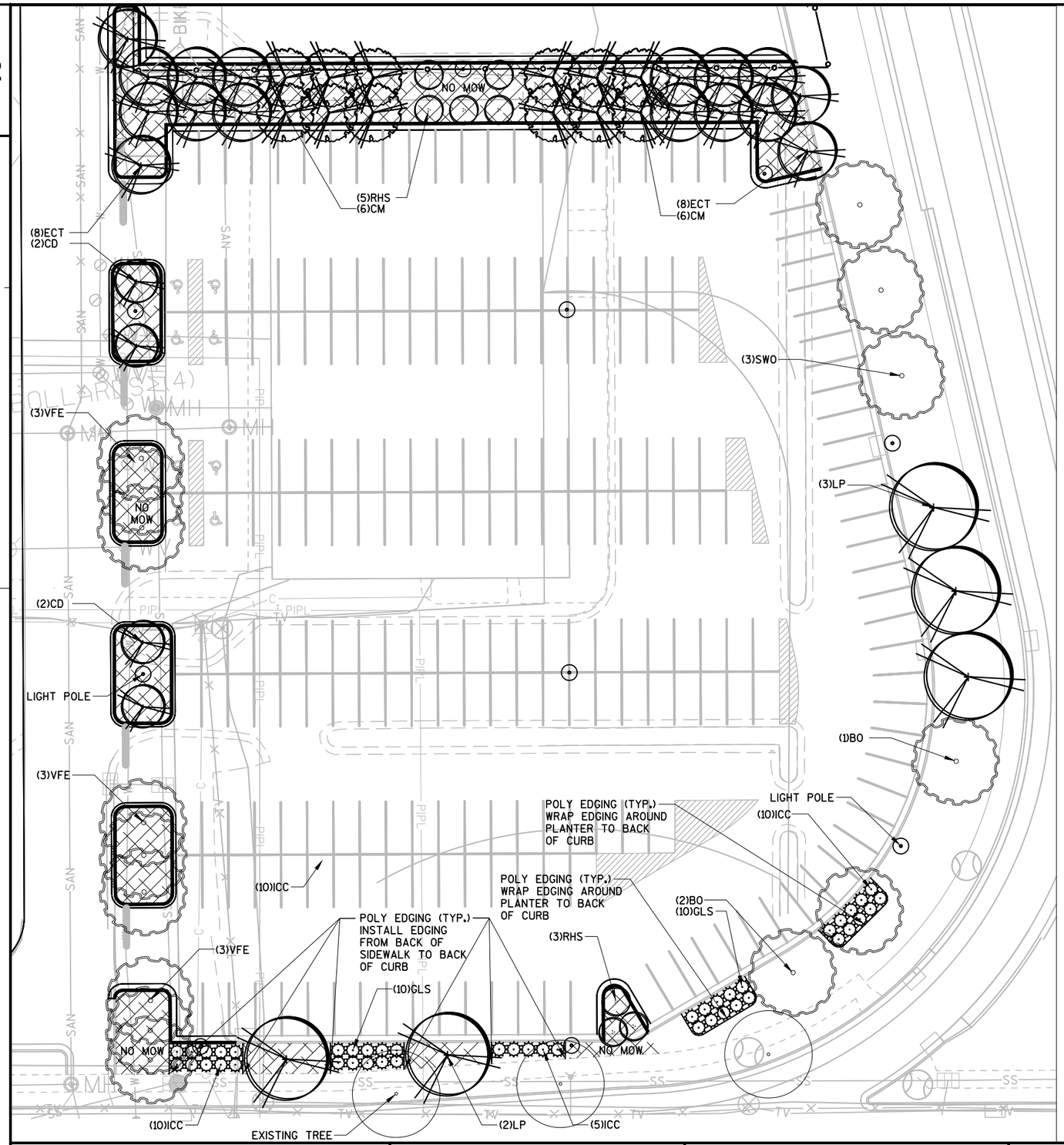
N

LANDSCAPE REFERENCE MAP






| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SITE LANDSCAPE PLAN | SHEET 77 | E |
|---|---|---|---|---|---|

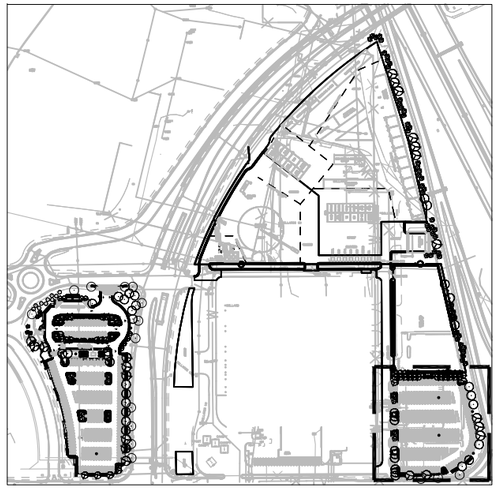



LEGEND

- NO MOW
- GABION PILLAR (GP)
- DECORATIVE STEEL FENCE (DSF)
- GREEN SCREEN FENCE (GSF)

N

**LANDSCAPE REFERENCE MAP**



## Plant Schedule: DPW Facility Lot

| | Scientific Name | Common Name | Quantity | Spacing | Size | Size |
|---|---|---|---|---|---|---|
| | | | | | Install | Maturity in ft. (Height/Spread) |
| **Deciduous Trees** | | | | | | |
| BO | Quercus macrocarpa | Bur Oak | 3 | Per Plan | 3" caliper B&B | 75'/75' |
| CM | Acer x freemanii 'Celzam' | Celebration Maple | 12 | Per Plan | 3" caliper B&B | 45-50'/20-25' |
| ECT | Gymnocladus dioicus 'Espresso' | Espresso Coffeetree | 16 | Per Plan | 3" caliper B&B | 50'/35' |
| LP | Plantanus occidentalis | London Plane Tree | 5 | Per Plan | 3" caliper B&B | 60'/60' |
| SWO | Quercus bicolor | Swamp White Oak | 3 | Per Plan | 3" caliper B&B | 75'/65' |
| VFE | Ulmus americana 'Valley Forge' | Valley Forge Elm | 9 | Per Plan | 3" caliper B&B | 45'/40-60' |
| | | | | | | |
| **Ornamental Trees** | | | | | | |
| CD | Cornus mas | Corneliancherry Dogwood: Tree Form | 4 | Per Plan | 3" caliper B&B | 20-25'/10-15' |
| RHS | Amelanchier x grandiflora 'Robin Hill' | Robin Hill Serivceberry: multi-stem | 8 | Per Plan | 3" caliper B&B | 20'/10-15' |
| | | | | | | |
| **Deciduous Shrubs** | | | | | | |
| GLS | Rhus aromatica 'Gro-low' | Gro-low Sumac | 20 | Per Plan | #2 cont. | 3'/6-8' |
| ICC | Symphoricarpos orbiculatus | Indiancurrant Coralberry | 25 | Per Plan | #2 cont. | 2-3'/4-6' |
| | | | | | | |
| NOTE: Contractor is responsible for verifying plant count from plan. Plan quantities take precedence over list. | | | | | | |

GENERAL NOTES:
1. REFER TO THE LANDSCAPE DETAIL SHEETS.

## GENERAL NOTES - ELECTRICAL SITE PLAN:

DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOCATIONS OF THE PVC CONDUITS ARE IDENTIFIED IN THE PLANS WHERE THEY ARE REQUIRED. APPROPRIATE ADJUSTMENT ON CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. FIELD MARK EACH CONDUIT LOCATION IN RED.

THE TRENCH SHALL NOT BE BACK FILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL CONDUITS SHALL BE CAPPED OR PLUGGED WITH ENGINEER APPROVED FITTINGS IMMEDIATELY AFTER INSTALLATION.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR IMMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON ALL CONDUITS.

PRIOR TO CONDUIT ACCEPTANCE, ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT, BUT EASILY REMOVED IN THE FUTURE. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.

CONDUIT RUNS SHALL BE THE SAME SIZE PIPE FROM ONE END TO THE OTHER (FROM PULL BOX-TO-PULL BOX OR JUNCTION BOX OR BASE-TO-BASE, ETC.) UNLESS OTHERWISE NOTED ON PLANS.

PULL ROPE (3/8-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUITS.

CONTRACTOR SHALL SUPPLY AS-BUILT DRAWING FOR ALL THE WORK BEING DONE.

INSTALLATION OF LATERAL UNDERGROUND CONDUIT UNDER PAVEMENT SHALL BE INSTALLED MINIMUM 30 INCHES BELOW PROPOSED GRADE. CONDUIT LATERALS SHALL BE TRENCHED UNDER PAVEMENT BEFORE PAVEMENT CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ROADWAY CONSTRUCTION FOR CONDUIT LATERALS INSTALLATION.

PITCH ALL CONDUITS TOWARD PULL BOXES. INSTALL A 2" DRAIN DUCT TO STORM SEWER OR DRAIN SUMP AS REQUIRED FOR DRAINAGE. THE 2" DRAIN DUCT OR SUMP IS INCIDENTAL TO THE PULL BOX BID ITEM AND IS NOT SHOWN.

THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE, IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

HAND DIGGING MAY BE REQUIRED FOR LOCATIONS ADJACENT TO EXISTING GAS AND POWER LINES. HAND EXCAVATION SHOULD BE ANTICIPATED & WILL BE CONSIDERED INCIDENTAL TO THE CONCRETE BASES BID ITEM. COORDINATE ALL WORK NEAR GAS LINE WITH WE ENERGIES.

EXISTING CONDUIT AND CID NO LONGER BEING USED IS ABANDONED IN PLACE. THE CONTRACTOR MAY REMOVE ABANDONED WIRING AT THE CONTRACTOR'S EXPENSE. ABANDONED PULL BOX REMOVAL IS INCIDENTAL TO THE ROAD CONSTRUCTION.

ALL UNDERGROUND WIRING AND CONDUIT FOR POLES BEING REMOVED IS ABANDONED IN PLACE UNLESS NOTED OTHERWISE. CONTRACTOR MAY SALVAGE ABANDONED WIRING AT HIS OWN EXPENSE.

## LEGEND - ELECTRICAL SITE PLAN

- CID (CABLE IN DUCT)
- CABLE IN CONDUIT - SIZE AS NOTED
- PROPOSED SINGLE ARM LIGHTING UNIT
- PROPOSED TWIN ARM LIGHTING UNIT
- DISTRIBUTION CENTER
- PULL BOX 24" x 36"
- PULL BOX 24" x 42"
- ELECTRIC METER SOCKET
- SM — DENOTES STRUCTURE MOUNTED
- STUBOUT
- LUMINAIRE IDENTIFICATION

STATION - OFFSET
LED-X-X(T)-4-XYYZ

- LUMINAIRE NUMBER, DISTRIBUTION CENTER, CIRCUIT — PLAQUE SEQUENCE IDENTIFICATION
- LUMINAIRE ARM LENGTH
- POLE TYPE, (T) WITH TRANSFORMER BASE BREAKAWAY
- LUMINAIRE UTILITY CATEGORY
- LUMINAIRE TYPE SOURCE

## BUILDING ELECTRICAL LEGEND

| SYMBOL | DEFINITION |
|---|---|
| ⬡ | CONNECTION POINT TO EQUIPMENT |
| VFC | VENDOR FURNISHED CABLE AND RACEWAY |
| 3/4" C, 3#8 or [3/4" C, 3#8] | TYPICAL CONDUIT WITH INDIVIDUAL CONDUCTORS OR CABLE TYPES AS INDICATED ON PLANS |
| ▨ | MAJOR ELECTRICAL COMPONENT OR DEVICE |
| ▬ | BRANCH CIRCUIT PANEL, OR BRANCH POWER PANEL |
| (M) | SAME AS SYMBOL ⬡ BUT SPECIFICALLY AN INDUCTION MOTOR WITH HORSEPOWER INDICATED |
| 1 2 3 4 5 6 | TYPICAL LUMINAIRES-SEE LUMINAIRE SCHEDULE |
| $S_a$ or 2a | SMALL LETTER SUBSCRIPT ON SWITCH AND LUMINAIRE INDICATES SWITCHING. NUMBERS OR LETTERS ON LUMINAIRE INDICATES LUMINAIRE TYPE |
| LA-2 | HOME RUN-DESTINATION SHOWN |
| or G | EXPOSED CONDUIT AND CONDUCTORS |
| or G | CONCEALED OR UNDERGROUND CONDUIT AND CONDUCTORS |
| | NOTE: ALL UNMARKED HOME RUNS CONSIST OF TWO NO. 12 CONDUCTORS IN CONDUIT PLUS GROUND. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 WIRE. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE. MINIMUM CONDUIT SIZE SHALL BE 3/4". |
| // | CROSSHATCHES WITH BAR INDICATE #10 TW WIRE. MINIMUM CONDUIT SIZE SHALL BE 3/4" |
| S or $S_2$ | WALL SWITCH: 2 - DOUBLEPOLE, 3 - THREE WAY, 4 - FOUR WAY, P - PILOT LIGHT, K - KEY OPERATED, D - DIMMER |
| | DUPLEX CONVENIENCE RECEPTACLE. GENERAL USE TYPE UNLESS INDICATED OTHERWISE |
| ● | POWER CONNECTION POINT |
| (J) or $(J)_B$ | JUNCTION BOX, MOUNTING INDICATED: B - BEAM, C - COLUMN, G - BELOW GRATING, H - HANDRAIL, P - PEDESTAL, W - WALL |
| PB | PUSH BUTTON STATION |
| ⊗ | EMERGENCY LIGHTS |

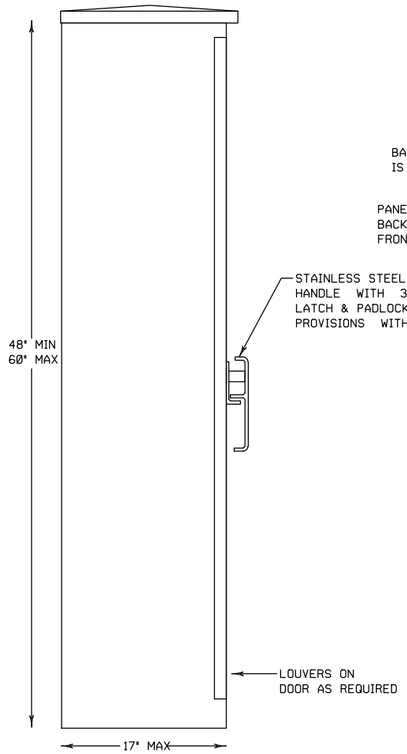
| SYMBOL | DEFINITION |
|---|---|
| (PC) | PHOTOCELL |
| or C | NON-FUSED DISCONNECT SWITCH, 600 VOLTS, SIZE AND LOCATE PER THE NEC TYPE MOUNTING, X, INDICATED: C- COLUMN (48" UP), H - HANDRAIL, SEE DETAIL, P - PEDESTAL MOUNTED, SEE DETAIL, W - WALL MOUNTED (48" UP) |
| 60/40 F | FUSED DISCONNECT SWITCH, 600 VOLTS, AMPERAGE SIZE INDICATED (60/40, 60-SWITCH RATING; 40-FUSE RATING) 3 POLE UNLESS INDICATED OTHERWISE |
| ⊠ | CONTACTOR, MAGNETIC, NEMA SIZE INDICATED, 3 POLE |
| L | LIGHTING CONTACTORS, ALL CONTACTS RATED 30A |
| ⊠ | INDIVIDUALLY MOUNTED COMBINATION MOTOR STARTER, SEE CONTROL DIAGRAMS |
| ◠ | METERING FACILITIES |
| VFD | VARIABLE FREQUENCY DRIVE |

## GENERAL NOTES:

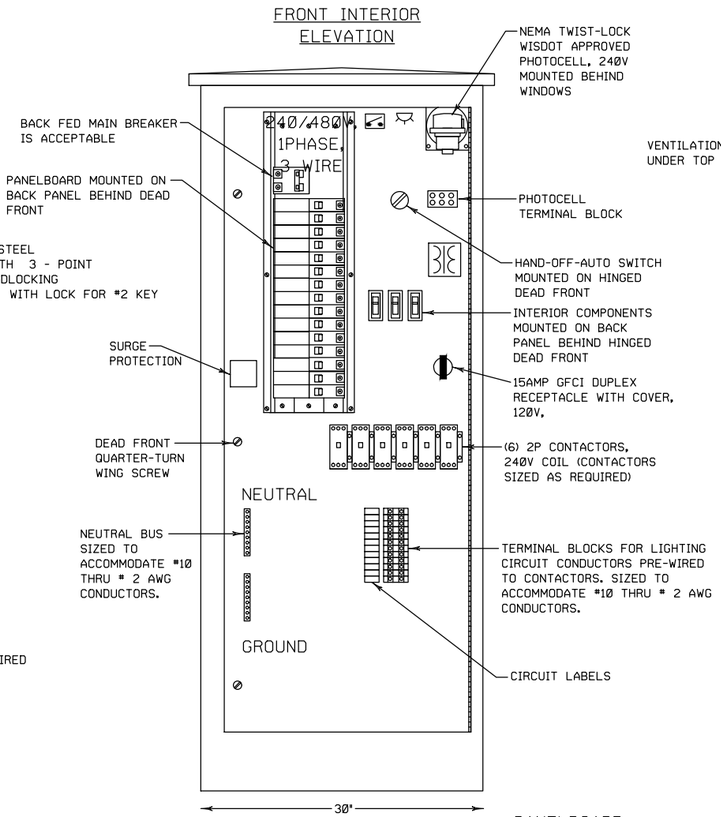
THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE PLANS.

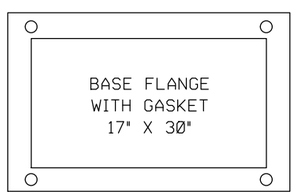
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ELECTRICAL LEGEND | SHEET 79 | E |
|---|---|---|---|---|---|

LEFT SIDE VIEW

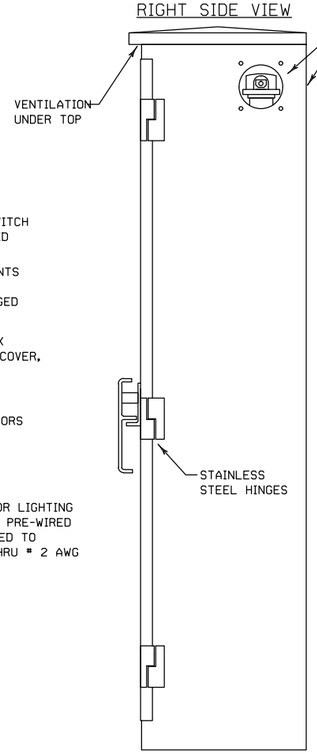



FRONT INTERIOR ELEVATION




RIGHT SIDE VIEW




LEGEND:

- 15AMP GFCI DUPLEX RECEPTACLE WITH COVER, 120V.
- 1.5KVA, SINGLE PHASE ENCAPSULATED TRANSFORMER 240//120V, 60HZ
- SPST, 20AMP SWITCH ON DOOR, TO TURN LIGHT ON WHEN DOOR IS OPEN.
- INCANDESCENT LIGHTING FIXTURE 60WATT, 120V LAMP.
- 15AMP/1P CIRCUIT BREAKER, 120V

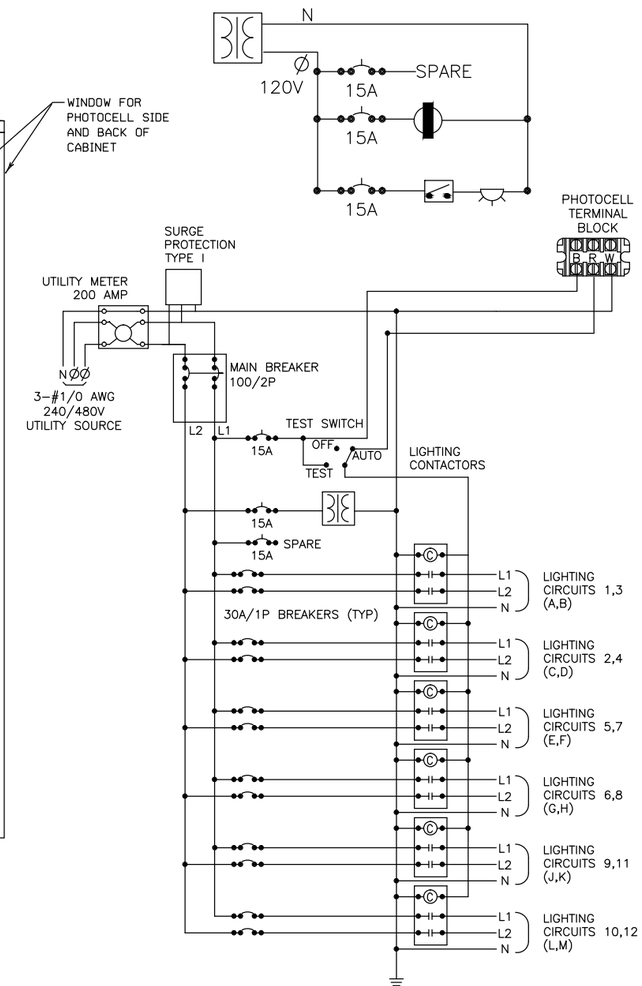
COLOR CODING OF WIRING IN CABINET

L1-BLACK N-WHITE

L2-RED GND-GREEN OR BARE

PANELBOARD:
- 30 CIRCUIT MIN.
- 100AMP MAIN CIRCUIT BREAKER
- COPPER BUS
- BOLT- ON BREAKERS
- 22K AIC
- (2) 15A/1P CONTROL BREAKER, 240V
- (1) 15A/1P CONTROL BREAKER, 240V, SPARE
- (12) 30A/1P BRANCH BREAKERS

BOX CONSTRUCTION:
- NEMA3R
- UL LISTED
-1/8" ALUMINUM 5052-H32 ANODIZED CLEAR
- BENT CONSTRUCTION - ONE PIECE SIDES AND BACK
- NEOPRENE GASKETED DOORS
- STAINLESS STEEL HARDWARE
- ETL LISTED IN ACCORDANCE W/ UL508A



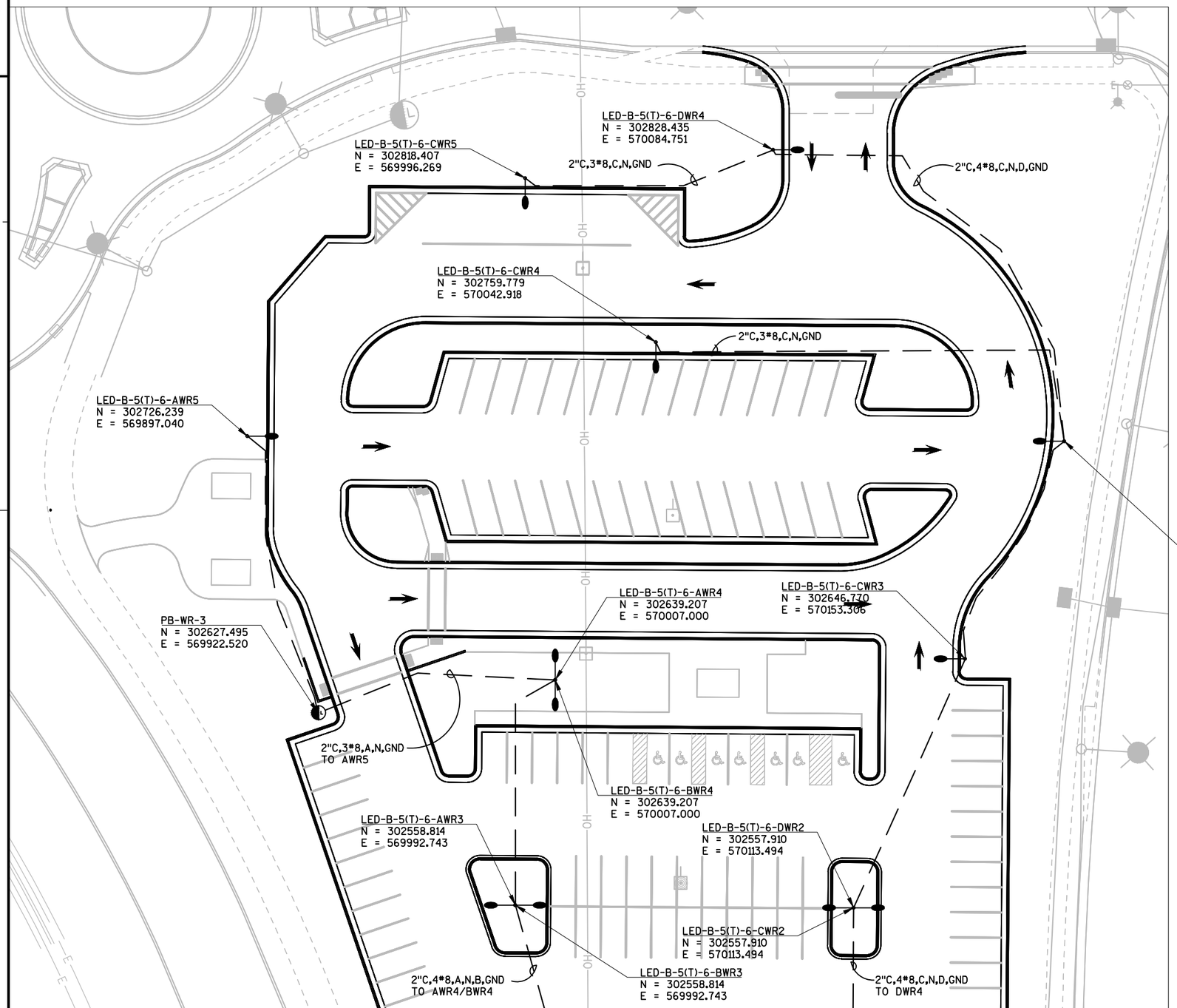

LIGHTING CONTROL CABINET SCHEMATIC

240/480 VOLT LIGHTING CONTROL CABINET

DETAIL - LIGHTING CONTROL CABINET-240/480V, 1 PHASE

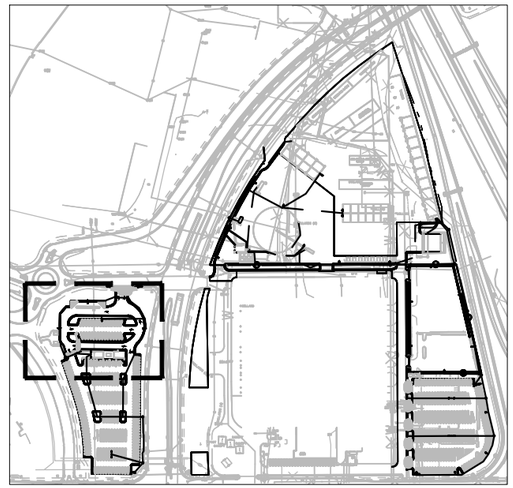
240/480 VOLT LIGHTING CONTROL CABINET POV-WISDOT 240/480

2



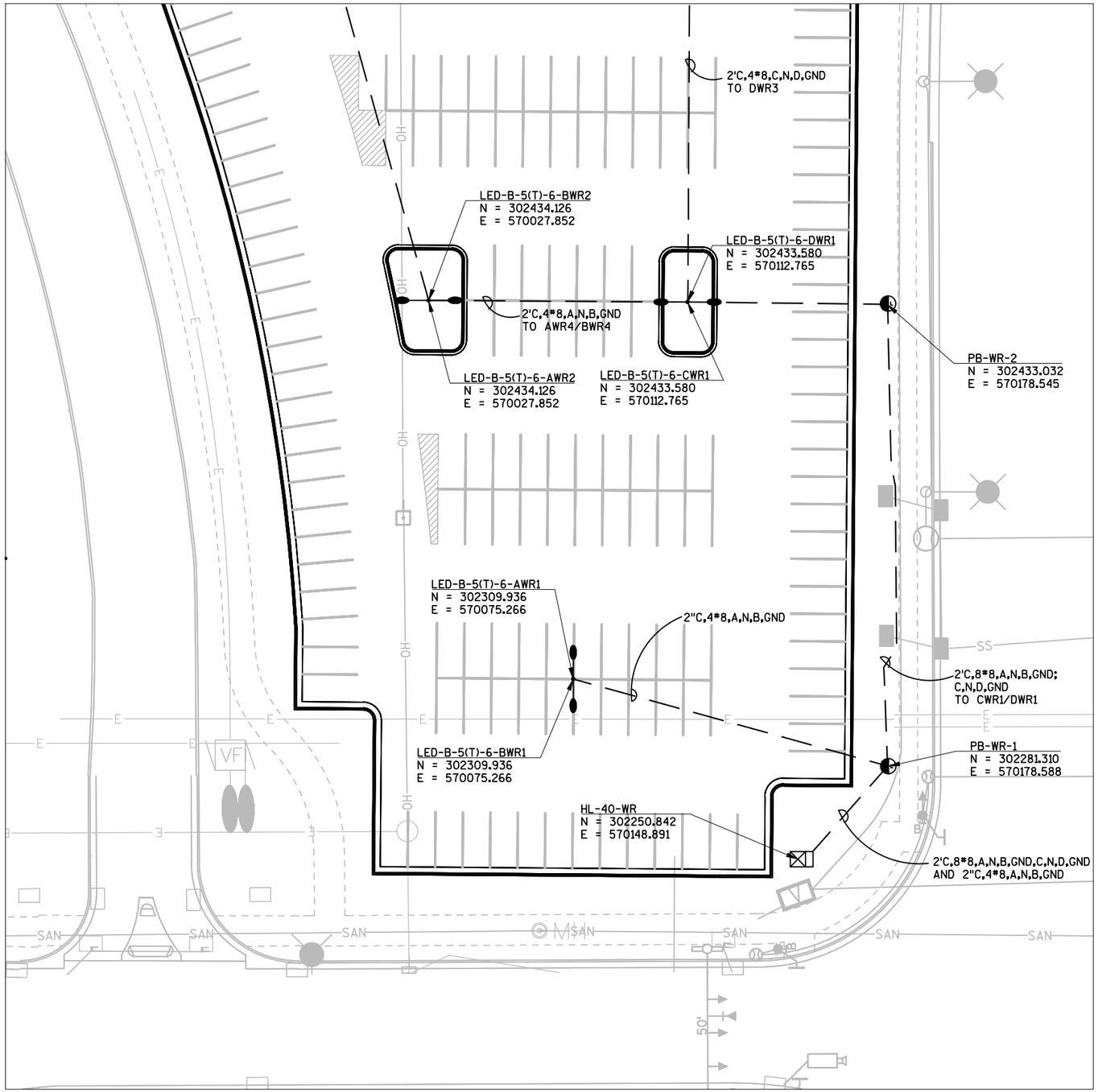

N

ELECTRICAL REFERENCE MAP



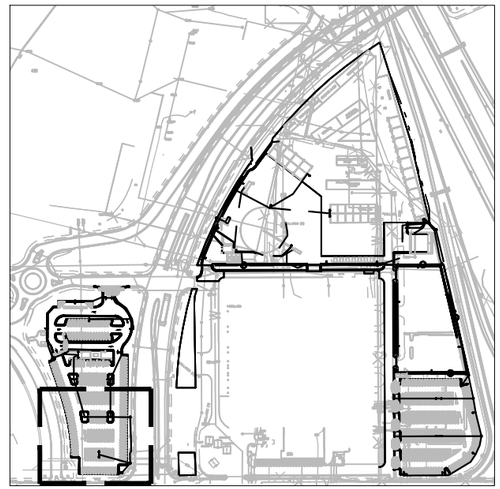
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ELECTRICAL SITE PLAN | SHEET 81 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\ELECTRICAL SITE LAYOUT\E SITE LAYOUT (PNR).DWG DATE : 10/27/2014 2:22 PM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : 1:40_XREF
DOT BLDGS - E SITE LAYOUT (PNR) - SP NW PNR
WISDOT/CADDS SHEET 42




N

ELECTRICAL REFERENCE MAP



2

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ELECTRICAL SITE PLAN | SHEET 82 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\ELECTRICAL SITE LAYOUT\E SITE LAYOUT (PNR).DWG DATE : 10/27/2014 2:22 PM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : 1:40_XREF
DOT BLDGS - E SITE LAYOUT (PNR) - SP SW PNR
WISDOT/CADDS SHEET 42

2

2

MDP-1
TO XFMR-E/PANEL LP-E
IN STORAGE BUILDING 1

PB-MDP-1
N = 303182.448
E = 570525.796

LED-D-A(T)-4-CMD1
N = 303208.386
E = 570542.184

LED-D-A(T)-4-AMD3
N = 303235.505
E = 570762.534

MDP-4.3

SCALE PEDESTAL BY
SCALE SUPPLIER

LPC-3.2

SEE MISCELLANEOUS
QUANTITIES FOR
CONDUIT AND WIRING
REQUIREMENTS (TYP)

MDP-4.5

MDP-4.4

LPC-3
LPC-3.1

LED-D-A(T)-4-AMD2
N = 303123.620
E = 570637.290

MDP-4.2

LED-D-A(T)-4-BMD2
N = 303105.215
E = 570836.621

PB-LPC-1
N = 303089.495
E = 570463.236

MDP-4.6

LED-D-A(4)-4-CMD2
N = 303105.215
E = 570836.621

LED-D-A(T)-4-BMD1
N = 303060.502
E = 570459.126

CONNECT TO DOME PANELBOARD.
WIRING TO RECEPTACLES, LIGHTING,
DOOR OPENER AND PANELBOARD
BY DOME INSTALLER. COORDINATE
LOCATION WITH DOME INSTALLER

MDP-4
MDP-1

LPC-4

LPC-1

STOP LIGHT
FOR SPRAY
BAR

LPC-4.1

LED-D-A(T)-4-BMD3
N = 302990.642
E = 570705.257

ES

MDP-4.1

CONNECT TO PEDESTAL MOUNTED
NON FUSED DISCONNECT SWITCH &
CONTROLS FOR CONVEYER.
PEDESTAL FURNISHED & INSTALLED
BY CONVEYOR SUPPLIER.

LED-B-5(T)-6-AMD1
N = 302962.192
E = 570417.809

MDP-5

MDP-2
MDP-2A

CIRCUIT IDENTIFICATION (TYP).
SEE DPW CONDUIT AND
CABLE MISCELLANEOUS QUANTITIES.

LED-B-5(T)-6-CMD3
N = 302935.375
E = 570825.735

LED-B-5(T)-6-AMD4
N = 302934.970
E = 570992.440

MDP-5.3

MDP-3.2

MDP-3

MDP-5.1

MDP-5.2

PB-MDP-2
N = 302934.851
E = 570548.675

PB-MDP-3
N = 302935.767
E = 570694.920

MDP-3.1

PB-MDP-4
N = 302933.690
E = 570994.611

BOLLARDS (6)

SIGN

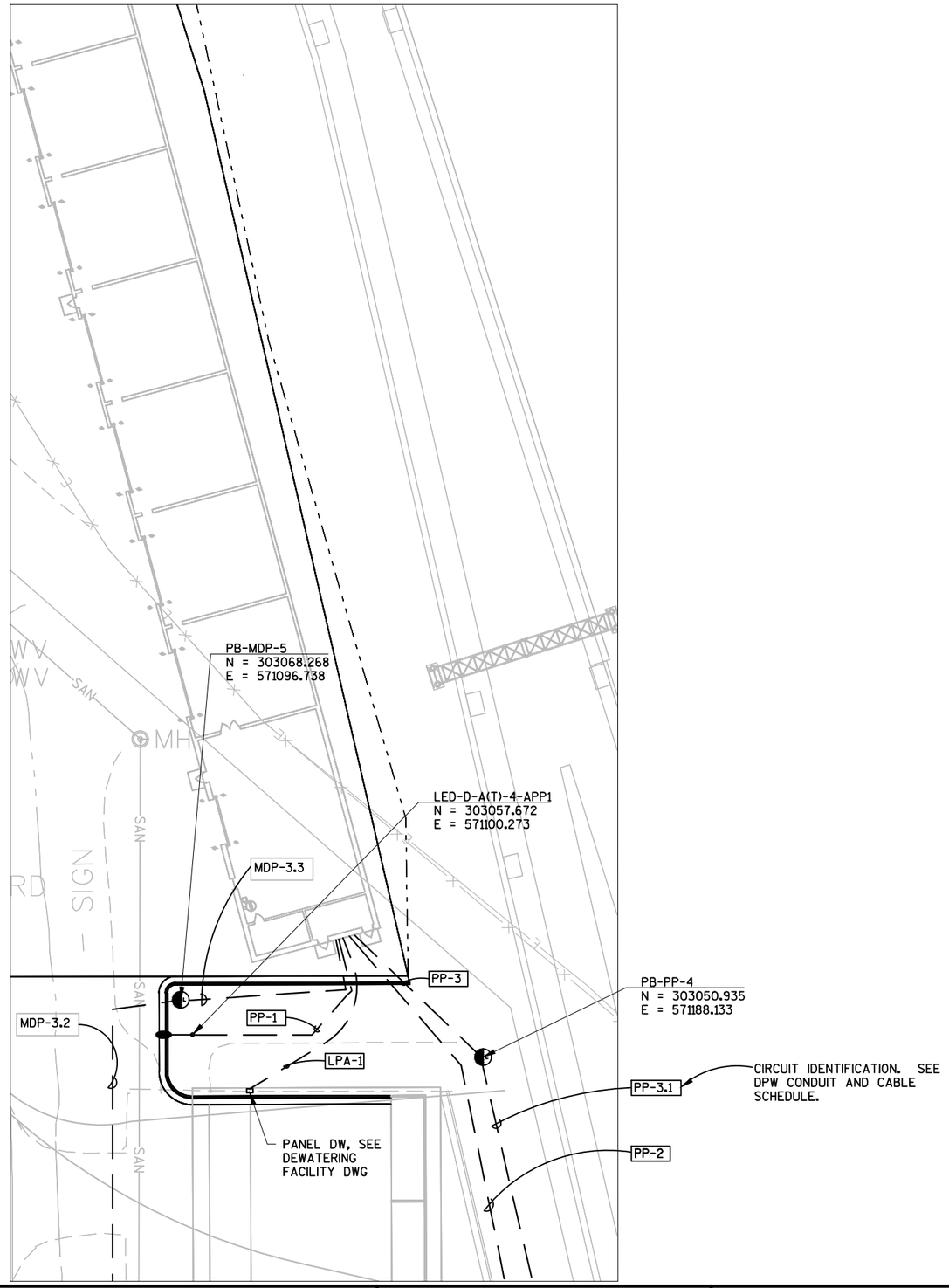
N

ELECTRICAL REFERENCE MAP

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ELECTRICAL SITE PLAN | SHEET | E |
|---|---|---|---|---|---|

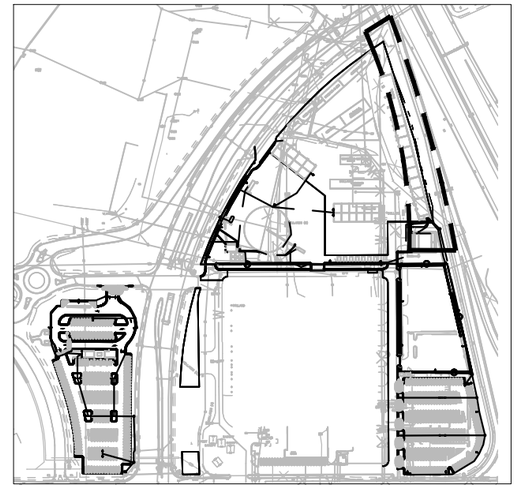


FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\ELECTRICAL SITE LAYOUT\E SITE LAYOUT.DWG PLOT DATE : 1/27/2015 11:27 AM
DOT BLDGS - E SITE LAYOUT - SP S DPW LOT
PLOT BY : WALTER A. WOLAK II PLOT NAME :
PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42




N

ELECTRICAL REFERENCE MAP



| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ELECTRICAL SITE PLAN | SHEET 84 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\ELECTRICAL SITE LAYOUT\E SITE LAYOUT.DWG PLOT DATE : 10/27/2014 2:23 PM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : *********
DOT BLDGS - E SITE LAYOUT - SP NE DPW LOT

WISDOT/CADDS SHEET 42

2

MDP-3.2

PB-PP-1
N = 302938.442
E = 571206.667

PP-2

PP-2.2

PP-2.1

PB-PP-2
N = 302935.362
E = 571061.691

LED-B-5(T)-4-BPP1
N = 302936.859
E = 571127.552

PP-3.1

PP-2.3

PP-2.5

LED-D-A(T)-4-BPP2
N = 302836.234
E = 571230.604

LED-D-A(T)-4-CPP1
N = 302813.038
E = 571055.590

PB-PP-5
N = 302781.973
E = 571249.777

PP-2.4

PP-3.2

PP-2.6

LED-D-A(T)-4-CPP2
N = 302664.694
E = 571271.932

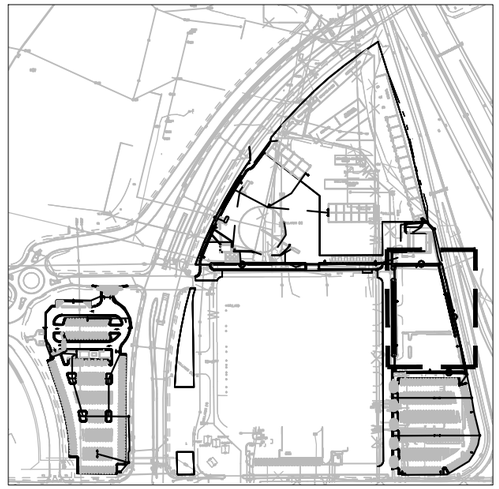
CIRCUIT IDENTIFICATION (TYP)
SEE DPW CONDUIT AND
CABLE SCHEDULE.

PP-2.7

LED-D-A(T)-4-APP2
N = 302667.635
E = 571054.220

N

ELECTRICAL REFERENCE MAP



2

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ELECTRICAL SITE PLAN | SHEET 85 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\ELECTRICAL SITE LAYOUT\E SITE LAYOUT.DWG PLOT DATE : 10/27/2014 2:24 PM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : *********
DOT BLDGS - E SITE LAYOUT - SP E DPW LOT

WISDOT/CADDS SHEET 42

2

LED-D-A(T)-4-APP3
N = 302576.322
E = 571172.291

PP-2.8

PP-2.7

PB-PP-3
N = 302574.809
E = 571288.670

PP-3.3

PB-PP-6
N = 302571.057
E = 571294.853

LED-B-5(T)-6-DPP2
N = 302494.744
E = 571057.887

PP-3.6

LED-B-5(T)-6-EPP1
N = 302494.744
E = 571195.942

PP-3.4

LED-B-5(T)-6-DPP1
N = 302543.240
E = 571274.957

LED-B-5(T)-6-EPP2
N = 302494.744
E = 571057.887

PP-3.5

PB-PP-7
N = 302494.900
E = 571310.478

PP-3.7

LED-B-5(T)-6-FPP1
N = 302494.744
E = 571195.942

LED-B-5(T)-6-FPP2
N = 302449.423
E = 571317.655

PP-3.8

LED-B-5(T)-6-FPP3
N = 302369.782
E = 571059.555

LED-B-5(T)-6-DPP3
N = 302370.596
E = 571196.537

PP-3.10

PP-3.9

PB-PP-8
N = 302370.494
E = 571336.938

PP-3.11

LED-B-5(T)-6-DPP4
N = 302369.782
E = 571059.555

LED-B-5(T)-6-EPP3
N = 302370.596
E = 571196.537

LED-B-5(T)-6-EPP4
N = 302310.536
E = 571317.306

PP-3.12

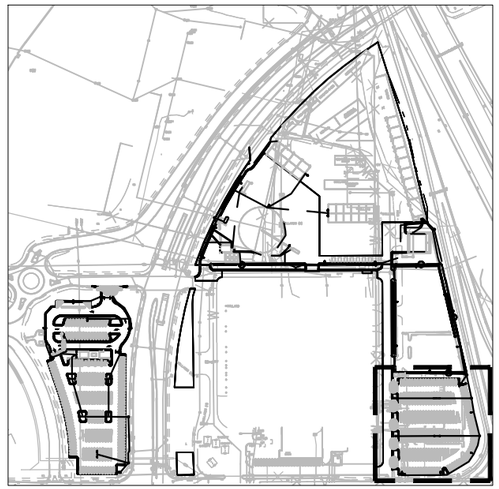
LED-B-5(T)-6-FPP4
N = 302241.902
E = 571207.789

LED-B-5(T)-6-DPP5
N = 302240.994
E = 571080.755

PP-3.13

N

ELECTRICAL REFERENCE MAP



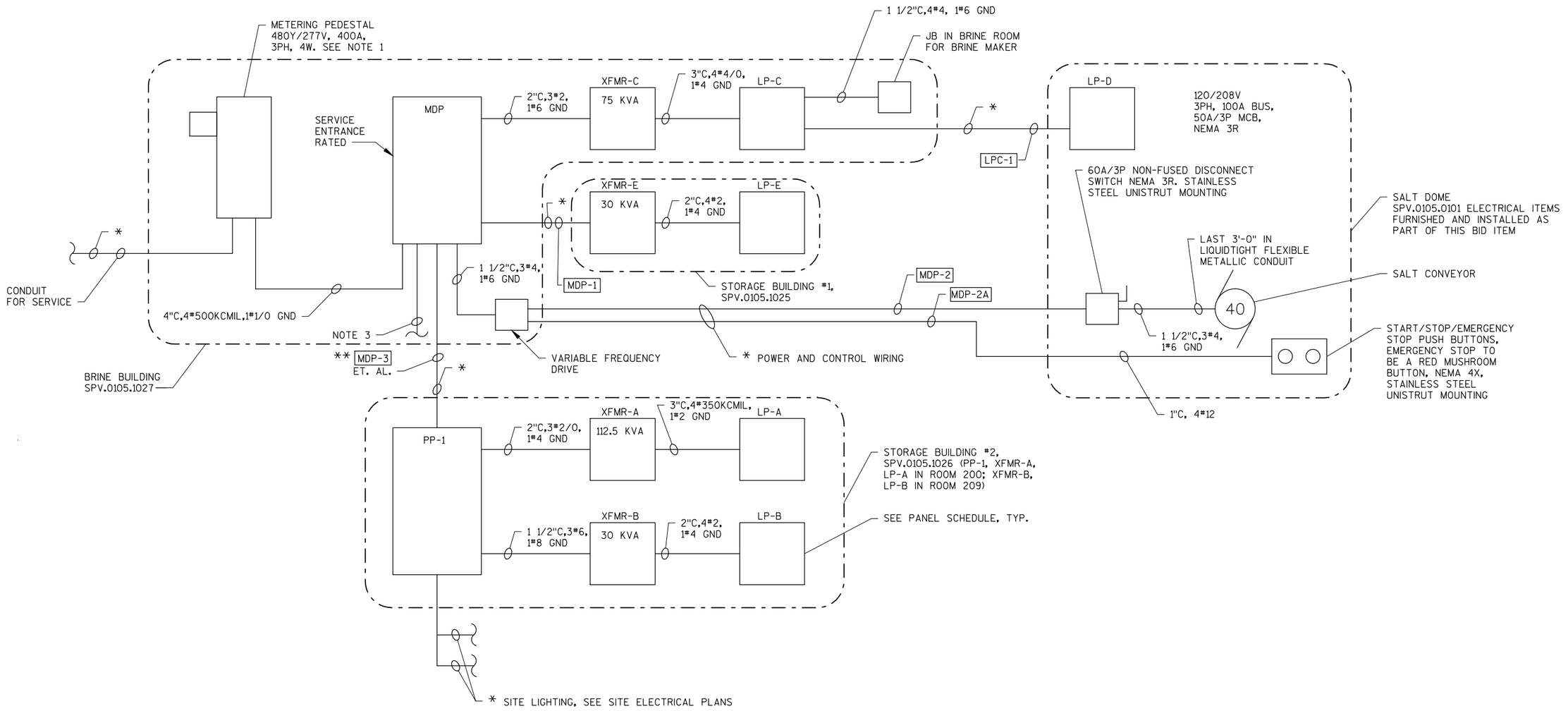
2

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ELECTRICAL SITE PLAN | SHEET 86 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\ELECTRICAL SITE LAYOUT\E SITE LAYOUT.DWG PLOT DATE : 10/27/2014 2:24 PM
DOT BLDGS - E SITE LAYOUT - SP PARKING

PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42




## ONE LINE DIAGRAM - DPW FACILITIES

NTS

* = SEE SITE ELECTRICAL PLAN AND MISCELLANEOUS QUANTITIES. SITE WIRING STARTS 5'-0" FROM BUILDING.

PARK-N-RIDE (P-N-R) FACILITY NOT SHOWN ON THIS DRAWING. SEE ELECTRICAL SITE PLAN AND MISCELLANEOUS QUANTITIES FOR P-N-R.

** = MDP-3 CALLED OUT BUT COMPLETE CIRCUIT REQUIRES MDP-3.1 ETC TO REACH FINAL DESTINATION, TYPICAL.

NOTES:

1) SEE WE ENERGIES ELECTRICAL SERVICE AND METERING MANUAL PAGES U15, U18, M21, AND D17.
2) XFMR = TRANSFORMER. ALL ARE 480-208/120V, 3 PHASE.
3) 1#1/0 GROUNDING ELECTRODE CONDUCTOR. 4 OF 5/8" * 10' CU GND RODS SPACED A MINIMUM OF 10' APART. CONNECT TO REBAR IN BUILDING FLOOR AND REBAR IN TANK AREA FLOOR.

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ONE LINE DIAGRAM - DPW FACILITIES | SHEET 87 | E |
|---|---|---|---|---|---|

2

2

DPW BUILDINGS FIXTURE SCHEDULE

| TYPE | DESCRIPTION - ALL FIXTURE ARE MINIMUM DAMP LOCATION RATED | LAMPS | VOLTAGE | MANUFACTURER | CATALOG NUMBER | REMARKS |
|---|---|---|---|---|---|---|
| A | LED EQUIVALENT OF 3x32w T8 | LED | MVOLT | LITHONIA | VAP-79LED-4100K-ASY-STSL NOTE 3 | NOTE 2 |
| A | LED EQUIVALENT OF 3x32w T8 | LED | 120-277V | CREE | WS4-59L-40K | NOTE 2 |
| B | LED HIGH BAY, | LED | MVOLT | HOLOPHANE | PHZ-18L-4K-AS-P-W-W-PHZCHAINX | NOTE 4 |
| B | LED HIGH BAY, | LED | MVOLT | CREE | INT-EDR-HC OR PD-08-D-UL-WH-525-40K | NOTE 4 |
| WALLPACK | LED WALLPACK | LED | MVOLT | LITHONIA | TWR2-1-50K-MVOLT-DDB | |
| EM-1 | LED EXIT LIGHT WITH EMERGENCY LIGHTS | LED | 120/277 | LITHONIA | ECR-LED-HO-M6 | NOTE 5 |

NOTES

SEE ELEICAL SITE PLAN AND MISCELLANEOUS QUANTITIES FOR POLE MOUNTED LUMINAIRES

1. MVOLT = AUTO-SENSING 120-277V; AFF = Above Finished Floor
2. CHAIN OR PENDANT MOUNT SO FIXTURE IS 12'-0" AFF
3. IF OPTION MSI20 IS FUNISHED, ASSOCIATED MOTION SENSOR IN ROOM MAY BE DELETED.
4. CHAIN, HOOK & CORD OR PENDANT MOUNT SO FIXTURE IS 15'-0" AFF
5. EXIT LIGHTS AT EXTERIOR DOORS TO HAVE ONE WEATHERPROOF LIGHT ON EXTERIOR (ELA LED WP M12) AND ONLY ONE INTERIOR EMERGENCY LIGHT.

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

STOP R1-1 — 7R — REMOVE

SPEED LIMIT 15 R2-1 — 10R — REMOVE

YIELD R1-2 — 9R
SPEED LIMIT 15 R2-1 — REMOVE

STOP R1-1 — 8R — REMOVE

STOP R1-1 — 6R — REMOVE

SHERRIFF BUILDING

R7-8 — 4R
R7-8 — 5R
REMOVE

COUNTY OFFICE PARKING ONLY
MOVE
(ON FENCE)
SEE PERMANENT SIGNING PLAN

STOP R1-1 — 3R — REMOVE

SHERRIFF'S OFFICE PARKING ONLY — 1R, 2R
REMOVE
ON FENCE

MH

40WEB BM40 40WWB
41WEB BM41 41WWB
42WEB BM42 42WWB
43WEB 43WWB
44WEB 44WWB
45WEB 45WWB

766WD 767WD 768WD 769WD 770WD 771WD 772WD 773WD 774WD 775WD
771WG 772WG 773WG 774WG

SHEET 1 OF 2

| PROJECT NO: 1060-34-73 | HWY: WTP PARK & RIDE | COUNTY: MILWAUKEE | SIGNING REMOVAL PLAN | SHEET 89 E |
|---|---|---|---|---|

FILE NAME : J:\projects\D2_10603445\Sign\023101_ps.dgn PLOT DATE : 24-OCT-2014 11:12 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 60:1

WISDOT/CADDS SHEET 42

2

N

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

STOP
R1-1
12R
REMOVE

SPEED LIMIT 15
R2-1
11R
REMOVE

SHEET 2 OF 2

| PROJECT NO: 1060-34-73 | HWY: WTP PARK & RIDE | COUNTY: MILWAUKEE | SIGNING REMOVAL PLAN | SHEET 90 | E |
|---|---|---|---|---|---|

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

XXX DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

W. WATERTOWN PLANK ROAD

SWAN BOULEVARD

WLC ACCESS ROAD

UNDERWOOD PARKWAY

ON LIGHT POLE

01 PARK & RIDE
D4-2L(2M)

01A 36" X 36"

04 P ARKING
D4-1(MOD)

05 BUSES
D4-1(MOD)

30 ONE WAY
R6-2R(2S)

08 NO COMMERCIAL ACTIVITY ALLOWED IN PARK & RIDE
30" X 42"

09 NO PARKING EXCEPT CRASH INVESTIGATION VEHICLES
36" X 42"

09A 2 HOUR LIMIT
R8-56
24" X 18"

07 NO STOPPING OR STANDING
R7-4D(2S)

SITE 40
D1-1
54" X 36"
10

13 NO PARKING EXCEPT CRASH INVESTIGATION VEHICLES
36" X 42"

13A 2 HOUR LIMIT
R8-56
24" X 18"

14 36" X 36"

15 R5-2(2S)

15A 3 TONS OR OVER
R5-2A(2S)

15B EXCEPT BUSES
R5-2A(MOD)

RIDESHARE
www.rideshare.wi.gov
1-800-455-POOL
D12-2A(2S)(MOD)
12

17 15 SPACES
LONG-TERM PARKING 5-DAY MAX
24" X 24"

16 15 SPACES
LONG-TERM PARKING 5-DAY MAX
24" X 24"

06 11 R7-8A(2S)
44 45 46
47 48

18 R7-4D(2S)

ONE WAY
R6-2R(2S)
29

20 21 22 DO NOT ENTER
R5-1(2S)

19 ONE WAY
R6-2R(2S)

23 STOP
R1-1(2S)

24 25 Watertown Plank
PARK & RIDE
204" X 102"
TYPE I
ON STEEL POSTS

26 PARK & RIDE
D4-2R(2M)

26A 36" X 36"

D4-2L(2M)
27 PARK & RIDE
27A 36" X 36"
INSTALL 265' EAST ON LIGHT POLE

28 PARK & RIDE
D4-2L(2M)
28A 36" X 36"

BMMC2
29MWB
30MWB
BMMC3
31MWB
BMMC1
32MWB
BMMC2
32EWB
33EWB
BMMC4
33MWB
BMMC3
34EWB
BMMC5
34MWB
BMMC4

N

GUY
GUY

SHEET 1 OF 3

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PERMANENT SIGNING | SHEET 91 | E |
|---|---|---|---|---|---|

FILE NAME : J:\projects\D2_10603445\Sign\023201_ps.dgn PLOT DATE : 28-OCT-2014 10:51 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 60:1

WISDOT/CADDS SHEET 42

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

NOTE:
FOR YIELDING TO TRUCKS
COMING OUT OF GARAGE

N

2

2

NO PARKING ANY TIME
R7-1D
ESTR

STOP
R1-1
MOVE
50

SPEED LIMIT 15
R2-1
51

RESERVED PARKING
R7-8A(2S)
31 32 33 34
35 36 37 38

MOTORCYCLE PARKING ONLY
R7-63R(MOD)(1)
40

FLEET VEHICLES ONLY
42 43

YIELD
R1-2(2S)
57

STOP
R1-1(2S)
58
59

W12-1L
ESTR

COUNTY EMPLOYEE PARKING LOT
52
53

STOP
R1-1(2S)
60

54
55
SPEED LIMIT 15
R2-1

STOP
R1-1(2S)
56

MOTORCYCLE PARKING ONLY
R7-63D(MOD)(1)
41

MOTORCYCLE PARKING ONLY
R7-63L(MOD)(1)
39

40WEB 40WMB
41WEB 41WMB
42WEB 42WMB
43WEB 43WMB
44WEB 44WMB
45WEB 45WMB
BM#4
BM#24

766WD 767WD 768WD 769WD 770WD 771WD 772WD 773WD 774WD 775WD
770WC 771WC 772WC 773WC 774WC

SHEET 2 OF 3

| PROJECT NO: 1060-34-73 | HWY: WTP PARK & RIDE | COUNTY: MILWAUKEE | PERMANENT SIGNING | SHEET 92 | E |
|---|---|---|---|---|---|

2

2

N

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

STOP 64 R1-1(2S)

SLIDING GATE

SPRAYER

SALT BRINE

PAVEMENT SWALE (TYP)

SCALE

BOLLARD (TYP)

SPEED LIMIT 15 62 R2-1(2S)

20,000 TON SALT DOME

ASPHALT

CONVEYOR

PIT

7 LIGHT POLES ON GROUND

6' FENCE W/ BARBED WIRE

PAVEMENT SWALE (TYP)

STORAGE BUILDING 1

SAND SALT

SNOW FENCE

TOTES

T.C. STUFF

HOT LOADS

TAR

HOT LOADS

COLD PATCH

CONCRETE

CURB STOP (TYP)

ASPHALT

PALLETS

SOUND WALLS

CULVERTS

BRIDGE RAIL & MISC

MISC STEEL

PAVEMENT SWALE (TYP)

PLOWS (4)

BOLLARDS (4)

CONCRETE

4 PLOWS 1 BOAT

ASPHALT

PLOWS (24) 2 LARGE PLOWS

PLOWS (17)

DUMP TRUCK GATES (7)

GRATES (7)

JACK STANDS (2)

SMALL SALT HOPPERS (48)

LARGE SALT HOPPERS (11)

CONCRETE SLOPE PAVING

6' FENCE

HYDRANT ON GROUND

SAND

SAND

TEMPORARY SHED

CONCRETE BARRIER (TYP)

COLD PATCH

CONC FORMS

5 2-GAL GAS TANKS

STOP 61 R1-1(2S)

SLIDING GATE

SPEED LIMIT 15 62 R2-1(2S)

METAL

BINS

SAND

ASPHALT

SIGN

SHEET 3 OF 3

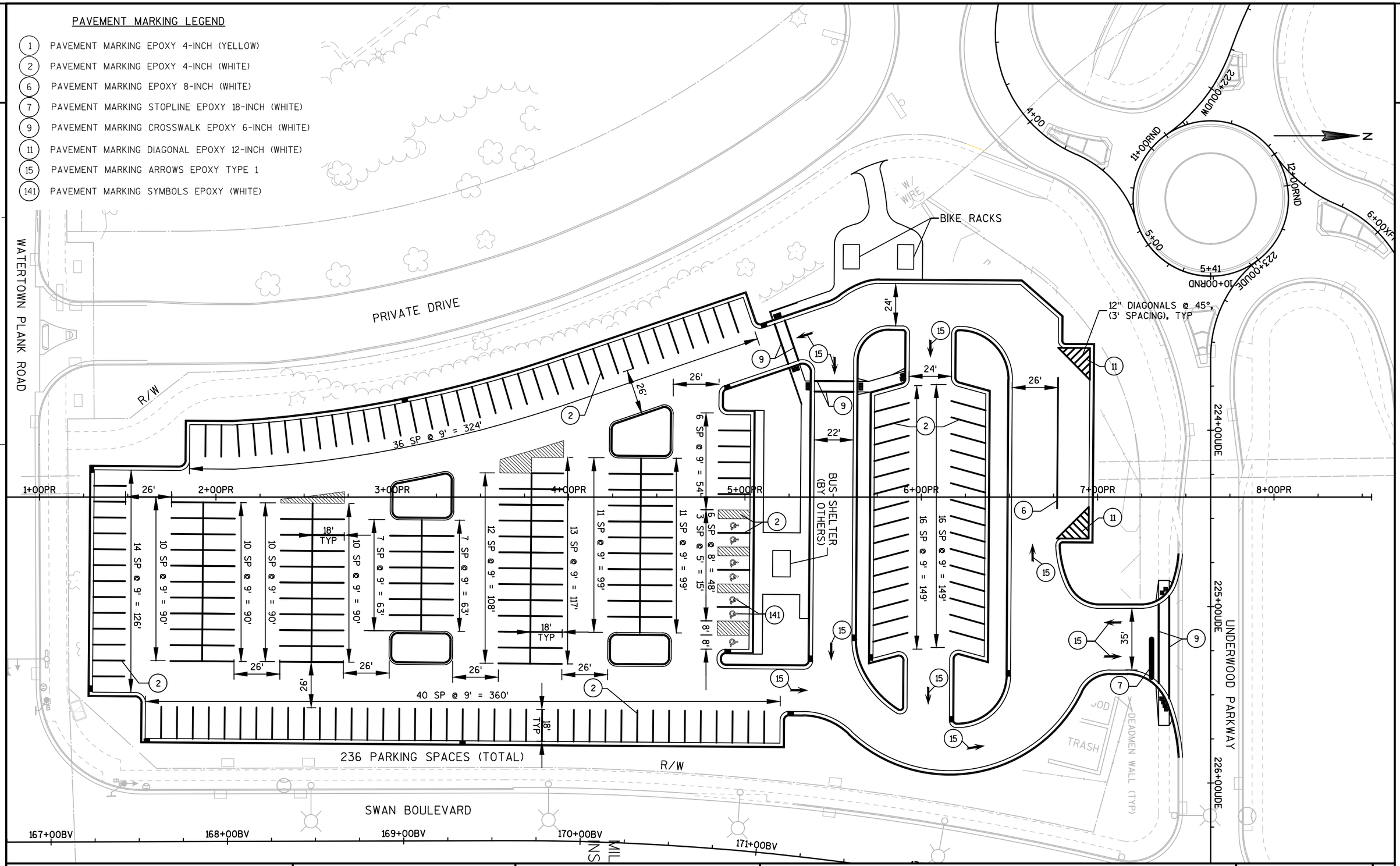
| PROJECT NO: 1060-34-73 | HWY: WTP PARK & RIDE | COUNTY: MILWAUKEE | PERMANENT SIGNING | SHEET 93 | E |
|---|---|---|---|---|---|

FILE NAME : J:\projects\D2_10603445\Sign\023203_ps.dgn PLOT DATE : 28-OCT-2014 10:55 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 60:1

WISDOT/CADDS SHEET 42

## PAVEMENT MARKING LEGEND

| | |
|---|---|
| 1 | PAVEMENT MARKING EPOXY 4-INCH (YELLOW) |
| 2 | PAVEMENT MARKING EPOXY 4-INCH (WHITE) |
| 6 | PAVEMENT MARKING EPOXY 8-INCH (WHITE) |
| 7 | PAVEMENT MARKING STOPLINE EPOXY 18-INCH (WHITE) |
| 9 | PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE) |
| 11 | PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE) |
| 15 | PAVEMENT MARKING ARROWS EPOXY TYPE 1 |
| 141 | PAVEMENT MARKING SYMBOLS EPOXY (WHITE) |




| | | | | |
|---|---|---|---|---|
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PAVEMENT MARKING - PARK AND RIDE | SHEET 94 E |

| RADIUS TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | RADIUS |
| A | 1PR+67.93 | 734.97' LT | 739' |
| B | 1PR+67.93 | 734.97' LT | 739' |

PRIVATE DRIVE

N

R/W

4" DIAGONALS @ 45°, (2' SPACING), TYP

PR+72.94
3.13'LT

PR+36.91
1.15'RT

A

PR+36.89
3.32'RT

PR+72.87
3.57'RT

2+00PR

3+00PR

4" DIAGONALS @ 45°, (2' SPACING), TYP

PR+97.16
32.07'LT

B

PR+61.08
21.31'LT

PR+97.09
22.47'LT

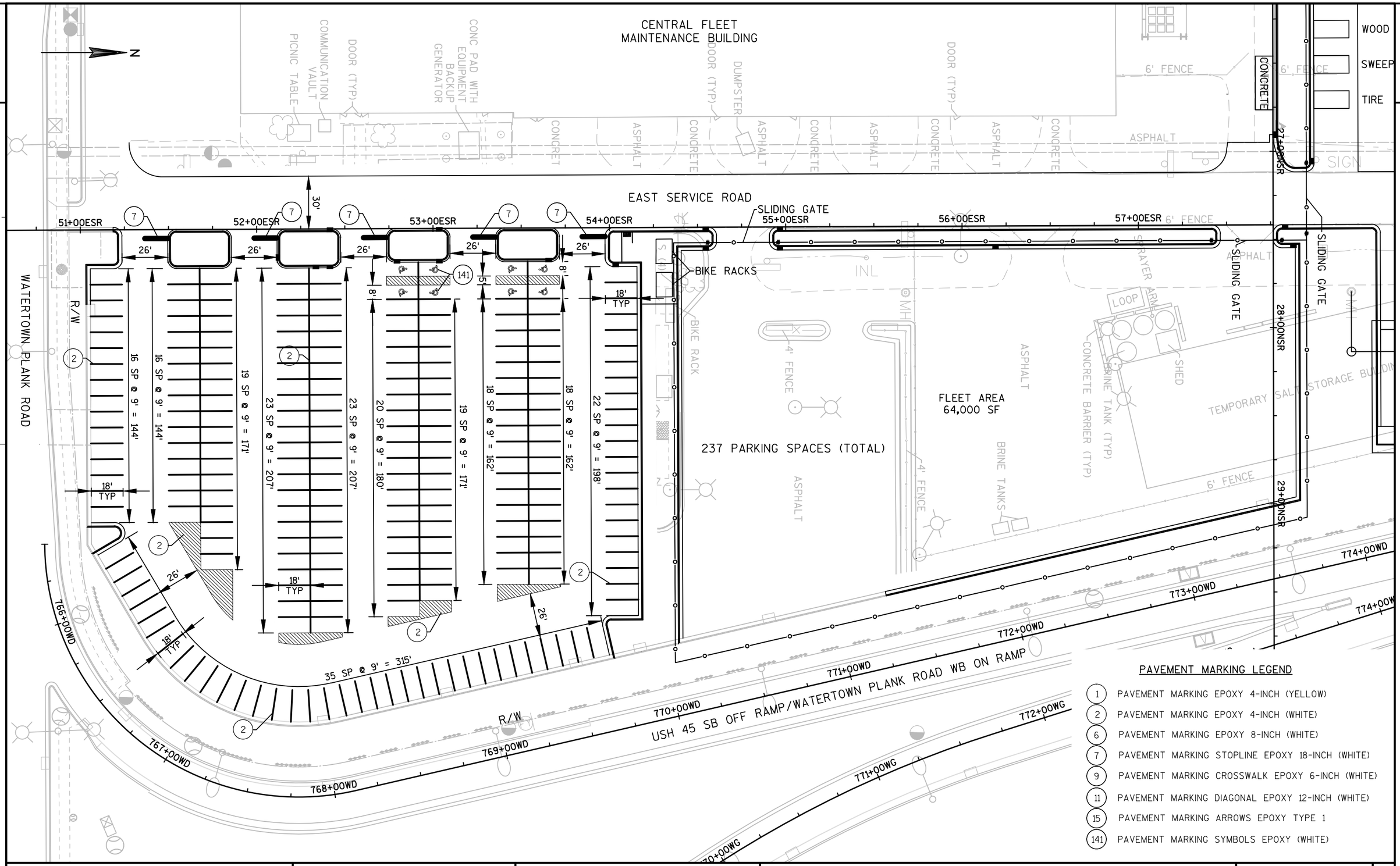
PR+79.09
22.61'LT

PR+61.03
13.75'LT

PR+79.02
13.62'LT

4+00PR

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STRIPED ISLAND DETAIL - PARK & RIDE | SHEET 95 | E |
|---|---|---|---|---|---|




## PAVEMENT MARKING LEGEND

| | |
|---|---|
| 1 | PAVEMENT MARKING EPOXY 4-INCH (YELLOW) |
| 2 | PAVEMENT MARKING EPOXY 4-INCH (WHITE) |
| 6 | PAVEMENT MARKING EPOXY 8-INCH (WHITE) |
| 7 | PAVEMENT MARKING STOPLINE EPOXY 18-INCH (WHITE) |
| 9 | PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE) |
| 11 | PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE) |
| 15 | PAVEMENT MARKING ARROWS EPOXY TYPE 1 |
| 141 | PAVEMENT MARKING SYMBOLS EPOXY (WHITE) |

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PAVEMENT MARKING | SHEET 96 | E |
|---|---|---|---|---|---|

2

2

N

FACILITIES PARKING

51ESR+49.52
166.04'RT

51ESR+67.52
166.04'RT

4" DIAGONALS @ 45°,
(2' SPACING), TYP

51ESR+67.52
193.04'RT

51ESR+85.52
193.04'RT

51ESR+72.85
205.98'RT

A

51ESR+85.58
221.60'RT

52ESR+11.52
229.04'RT

52ESR+47.52
229.04'RT

52ESR+47.52
231.51'RT

52ESR+11.58
234.36'RT

B

52ESR+35.67
234.18'RT

52ESR+91.52
211.04'RT

53ESR+09.52
211.04'RT

52ESR+73.52
220.04'RT

52ESR+91.52
220.04'RT

53ESR+09.52
217.51'RT

52ESR+73.52
225.64'RT

53ESR+35.52
202.04'RT

53ESR+71.52
202.04'RT

53ESR+71.52
203.51'RT

53ESR+35.52
211.64'RT

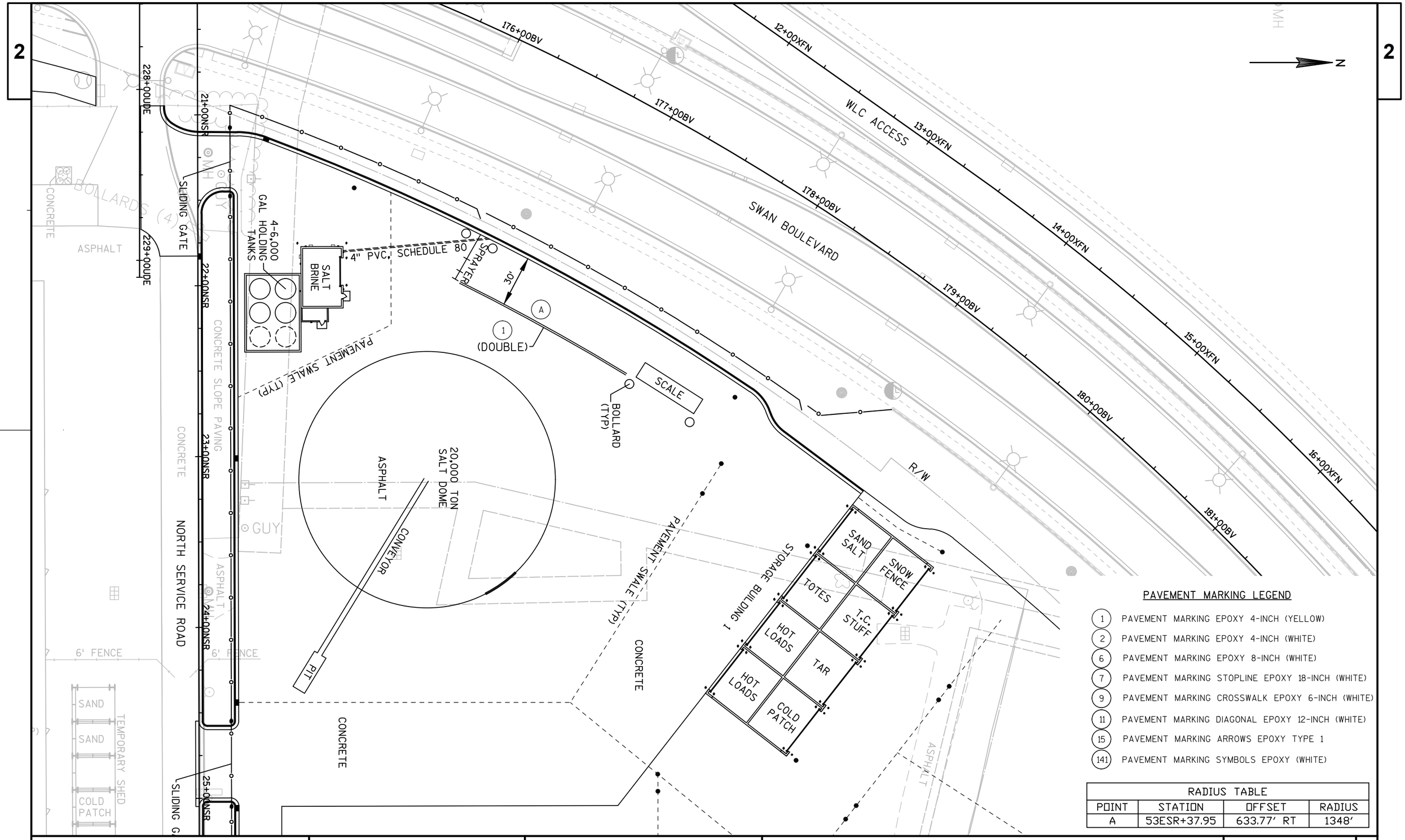
4" DIAGONALS @ 45°,
(2' SPACING), TYP

R/W

R/W

| RADIUS TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | RADIUS |
| A | 52ESR+23.02 | 178.13' RT | 57' |
| B | 52ESR+23.02 | 178.13' RT | 57' |

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STRIPED ISLAND DETAIL - DPW SITE (FACILITIES PARKING) | SHEET 97 | E |
|---|---|---|---|---|---|




## PAVEMENT MARKING LEGEND

| | |
|---|---|
| 1 | PAVEMENT MARKING EPOXY 4-INCH (YELLOW) |
| 2 | PAVEMENT MARKING EPOXY 4-INCH (WHITE) |
| 6 | PAVEMENT MARKING EPOXY 8-INCH (WHITE) |
| 7 | PAVEMENT MARKING STOPLINE EPOXY 18-INCH (WHITE) |
| 9 | PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE) |
| 11 | PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE) |
| 15 | PAVEMENT MARKING ARROWS EPOXY TYPE 1 |
| 141 | PAVEMENT MARKING SYMBOLS EPOXY (WHITE) |

| RADIUS TABLE | | | |
|---|---|---|---|
| POINT | STATION | OFFSET | RADIUS |
| A | 53ESR+37.95 | 633.77' RT | 1348' |

| | | | | |
|---|---|---|---|---|
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PAVEMENT MARKING | SHEET 98 E |

STAGE 1

CONSTRUCTION
- CONSTRUCT 20,000 TON SALT DOME
- CONSTRUCT WEST END OF THE NORTH SERVICE ROAD
- CONSTRUCT SALT BRINE BUILDING
- START CONSTRUCTION ON STORAGE BUILDING 1
- START CONSTRUCTION ON STORAGE BUILDING 2
- START CONSTRUCTION ON BINS
- CONCRETE PAVING
- ASPHALT PAVING

TRAFFIC
- NO ROAD CLOSURES

WORK ZONE

(X) DIRECTION OF TRAVEL (NUMBER OF LANES)

N

UNDERWOOD PARKWAY
WLC ACCESS ROAD
STH 100
N. MAYFAIR ROAD
SWAN BOULEVARD
W. WATERTOWN PLANK ROAD
USH 45 NB
USH 45 SB
MAYFAIR POND
WANGARD
ATHLETIC FIELD
HIGHWAY DEPT YARD
STORAGE BUILDING 1
STORAGE BUILDING 2
SEALE
SALT BRINE BUILDING
BINS
DUMPSTERS
20,000 TON SALT DOME
BRINE TANKS
CENTRAL FLEET MAINTENANCE BUILDING
PARKING
SHERIFF BUILDING DEMOLITION AREA
PARKING
PARKING

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STAGED CONSTRUCTION - STAGE 1 OVERVIEW | SHEET 99 | E |
|---|---|---|---|---|---|

STAGE 2

CONSTRUCTION
- MOVE SALT FROM TEMPORARY SALT STORAGE BUILDING TO 20,000 TON SALT DOME
- CONTINUE CONSTRUCTING STORAGE BUILDING 1
- CONTINUE CONSTRUCTING STORAGE BUILDING 2
- CONTINUE CONSTRUCTING BINS
- ASPHALT PAVING

TRAFFIC
- NO ROAD CLOSURES

WORK ZONE

(X) DIRECTION OF TRAVEL (NUMBER OF LANES)

N

STH 100
UNDERWOOD PARKWAY
WLC ACCESS ROAD
USH 45 SB
USH 45 NB
MAYFAIR POND
WANGARD
N. MAYFAIR ROAD
SWAN BOULEVARD
W. WATERTOWN PLANK ROAD
HIGHWAY DEPT YARD
STORAGE BUILDING 1
STORAGE BUILDING 2
SCALE
BINS
SALT BRINE BUILDING
RELOCATE SALT
TEMPORARY SALT STORAGE BUILDING
20,000 TON SALT DOME
BRINE TANKS
CENTRAL FLEET MAINTENANCE BUILDING
PARKING
SHERIFF BUILDING DEMOLITION AREA
ATHLETIC FIELD
CANADIAN PACIFIC R.R.
CREEK

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STAGED CONSTRUCTION - STAGE 2 OVERVIEW | SHEET 100 | E |
|---|---|---|---|---|---|

STAGE 3

CONSTRUCTION
- FINISH CONSTRUCTING STORAGE BUILDING 1
- FINISH CONSTRUCTING STORAGE BUILDING 2
- FINISH CONSTRUCTING BINS
- CONSTRUCT DEWATERING FACILITY
- CONCRETE PAVING
- ASPHALT PAVING

TRAFFIC
- NO ROAD CLOSURES

WORK ZONE

←(X) DIRECTION OF TRAVEL (NUMBER OF LANES)

N

STH 100
640SS
640SN
MAYFAIR POND
UNDERWOOD PARKWAY
WLC ACCESS ROAD
220UDW
10YFN
15YFN
180BV
175BV
185BV
5XFN
5XFS
10FND
225UDE
20NSR
25NSR
30NSR
HIGHWAY DEPT YARD
STORAGE BUILDING 1
STORAGE BUILDING 2
SALT DOME
BINS
DUMPSTERS
CONCRETE
DEWATERING CATCH BASIN
180WC
380NS
USH 45 SB
USH 45 NB
175WA
375NS
117WD
115WD
775WH
170WA
370NS
170WG
170WH
170WD
FLEET MAINTENANCE YARD
TEMPORARY FENCE
CENTRAL FLEET MAINTENANCE BUILDING
PARKING
SHERIFF BUILDING DEMOLITION AREA
765WD
365NS
765WG
765WH
750WG
WANGARD
635SS
635SN
N. MAYFAIR ROAD
630SS
630SN
5PR
170BV
SWAN BOULEVARD
55ESR
166BV
50ESR
0PR
W. WATERTOWN PLANK ROAD
20WWB
20WEB
25WWB
25WEB
30WWB
30WEB
35WWB
35WEB
40WWB
40WEB
45WWB
45WEB
50WWB
50WEB

| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STAGED CONSTRUCTION - STAGE 3 OVERVIEW | SHEET 101 | E |
|---|---|---|---|---|---|

2

STAGE 4

CONSTRUCTION
- MOVE MATERIALS TO HIGHWAY DEPARTMENT YARD
- MOVE FLEET VEHICLES TO FLEET MAINTENANCE YARD

TRAFFIC
- NO ROAD CLOSURES

WORK ZONE

(X) DIRECTION OF TRAVEL (NUMBER OF LANES)

N

STH 100
UNDERWOOD PARKWAY
WLC ACCESS ROAD
HIGHWAY DEPT YARD
USH 45 SB
USH 45 NB
STORAGE BUILDING
STORAGE BUILDING 2
MATERIALS
REFER TO "MATERIALS LOCATION PLAN"
RELOCATE STATE-OWNED
SALT DOME
BINS
DUMPSTERS
DEWATERING CATCH BASIN
MAYFAIR POND
ATHLETIC FIELD
FLEET MAINTENANCE YARD
TEMPORARY FENCE
RELOCATE FLEET VEHICLES (BY OTHERS)
REFER TO "EXISTING MATERIALS PLAN"
CENTRAL FLEET MAINTENANCE BUILDING
PARKING
SHERIFF BUILDING DEMOLITION AREA
WANGARD
N. MAYFAIR ROAD
SWAN BOULEVARD
W. WATERTOWN PLANK ROAD

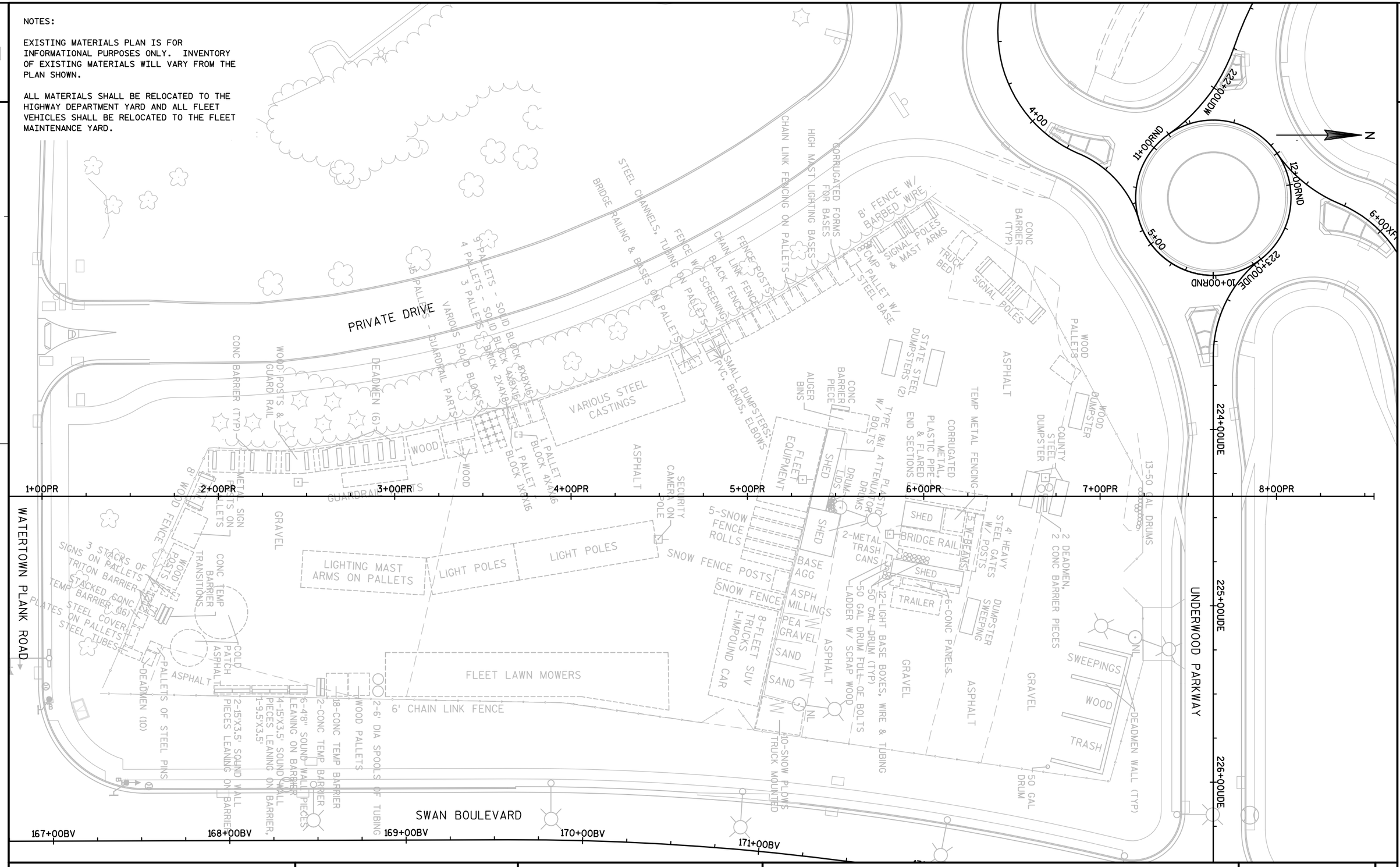
185BV 15XFN 180BV 10XFN 175BV 220UDW 5XFN 5XFS 10UND 8PR 225UDE 20NSR 25NSR 30NSR 180WG 117WD 380NS 375NS 175WA 117WD 175WS 775WH 170WA 170WG 170WH 370NS 365NS 55ESR 50ESR 0PR 5PR 170BV 166BV 640SS 640SN 635SS 635SN 630SS 630SN 765WD 765WG 765WH 750WG 20WWB 20WEB 25WWB 25WEB 30WWB 30WEB 35WWB 35WEB 40WWB 40WEB 45WWB 45WEB 50WWB 50WEB

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STAGED CONSTRUCTION - STAGE 4 OVERVIEW | SHEET 102 | E |
|---|---|---|---|---|---|

NOTES:

EXISTING MATERIALS PLAN IS FOR INFORMATIONAL PURPOSES ONLY. INVENTORY OF EXISTING MATERIALS WILL VARY FROM THE PLAN SHOWN.

ALL MATERIALS SHALL BE RELOCATED TO THE HIGHWAY DEPARTMENT YARD AND ALL FLEET VEHICLES SHALL BE RELOCATED TO THE FLEET MAINTENANCE YARD.




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STAGE 4 CONSTRUCTION - EXISTING MATERIALS PLAN | SHEET E |
|---|---|---|---|---|



FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\026302_S4.DWG PLOT DATE : 1/22/2014 2:54 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42

N

PIT

25NSR

STORAGE BUILDING 1

TOTES

SNOW FENCE

HOT LOADS

T.C. STUFF

HOT LOADS

TAR

COLD PATCH

PALLETS

SOUND WALLS

CULVERTS

BRIDGE RAIL & MISC

MISC STEEL

GM WALLS & STEEL PLATES

MISC

CASTINGS & BLOCKS

17+00XFN

WLC ACCESS ROAD

182+00BV

SWAN BOULEVARD

183+00BV

VLV Ø"

⊙MP

METAL

ALUM

METAL

ALUM

WOOD

SWEEPING

TIRE

DUMPSTERS

BINS

| | |
|---|---|
| SAND | ASPHALT |
| PEA GRAVEL | MILLING |
| TB | CONC |
| MIX | SWEEP |
| TOP SOIL | JUNK |
| WOOD CHIPS | WOOD |

AUGER BITS

LIGHT POLES 175'X30'

SIGN POSTS & MISC 100'X30'

FENCE

HIGHWAY DEPARTMENT YARD

SHELTER

GUARDRAIL

STORAGE BUILDING 2

781+00WG

780+00WG

779+00WG

778+00WG

USH 45 SB OFF RAMP

DEWATERING BASIN

| | | | | |
|---|---|---|---|---|
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STAGE 4 CONSTRUCTION - MATERIALS LOCATION PLAN | SHEET 104 E |

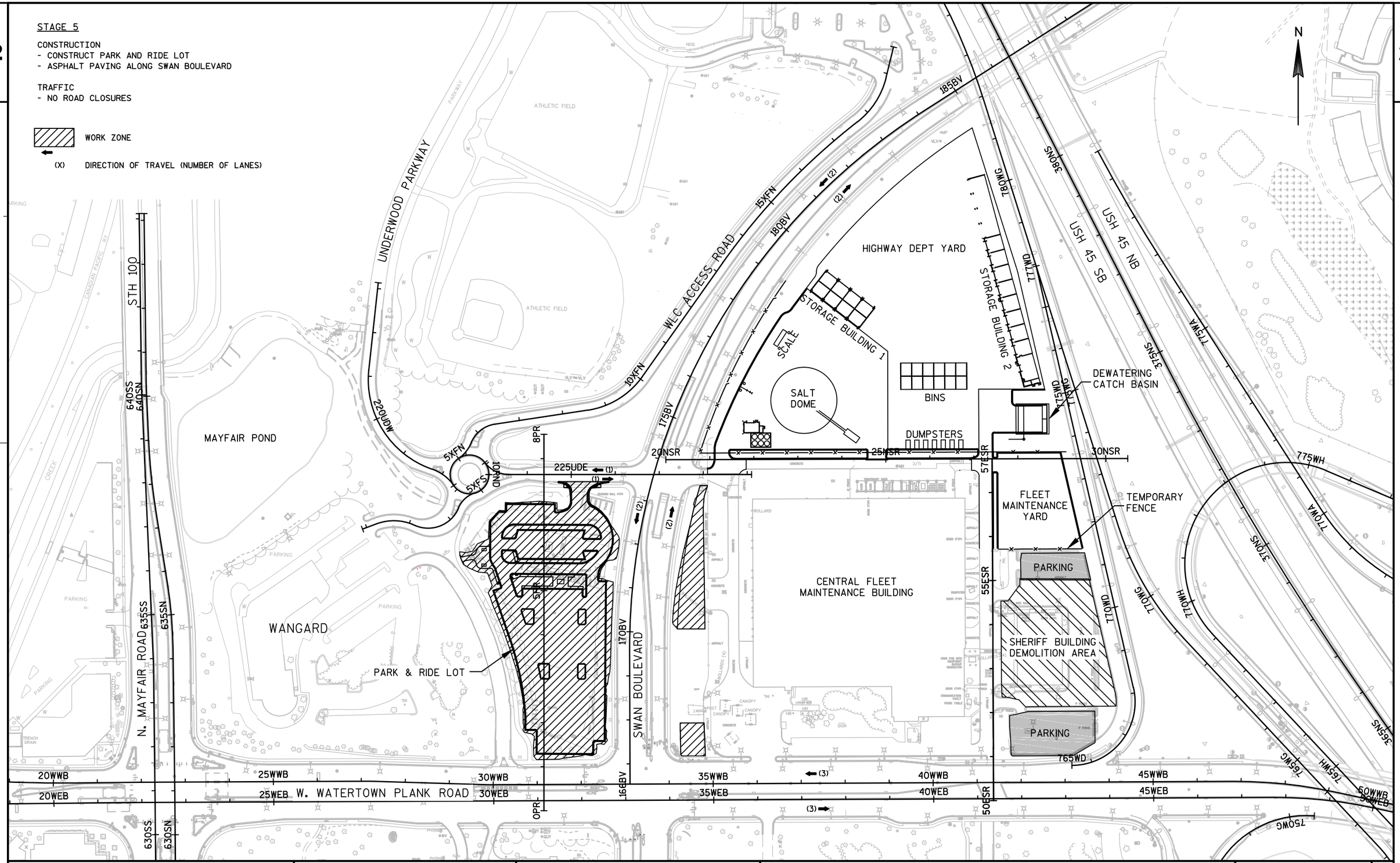
STAGE 5

CONSTRUCTION
- CONSTRUCT PARK AND RIDE LOT
- ASPHALT PAVING ALONG SWAN BOULEVARD

TRAFFIC
- NO ROAD CLOSURES

WORK ZONE

(X) DIRECTION OF TRAVEL (NUMBER OF LANES)




| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STAGED CONSTRUCTION - STAGE 5 OVERVIEW | SHEET 105 | E |
|---|---|---|---|---|---|

STAGE 6

CONSTRUCTION
- FACILITIES PARKING SHALL CONSIST OF 2-1/4" (LOWER LAYER) BINDER WITH TEMPORARY PAINT

TRAFFIC
- NO ROAD CLOSURES

WORK ZONE

(X) DIRECTION OF TRAVEL (NUMBER OF LANES)

N

STH 100
UNDERWOOD PARKWAY
WLC ACCESS ROAD
USH 45 SB
USH 45 NB
N. MAYFAIR ROAD
W. WATERTOWN PLANK ROAD
SWAN BOULEVARD
MAYFAIR POND
WANGARD
PARK & RIDE LOT
HIGHWAY DEPT YARD
STORAGE BUILDING 1
STORAGE BUILDING 2
SALT DOME
BINS
DUMPSTERS
DEWATERING CATCH BASIN
FLEET MAINTENANCE YARD
TEMPORARY FENCE
CENTRAL FLEET MAINTENANCE BUILDING
PARKING
FACILITIES PARKING
ATHLETIC FIELD
SCALE

| | | | | |
|---|---|---|---|---|
| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STAGED CONSTRUCTION - STAGE 6 OVERVIEW | SHEET 106 E |

STAGE 7

CONSTRUCTION
- CONSTRUCT SOUTH END OF FLEET MAINTENANCE YARD
- CONSTRUCT FACILITIES PARKING LOT
- PAVE UPPER UPPER LAYER (1-3/4") FOR ENTIRE FACILITIES PARKING LOT

TRAFFIC
- NO ROAD CLOSURES

WORK ZONE

(X) DIRECTION OF TRAVEL (NUMBER OF LANES)

N

STH 100
UNDERWOOD PARKWAY
WLC ACCESS ROAD
USH 45 SB
USH 45 NB
N. MAYFAIR ROAD
W. WATERTOWN PLANK ROAD
SWAN BOULEVARD
MAYFAIR POND
WANGARD
PARK & RIDE LOT
HIGHWAY DEPT YARD
STORAGE BUILDING 1
STORAGE BUILDING 2
SALT DOME
BINS
DUMPSTERS
SCALE
DEWATERING CATCH BASIN
CENTRAL FLEET MAINTENANCE BUILDING
FLEET MAINTENANCE YARD
FACILITIES PARKING
PARKING
ATHLETIC FIELD
CANADIAN PACIFIC RY
CREEK

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STAGED CONSTRUCTION - STAGE 7 OVERVIEW | SHEET 107 | E |
|---|---|---|---|---|---|

LEGEND

FENCE CHAIN LINK 6-FT

CENTRAL FLEET
MAINTENANCE BUILDING

EAST SERVICE ROAD

NORTH SERVICE ROAD

FACILITIES PARKING

FLEET AREA
64,000 SF

TEMPORARY SALT STORAGE BUILDING

WATERTOWN PLANK ROAD

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD WB ON RAMP

USH 45 SB OFF RAMP/WATERTOWN PLANK ROAD EB ON RAMP

ALUM
METAL
ALUM
WOOD
SWEEP
TIRE

51+00ESR
52+00ESR
53+00ESR
54+00ESR
56+00ESR
57+00ESR

ESR+36.35
8.71'RT

ESR+55.69
8.71'RT

SLIDING GATE
55+00ESR

ESR+95.69
8.71'RT

ESR+41.39
8.71'RT

NSR+50.41
5.00'LT

NSR+06.66
18.91'LT

NSR+46.66
18.91'LT

26+00NSR
27+00NSR
28+00NSR
29+00NSR
30+00NSR

NSR+07.60
18.91'LT

ESR+36.35
246.88'RT

766+00WD
767+00WD
769+00WD
770+00WD
771+00WD
772+00WD
773+00WD
774+00WD
772+00WG
773+00WG
774+00WG

BIKE RACKS

BIKE RACK

BRINE TANKS

BRINE TANK (TYP)

CONCRETE BARRIER (TYP)

SHED

LOOP

ARM

4' FENCE

6' FENCE

R/W

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | FENCING | SHEET 108 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\027101_FN.DWG PLOT DATE : 10/29/2014 1:33 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42

LEGEND

FENCE CHAIN LINK 6-FT

N

NSR+94.43 18.91'LT
NSR+07.53 18.91'LT
NSR+47.53 18.91'LT
NSR+58.06 168.71'LT
NSR+55.40 163.33'LT
NSR+54.80 18.91'LT
NSR+04.80 18.91'LT
NSR+67.70 351.63'LT
NSR+71.19 356.53'LT
NSR+73.46 405.54'LT
NSR+76.75 364.20'LT

21+00NSR
22+00NSR
23+00NSR
24+00NSR
25+00NSR
28+00UDE
229+00UDE

177+00BV
178+00BV
179+00BV
180+00BV
181+00BV
182+00BV
13+00XFN
14+00XFN
15+00XFN
16+00XFN

SLIDING GATE
4-6,000 GAL HOLDING TANKS
SALT BRINE
4" PVC, SCHEDULE 80
SPARE
R/W
WLC ACCESS
SWAN BOULEVARD
SCALE
BOLLARD (TYP)
PAVEMENT SWALE (TYP)
20,000 TON SALT DOME
CONVEYOR
PIT
NORTH SERVICE ROAD
CONCRETE SLOPE PAVING
CONCRETE
ASPHALT
BOLLARDS (4)
8" WV CONCRETE
GUY
8' FENCE
6' FENCE
SAND
SAND
TEMPORARY SHED
COLD PATCH
SLIDING GATE
METAL
BINS
SAND
ASPHALT
HIGHWAY DEPARTMENT YARD
STORAGE BUILDING 1
SAND SALT
SNOW FENCE
TOTES
T.C. STUFF
HOT LOADS
TAR
HOT LOADS
COLD PATCH
PAVEMENT SWALE (TYP)
R/W
PAVEMENT SWA

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | FENCING | SHEET 109 | E |
|---|---|---|---|---|---|

2

N

| CURVE DATA | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CURVE NO. | PI | PI COORDINATES | | Δ | D | T | L | E | R | PC | PT |
| | | X | Y | | | | | | | | |
| SN4 | 634SN+96.41 | 569183.36 | 302559.10 | 8°19'16" | 5°25'14" | 76.89 | 153.51 | 2.79 | 1057.00 | 634SN+19.52 | 635SN+73.03 |
| SN5 | 638SN+21.47 | 569132.20 | 302880.39 | 6°34'16" | 4°14'39" | 77.50 | 154.83 | 2.22 | 1350.00 | 637SN+43.98 | 638SN+98.80 |
| WEB1 | 16WEB+68.17 | 568581.78 | 302138.70 | 2°33'49" | 3°22'13" | 38.04 | 76.06 | 0.43 | 1700.00 | 16WEB+30.13 | 17WEB+06.19 |
| WEB2 | 18WEB+42.55 | 568756.06 | 302132.56 | 2°33'49" | 3°49'11" | 33.56 | 67.11 | 0.38 | 1500.00 | 18WEB+08.98 | 18WEB+76.10 |
| WWB1 | 15WWB+67.64 | 568479.98 | 302203.25 | 12°00'56" | 7°09'43" | 84.19 | 167.77 | 4.42 | 800.00 | 14WWB+83.44 | 16WWB+51.21 |
| WWB2 | 19WWB+15.32 | 568827.46 | 302179.25 | 4°30'00" | 1°38'13" | 137.52 | 274.89 | 2.70 | 3500.00 | 17WWB+77.80 | 20WWB+52.69 |
| RND1 | CC | 569858.21 | 302881.46 | 180°00'00" | 130°13'04" | N/A | 138.23 | N/A | 44.00 | 10RND+00.00 | 12RND+76.46 |
| UDE1 | 223UDE+29.23 | 569913.96 | 302881.46 | 52°07'05" | 81°51'04" | 34.23 | 63.67 | 7.92 | 70.00 | 222UDE+95.00 | 223UDE+58.67 |
| UDW1 | 220UDW+56.37 | 569611.03 | 302949.21 | 77°06'49" | 26°38'57" | 171.37 | 289.37 | 59.94 | 215.00 | 218UDW+85.00 | 221UDW+74.37 |
| UDW2 | 222UDW+06.74 | 569803.60 | 302882.68 | 35°52'27" | 57°17'45" | 32.37 | 62.61 | 5.11 | 100.00 | 221UDW+74.37 | 222UDW+36.98 |
| XFN1 | 5XFN+49.44 | 569852.53 | 302931.14 | 32°40'03" | 70°44'08" | 23.74 | 46.18 | 3.41 | 81.00 | 5XFN+25.70 | 5XFN+71.88 |
| XFN2 | 6XFN+11.44 | 569876.71 | 302989.63 | 58°56'21" | 81°51'04" | 39.56 | 72.01 | 10.40 | 70.00 | 5XFN+71.88 | 6XFN+43.89 |



| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ALIGNMENT LAYOUT | SHEET 110 | E |
|---|---|---|---|---|---|

2

T 7 N
20 20
20 20
R 21 E

X=571773.24
Y=304820.60

N

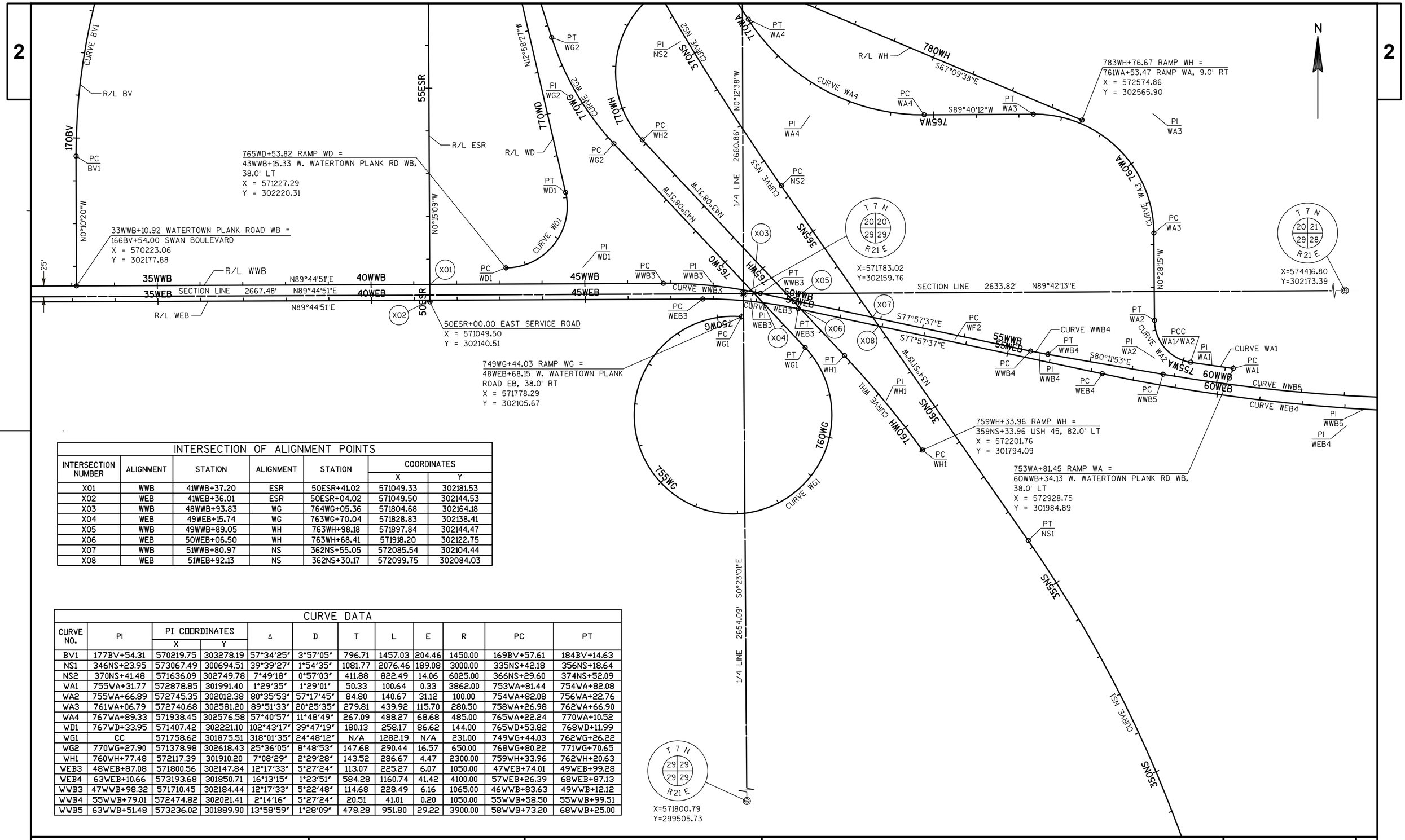
2660.86'
N0°12'38"W
1/4 LINE

390NS
N21°02'02"W
385NS
CURVE WG3
784WG+36.71 RAMP WG =
384NS+36.71 USH 45, 76.0' LT
X = 570933.66
Y = 303959.16
PT WG3
PI WG3
PC WG3
PT BV1
382NS+54.14 USH 45 =
186BV+44.18 SWAN BOULEVARD
X = 571084.33
Y = 303831.08
N57°24'05"E
PC BV2
190BV
CURVE BV2
PI BV2
PT BV2
N61°58'43"E
CURVE BV3
PC BV3
195BV
PI BV3
PT BV3
N75°29'25"E
199BV+82.65 SWAN BOULEVARD =
X = 572293.97
Y = 304377.30
19XFN+61.87 WLC ACCESS ROAD =
184BV+34.90 SWAN BOULEVARD, 159.43' LT
X = 570822.13
Y = 303852.65
N13°56'54"E
PT XFN5
CURVE XFN5
PRC XFN5
PI XFN5
185BV
PT BV1
PC WG3
R/L XFN
R/L BV
R/L WG
PI XFN4
15XFN
CURVE XFN4
180BV
PC XFN4
779WA+70.55 RAMP WA =
379NS+70.55 USH 45, 82.0' RT
X = 571286.27
Y = 303615.75
PT WA5
PI WA5
CURVE WA5
PC WA5
380NS
R/L NS
N17°32'27"W
180WG
777WD+95.21 RAMP WD =
777WG+95.21 RAMP WG
X = 571146.24
Y = 303354.76
PI BV1
N35°16'59"E
27NSR+41.71 NORTH SERVICE ROAD =
57ESR+76.40 EAST SERVICE ROAD
X = 571046.09
Y = 302916.90
CURVE XFN3
10XFN
PT XFN3
PI XFN3
PC XFN3
175BV
226UDE+87.64 UNDERWOOD PARKWAY =
173BV+62.66 SWAN BOULEVARD
X = 570277.15
Y = 302881.46
20NSR+00.00 NORTH SERVICE ROAD
X = 570304.38
Y = 302915.12
20NSR
R/L NSR
25NSR
N89°51'45"E
30NSR
N0°15'06"W
N12°58'27"W
175WD
175WG
R/L WG
R/L WD
N32°38'50"W
175WA
375NS
PT NS2
R/L WA
R/L NS
30NSR+49.89 NORTH SERVICE ROAD
X = 571354.26
Y = 302917.64
371NS+68.70 USH 45 =
773WH+09.05 RAMP WH
X = 571583.57
Y = 302867.36
774WH+59.90 RAMP WH =
771WA+37.19 RAMP WA
X = 571726.03
Y = 302908.13
775WH
PT WH2
CURVE WH2
S67°09'38"E
R/L WH
N90°00'00"E
229UDE+09.86 UNDERWOOD PARKWAY =
174BV+33.73 SWAN BOULEVARD, 212.31' RT
X = 570499.38
Y = 302881.46

CURVE DATA

| CURVE NO. | PI | PI COORDINATES X | PI COORDINATES Y | Δ | D | T | L | E | R | PC | PT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BV2 | 190BV+68.72 | 571441.99 | 304059.81 | 4°34'38" | 2°02'47" | 111.90 | 223.68 | 2.24 | 2800.00 | 189BV+56.82 | 191BV+80.50 |
| BV3 | 194BV+70.53 | 571796.81 | 304248.64 | 13°30'42" | 4°24'27" | 154.00 | 306.57 | 9.09 | 1300.00 | 193BV+16.53 | 196BV+23.10 |
| XFN3 | 9XFN+36.67 | 570205.31 | 303039.32 | 46°07'01" | 30°48'15" | 79.18 | 149.71 | 16.15 | 186.00 | 8XFN+57.50 | 10XFN+07.21 |
| XFN4 | 15XFN+47.52 | 570563.14 | 303545.02 | 16°48'05" | 3°46'36" | 224.04 | 444.87 | 16.45 | 1517.08 | 13XFN+23.48 | 17XFN+68.35 |
| XFN5 | 18XFN+31.26 | 570789.52 | 303721.35 | 38°08'10" | 31°28'52" | 62.91 | 121.14 | 10.57 | 182.00 | 17XFN+68.35 | 18XFN+89.49 |
| WA5 | 778WA+23.64 | 571355.72 | 303486.12 | 4°28'04" | 1°31'11" | 147.06 | 293.97 | 2.87 | 3770.00 | 776WA+76.58 | 779WA+70.55 |
| WG3 | 783WG+12.73 | 570990.26 | 303848.22 | 9°29'35" | 3°49'11" | 124.55 | 248.53 | 5.16 | 1500.00 | 781WG+88.19 | 784WG+36.71 |
| WH2 | 779WH+97.97 | 570803.89 | 303311.78 | 155°58'53" | 24°48'12" | 1085.91 | 628.87 | 879.21 | 231.00 | 769WH+12.07 | 775WH+40.94 |

| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ALIGNMENT LAYOUT | SHEET 111 | E |
|---|---|---|---|---|---|

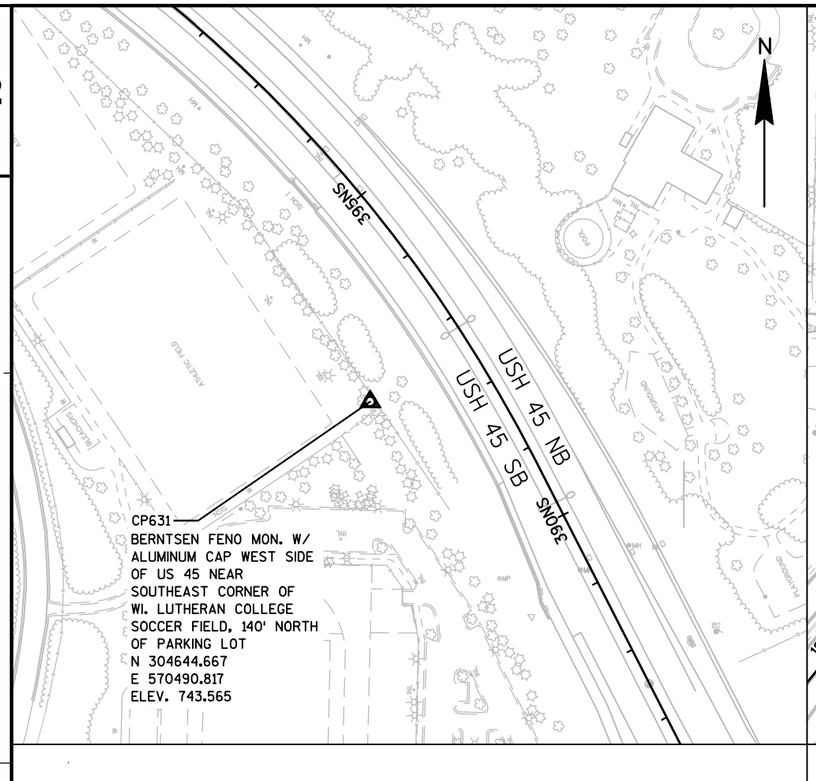


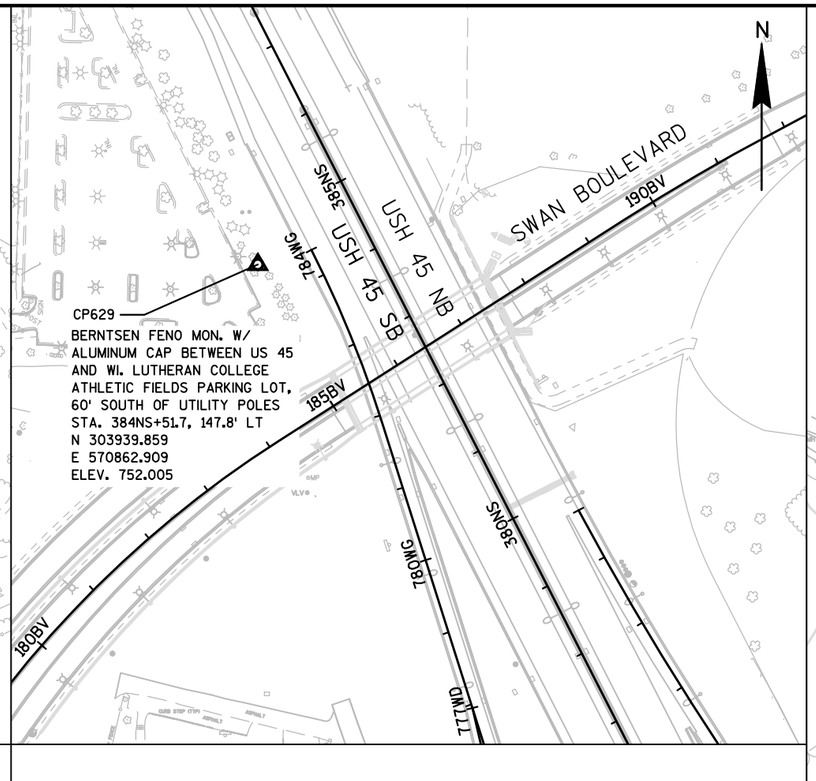

## INTERSECTION OF ALIGNMENT POINTS

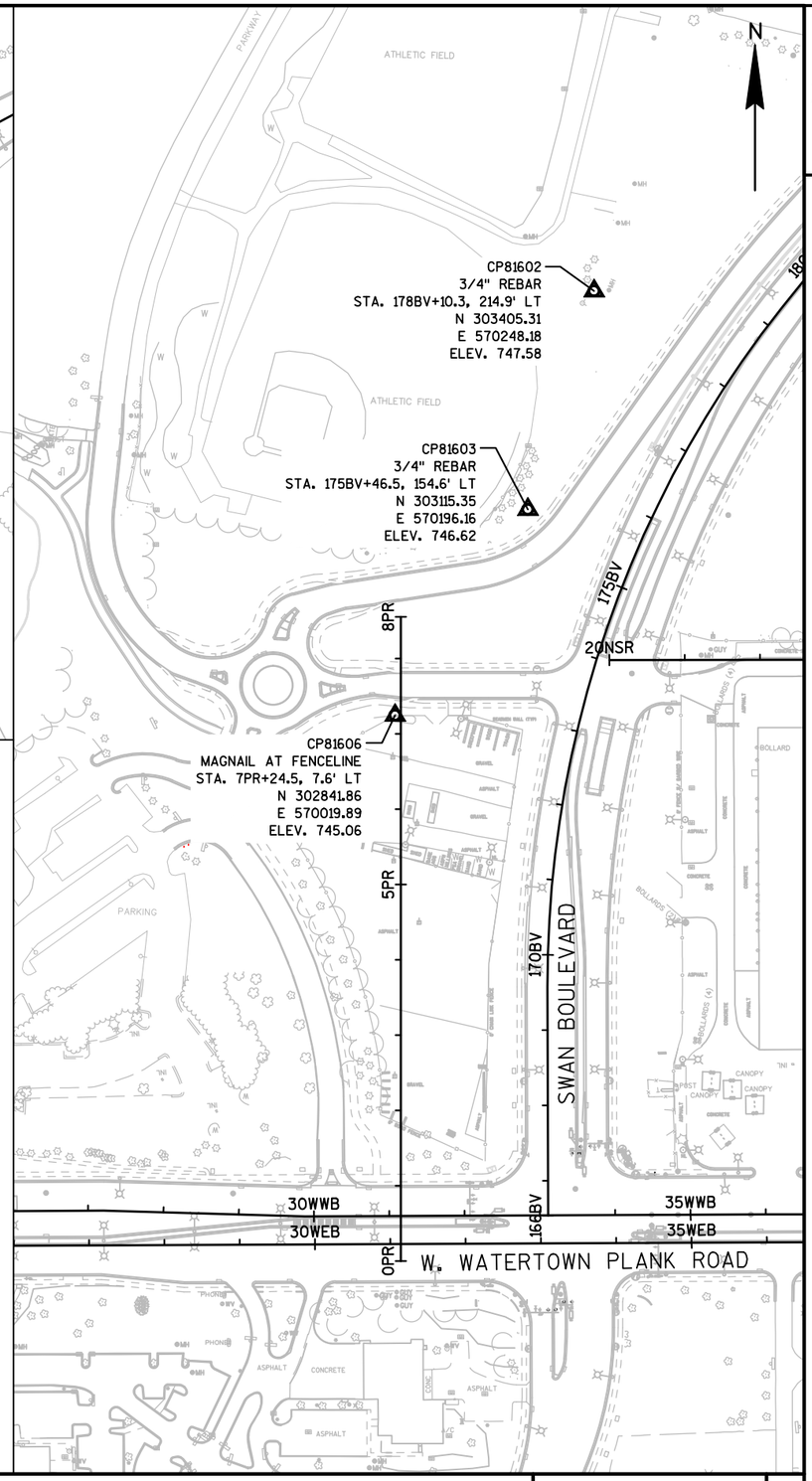
| INTERSECTION NUMBER | ALIGNMENT | STATION | ALIGNMENT | STATION | COORDINATES | |
|---|---|---|---|---|---|---|
| | | | | | X | Y |
| X01 | WWB | 41WWB+37.20 | ESR | 50ESR+41.02 | 571049.33 | 302181.53 |
| X02 | WEB | 41WEB+36.01 | ESR | 50ESR+04.02 | 571049.50 | 302144.53 |
| X03 | WWB | 48WWB+93.83 | WG | 764WG+05.36 | 571804.68 | 302164.18 |
| X04 | WEB | 49WEB+15.74 | WG | 763WG+70.04 | 571828.83 | 302138.41 |
| X05 | WWB | 49WWB+89.05 | WH | 763WH+98.18 | 571897.84 | 302144.47 |
| X06 | WEB | 50WEB+06.50 | WH | 763WH+68.41 | 571918.20 | 302122.75 |
| X07 | WWB | 51WWB+80.97 | NS | 362NS+55.05 | 572085.54 | 302104.44 |
| X08 | WEB | 51WEB+92.13 | NS | 362NS+30.17 | 572099.75 | 302084.03 |

## CURVE DATA

| CURVE NO. | PI | PI COORDINATES | | Δ | D | T | L | E | R | PC | PT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | X | Y | | | | | | | | |
| BV1 | 177BV+54.31 | 570219.75 | 303278.19 | 57°34'25" | 3°57'05" | 796.71 | 1457.03 | 204.46 | 1450.00 | 169BV+57.61 | 184BV+14.63 |
| NS1 | 346NS+23.95 | 573067.49 | 300694.51 | 39°39'27" | 1°54'35" | 1081.77 | 2076.46 | 189.08 | 3000.00 | 335NS+42.18 | 356NS+18.64 |
| NS2 | 370NS+41.48 | 571636.09 | 302749.78 | 7°49'18" | 0°57'03" | 411.88 | 822.49 | 14.06 | 6025.00 | 366NS+29.60 | 374NS+52.09 |
| WA1 | 755WA+31.77 | 572878.85 | 301991.40 | 1°29'35" | 1°29'01" | 50.33 | 100.64 | 0.33 | 3862.00 | 753WA+81.44 | 754WA+82.08 |
| WA2 | 755WA+66.89 | 572745.35 | 302012.38 | 80°35'53" | 57°17'45" | 84.80 | 140.67 | 31.12 | 100.00 | 754WA+82.08 | 756WA+22.76 |
| WA3 | 761WA+06.79 | 572740.68 | 302581.20 | 89°51'33" | 20°25'35" | 279.81 | 439.92 | 115.70 | 280.50 | 758WA+26.98 | 762WA+66.90 |
| WA4 | 767WA+89.33 | 571938.45 | 302576.58 | 57°40'57" | 11°48'49" | 267.09 | 488.27 | 68.68 | 485.00 | 765WA+22.24 | 770WA+10.52 |
| WD1 | 767WD+33.95 | 571407.42 | 302221.10 | 102°43'17" | 39°47'19" | 180.13 | 258.17 | 86.62 | 144.00 | 765WD+53.82 | 768WD+11.99 |
| WG1 | CC | 571758.62 | 301875.51 | 318°01'35" | 24°48'12" | N/A | 1282.19 | N/A | 231.00 | 749WG+44.03 | 762WG+26.22 |
| WG2 | 770WG+27.90 | 571378.98 | 302618.43 | 25°36'05" | 8°48'53" | 147.68 | 290.44 | 16.57 | 650.00 | 768WG+80.22 | 771WG+70.65 |
| WH1 | 760WH+77.48 | 572117.39 | 301910.20 | 7°08'29" | 2°29'28" | 143.52 | 286.67 | 4.47 | 2300.00 | 759WH+33.96 | 762WH+20.63 |
| WEB3 | 48WEB+87.08 | 571800.56 | 302147.84 | 12°17'33" | 5°27'24" | 113.07 | 225.27 | 6.07 | 1050.00 | 47WEB+74.01 | 49WEB+99.28 |
| WEB4 | 63WEB+10.66 | 573193.68 | 301850.71 | 16°13'15" | 1°23'51" | 584.28 | 1160.74 | 41.42 | 4100.00 | 57WEB+26.39 | 68WEB+87.13 |
| WWB3 | 47WWB+98.32 | 571710.45 | 302184.44 | 12°17'33" | 5°22'48" | 114.68 | 228.49 | 6.16 | 1065.00 | 46WWB+83.63 | 49WWB+12.12 |
| WWB4 | 55WWB+79.01 | 572474.82 | 302021.41 | 2°14'16" | 5°27'24" | 20.51 | 41.01 | 0.20 | 1050.00 | 55WWB+58.50 | 55WWB+99.51 |
| WWB5 | 63WWB+51.48 | 573236.02 | 301889.90 | 13°58'59" | 1°28'09" | 478.28 | 951.80 | 29.22 | 3900.00 | 58WWB+73.20 | 68WWB+25.00 |




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | ALIGNMENT LAYOUT - SURVEY CONTROL | SHEET 113 E |
|---|---|---|---|---|

2

2

N

0 40 80

HWY 45

SWAN BL VD

CASTINGS & BLOCKS

BRIDGE RAIL & MISC

CULVERTS

SOUND WALLS

PALLETS

GM WALLS & STEEL PLATES

MISC STEEL

MISC

SHELTER GUARD RAIL

SERVICE DOOR (TYP)

#8 ELEC 5170

#7 ELEC 5170

#6

#5

#4

#3

#2

#1

CARPENTER COLD STORAGE

HEATED CARPENTER ROOM

12'X14' GARAGE DOOR

8-18'X20' GARAGE DOORS

STORAGE BUILDING 2

8-18'X30' GARAGE DOORS

STORAGE BUILDING 1

SIGN POSTS & MISC 100'X30'

FENCE

BOLLARD (TYP)

SCALE

DOUBLE YELLOW PAINTED LINES

CONCRETE

BINS

| BINS | | | | | | | |
|---|---|---|---|---|---|---|---|
| | SAND | PEA GRAVEL | TB | MIX | TOP SOIL | WOOD CHIPS | AUGER BITS |
| | | MILLING | CONC | SWEEP | JUNK | WOOD | |

20,000 TON SALT DOME (150' DIA.)

20' WIDE DOOR

CONVEYOR

PIT

BOLLARD (TYP)

SPRAYER

4" SCH80 PVC CARRIER PIPE W/(2) 45° ELBOWS AT EACH END, EXTEND1'-0" ABOVE FINAL GRADE AND CAP. UNDERGROUND SUPPLY LINES BY OTHERS

15'X18' GARAGE DOOR

SERVICE DOOR

SALT BRINE BUILDING

4-6,000 GAL HOLDING TANKS BY OTHERS

CONCRETE

ASPHALT

DUMPSTERS

METAL ALUM METAL ALUM WOOD SWEEPING TIRE

DEWATERING BASIN

SLIDING GATE

SLIDING GATE

SLIDING GATE

WISCONSIN
STEVEN W SCHMITT
E-37333
FRANKLIN, WI
PROFESSIONAL ENGINEER

12/12/14

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SITE PLAN | SHEET 114 E |
|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\SITE LAYOUT\SITE LAYOUT.DWG
DOT BLDGS - SITE LAYOUT - SITE PLAN 80 SCALE

PLOT DATE : 12/12/2014 11:23 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : 1 IN: 80 FT

WISDOT/CADDS SHEET 42

## DESIGN CODE

WISCONSIN COMMERCIAL BUILDING CODE (IBC 2006 WITH WISCONSIN AMENDMENTS)

## DESIGN LOADS

FLOOR LIVE LOADS

| FLOOR LOCATION | LIVE LOAD | REDUCED |
|---|---|---|
| STORAGE ROOM FLOOR | 250 PSF | NO |
| ROOF | 20 PSF | NO |

(LIVE LOAD REDUCTION PER IBC 1607.9)

SNOW LOAD

GROUND SNOW LOAD Pg.....30 PSF
FLAT ROOF SNOW LOAD, Pf.....25.2 PSF
SNOW IMPORTANCE FACTOR.....0.8
SNOW EXPOSURE FACTOR, Ce.....1.0
THERMAL FACTOR, Ct.....1.2

WIND LOAD

BASIC WIND SPEED (3 SECOND GUST).....90 MPH
WIND IMPORTANCE FACTOR.....0.87
WIND EXPOSURE CATEGORY.....B
MEAN ROOF HEIGHT.....25 FT
BUILDING CATEGORY.....I
INTERNAL PRESSURE COEFFICIENT.....+0.18
COMPONENTS AND CLADDING WIND PRESSURES, SEE DETAILS

SEISMIC DESIGN DATA

SEISMIC USE GROUP.....I
SPECTRAL RESPONSE COEFFICIENT, Sds.....0.115
SPECTRAL RESPONSE COEFFICIENT, Sd1.....0.072
SITE CLASS.....D
SEISMIC IMPORTANCE FACTOR.....1.0
SEISMIC DESIGN CATEGORY (SDC).....A
BASE SHEAR.....2 KIPS

## MAIN LATERAL FORCE RESISTING SYSTEM

STEEL FRAMING IN ALL DIRECTIONS

## FUTURE EXPANSION

NONE

## FOUNDATIONS

FOUNDATION DESIGN PARAMETERS ARE BASED ON RECOMMENDATIONS FROM THE GEOTECHNICAL EXPLORATION REPORT NUMBER 14037-10 DATED JULY 1, 2014 BY GESTRA ENGINEERING, INC.

REFER TO THE GEOTECHNICAL REPORT FOR SOIL CLASSIFICATION.

FOOTINGS HAVE BEEN DESIGNED FOR A MAXIMUM NET SOIL BEARING PRESSURE OF 3000 PSF. PORTIONS OF THE SITE WILL LIKELY REQUIRE OVER EXCAVATION WITH COMPACTED STRUCTURAL FILL TO ACHIEVE THIS DESIGN NET SOIL BEARING PRESSURE. SEE THE REPORT OF GEOTECHNICAL EXPLORATION FOR SPECIFIC REQUIREMENTS.

IF THE SOIL AT THE FOUNDATION OR SLAB-ON-GRADE ELEVATIONS SHOWN IS OF QUESTIONABLE BEARING VALUE, THE ENGINEER SHALL BE NOTIFIED AT ONCE FOR RESOLUTION.

WALLS RETAINING SOIL HAVE BEEN DESIGNED FOR AN EQUIVALENT FLUID PRESSURE OF 55 POUNDS PER CUBIC FOOT.

WHERE FILL MATERIAL IS PLACED ON BOTH SIDES OF GRADE BEAMS OR WALLS, IT SHALL BE PLACED IN LAYERS ALTERNATELY ON OPPOSITE SIDES TO MAINTAIN LEVELS THAT WILL AVOID DISPLACEMENT OF, OR DAMAGE TO, THE WALLS OR BEAMS.

PROTECT IN-PLACE FOUNDATIONS AND SLABS ON GRADE FROM FROST PENETRATION UNTIL PROJECT COMPLETION.

## CAST-IN-PLACE CONCRETE

CONCRETE MASONRY f'c=4,000 PSI
HIGH STRENGTH REINFORCEMENT GRADE 60 fy=60,000 PSI.

USE 2" CLEAR CONCRETE COVER FOR ALL REINFORCEMENT UNLESS OTHERWISE SHOWN.

## MASONRY

PROVIDE REINFORCING BARS AT LOCATIONS INDICATED ON THE DRAWINGS. LAP 48 BAR DIAMETERS AT SPLICES UNLESS NOTED OTHERWISE.

GROUT CORES WITH MASONRY GROUT IN 5'-0"MAXIMUM LIFTS. GROUT LIFT SHALL TERMINATE 1 1/2" BELOW BED JOINT IN WALL. LIFTS SHALL BE CONSOLIDATED USING MECHANICAL VIBRATION.

PROVIDE BAR POSITIONERS AT OR NEAR TOP AND BOTTOM OF LIFT TO MAINTAIN BAR POSITION WHILE GROUTING. BARS MUST BE IN PLACE PRIOR TO GROUTING. PLACEMENT OF STEEL REINFORCEMENT INTO WET GROUT WILL NOT BE PERMITTED.

PROVIDE 1-#5 VERTICAL BELOW BEAM AND LINTEL BEARINGS AND GROUT CORE FULL HEIGHT. BEARING DISTANCE SHALL BE A MINIMUM OF 8".

PLACE CONTROL JOINTS IN MASONRY WALLS SUCH THAT NO STRAIGHT RUN OF MASONRY EXCEEDS 40'-0", UNLESS NOTED OTHERWISE.

FILL JAMB CORES OF OPENINGS OVER 3'-0" WIDE WITH MASONRY GROUT FROM BOTTOM OF LINTEL TO BOTTOM OF WALL. REINFORCE CORES WHERE NOTED.

BRACE MASONRY WALLS UNTIL ROOF SYSTEM IS IN PLACE.

CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID WITH MASONRY GROUT. FILLING CORES WITH MORTAR IS NOT ACCEPTABLE.

PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF WALLS AND BOND BEAMS.

MASONRY STRENGTH NOTES:

F'm = 2250 PSI, EXCEPT WHERE NOTED OTHERWISE ON DRAWINGS.

THE REQUIRED STRENGTH SHALL BE VERIFIED BY THE UNIT STRENGTH METHOD PER IBC 2105.2.2.1. COMPRESSIVE STRENGTH OF MASONRY UNITS SHALL BE AS REQUIRED PER IBC TABLE 215.2.2.1.2 FOR TYPE "M" OR "S" MORTAR.

IF THE MASONRY DOES NOT MEET THE REQUIREMENTS FOR APPLICATION OF THE UNIT STRENGTH METHOD, PRISM TESTING PER IBC 2105.2.2.2 AND ASTM C1314 SHALL BE USED. THE COMPRESSIVE STRENGTH OF THE MASONRY SHALL BE TAKEN AS THE AVERAGE STRENGTH OF THREE PRISMS.

SUBMIT TO THE ENGINEER TEST CERTIFICATE OF COMPLIANCE FOR CONCRETE BLOCK AND MORTAR.

## STEEL ROOF DECKING

STEEL DECK INSTITUTE SPECIFICATIONS AND RECOMMENDATIONS APPLY.

## SUPPLEMENTAL NOTES

ALL STRUCTURE EXCAVATION, BACKFILL, CONCRETE MASONRY, STRUCTURAL STEEL AND REINFORCEMENT SHALL MEET WISCONSIN DEPARTMENT OF TRANSPORTATION LATEST STANDARD SPECIFICATIONS.

EXAMINE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS TO DETERMINE LOCATION AND DIMENSIONS OF CHASES, INSERTS, OPENINGS, SLEEVES, REVEALS, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.

BEFORE FABRICATION AND ERECTION OF ANY MATERIALS, FIELD VERIFY ALL EXISTING ELEVATIONS, DIMENSIONS AND CONDITIONS AS SHOWN ON THE DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT AT ONCE FOR RESOLUTION.

STRUCTURAL MEMBERS ARE DESIGNED FOR "IN PLACE" LOADS. CONTRACTOR IS RESPONSIBLE FOR BRACING, WITHOUT OVERSTRESSING, ALL STRUCTURAL ELEMENTS (AS REQUIRED AT ANY STAGE OF CONSTRUCTION) UNTIL COMPLETION OF THIS PROJECT.

FOLLOW OSHA SAFETY STANDARDS FOR STEEL ERECTION, STEEL JOIST ERECTION AND METAL DECKING ERECTION.

DRAWINGS SHALL NOT BE SCALED.

COORDINATES ON THE PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATED SYSTEM (WCCS), VERTICAL DATUM OF 1988 (NAVD 88)

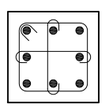
ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

## FOOTING SCHEDULE

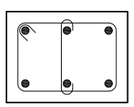
SIZE: 6'-0"x6'-0" DEPTH: 1'-0" REINFORCING: 7-#6 EW BOT (F6)
SIZE: 8'-0"x8'-0" DEPTH: 1'-0" REINFORCING: 9-#6 EW BOT (F8)

| PIER SCHEDULE | | | |
|---|---|---|---|
| MARK | SIZE | REINFORCING | STIRRUPS* |
| P20 | 20"x20" | 8-#8 VERT | #3@12" |
| P22 | 22"x22" | 8-#8 VERT | #3@12" |
| P22a | 22"x16" | 6-#8 VERT | #3@12" |

* USE SPACING FOR ENTIRE HEIGHT OF PEDESTAL. SEE TYPICAL PIER DETAIL FOR SPACING TOP.



8 BAR
3 TIE SET



6 BAR
2 TIE SET

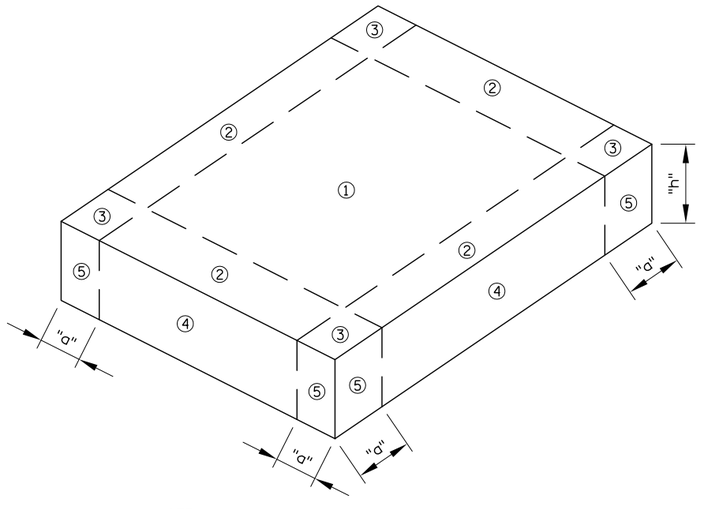
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BUILDING PLAN GENERAL NOTES | SHEET 115 | E |
|---|---|---|---|---|---|

| DPW FACILITIES | | | | LOADS AT ROOF OVERHANGS | | | |
|---|---|---|---|---|---|---|---|
| ZONE 1 (NOTE 1) | AREA (SQ FT) (NOTE 2) | DESIGN WIND LOADS (PSF) (NOTE 3) | | ZONE 1 (NOTE 1) | AREA (SQ FT) (NOTE 2) | DESIGN WIND LOADS (PSF) (NOTE 3) | |
| 1 ROOF | 10 | 10.0 | -15.4 | 2 ROOF | 10 | 10.0 | -24.5 |
| | 20 | 10.0 | -15.4 | | 20 | 10.0 | -23.9 |
| | 50 | 10.0 | -14.7 | | 50 | 10.0 | -23.5 |
| | 100 | 10.0 | -14.1 | | 100 | 10.0 | -23.2 |
| 2 ROOF | 10 | 10.0 | -25.8 | 3 ROOF | 10 | 10.0 | -38.8 |
| | 20 | 10.0 | -23.2 | | 20 | 10.0 | -31.0 |
| | 50 | 10.0 | -19.3 | | 50 | 10.0 | -20.6 |
| | 100 | 10.0 | -16.7 | | 100 | 10.0 | -12.8 |
| 3 ROOF | 10 | 10.0 | -38.8 | | | | |
| | 20 | 10.0 | -32.3 | | | | |
| | 50 | 10.0 | -23.2 | | | | |
| | 100 | 10.0 | -16.7 | | | | |
| 4 WALL | 10 | 15.4 | -16.7 | | | | |
| | 20 | 14.7 | -16.0 | | | | |
| | 50 | 14.1 | -15.4 | | | | |
| | 100 | 13.4 | -14.1 | | | | |
| 5 WALL | 10 | 15.4 | -20.6 | | | | |
| | 20 | 14.7 | -19.3 | | | | |
| | 50 | 14.1 | -17.3 | | | | |
| | 100 | 13.4 | -16.0 | | | | |

NOTES:

1. ZONES ARE PORTIONS OF THE WALL OR ROOFS WHERE WIND LOADS ARE APPLIED, AS SHOWN ON THE "COMPONENTS AND CLADDING LOAD DIAGRAM". THE WIDTH OF THE EDGE STRIPS "a" SHALL BE 10 PERCENT OF THE LEAST HORIZONTAL DIMENSION OR 40 PERCENT OF THE EAVE HEIGHT "h", WHICHEVER IS LESS, BUT NOT LESS THAN EITHER 4 PERCENT OF THE LEAST HORIZONTAL DIMENSION OR 3 FEET.
2. AREA IS THE "EFFECTIVE WIND AREA" ON ELEMENTS OF THE COMPONENTS AND CLADDING, AND CLADDING FASTENERS, AS DEFINED IN IBC 1609.6.2.
3. BASIC WIND LOAD IS THE WIND LOAD ON COMPONENTS AND CLADDING FOR A B BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B, AS SHOWN IN THE IBC TABLE 1609.6.2.1(2).
4. BASIC WIND LOAD IS THE WIND LOAD ON ROOF OVERHANG COMPONENTS AND CLADDING FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B, AS SHOWN IN IBC TABLE 1609.6.2.1(3).
5. DESIGN WIND LOADS ARE THE BASIC WIND LOADS, MULTIPLIED BY THE APPROPRIATE HEIGHT AND EXPOSURE COEFFICIENT FROM TABLE 1609.6.2.1(4) AND IMPORTANT FACTOR FROM TABLE 1604.5.

## WIND LOADS AT COMPONENTS AND CLADDING
NTS




NOTE:
REFER TO "WIN LOADS AT COMPONENTS AND CLADDING" FOR DEFINITIONS. ① THROUGH ⑤ INDICATE WIND LOAD ZONES.

## WIND LOADS AT COMPONENTS AND CLADDING
NTS

| LAP SPLICE AND EMBEDMENT SCHEDULE<br>MODIFY EMBEDMENTS AND LAP AS REQUIRED BY NOTES BELOW | | | |
|---|---|---|---|
| BAR LOCATION | LAP CLASS | CLASS A EMBEDMENT/ LAP SLICE | CLASS B LAP SLICE |
| | CONC STRENGTH | 4000 | 4000 |
| TOP | #3 | 19" | 25" |
| | #4 | 25" | 32" |
| | #5 | 31" | 40" |
| | #6 | 37" | 48" |
| | #7 | 54" | 70" |
| | #8 | 62" | 80" |
| | #9 | 70" | 90" |
| | #10 | 78" | 102" |
| | #11 | 87" | 113" |
| OTHER | #3 | 15" | 20" |
| | #4 | 19" | 25" |
| | #5 | 24" | 31" |
| | #6 | 28" | 37" |
| | #7 | 42" | 54" |
| | #8 | 47" | 62" |
| | #9 | 54" | 70" |
| | #10 | 60" | 78" |
| | #11 | 67" | 87" |

NOTES:

1. TOP INDICATES HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW BARS.
2. MULTIPLY THE LENGTHS IN THE SCHEDULE BY THE APPROPRIATE MODIFIERS WHEN REQUIRED:
   1.5 FOR BAR COVERS LESS THAN THE BAR DIAMETER
   1.5 FOR BAR CLEAR SPACING LESS THAN 2 BAR DIAMETERS.
3. PROVIDE MINIMUM LAP SPLICE LENGTHS AND EMBEDMENTS PER TABLE UNLESS NOTED OTHERWISE. EMBEDMENT LENGTH EQUALS THE LAP SPLICE LENGTH UNLESS OTHERWISE NOTED.
4. BAR SPACING AT LAP SPLICE IS THE MINIMUM CLEAR DISTANCE BETWEEN LAPPED BARS PLUS ONE BAR DIAMETER.
5. ALL SPLICES TO BE CONTACT SPLICES AND WIRED TOGETHER UNLESS OTHERWISE APPROVED BY ENGINEER.
6. STANDARD HOOK DIMENSIONS SHALL CONFORM TO ACI-318.

## GENERAL NOTES - HVAC

1. PROVIDE WORK, MATERIAL AND EQUIPMENT SPECIFIED OR IMPLIED IN THE CONSTRUCTION DOCUMENTS FOR A COMPLETE AND FUNCTIONING HV SYSTEM. OMISSIONS FROM THE CONSTRUCTION DOCUMENTS OF MINOR DETAILS NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE HV SYSTEM SHALL BE PROVIDED.
2. THE DRAWINGS ARE AS ACCURATE AS COULD BE DETERMINED, HOWEVER ARE DIAGRAMMATIC IN NATURE. DO NOT SCALE DRAWINGS. VERIFY AND COORDINATE INSTALLATION OF THE HVAC SYSTEM WITH SITE CONDITIONS AND WORK OF OTHER CONTRACTORS.
3. VISIT THE SITE AND REVIEW DRAWINGS OF OTHER TRADES TO BECOME FAMILIAR WITH THE HV WORK, WORK OF OTHER CONTRACTORS AND EXISTING SITE CONDITIONS. IGNORANCE OF SITE CONDITIONS OR FAILURE TO COORDINATE WITH OTHER CONTRACTORS SHALL NOT BE ACCEPTED AS AN EXCUSE FOR ADDITIONAL OR EXTRA PAYMENTS.
4. THE HV SYSTEM SHALL BE INSTALLED COMPLETE AND READY FOR OPERATION AS INDICATED IN THE CONSTRUCTION DOCUMENTS AND IN ACCORDANCE WITH STATE AND LOCAL CODES AND INCLUDING ANY MODIFICATIONS TO THE PIPING, DUCTWORK AND EQUIPMENT INSTALLATION AS REQUIRED TO ACCOMMODATE FIELD CONDITIONS. FINAL LOCATIONS OF ALL WORK SHALL BE COORDINATED IN THE FIELD AND INSTALLED WHERE DIRECTED.
5. THE A/E TEAM ACCEPTS NO RESPONSIBILITY FOR DESIGN/BUILD CHANGES, EQUIPMENT SUBSTITUTIONS, AND VALUE ENGINEERING CHANGES PERFORMED BY THE CONTRACTOR.
6. NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED ON THIS SHEET ARE USED ON THE DRAWINGS.
7. PRIOR TO BEGINNING FABRICATION OF THE HV SYSTEM CONFIRM AND CORRELATE ALL QUANTITIES, SIZES, CAPACITIES, ACCESSORIES, MATERIALS, SPACE REQUIREMENTS, ACCESSIBILITY, CODE CLEARANCES AND PERFORMANCE WITH SITE CONDITIONS AND OTHER CONTRACTORS AND BE RESPONSIBLE FOR THE MEANS AND METHODS OF FABRICATION, CONSTRUCTION, AND INSTALLATION OF THE HV SYSTEM AS DESIGNED AND SPECIFIED.
8. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS, OR CALLED FOR IN THE SPECIFICATIONS, THAT ARE NOT FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED.
9. INSTALL ALL PIPING, SUSPENDED EQUIPMENT, ETC. AS HIGH AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCE.
10. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' RECOMMENDATIONS. COORDINATE AND PROVIDE ALL PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT.
11. ALL EQUIPMENT, PIPING, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION FREE INSTALLATION.
12. PROVIDE CUTTING, REINFORCING, PATCHING AND REPAIR OF FINISHES OF EXISTING FLOORS, WALLS, CEILINGS, ROOFS, ETC. AS REQUIRED FOR INSTALLATION OF THE HV WORK.
13. COORDINATE WITH THE GENERAL CONTRACTOR TO PROVIDE TEMPORARY PIPING CONNECTIONS REQUIRED IN EXISTING HV SYSTEMS TO MAINTAIN SERVICE TO AREAS OF THE BUILDING THAT ARE TO REMAIN IN OPERATION DURING THE WORK.
14. COORDINATE WITH THE GENERAL CONTRACTOR TO PROVIDE FILTER MEDIA OVER ACTIVE RETURN AIR AND EXHAUST AIR DUCT OPENINGS IN THE AREAS OF CONSTRUCTION TO PREVENT ENTRY OF CONSTRUCTION DIRT AND DUST INTO THE HV SYSTEMS.

## PIPING

1. PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. FIELD VERIFY ALL EXISTING ARCHITECTURAL AND STRUCTURAL CONDITIONS PRIOR TO FABRICATION AND INSTALLATION OF PIPING SYSTEMS.

## GENERAL NOTES - PLUMBING

1. VERIFY UTILITY INFORMATION WITH LOCAL UTILITY COMPANIES, VISIT THE BUILDING SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING CONDITIONS AFFECTING THE WORK.
2. COORDINATE ALL WORK PRIOR TO INSTALLATION. ANY WORK THAT IS NOT COORDINATED AND THAT INTERFERES WITH OTHER CONTRACTOR'S WORK SHALL BE REMOVED OR RELOCATED AT THE INSTALLING CONTRACTOR'S EXPENSE. VERIFY THAT ALL DEVICES ARE COMPATIBLE FOR THE TYPE OF CONSTRUCTION AND SURFACES ON WHICH THEY WILL BE USED.
3. INSTALL ALL WORK SUBSTANTIALLY AS SHOWN ON THE DRAWINGS. DEVIATIONS FROM LOCATIONS OF PIPING INDICATED ON THE DRAWINGS MAY HAVE TO BE MADE AT NO ADDITIONAL COST TO THE OWNER IN ORDER TO CLEAR THE WORK OF THE OTHER TRADES. HOWEVER, ALL SUCH DEVIATIONS SHALL BE PREVIOUSLY APPROVED BY THE A/E TEAM.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL ROOF DRAINS, PLUMBING FIXTURES, STRUCTURAL DIMENSIONS AND LAYOUT.
5. IT IS THE INTENT OF THESE DRAWINGS THAT A COMPLETE WORKING SYSTEM PROPERLY TESTED, WILL BE OPERATIONAL UPON COMPLETION OF INSTALLATION.
6. UNLESS NOTED OTHERWISE ALL DRAIN PIPING 3" AND LARGER SHALL BE INSTALLED AT A SLOPE OF 1/8" PER FOOT AND PIPING 2" AND SMALLER AT 1/4" PER FOOT.
7. PLUMBING CONTRACTOR (DIVISION 22) SHALL FURNISH AND INSTALL SLEEVES FOR ALL PIPING PASSING THROUGH CONCRETE FOUNDATION WALLS. REFER TO STRUCTURAL DRAWINGS FOR INSTALLATION REQUIREMENTS OF PIPING ROUTED BELOW FOOTINGS. PROVIDE SLEEVE AND CONCRETE FILL FOR PIPING PASSING BENEATH FOOTING.
8. INVERT ELEVATIONS ARE REFERENCED TO A BUILDING FIRST FLOOR DATUM OF 741.00 FEET.
9. TERMINATE WATER, STORM, AND SANITARY LATERALS 5'-0" BEYOND EXTERIOR FACE OF FOUNDATION WALL. ALL UTILITIES BEYOND 5'-0" FROM BUILDING ARE PART OF THE COST FOR STORAGE BUILDING 2. FINAL CONNECTION BY DIV. 22.
10. PLUMBING CONTRACTOR (DIVISION 22) SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF HOLES AND OPENINGS IN EXISTING WALLS AND FLOORS.
11. THE DRAWINGS ARE SCHEMATIC IN NATURE. ALL REQUIRED OFFSETS, FITTINGS, AND SUPPORTS SHALL BE INCLUDED IN THE BASE BID TO ACCOMMODATE ACTUAL FIELD CONDITIONS. FINAL LOCATIONS OF ALL WORK SHALL BE COORDINATED IN THE FIELD AND INSTALLED WHERE DIRECTED BY THE OWNER'S REPRESENTATIVE.

## EQUIPMENT AND SUPPORTS

1. PROVIDE ALL MISCELLANEOUS STEEL REQUIRED TO SUPPORT HV EQUIPMENT AND PIPING TO ENSURE PROPER INSTALLATION AS DESCRIBED IN THE CONTRACT DOCUMENTS.
2. EQUIPMENT THAT EXCEEDS THE SCHEDULED WEIGHT OF THE SPECIFIC EQUIPMENT IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND COMMENT.
3. PROVIDE MODIFICATIONS AS REQUIRED BY THE STRUCTURAL ENGINEER TO SUPPORT THE ADDITIONAL WEIGHT OF THE HV EQUIPMENT.
4. PROVIDE FOR ACCESSIBILITY AND MAINTENANCE REQUIREMENTS OF HV EQUIPMENT THAT VARIES FROM THE FOOT PRINT OR EXCEEDS THE DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS.

SYMBOL SCHEDULE

| | | |
|---|---|---|
| | FCO | FLOOR CLEANOUT |
| | CO/WCO | CLEANOUT OR WALL CLEANOUT (AS NOTED) |
| | WHA | WATER HAMMER ARRESTOR |
| | | PIPE CAP |
| | | BUTTERFLY VALVE |
| | | BALL VALVE |
| | | NATURAL GAS SHUT-OFF VALVE |
| IE= 000.00 | IE | INVERT ELEVATION OF SEWER OR DRAIN |
| FFE=100.00 | FFE | FINISHED FLOOR ELEVATION |
| | | NEW PIPE CONNECTION TO EXISTING |
| | | CAP EXISTING PIPE |
| | BFP/ RPBP | BACKFLOW PREVENTER |
| | FD | FLOOR DRAIN |
| | HD | HUB DRAIN |
| T | | THERMOSTAT |
| | AFF | ABOVE FINISHED FLOOR |
| | COND | STORM / CLEARWATER CONDUCTOR |
| | VTR | VENT THRU ROOF |
| | PC | PLUMBING (DIVISION 22) CONTRACTOR |
| | EWH | WATER HEATER ELECTRIC |
| | EEW | EMERGENCY EYE WASH |
| | S | SINK |
| | TYP | TYPICAL |
| | GUH | GAS UNIT HEATER |
| | EUH | ELECTRIC UNIT HEATER |
| | GCB | GARAGE CATCH BASIN |
| | CF | CEILING FAN |
| | SP | SUMP PUMP |

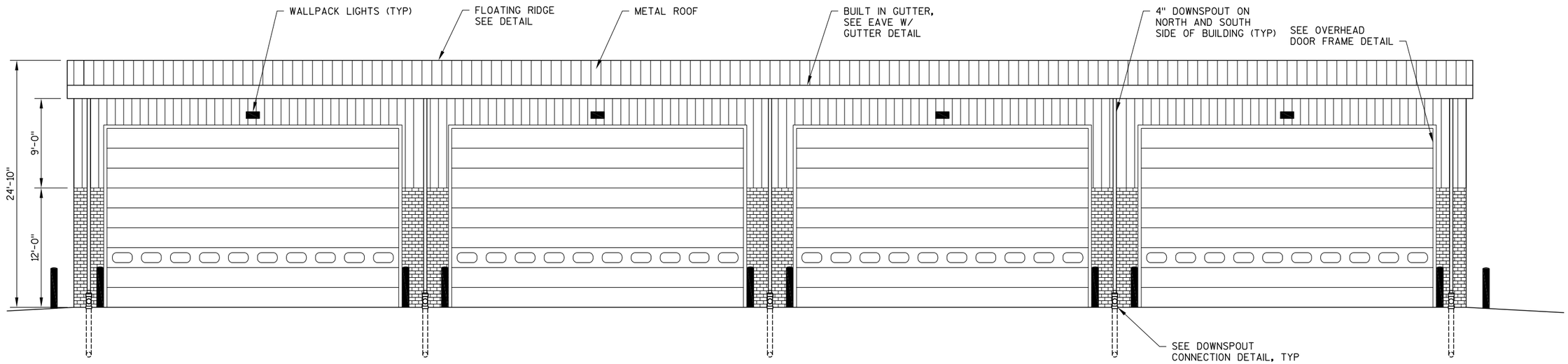
NOTE: ALL SYMBOLS MAY NOT BE USED FOR THIS PROJECT

SYMBOL SCHEDULE

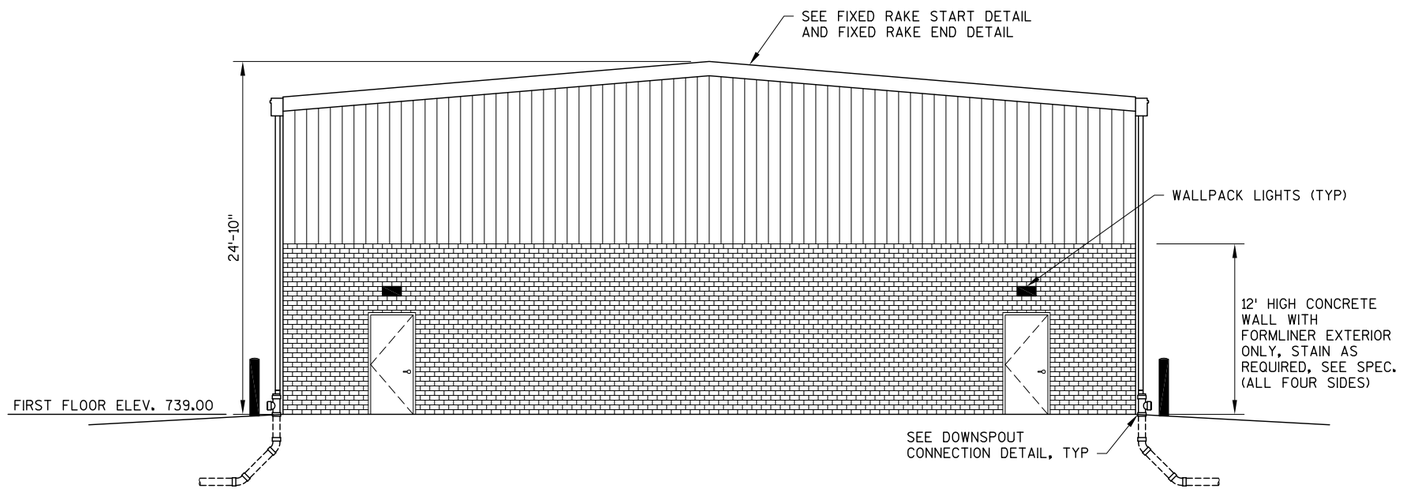
| EXISTING | NEW | | |
|---|---|---|---|
| | | V | VENT PIPE ABOVE FLOOR |
| | | V | VENT PIPE BELOW GROUND / FLOOR |
| | | W/SAN | WASTE / SANITARY DRAIN ABOVE FLOOR |
| | | W/SAN | WASTE / SANITARY SEWER OR DRAIN BELOW GROUND / FLOOR |
| | | STM | STORM DRAIN ABOVE FLOOR |
| | | STM | STORM SEWER OR DRAIN BELOW GROUND / FLOOR |
| | | CW | COLD WATER |
| | | HW | HOT WATER |
| | | NP | NON-POTABLE WATER |
| | | G | NATURAL GAS |
| | | A | COMPRESSED AIR |

NOTE: ALL SYMBOLS MAY NOT BE USED FOR THIS PROJECT

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BUILDING PLAN GENERAL NOTES | SHEET 117 | E |
|---|---|---|---|---|---|



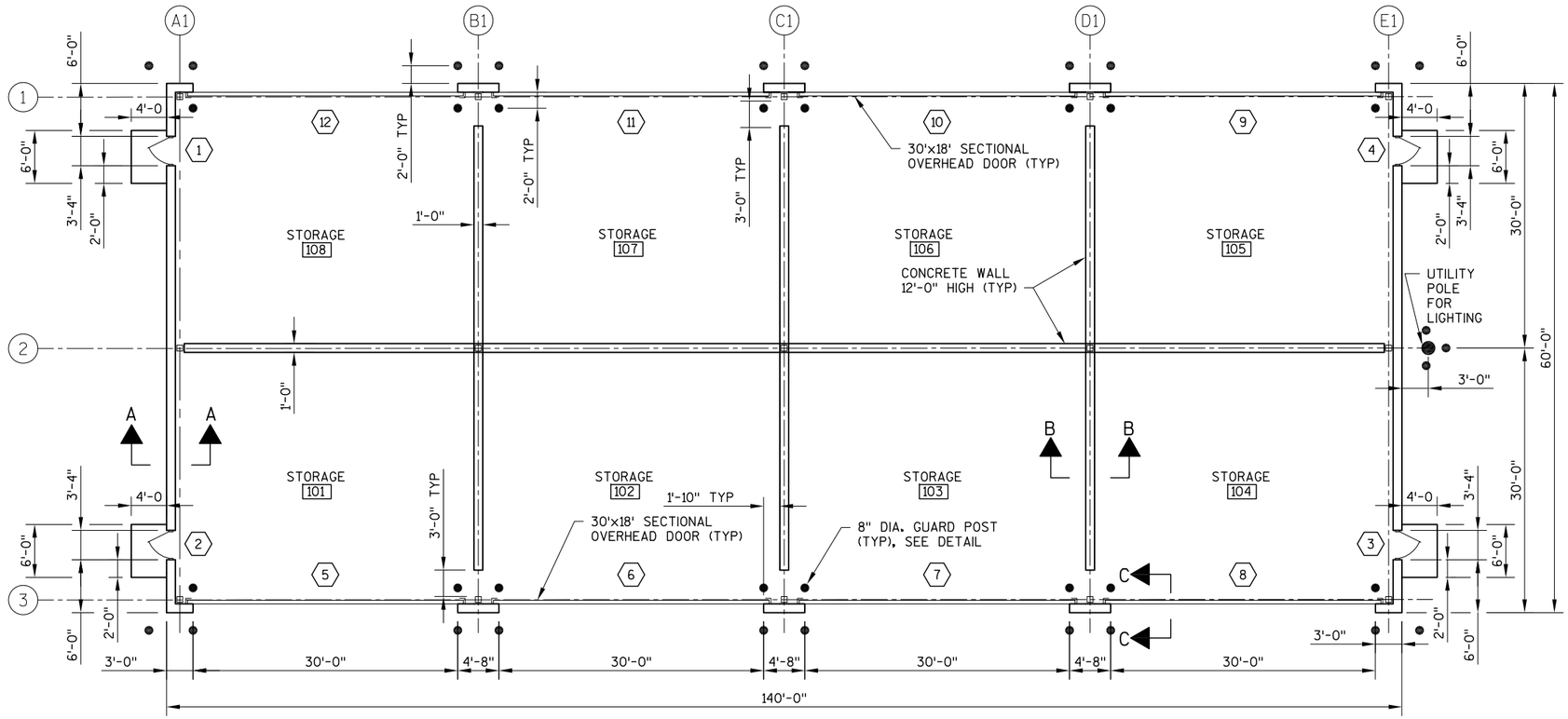

STORAGE BUILDING 1 NORTH ELEVATION
SCALE: 3/16" = 1'-0"
(SOUTH SIDE SIMILAR)




STORAGE BUILDING 1 WEST ELEVATION
SCALE: 3/16" = 1'-0"
(EASTSIDE SIMILAR)

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 1 ELEVATIONS | SHEET 118 | E |
|---|---|---|---|---|---|




STORAGE BUILDING 1 FLOOR PLAN

SCALE: 1/8" = 1'-0"

| DOOR SCHEDULE | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | DOOR | | | | | | FRAME | | | | | |
| DOOR NUMBER | ROOM NUMBER | ROUGH OPENING | WIDTH | HEIGHT | THICKNESS | TYPE | MATERIAL | COLOR | TYPE | MATERIAL | DEPTH | COLOR | HARDWARE SET NO. SEE SPECS. | REMARKS |
| 1 | 108 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | SEE NOTE 5 & 8 | N/A | H.M GALV. | 5 3/4" | SEE NOTE 5 & 8 | 1 | INSULATED |
| 2 | 101 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | SEE NOTE 5 & 8 | N/A | H.M GALV. | 5 3/4" | SEE NOTE 5 & 8 | 1 | INSULATED |
| 3 | 104 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | SEE NOTE 5 & 8 | N/A | H.M GALV. | 5 3/4" | SEE NOTE 5 & 8 | 1 | INSULATED |
| 4 | 105 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | SEE NOTE 5 & 8 | N/A | H.M GALV. | 5 3/4" | SEE NOTE 5 & 8 | 1 | INSULATED |
| 5 | 101 | 18'-0"x 30'-0" | 30'-4" | 18'-0" | 2" | N/A | ALUM | SEE NOTE 1 | N/A | GALV. | N/A | SEE NOTE 2 | N/A | INSULATED |
| 6 | 102 | 18'-0"x 30'-0" | 30'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 7 | 103 | 18'-0"x 30'-0" | 30'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 8 | 104 | 18'-0"x 30'-0" | 30'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 9 | 105 | 18'-0"x 30'-0" | 30'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 10 | 106 | 18'-0"x 30'-0" | 30'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 11 | 107 | 18'-0"x 30'-0" | 30'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 12 | 108 | 18'-0"x 30'-0" | 30'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |

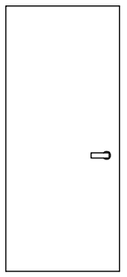
| ROOM FINISH SCHEDULE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | FLOOR | | WALLS AND FINISH | | | | CEILING | | |
| NO. | MTL | FINISH | NORTH | WEST | EAST | SOUTH | MTL | FINISH | HEIGHT |
| 101 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 102 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 103 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 104 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 105 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 106 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 107 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 108 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |

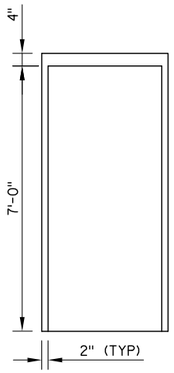
100 ROOM NUMBER, SEE INTERIOR FINISH SCHEDULE AND DESIGN REQUIREMENTS FOR ROOM FINISHES.

1 DOOR NUMBER, SEE DOOR SCHEDULE AND DESIGN REQUIREMENTS FOR SIZE AND TYPE.

CONC - CONCRETE
CNS - ONE COAT CLEAR CONCRETE SEALER FOR ALL FLOORS AND POURED CONCRETE WALLS
PFMR - PREFINISHED METAL ROOFING BOTTOM SIDE WHITE

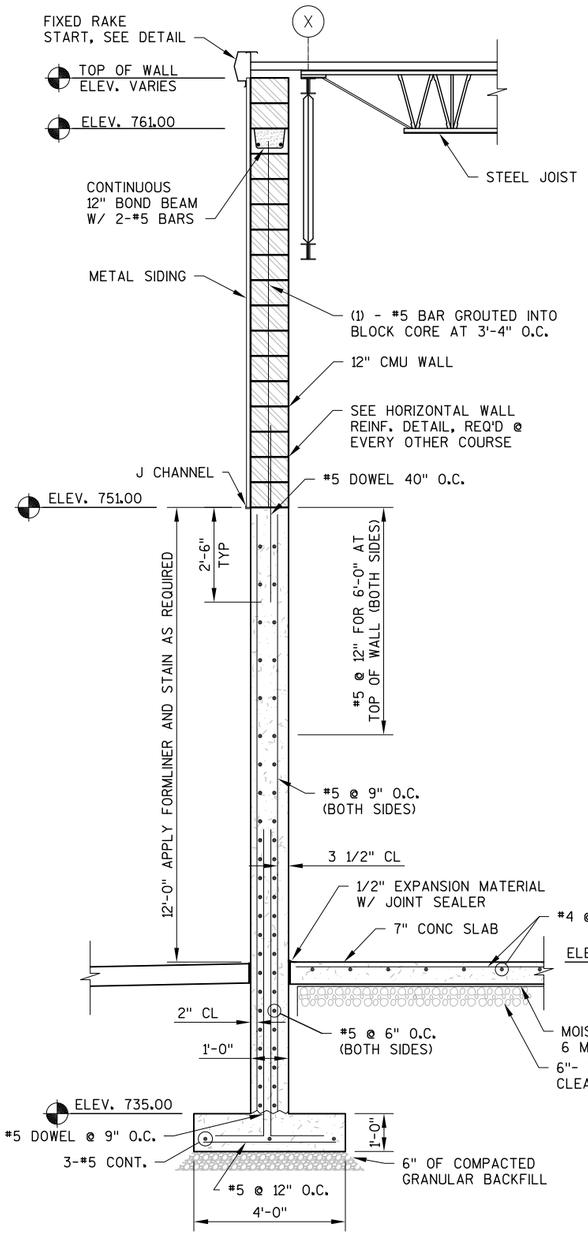
NOTES:
1. ALL OVERHEAD DOORS WILL BE WHITE WITH WINDOWS AS SHOWN ON ELEVATION VIEW.
2. PAINT ALL FRAMES WHITE TO MATCH DOOR.
3. PROVIDE WEATHER STRIPPING AT ALL EXTERIOR DOORS.
4. PROVIDE 6" WIDE MIN. THRESHOLD AT ALL DOORS.
5. PAINT H.M. DOORS BOTH FACES, ALL FOUR EDGES AND H.M. FRAMES COMPLETELY.
6. PAINT STEEL LINTELS TO MATCH DOOR FRAMES.
7. HARDWARE ITEMS SEE SPECS.
8. CONTRACTOR SHALL SUBMIT PAINT CHIP AND COLOR TO THE OWNER FOR APPROVAL.
9. PROVIDE BULL NOSE BLOCK FOR WINDOW SILLS AND DOOR OPENINGS.



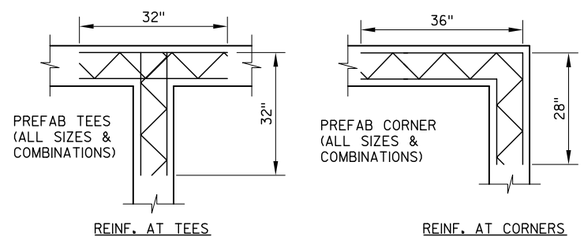




FRAME TYPE

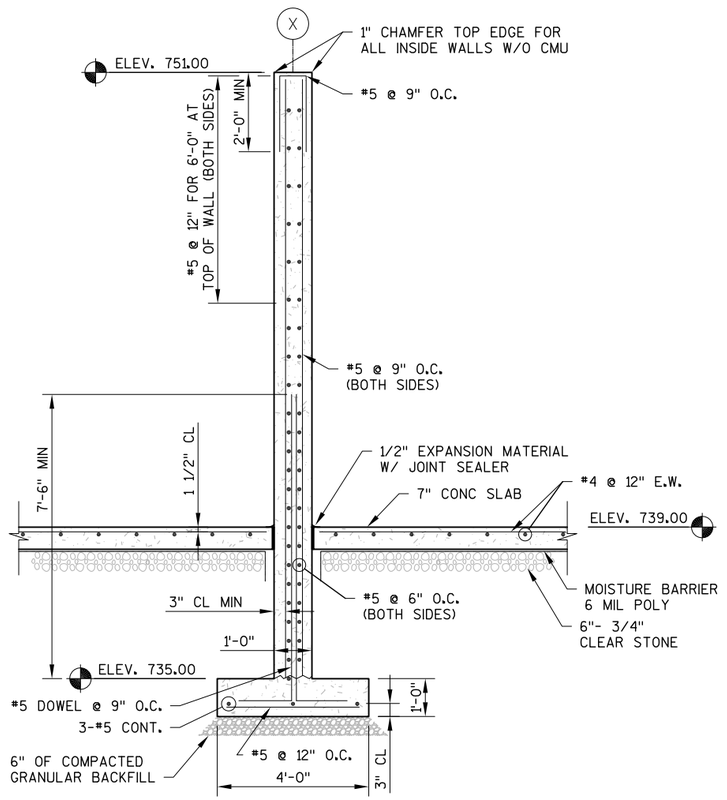
VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY



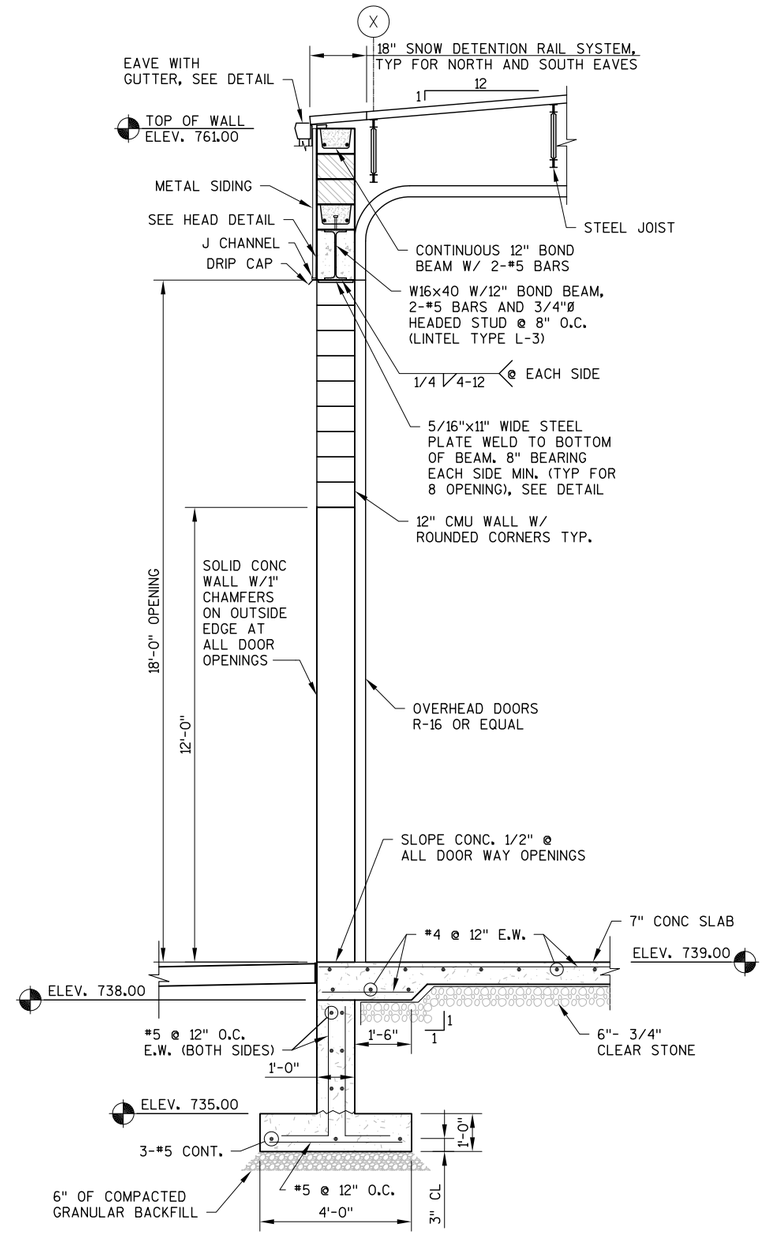

## WALL SECTION A-A
SCALE: 1/4" = 1'-0"




## HORIZONTAL WALL REINF. DETAIL
N.T.S.




## WALL SECTION B-B
SCALE: 1/4" = 1'-0"




## WALL SECTION C-C
SCALE: 1/4" = 1'-0"

FOUNDATION KEY

- CONCRETE
- CMU WALL
- 2" INSULATION

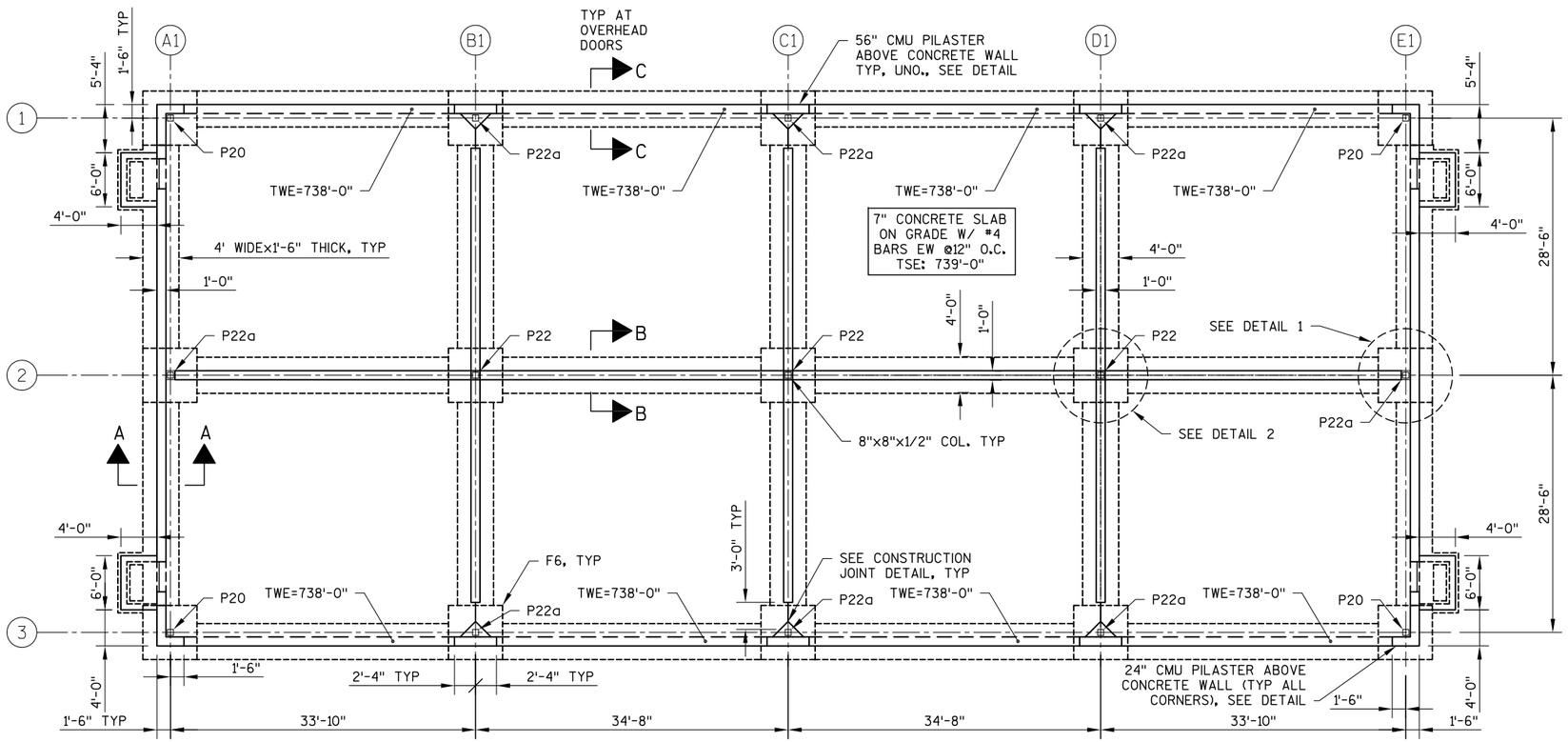
VERIFY SCALE

BAR ON ORIGINAL DRAWING IS ONE INCH

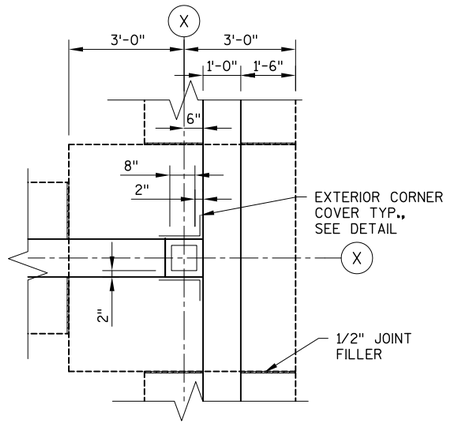
0 — 1

IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

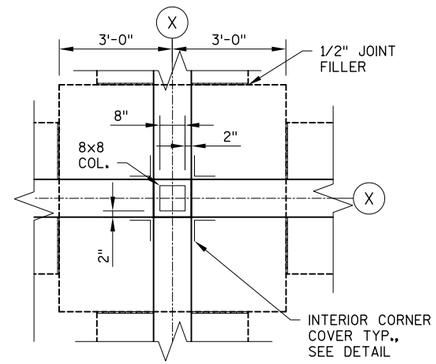
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 1 WALL SECTION DETAILS | SHEET 120 | E |
|---|---|---|---|---|---|




STORAGE BUILDING 1 STRUCTURAL FLOOR PLAN
SCALE: 1/16" = 1'-0"




DETAIL 1



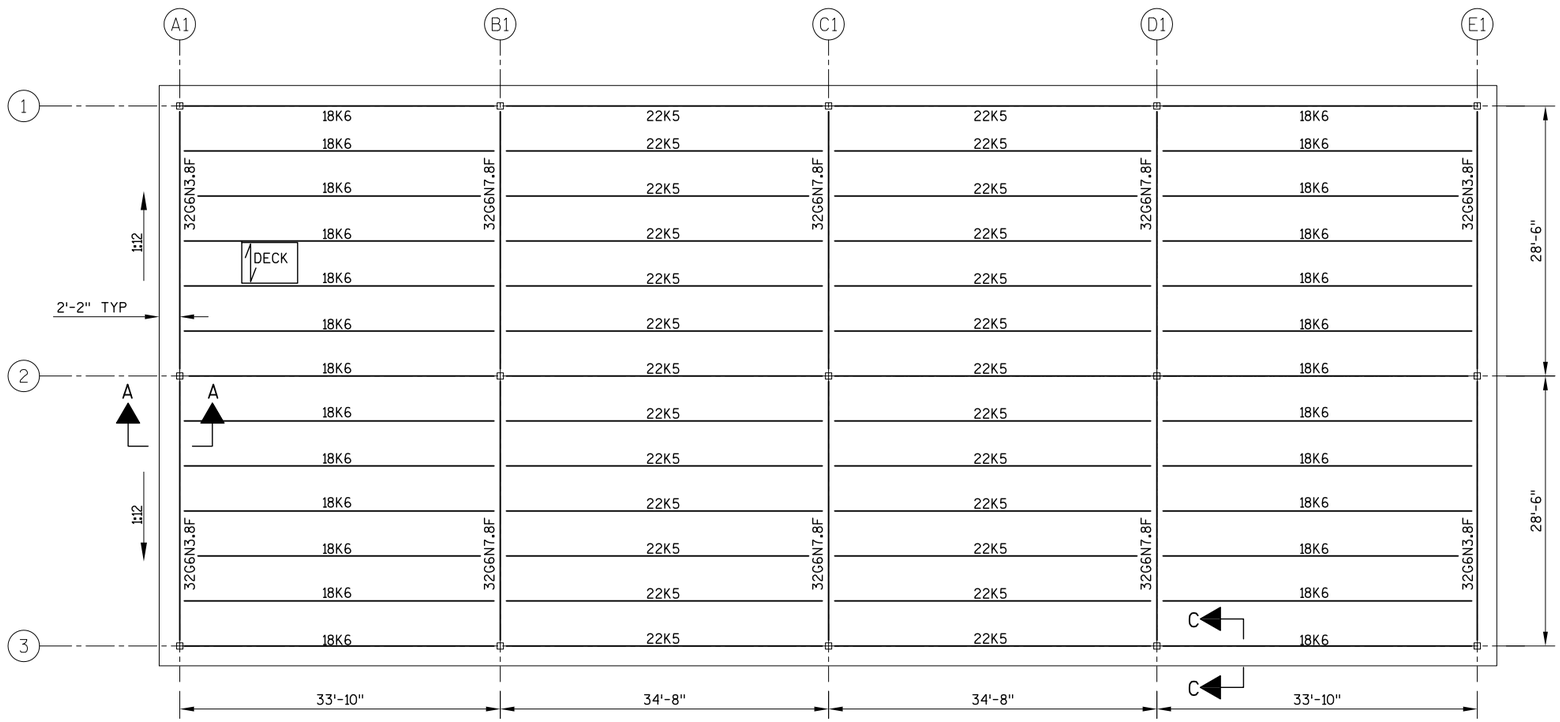

DETAIL 2

NOTES:
1. ALL FOOTINGS ARE CENTERED UNDER COLUMNS OR WALLS, UNO.
2. TOP OF FOOTING ELEVATION = 735'-0", UNO.
3. TOP OF CONCRETE WALL ELEVATION (TWE) = 751'-0", UNO.
4. SEE FOOTING SCHEDULE ON GENERAL NOTES PAGE FOR REINF.
5. TOP OF PEDESTAL ELEVATION (TPE) = 738'-0", UNO.
6. SEE PIER SCHEDULE ON GENERAL NOTES PAGE FOR REINF.

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 1 FOUNDATION PLAN | SHEET 121 | E |
|---|---|---|---|---|---|

2

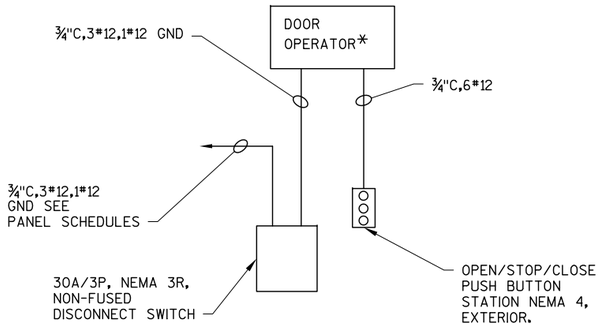



STORAGE BUILDING 1 ROOF PLAN
SCALE: 1/16" = 1'-0"

NOTES:
1. REFER TO GENERAL STRUCTURE NOTES.
2. REFER TO "STRUCTURAL DETAILS-1" FOR BEAM CONNECTION INFORMATION.
3. STEEL JOIST DESIGNATION ARE AS FOLLOW:
   22K5 = JOIST SIZE
4. ⟋ INDICATES SPAN DIRECTION OF DECK.

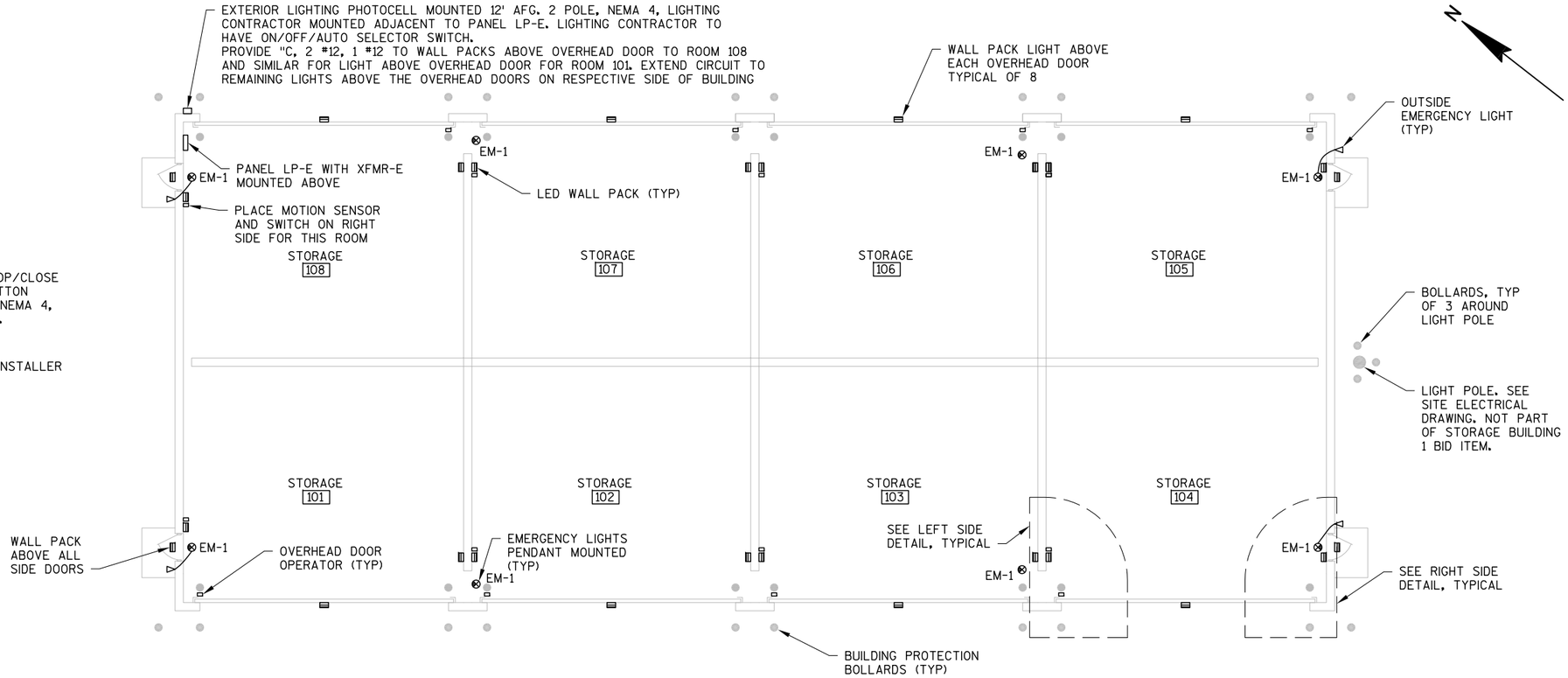
VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 1 ROOF PLAN | SHEET 122 | E |
|---|---|---|---|---|---|

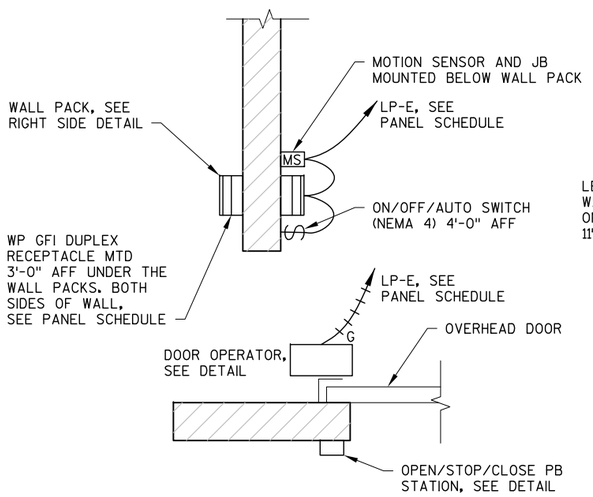



* WIRING TO SAFETY DEVICES BY OPERATOR INSTALLER

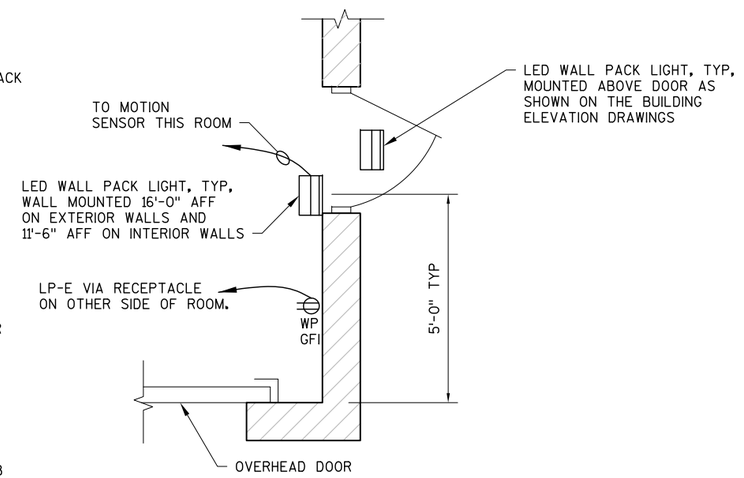
## DOOR OPENER DETAIL
SCALE: NTS




## STORAGE BUILDING 1 ELECTRICAL FLOOR PLAN
SCALE: 1/16" = 1'-0"
NOTE - ALL CONDUIT IS RIGID METALLIC




## LEFT SIDE DETAIL*
SCALE: NTS
*AS VIEWED FROM EXTERIOR




## RIGHT SIDE DETAIL
SCALE: NTS

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 1 ELECTRICAL FLOOR PLAN | SHEET 123 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\STORAGE BLDG 1\SB1-ELECTRICAL.DWG DATE : 12/12/2014 11:26 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : 1/16" = 1'-0"
DOT BLDGS - SB1-ELECTRICAL - STORAGE BLDG 1 DOT FP

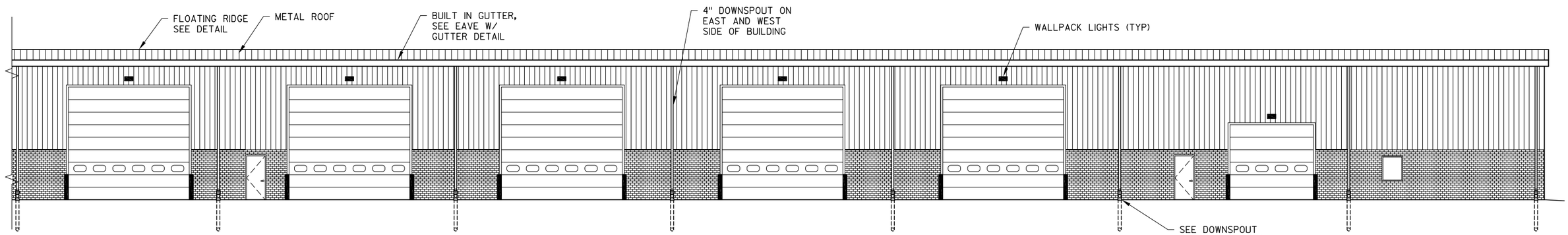
WISDOT/CADDS SHEET 42

| PANEL LP–E | BUSS AMPS 100 | MAIN BREAKER 75 AMPS | MOUNTING | | REMARKS |
|---|---|---|---|---|---|
| | VOLTAGE 120/208 | | SURFACE | X | STORAGE BUILDING 1 |
| | PHASE 3 | | FLUSH | | WALL MOUNTED ROOM 108 |
| | WIRE 4 | | | | NEMA 4 |

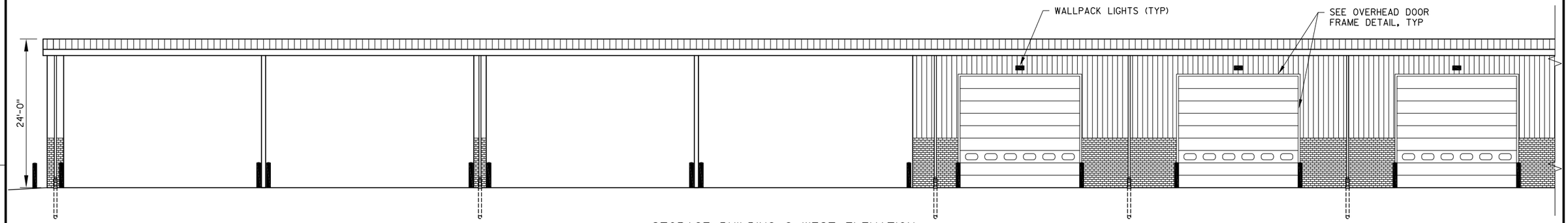
| CIRCUIT DESCRIPTION | AMP/POLE | CKT | BUS | CKT | AMP/POLE | CIRCUIT DESCRIPTION |
|---|---|---|---|---|---|---|
| DOOR OPERATOR ROOM 101 | 15/3 | 1 | | 2 | 15/3 | DOOR OPERATOR ROOM 105 |
| | | 3 | | 4 | | |
| | | 5 | | 6 | | |
| DOOR OPERATOR ROOM 102 | 15/3 | 7 | | 8 | 15/3 | DOOR OPERATOR ROOM 106 |
| | | 9 | | 10 | | |
| | | 11 | | 12 | | |
| DOOR OPERATOR ROOM 103 | 15/3 | 13 | | 14 | 15/3 | DOOR OPERATOR ROOM 107 |
| | | 15 | | 16 | | |
| | | 17 | | 18 | | |
| DOOR OPERATOR ROOM 104 | 15/3 | 19 | | 20 | 15/3 | DOOR OPERATOR ROOM 108 |
| | | 21 | | 22 | | |
| | | 23 | | 24 | | |
| RECEPTACLES ROOM 101/102 | 20/1 | 25 | | 26 | 20/1 | LIGHTING EXTERNAL ROOM 101/102/103/104 |
| RECEPTACLES ROOM 103/104 | 20/1 | 27 | | 28 | 20/1 | LIGHTING EXTERNAL ROOM 105/106/107/108 |
| RECEPTACLES ROOM 105/106 | 20/1 | 29 | | 30 | 20/1 | LIGHTING INTERNAL ROOM 101/102 |
| RECEPTACLES ROOM 107/108 | 20/1 | 31 | | 32 | 20/1 | LIGHTING INTERNAL ROOM 103/104 |
| EXIT LIGHTS * | 20/1 | 33 | | 34 | 20/1 | LIGHTING INTERNAL ROOM 105/106 |
| SPARE | 20/1 | 35 | | 36 | 20/1 | LIGHTING INTERNAL ROOM 107/108 |
| SPACE | -- | 37 | | 38 | 20/1 | SPARE |
| SPACE | -- | 39 | | 40 | -- | SPACE |
| SPACE | -- | 41 | | 42 | -- | SPACE |

* LOCK IN "ON" POSITION

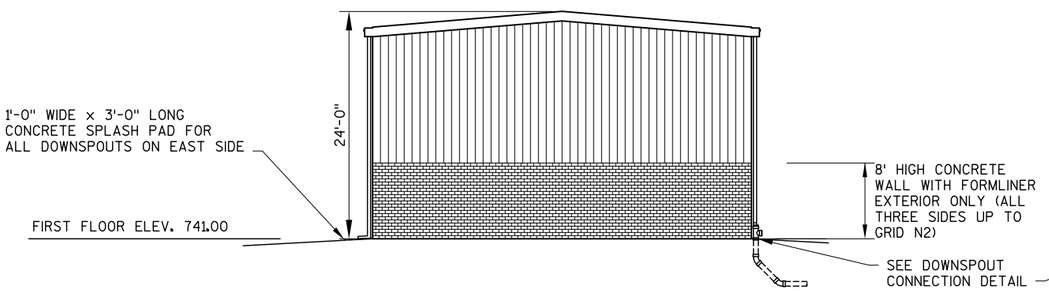
2



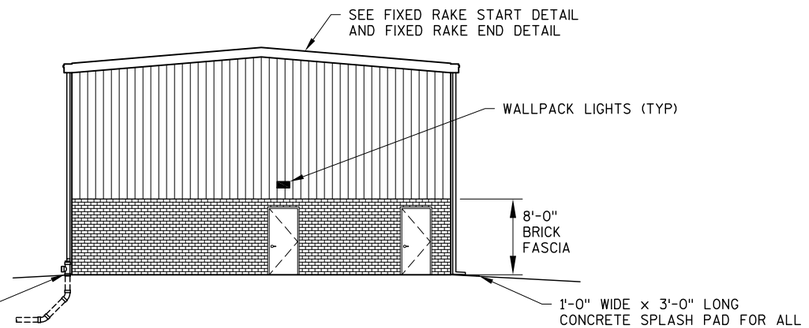

STORAGE BUILDING 2 WEST ELEVATION
SCALE: 1/8" = 1'-0"
(EASTSIDE SIMILAR WITHOUT DOORS)




STORAGE BUILDING 2 WEST ELEVATION
SCALE: 1/8" = 1'-0"
(EASTSIDE SIMILAR WITHOUT DOORS)



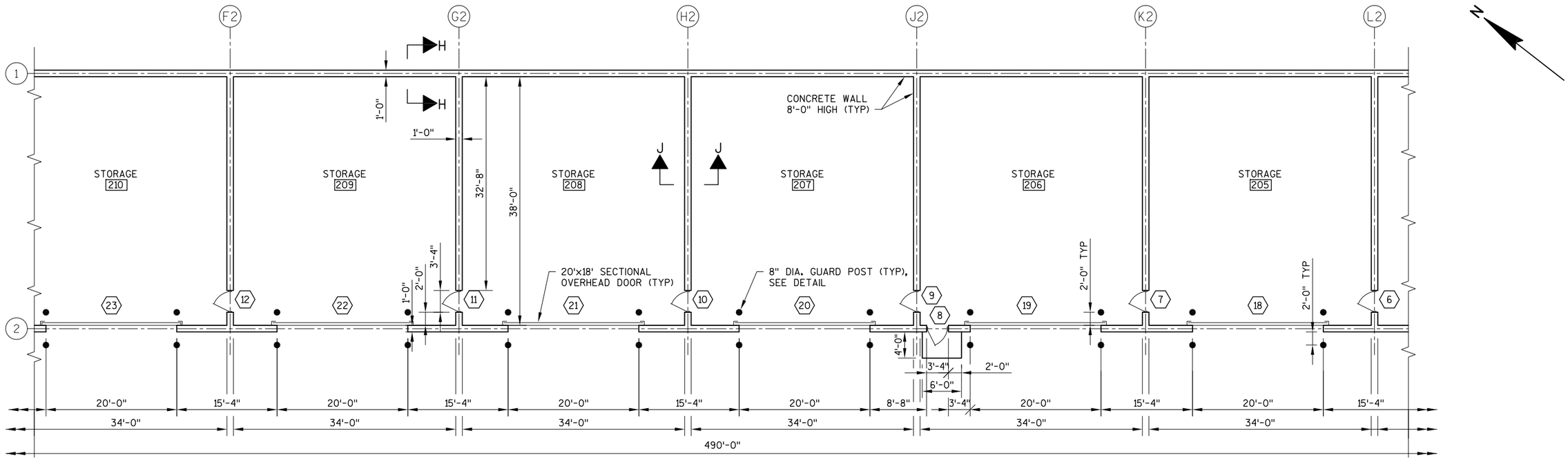

STORAGE BUILDING 2 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



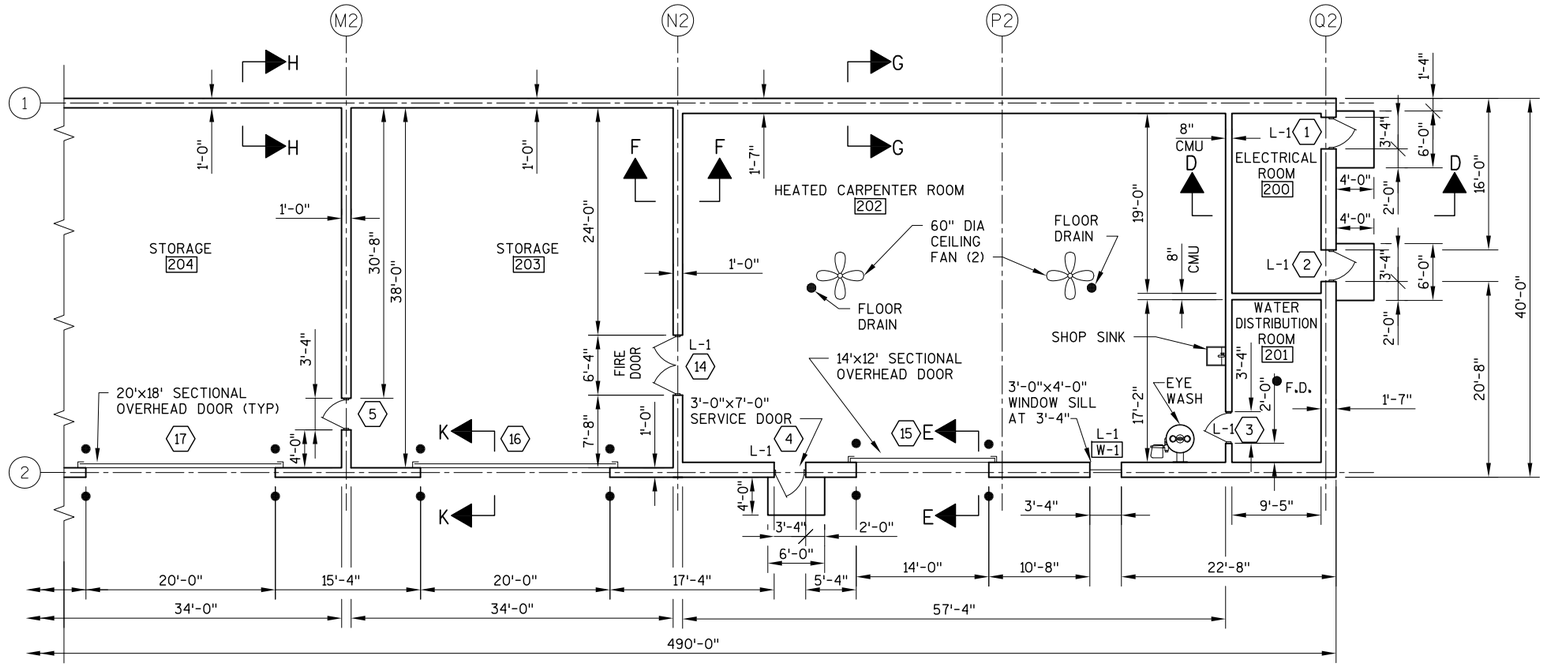

STORAGE BUILDING 2 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 ELEVATIONS | SHEET 125 | E |
|---|---|---|---|---|---|




STORAGE BUILDING 2 FLOOR PLAN
SCALE: 1/8" = 1'-0"




STORAGE BUILDING 2 FLOOR PLAN
SCALE: 1/8" = 1'-0"

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

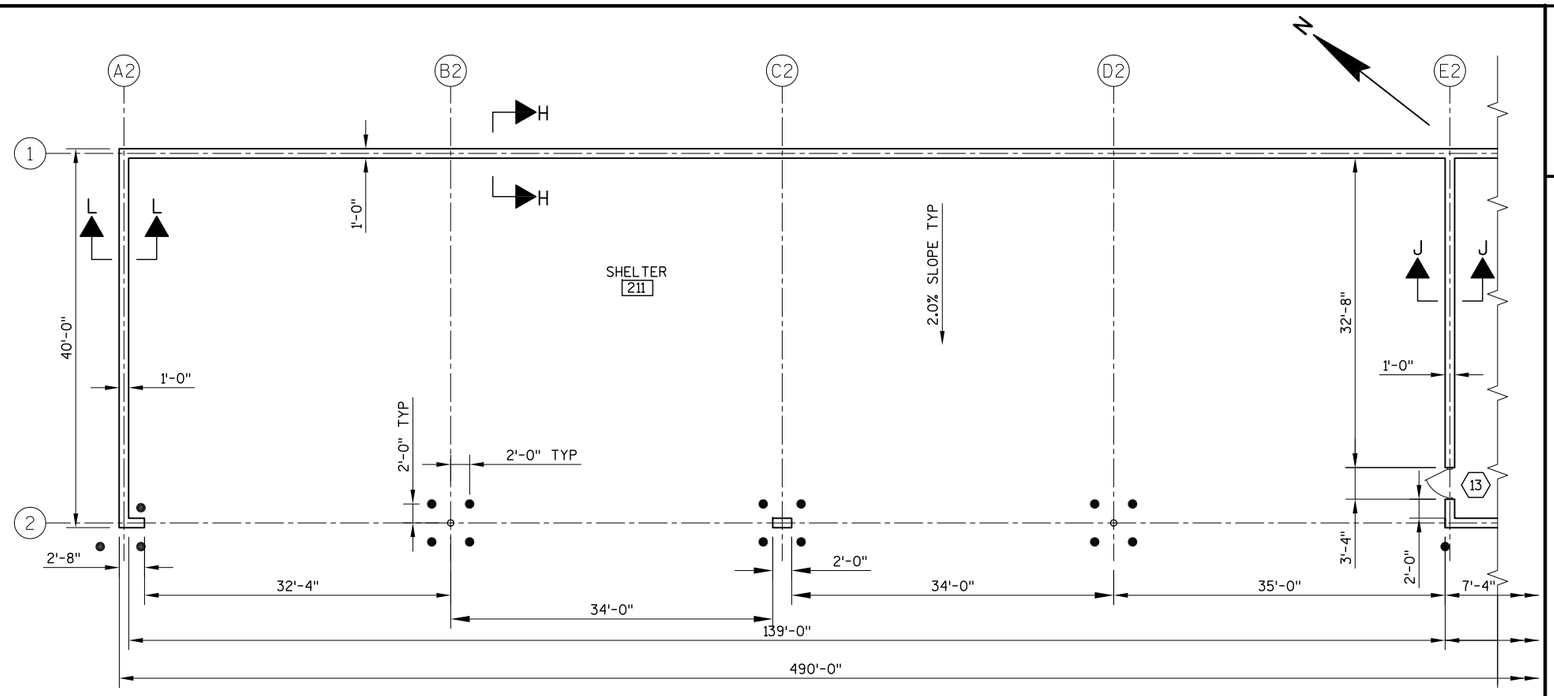
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 FLOOR PLAN | SHEET 126 | E |
|---|---|---|---|---|---|

## DOOR SCHEDULE

| DOOR NUMBER | ROOM NUMBER | ROUGH OPENING | DOOR WIDTH | DOOR HEIGHT | DOOR THICKNESS | DOOR TYPE | DOOR MATERIAL | DOOR COLOR | FRAME TYPE | FRAME MATERIAL | FRAME DEPTH | FRAME COLOR | HARDWARE SET NO. SEE SPEC'S | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 200 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | SEE NOTE 5 & 8 | A | H.M GALV. | 7 3/4" | SEE NOTE 5 & 8 | 1 | INSULATED |
| 2 | 200 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 7 3/4" | | 1 | INSULATED |
| 3 | 201 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 2 | INSULATED |
| 4 | 202 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 7 3/4" | | 1 | INSULATED |
| 5 | 203 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 2 | INSULATED |
| 6 | 204 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 2 | INSULATED |
| 7 | 205 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 2 | INSULATED |
| 8 | 206 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 2 | INSULATED |
| 9 | 206 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 2 | INSULATED |
| 10 | 207 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 2 | INSULATED |
| 11 | 208 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 2 | INSULATED |
| 12 | 209 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 2 | INSULATED |
| 13 | 210 | 3'-4"x 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 1 | INSULATED |
| 14 | 202 | 6'-4"x 7'-4" | 6'-0" | 7'-0" | 1 3/4" | B | H.M GALV. | | A | H.M GALV. | 5 3/4" | | 3 | INSULATED FIRE DOOR |
| 15 | 202 | 12'-0"x 14'-0" | 14'-4" | 12'-0" | 2" | N/A | ALUM | SEE NOTE 1 | N/A | GALV. | N/A | SEE NOTE 2 | N/A | INSULATED |
| 16 | 203 | 18'-0"x 20'-0" | 20'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 17 | 204 | 18'-0"x 20'-0" | 20'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 18 | 205 | 18'-0"x 20'-0" | 20'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 19 | 206 | 18'-0"x 20'-0" | 20'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 20 | 207 | 18'-0"x 20'-0" | 20'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 21 | 208 | 18'-0"x 20'-0" | 20'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 22 | 209 | 18'-0"x 20'-0" | 20'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |
| 23 | 210 | 18'-0"x 20'-0" | 20'-4" | 18'-0" | 2" | N/A | ALUM | | N/A | GALV. | N/A | | N/A | INSULATED |

## ROOM FINISH SCHEDULE

| NO. | FLOOR MTL | FLOOR FINISH | WALLS AND FINISH NORTH | WEST | EAST | SOUTH | CEILING MTL | CEILING FINISH | CEILING HEIGHT |
|---|---|---|---|---|---|---|---|---|---|
| 200 | CONC | CNS | PAINT | PAINT | PAINT | PAINT | CONC | PAINT | 10'-0" |
| 201 | CONC | CNS | PAINT | PAINT | PAINT | PAINT | CONC | PAINT | 10'-0" |
| 202 | CONC | CNS | PAINT | PAINT | PAINT | PAINT | PFMR | PFMR | 22'-0" |
| 203 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 204 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 205 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 206 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 207 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 208 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 209 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 210 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |
| 211 | CONC | CNS | CONC WITH CNS | | CONC WITH CNS | | PFMR | PFMR | 22'-0" |




STORAGE BUILDING 2 FLOOR PLAN
SCALE: 1/8" = 1'-0"

## WINDOW SCHEDULE

| WINDOW NUMBER | ROUGH OPENING | WIDTH (VERIFY ON SITE) | HEIGHT | THICKNESS | TYPE | MATERIAL | COLOR | REMARKS |
|---|---|---|---|---|---|---|---|---|
| W1 | 3'-0"x 4'-0" | 36" | 48" | 5" | FIXED | ALUM. | BRONZE | THERMAL PANE, SILL AT 3'-4" |

200 ROOM NUMBER, SEE INTERIOR FINISH SCHEDULE AND DESIGN REQUIREMENTS FOR ROOM FINISHES.

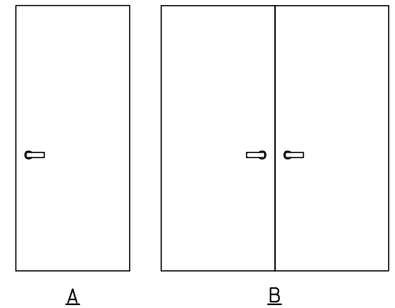
1 DOOR NUMBER, SEE DOOR SCHEDULE AND DESIGN REQUIREMENTS FOR SIZE AND TYPE.

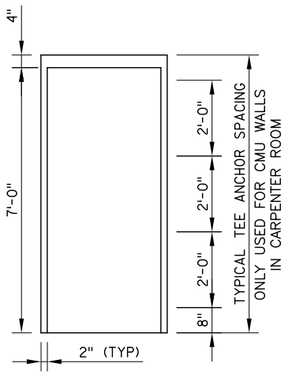
W1 WINDOW NUMBER, SEE WINDOW SCHEDULE AND DESIGN REQUIREMENTS FOR SIZE AND TYPE.

L-1 LINTEL NUMBER, SEE LINTEL SCHEDULE FOR SIZE AND TYPE.

CONC - CONCRETE
CNS - ONE COAT CLEAR CONCRETE SEALER FOR ALL FLOORS AND POURED CONCRETE WALLS
PFMR - PREFINISHED METAL ROOFING BOTTOM SIDE WHITE

NOTES:
1. ALL OVERHEAD DOORS WILL BE WHITE WITH WINDOWS AS SHOWN ON ELEVATION VIEW.
2. PAINT ALL FRAMES WHITE TO MATCH DOOR.
3. PROVIDE WEATHER STRIPPING AT ALL EXTERIOR DOORS.
4. PROVIDE 6" WIDE MIN. THRESHOLD AT ALL DOORS.
5. PAINT H.M. DOORS BOTH FACES, ALL FOUR EDGES AND H.M. FRAMES COMPLETELY.
6. PAINT STEEL LINTELS TO MATCH DOOR FRAMES.
7. HARDWARE ITEMS SEE SPECS.
8. CONTRACTOR SHALL SUBMIT PAINT CHIP AND COLOR TO THE OWNER FOR APPROVAL.
9. PROVIDE BULL NOSE BLOCK FOR WINDOW SILLS AND DOOR OPENINGS.

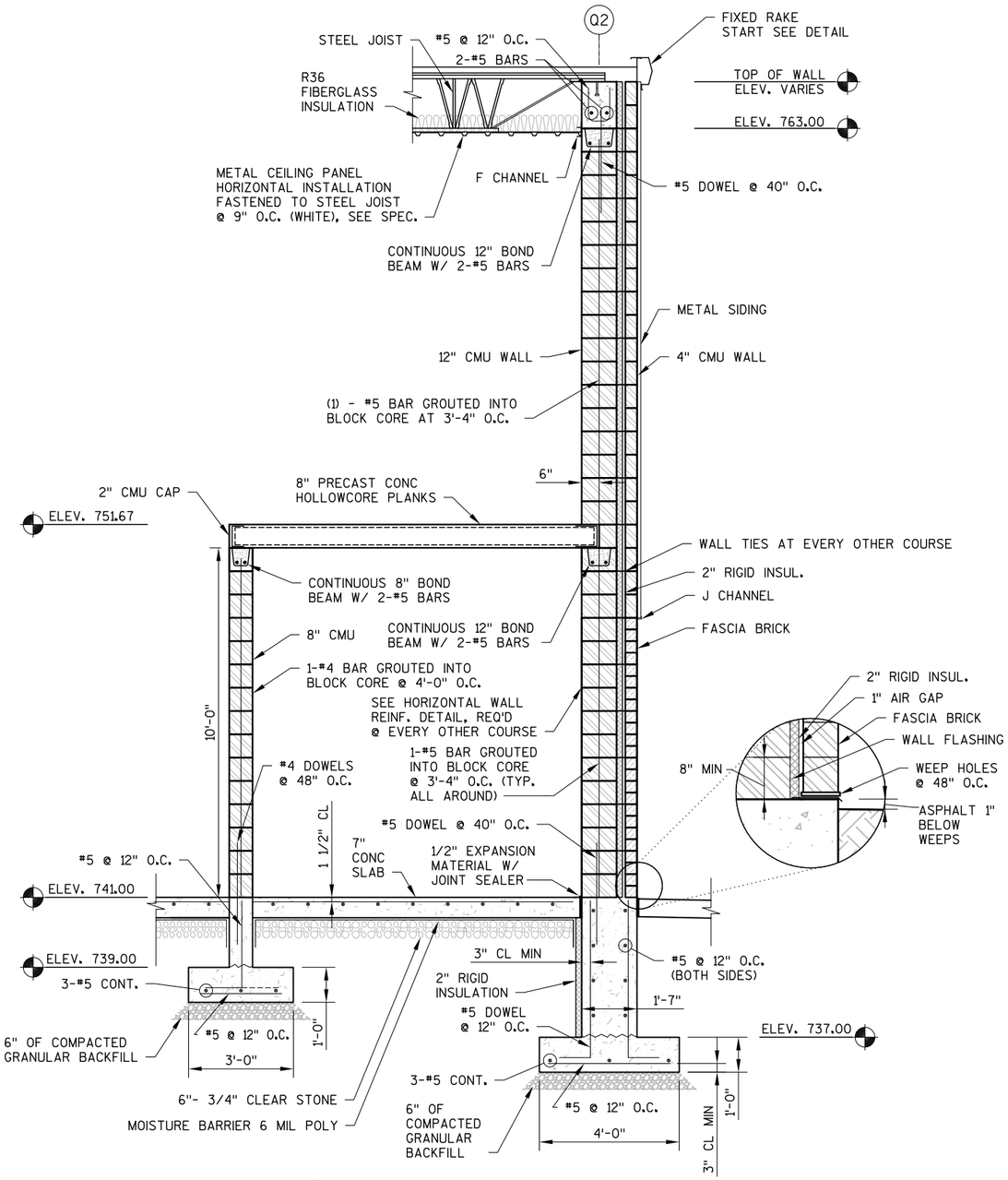



FRAME TYPE A

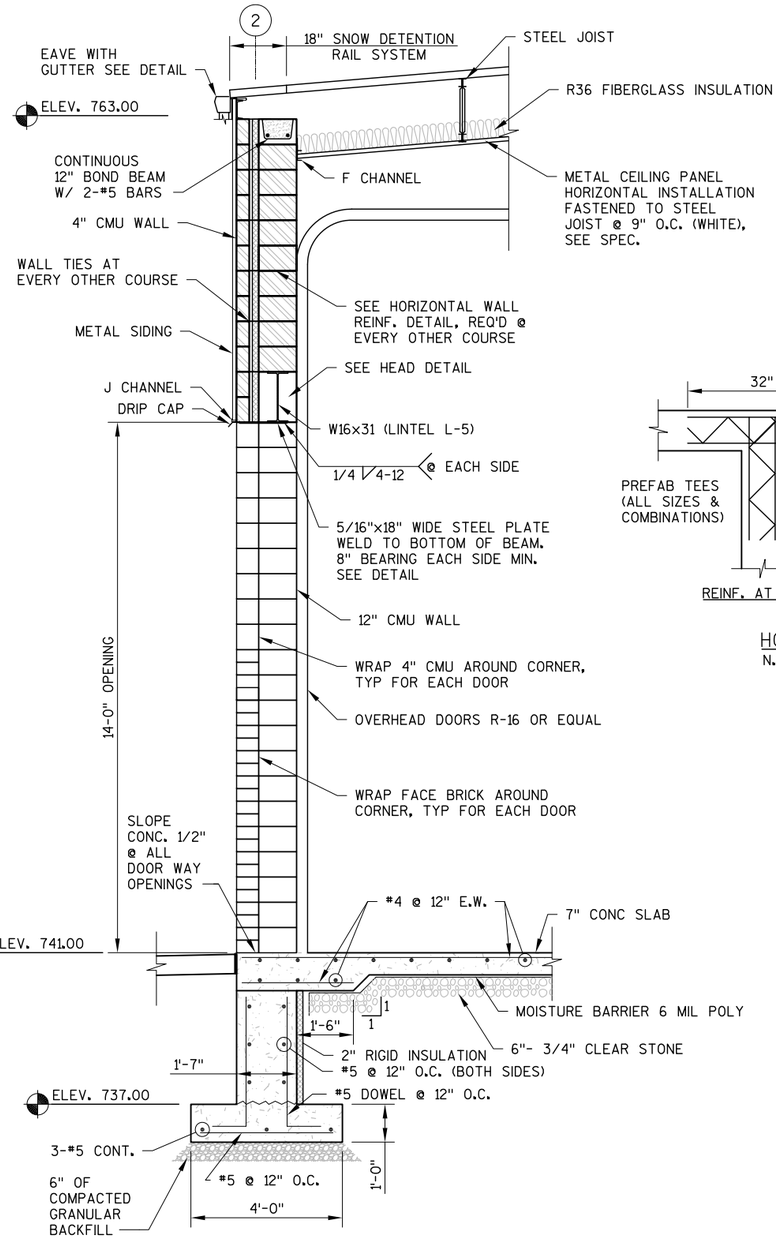
VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 FLOOR PLAN | SHEET 127 E |
|---|---|---|---|---|



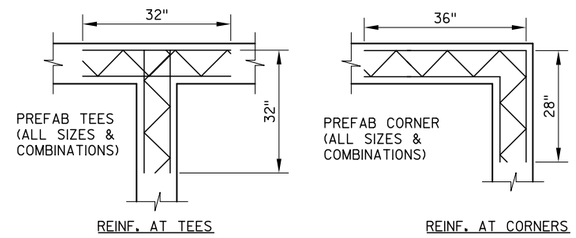

NOTE:
FILL ALL MASONRY BLOCKS IN THE OUTSIDE WALLS W/ EXPANDED POLYSTYRENE INSULATION TO TOP OF WALL.

## WALL SECTION D-D
SCALE: 1/2" = 1'-0"




NOTE:
FILL ALL MASONRY BLOCKS IN THE OUTSIDE WALLS W/ EXPANDED POLYSTYRENE INSULATION TO TOP OF WALL.

## WALL SECTION E-E
SCALE: 1/2" = 1'-0"

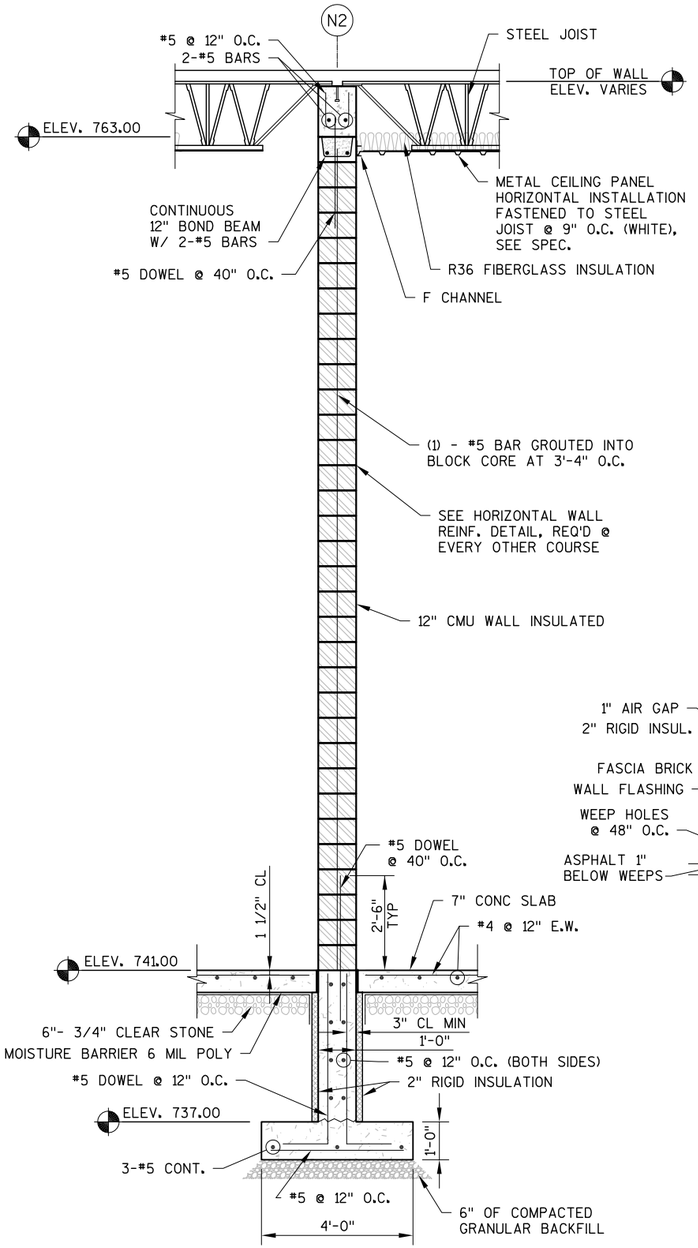



## HORIZONTAL WALL REINF. DETAIL
N.T.S.

### FOUNDATION KEY
- FASCIA BRICK
- CMU WALL
- 2" INSULATION

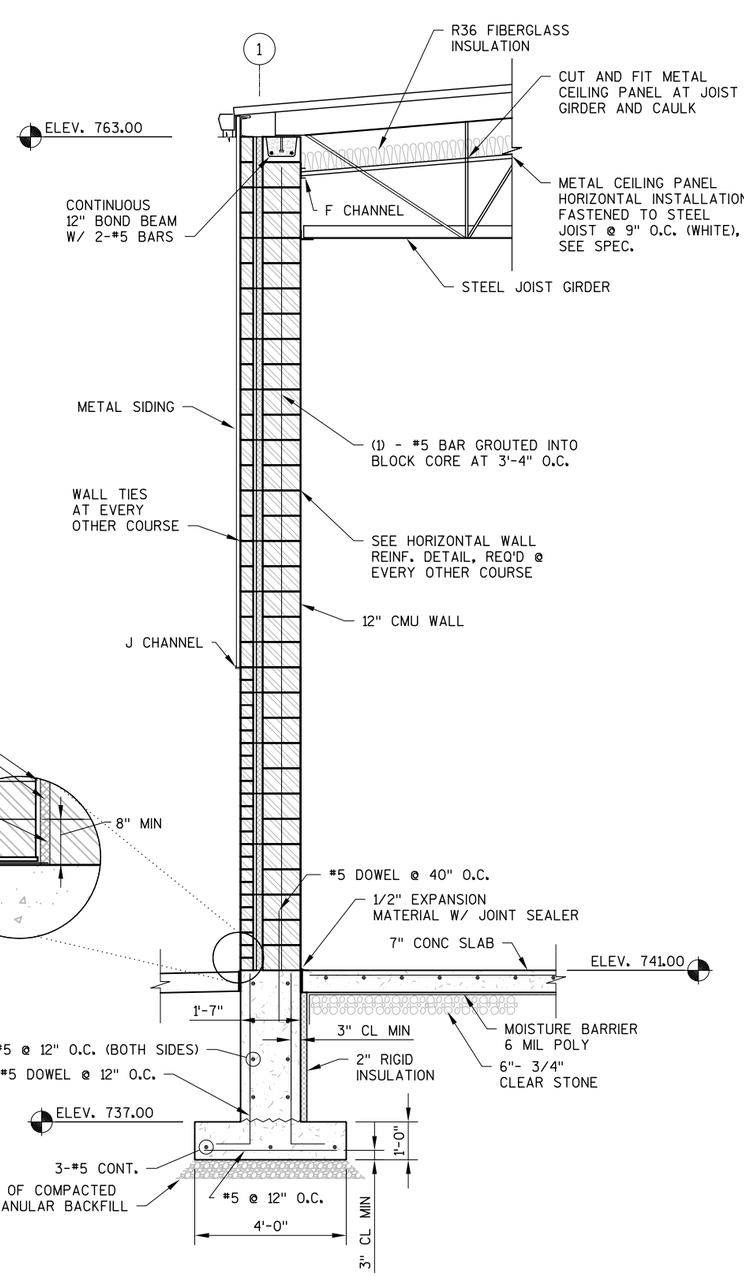
VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 WALL SECTION DETAILS | SHEET 128 E |
|---|---|---|---|---|



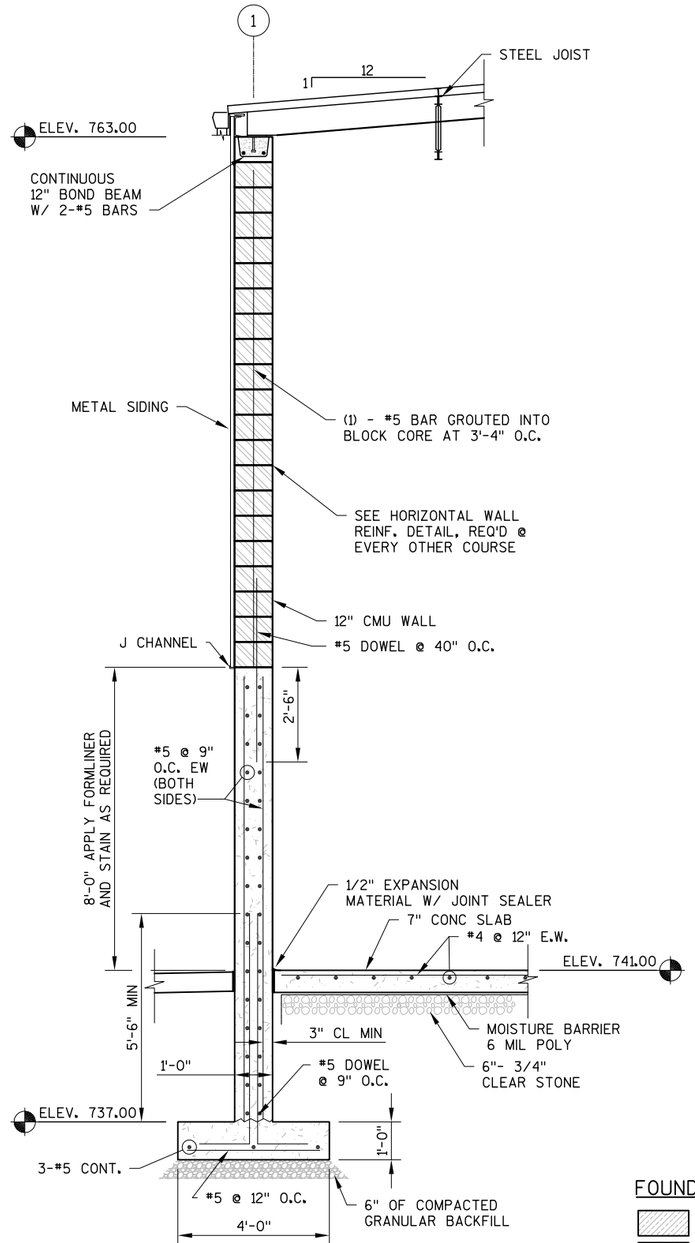

NOTE:
FILL ALL MASONRY BLOCKS IN THE OUTSIDE WALLS W/ EXPANDED POLYSTYRENE INSULATION TO TOP OF WALL.

## WALL SECTION F-F
SCALE: 1/2" = 1'-0"




NOTE:
FILL ALL MASONRY BLOCKS IN THE OUTSIDE WALLS W/ EXPANDED POLYSTYRENE INSULATION TO TOP OF WALL.

## WALL SECTION G-G
SCALE: 1/2" = 1'-0"

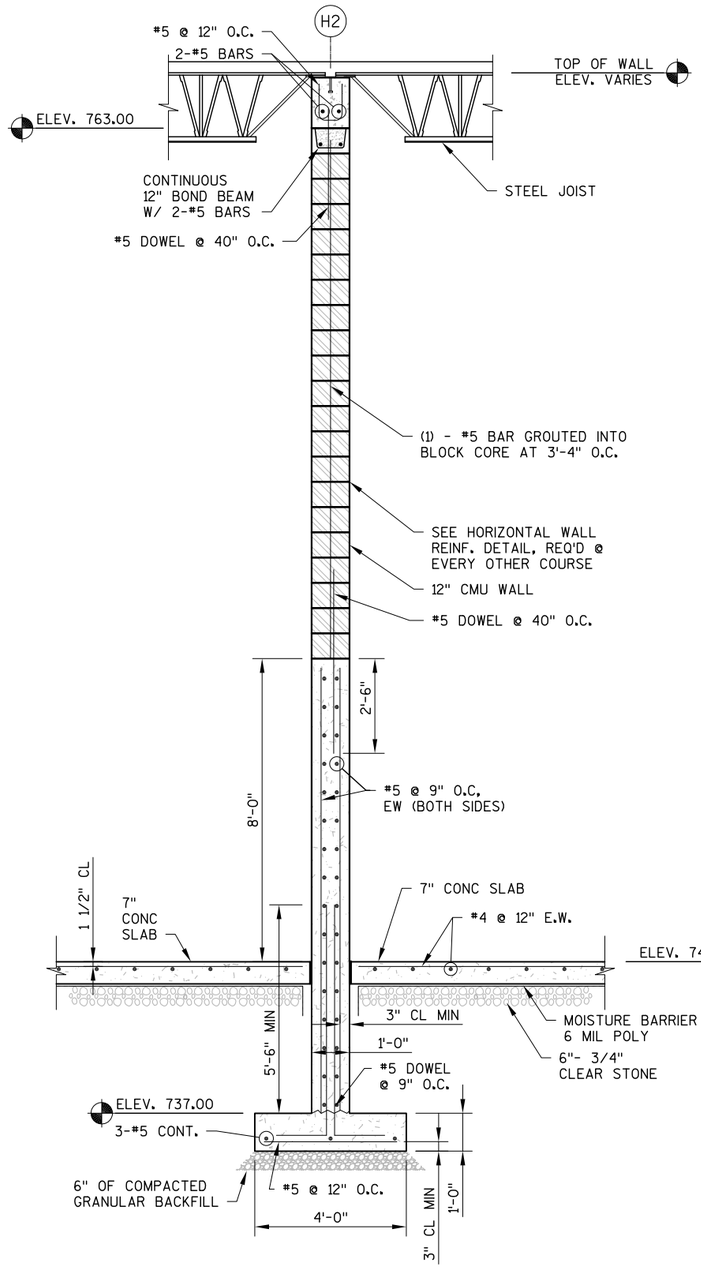



## WALL SECTION H-H
SCALE: 1/2" = 1'-0"

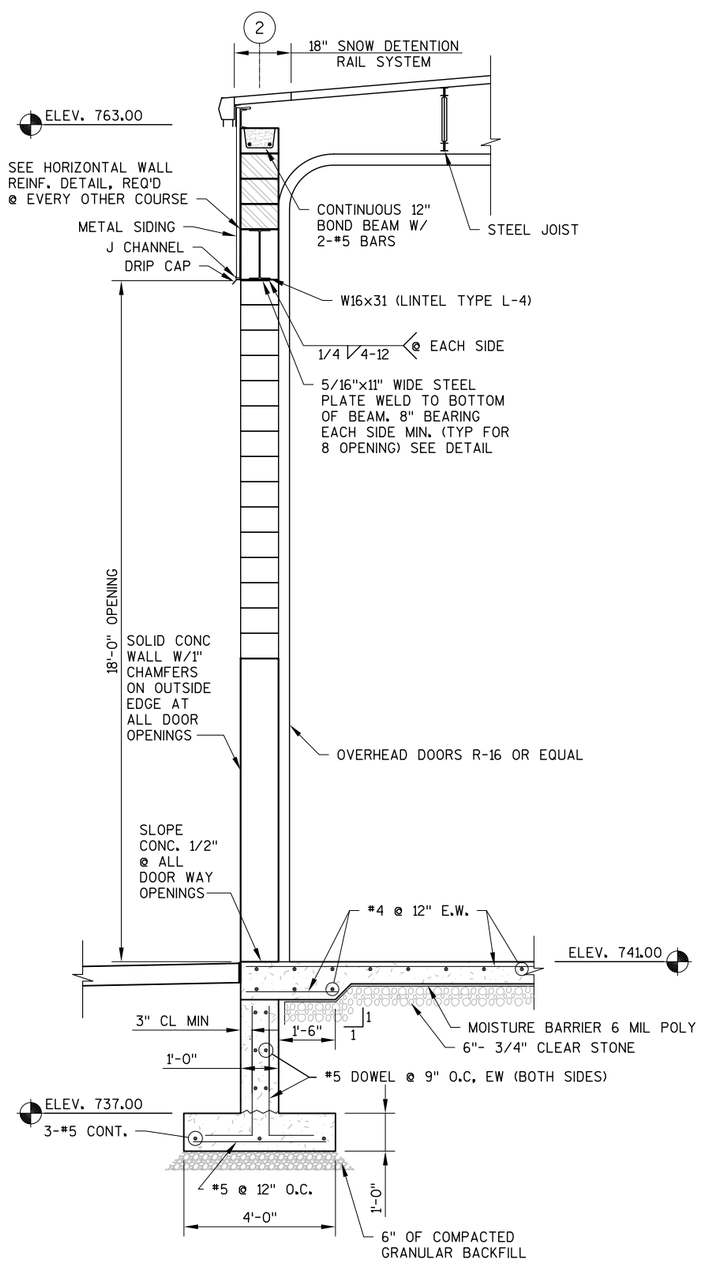
### FOUNDATION KEY
- FASCIA BRICK
- CMU WALL
- 2" INSULATION

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 WALL SECTION DETAILS | SHEET 129 E |
|---|---|---|---|---|



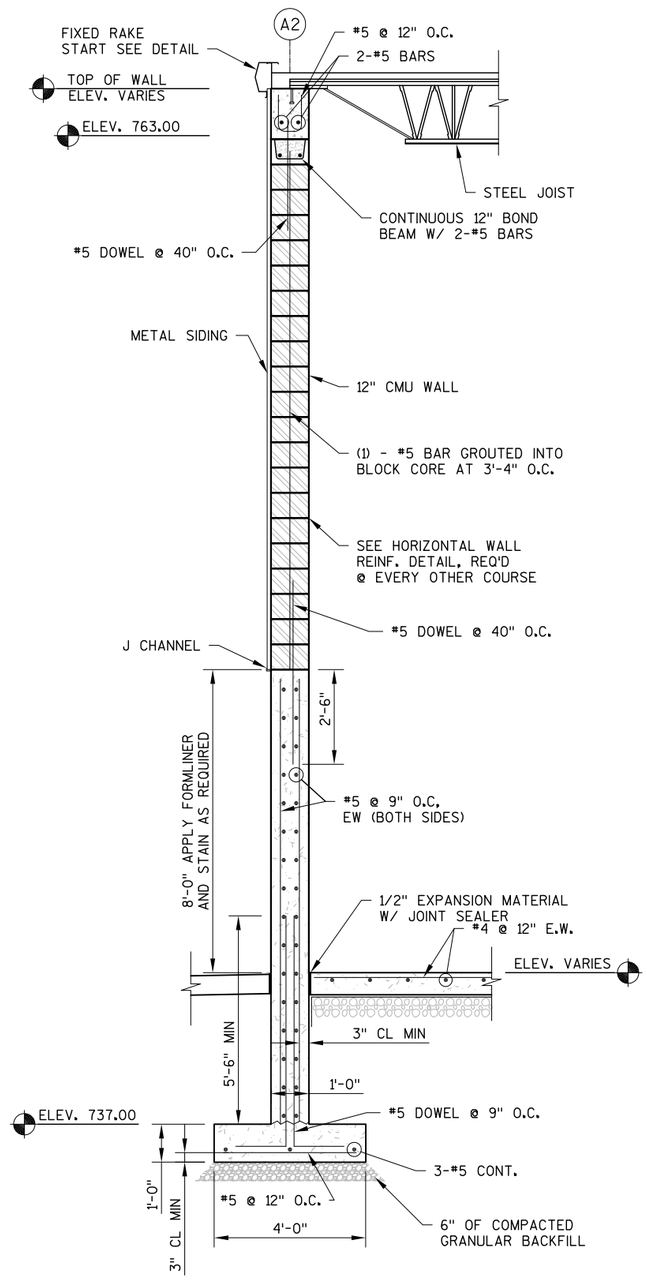

WALL SECTION J-J
SCALE: 1/2" = 1'-0"




WALL SECTION K-K
SCALE: 1/2" = 1'-0"

FOUNDATION KEY

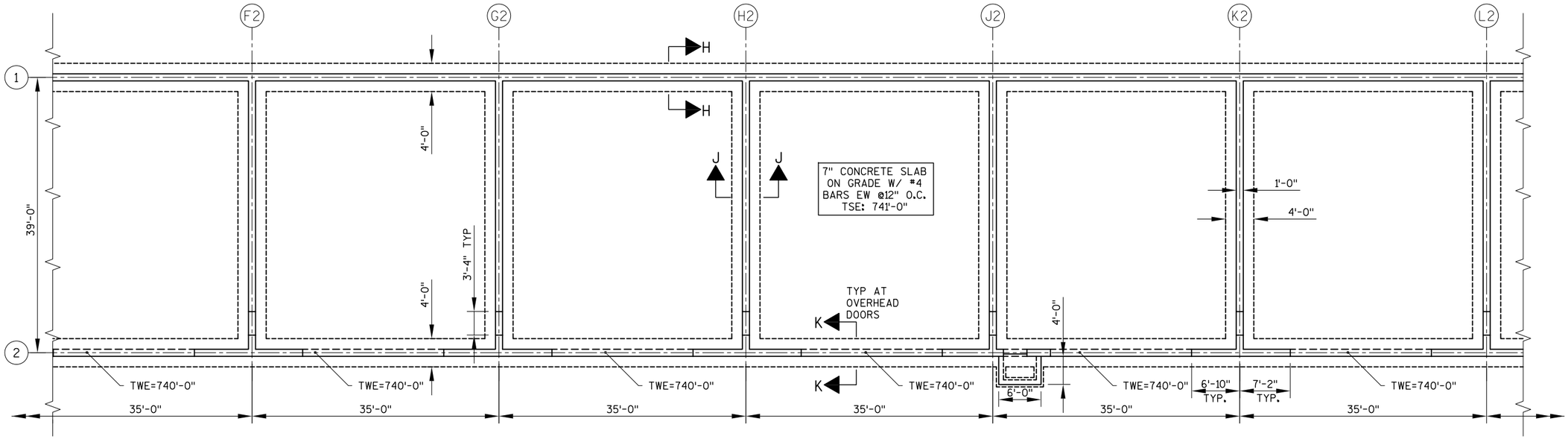
- FASCIA BRICK
- CMU WALL
- 2" INSULATION



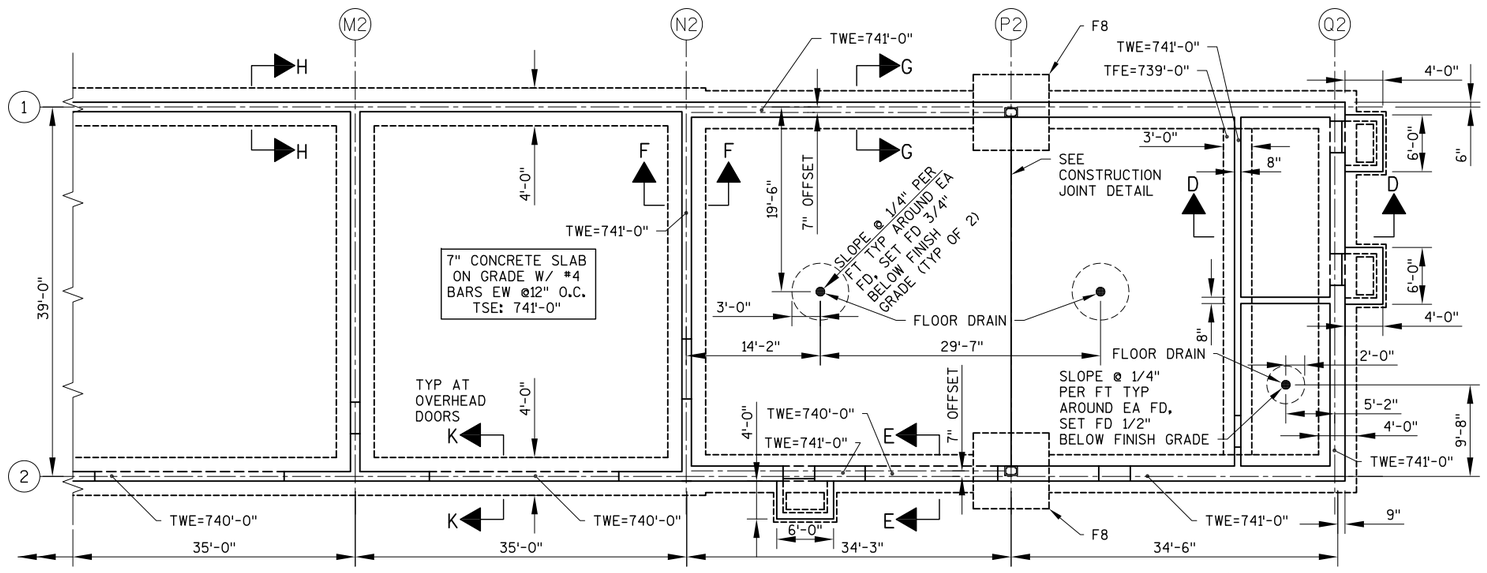

WALL SECTION L-L
SCALE: 1/2" = 1'-0"

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 WALL SECTION DETAILS | SHEET 130 | E |
|---|---|---|---|---|---|




STORAGE BUILDING 2 STRUCTURAL FLOOR PLAN
SCALE: 1/16" = 1'-0"

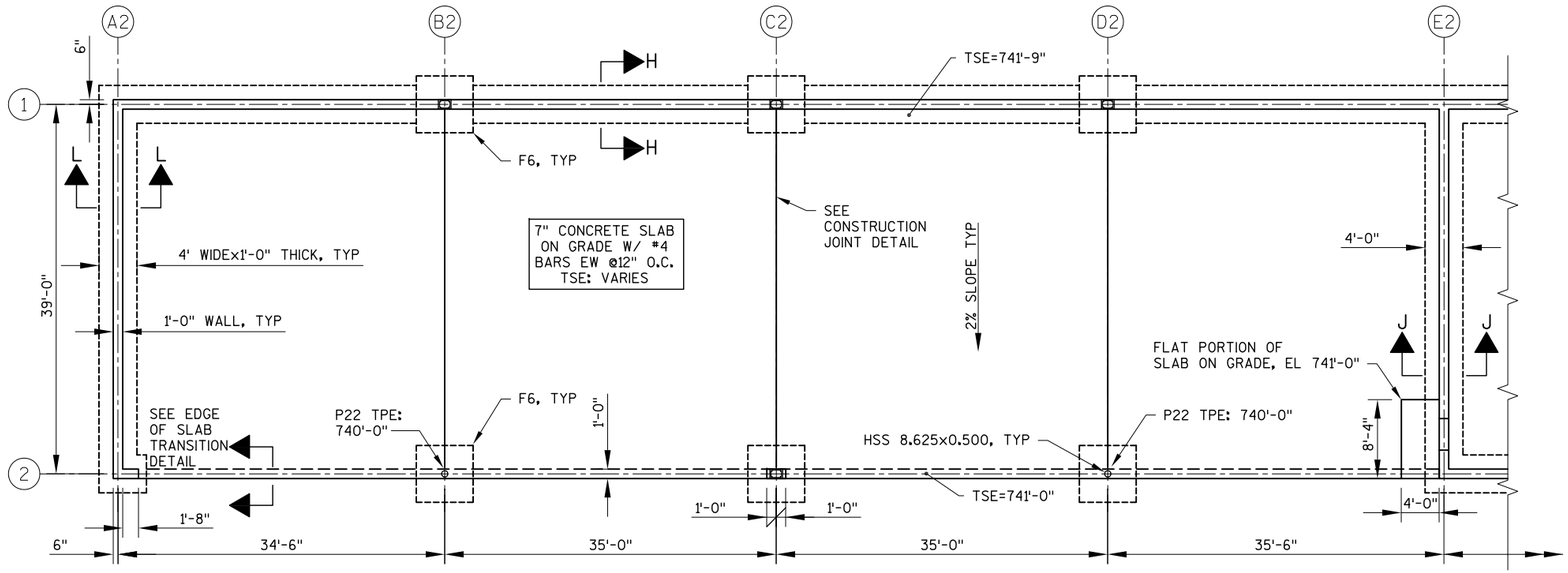



STORAGE BUILDING 2 STRUCTURAL FLOOR PLAN
SCALE: 1/16" = 1'-0"

NOTES:
1. ALL FOOTINGS ARE CENTERED UNDER COLUMNS OR WALLS, UNO.
2. TOP OF FOOTING ELEVATION = 737'-0", UNO.
3. TOP OF CONCRETE WALL ELEVATION (TWE) = 749'-0", UNO.
4. SEE FOOTING SCHEDULE ON GENERAL NOTES PAGE FOR REINF.

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 FOUNDATION PLAN | SHEET 131 | E |
|---|---|---|---|---|---|

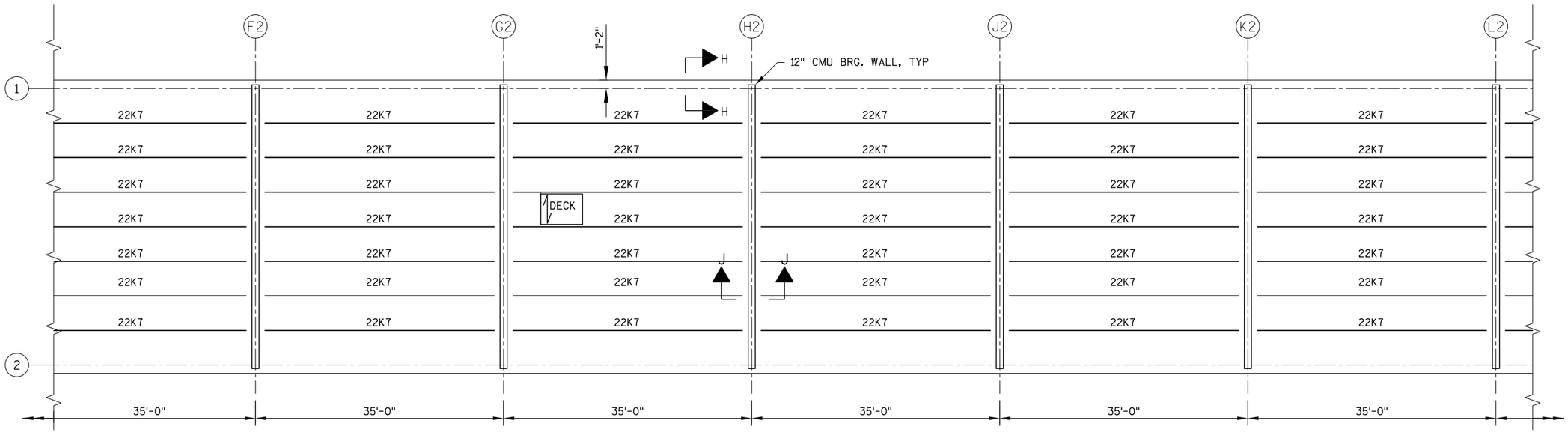



STORAGE BUILDING 2 STRUCTURAL FLOOR PLAN
SCALE: 1/16" = 1'-0"

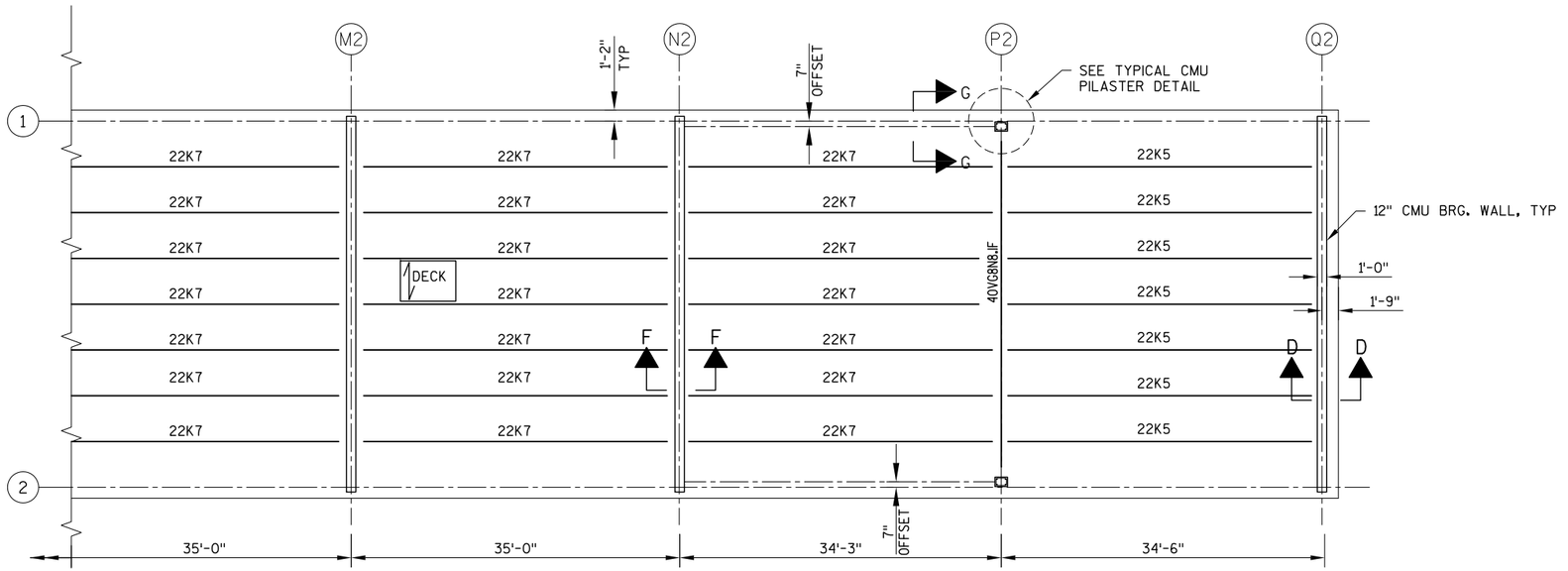
NOTES:
1. ALL FOOTINGS ARE CENTERED UNDER COLUMNS OR WALLS, UNO.
2. TOP OF FOOTING ELEVATION = 737'-0", UNO.
3. TOP OF CONCRETE WALL ELEVATION = 749'-0", UNO.
4. SEE FOOTING SCHEDULE ON GENERAL NOTES PAGE FOR REINF.
5. SEE PIER SCHEDULE ON GENERAL NOTES PAGE FOR REINF.

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 FOUNDATION PLAN | SHEET 132 | E |
|---|---|---|---|---|---|




STORAGE BUILDING 2 ROOF PLAN
SCALE: 1/16" = 1'-0"



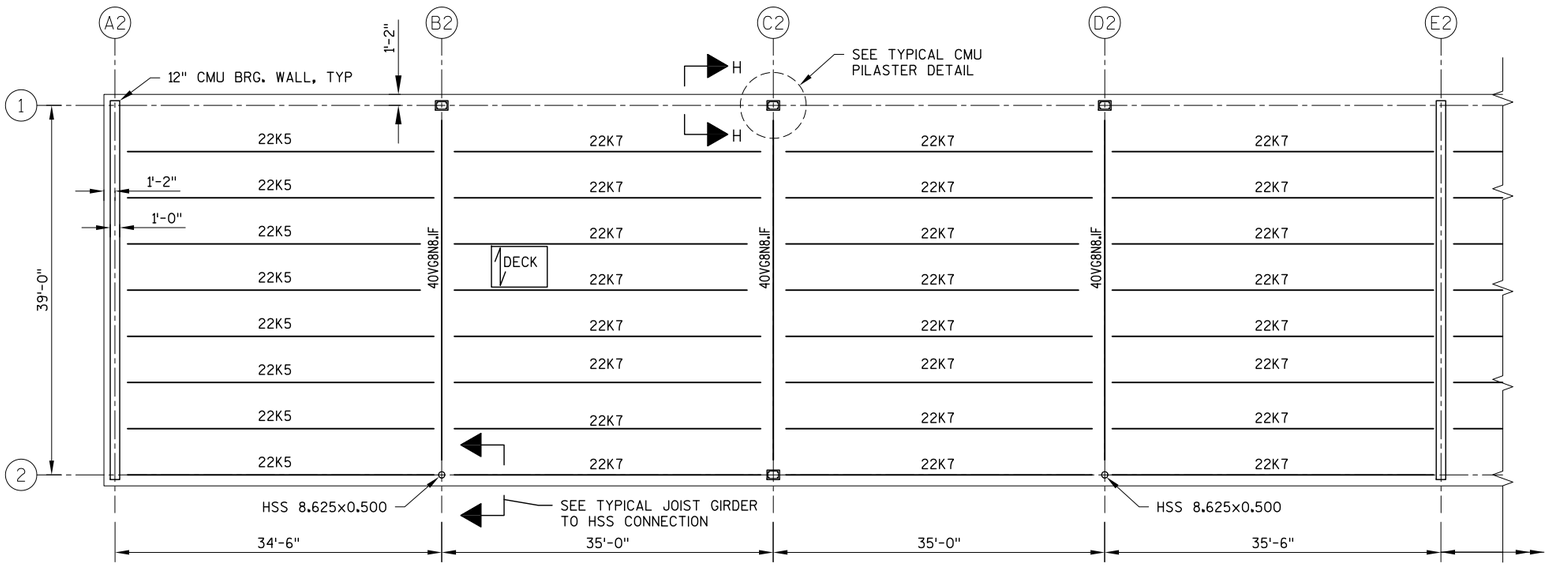

STORAGE BUILDING 2 ROOF PLAN
SCALE: 1/16" = 1'-0"

NOTES:
1. REFER TO GENERAL STRUCTURE NOTES.
2. REFER TO "STRUCTURAL DETAIL -1" FOR BEAM CONNECTION INFORMATION.
3. STEEL JOIST DESIGNATION ARE AS FOLLOWS:
   22K5= JOIST SIZE
4. ⟋ INDICATES SPAN DIRECTION OF DECK.

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 ROOF PLAN | SHEET 133 | E |
|---|---|---|---|---|---|

2




## STORAGE BUILDING 2 ROOF PLAN

SCALE: 1/16" = 1'-0"

NOTES:
1. REFER TO GENERAL STRUCTURE NOTES.
2. REFER TO "STRUCTURAL DETAIL -1" FOR BEAM CONNECTION INFORMATION.
3. STEEL JOIST DESIGNATION ARE AS FOLLOWS:
   22K5= JOIST SIZE
4. ⟋ INDICATES SPAN DIRECTION OF DECK.

VERIFY SCALE

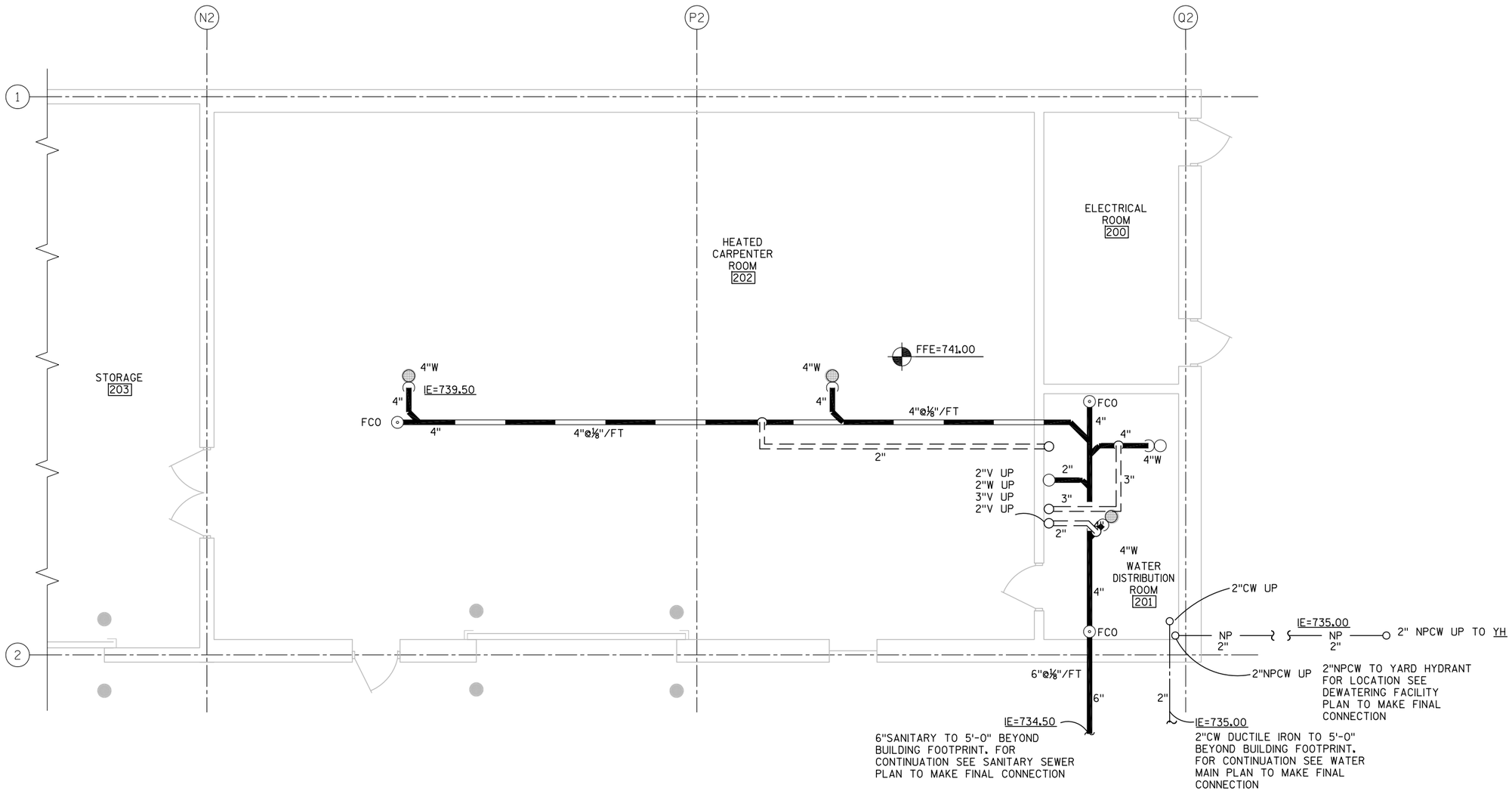
BAR ON ORIGINAL DRAWING IS ONE INCH

0 — 1

IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 ROOF PLAN | SHEET 134 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\STORAGE BLDG 2\SB2 STRUCT.DWG PLOT DATE : 12/12/2014 11:27 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : **********
DOT BLDGS - SB2 STRUCT - STORAGE BLDG 2 ROOF PLAN




NOTE:
ALL UTILITIES 5'-0" FROM
BUILDING ARE PART OF THE
COST FOR STORAGE BUILDING 2

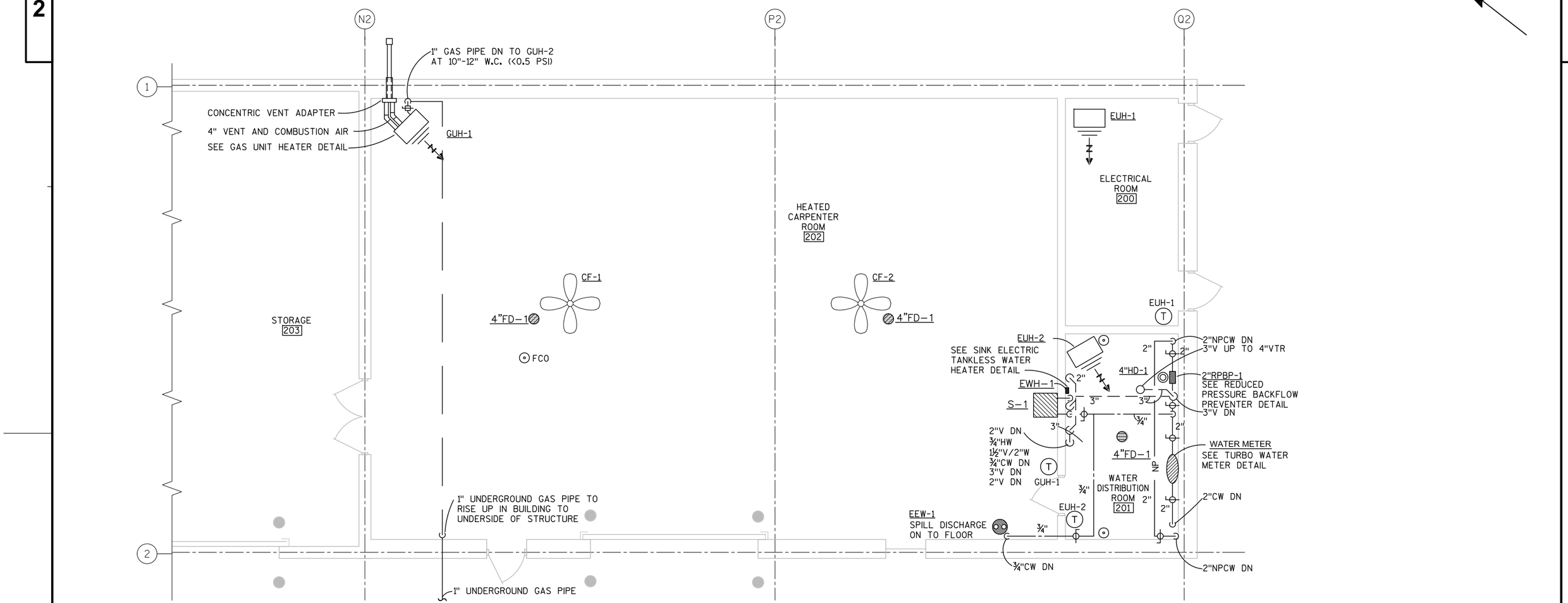
## STORAGE BUILDING 2 PLUMBING PLAN

SCALE: 1/8" = 1'-0"

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 PLUMBING PLAN | SHEET 135 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\STORAGE BLDG 2\SB2 MECHANICAL - DOT BLDGS - SB2 MECHANICAL - STORAGE BLDG 2 PLUMBING PLAN.DWG DATE : 12/12/2014 11:27 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : ********** WISDOT/CADDS SHEET 42




## STORAGE BUILDING 2 MECHANICAL PLAN

SCALE: 1/8" = 1'-0"

VERIFY SCALE

BAR ON ORIGINAL DRAWING IS ONE INCH

0 — 1

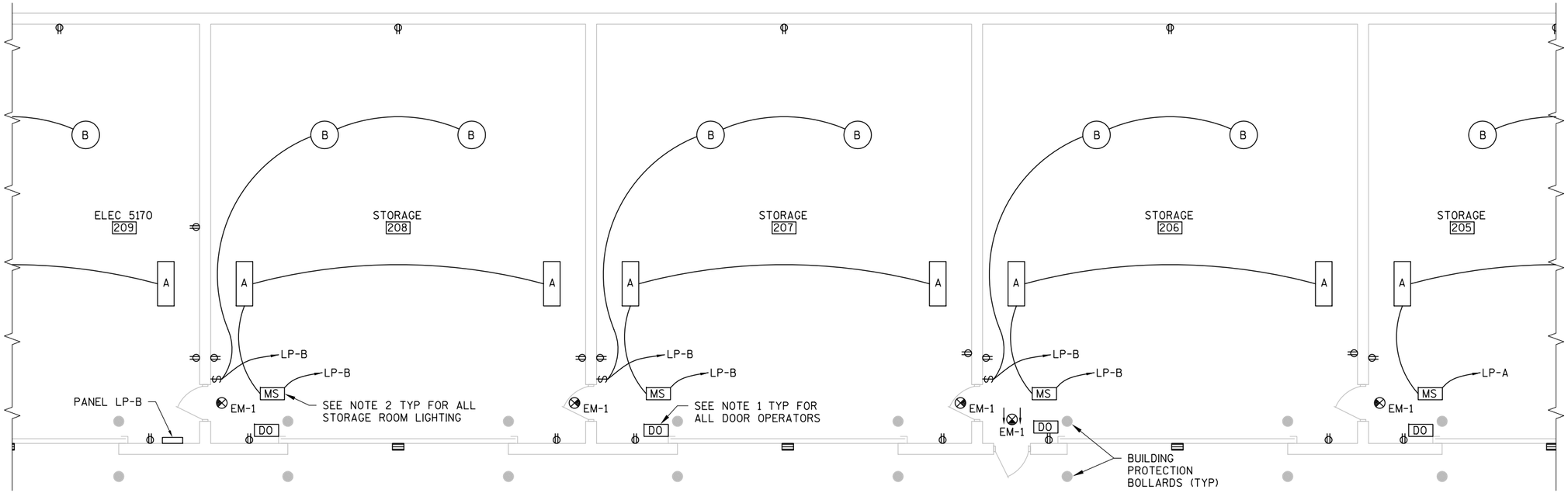
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 MECHANICAL PLAN | SHEET 136 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\STORAGE BLDG 2\SB2 MECHANICAL.DWG
DOT BLDGS - SB2 MECHANICAL - STORAGE BLDG 2 HVAC

PLOTTED DATE : 12/12/2014 11:27 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 42

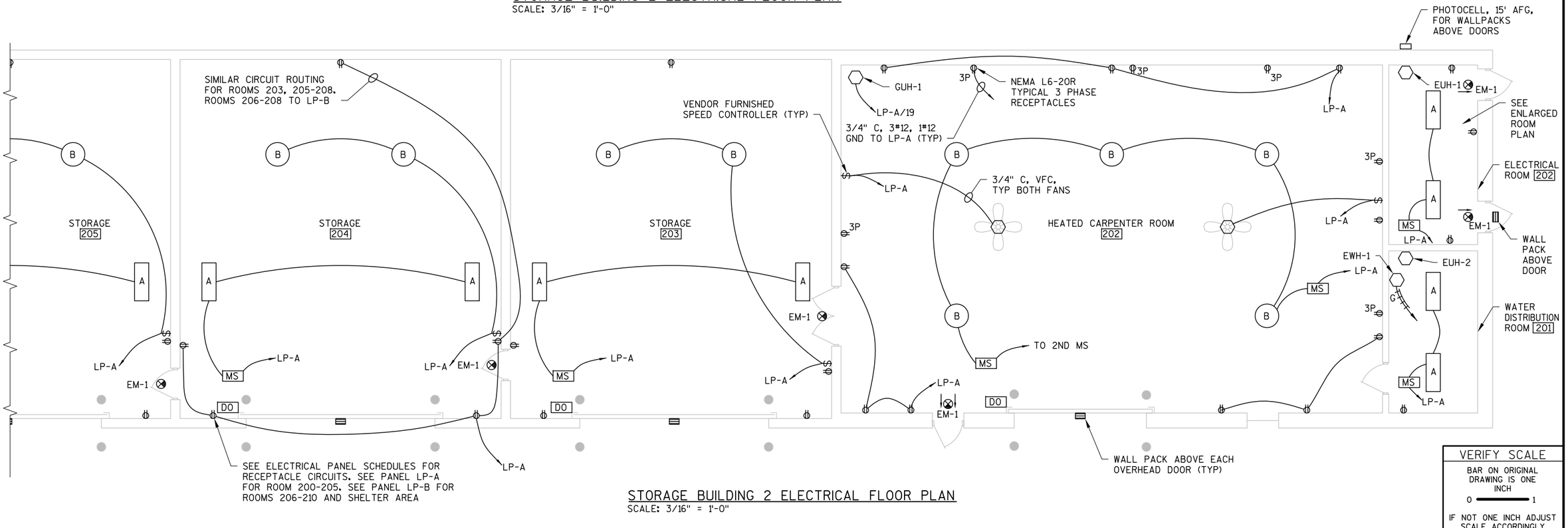



NOTES:

1. DOOR OPERATORS (DO) PROVIDE, ¾"C,3#12,1#12 GND TO PANEL LP-B FOR ROOMS 206–210 AND TO PANEL LP-A FOR ROOMS 201–206. SEE DOOR OPERATOR DETAIL.
2. MOTION SWITCH (MS) MOTION SENSOR CONTROLS THE TYPE A FIXTURES IN THE RESPECTIVE ROOMS. SUPPORT THE MS AND JB FROM RIGID METALLIC CONDUIT CONNECTED TO A JB AND POWER PACK AT CEILING LEVEL. MOUNTING ELEVATION TO BE 6" BELOW THE OH DOOR TRACK.
3. SEE PANEL SCHEDULE FOR CIRCUITING OF RECEPTACLES, LIGHTING AND DOOR OPENERS.

## STORAGE BUILDING 2 ELECTRICAL FLOOR PLAN

SCALE: 3/16" = 1'-0"




## STORAGE BUILDING 2 ELECTRICAL FLOOR PLAN

SCALE: 3/16" = 1'-0"

VERIFY SCALE

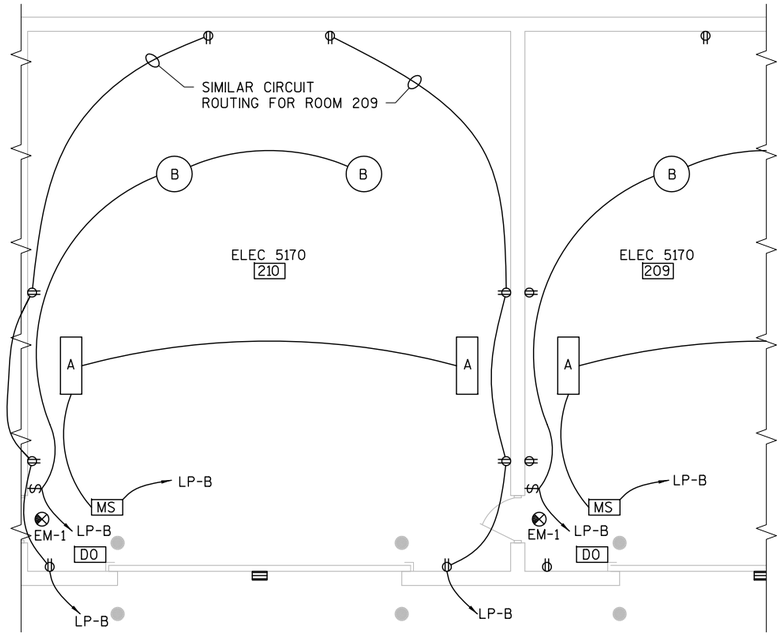
BAR ON ORIGINAL DRAWING IS ONE INCH

0 — 1

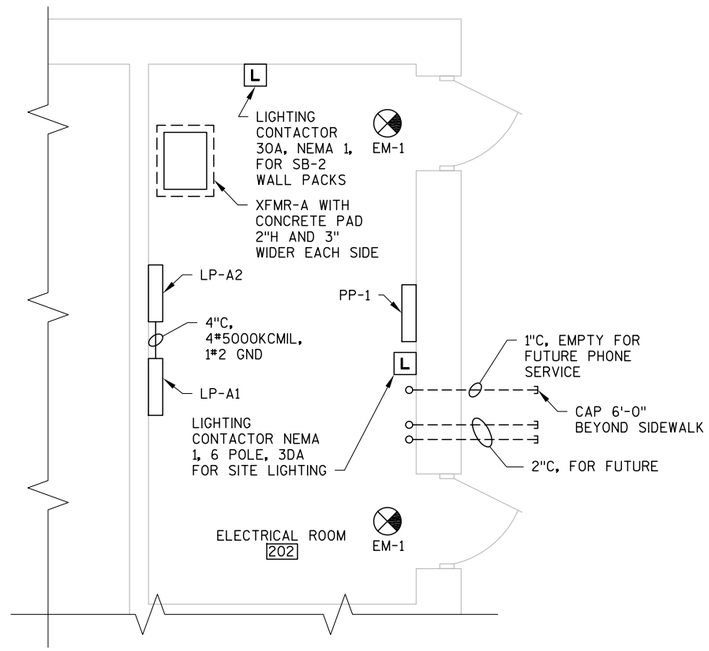
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 ELECTRICAL FLOOR PLAN | SHEET 137 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\STORAGE BLDG 2\SB2 ELECTRICAL.DWG DATE : 12/12/2014 11:28 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : **********
DOT BLDGS - SB2 ELECTRICAL - STORAGE BLDG 2 DOT FP (1)
WISDOT/CADDS SHEET 42

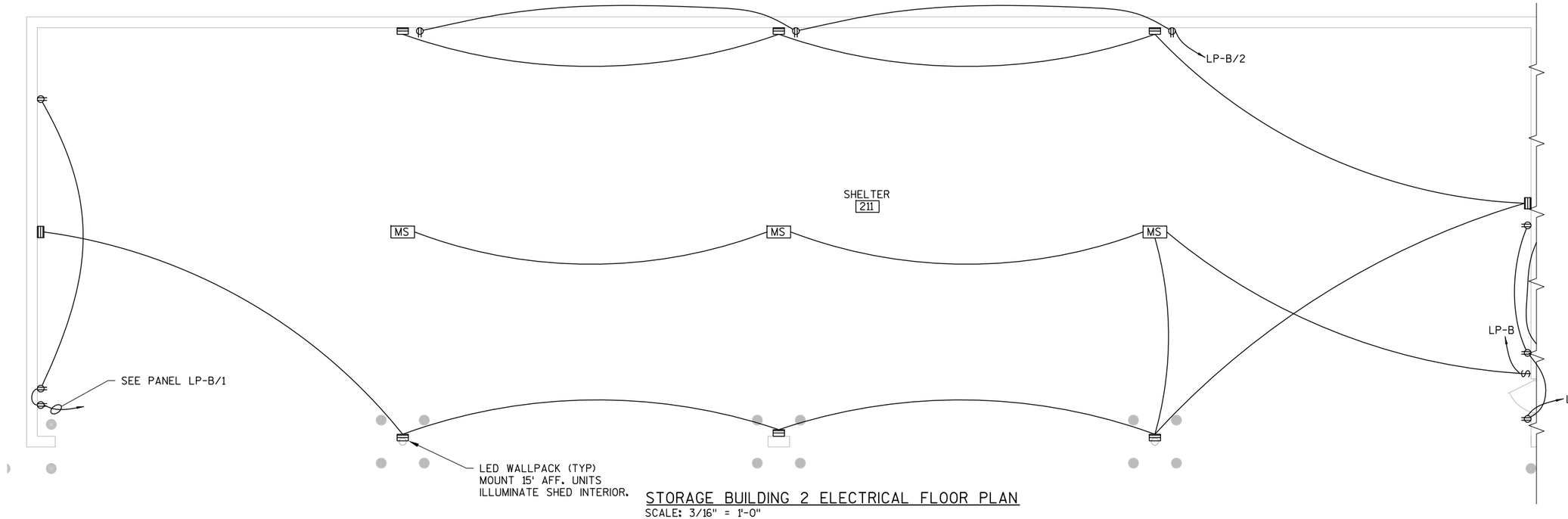



STORAGE BUILDING 2 ELECTRICAL FLOOR PLAN
SCALE: 3/16" = 1'-0"




NOTE: SEE 1-LINE DIAGRAM, SEE ELECTRICAL SITE PLAN FOR CONDUIT TO EXTERIOR

STORAGE BUILDING 2 ROOM 200 ENLARGED PLAN
SCALE: NTS



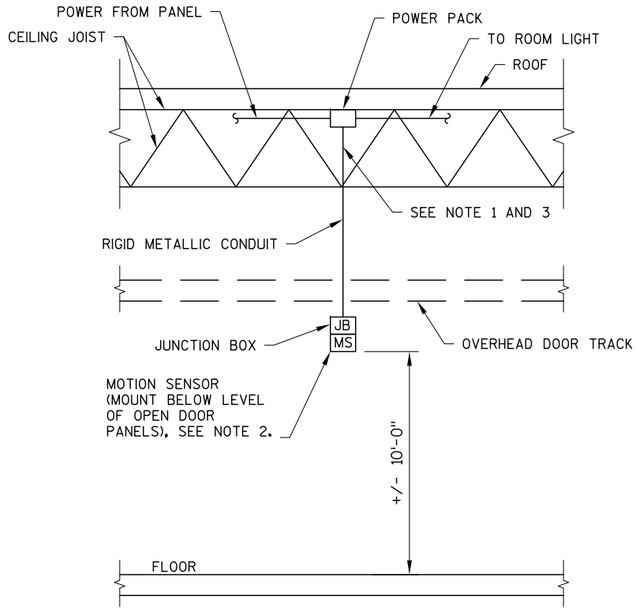

STORAGE BUILDING 2 ELECTRICAL FLOOR PLAN
SCALE: 3/16" = 1'-0"

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

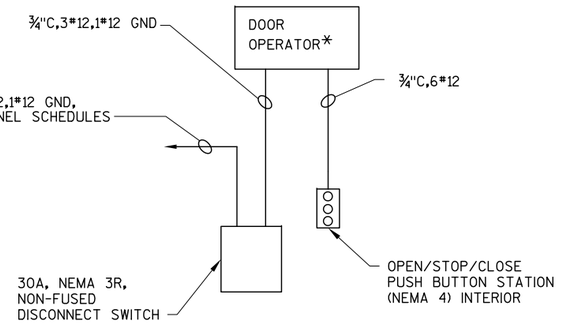
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 ELECTRICAL FLOOR PLAN | SHEET 138 E |
|---|---|---|---|---|

NOTES:

1. PROVIDE LATERAL SUPPORT BY RUNNING 1" RMC BETWEEN CEILING JOIST AND SECURING TO RMC SUPPORTING THE MOTION SENSOR.
2. PROVIDE BAFFLE OR SET UP SENSOR SO A PERSON WALKING WITHIN 5'-0" OF AN OPEN OVERHEAD DOOR DOES NOT TURN ON LIGHT. ENTERING A MONITORED AREA SHALL TURN ON THE LIGHT.
3. COORDINATE SENSOR IF MORE THAN ONE IN AREA.
4. SECURE AS NECESSARY IF SENSOR VIBRATES EXCESSIVELY.




MOTION SENSOR DETAIL
SCALE: NTS




* WIRING TO SAFETY DEVICES BY OPERATOR INSTALLER

DOOR OPENER DETAIL
SCALE: NTS

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 ELECTRICAL DETAILS | SHEET 139 | E |
|---|---|---|---|---|---|

2

| PANEL | BUSS AMPS | MAIN BREAKER | MOUNTING | | REMARKS |
|---|---|---|---|---|---|
| PP1 | 200 | 200 AMPS | SURFACE | X | STORAGE BUILDING 2 ELECTRICAL ROOM |
| | VOLTAGE 277/480 | | FLUSH | | |
| | PHASE 3 | | | | |
| | WIRE 4 | | | | |

| CIRCUIT DESCRIPTION | AMP/POLE | CKT | BUS | CKT | AMP/POLE | CIRCUIT DESCRIPTION |
|---|---|---|---|---|---|---|
| TRANSFORMER XFMR-A | 50/3 | 1 | | 2 | 30/3 | SITE LIGHTING DPW YARD (A) |
| | | 3 | | 4 | | (B) |
| | | 5 | | 6 | | (C) |
| TRANSFORMER XFMR-B | 50/3 | 7 | | 8 | 30/3 | SITE LIGHTING - SHERIFF AND STAFF PARKING (D) |
| | | 9 | | 10 | | (E) |
| | | 11 | | 12 | | (F) |
| SPACE | -- | 13 | | 14 | -- | SPACE |
| SPACE | -- | 15 | | 16 | -- | SPACE |
| SPACE | -- | 17 | | 18 | -- | SPACE |
| SPACE | -- | 19 | | 20 | -- | SPACE |
| SPACE | -- | 21 | | 22 | -- | SPACE |
| SPACE | -- | 23 | | 24 | -- | SPACE |
| SPACE | -- | 25 | | 26 | -- | SPACE |
| SPACE | -- | 27 | | 28 | -- | SPACE |
| SPACE | -- | 29 | | 30 | -- | SPACE |

| PANEL | BUSS AMPS | MAIN BREAKER | MOUNTING | | REMARKS |
|---|---|---|---|---|---|
| LP-B | 100 | 75 AMPS | SURFACE | X | STORAGE BUILDING 2<br>WALL MOUNTED ROOM 209<br>TRANSFORMER XFMR-B<br>WALL MOUNTED ABOVE PANEL |
| | VOLTAGE 120/208 | | FLUSH | | |
| | PHASE 3 | | | | |
| | WIRE 4 | | | | |

| CIRCUIT DESCRIPTION | AMP/POLE | CKT | BUS | CKT | AMP/POLE | CIRCUIT DESCRIPTION |
|---|---|---|---|---|---|---|
| LIGHTING SHELTER ROOM 211 | 20/1 | 1 | | 2 | 20/1 | RECEPTACLES SHELTER ROOM 211 |
| DOOR OPERATOR ROOM 210 | 10/3 | 3 | | 4 | 10/3 | DOOR OPERATOR ROOM 209 |
| | | 5 | | 6 | | |
| | | 7 | | 8 | | |
| DOOR OPERATOR ROOM 208 | 10/3 | 9 | | 10 | 10/3 | DOOR OPERATOR ROOM 207 |
| | | 11 | | 12 | | |
| | | 13 | | 14 | | |
| DOOR OPERATOR ROOM 206 | 10/3 | 15 | | 16 | 20/1 | LIGHTING ROOMS 206,207 |
| | | 17 | | 18 | 20/1 | LIGHTING ROOMS 208,209 |
| | | 19 | | 20 | 20/1 | LIGHTING ROOMS 210,211 |
| RECEPTACLES ROOM 206,207 | 20/1 | 21 | | 22 | 20/1 | RECEPTACLES ROOM 208 |
| RECEPTACLES ROOM 209-NORTHERN | 20/1 | 23 | | 24 | 20/1 | RECEPTACLES ROOM 209-SOUTHERN |
| RECEPTACLES ROOM 210-NORTHERN | 20/1 | 25 | | 26 | 20/1 | RECEPTACLES ROOM 210-SOUTHERN |
| * EXTERIOR LIGHTING DOORS-ROOM 206-210 | 20/1 | 27 | | 28 | 20/1 | EMERGENCY LIGHTING ROOM 209,210 |
| SPACE | -- | 29 | | 30 | 20/1 | EMERGENCY LIGHTING ROOM 208,207,206 |
| SPACE | -- | 31 | | 32 | 20/1 | RECEPTACLES ROOM 211 |
| SPACE | -- | 33 | | 34 | 20/1 | SPARE |
| SPACE | -- | 35 | | 36 | -- | SPACE |
| SPACE | -- | 37 | | 38 | -- | SPACE |
| SPACE | -- | 39 | | 40 | -- | SPACE |
| SPACE | -- | 41 | | 42 | -- | SPACE |

* CIRCUIT LP-B/27" PROVIDE A 2 POLE ELECTRICALLY HELD LIGHTING CONTRACTOR, NEMA 1, 30A CONTACTS WITH HOA SWITCH IN ROOM 210 FOR WALLPACKS ABOVE THE OVERHEAD DOORS. PROVIDE A PHOTO CELL ON EAST SIDE OF BUILDING FOR AUTO MODE. CONTACTOR IN ROOM 207, ADJACENT TO LP-B.

| PANEL | BUSS AMPS | MAIN BREAKER | MOUNTING | | REMARKS |
|---|---|---|---|---|---|
| LP-A1 | 400 | 300 AMPS | SURFACE | X | STORAGE BUILDING 2<br>ELECTRICAL ROOM<br>DOUBLE TUB PART A |
| | VOLTAGE 120/208 | | FLUSH | | |
| | PHASE 3 | | | | |
| | WIRE 4 | | | | |

| CIRCUIT DESCRIPTION | AMP/POLE | CKT | BUS | CKT | AMP/POLE | CIRCUIT DESCRIPTION |
|---|---|---|---|---|---|---|
| LIGHTING ROOM 202 | 20/1 | 1 | | 2 | 20/1 | LIGHTING ROOMS 200,201 |
| FANS ROOM 202 | 20/1 | 3 | | 4 | 20/1 | RECEPTACLES ROOMS 200,201 |
| RECEPTACLES ROOM 203 | 20/1 | 5 | | 6 | 20/1 | LIGHTING ROOMS 203 |
| RECEPTACLES ROOM 204,205 | 20/1 | 7 | | 8 | 20/1 | LIGHTING ROOMS 204,205 |
| DOOR OPERATOR ROOM 202 | 15/3 | 9 | | 10 | 15/3 | DOOR OPERATOR ROOM 204 |
| | | 11 | | 12 | | |
| | | 13 | | 14 | | |
| DOOR OPERATOR ROOM 203 | 15/3 | 15 | | 16 | 15/3 | DOOR OPERATOR ROOM 205 |
| | | 17 | | 18 | | |
| | | 19 | | 20 | | |
| SPARE | 20/3 | 21 | | 22 | 20/3 | SPARE |
| | | 23 | | 24 | | |
| | | 25 | | 26 | | |
| EMERGENCY LIGHTING ROOM 200,201,202 | 20/1 | 27 | | 28 | 20/1 | SPARE |
| EMERGENCY LIGHTING ROOM 203,204,205 | 20/1 | 29 | | 30 | 20/1 | SPARE |
| * EXTERIOR LTG DOORS-ROOM 200, 202-205 | 20/1 | 31 | | 32 | -- | SPACE |
| SPACE | -- | 33 | | 34 | -- | SPACE |
| SPACE | -- | 35 | | 36 | -- | SPACE |
| SPACE | -- | 37 | | 38 | -- | SPACE |
| SPACE | -- | 39 | | 40 | -- | SPACE |
| SPACE | -- | 41 | | 42 | -- | SPACE |

* CIRCUIT LP-A1/31" PROVIDE A 2 POLE ELECTRICALLY HELD LIGHTING CONTRACTOR, NEMA 1, 30A CONTACTS WITH HOA SWITCH IN ROOM 210 FOR WALLPACKS ABOVE THE OVERHEAD DOORS. PROVIDE A PHOTO CELL ON EAST SIDE OF BUILDING FOR AUTO MODE. CONTACTOR IN ROOM 200.

| PANEL | BUSS AMPS | SUB-FEED FROM | MOUNTING | | REMARKS |
|---|---|---|---|---|---|
| LP-A2 | 400 | LP-A1 | SURFACE | X | STORAGE BUILDING 2<br>ELECTRICAL ROOM<br>DOUBLE TUB PART B |
| | VOLTAGE 120/208 | | FLUSH | | |
| | PHASE 3 | | | | |
| | WIRE 4 | | | | |

| CIRCUIT DESCRIPTION | AMP/POLE | CKT | BUS | CKT | AMP/POLE | CIRCUIT DESCRIPTION |
|---|---|---|---|---|---|---|
| EQUIPMENT RECEPTACLES ROOM 202 N | 20/3 | 1 | | 2 | 20/3 | EQUIPMENT RECEPTACLES ROOM 200 (S) |
| | | 3 | | 4 | | |
| | | 5 | | 6 | | |
| EQUIPMENT RECEPTACLES ROOM 202 E/N | 20/3 | 7 | | 8 | 20/3 | EQUIPMENT RECEPTACLES ROOM 200 MIDDLE E |
| | | 9 | | 10 | | |
| | | 11 | | 12 | | |
| EQUIPMENT RECEPTACLES ROOM 202 E/S | 20/3 | 13 | | 14 | 20/3 | EQUIPMENT RECEPTACLES ROOM 200 S/W |
| | | 15 | | 16 | | |
| | | 17 | | 18 | | |
| GAS UNIT HEATER ROOM 202 | 15/1 | 19 | | 20 | 30/2 | EUH-1 ROOM 200 |
| EUH-2 ROOM 201 | 30/2 | 21 | | 22 | | |
| | | 23 | | 24 | 60/2 | DEWATERING BUILDING |
| RECEPTACLES ROOM 202 NORTH AND NORTHWEST | 20/1 | 25 | | 26 | | |
| RECEPTACLES ROOM 202 SOUTH AND SOUTHWEST | 20/1 | 27 | | 28 | -- | SPACE |
| RECEPTACLES ROOM 202 EAST | 20/1 | 29 | | 30 | -- | SPACE |
| SPACE | -- | 31 | | 32 | -- | SPACE |
| SPACE | -- | 33 | | 34 | -- | SPACE |
| SPACE | -- | 35 | | 36 | -- | SPACE |
| SPACE | -- | 37 | | 38 | -- | SPACE |
| SPACE | -- | 39 | | 40 | -- | SPACE |
| SPACE | -- | 41 | | 42 | -- | SPACE |

VERIFY SCALE

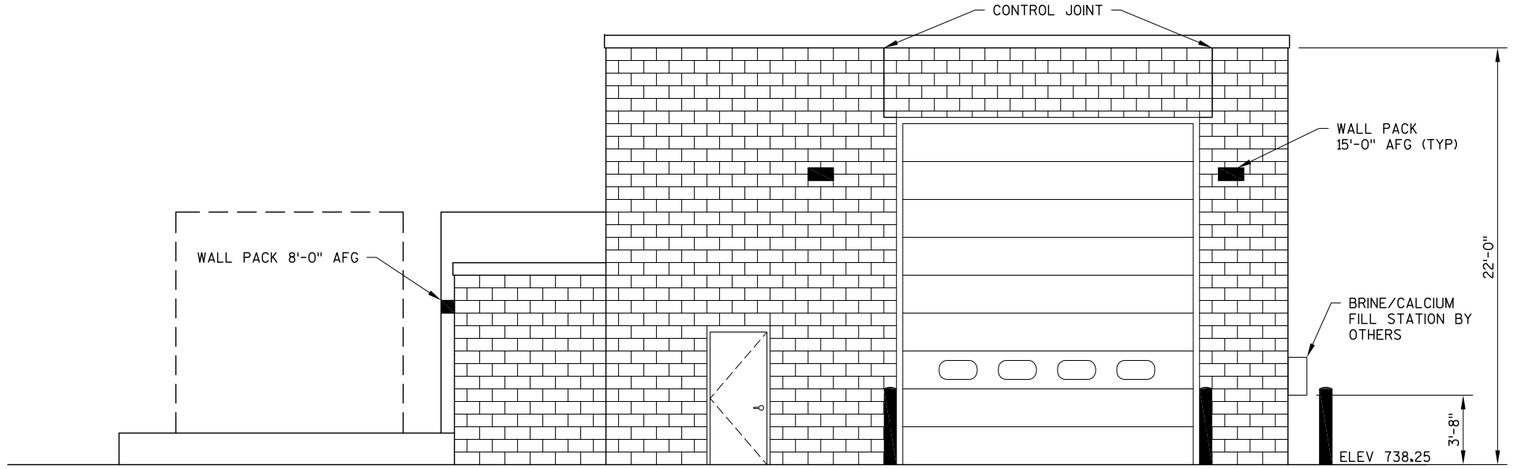
BAR ON ORIGINAL DRAWING IS ONE INCH

0 — 1

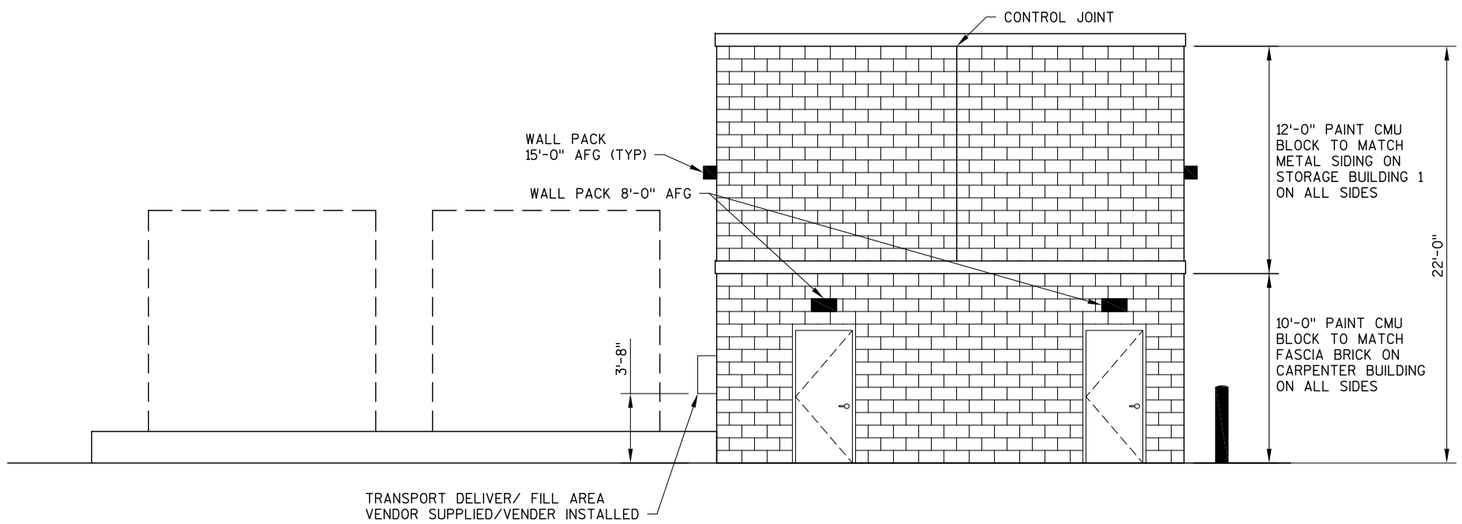
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | STORAGE BUILDING 2 ELECTRICAL PANEL SCHEDULE | SHEET 140 | E |
|---|---|---|---|---|---|

2




SALT BRINE BUILDING NORTH ELEVATION
SCALE: 1/4" = 1'-0"

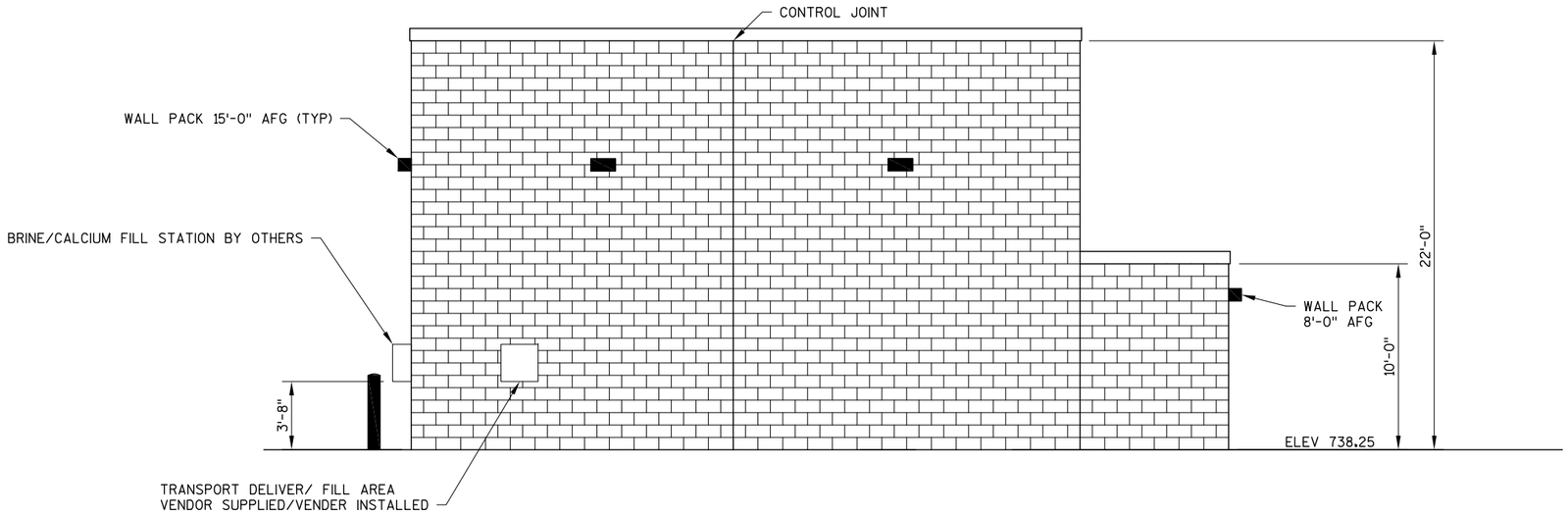



SALT BRINE BUILDING EAST ELEVATION
SCALE: 1/4" = 1'-0"

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SALT BRINE BUILDING ELEVATIONS | SHEET 141 | E |
|---|---|---|---|---|---|

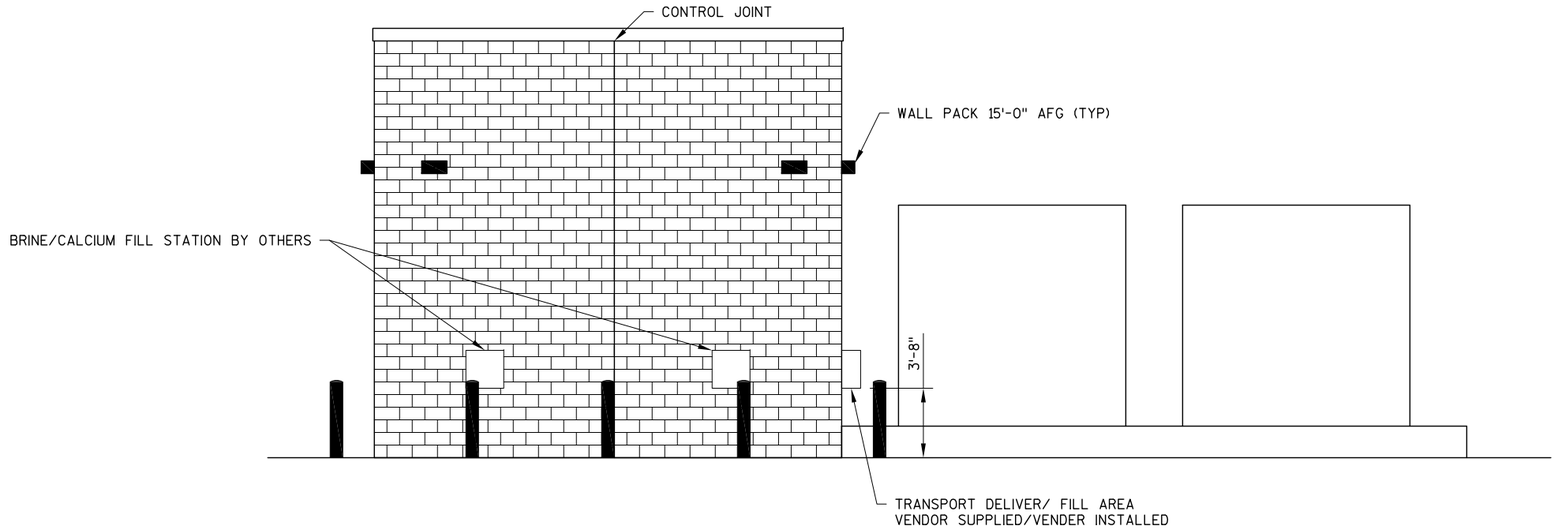
FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\BRINE BLDG\BRINE BLDG.DWG PLOT DATE : 12/12/2014 11:28 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : 1/8" = 1'-0"
DOT BLDGS - BRINE BLDG - NORTH EAST EL




SALT BRINE BUILDING SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

NOTE: STORAGE TANK CONTAINMENT AREA NOT SHOWN FOR CLARITY




SALT BRINE BUILDING WEST ELEVATION

SCALE: 1/4" = 1'-0"

VERIFY SCALE

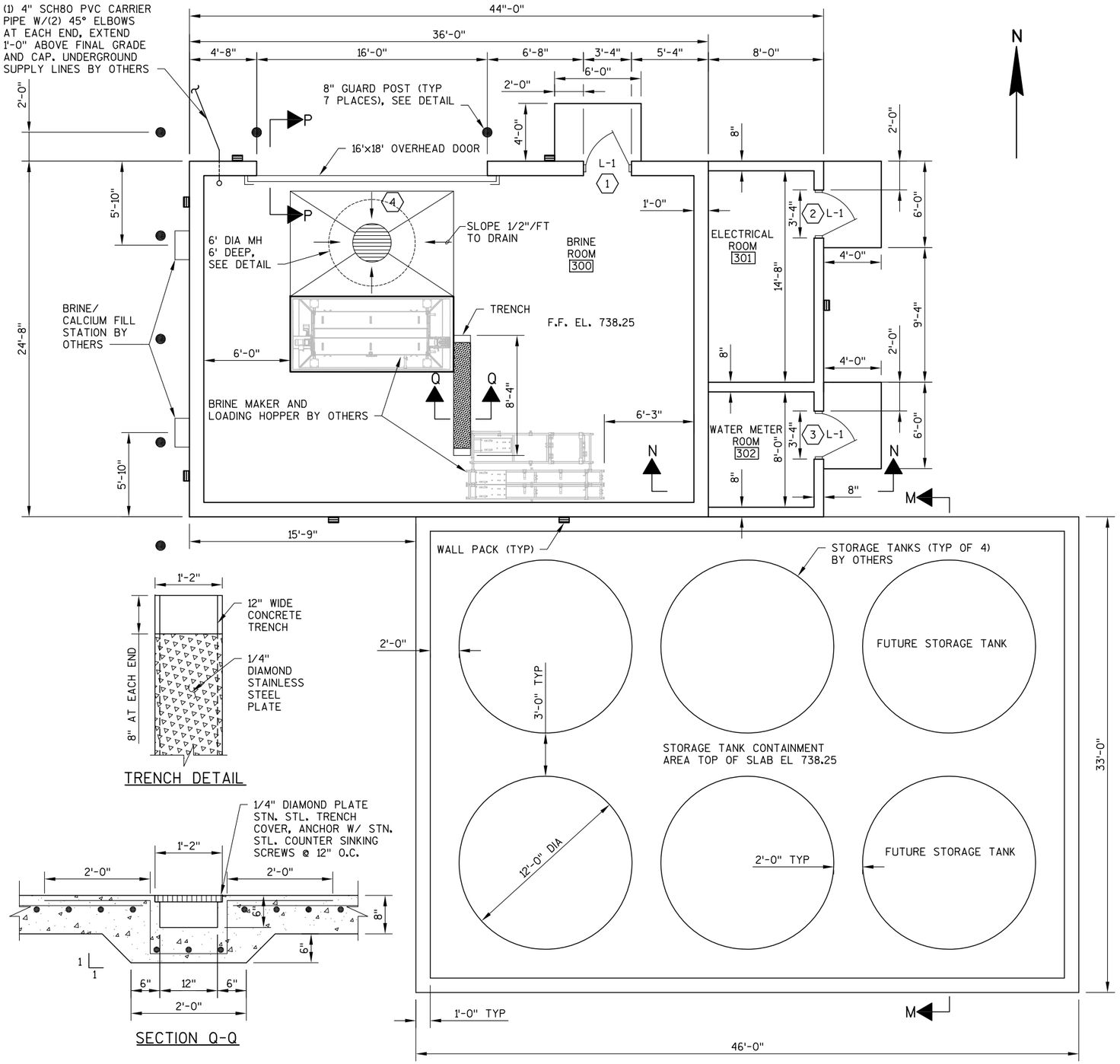
BAR ON ORIGINAL DRAWING IS ONE INCH

0 —— 1

IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SALT BRINE BUILDING ELEVATIONS | SHEET 142 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\BRINE BLDG\BRINE BLDG.DWG PLOT DATE : 12/12/2014 11:28 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : 1/8" = 1'-0"
DOT BLDGS - BRINE BLDG - SOUTH WEST EL



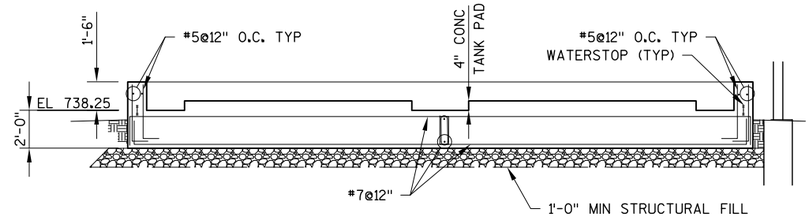

SALT BRINE BUILDING FLOOR PLAN
SCALE: 1/4" = 1'-0"




TRENCH DETAIL




SECTION Q-Q




SECTION M-M

ROOM FINISH SCHEDULE

| NO. | FLOOR | | WALLS AND FINISH | | | | CEILING | | |
|---|---|---|---|---|---|---|---|---|---|
| | MTL | FINISH | NORTH | WEST | EAST | SOUTH | MTL | FINISH | HEIGHT |
| 300 | CONC | CNS | PAINT | PAINT | PAINT | PAINT | CONC | PAINT | 22'-0" |
| 301 | CONC | CNS | PAINT | PAINT | PAINT | PAINT | CONC | PAINT | 10'-0" |
| 302 | CONC | CNS | PAINT | PAINT | PAINT | PAINT | CONC | PAINT | 10'-0" |

DOOR SCHEDULE

| DOOR NUMBER | ROOM NUMBER | ROUGH OPENING | DOOR | | | | | | FRAME | | | | HARDWARE SET NO. SEE SPEC'S | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WIDTH | HEIGHT | THICKNESS | TYPE | MATERIAL | COLOR | TYPE | MATERIAL | DEPTH | COLOR | | |
| 1 | 300 | 3'-4"× 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | F.G. | SEE NOTE 5 & 8 | N/A | F.G. | 5'-3/4" | SEE NOTE 5 & 8 | 1 | INSULATED |
| 2 | 301 | 3'-4"× 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | N/A | H.M GALV. | 5'-3/4" | | 1 | INSULATED |
| 3 | 302 | 3'-4"× 7'-4" | 3'-0" | 7'-0" | 1 3/4" | A | H.M GALV. | | N/A | H.M GALV. | 5'-3/4" | | 1 | INSULATED |
| 4 | 300 | 16'-0"× 18'-0" | 16'-4" | 18'-0" | 2" | N/A | ALUM | SEE NOTE 1 | N/A | GALV. | N/A | SEE NOTE 2 | SST | INSULATED |

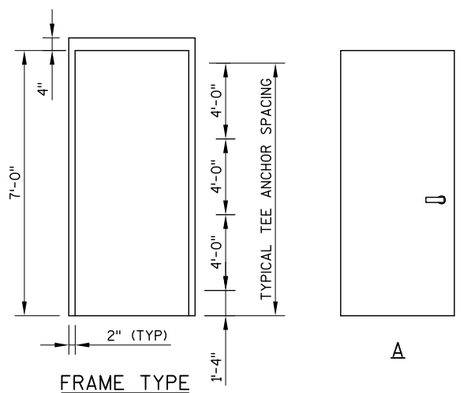
NOTES:
1. ALL OVERHEAD DOORS WILL BE WHITE WITH WINDOWS AS SHOWN ON ELEVATION VIEW.
2. PAINT ALL FRAMES WHITE TO MATCH DOOR.
3. PROVIDE WEATHER STRIPPING AT ALL EXTERIOR DOORS.
4. PROVIDE 6" WIDE MIN. THRESHOLD AT ALL DOORS.
5. PAINT H.M. DOORS BOTH FACES, ALL FOUR EDGES AND H.M. FRAMES COMPLETELY.
6. PAINT STEEL LINTELS TO MATCH DOOR FRAMES.
7. HARDWARE ITEMS SEE SPECS.
8. CONTRACTOR SHALL SUBMIT PAINT CHIP AND COLOR TO THE OWNER FOR APPROVAL.
9. PROVIDE BULL NOSE BLOCK FOR WINDOW SILLS AND DOOR OPENINGS.

300 ROOM NUMBER, SEE INTERIOR FINISH SCHEDULE AND DESIGN REQUIREMENTS FOR ROOM FINISHES.

(1) DOOR NUMBER, SEE DOOR SCHEDULE AND DEIGN REQUIREMENTS FOR SIZE AND TYPE.

CONC - CONCRETE
CNS - ONE COAT CLEAR CONCRETE SEALER FOR ALL FLOORS AND POURED CONCRETE WALLS
F.G - FIBERGLASS
SST - ALL HARDWARE FOR OVERHEAD DOOR TO BE STAINLESS STEEL

L-1 LINTEL NUMBER, SEE LINTEL SCHEDULE FOR SIZE AND TYPE.

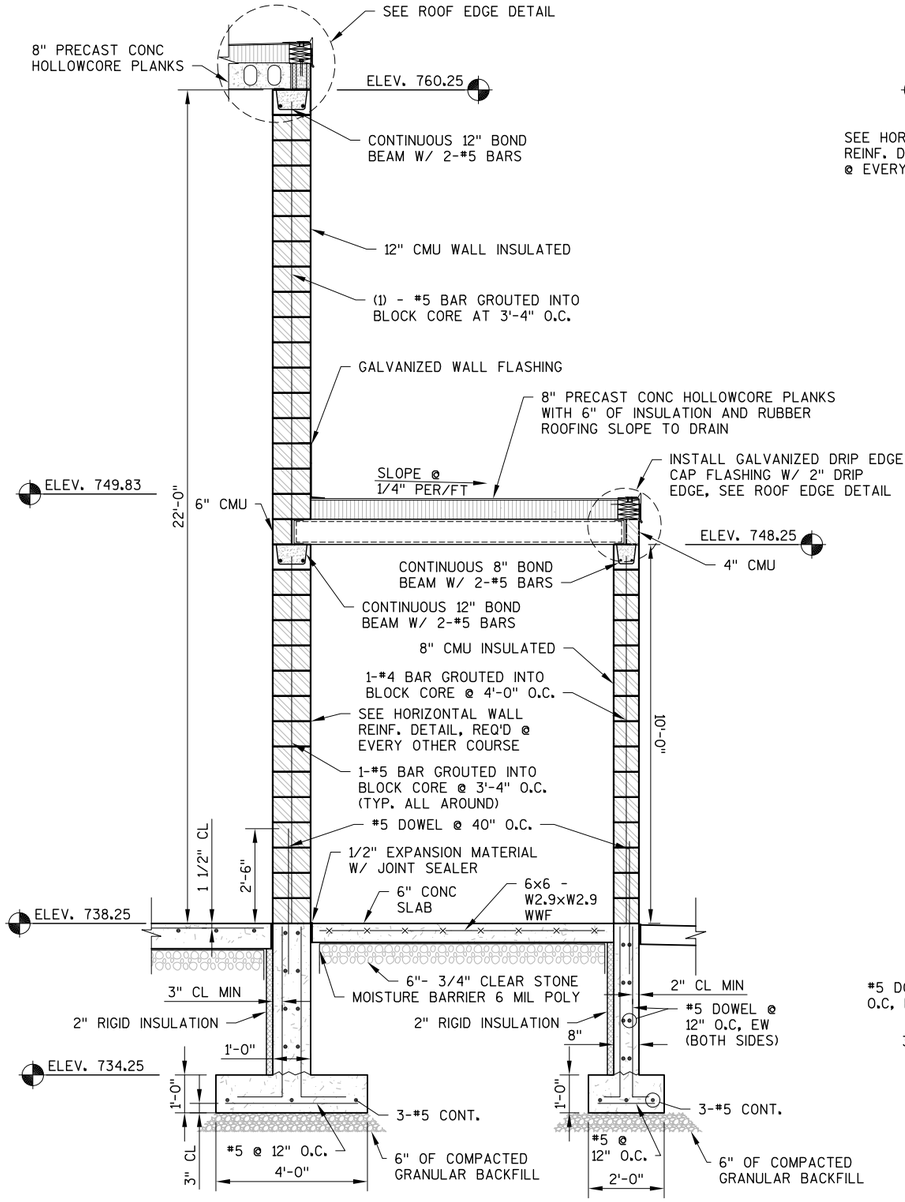



FRAME TYPE

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

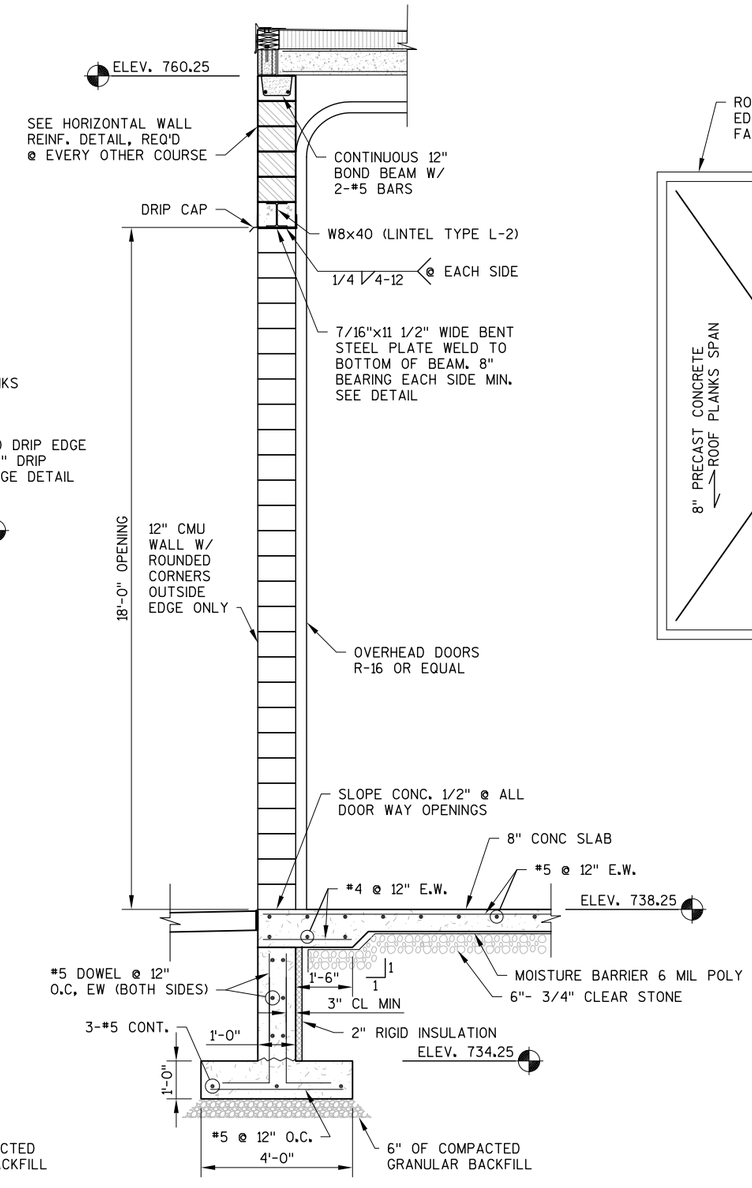
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SALT BRINE BUILDING FLOOR PLAN | SHEET 143 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\BRINE BLDG\BRINE BLDG.DWG PLOT DATE : 12/12/2014 11:28 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : **********
DOT BLDGS - BRINE BLDG - PLAN
WISDOT/CADDS SHEET 42




NOTE:
FILL ALL MASONRY BLOCKS IN THE OUTSIDE WALLS W/ EXPANDED POLYSTYRENE INSULATION TO TOP OF WALL.

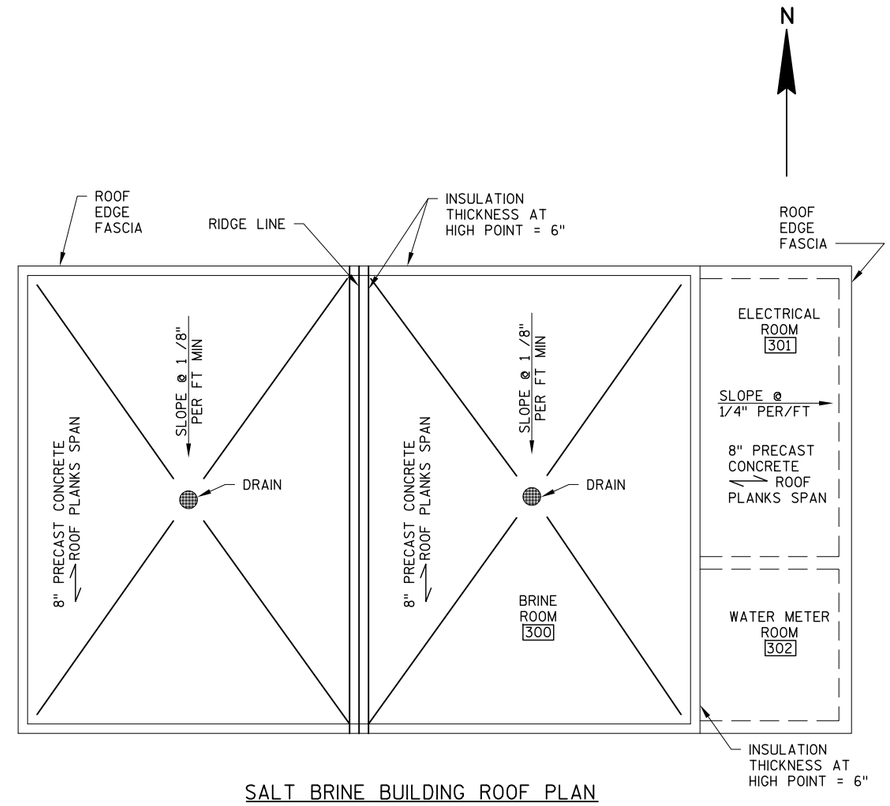
## WALL SECTION N-N
SCALE: 1/2" = 1'-0"



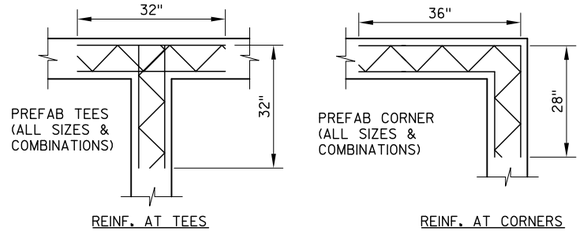

NOTE:
FILL ALL MASONRY BLOCKS IN THE OUTSIDE WALLS W/ EXPANDED POLYSTYRENE INSULATION TO TOP OF WALL.

## WALL SECTION P-P
SCALE: 1/2" = 1'-0"

## FOUNDATION KEY
- FASCIA BRICK
- CMU WALL
- 2" INSULATION




## SALT BRINE BUILDING ROOF PLAN
SCALE: 1/4" = 1'-0"

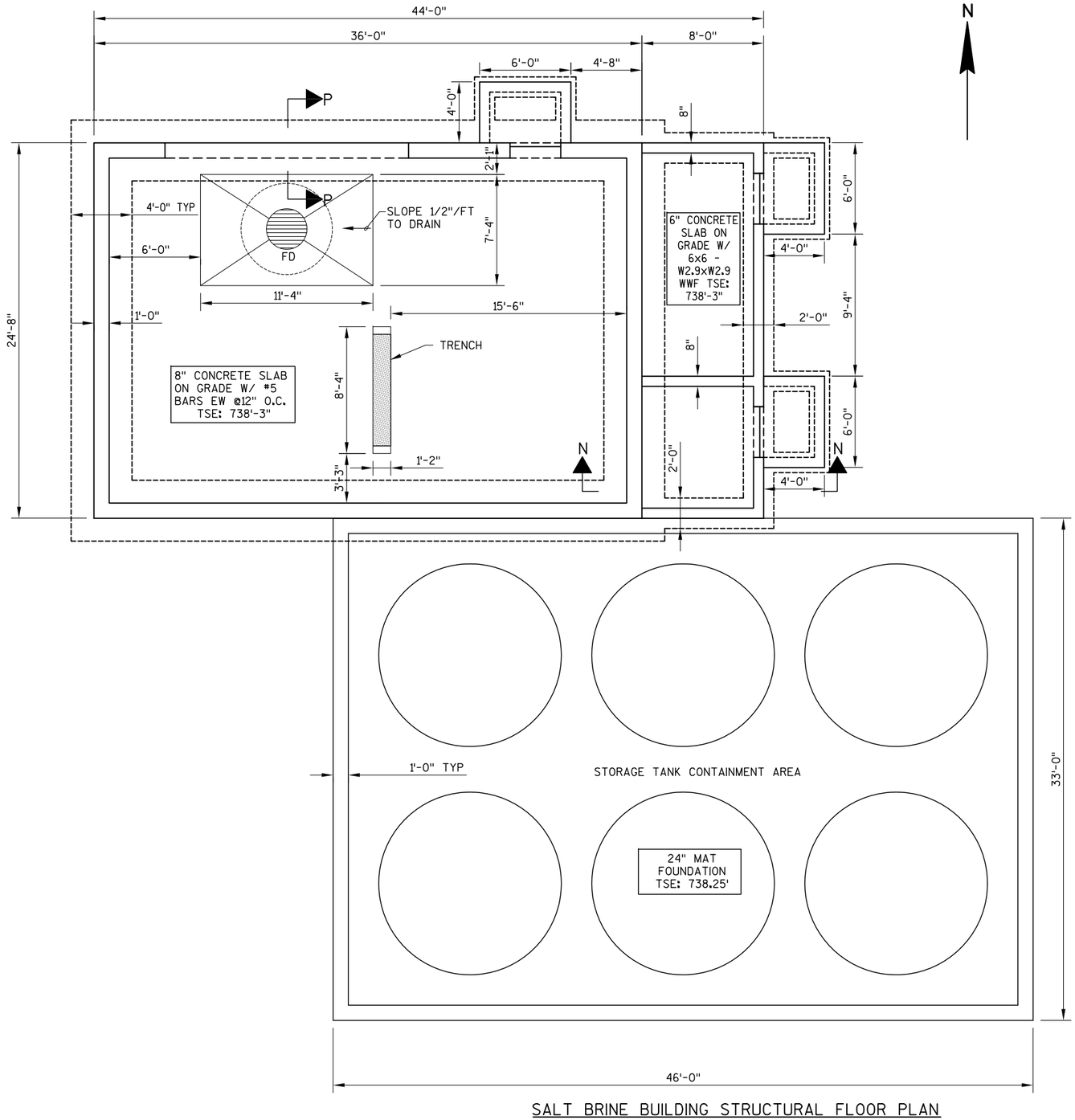



## HORIZONTAL WALL REINF. DETAIL
N.T.S.

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SALT BRINE BUILDING ROOF PLAN AND WALL SECTIONS | SHEET 144 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\BRINE BLDG\BRINE BLDG STRUCT - ROOF PLAN.DWG DATE : 12/12/2014 11:28 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : ********** WISDOT/CADDS SHEET 42




## SALT BRINE BUILDING STRUCTURAL FLOOR PLAN

SCALE: 1/4" = 1'-0"

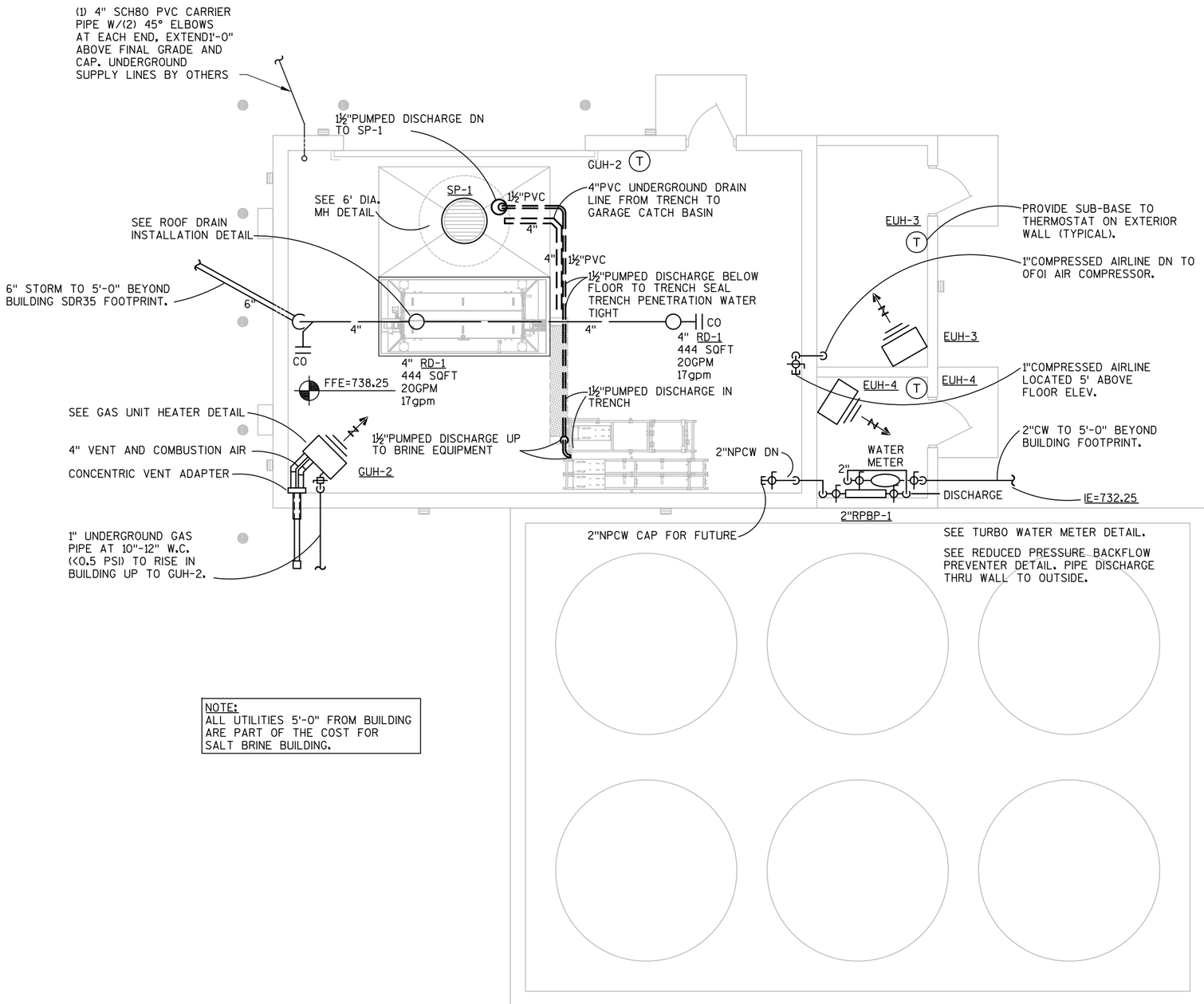
NOTES:
1. ALL FOOTING ARE CENTERED UNDER COLUMNS OR WALLS, UNO.
2. TOP OF FOOTING ELEVATION = 734'-6", UNO.
3. TOP OF CONCRETE WALL ELEVATION = 738'-0", UNO.

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SALT BRINE BUILDING FOUNDATION PLAN | SHEET 145 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\BRINE BLDG\BRINE BLDG STRUCT\DWG\DOT BLDGS - BRINE BLDG STRUCT - FOUNDATION PLAN
PLOT DATE : 12/12/2014 11:29 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : **********

2



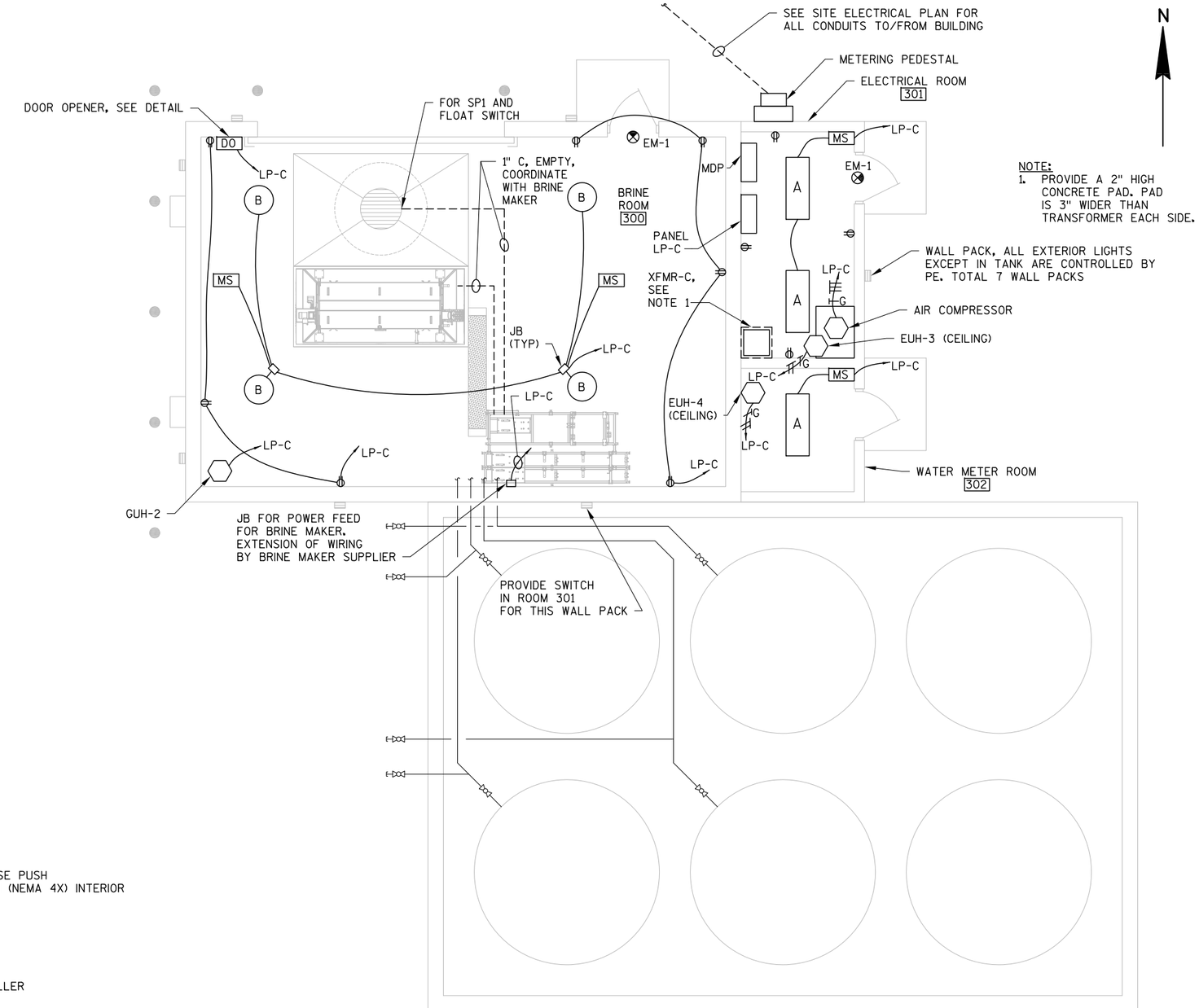

NOTE:
ALL UTILITIES 5'-0" FROM BUILDING ARE PART OF THE COST FOR SALT BRINE BUILDING.

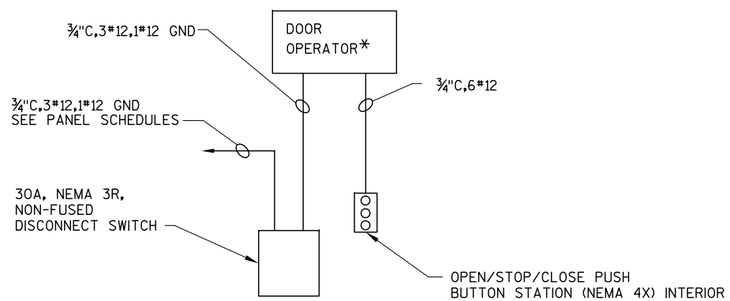
SALT BRINE BUILDING MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SALT BRINE BUILDING MECHANICAL PLAN | SHEET 146 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\BRINE BLDG\BRINE BLDG MECHHVAC.DWG
DOT BLDGS - BRINE BLDG MECHHVAC - PLAN
PLOT DATE : 12/12/2014 11:29 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : **********




* WIRING TO SAFETY DEVICES BY OPERATOR INSTALLER

DOOR OPENER DETAIL
SCALE: NTS

SALT BRINE BUILDING ELECTRICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SALT BRINE BUILDING ELECTRICAL FLOOR PLAN | SHEET 147 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\BRINE BLDG\BRINE BLDG-ELECTRICAL - PLAN.DWG PLOT DATE : 12/12/2014 11:29 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : **********
DOT BLDGS - BRINE BLDG-ELECTRICAL - PLAN

WISDOT/CADDS SHEET 42

| PANEL MDP | BUSS AMPS 400 | MAIN BREAKER 400 AMPS | MOUNTING | | REMARKS |
|---|---|---|---|---|---|
| | VOLTAGE 277/480 | | SURFACE | X | BRINE BUILDING ELECTRICAL ROOM |
| | PHASE 3 | | FLUSH | | |
| | WIRE 4 | | | | |

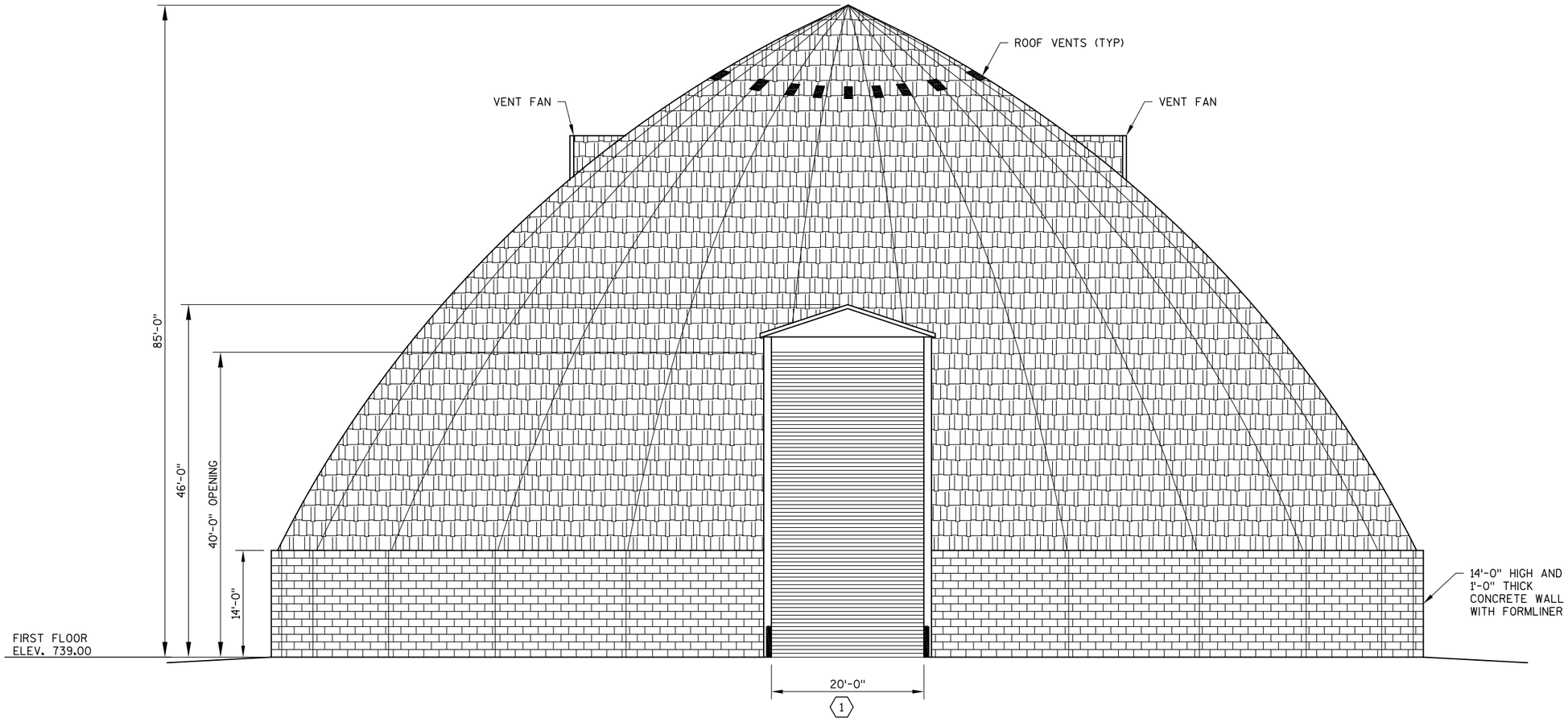
| CIRCUIT DESCRIPTION | AMP/POLE | CKT | BUS | CKT | AMP/POLE | CIRCUIT DESCRIPTION |
|---|---|---|---|---|---|---|
| TRANSFORMER XFMR-C | 100/3 | 1 | | 2 | 50/3 | TRANSFORMER XFMR-E |
| | | 3 | | 4 | | |
| | | 5 | | 6 | | |
| SALT DOME CONVEYOR (40 HP) | 100/3 | 7 | | 8 | 200/3 | PANEL PP-1 STORAGE BUILDING 2 ELECTRICAL ROOM |
| | | 9 | | 10 | | |
| | | 11 | | 12 | | |
| SPACE | -- | 13 | | 14 | -- | SPACE |
| SPACE | -- | 15 | | 16 | -- | SPACE |
| SPACE | -- | 17 | | 18 | -- | SPACE |
| SPACE | -- | 19 | | 20 | -- | SPACE |
| SPACE | -- | 21 | | 22 | -- | SPACE |
| SPACE | -- | 23 | | 24 | -- | SPACE |
| SPACE | -- | 25 | | 26 | -- | SPACE |
| SPACE | -- | 27 | | 28 | -- | SPACE |
| SPACE | -- | 29 | | 30 | -- | SPACE |

SERVICE ENTRANCE RATED

| PANEL LP-C | BUSS AMPS 225 | MAIN BREAKER 200 AMPS | MOUNTING | | REMARKS |
|---|---|---|---|---|---|
| | VOLTAGE 120/208 | | SURFACE | X | BRINE BUILDING ELECTRICAL ROOM |
| | PHASE 3 | | FLUSH | | |
| | WIRE 4 | | | | |

| CIRCUIT DESCRIPTION | AMP/POLE | CKT | BUS | CKT | AMP/POLE | CIRCUIT DESCRIPTION |
|---|---|---|---|---|---|---|
| LIGHTING BRINE ROOM | 20/1 | 1 | | 2 | 20/1 | LIGHTING ELECTRICAL ROOM |
| RECEPTACLES ROOM 300 WEST | 20/1 | 3 | | 4 | 20/1 | RECEPTACLES ELECTRICAL ROOM |
| SCALE | 20/1 | 5 | | 6 | 20/1 | UH - BRINE BUILDING |
| EXIT LIGHTS | 20/1 | 7 | | 8 | 30/2 | ELECTRIC UNIT HEATER - ELECTRICAL ROOM |
| EXTERIOR LIGHTING | 20/1 | 9 | | 10 | | |
| SALT DOME ELECTRICAL PANEL | 30/3 | 11 | | 12 | 20/1 | SPARE |
| | | 13 | | 14 | 100/3 | JB BRINE ROOM (BRINE MAKER) |
| | | 15 | | 16 | | |
| AIR COMPRESSOR | 25/3 | 17 | | 18 | | |
| | | 19 | | 20 | 20/1 | SPARE |
| | | 21 | | 22 | 20/1 | RECEPTACLES ROOM 300 EAST |
| ELECTRIC UNIT HEATER - WATER METER ROOM | 30/2 | 23 | | 24 | 20/1 | LIGHTING - WATER METER ROOM |
| | | 25 | | 26 | -- | SPACE |
| SPACE | -- | 27 | | 28 | -- | SPACE |
| SPACE | -- | 29 | | 30 | -- | SPACE |
| SPACE | -- | 31 | | 32 | -- | SPACE |
| SPACE | -- | 33 | | 34 | -- | SPACE |
| SPACE | -- | 35 | | 36 | -- | SPACE |
| SPACE | -- | 37 | | 38 | -- | SPACE |
| SPACE | -- | 39 | | 40 | -- | SPACE |
| SPACE | -- | 41 | | 42 | -- | SPACE |

NOTE:
THE SALT CONVEYOR, NON FUSED DISCONNECT SWITCH, LIGHTING PANEL LP–D AND LIGHTING IN THE DOME ARE PART OF THE SALT DOME BID ITEM.




SALT DOME ELEVATION
SCALE: 1/8" = 1'-0"

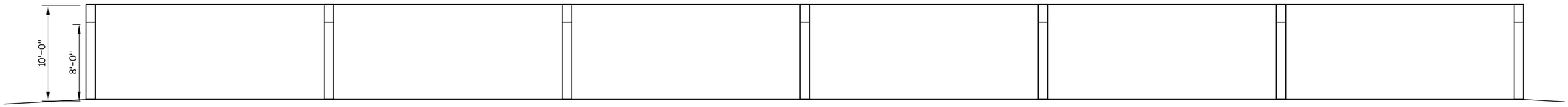
DOOR SCHEDULE

| DOOR NUMBER | ROOM NUMBER | ROUGH OPENING | DOOR | | | | | | FRAME | | | | HARDWARE SET NO. SEE SPEC'S | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WIDTH | HEIGHT | THICKNESS | TYPE | MATERIAL | COLOR | TYPE | MATERIAL | DEPTH | COLOR | | |
| 1 | SALT DOME | 20'-0"x 40'-0" | 20'-4" | 40'-4" | 3/4" | N/A | GALV. | WHITE | N/A | GALV. | N/A | WHITE | N/A | COIL DOOR |

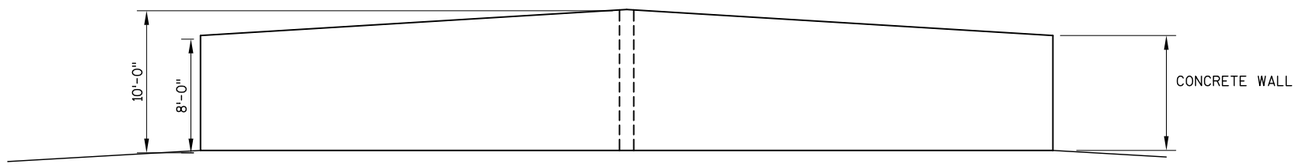
VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | SALT DOME ELEVATION | SHEET 149 | E |
|---|---|---|---|---|---|

2




NORTH ELEVATION
SCALE: 3/32" = 1'-0"
NOTE: PROVIDE ONE COAT CLEAR CONCRETE SEALER
FOR ALL FLOORS AND POURED CONCRETE WALLS



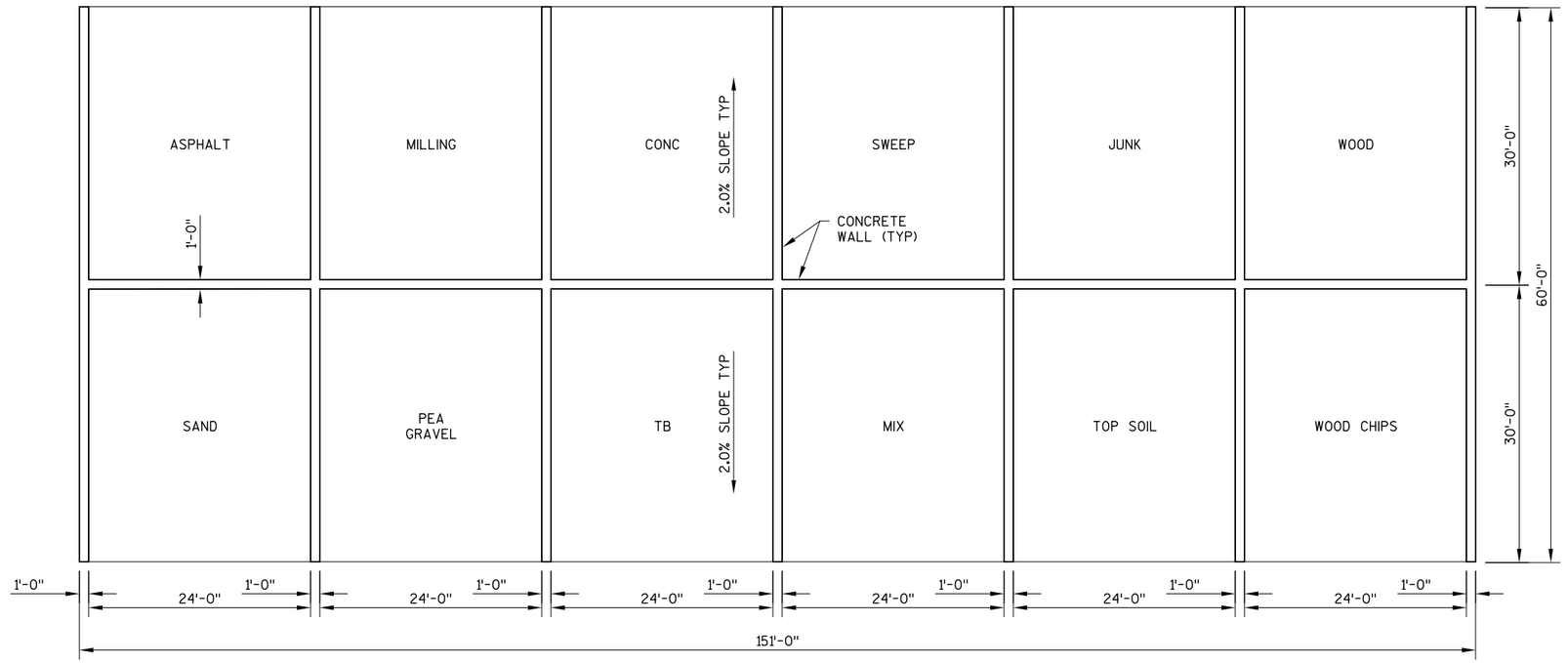

EAST ELEVATION
SCALE: 3/32" = 1'-0"
NOTE: PROVIDE ONE COAT CLEAR CONCRETE SEALER
FOR ALL FLOORS AND POURED CONCRETE WALLS

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BINS ELEVATIONS | SHEET 150 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\BINS\BINS ARCH.DWG
DOT BLDGS - BINS ARCH - BINS ELEVATIONSDOT
PLOT DATE : 12/12/2014 11:29 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : 3/32" = 1'-0"
WISDOT/CADDS SHEET 42

2

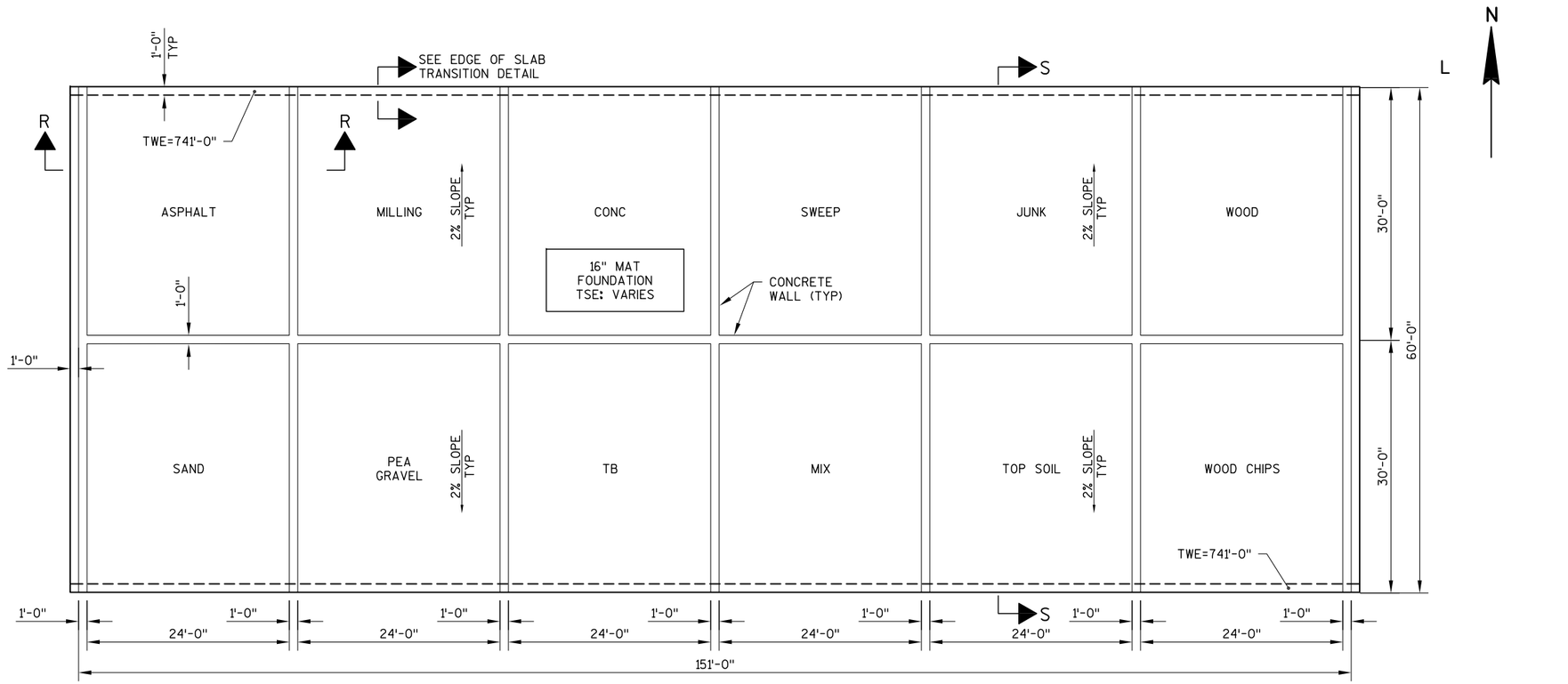



## BINS FLOOR PLAN

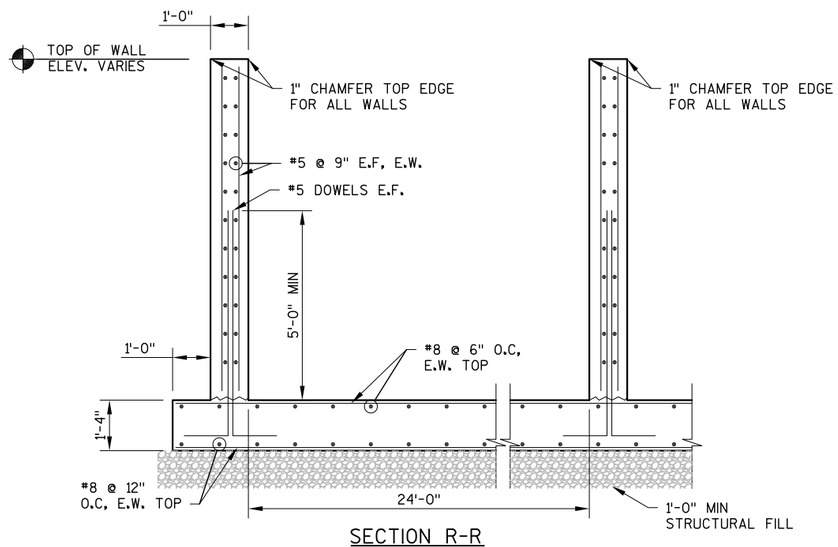
SCALE: 1/16" = 1'-0"
NOTE: PROVIDE ONE COAT CLEAR CONCRETE SEALER FOR ALL FLOORS AND POURED CONCRETE WALLS

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

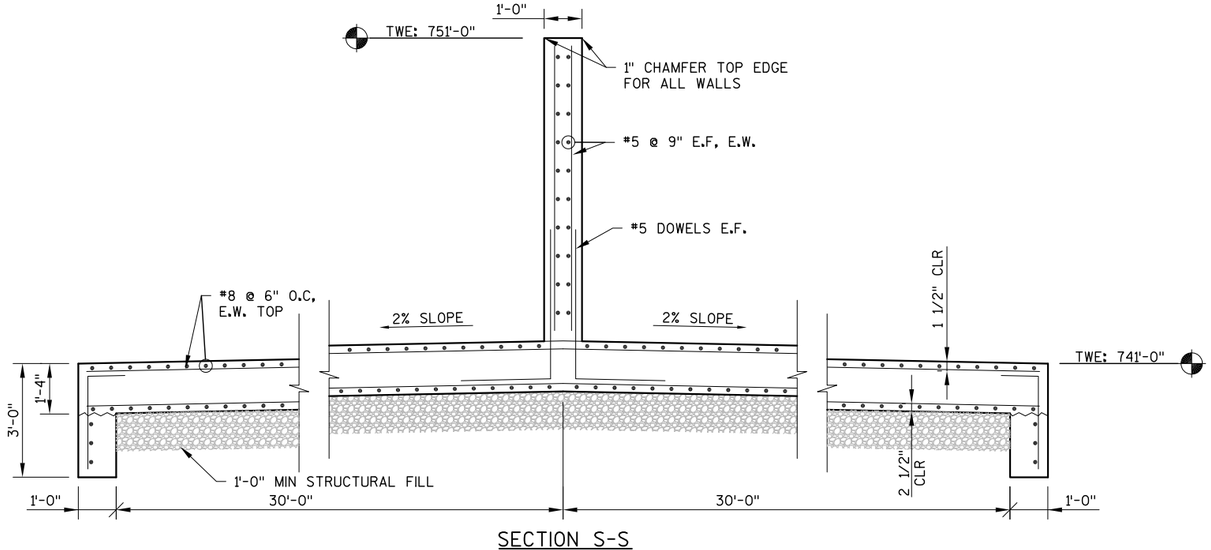
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BINS FLOOR PLAN | SHEET 151 | E |
|---|---|---|---|---|---|




## BINS FOUNDATION PLAN
SCALE: 1/16" = 1'-0"



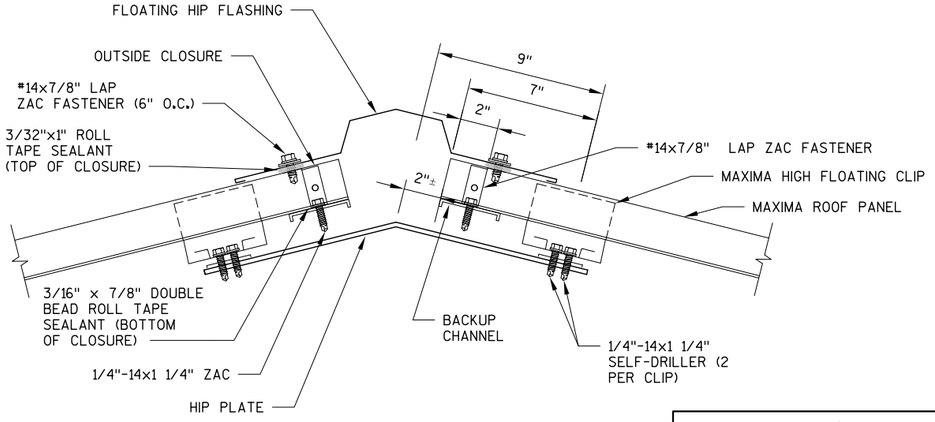

## SECTION R-R
SCALE: 1/4" = 1'-0"



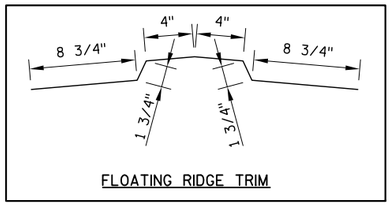

## SECTION S-S
SCALE: 1/4" = 1'-0"

VERIFY SCALE
BAR ON ORIGINAL DRAWING IS ONE INCH
0 — 1
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

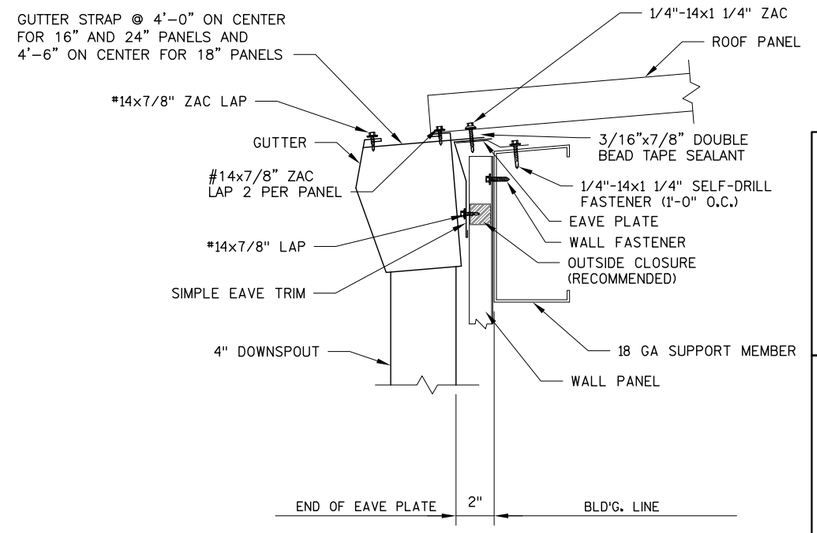
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BINS FOUNDATION PLAN AND SECTION | SHEET 152 | E |
|---|---|---|---|---|---|



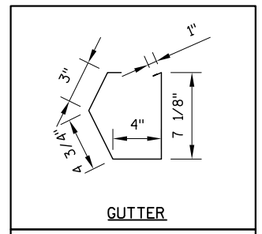

FLOATING RIDGE DETAIL
SCALE: NTS



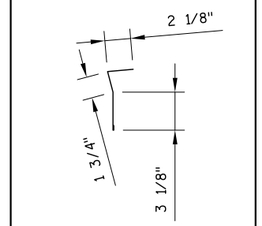

FLOATING RIDGE TRIM



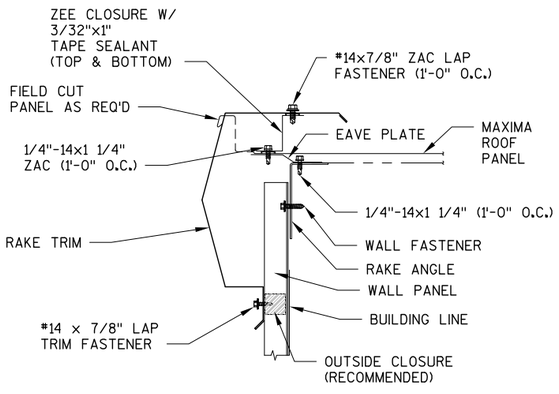

EAVE W/ GUTTER DETAIL
SCALE: NTS

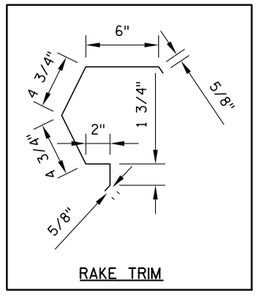



GUTTER



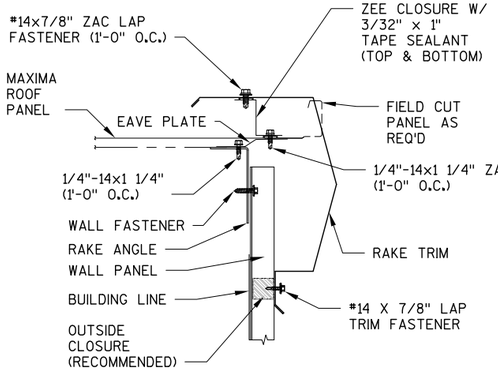

EAVE TRIM

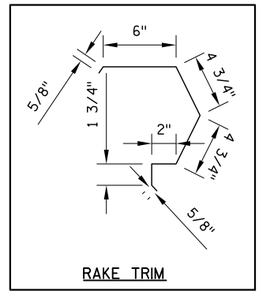



RAKE TRIM

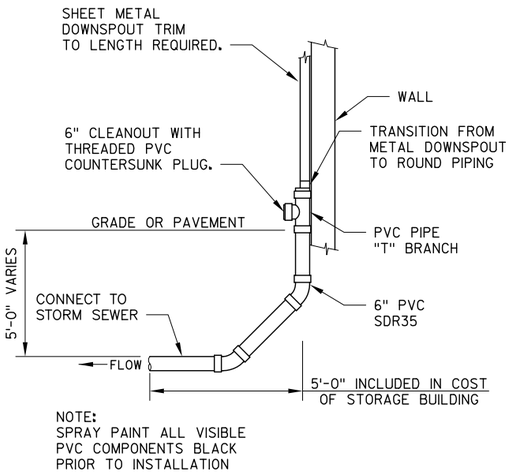
FIXED RAKE START DETAIL
SCALE: NTS




RAKE TRIM

FIXED RAKE END DETAIL
SCALE: NTS

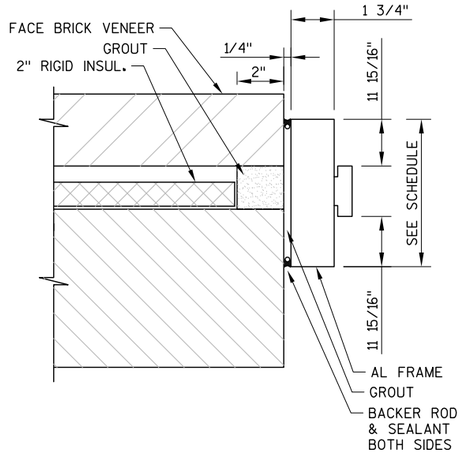



NOTE:
SPRAY PAINT ALL VISIBLE
PVC COMPONENTS BLACK
PRIOR TO INSTALLATION

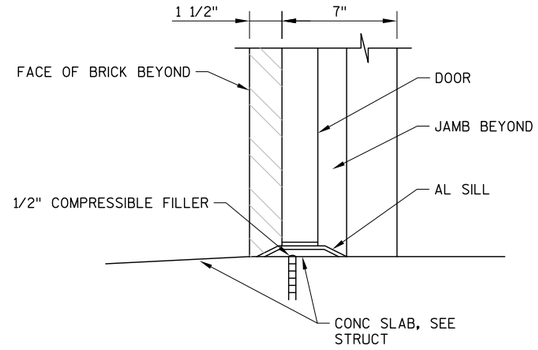
DOWNSPOUT CONNECTION DETAIL
SCALE: NTS

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BUILDING PLAN STEEL ROOF DETAILS | SHEET 153 | E |
|---|---|---|---|---|---|

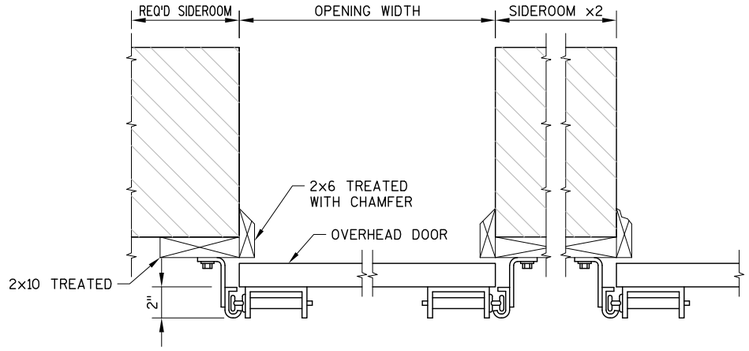
FILE NAME : S:\DOT\DOT_SE\120293-ZOO INTERCHANGE\ZOO INTERCHANGE-DPW SITE FACILITIES\DESIGN\BLDGS DESIGN\DETAILS\METAL ROOF DETAILS.DWG DOT BLDGS - METAL ROOF DETAILS - STEEL ROOF DETAILS
PLOT DATE : 12/12/2014 11:30 AM PLOT BY : ANTHONY VELLA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42



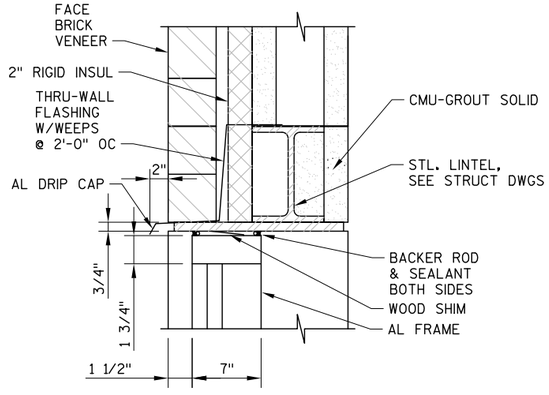

JAMB DETAIL
SCALE: NTS




SILL DETAIL
SCALE: NTS




OVERHEAD DOOR TRACK DETAIL
SCALE: NTS




HEAD DETAIL
SCALE: NTS

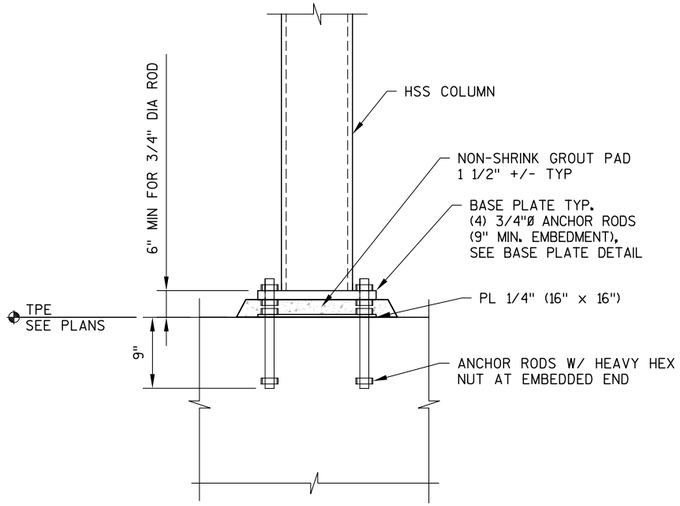
| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BUILDING PLAN DETAILS | SHEET 154 | E |
|---|---|---|---|---|---|

| | A1-1 C1-1 E1-1<br>A1-3 C1-3 E1-3<br>B1-1 D1-1<br>B1-3 D1-3 | A1-2 D1-2<br>B1-2 E1-2<br>C1-2 |
|---|---|---|
| ROOF STR. BLDG 1<br>EL. 762'-9 1/2" | | |
| ROOF STR. BLDG 1<br>EL. 760'-5" | | |
| GROUND FLOOR<br>EL. 739'-0" | HSS 8 X 8 X 1/2 | HSS 8 X 8 X 1/2 |
| | | |
| BOTTOM OF<br>BASE PLATE | 738'-1 1/2" | 738'-1 1/2" |

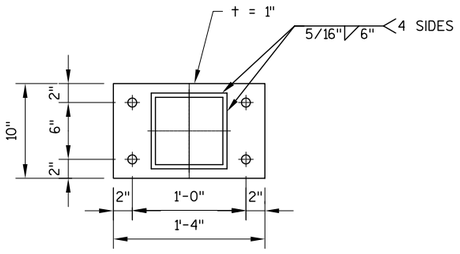
COLUMN SCHEDULE STORAGE BLDG 1

| | B2-2<br>D2-2 |
|---|---|
| ROOF STR. BLDG 2<br>EL. 762'-4" | |
| GROUND FLOOR<br>EL. 741'-0" | HSS 8.625 X 0.500<br>(ROUND) |
| | |
| BOTTOM OF<br>BASE PLATE | 740'-1 1/2" |

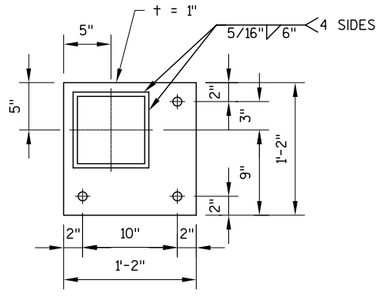
COLUMN SCHEDULE STORAGE BLDG 2



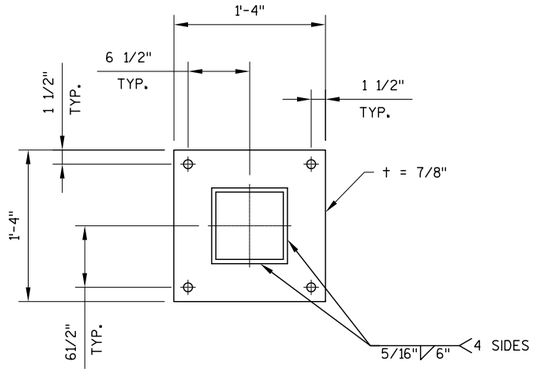

HSS COLUMN DETAIL
SCALE: NTS
NOTE: SECURELY FASTEN ANCHOR RODS IN PLACE WITH TEMPLATES OR OTHER MEANS PRIOR TO CONCRETE PLACEMENT. INSERTION INTO CONCRETE AFTER CASTING IS PROHIBITED.



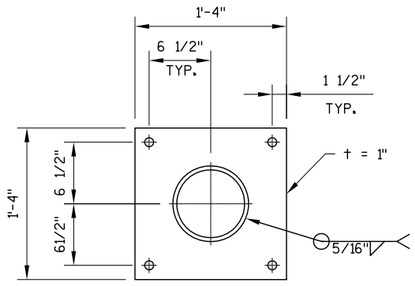

EXTERIOR COLUMN STORAGE BLDG 1
SCALE: NTS



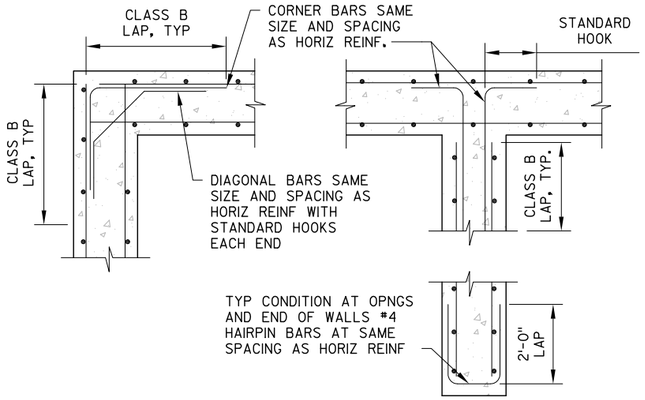

EXTERIOR CORNER
COLUMN STORAGE BLDG 1
SCALE: NTS




BASE PLATE DETAIL
STORAGE BLDG 1
SCALE: NTS

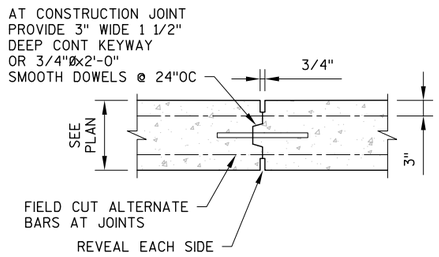



BASE PLATE DETAIL
STORAGE BLDG 2
SCALE: NTS



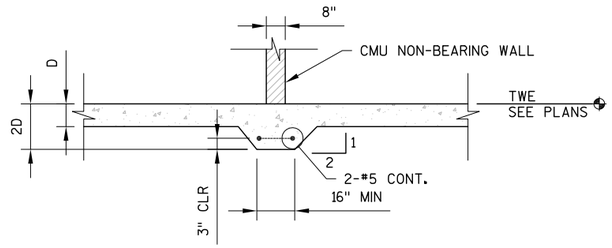

NOTE:
SEE PLAN AND GENERAL STRUCTURAL NOTES FOR ADDITIONAL REINFORCING.

## CONCRETE WALL INTERSECTIONS (DOUBLE LAYER REINF)
SCALE: NTS

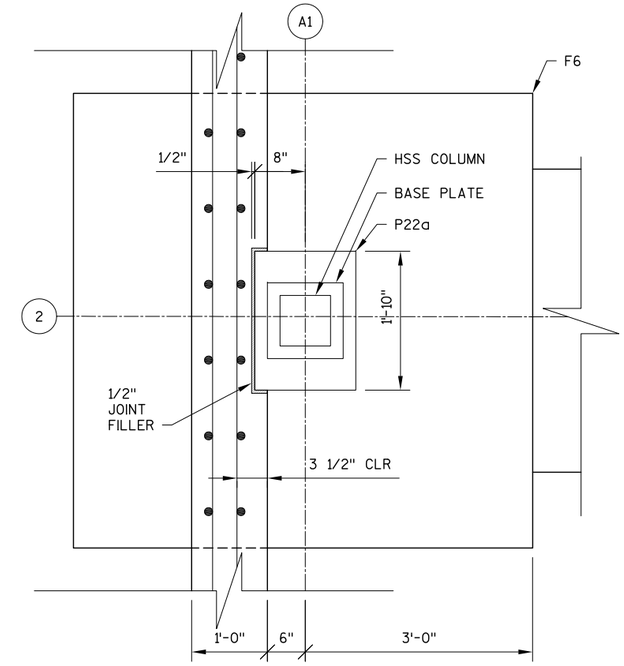



NOTES:
1. SEE GENERAL STRUCTURAL NOTES FOR MAX JOINT SPACING.
2. SMOOTH DOWELS, IF USED, SHALL BE SAW CUT.

## CONTROL JOINT IN WALL (DOUBLE LAYER REINF)
SCALE: NTS

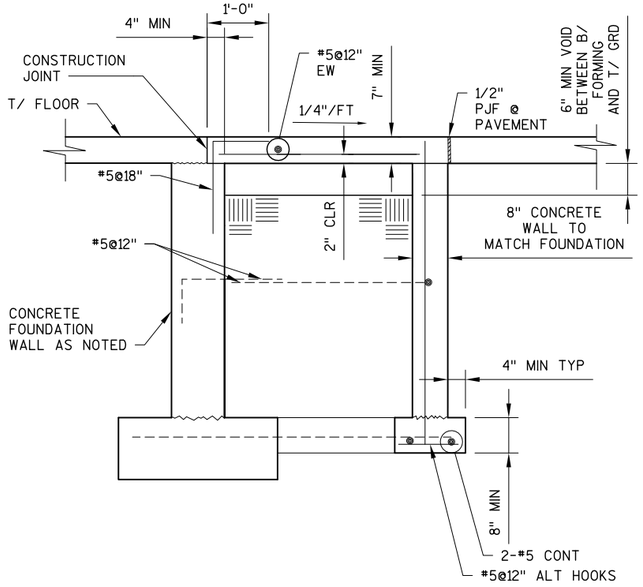



## TYPICAL THICKENED SLAB ON GRADE
SCALE: NTS

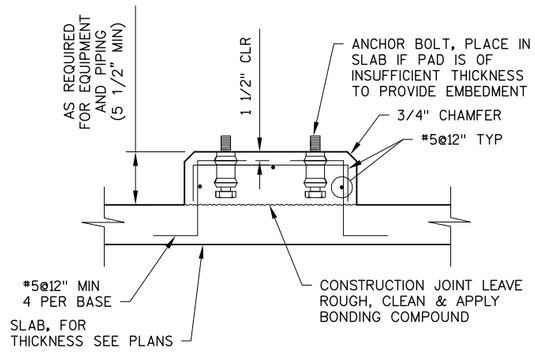



NOTE:
PEDESTAL AT GRID LINE E1-2 SIMILAR

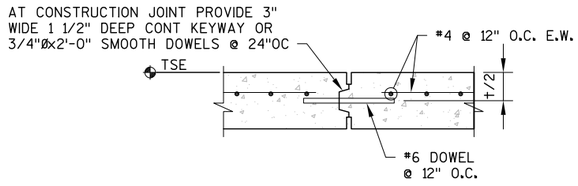
## EXTERIOR COLUMN PEDESTAL STORAGE BLDG 1
SCALE: NTS



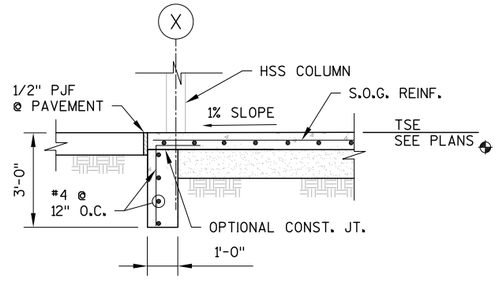

## DOOR STOOP DETAIL
SCALE: NTS



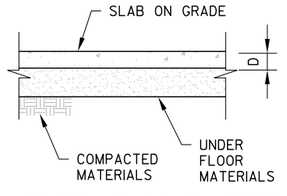

## EQUIPMENT PAD DETAIL
SCALE: NTS




## TYPICAL CONSTRUCTION JOINT
SCALE: NTS

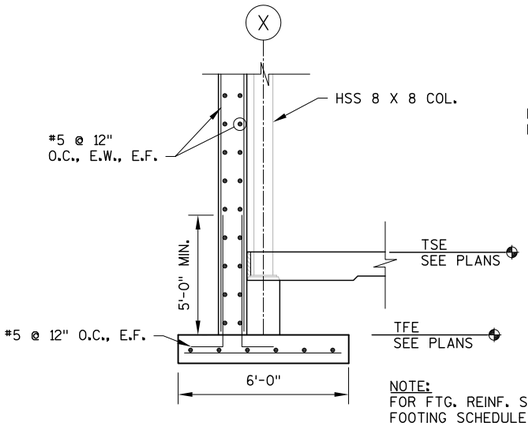



## EDGE OF SLAB TRANSITION
SCALE: NTS

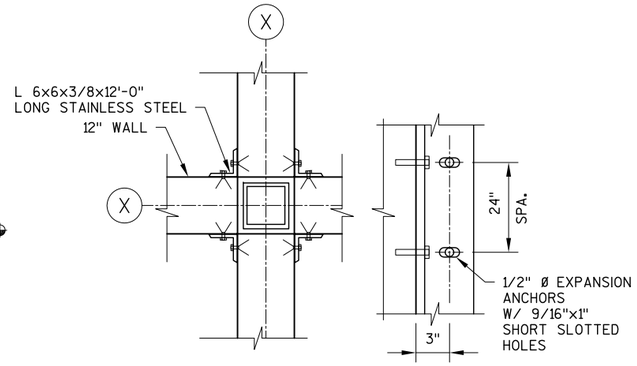



## TYPICAL SLAB ON GRADE
SCALE: NTS

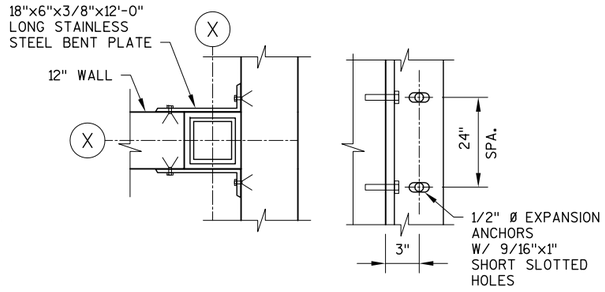
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BUILDING PLAN TYPICAL CONCRETE SECTIONS AND DETAILS | SHEET 156 | E |
|---|---|---|---|---|---|



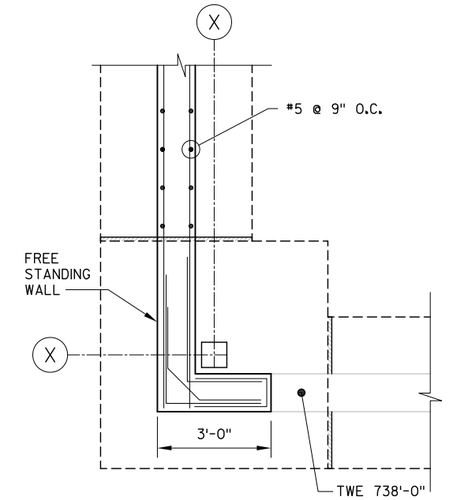

SECTION AT FREE STANDING WALL
SCALE: NTS




INTERIOR CORNER COVER AT WALL INTERSECTIONS
SCALE: NTS

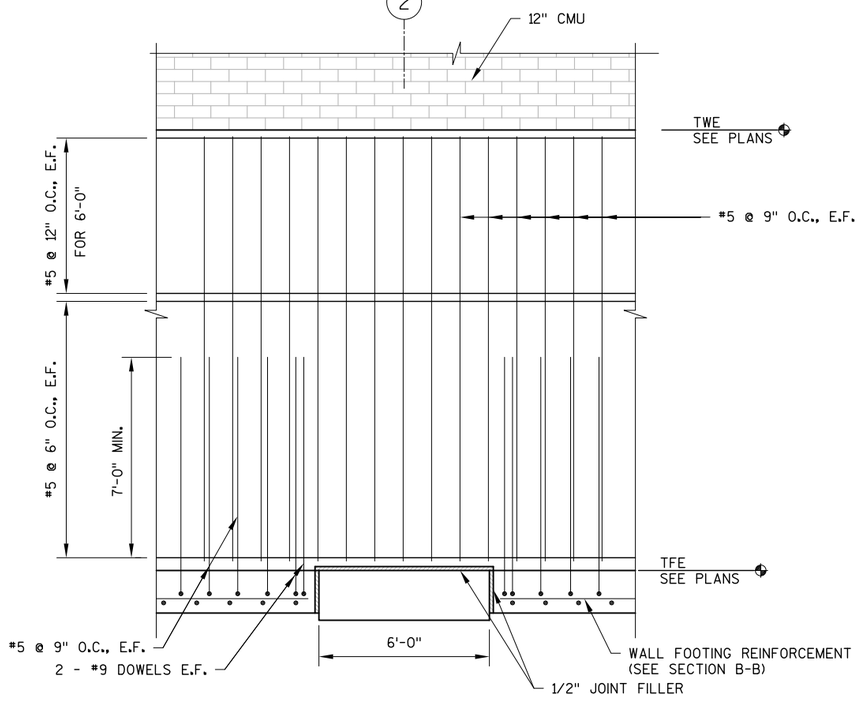



EXTERIOR CORNER COVER
SCALE: NTS

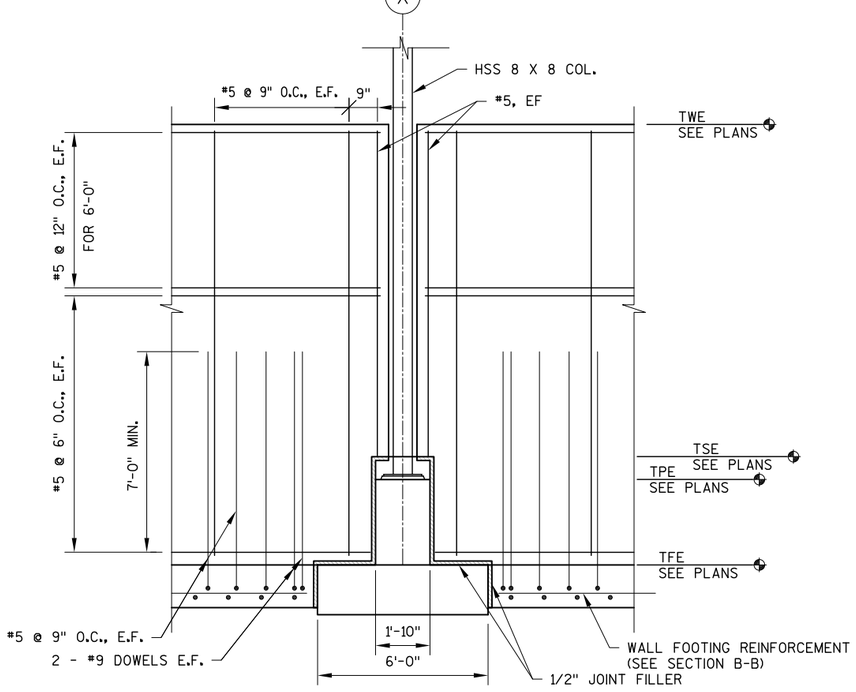



NOTE:
ALL HORIZ. BARS ARE #5 BARS. MATCH WALL REINF. SPACING.

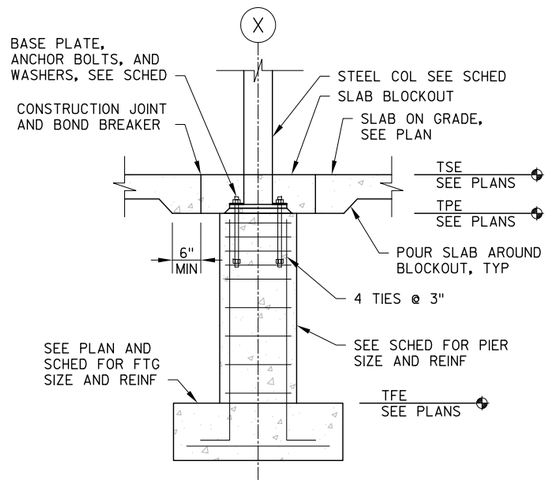
PARTIAL PLAN AT EXTERIOR
CORNER FTG STORAGE BLDG 1
SCALE: NTS




WALL SECTION AT EXTERIOR FTG STORAGE BLDG 1
SCALE: NTS

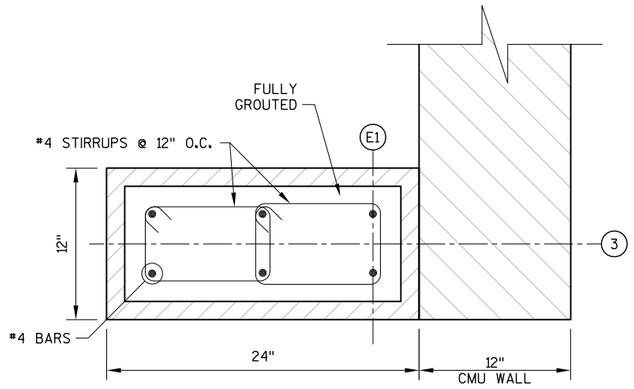



WALL SECTION AT INTERIOR FTG STORAGE BLDG 1
SCALE: NTS



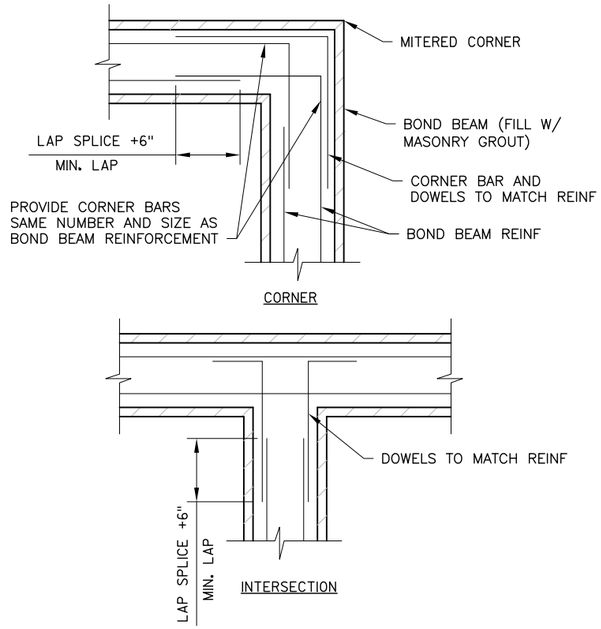

TYPICAL PIER DETAIL
SCALE: NTS

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BUILDING PLAN TYPICAL CONCRETE SECTIONS | SHEET 157 | E |
|---|---|---|---|---|---|

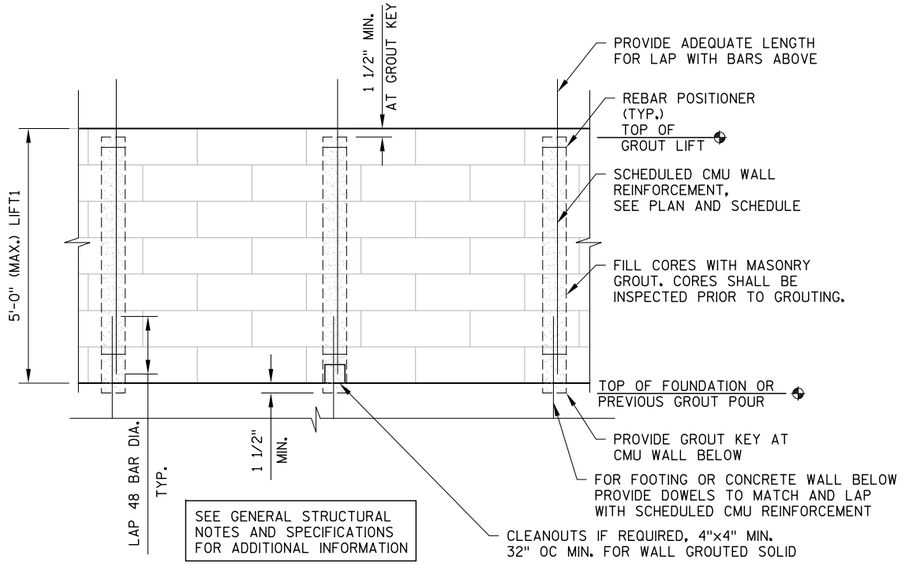



NOTE: SW CORNER SHOWN, ALL FOUR CORNERS SIM.

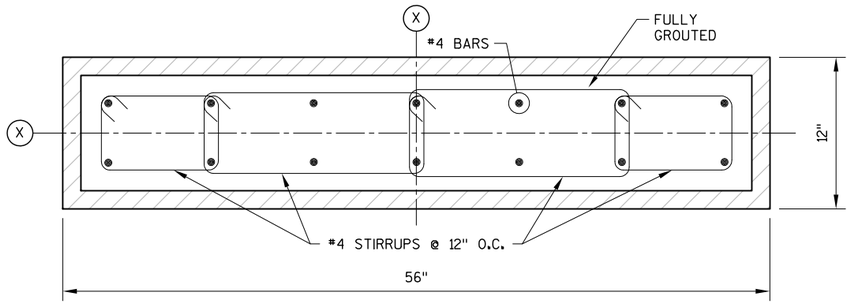
## 24" CMU PILASTER STORAGE BUILDING 1
SCALE: NTS



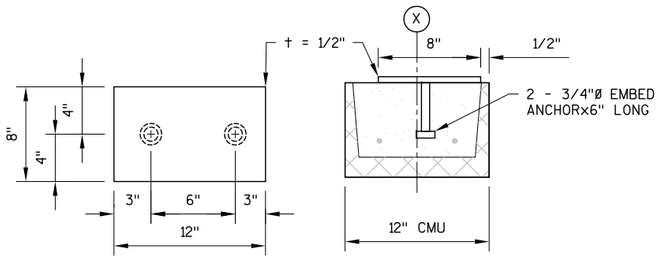

## BOND BEAM REINFORCEMENT DETAIL
SCALE: NTS



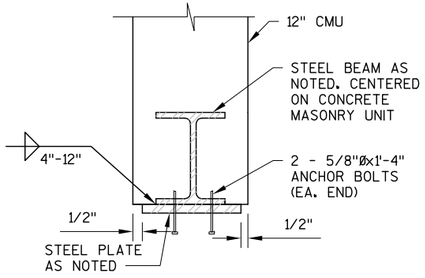

## GROUTING AT CMU WALLS
SCALE: NTS



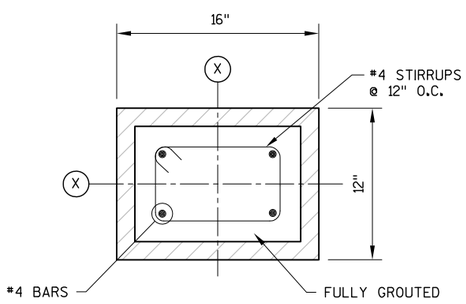

## 56" CMU PILASTER STORAGE BUILDING 1
SCALE: NTS



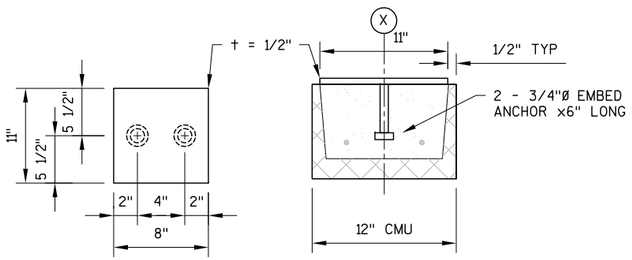

## JOIST GIRDER EMBEDMENT PLATE
SCALE: NTS



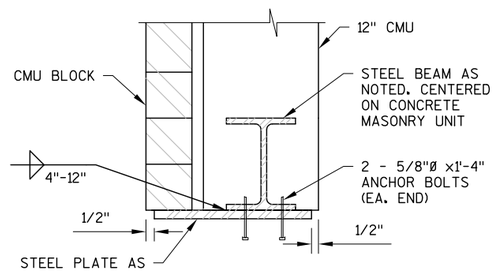

## TYPICAL STEEL LINTEL DETAIL
SCALE: NTS




## TYPICAL CMU PILASTER STORAGE BLDG 2
SCALE: NTS




## TYPICAL JOIST EMBEDMENT PLATE
SCALE: NTS

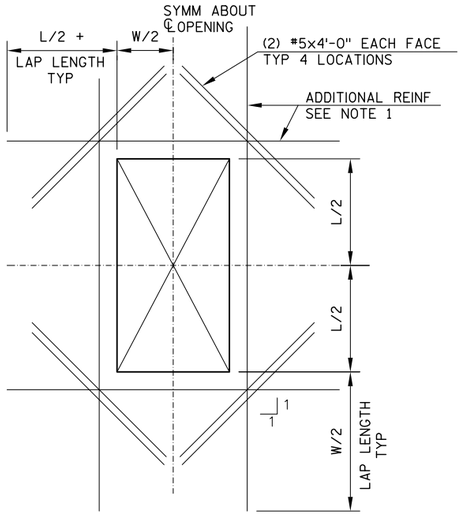



## STEEL LINTEL DETAIL L-5
SCALE: NTS

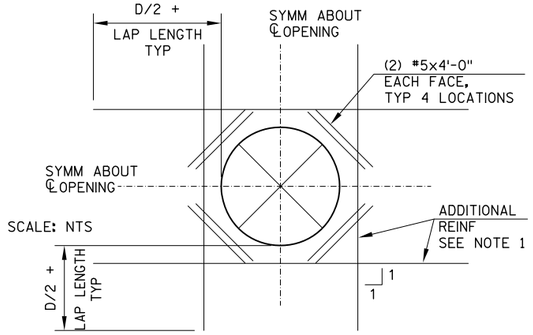
| LINTEL SCHEDULE | | |
|---|---|---|
| MARK | DESCRIPTION | TYPE |
| L-1 | W8x15 W/ 5/16" PLATE | |
| L-2 | W8x40 W/ 7/16" PLATE | |
| L-3 | W16x40 W/ 5/16" PLATE | |
| L-4 | W16x31 W/ 5/16" PLATE | |
| L-5 | W16x31 W/ 5/16" PLATE | |

NOTES:

1. MASONRY OPENINGS LESS THAN 4'-6" IN WIDTH THAT DO NOT HAVE A LINTEL SCHEDULED SHALL HAVE A BOND BEAM WITH 2 - #5 BARS.
2. PROVIDE A MINIMUM OF 8" BEARING AT EACH END FOR STEEL BEAM LINTELS AND BOND BEAM LINTELS UNLESS NOTED OTHERWISE.
3. HOT DIP GALVANIZE LINTELS AFTER FABRICATION.




RECTANGULAR OPENING DETAIL

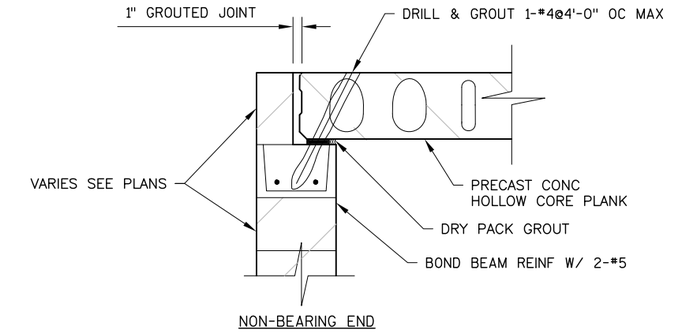



CIRCULAR OPENING DETAIL

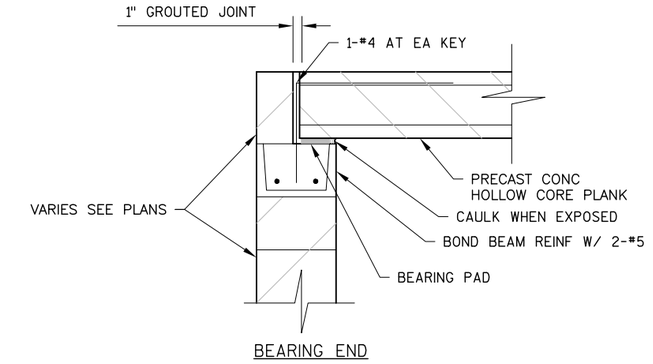
NOTES:

1. PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCEMENT AT OPENING. QUANTITY OF REINFORCING IN EACH DIRECTION SHALL BE EQUAL TO OR ONE GREATER THAT THE NUMBER OF DISCONTINUOUS BARS. PLACE 1/2 ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING, PLACE ADDITIONAL REINFORCEMENT AT 3" OC (TYPICAL BOTH DIRECTIONS AND ALL LAYERS OF REINFORCEMENT). START FIRST BAR 2" CLEAR TO OPENING.
2. EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN ABOVE. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH A STANDARD HOOK WHERE THE LENGTH OF THE WALL WILL NOT PERMIT BARS TO EXTEND AS SHOWN ABOVE.
3. TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 2" CLEAR TO OPENING.
4. OPENINGS 12' OR LESS IN SLABS AND OPENINGS 18" OR LESS IN WALLS, NO EXTRA REBARS ARE REQUIRED UNLESS SHOWN OTHERWISE. TYPICAL REINFORCING SHALL BE RESPACED (NOT CUT) TO ALLOW FOR OPENINGS TO BE MADE.
5. UNLESS SHOWN OTHERWISE ON DRAWINGS, PROVIDE EXTRA REINFORCING AROUND OPENINGS AS SHOWN AND INDICATED ABOVE.
6. PROVIDE ADDITIONAL DOWELS PER NOTE 1 ABOVE FOR ALL OPENINGS NEAR THE FLOOR SLAB, BASE SLAB, OR CORNERS.

EXTRA REINFORCING AROUND OPENINGS
SCALE: NTS

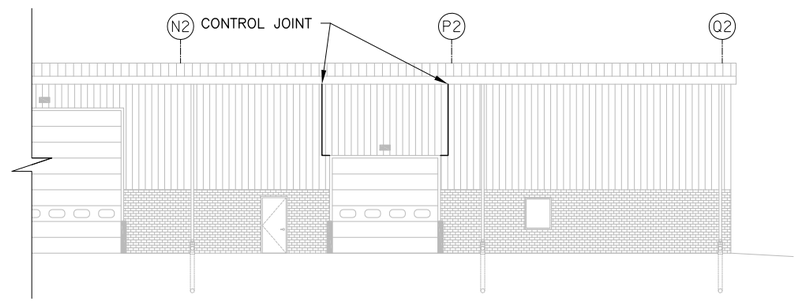



NON-BEARING END

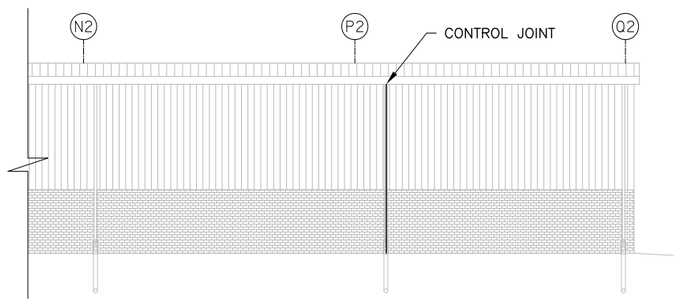



BEARING END

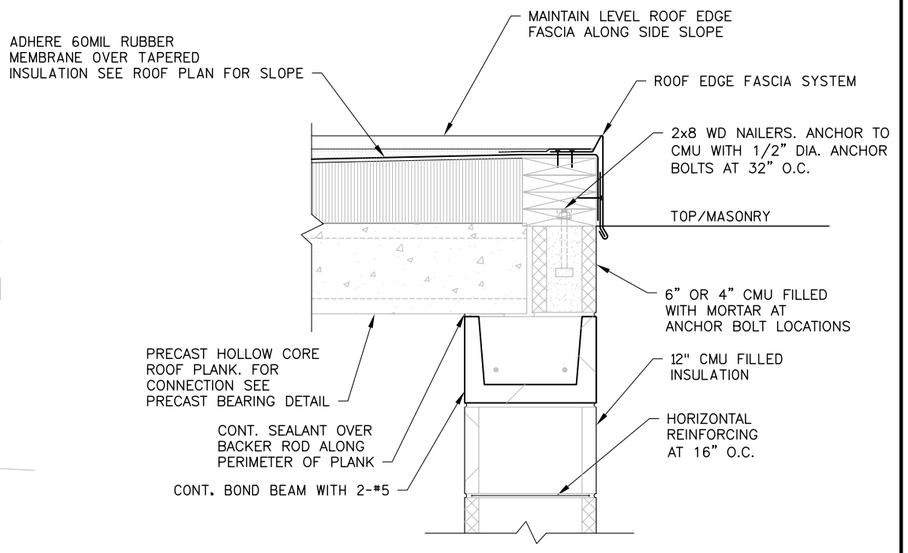
PRECAST BEARING DETAIL
SCALE: NTS




STORAGE BUILDING 2 WEST ELEVATION
SCALE: NTS

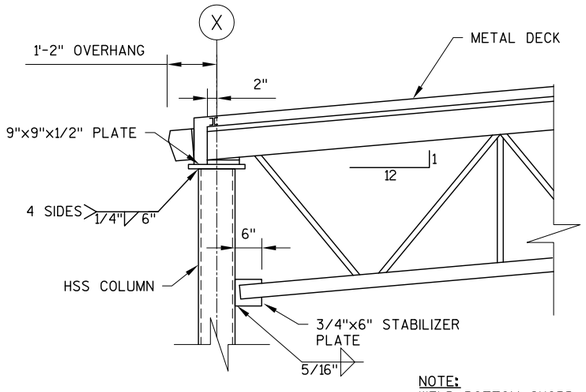



STORAGE BUILDING 2 EAST ELEVATION
SCALE: NTS

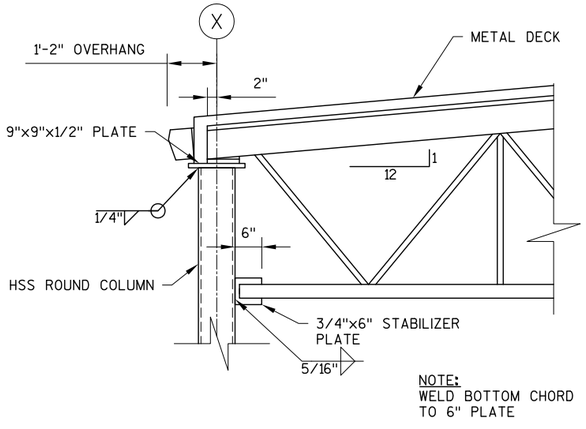



ROOF EDGE DETAIL
SCALE: NTS

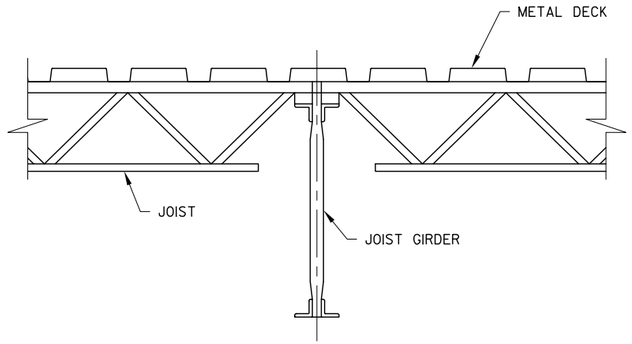
| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | BUILDING PLAN STRUCTURAL DETAILS | SHEET 159 | E |
|---|---|---|---|---|---|



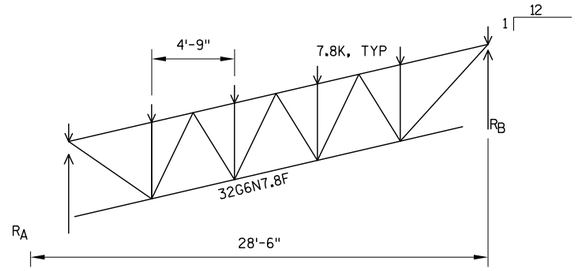

TYPICAL JOIST GIRDER TO HSS CONNECTION STORAGE BLDG 1
SCALE: NTS

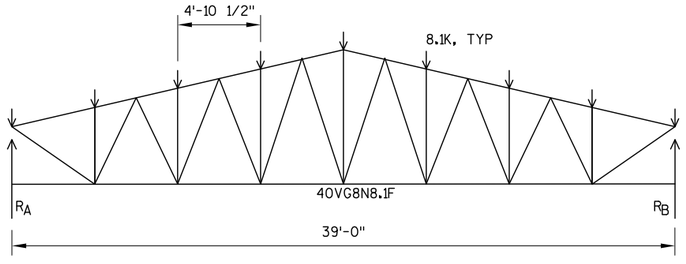



TYPICAL JOIST GIRDER TO HSS CONNECTION STORAGE BLDG 2
SCALE: NTS

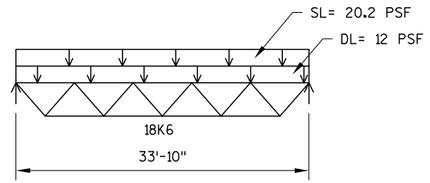


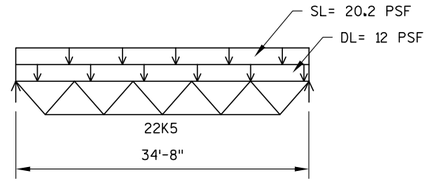

ROOF DETAIL AT JOIST GIRDER
SCALE: NTS

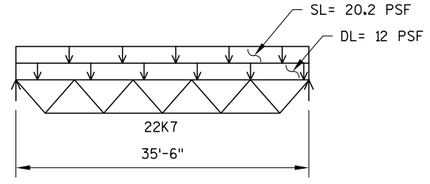



JOIST GIRDER LOAD DIAGRAMS
SCALE: NTS



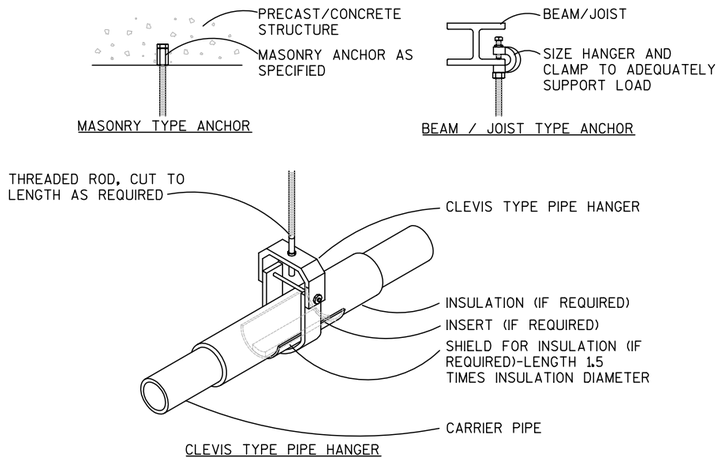




JOIST LOAD DIAGRAMS
SCALE: NTS

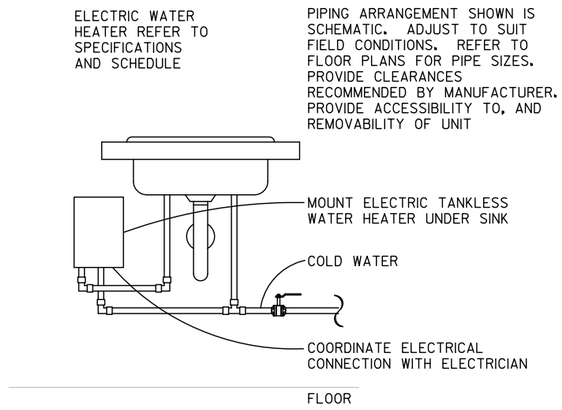
NOTES:

1. DESIGN AND FURNISH JOISTS FOR NET UPLIFT OF 7.16 PSF BASED ON ASD.
2. TOP AND BOTTOM CHORD BRACES SHOULD BE SPECIFIED AND FURNISHED BY JOIST MANUFACTURER.
3. TOP CHORD STANDARD BRIDGING UNTIL ROOF DECK IS ATTACHED.
4. CONTRACTOR SHALL VERIFY DESIGN AND PROVIDE CONNECTIONS TO JOIST GIRDERS, COLUMNS AND EMBEDDED PLATES.

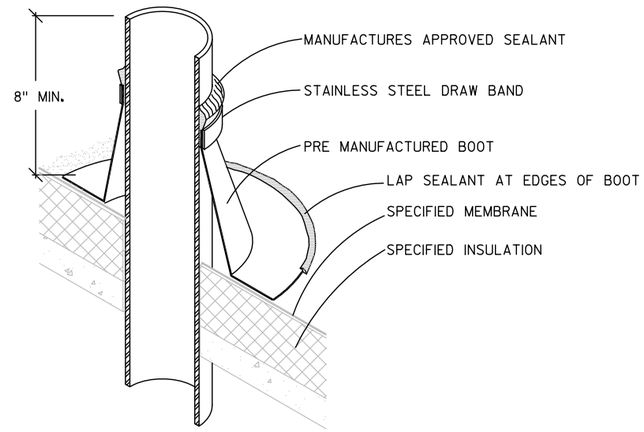
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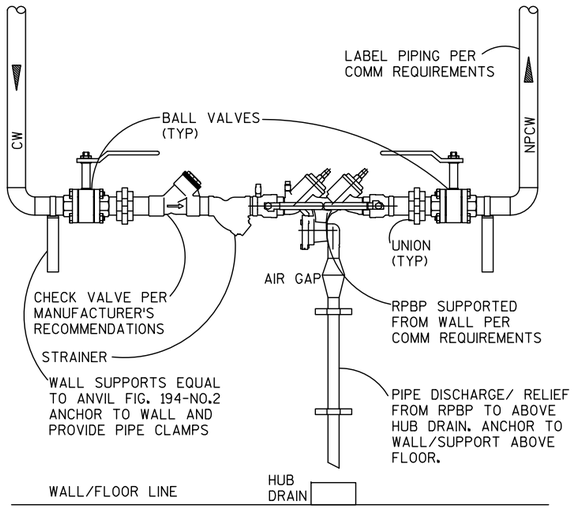

PIPE HANGER DETAIL
SCALE: NTS



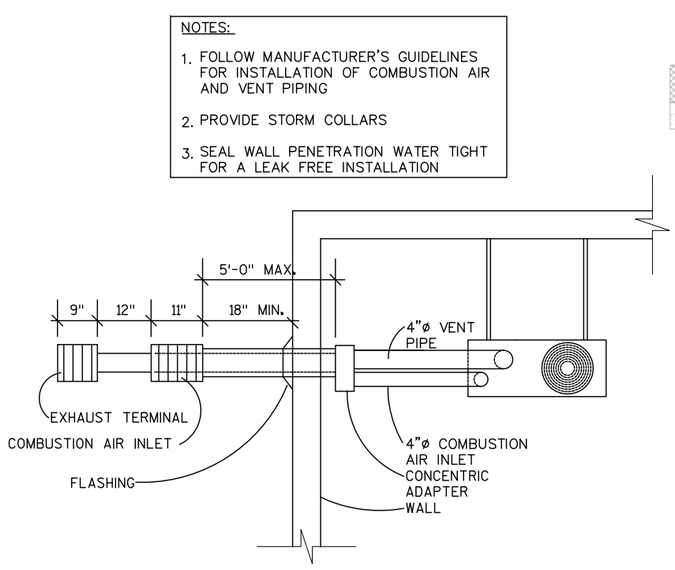

SINK ELECTRIC TANKLESS WATER HEATER DETAIL
SCALE: NTS



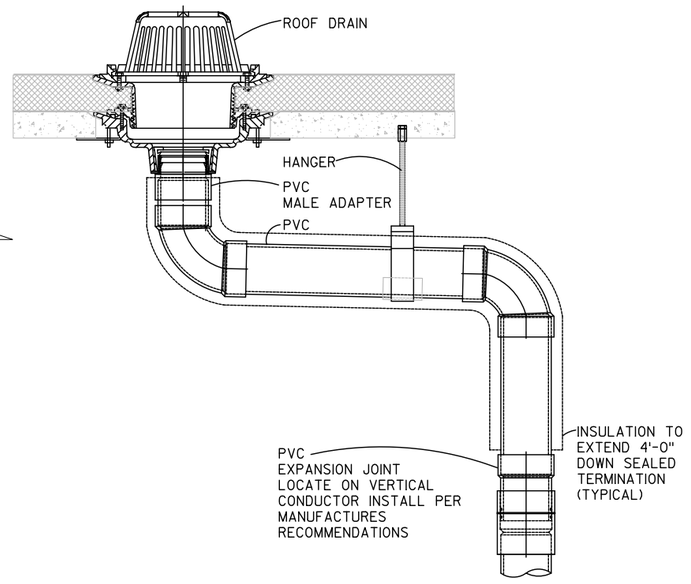

PIPE THROUGH ROOF DETAIL
SCALE: NTS



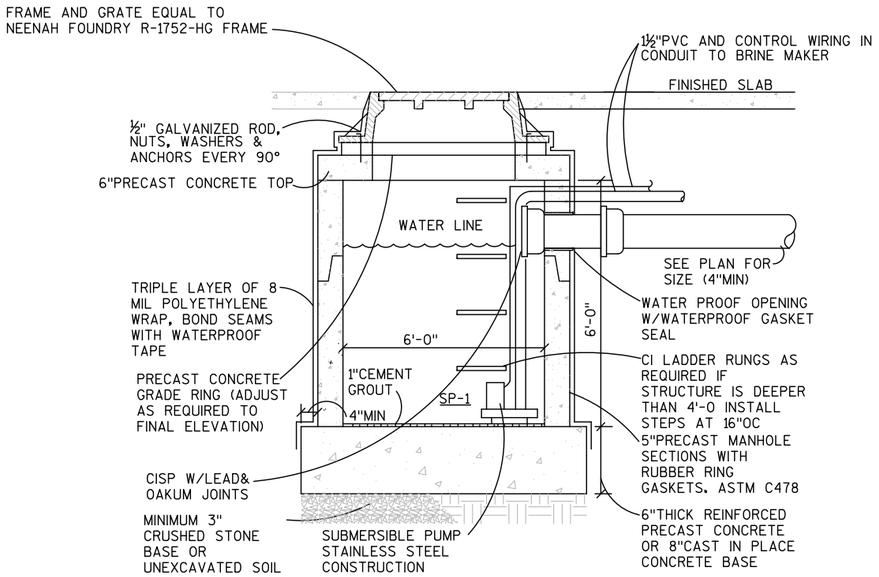

REDUCED PRESSURE BACKFLOW PREVENTER DETAIL
SCALE: NTS




GAS UNIT HEATER VENTING DETAIL
SCALE: NTS

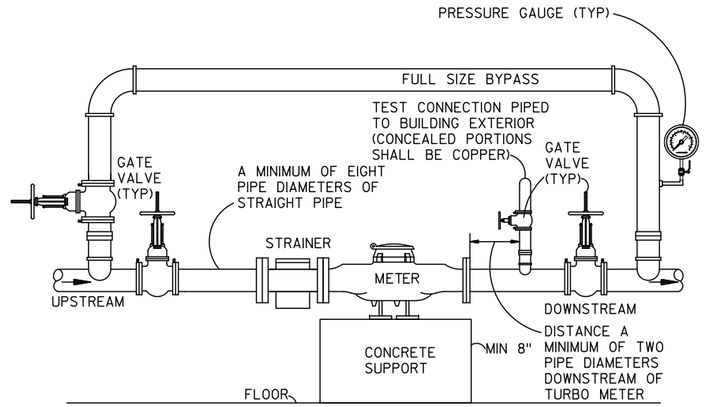



ROOF DRAIN INSTALLATION DETAIL
SCALE: NTS




NOTES:
1. ALL SANITARY STRUCTURES TO HAVE A WATERTIGHT GASKET SEAL AT PIPE PENETRATIONS
2. RUNGS TO BE NEENAH R-1982-F OR EQUAL
3. TRIPLE LAYER OF 8MIL POLYETHYLENE WRAP. BOND SEAMS WITH WATERPROOF TAPE
4. SEAL ALL JOINTS WITH 1"BUTYL ROPE
5. ½" GALVANIZED THREADED ROD WITH NUTS, WASHERS AND ANCHORS

## 6' DIA. MANHOLE DETAIL
SCALE: NTS




NOTES:
1. INSTALL IN ACCORDANCE WITH THE LOCAL MUNICIPALITY WATER UTILITY'S REQUIREMENTS.
2. WATER METER TO BE INSULATED, SEE SPECIFICATION SECTION 22 07 00.

## TURBO WATER METER DETAIL
SCALE: NTS

## ELECTRIC UNIT HEATER SCHEDULE

| MARK | LOCATION | TYPE | CFM | FAN | | | ELECTRIC COIL | | | CEILING MOUNTING HEIGHT (FT). | MANUFACTURERS | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RPM | HP | EQUIPMENT V/PH/HZ | MBH | KW | EQUIPMENT V/PH/HZ | | MAKE | MODEL NO. | |
| EUH-1 | 200 ELECT. ROOM | - | 410 | 1650 | 1/40 | 208/1/60 | 13.6 | 4 | 120/1/60 | 8 | - | - | TRANSFORM FROM 3φ TO 1φ , 1 |
| EUH-2 | 201 WATER DISTRIBUTION | - | 410 | 1650 | 1/40 | 208/1/60 | 13.6 | 4 | 120/1/60 | 8 | - | - | TRANSFORM FROM 3φ TO 1φ , 1 |
| EUH-3 | 301 ELECT. ROOM | - | 410 | 1650 | 1/40 | 208/1/60 | 13.6 | 4 | 120/1/60 | 8 | - | - | TRANSFORM FROM 3φ TO 1φ , 1 |
| EUH-4 | 302 WATER DISTRIBUTION | - | 410 | 1650 | 1/40 | 208/1/60 | 8.87 | 2.6 | 120/1/60 | 8 | - | - | TRANSFORM FROM 3φ TO 1φ , 2 |

NOTES:
1. BASIS OF DESIGN: CHROMALOX, MODEL HVH-04-83-34.
2. BASIS OF DESIGN: CHROMALOX, MODEL HVH-02-81-00.

## GAS UNIT HEATER SCHEDULE

| MARK | LOCATION | TYPE | CAPACITY | | GAS CONTROL | AIR DATA | | | MOTOR DATA | | | | CEILING MOUNTING HEIGHT (FT). | MANUFACTURERS | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | INPUT (MBH) | OUTPUT (MBH) | | SCFM | EAT (°F) | LAT (°F) | HP | EQUIPMENT V/PH/HZ | DRIVE TYPE | RPM | | MAKE | MODEL NO. | |
| GUH-1 | 200 ELECT. ROOM | SEPARATED COMBUSTION | 410 | 1650 | SINGLE STAGE | 760 | 50 | 110 | 1/16 | 120/1/60 | DIRECT | 1550 | 8 | - | - | 1, 3, 4, 5 & 6 |
| GUH-2 | 201 WATER DISTRIBUTION | SEPARATED COMBUSTION | 410 | 1650 | SINGLE STAGE | 450 | 50 | 100 | 1/16 | 120/1/60 | DIRECT | 1550 | 8 | - | - | 1, 2, 3, 4, 5 & 6 |

NOTES:
1. PROVIDE UNIT WITH 316 STAINLESS STEEL HEAT EXCHANGER.
2. PROVIDE UNIT HEATER WITH HERSITE P-413C COATING.
3. HORIZONTAL COMBUSTION AIR/VENT KIT WITH CONCENTRIC ADAPTER.
4. THERMOSTAT & THERMO STAT GUARD WITH LOCKING COVER.
5. CEILING SUSPENSION KIT.
6. BASIS OF DESIGN: REZNOR, MODEL USAS.

## POINT OF USE ELECTRIC WATER HEATER SCHEDULE

| MARK | LOCATION | MANUFACTURERS | | VOLUME (GALLONS) | INPUT (KW) | RECOVERY (GPH) | TEMPERATURE RISE (°F) | EQUIPMENT V/PH/HZ | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | | MAKE | MODEL NO. | | | | | | |
| EWH-1 | 201 WATER DISTRIBUTION | - | - | 0 | 18 | 1.5 | 80 | 208/3/60 | 1 |

NOTES:
1. BASIS OF DESIGN: EeMAX, MODEL EX18OT3.

## REDUCED PRESSURE BACKFLOW PREVENTER SCHEDULE

| MARK | LOCATION | MANUFACTURERS | | SERVICE | EQUIPMENT SYMBOL | EQUIPMENT SERVED | REMARKS |
|---|---|---|---|---|---|---|---|
| | | MAKE | MODEL NO. | | | | |
| RPBP-1 | 201 WATER DISTRIBUTION | - | - | NON POTABLE WATER FOR BRINE MAKE-UP | - | BRINE MAKER | 1 |

NOTES:
1. BASIS OF DESIGN: WATTS, MODEL 919QT-S-AG.

## CEILING FAN

| MARK | LOCATION | MANUFACTURERS | | CFM | FAN | | | FAN DIAMETER | NUMBER OF BLADES | MOUNTING TYPE | FAN SPEEDS | WEIGHT IN POUNDS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MAKE | MODEL NO. | | RPM | HP | EQUIPMENT V/PH/HZ | | | | | | |
| CF-1 | 202 HTD. CARP. ROOM | - | - | 25000/16800/9600 | 280/200/131 | 100 WATTS | 120/1/60 | 56" | 3 | STEM | 3 | 20 | 1 & 2 |
| CF-1 | 202 HTD. CARP. ROOM | - | - | 25000/16800/9600 | 280/200/131 | 100 WATTS | 120/1/60 | 56" | 3 | STEM | 3 | 20 | 1 & 2 |

NOTES:
1. ON-OFF SWITCH BY DIV. 26.
2. BASIS OF DESIGN: DAYTON, MODEL 5NPZ1.

| CEILING FAN | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MARK | LOCATION | MANUFACTURERS | | SERVICE | FLOW (GPM) | HEAD (FT) | DISCHARGE SIZE (IN.) | SOLIDS SIZE (IN.) | MOTOR HP | RPM | EQUIPMENT V/PH/HZ | REMARKS |
| | | MAKE | MODEL NO. | | | | | | | | | |
| SP-1 | 300 BRINE ROOM | - | - | BRINE IN CATCH BASIN | 45 | 64 | 2 | ¾" | 2 | 3450 | 208/3/60 | 1 & 2 |

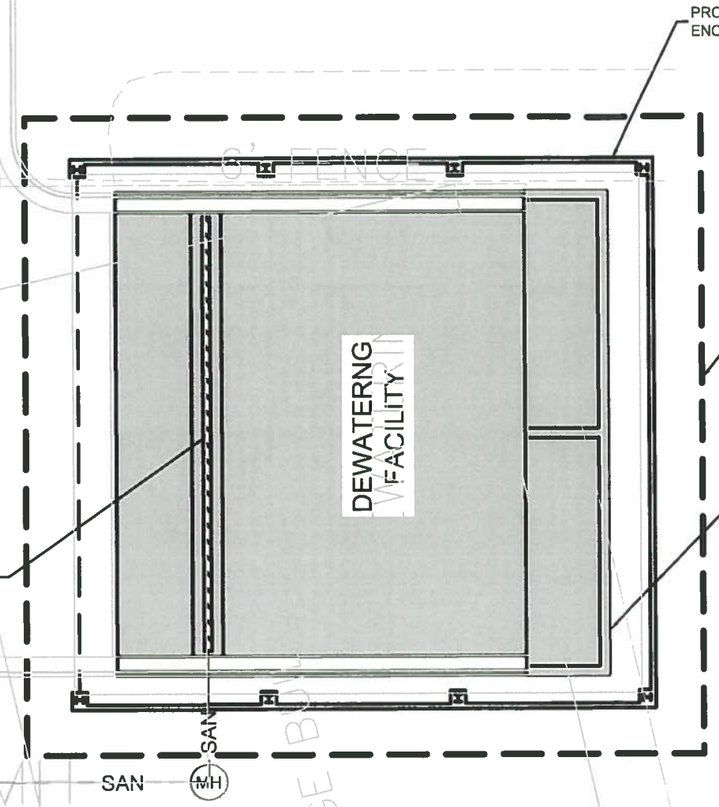
NOTES:
1. BASIS OF DESIGN: WEIL PUMP, MODEL 1621S (STAINLESS STEEL CONSTRUCTION).

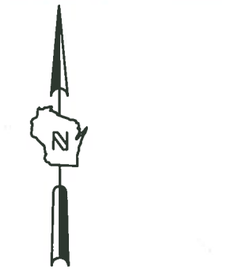
| MOTOR LOAD COORDINATION SCHEDULE - REFERENCE ONLY | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MARK | LOCATION | EQUIPMENT DESCRIPTION | POWER DATA | | | DISCONNECT | | | REMARKS |
| | | | LOAD | EQUIPMENT V/PH/HZ | EMERG. POWER | FURNISHED BY | INSTALLED BY | WIRED BY | |
| EUH-1 | 200 ELECT. ROOM | ELECTRIC UNIT HEATER | 4 KW | 208/1/60 | NO | DIV 22 | DIV 22 | DIV 26 | - |
| EUH-2 | 201 WATER DISTRIBUTION | ELECTRIC UNIT HEATER | 4 KW | 208/1/60 | NO | DIV 22 | DIV 22 | DIV 26 | - |
| EUH-3 | 301 ELECT. ROOM | ELECTRIC UNIT HEATER | 4 KW | 208/1/60 | NO | DIV 22 | DIV 22 | DIV 26 | - |
| EUH-4 | 302 WATER DISTRIBUTION | ELECTRIC UNIT HEATER | 2.6 KW | 208/1/60 | NO | DIV 22 | DIV 22 | DIV 26 | - |
| GUH-1 | 202 HTD. CAPR. ROOM | GAS UNIT HEATER | 1/16 HP | 120/1/60 | NO | DIV 22 | DIV 22 | DIV 26 | - |
| GUH-2 | 300 BRINE ROOM | GAS UNIT HEATER | 1/16 HP | 120/1/60 | NO | DIV 22 | DIV 22 | DIV 26 | - |
| EWH-1 | 201 WATER DISTRIBUTION | ELECTRIC WATER HEATER | 18 KW | 208/3/60 | NO | DIV 22 | DIV 22 | DIV 26 | - |
| CF-1 | 202 HTD. CAPR. ROOM | CEILING FAN | 100 WATTS | 120/1/60 | NO | DIV 26 | DIV 26 | DIV 26 | - |
| CF-2 | 202 HTD. CAPR. ROOM | CEILING FAN | 100 WATTS | 120/1/60 | NO | DIV 26 | DIV 26 | DIV 26 | - |
| SP-1 | 300 BRINE ROOM | SUMP PUMP | 2 HP | 208/3/60 | NO | DIV 26 | DIV 26 | DIV 26 | - |

2

WISCONSIN
JAMES B. LETZDOM
E-23041
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Civil Engineer

WISCONSIN
PATRICK D. REYNOLDS
E-[illegible]
WAUWATOSA, WI
PROFESSIONAL ENGINEER
Structural Engineer




**LEGEND:**

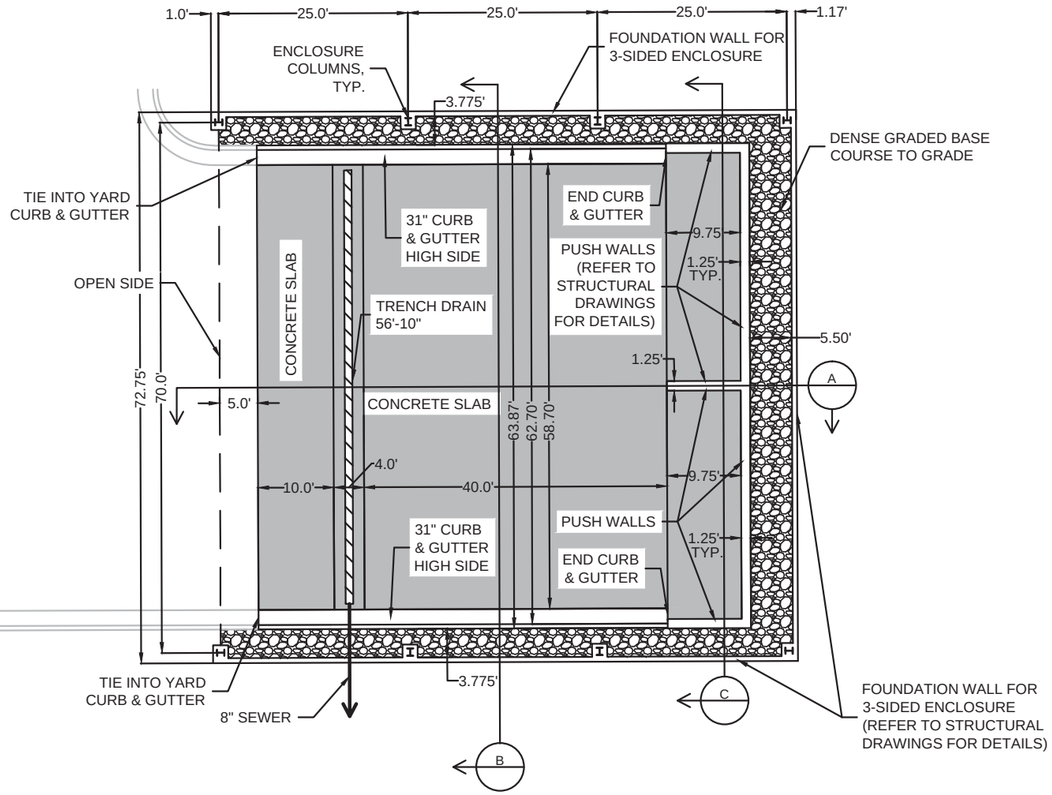
- CONCRETE DEWATERING SLAB (C)
- MH — TRAPPED/SUMPED MANHOLE (B)
- SAN — SANITARY SEWER

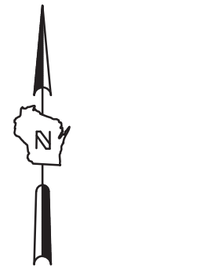
**GENERAL NOTES:**

1. BASE PLAN HAS BEEN PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION AND PROVIDED TO SIGMA ON 1-23-14. BASE PLAN SHOWS PROPOSED LAYOUT OF COUNTY HIGHWAY DEPARTMENT YARD IMPROVEMENTS. THE LOCATION AND ACCURACY OF UTILITIES CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATIONS.
2. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND PROPOSED CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
3. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, OR OTHER NON CIVIL SITE WORK. REFER TO STRUCTURAL DRAWINGS FOR ENCLOSURE DETAILS.

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE
MILW. AREA 259-1181

| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | DEWATERING FACILITY SITE PLAN | SHEET 165 | E |
|---|---|---|---|---|---|




GRAPHIC SCALE

0 20' 40'

**LEGEND:**

- DENSE GRADED BASE COURSE
- CONCRETE SLAB — C
- 31" CURB & GUTTER HIGH SIDE — D
- TRENCH DRAIN — A

**NOTE:** CONTRACTOR SHALL PROVIDE CONTRACTION JOINTS IN THE CONCRETE SLAB AT 15' MINIMUM CENTERS BOTH WAYS. CONTRACTOR SHALL PROVIDE ISOLATION (EXPANSION) JOINTS AT SLAB INTERFACE WITH PUSH WALLS AND INTERFACE WITH TRENCH DRAIN POUR.

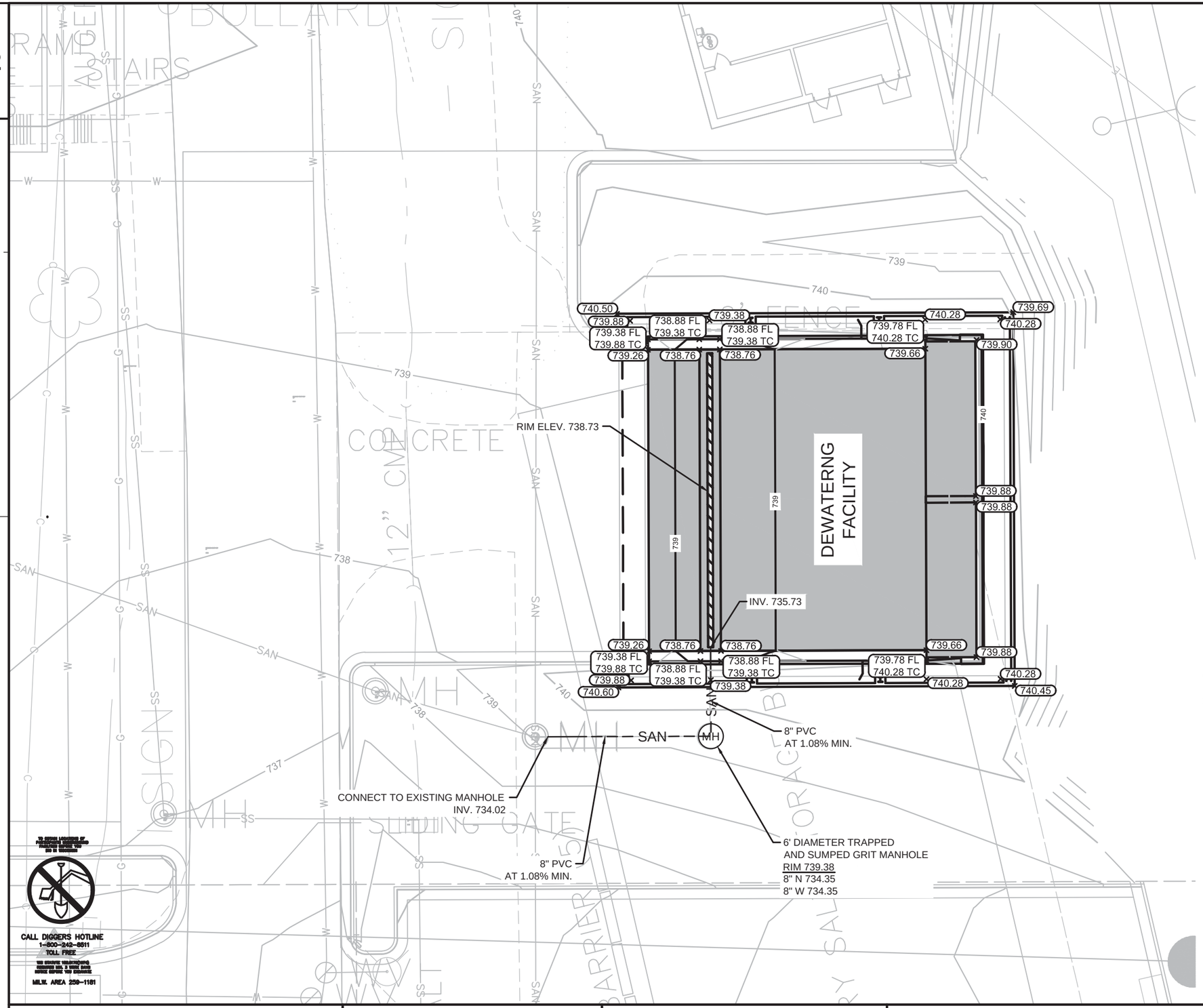
**GENERAL NOTES:**

1. BASE PLAN HAS BEEN PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION AND PROVIDED TO SIGMA ON 1-23-14. BASE PLAN SHOWS PROPOSED LAYOUT OF COUNTY HIGHWAY DEPARTMENT YARD IMPROVEMENTS. THE LOCATION AND ACCURACY OF UTILITIES CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATIONS.
2. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND PROPOSED CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
3. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, OR OTHER NON CIVIL SITE WORK. REFER TO STRUCTURAL DRAWINGS FOR ENCLOSURE DETAILS.


CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE
MILW. AREA 259-1181


| PROJECT NO:1060-34-73 | HWY:USH 45 | COUNTY:MILWAUKEE | DEWATERING FACILITY LAYOUT PLAN | SHEET 166 | E |
|---|---|---|---|---|---|

2




**LEGEND:**

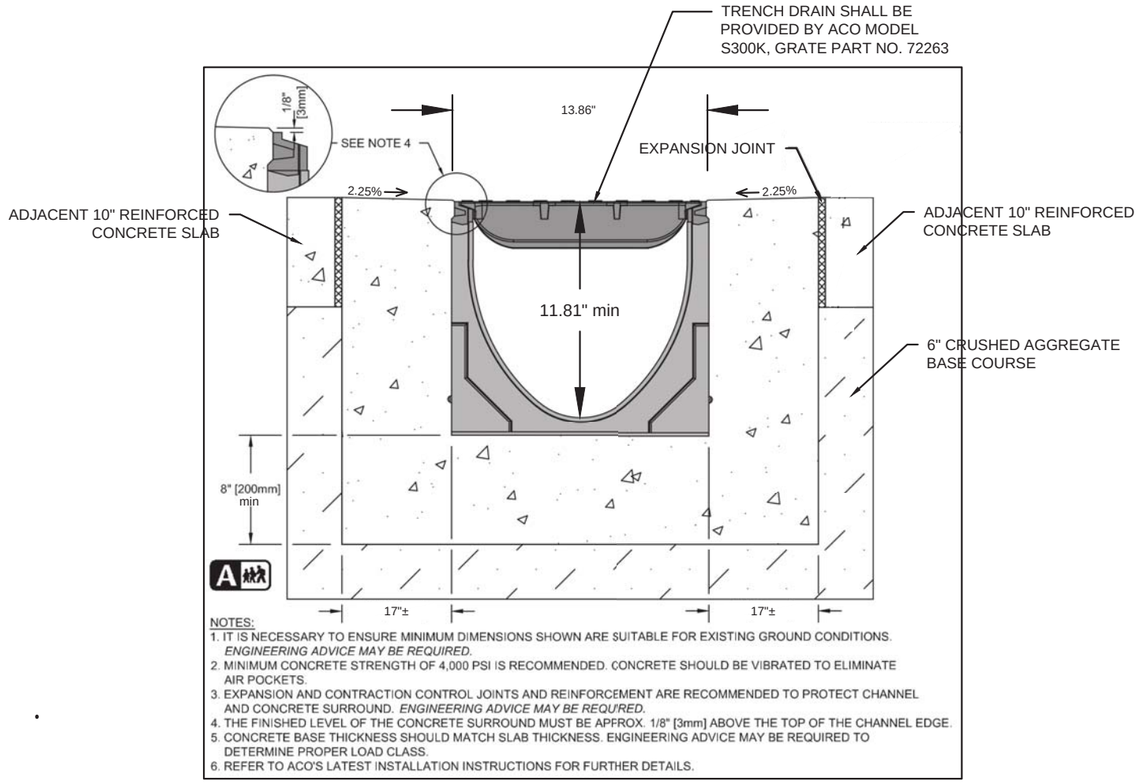
- CONCRETE DEWATERING SLAB (C)
- 740 EXISTING CONTOUR
- 740 PROPOSED CONTOUR
- 739.88 PROPOSED SPOT GRADE
- 739.53 FL / 740.03 TC — PROPOSED CURB & GUTTER SPOT GRADE
  FL: GUTTER FLOW LINE GRADE
  TC: TOP OF CURB GRADE
- (MH) TRAPPED/SUMPED MANHOLE (B)
- SAN SANITARY SEWER

**GENERAL NOTES:**

1. BASE PLAN HAS BEEN PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION AND PROVIDED TO SIGMA ON 1-23-14. BASE PLAN SHOWS PROPOSED LAYOUT OF COUNTY HIGHWAY DEPARTMENT YARD IMPROVEMENTS. THE LOCATION AND ACCURACY OF UTILITIES CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATIONS.
2. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND PROPOSED CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
3. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, OR OTHER NON CIVIL SITE WORK. REFER TO STRUCTURAL DRAWINGS FOR ENCLOSURE DETAILS.
4. EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
5. CONFIRM AND COORDINATE GRADING WITH WISDOT PLANS FOR OVERALL DPW FACILITY.

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE
MILW. AREA 259-1181

| PROJECT NO:1060-34-73 | HWY:USH 45 | COUNTY:MILWAUKEE | DEWATERING FACILITY GRADING & DRAINAGE PLAN | SHEET 167 | E |
|---|---|---|---|---|---|




NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQ'RED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APFROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

## A TRENCH DRAIN DETAIL

NOT TO SCALE

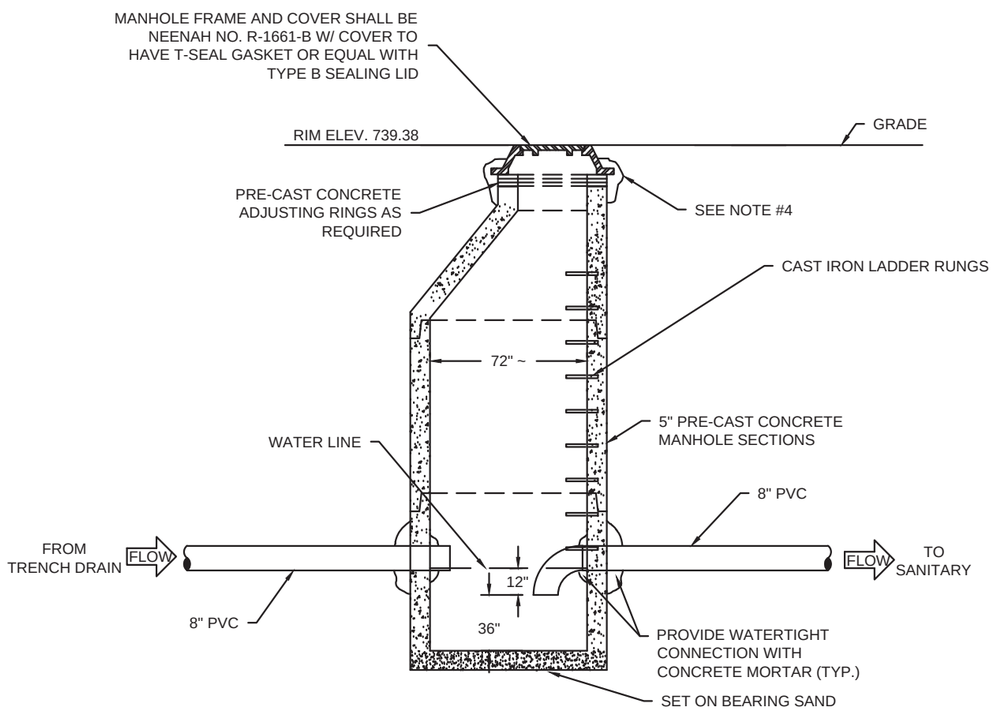
NOTES:

1. CONSTRUCT MANHOLE IN ACCORDANCE WITH FILE NO. 12 OF THE STATE STANDARD SPECIFICATIONS FOR SEWER AND WATER.

2. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CINTERED WITHIN THE RING. WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.

3. MIN 3" OF BEDDING STONE UNDER BASE REQUIRED.

4. PROVIDE ADAPTOR INC. EXTERNAL CHIMNEY SEAL.

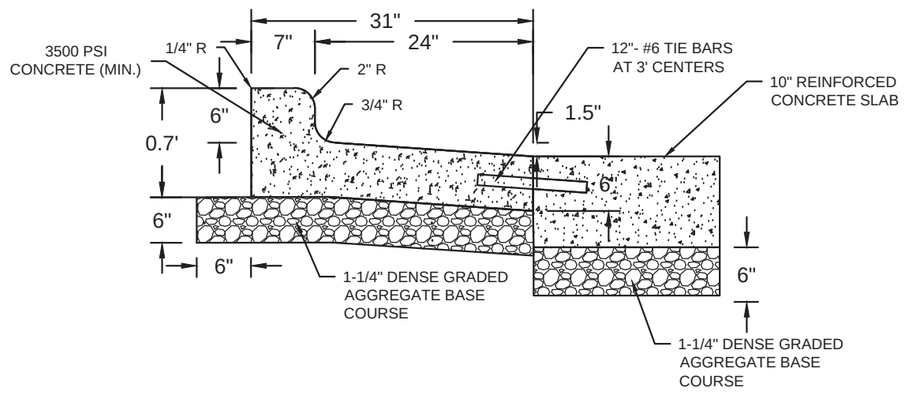



NOTES:
1. FOR SEWER PIPE SIZES AND INVERT ELEVATIONS SEE SITE PLAN.

## B TRAPPED & SUMPED MANHOLE DETAIL

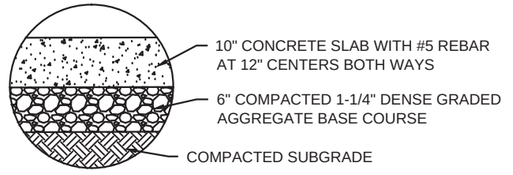
NOT TO SCALE

### HIGH SIDE



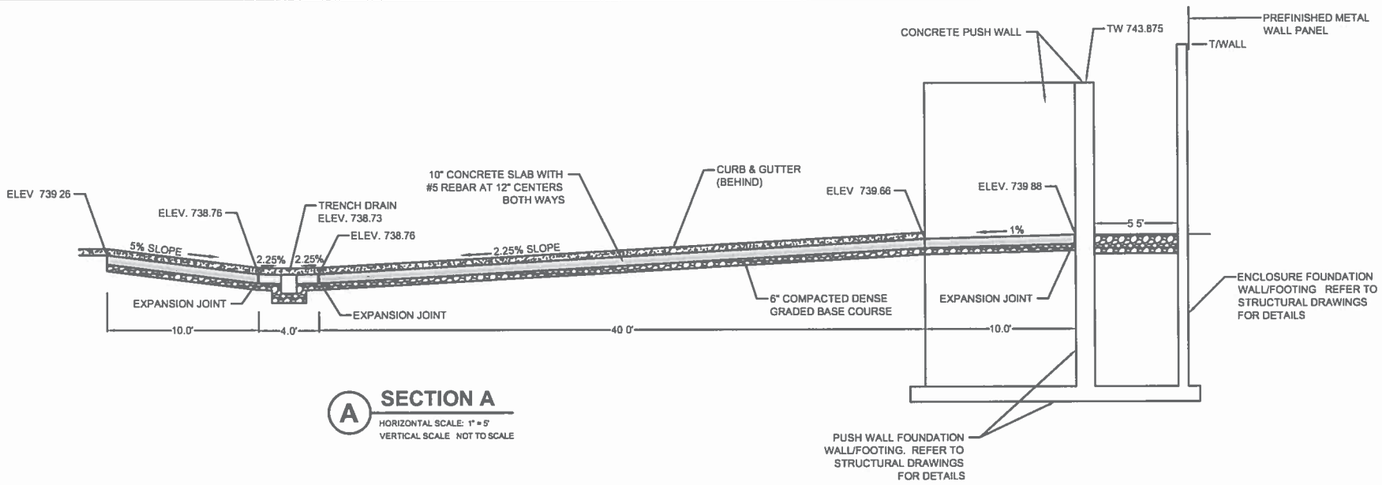

## D 31" CONCRETE CURB & GUTTER SECTION HIGH SIDE

NOT TO SCALE

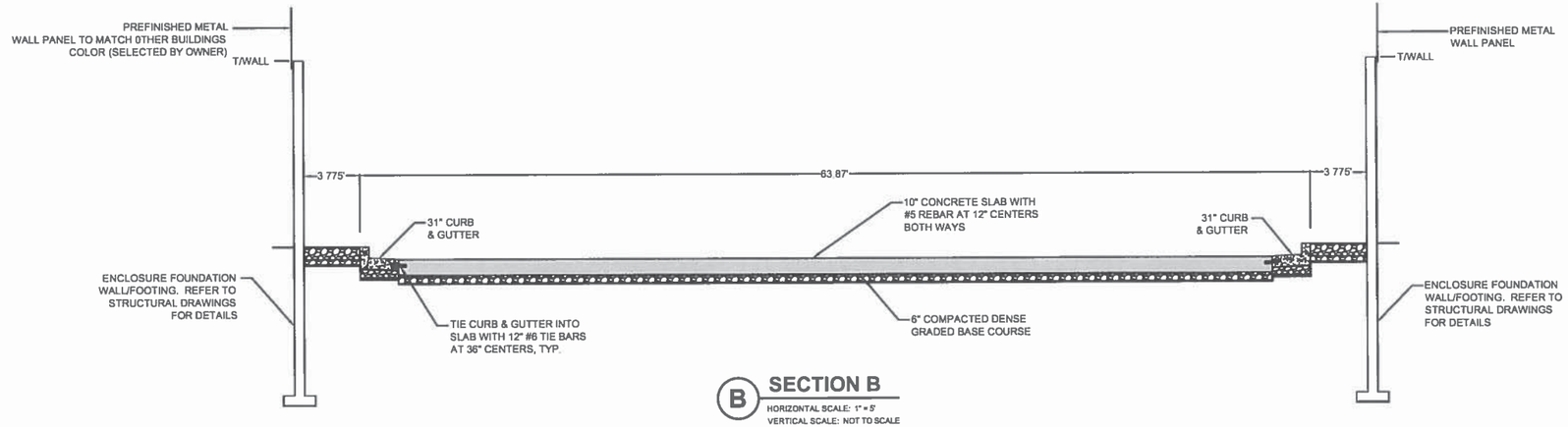



## C CONCRETE SLAB SECTION

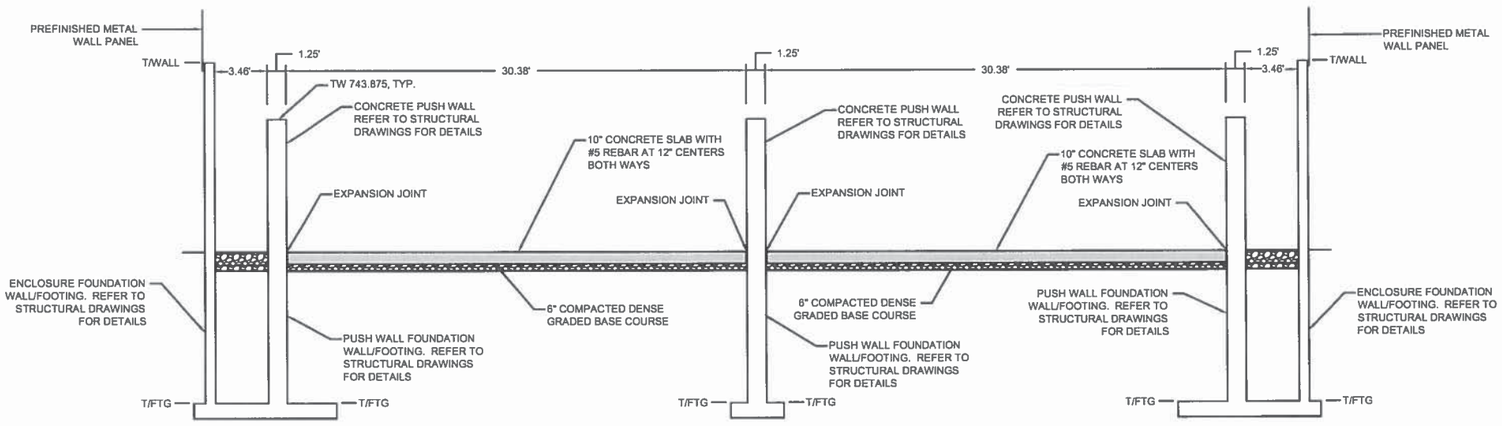
NOT TO SCALE




**A SECTION A**
HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE NOT TO SCALE




**B SECTION B**
HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE: NOT TO SCALE




**C SECTION C**
HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE: NOT TO SCALE

| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | DEWATERING FACILITY TYPICAL SECTIONS | SHEET 169 | E |
|---|---|---|---|---|---|

FILE NAME : C:\DOCUMENTS AND SETTINGS\TIMOTHYDETZER\DESKTOP\CB DEWATERING CAD\REVISED 10-14\ACAD-C401-TYPICAL SECTIONS REVISED PDOTW DATE : 10/22/2014 11:32 AM PLOT BY : DETZER, TIM PLOT NAME : PLOT SCALE : ######### WISDOT/CADDS SHEET 42

GENERAL:

1. ALL MATERIALS, CONSTRUCTION, AND DETAILS SHALL CONFORM WITH THE FOLLOWING:
   PLANS AND SPECIFICATIONS
   INTERNATIONAL BUILDING CODE-2009 WITH SEPTEMBER 1, 2011 WISCONSIN
   AMENDED I-CODE INSERTS
   OSHA REGULATIONS
2. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL BE FAMILIAR WITH THE ENTIRE SET OF CONSTRUCTION DOCUMENTS (ARCHITECTURAL, CIVIL, ELECTRICAL, PLUMBING, STRUCTURAL, ETC.) IN ORDER TO PROVIDE ALL CONSTRUCTION AND MATERIALS FOR THIS PROJECT.
3. THE CONTRACTOR SHALL REFER TO OTHER DRAWINGS CONTAINED IN THE CONSTRUCTION DOCUMENTS FOR ADDITIONAL SPECIFIED MEMBERS, DIMENSIONS, ELEVATIONS, DETAILS, OPENINGS, INSERTS, SLEEVES, DEPRESSIONS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS REQUIRED TO CONSTRUCT THIS PROJECT.
4. DETAILS SHOWN ON STRUCTURAL DRAWINGS SHALL BE APPLICABLE TO ALL PORTIONS OF THE CONTRACT DOCUMENTS UNLESS NOTED OTHERWISE.
5. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.
6. DO NOT SCALE PLANS.
7. IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
8. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND CONSTRUCTION SEQUENCE IN ORDER TO ENSURE THE SAFETY OF THE BUILDING AND WORKMEN DURING CONSTRUCTION (MEANS & METHODS OF CONSTRUCTION). THIS INCLUDES, BUT IS NOT LIMITED TO; SHORING, UNDERPINNING, TEMPORARY BRACING, ETC.
9. CONSTRUCTION DOCUMENTS SHOW DIMENSIONS AND ELEVATIONS TO SIGNIFICANT WORKING POINTS (COLUMN CENTERLINES, OUTSIDE FACE OF WALLS, TOP OF FRAMING MEMBERS, ETC.) MATERIAL SUPPLIERS AND DESIGNERS ARE RESPONSIBLE FOR ALL OTHER INFORMATION IN ORDER TO DETAIL/FABRICATE THEIR WORK. CONTACT THE ARCHITECT WITH ANY DISCREPANCIES.
10. IN THE EVENT OF ANY DISCREPANCIES BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER PLANS CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL BRING THE DISCREPANCY TO THE ARCHITECTS ATTENTION IN WRITING IMMEDIATELY.
11. NO PROVISIONS HAVE BEEN MADE IN THE DESIGN OF THIS STRUCTURE FOR FUTURE EXPANSION.

METAL BUILDING:

1. THE ENTIRE DESIGN OF THE METAL BUILDING SUPERSTRUCTURE SHALL BE THE RESPONSIBILITY OF THE METAL BUILDING SUPPLIER.
2. THE CONTRACTOR SHALL COORDINATE WITH THE METAL BUILDING SUPPLIER ANCHOR BOLT SIZES, QUANTITY, AND LOCATIONS.
3. METAL BUILDING SHOP DRAWINGS SHALL CONTAIN BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION:
   FRAMING PLANS SPECIFYING ALL MEMBER SIZES AND LOCATIONS
   ANCHOR BOLT SIZES AND ELEVATIONS
   ALL COLUMN FRAME VERTICAL & HORIZONTAL REACTIONS TRANSMITTED TO THE FOUNDATION
4. CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE METAL BUILDING SUPPLIER ALL BUILDING DIMENSIONS AND ELEVATIONS FOR THE METAL BUILDING TO ENSURE THAT THE METAL BUILDING STRUCTURE WILL SUFFICIENTLY BEAR ON THE FOUNDATION PRIOR TO THE METAL BUILDING FABRICATION AND PRIOR TO FOUNDATION WORK.

FOUNDATION & EARTHWORK:

1. DO NOT PLACE ANY FOOTINGS ON FROZEN SUBGRADE.
2. BACK FILLING SHALL BE DONE SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS.
3. REMOVE ANY EXISTING CONCRETE 2'-0" BELOW NEW CONCRETE FOOTINGS AND SLABS ON GRADE, UNLESS NOTED OTHERWISE.
4. CENTER PIER AND COLUMN FOOTINGS ON COLUMN CENTERLINES AND WALL FOOTINGS ON WALL CENTERLINES UNLESS SPECIFICALLY NOTED OTHERWISE.
5. TOP OF FOOTING ELEVATIONS SHOWN ON THESE CONSTRUCTION DOCUMENTS REPRESENT MINIMUM FOOTING DEPTHS FOR FROST PROTECTION AND BEST JUDGMENT OF A SUITABLE BEARING STRATUM. ACTUAL GRADE CONDITIONS AND SUITABLE BEARING STRATUM MUST BE VERIFIED BY THE CONTRACTOR AND A SOILS ENGINEER AT THE TIME OF EXCAVATION.
6. FOOTING EXCAVATIONS MUST EXTEND TO COMPETENT BEARING MATERIAL. CONTRACTOR SHALL HIRE A SOILS ENGINEER TO FIELD VERIFY NET ALLOWABLE SOIL BEARING CAPACITY STATED ON THESE CONSTRUCTION DOCUMENTS AND IN GEOTECHNICAL REPORT FOR THIS PROJECT. IF SUITABLE BEARING STRATUM DOES NOT EXIST AT FOOTING ELEVATIONS STATED ON CONSTRUCTION DOCUMENTS, EXCAVATIONS SHALL BE EXTENDED UNTIL SOIL WITH STATED BEARING CAPACITY IS REACHED. PLACE COMPACTED FILL BELOW FOOTINGS OR EXTEND FOOTINGS DOWN TO SUITABLE BEARING STRATUM. ENGINEERED FILL BELOW SLABS ON GRADE AND FOOTINGS SHALL BE FREE DRAINING GRANULAR MATERIAL COMPACTED TO 95% MODIFIED PROCTOR AND PLACED PER THE SOIL ENGINEERS RECOMMENDATIONS.
7. REFER TO DESIGN DATA ON SHEET S001 FOR DESCRIPTION OF SOIL CONDITIONS, GEOTECHNICAL RECOMMENDATIONS, AND DESIGN VALUES.

CAST-IN-PLACE REINFORCED CONCRETE:

1. CONCRETE WORK SHALL CONFORM TO THE CURRENT EDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND ACI 302 "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION".
2. CONTRACTOR SHALL ELECTRONICALLY SUBMIT STEEL REBAR SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REVIEW AND STAMP ALL SHOP DRAWINGS BEFORE SUBMITTING TO THE ARCHITECT.
3. GROUT BELOW BASE PLATES AND BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT 1" THICK MINIMUM.
4. STEEL REINFORCING BARS SHALL CONFORM TO ASTM A615 (GRADE 60). DEFORMED WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
5. CONTRACTOR SHALL PROVIDE SUITABLE WIRE SPACERS, CHAIRS, TIES, ETC FOR SUPPORTING REINFORCING STEEL IN THE PROPER POSITION WHILE PLACING CONCRETE.
6. PROVIDE (2)-#5 BARS AROUND ALL OPENINGS AND (2)-#5 BARS DIAGONALLY AT ALL OPENING CORNERS. EXTEND BARS 2'-6" PAST OPENING.
7. PROVIDE 1/2" EXPANSION JOINT MATERIAL AT INTERIOR LOCATIONS WHERE SLABS ABUT WALLS, COLUMNS, AND OTHER VERTICAL SURFACES UNLESS NOTED OTHERWISE.
8. PROVIDE A 1" CHAMFER ON EXPOSED CORNERS OF CONCRETE UNLESS NOTED OTHERWISE.
9. DO NOT PLACE CONDUITS, PIPES, DUCTS, OR FIXTURES IN STRUCTURAL CONCRETE UNLESS NOTED OTHERWISE.
10. SLEEVES, CONDUITS, OR PIPING PASSING THROUGH CONCRETE SLABS AND WALLS SHALL BE PLACED SO THAT THEY ARE NOT CLOSER THAN THREE DIAMETERS ON CENTER AND SO THAT THEY DO NOT DISPLACE REINFORCING.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY IRREGULARITIES OR DEFECTS IN CONCRETE SLABS (CRACKS, BUMPS, FLOOR CURLING, ETC.) BEFORE ANY FLOOR FINISHES ARE APPLIED.
12. REFER TO REINFORCEMENT DEVELOPMENT AND LAP SPLICE SCHEDULE FOR LAP SPLICES IN REINFORCING STEEL.
13. ALL LAPS IN REINFORCING STEEL SHALL BE CLASS "B" LAP SPLICES UNLESS OTHERWISE NOTED.
14. CONTRACTOR SHALL HIRE A MATERIALS TESTING LABORATORY TO CAST AND TEST CONCRETE CYLINDERS. ALL TESTING SHALL BE IN ACCORDANCE WITH ACI 318-05 SECTION 5.6. RESULTS OF CYLINDER TESTS SHALL BE SUBMITTED TO THE ARCHITECT. CONCRETE TEST REPORTS SHALL STATE THE FOLLOWING INFORMATION:
    LOCATION ON PROJECT WHERE THE CONCRETE IS USED
    7 DAY COMPRESSIVE STRENGTH
    28 DAY COMPRESSIVE STRENGTH
    AIR CONTENT
    SLUMP
    AMOUNT OF WATER ADDED ON JOB SITE
    MIX USED
15. ADDITION OF JOBSITE WATER TO CONCRETE SHALL BE PER ASTM C94.
16. TIME BETWEEN CONCRETE BATCHING AND PLACEMENT SHALL BE IN ACCORDANCE WITH ASTM C94.
17. CONCRETE TEST REPORTS SHALL DIRECTLY STATE WHETHER OR NOT THE TEST RESULT COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.
18. ALL CONCRETE SLABS SHALL BE WET CURED PER ACI RECOMMENDATIONS FOR NO LESS THAN SEVEN DAYS OR AN APPROPRIATE CURING COMPOUND MAY BE APPLIED.
19. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE ARE NOT PERMITTED IN ANY CONCRETE MIX.
20. PROVIDE THE FOLLOWING CLEAR COVER DISTANCES FOR REINFORCEMENT IN CONCRETE:
    CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
    CONCRETE EXPOSED TO EARTH OR WEATHER:
    NO. 6 THROUGH NO. 18 BARS: 2"
    NO. 5 BAR AND SMALLER: 1 1/2"
    CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
    SLABS, WALLS, JOISTS: NO. 11 BAR AND SMALLER: 1"
21. CONTRACTOR SHALL USE SMOOTH FORMS FOR EXPOSED CONCRETE SURFACES. ANY CONCRETE SURFACE REPAIRS SHALL BE PERFORMED BY THE CONTRACTOR AS REQUIRED. REPAIR AND PATCH DEFECTIVE AREAS WITH PROPRIETARY PATCHING COMPOUND IMMEDIATELY AFTER REMOVAL OF FORMS.

STRUCTURAL STEEL:

1. DESIGN, FABRICATION, AND ERECTION SHALL CONFORM TO THE CURRENT EDITION OF AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION) "MANUAL OF STEEL CONSTRUCTION".
2. STEEL DETAILING AND CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT EDITION OF AISC 360 "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS".
3. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS HOLDING CURRENT AWS CERTIFICATES IN THE TYPES OF WELDING SPECIFIED ON THESE CONSTRUCTION DOCUMENTS.
4. CONTRACTOR SHALL ELECTRONICALLY SUBMIT STEEL SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. CONTRACTOR SHALL REVIEW AND STAMP ALL SHOP DRAWINGS BEFORE SUBMITTING TO THE ARCHITECT.
5. CONTRACTOR SHALL DESIGN AND PROVIDE ANY TEMPORARY BRACING OR GUYS REQUIRED TO ERECT STEEL MEMBERS. TEMPORARY BRACING SHALL BE LEFT IN PLACE UNTIL THE PERMANENT STRUCTURE IS IN PLACE AND SECURE.
6. STAIRS, HANDRAILS, AND GUARDRAILS SHALL BE DESIGNED BY THE STEEL SUPPLIER.
7. ALL STEEL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER (WITHIN MILL TOLERANCE) IN THE UPWARD VERTICAL DIRECTION.
8. BEAM CONNECTIONS, WHERE NOT DETAILED, SHALL BE DESIGNED BY THE FABRICATOR FOR THE SERVICE LEVEL LOADS INDICATED ON PLAN. REFER TO THE CONNECTION SCHEDULES PROVIDED.
9. ALTERNATE CONNECTIONS FROM WHAT IS SPECIFIED ON THE CONSTRUCTION DOCUMENTS WILL NOT BE ACCEPTED WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
10. PROVIDE STIFFENER PLATES ON BOTH SIDES OF BEAM WEBS AT ALL CONCENTRATED LOADS ABOVE AND BELOW A BEAM. UNLESS NOTED OTHERWISE, FRAME THE LARGEST BEAM OVER COLUMNS AT BEAM TO BEAM INTERSECTIONS.

DESIGN DATA:

APPLICABLE CODES/STANDARDS:

-INTERNATIONAL BUILDING CODE-2009 WITH SEPTEMBER 1, 2011 WISCONSIN AMENDED I-CODE INSERTS
-INTERNATIONAL EXISTING BUILDING CODE-2009
-ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE/SEI 2005

STRUCTURAL DESIGN STANDARDS:

-ACI 318-08 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
-ANSI/AISC 360-05 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
-WS D1.1/D1.1M STRUCTURAL WELDING CODE-STEEL, 2004 EDITION

BUILDING CLASSIFICATION CATEGORY: I

BUILDING DESIGN LOADS/CRITERIA:

DESIGN DEAD LOADS:

| | |
|---|---|
| ROOF DEAD LOAD | 5 PSF |

ROOF SNOW LOADS & DESIGN DATA:

| | |
|---|---|
| DESIGN ROOF SNOW LOAD | 21 PSF (BALANCED SNOW LOAD) |
| FLAT ROOF SNOW LOAD (Pf)=(0.7*Ce*Ct*Is*Pg) | 20.2 PSF |
| SNOW EXPOSURE FACTOR (Ce) | 1.0 |
| SNOW LOAD IMPORTANCE FACTOR (Is) | 0.8 |
| ROOF THERMAL FACTOR (Ct) | 1.2 |
| GROUND SNOW (Pg) | 30 PSF |
| RAIN ON SNOW SURCHARGE | 0 |
| SLOPED ROOF FACTOR (Cs) | 1.0 |

WIND DESIGN DATA:

| | |
|---|---|
| WIND IMPORTANCE FACTOR (Iw) | 0.87 |
| BASIC WIND SPEED (3-SECOND GUST) | 90 mph |
| WIND DIRECTIONALITY FACTOR (Kd) | 0.85 |
| MEAN ROOF HEIGHT | 26 FT |
| WIND EXPOSURE CATEGORY | B |
| WIND EXPOSURE CLASSIFICATION | OPEN BUILDING |
| INTERNAL PRESSURE COEFFICIENT | ±0.00 |
| BUILDING LENGTH (L) | 75 FT |
| LEAST WIDTH (B) | 70 FT |
| TOPOGRAPHIC FACTOR Kzt | 1.0 |
| DESIGN PROCEDURE | METHOD 1 (SIMPLIFIED PROCEDURE) |

EARTHQUAKE DESIGN DATA:

| | |
|---|---|
| OCCUPANCY CATEGORY | II |
| SEISMIC IMPORTANCE FACTOR (Ie) | 1 |
| MAPPED SPECTRAL ACCELERATIONS AT SHORT PERIODS (Ss) | 0.107 |
| MAPPED SPECTRAL ACCELERATIONS AT (1)-SECOND PERIODS (S1) | 0.045 |
| SITE CLASSIFICATION | D |
| DESIGN SPECTRAL RESPONSE COEFFICIENT AT SHORT PERIODS (Sds) | 0.114 |
| DESIGN SPECTRAL RESPONSE COEFFICIENT AT (1)-SECOND PERIODS (Sd1) | 0.071 |
| SEISMIC DESIGN CATEGORY | B |
| BASIC SEISMIC-FORCE-RESISTING SYSTEM | STRUCTURAL STEEL NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE |
| DESIGN BASE SHEAR | 0.038WKIPS |
| SEISMIC RESPONSE COEFFICIENT (Cs) | 0.038 |
| SEISMIC MODIFICATION FACTOR (R) | 3 |
| ANALYSIS PROCEDURE FOR SEISMIC DESIGN | EQUIVALENT LATERAL FORCE ANALYSIS |

BUILDING IS IN MILWAUKEE COUNTY

SOIL DESIGN VALUES:

| | |
|---|---|
| SOIL UNIT WEIGHT | 110 PCF (ASSUMED) |
| LATERAL EARTH PRESSURE | |
| ACTIVE (RETAINING WALLS) | 55 PSF/FT OF DEPTH |
| AT-REST (BASEMENT WALLS) | 60 PSF/FT OF DEPTH (ASSUMED) |
| PASSIVE | 300 PSF (ASSUMED) |
| COEFFICIENT OF SLIDING FRICTION | 0.30 (ASSUMED) |
| SUBGRADE MODULUS | 150 PCI (ASSUMED |
| ALLOWABLE SOIL BEARING PRESSURE | 3,000 PSF |

REFER TO SOILS REPORT NO. 14037-10 DATED JULY 1, 2014 PREPARED BY GESTRA ENGINEERING, INC. FOR DESCRIPTION OF SOIL CONDITIONS, GEOTECHNICAL RECOMMENDATIONS, AND DESIGN VALUES

DEFLECTION LIMITS:

| ROOF MEMBERS | LIVE | SNOW OR WIND | DEAD + LIVE OR SNOW |
|---|---|---|---|
| SUPPORTING GYPSUM BOARD CEILINGS | L/360 | L/360 | L/360 |
| SUPPORTING FLEXIBLE CEILINGS | L/240 | L/240 | L/240 |
| NOT SUPPORTING CEILING | L/240 | L/240 | L/180 |
| SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.) | L/600 | L/600 | L/600 |

| LINTEL/HEADER/BEAM MEMBERS | | | |
|---|---|---|---|
| SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.) | L/600 | L/600 | L/600 |
| SUPPORTING FLEXIBLE MATERIALS (EIFS, SIDING, ETC.) | L/360 | L/360 | L/240 |

| EXTERIOR WALLS | |
|---|---|
| WITH RIGID FINISHES (BRICK, MASONRY, ETC.) | L/600 |
| WITH FLEXIBLE FINISHES (EIFS, SIDING, ETC.) | L/360 |

MATERIAL STRENGTHS:

CAST-IN-PLACE CONCRETE:

| FOOTINGS | |
|---|---|
| MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS | f'c = 3000 PSI |
| MAXIMUM WATER-CEMENTITIOUS RATIO | 0.59 |
| MAXIMUM AGGREGATE SIZE | 1 1/2" |
| SLUMP LIMIT | 5" ± 1" |
| AIR CONTENT | NO |
| EXTERIOR WALLS AND PIERS | |
| MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS | f'c = 4000 PSI |
| MAXIMUM WATER-CEMENTITIOUS RATIO | 0.48 |
| MAXIMUM AGGREGATE SIZE | 3/4" |
| SLUMP LIMIT | 4" ± 1" |
| AIR CONTENT | YES 4 TO 6% |
| SLURRY | |
| MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS | f'c = 1000 PSI |
| MAXIMUM WATER-CEMENTITIOUS RATIO | 0.55 |
| MAXIMUM AGGREGATE SIZE | 3/4" |
| SLUMP LIMIT | 8" ± 1" |
| AIR CONTENT | NO |

REINFORCING STEEL:

| | |
|---|---|
| ALL-ASTM A 615, GRADE 60, DEFORMED | Fy = 60,000 PSI |
| STEEL WELDED WIRE REINFORCEMENT, FLAT SHEETS | Fy = 60,000 PSI |

STRUCTURAL STEEL:

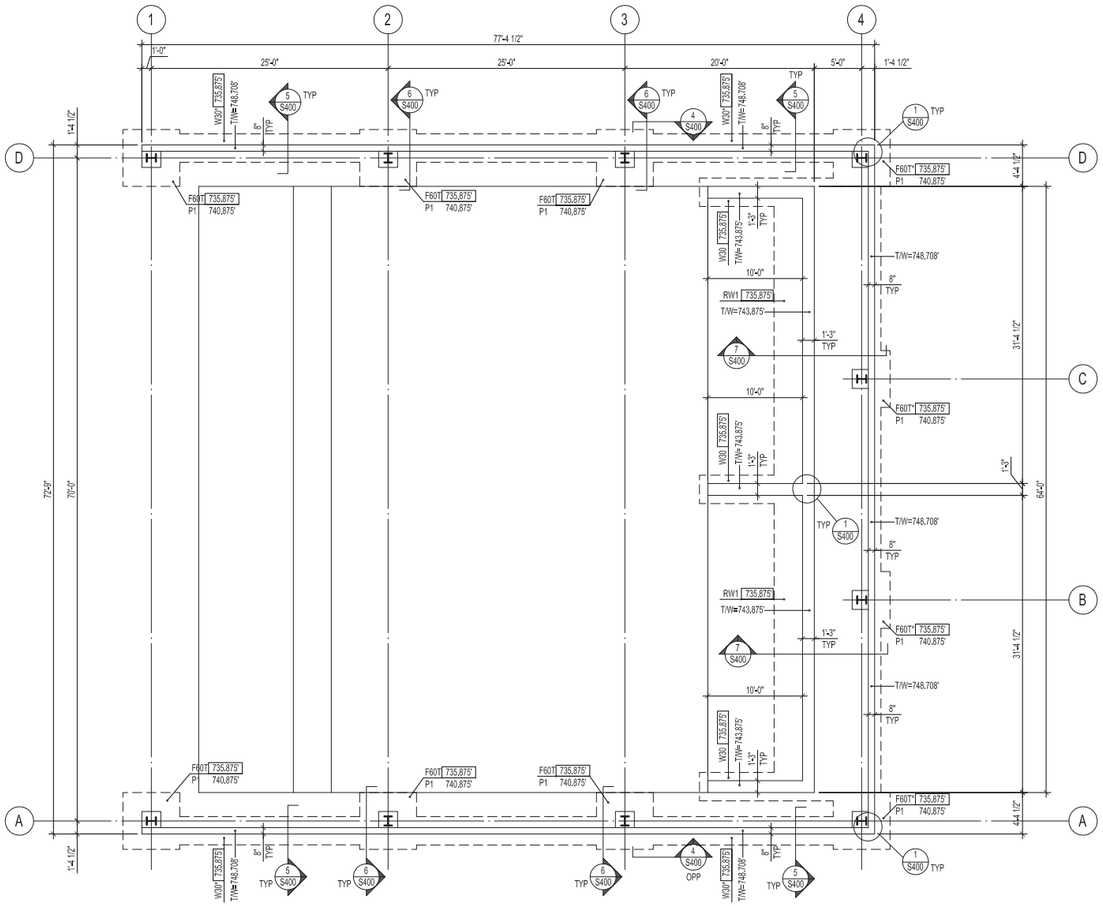
| | |
|---|---|
| ROLLED WIDE FLANGE SHAPES, ASTM A 992 GRADE 50 | Fy = 50,000 PSI |
| CHANNELS, ANGLES, & S SHAPES, ASTM A 36 | Fy = 36,000 PSI |
| PLATE & BAR, ASTM A 36 | Fy = 36,000 PSI |
| TUBE SHAPES, ASTM A 500 GRADE B | Fy = 46,000 PSI |
| PIPE, ASTM A 53, TYPE E OR S, GRADE B | Fy = 46,000 PSI |
| ALL OTHER ROLLED SHAPES, ASTM A 36 | Fy = 36,000 PSI |

MATERIAL STRENGTHS:

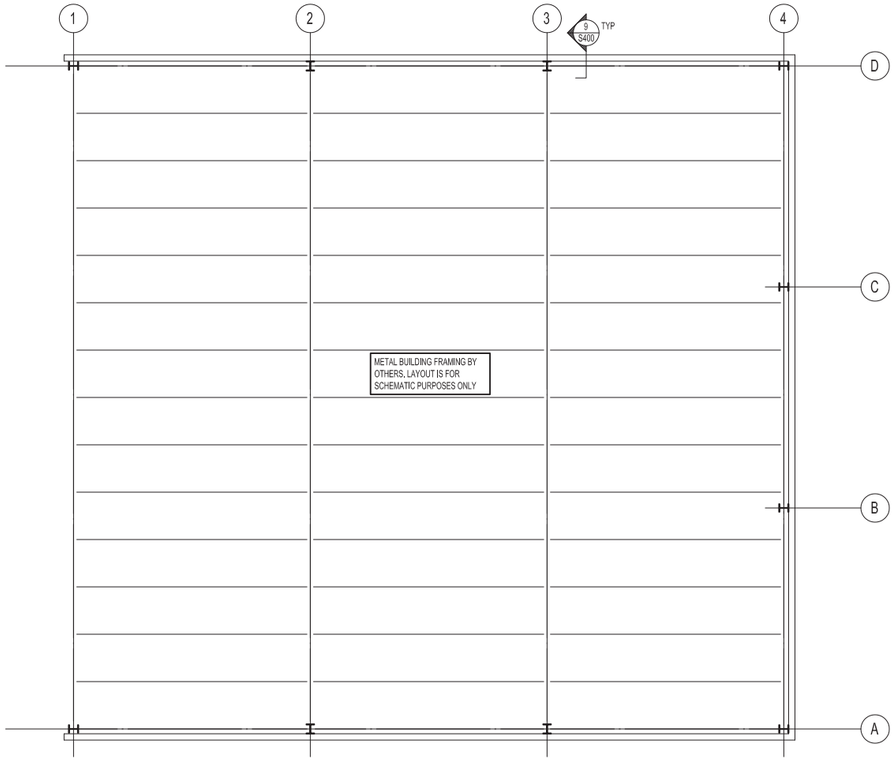
STRUCTURAL BOLTS:
HIGH STRENGTH BOLTS, NUTS, & WASHERS, ASTM A 325
ZINC-COATED HIGH STRENGTH BOLTS, NUTS, & WASHERS, ASTM A 325
STAINLESS STEEL BOLTS, NUTS, & WASHERS, ASTM F 593
SHEAR CONNECTORS, ASTM A 108 GRADES 1015 THRU 1020
THREADED RODS, ASTM A 36
CLEVISES & TURNBUCKLES, ASTM A 108, GRADE 1035
EYE BOLTS & NUTS, ASTM A 108, GRADE 1030
ANCHOR BOLTS, ASTM F 1554, GRADE 36

WELDED CONNECTIONS:
WELDING ELECTRODES E70XX

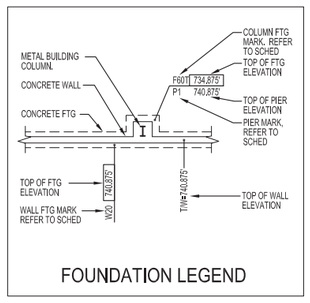
GROUT BELOW BASE PLATES & BEARING PLATES:
NONMETALLIC, SHRINKAGE-RESISTANT ASTM C 1107




## FOUNDATION PLAN
SCALE: 1/16"=1'-0"




## SCHEMATIC FRAMING PLAN
SCALE: 1/16"=1'-0"




FOUNDATION LEGEND

**FOUNDATION PLAN NOTES:**

1. REFER TO GENERAL NOTES FOR ADDITIONAL STRUCTURAL NOTES AND FOUNDATION REQUIREMENTS.
2. ELEVATIONS ON STRUCTURAL DRAWINGS CORRESPONDS TO CITY DATUM ELEVATIONS SHOWN ON SITE PLAN. TYPICAL.
3. SLAB DEPRESSIONS: VERIFY ALL SLAB DEPRESSIONS (SIZE, DEPTH, LOCATION) w/ ARCHITECTURAL DRAWINGS.
4. BUILDING CENTER LINES LOCATE THE CENTER OF THE ANCHOR BOLT PATTERN.

**FOUNDATION KEY NOTES:**

(1) DID NOT USE

CONCRETE PIER SCHEDULE

| PIER MARK | SIZE | VERTICAL REINFORCEMENT | PIER TIES | DETAIL | DOWELS | REMARKS |
|---|---|---|---|---|---|---|
| P1 | 24"x24" | (8) #5 | #3 AT 12" o/c | | | |
| | | | | | | |

CONCRETE PIER SCHEDULE NOTES:

1. REFER TO PLAN FOR TOP OF CONCRETE PIER ELEVATION.
2. AT TOP OF CONCRETE PIER, PROVIDE (3)#3 TIES AT 3" o/c.
3. WHERE NO DOWELS ARE SHOWN FROM THE CONCRETE PIER TO THE CONCRETE FOOTING, EMBED VERTICAL PIER REINFORCEMENT TO BOTTOM OF FOOTING w/ 3" CONCRETE COVERAGE AND PROVIDE A STANDARD 90 DEGREE HOOK.
4. CENTER CONCRETE PIER BELOW COLUMN ABOVE UNLESS DETAILED OTHERWISE.
5. LAP VERTICAL REINFORCEMENT 30 BAR DIAMETERS OR 24", WHICH EVER IS GREATER.

COLUMN FOOTING SCHEDULE

| FOOTING MARK | FOOTING SIZE (WIDTH x LENGTH) | THICKNESS | BOTTOM REINFORCEMENT | | TOP REINFORCEMENT | | REMARKS |
|---|---|---|---|---|---|---|---|
| | | | LONG | SHORT | LONG | SHORT | |
| F60T | 6'-0"x6'-0" | 1'-0" | (6) #5 | (6) #5 | (6) #5 | (6) #5 | |
| F60T* | 6'-0"x6'-0" | 1'-3" | (6) #5 | (6) #5 | (6) #5 | (6) #5 | |

COLUMN FOOTING SCHEDULE NOTES:

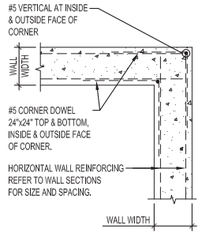
1. REFER TO GENERAL NOTES FOR MINIMUM COVER REQUIREMENTS.
2. REFER TO FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.
3. NET ALLOWABLE SOIL BEARING CAPACITY = 3000 PSF. CONTRACTOR TO HIRE SOILS ENGINEER TO FIELD VERIFY AT TIME OF FOOTING EXCAVATION.
4. ALL LAPS IN STEEL REINFORCING SHALL BE CLASS "B" LAP SPLICES UNLESS NOTED OTHERWISE.

WALL FOOTING SCHEDULE

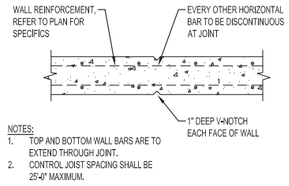
| FOOTING MARK | FOOTING SIZE (WIDTH x CONT) | THICKNESS | REINFORCEMENT | | REMARKS |
|---|---|---|---|---|---|
| | | | LONGITUDINAL | TRANSVERSE | |
| W30* | 3'-0"xCONT | 1'-0" | (3) #5 xCONT | | |
| W30 | 3'-0"xCONT | 1'-3" | (3) #5 xCONT | | |

WALL FOOTING SCHEDULE NOTES:

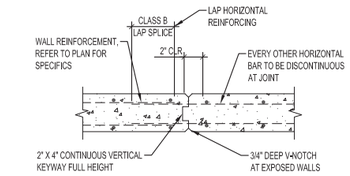
1. REFER TO GENERAL NOTES FOR MINIMUM COVER REQUIREMENTS.
2. REFER TO FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.
3. NET ALLOWABLE SOIL BEARING CAPACITY = 3000 PSF. CONTRACTOR TO HIRE SOILS ENGINEER TO FIELD VERIFY AT TIME OF FOOTING EXCAVATION.
4. ALL LAPS IN STEEL REINFORCING SHALL BE CLASS "B" LAP SPLICES UNLESS NOTED OTHERWISE.



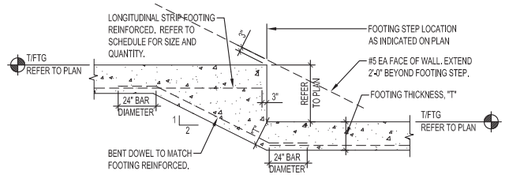

**1 S400 TYPICAL CORNER & WALL INTERSECTION REINFORCEMENT**
**SCALE: 3/8" = 1'-0"**



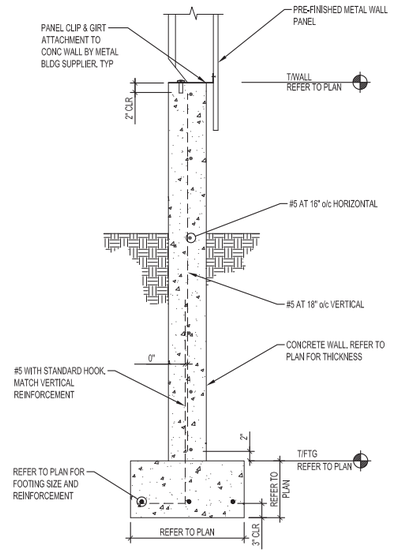

**2 S400 WALL CONTROL JOINT**
**PLACE CONTROL JOINTS AT 25'-0" o/c MAX**
**SCALE: 3/8" = 1'-0"**



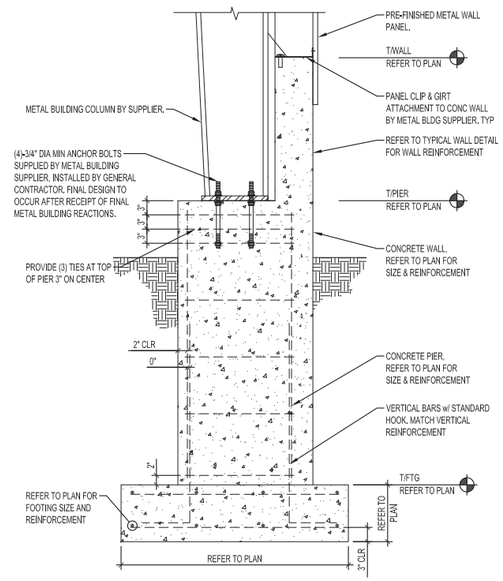

**3 S400 WALL CONSTRUCTION JOINT**
**PROVIDE AT THE END OF EACH WALL POUR**
**SCALE: 3/8" = 1'-0"**



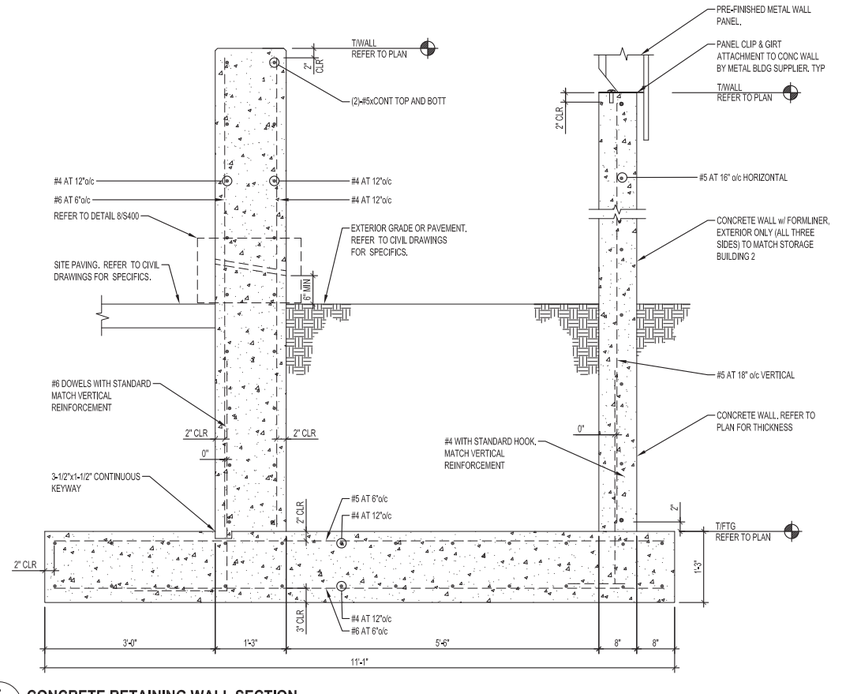

**4 S400 STRIP FOOTING STEP DETAIL**
**SCALE: 3/8" = 1'-0"**



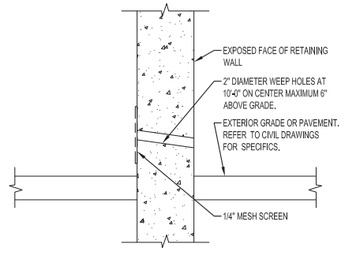

**5 S400 TYPICAL EXTERIOR FOUNDATION WALL SECTION**
**SCALE: 3/8" = 1'-0"**



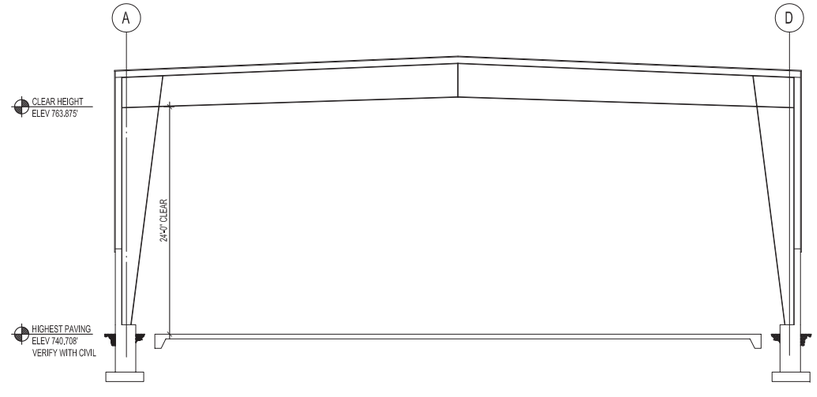

**6 S400 STEEL COLUMN SETTING ON FOOTING**
**SCALE: 3/8" = 1'-0"**




**7 S400 CONCRETE RETAINING WALL SECTION**
**SCALE: 3/8" = 1'-0"**



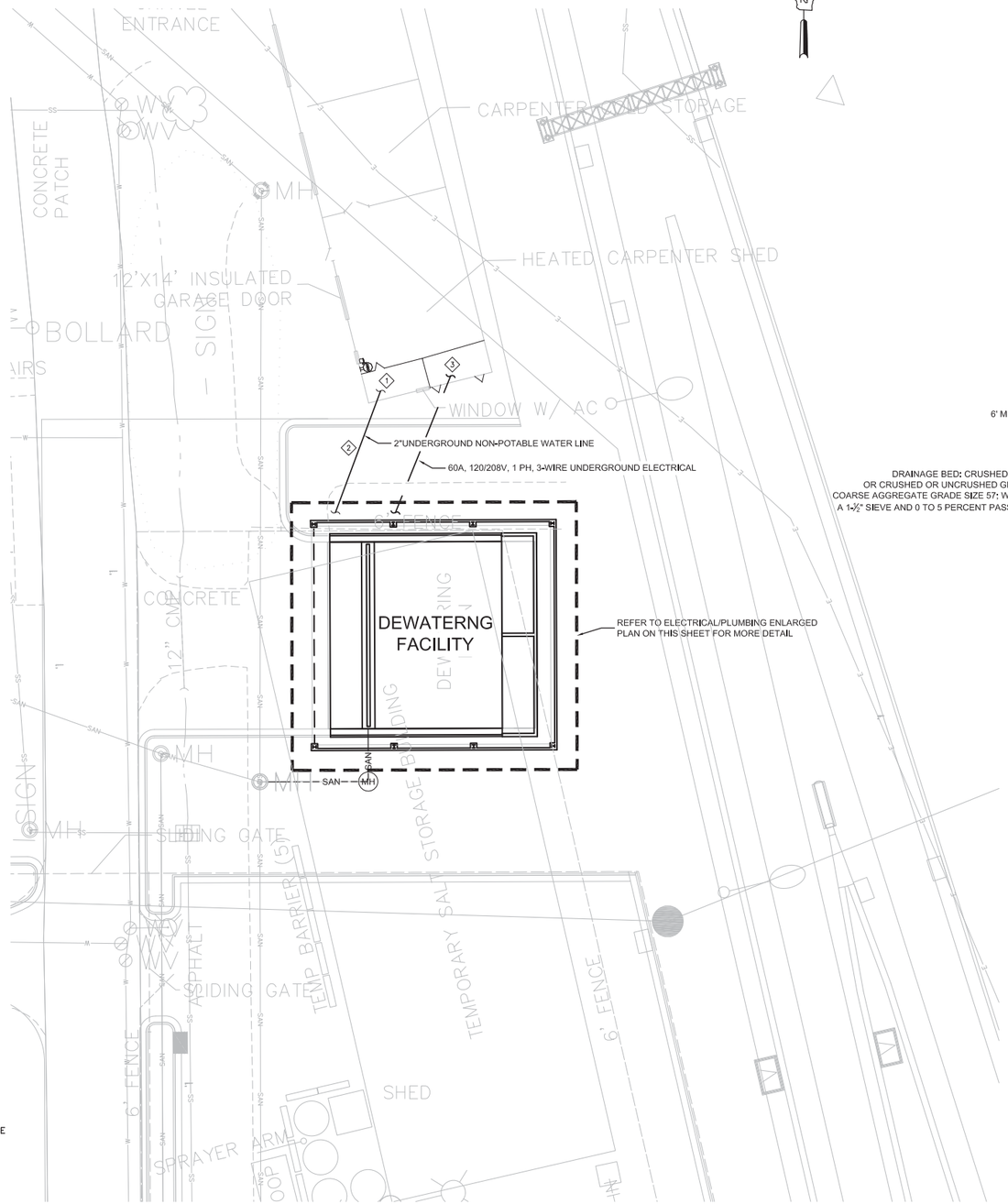

**8 S400 TYPICAL WEEP HOLE DETAIL**
**SCALE: 3/8" = 1'-0"**




**9 S400 SCHEMATIC METAL BUILDING SECTION**
**SCALE: 1/16" = 1'-0"**

# ELECTRICAL/PLUMBING SITE PLAN

GRAPHIC SCALE
0 20 40 FEET




TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

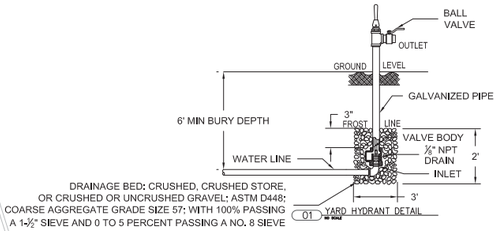
CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WI STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

MILW. AREA 259-1181

## MECHANICAL AND ELECTRICAL SPECIFICATIONS

1. REGULATORY REQUIREMENTS; CONFORM TO ALL STATE AND LOCAL CODE REQUIREMENTS. OBTAIN PERMITS AND REQUEST INSPECTIONS FROM AUTHORITY HAVING JURISDICTION, AND PAY ALL STATE AND FEDERAL TAXES AS WELL AS ALL LOCAL TAXES THAT MIGHT BE IMPOSED, PROVIDE COPY OF PERMIT AND INSPECTION REPORTS TO OWNER.
2. INSTALL EQUIPMENT AND MATERIALS TO PROVIDE REQUIRED ACCESS FOR SERVICING AND MAINTENANCE, VERIFY FINAL LOCATIONS FOR ROUGH-INS AND FIELD MEASUREMENTS WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED,
3. FOLLOW EQUIPMENT MANUFACTURERS INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
4. COORDINATE THE CUTTING AND PATCHING OF BUILDING COMPONENTS TO ACCOMMODATE THE INSTALLATION OF PLUMBING EQUIPMENT AND MATERIALS AND ELECTRICAL CONDUIT.
5. WHERE PIPING AND CONDUIT PENETRATES WALL, CLOSE OFF SPACE BETWEEN PIPE OR CONDUIT AND ADJACENT WORK WITH STUFFING INSULATION AND CAULK SEAL AIRTIGHT. PROVIDE CLOSE FITTING METAL COLLAR OR ESCUTCHEON COVERS AT BOTH SIDES OF PENETRATIONS. FINAL APPEARANCE SHALL BE TO OWNERS SATISFACTION.
6. NON-POTABLE WATER PIPING & FITTINGS: COPPER TUBING - TYPE L, ASTM B88,
7. TESTING SERVICES: VERIFY THAT ALL CONTROLS OPERATE AS PER THE DESIGN INTENT.
8. ALL ELECTRICAL WORK SHALL CONFORM TO NATIONAL, STATE AND LOCAL CODE REQUIREMENTS. ELECTRICAL INSTALLATION SHALL CONFORM TO CURRENT NEC REQUIREMENTS.
9. ALL EQUIPMENT, MATERIAL, LIGHT FIXTURES, WIRING DEVICES, ETC., SHALL BE NEW, UL LISTED.
10. 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 SHALL BE RIGIDLY SUPPORTED BY SUITABLE HANGERS FROM THE STRUCTURE, INDEPENDENT OF OTHER TRADE COMPONENTS.




13. ALL CONDUITS SHALL BE GALVANIZED RIGID STEEL (GRS), ¾" MINIMUM, WITH THREADED CONNECTORS AND COUPLINGS.
14. ALL OUTLET BOXES SHALL BE DIE-CAST WITH THREADED HUBS, AND SHALL BE PROPERLY SUPPORTED. PROVIDE GASKETED BLANK COVERS, DEVICES AND COVER PLATES AS REQUIRED FOR A COMPLETE INSTALLATION. ALL UNUSED KNOCKOUTS SHALL BE SEALED.
15. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ELECTRICAL WORK PERMIT FROM LOCAL MUNICIPALITY AND SCHEDULE AND OBTAIN INSPECTIONS AS REQUIRED, PROVIDE COPY OF PERMIT AND INSPECTIONS TO OWNER.
16. ALL WIRE SHALL BE 600 VOLT, COPPER. THERMOPLASTIC INSULATED TYPE THHN-THWN. MINIMUM WIRE SIZE TO BE #12 AWG. ALL WIRE #10 AWG AND SMALLER TO BE SOLID AND ALL WIRE #8 AND LARGER TO BE STRANDED.
17. CONTRACTOR SHALL VERIFY ALL EQUIPMENT CONNECTION CONFIGURATIONS. ALL DEVICES SHOWN ARE FOR REFERENCE ONLY, TO COMMUNICATE DESIGN INTENT, AND ARE TO HAVE FINAL LOCATIONS VERIFIED PRIOR TO INSTALLATION.
18. ALL CIRCUIT BREAKERS SHALL MATCH THE PANELBOARD MANUFACTURER AND HAVE AN AIC RATING EQUAL TO, OR GREATER THAN THE AIC RATING OF THE PANELBOARD.
19. THE CONTRACTOR SHALL PROVIDE ENGRAVED PLASTIC LAMINATED NAMEPLATES ON ALL ELECTRICAL ITEMS. PROVIDE A TYPE WRITTEN, PANEL DIRECTORY FOR ALL PANELS ASSOCIATED WITH WORK HEREIN DEPICTED. LABEL ALL BRANCH CIRCUIT WIRING AT EACH BREAKER.
20. LIGHT FIXTURE TYPE "L-1" TO BE LED WALL PACK, LITHONIA CAT, NO, TWR1 LED 3 50K MVOLT (COOPER LIGHTING, CREE, OR EQUAL). MOUNT FIXTURE TO BUILDING COLUMN AT 15'-0" ABOVE GRADE.
21. LIGHT FIXTURE TYPE "L-2" TO BE LED CANOPY FIXTURE, LITHONIA CAT, NO, VRC LED 1 50K MVOLT (COOPER LIGHTING, CREE, OR EQUAL). MOUNT FIXTURE TO BOTTOM EDGE OF BEAM (AT PEAK OF CEILING).
22. PANELBOARD "DW" TO BE 60A MAIN BREAKER, 12-CIRCUIT, 120/208V, 1-PH, 3-WIRE LOAD CENTER WITH NEMA 3R RAINPROOF ENCLOSURE, SQUARE D TYPE "QO" (EATON-CUTLER-HAMMER, GE, OR EQUAL). PROVIDE (2) - 20A/1P BRANCH CIRCUIT BREAKERS.

## GENERAL NOTES

1. THESE DRAWINGS DO NOT ATTEMPT TO SHOW THE COMPLETE DETAILS OF BUILDING CONSTRUCTION, WHICH AFFECT THE ELECTRICAL & PLUMBING INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING FIELD CONDITIONS, THE CONTRACTOR SHALL REVIEW EXISTING FIELD CONDITIONS PRIOR TO BID AND SHALL TAKE INTO ACCOUNT IN THE BID PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO THE CONTRACTORS FAILURE TO INCLUDE ALL NECESSARY WORK IN THE BID PROPOSAL.
2. THESE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION OF WORK TO BE ACCOMPLISHED AND AS SUCH DO NOT SHOW ALL REQUIRED OFFSETS OF PIPING. MECHANICAL CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT AS TO CONFORM TO THE STRUCTURE, EQUIPMENT CONNECTIONS AND MAINTAIN HEADROOM AND PASSAGEWAY.
3. ALL CUTTING AND PATCHING OF STRUCTURE TO ACCOMMODATE NEW PLUMBING OR ELECTRICAL WORK IS BY THE RESPECTIVE CONTRACTOR,
4. ALL CONTROL WIRING SHALL BE RUN IN CONDUIT.
5. ALL WORK TO BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, WISCONSIN PLUMBING CODE, AND ALL OTHER STATE AND LOCAL CODES WHICH HAVE AUTHORITY OVER THIS PROJECT.

## LEGEND

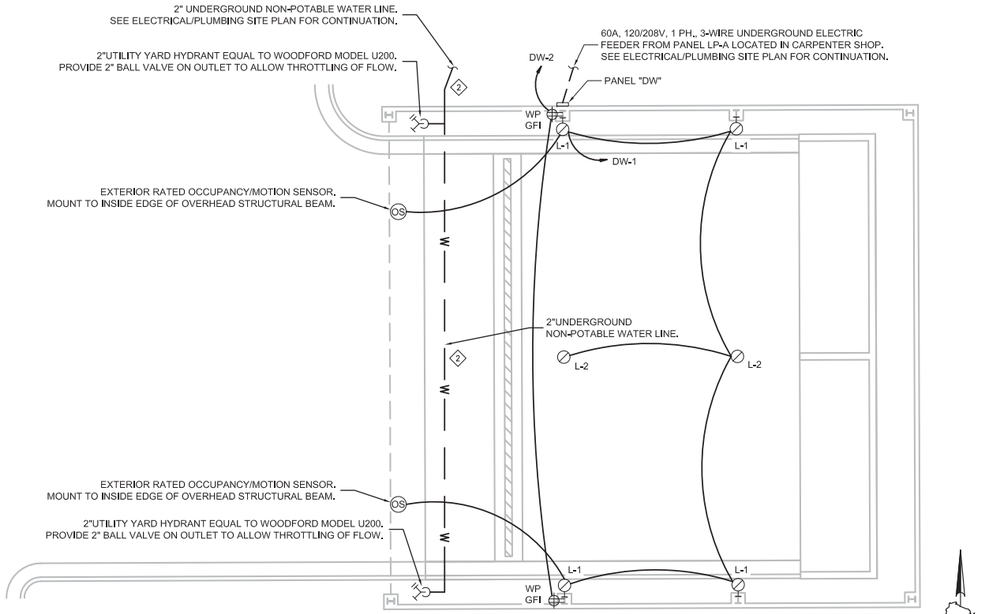
| | |
|---|---|
| — — —▪— — | NON-POTABLE WATER LINE |
| ◇ | KEY NOTE |
| | YARD HYDRANT |
| G | PIPE ELBOW DOWN |
| | LED LIGHT FIXTURE |
| | DUPLEX GROUNDED RECEPTACLE |
| OS | OCCUPANCY SENSOR |
| V | VOLTS |
| WP | WEATHERPROOF |
| GFI | GROUND-FAULT CIRCUIT INTERRUPTER |
| C | CONDUIT |

## KEY NOTES

◇1 PROVIDE NEW 2" BACKFLOW PREVENTER EQUAL TO WATTS SERIES LF909. PROVIDE WITH INLET STRAINER, SHUT-OFF VALVES, DRAIN LINE AND AIR GAP. FIELD VERIFY EXACT LOCATION.

◇2 NEW 2" UNDERGROUND WATER LINE TO BE BURIED A MINIMUM OF 5'-0" BELOW GRADE.

◇3 PROVIDE 60A/2P BRANCH CIRCUIT BREAKER IN PANEL LP-A LOCATED IN ELECTRICAL ROOM 200 TO SERVE DEWATERING FACILITY PANEL "DW"




# ELECTRICAL/PLUMBING ENLARGED PLAN

GRAPHIC SCALE
0 10 20 FEET

| PROJECT NO:1060-34-73 | HWY:USH 45 | COUNTY:MILWAUKEE | DEWATERING FACILITY ELECTRIC & PLUMBING | SHEET | E |
|---|---|---|---|---|---|

DATE 29JAN15 E S T I M A T E O F Q U A N T I T I E S

LINE 1060-34-73

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1060-34-73 QUANTITY |
|---|---|---|---|---|---|
| 0010 | 108.4400 | CPM Progress Schedule | EACH | 1.000 | 1.000 |
| 0020 | 201.0105 | Clearing | STA | 10.000 | 10.000 |
| 0030 | 201.0205 | Grubbing | STA | 10.000 | 10.000 |
| 0040 | 204.0100 | Removing Pavement **P** | SY | 1,580.000 | 1,580.000 |
| 0050 | 204.0110 | Removing Asphaltic Surface **P** | SY | 28,165.000 | 28,165.000 |
| 0060 | 204.0150 | Removing Curb & Gutter **P** | LF | 1,380.000 | 1,380.000 |
| 0070 | 204.0155 | Removing Concrete Sidewalk **P** | SY | 3,865.000 | 3,865.000 |
| 0080 | 204.0170 | Removing Fence **P** | LF | 3,429.000 | 3,429.000 |
| 0090 | 204.0175 | Removing Concrete Slope Paving | SY | 416.000 | 416.000 |
| 0100 | 204.0195 | Removing Concrete Bases | EACH | 12.000 | 12.000 |
| 0110 | 204.0210 | Removing Manholes | EACH | 2.000 | 2.000 |
| 0120 | 204.0220 | Removing Inlets | EACH | 10.000 | 10.000 |
| 0130 | 204.0245 | Removing Storm Sewer (size) 0001. 6-Inch **P** | LF | 87.000 | 87.000 |
| 0140 | 204.0245 | Removing Storm Sewer (size) 0002. 8-Inch **P** | LF | 121.000 | 121.000 |
| 0150 | 204.0245 | Removing Storm Sewer (size) 0003. 10-Inch **P** | LF | 97.000 | 97.000 |
| 0160 | 204.0245 | Removing Storm Sewer (size) 0004. 12-Inch **P** | LF | 700.000 | 700.000 |
| 0170 | 204.0245 | Removing Storm Sewer (size) 0005. 18-Inch **P** | LF | 27.000 | 27.000 |
| 0180 | 204.0245 | Removing Storm Sewer (size) 0006. 24-Inch **P** | LF | 803.000 | 803.000 |
| 0190 | 204.0245 | Removing Storm Sewer (size) 0007. 30-Inch **P** | LF | 238.000 | 238.000 |
| 0200 | 204.0280 | Sealing Pipes | EACH | 4.000 | 4.000 |
| 0210 | 205.0100 | Excavation Common | CY | 71,711.000 | 71,711.000 |
| 0220 | 213.0100 | Finishing Roadway (project) 0001. 1060-34-73 | EACH | 1.000 | 1.000 |
| 0230 | 305.0120 | Base Aggregate Dense 1 1/4-Inch **P** | TON | 26,593.000 | 26,593.000 |
| 0240 | 415.0080 | Concrete Pavement 8-Inch **P** | SY | 15,601.000 | 15,601.000 |
| 0250 | 455.0105 | Asphaltic Material PG58-28 | TON | 659.000 | 659.000 |
| 0260 | 455.0605 | Tack Coat | GAL | 4,812.000 | 4,812.000 |
| 0270 | 460.1101 | HMA Pavement Type E-1 | TON | 11,980.000 | 11,980.000 |
| 0280 | 460.2000 | Incentive Density HMA Pavement | DOL | 7,660.000 | 7,660.000 |
| 0290 | 520.8000 | Concrete Collars for Pipe | EACH | 12.000 | 12.000 |
| 0300 | 601.0319 | Concrete Curb & Gutter 19-Inch **P** | LF | 799.000 | 799.000 |
| 0310 | 601.0331 | Concrete Curb & Gutter 31-Inch **P** | LF | 5,241.000 | 5,241.000 |
| 0320 | 601.0600 | Concrete Curb Pedestrian | LF | 42.000 | 42.000 |
| 0330 | 602.0410 | Concrete Sidewalk 5-Inch **P** | SF | 5,982.000 | 5,982.000 |
| 0340 | 602.0515 | Curb Ramp Detectable Warning Field Natural Patina | SF | 64.000 | 64.000 |
| 0350 | 608.0236 | Storm Sewer Pipe Reinforced Concrete Class II 36-Inch | LF | 333.000 | 333.000 |
| 0360 | 608.0312 | Storm Sewer Pipe Reinforced Concrete Class III 12-Inch | LF | 604.000 | 604.000 |
| 0370 | 608.0315 | Storm Sewer Pipe Reinforced Concrete Class III 15-Inch | LF | 223.000 | 223.000 |
| 0380 | 608.0318 | Storm Sewer Pipe Reinforced Concrete Class III 18-Inch | LF | 252.000 | 252.000 |
| 0390 | 608.0324 | Storm Sewer Pipe Reinforced Concrete Class III 24-Inch | LF | 933.000 | 933.000 |
| 0400 | 608.0336 | Storm Sewer Pipe Reinforced Concrete Class III 36-Inch | LF | 244.000 | 244.000 |

3

DATE 29JAN15 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1060-34-73 QUANTITY |
|---|---|---|---|---|---|
| 0410 | 608.0412 | Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch | LF | 619.000 | 619.000 |
| 0420 | 608.0415 | Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch | LF | 498.000 | 498.000 |
| 0430 | 608.0418 | Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch | LF | 287.000 | 287.000 |
| 0440 | 608.0436 | Storm Sewer Pipe Reinforced Concrete Class IV 36-Inch | LF | 123.000 | 123.000 |
| 0450 | 611.0420 | Reconstructing Manholes | EACH | 1.000 | 1.000 |
| 0460 | 611.0545 | Manhole Covers Type L | EACH | 8.000 | 8.000 |
| 0470 | 611.0612 | Inlet Covers Type C | EACH | 15.000 | 15.000 |
| 0480 | 611.0630 | Inlet Covers Type HM-GJ | EACH | 4.000 | 4.000 |
| 0490 | 611.1004 | Catch Basins 4-FT Diameter | EACH | 1.000 | 1.000 |
| 0500 | 611.1005 | Catch Basins 5-FT Diameter | EACH | 1.000 | 1.000 |
| 0510 | 611.2003 | Manholes 3-FT Diameter | EACH | 3.000 | 3.000 |
| 0520 | 611.2004 | Manholes 4-FT Diameter | EACH | 1.000 | 1.000 |
| 0530 | 611.2005 | Manholes 5-FT Diameter | EACH | 18.000 | 18.000 |
| 0540 | 611.2006 | Manholes 6-FT Diameter | EACH | 1.000 | 1.000 |
| 0550 | 611.2007 | Manholes 7-FT Diameter | EACH | 1.000 | 1.000 |
| 0560 | 611.3003 | Inlets 3-FT Diameter | EACH | 20.000 | 20.000 |
| 0570 | 611.3004 | Inlets 4-FT Diameter | EACH | 14.000 | 14.000 |
| 0580 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 150.000 | 150.000 |
| 0590 | 616.0206 | Fence Chain Link 6-FT | LF | 2,001.000 | 2,001.000 |
| 0600 | 616.0329 | Gates Chain Link (width) 0001. 40 Feet | EACH | 4.000 | 4.000 |
| 0610 | 616.0329 | Gates Chain Link (width) 0002. 50 Feet | EACH | 1.000 | 1.000 |
| 0620 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0630 | 623.0200 | Dust Control Surface Treatment | SY | 63,605.000 | 63,605.000 |
| 0640 | 624.0100 | Water | MGAL | 170.000 | 170.000 |
| 0650 | 628.1504 | Silt Fence | LF | 1,946.000 | 1,946.000 |
| 0660 | 628.1520 | Silt Fence Maintenance | LF | 1,946.000 | 1,946.000 |
| 0670 | 628.1905 | Mobilizations Erosion Control | EACH | 8.000 | 8.000 |
| 0680 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 8.000 | 8.000 |
| 0690 | 628.2004 | Erosion Mat Class I Type B | SY | 9,421.000 | 9,421.000 |
| 0700 | 628.2023 | Erosion Mat Class II Type B | SY | 2,178.000 | 2,178.000 |
| 0710 | 628.7005 | Inlet Protection Type A | EACH | 53.000 | 53.000 |
| 0720 | 628.7010 | Inlet Protection Type B | EACH | 21.000 | 21.000 |
| 0730 | 628.7015 | Inlet Protection Type C | EACH | 45.000 | 45.000 |
| 0740 | 628.7560 | Tracking Pads | EACH | 4.000 | 4.000 |
| 0750 | 629.0210 | Fertilizer Type B | CWT | 15.000 | 15.000 |
| 0760 | 630.0200 | Seeding Temporary | LB | 320.000 | 320.000 |
| 0770 | 632.0101 | Trees (species) (size) (root) 0001. Bur Oak B&B 3-Inch Cal | EACH | 18.000 | 18.000 |
| 0780 | 632.0101 | Trees (species) (size) (root) 0002. Common Hackberry B&B 3-Inch Cal | EACH | 6.000 | 6.000 |
| 0790 | 632.0101 | Trees (species) (size) (root) 0003. Celebration Maple 3-Inch Cal | EACH | 21.000 | 21.000 |
| 0800 | 632.0101 | Trees (species) (size) (root) 0004. Expresso Coffeetree B&B 3-Inch Cal | EACH | 36.000 | 36.000 |
| 0810 | 632.0101 | Trees (species) (size) (root) 0005. London Plane Tree B&B 3-Inch Cal | EACH | 12.000 | 12.000 |
| 0820 | 632.0101 | Trees (species) (size) (root) 0006. Sugar Maple B&B 3-Inch Cal | EACH | 3.000 | 3.000 |
| 0830 | 632.0101 | Trees (species) (size) (root) 0007. Swamp White Oak B&B 3-Inch Cal | EACH | 13.000 | 13.000 |
| 0840 | 632.0101 | Trees (species) (size) (root) 0008. Valley Forge Elm B&B 3-Inch Cal | EACH | 9.000 | 9.000 |

3

DATE 29JAN15 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1060-34-73 QUANTITY |
|---|---|---|---|---|---|
| 0850 | 632.0101 | Trees (species) (size) (root) 0009. Adirondak Crabapple B&B 3-Inch Cal | EACH | 6.000 | 6.000 |
| 0860 | 632.0101 | Trees (species) (size) (root) 0011. Corneliancherry Dogwood: Tree Form B&B 3-Inch Cal | EACH | 8.000 | 8.000 |
| 0870 | 632.0101 | Trees (species) (size) (root) 0013. Robin Hill Serviceberry: Multi-Stem B&B 3-Inch Cal | EACH | 26.000 | 26.000 |
| 0880 | 632.0101 | Trees (species) (size) (root) 0014. Winter King Hawthorn B&B 3-Inch Cal | EACH | 14.000 | 14.000 |
| 0890 | 632.0101 | Trees (species) (size) (root) 0015. Black Hill Spruce B&B 60-Inch Ht | EACH | 18.000 | 18.000 |
| 0900 | 632.0101 | Trees (species) (size) (root) 0016. Eastern Redcedar B&B 60-Inch Ht | EACH | 40.000 | 40.000 |
| 0910 | 632.0201 | Shrubs (species) (size) (root) 0001. Blue Muffin Arrowwood Viburnum Cont #2 | EACH | 3.000 | 3.000 |
| 0920 | 632.0201 | Shrubs (species) (size) (root) 0002. Dwarf Bush-Honeysuckle Cont #2 | EACH | 9.000 | 9.000 |
| 0930 | 632.0201 | Shrubs (species) (size) (root) 0003. Diablo Ninebark Cont #2 | EACH | 4.000 | 4.000 |
| 0940 | 632.0201 | Shrubs (species) (size) (root) 0004. Glossy Black Chokeberry Cont #2 | EACH | 21.000 | 21.000 |
| 0950 | 632.0201 | Shrubs (species) (size) (root) 0005. Gro-Low Sumac Cont #2 | EACH | 65.000 | 65.000 |
| 0960 | 632.0201 | Shrubs (species) (size) (root) 0006. Indiancurrant Coralberry Cont # 2 | EACH | 85.000 | 85.000 |
| 0970 | 632.0301 | Vines (species) (size) (root) 0001. American Bittersweet Vine Cont # 2 | EACH | 43.000 | 43.000 |
| 0980 | 632.0301 | Vines (species) (size) (root) 0002. Limber Honeysuckle Cont # 2 | EACH | 45.000 | 45.000 |
| 0990 | 632.9101 | Landscape Planting Surveillance and Care Cycles | EACH | 24.000 | 24.000 |
| 1000 | 634.0616 | Posts Wood 4x6-Inch X 16-FT | EACH | 32.000 | 32.000 |
| 1010 | 634.0816 | Posts Tubular Steel 2x2-Inch X 16-FT | EACH | 23.000 | 23.000 |
| 1020 | 635.0200 | Sign Supports Structural Steel HS | LB | 2,000.000 | 2,000.000 |
| 1030 | 636.0100 | Sign Supports Concrete Masonry | CY | 3.000 | 3.000 |
| 1040 | 636.0500 | Sign Supports Steel Reinforcement | LB | 196.000 | 196.000 |
| 1050 | 637.1220 | Signs Type I Reflective SH | SF | 289.000 | 289.000 |
| 1060 | 637.2210 | Signs Type II Reflective H | SF | 297.640 | 297.640 |
| 1070 | 638.2102 | Moving Signs Type II | EACH | 4.000 | 4.000 |
| 1080 | 638.2602 | Removing Signs Type II | EACH | 12.000 | 12.000 |
| 1090 | 638.3000 | Removing Small Sign Supports | EACH | 9.000 | 9.000 |
| 1100 | 646.0106 | Pavement Marking Epoxy 4-Inch | LF | 12,383.000 | 12,383.000 |
| 1110 | 646.0126 | Pavement Marking Epoxy 8-Inch | LF | 74.000 | 74.000 |
| 1120 | 647.0156 | Pavement Marking Arrows Epoxy Type 1 | EACH | 10.000 | 10.000 |
| 1130 | 647.0256 | Pavement Marking Symbols Epoxy | EACH | 15.000 | 15.000 |
| 1140 | 647.0566 | Pavement Marking Stop Line Epoxy 18-Inch | LF | 87.000 | 87.000 |
| 1150 | 647.0726 | Pavement Marking Diagonal Epoxy 12-Inch | LF | 230.000 | 230.000 |
| 1160 | 647.0766 | Pavement Marking Crosswalk Epoxy 6-Inch | LF | 195.000 | 195.000 |
| 1170 | 652.0145 | Conduit Rigid Metallic 4-Inch | LF | 125.000 | 125.000 |
| 1180 | 652.0225 | Conduit Rigid Nonmetallic Schedule 40 2-Inch | LF | 7,513.000 | 7,513.000 |
| 1190 | 652.0235 | Conduit Rigid Nonmetallic Schedule 40 3-Inch | LF | 230.000 | 230.000 |
| 1200 | 652.0240 | Conduit Rigid Nonmetallic Schedule 40 4-Inch | LF | 920.000 | 920.000 |

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DATE 29JAN15 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1060-34-73 QUANTITY |
|---|---|---|---|---|---|
| 1210 | 652.0325 | Conduit Rigid Nonmetallic Schedule 80 2-Inch | LF | 710.000 | 710.000 |
| 1220 | 652.0340 | Conduit Rigid Nonmetallic Schedule 80 4-Inch | LF | 86.000 | 86.000 |
| 1230 | 653.0135 | Pull Boxes Steel 24x36-Inch | EACH | 17.000 | 17.000 |
| 1240 | 654.0105 | Concrete Bases Type 5 | EACH | 25.000 | 25.000 |
| 1250 | 654.0108 | Concrete Bases Type 8 | EACH | 12.000 | 12.000 |
| 1260 | 654.0230 | Concrete Control Cabinet Bases Type L30 | EACH | 1.000 | 1.000 |
| 1270 | 655.0610 | Electrical Wire Lighting 12 AWG | LF | 10,791.000 | 10,791.000 |
| 1280 | 655.0620 | Electrical Wire Lighting 8 AWG | LF | 7,991.000 | 7,991.000 |
| 1290 | 655.0625 | Electrical Wire Lighting 6 AWG | LF | 23,836.000 | 23,836.000 |
| 1300 | 656.0400 | Electrical Service Main Lugs Only Meter Pedestal (location) 0001. N: 302250.842, E: 570148.891 | LS | 1.000 | 1.000 |
| 1310 | 656.0400 | Electrical Service Main Lugs Only Meter Pedestal (location) 0002. Salt Brine Building Room 301 | LS | 1.000 | 1.000 |
| 1320 | 657.0210 | Transformer Bases Breakaway 15-17 Inch Bolt Circle | EACH | 12.000 | 12.000 |
| 1330 | 657.0255 | Transformer Bases Breakaway 11 1/2-Inch Bolt Circle | EACH | 25.000 | 25.000 |
| 1340 | 657.0322 | Poles Type 5-Aluminum | EACH | 25.000 | 25.000 |
| 1350 | 657.0375 | Poles Type A | EACH | 12.000 | 12.000 |
| 1360 | 657.0610 | Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT | EACH | 35.000 | 35.000 |
| 1370 | 657.0620 | Luminaire Arms Single Member 6-Inch Clamp 4-FT | EACH | 13.000 | 13.000 |
| 1380 | 659.0802 | Plaques Sequence Identification | EACH | 49.000 | 49.000 |
| 1390 | 659.1120 | Luminaires Utility LED B | EACH | 35.000 | 35.000 |
| 1400 | 659.1130 | Luminaires Utility LED D | EACH | 13.000 | 13.000 |
| 1410 | 659.2230 | Lighting Control Cabinets 240/480 30-Inch | EACH | 1.000 | 1.000 |
| 1420 | 690.0150 | Sawing Asphalt | LF | 716.000 | 716.000 |
| 1430 | 690.0250 | Sawing Concrete | LF | 198.000 | 198.000 |
| 1440 | 715.0415 | Incentive Strength Concrete Pavement | DOL | 1,038.000 | 1,038.000 |
| 1450 | SPV.0035 | Special 0100. Ebs Excavation | CY | 200.000 | 200.000 |
| 1460 | SPV.0035 | Special 0101. Ebs Backfill | CY | 200.000 | 200.000 |
| 1470 | SPV.0060 | Special 0001. Inlet Covers Type 57 | EACH | 27.000 | 27.000 |
| 1480 | SPV.0060 | Special 0002. Inlet Covers Type R Special | EACH | 8.000 | 8.000 |
| 1490 | SPV.0060 | Special 0004. Removing Sanitary Manholes | EACH | 2.000 | 2.000 |
| 1500 | SPV.0060 | Special 0005. Reconstructing Sanitary Manholes | EACH | 4.000 | 4.000 |
| 1510 | SPV.0060 | Special 0006. Adjusting Sanitary Manholes | EACH | 2.000 | 2.000 |
| 1520 | SPV.0060 | Special 0007. Connecting Sanitary Lateral 6-Inch | EACH | 1.000 | 1.000 |
| 1530 | SPV.0060 | Special 0010. Removing Existing Foundation | EACH | 24.000 | 24.000 |
| 1540 | SPV.0060 | Special 0011. Installing County Furnished Keypad | EACH | 3.000 | 3.000 |
| 1550 | SPV.0060 | Special 0019. Parking Lot Bollard | EACH | 110.000 | 110.000 |
| 1560 | SPV.0060 | Special 0020. Mayfair Pond Outlet Storm Sewer Structure Reconstruction | EACH | 1.000 | 1.000 |
| 1570 | SPV.0060 | Special 0021. Removing And Stockpiling Light Poles, Arms & Luminaires | EACH | 12.000 | 12.000 |
| 1580 | SPV.0060 | Special 0101. Conveyor | EACH | 1.000 | 1.000 |

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DATE 29JAN15 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1060-34-73 QUANTITY |
|---|---|---|---|---|---|
| 1590 | SPV.0060 | Special 0102. Installing State Furnished Bike Rack | EACH | 4.000 | 4.000 |
| 1600 | SPV.0060 | Special 7001. Gabion Pillars | EACH | 19.000 | 19.000 |
| 1610 | SPV.0060 | Special 7101. Hydrant Assembly | EACH | 2.000 | 2.000 |
| 1620 | SPV.0060 | Special 7102. Butterfly Valve, 12-Inch | EACH | 1.000 | 1.000 |
| 1630 | SPV.0060 | Special 7103. Resilient Wedge Gate Valve 8-Inch | EACH | 1.000 | 1.000 |
| 1640 | SPV.0060 | Special 7104. Resilient Wedge Gate Valve 6-Inch | EACH | 1.000 | 1.000 |
| 1650 | SPV.0060 | Special 7105. Cut And Cap Water Main | EACH | 4.000 | 4.000 |
| 1660 | SPV.0060 | Special 7106. Removing Hydrant | EACH | 1.000 | 1.000 |
| 1670 | SPV.0060 | Special 7107. Hydrant Assembly Relocation | EACH | 2.000 | 2.000 |
| 1680 | SPV.0060 | Special 7108. Air Release Valve 2-Inch | EACH | 1.000 | 1.000 |
| 1690 | SPV.0060 | Special 7109. Abandon Valve Boxes | EACH | 1.000 | 1.000 |
| 1700 | SPV.0060 | Special 7110. Adjusting Valve Boxes | EACH | 11.000 | 11.000 |
| 1710 | SPV.0060 | Special 7111. Adjusting Hydrant | EACH | 1.000 | 1.000 |
| 1720 | SPV.0060 | Special 7112. Removing Water Valve | EACH | 2.000 | 2.000 |
| 1730 | SPV.0085 | Special 7001. No Mow Fescue Grass Seed | LB | 800.000 | 800.000 |
| 1740 | SPV.0090 | Special 0001. Concrete Curb & Gutter 6-Inch Sloped 31-Inch | LF | 1,384.000 | 1,384.000 |
| 1750 | SPV.0090 | Special 0002. Removing Sanitary Sewer | LF | 230.000 | 230.000 |
| 1760 | SPV.0090 | Special 0009. Storm Sewer Corrugated High Density Polyethylene (Hdpe) 12-Inch | LF | 366.000 | 366.000 |
| 1770 | SPV.0090 | Special 0011. Storm Sewer Pvc Sdr 35 6-Inch | LF | 357.000 | 357.000 |
| 1780 | SPV.0090 | Special 0012. Storm Sewer Pvc Sdr 35 8-Inch | LF | 347.000 | 347.000 |
| 1790 | SPV.0090 | Special 0013. Storm Sewer Pvc Sdr 35 10-Inch | LF | 276.000 | 276.000 |
| 1800 | SPV.0090 | Special 1035. Electrical Wiring Lighting 500 Kcmil | LF | 3,792.000 | 3,792.000 |
| 1810 | SPV.0090 | Special 7001. Poly Edging Material | LF | 1,285.000 | 1,285.000 |
| 1820 | SPV.0090 | Special 7002. Decorative Steel Fence | LF | 181.000 | 181.000 |
| 1830 | SPV.0090 | Special 7003. Green Screen Fence | LF | 352.000 | 352.000 |
| 1840 | SPV.0090 | Special 7101. Ductile Iron (Di) Class 55 Water Main 12-Inch | LF | 479.000 | 479.000 |
| 1850 | SPV.0090 | Special 7102. Ductile Iron (Di) Class 55 Water Main 8-Inch | LF | 185.000 | 185.000 |
| 1860 | SPV.0090 | Special 7103. Copper Water Service 2-Inch | LF | 214.000 | 214.000 |
| 1870 | SPV.0105 | Special 0001. Survey Project 1060-34-73 | LS | 1.000 | 1.000 |
| 1880 | SPV.0105 | Special 0002. Pavement Cleanup Project 1060-34-73 | LS | 1.000 | 1.000 |
| 1890 | SPV.0105 | Special 0003. Moving Salt | LS | 1.000 | 1.000 |
| 1900 | SPV.0105 | Special 0004. Moving State-Owned Materials | LS | 1.000 | 1.000 |
| 1910 | SPV.0105 | Special 0005. Static Scale System | LS | 1.000 | 1.000 |
| 1920 | SPV.0105 | Special 0006. Removing Former Sheriffs Building Structure | LS | 1.000 | 1.000 |
| 1930 | SPV.0105 | Special 0101. Salt Dome | LS | 1.000 | 1.000 |
| 1940 | SPV.0105 | Special 0102. Storage Building 1 | LS | 1.000 | 1.000 |
| 1950 | SPV.0105 | Special 0103. Storage Building 2 | LS | 1.000 | 1.000 |
| 1960 | SPV.0105 | Special 0104. Salt Brine Building | LS | 1.000 | 1.000 |
| 1970 | SPV.0105 | Special 0105. Bins | LS | 1.000 | 1.000 |
| 1980 | SPV.0105 | Special 0106. Dewatering Catch Basin | LS | 1.000 | 1.000 |

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DATE 29JAN15 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1060-34-73 QUANTITY |
|---|---|---|---|---|---|
| 1990 | SPV.0105 | Special 1025. Common Electrical Work Storage Building 1 | LS | 1.000 | 1.000 |
| 2000 | SPV.0105 | Special 1026. Common Electrical Work Storage Building 2 | LS | 1.000 | 1.000 |
| 2010 | SPV.0105 | Special 1027. Common Electrical Work Salt Brine Building | LS | 1.000 | 1.000 |
| 2020 | SPV.0180 | Special 0001. Insulation Board Polystyrene, 4-Inch | SY | 515.000 | 515.000 |
| 2030 | SPV.0180 | Special 0007. Topsoil Special | SY | 23,500.000 | 23,500.000 |
| 2040 | SPV.0195 | Special 0001. Management Of Solid Waste | TON | 5,690.000 | 5,690.000 |
| 2050 | SPV.0195 | Special 7001. River Stone | TON | 40.000 | 40.000 |

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## CLEARING AND GRUBBING ITEMS

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 201.0105 CLEARING STA | 201.0205 GRUBBING STA |
|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | | |
| | | 1PR+00 | | 2PR+00 | RT | 1 | 1 |
| | | 2PR+00 | | 6PR+00 | LT | 4 | 4 |
| 1000 | DPW SITE | | | | | | |
| | | 53ESR+00 | | 55ESR+00 | RT | 2 | 2 |
| | | 21NSR+00 | | 22NSR+00 | LT | 1 | 1 |
| | | 23NSR+00 | | 24NSR+00 | LT | 1 | 1 |
| | | 27NSR+00 | | 28NSR+00 | LT | 1 | 1 |
| | TOTALS | | | | | 10 | 10 |

## REMOVING PAVEMENT

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 204.0100 REMOVING PAVEMENT SY | COMMENT |
|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | | |
| | | 7PR+24 | | 7PR+48 | RT | 64 | CONCRETE DRIVEWAY |
| 1000 | DPW SITE | | | | | | |
| | | 51ESR+44 | | 51ESR+77 | RT | 35 | PARKING LOT ISLAND |
| | | 51ESR+89 | | 52ESR+13 | RT | 220 | PARKING LOT ISLAND |
| | | 52ESR+49 | | 54ESR+35 | RT | 201 | PARKING LOT ISLAND |
| | | 52ESR+65 | | 54ESR+23 | RT | 502 | |
| | | 53ESR+35 | | 53ESR+44 | RT/LT | 46 | CONCRETE PATCH |
| | | 54ESR+84 | | 55ESR+25 | RT | 47 | PARKING LOT ISLAND |
| | | 55ESR+43 | | 55ESR+73 | RT | 207 | PARKING LOT ISLAND |
| | | 20NSR+95 | | 21NSR+83 | RT/LT | 221 | |
| | | 21NSR+41 | | 21NSR+65 | RT | 13 | WATER MAIN PATCH |
| | | 22NSR+42 | | 22NSR+48 | RT | 16 | WATER MAIN PATCH |
| | | 26NSR+90 | | 26NSR+97 | LT | 8 | CONCRETE PATCH |
| | TOTAL | | | | | 1,580 | |

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## REMOVING ASPHALTIC SURFACE

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 204.0110 REMOVING ASPHALTIC SURFACE SY | COMMENT |
|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | | |
| | | 1PR+58 | | 2PR+81 | RT | 184 | |
| | | 3PR+06 | | 6PR+86 | RT/LT | 7,525 | |
| 1000 | DPW SITE | | | | | | |
| | | 20NSR+92 | | 21NSR+41 | RT | 26 | WATER MAIN PATCH |
| | | 21NSR+65 | | 22NSR+48 | RT | 75 | WATER MAIN PATCH |
| | | 26NSR+46 | | 26NSR+77 | RT | 37 | PATCH (E. NORTH SERVICE RD) |
| | | 23NSR+71 | | 30NSR+16 | RT/LT | 19,790 | EAST SIDE |
| | | 23NSR+34 | | 24NSR+02 | LT | 71 | EXISTING ENTRANCE |
| | SWAN BOULEVARD | | | | | | |
| | | 167BV+18 | | 167BV+92 | RT | 457 | |
| | TOTAL | | | | | 28,165 | |

## REMOVING CURB & GUTTER

| CATEGORY | ROADWAY | FROM STATION | FROM OFFSET | TO STATION | TO OFFSET | 204.0150 REMOVING CURB & GUTTER LF |
|---|---|---|---|---|---|---|
| 1000 | DPW SITE | 51ESR+03 | 169' RT | 51ESR+07 | 186' RT | 18 |
| | | 51ESR+03 | 42' RT | 51ESR+11 | 38' RT | 8 |
| | | 51ESR+23 | 2' RT | 52ESR+00 | 55' RT | 134 |
| | | 52ESR+65 | 53' RT | 54ESR+24 | 49' RT | 674 |
| | | 54ESR+02 | 244' RT | 54ESR+38 | 236' RT | 37 |
| | | 21NSR+83 | 0' | 26NSR+91 | 0' | 509 |
| | TOTAL | | | | | 1,380 |

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## REMOVING CONCRETE SIDEWALK

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 204.0155 REMOVING CONCRETE SIDEWALK SF |
|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | |
| | | 7PR+35 | | 7PR+41 | RT | 419 |
| 1000 | DPW SITE | | | | | |
| | | 53ESR+49 | | 54ESR+40 | RT | 3,290 |
| | | 53ESR+53 | | 53ESR+58 | RT | 63 |
| | | 53ESR+81 | | 53ESR+88 | RT | 93 |
| | TOTAL | | | | | 3,865 |

## REMOVING CONCRETE SLOPE PAVING

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 204.0175 REMOVING CONCRETE SLOPE PAVING SY |
|---|---|---|---|---|---|---|
| 1000 | DPW SITE | | | | | |
| | | 21NSR+67 | | 23NSR+48 | LT | 416 |
| | TOTAL | | | | | 416 |

## REMOVING MANHOLES

| CATEGORY | ROADWAY | STATION | OFFSET | 204.0210 REMOVING MANHOLES EACH |
|---|---|---|---|---|
| 1000 | DPW SITE | | | |
| | | 53ESR+21 | 16' RT | 1 |
| | | 27NSR+07 | 29' LT | 1 |
| | TOTAL | | | 2 |

## REMOVING INLETS

| CATEGORY | ROADWAY | STATION | OFFSET | 204.0220 REMOVING INLETS EACH |
|---|---|---|---|---|
| 1000 | DPW SITE | | | |
| | | 51ESR+92 | 0' | 1 |
| | | 51ESR+92 | 18' RT | 1 |
| | | 54ESR+39 | 2' RT | 1 |
| | | 54ESR+96 | 18' RT | 1 |
| | | 21NSR+48 | 8' RT | 1 |
| | | 25NSR+72 | 456' LT | 1 |
| | | 26NSR+06 | 255' LT | 1 |
| | | 26NSR+61 | 448' LT | 1 |
| | | 26NSR+94 | 206' LT | 1 |
| | | 27NSR+57 | 27' LT | 1 |
| | TOTAL | | | 10 |

## REMOVING FENCE

| CATEGORY | ROADWAY | FROM STATION | FROM OFFSET | TO STATION | TO OFFSET | 204.0170 REMOVING FENCE LF |
|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | |
| | | 1PR+33 | 112' RT | 4PR+87 | 120' RT | 357 |
| | | 1PR+34 | 109' RT | 2PR+34 | 26' LT | 189 |
| | | 2PR+35 | 26' LT | 6PR+07 | 172' LT | 405 |
| | | 4PR+95 | 21' RT | 7PR+13 | 52' RT | 336 |
| | | 5PR+05 | 126' RT | 5PR+45 | 38' LT | 169 |
| | | 6PR+03 | 169' LT | 7PR+14 | 43' RT | 261 |
| 1000 | DPW SITE | | | | | |
| | | 51ESR+48 | 232' RT | 51ESR+73 | 232' RT | 26 |
| | | 51ESR+93 | 232' RT | 52ESR+08 | 214' RT | 33 |
| | | 52ESR+06 | 47' RT | 52ESR+07 | 18' RT | 29 |
| | | 52ESR+54 | 235' RT | 53ESR+29 | 235' RT | 75 |
| | | 53ESR+32 | 235' RT | 54ESR+04 | 235' RT | 72 |
| | | 54ESR+88 | 58' RT | 55ESR+21 | 59' RT | 33 |
| | | 55ESR+48 | 59' RT | 55ESR+68 | 196' RT | 156 |
| | | 56ESR+45 | 11' RT | 57ESR+60 | 11' RT | 124 |
| | | 20NSR+95 | 47' RT | 20NSR+95 | 67' RT | 20 |
| | | 20NSR+95 | 14' LT | 21NSR+69 | 25' LT | 131 |
| | | 24NSR+19 | 35' LT | 24NSR+29 | 6' RT | 46 |
| | | 26NSR+44 | 14' RT | 26NSR+57 | 90' RT | 80 |
| | | 26NSR+46 | 7' RT | 26NSR+57 | 36' LT | 47 |
| | | 27NSR+52 | 8' RT | 27NSR+53 | 140' RT | 840 |
| | TOTAL | | | | | 3,429 |

## REMOVING LIGHT POLES

| CATEGORY | ROADWAY | STATION | OFFSET | 204.0195 REMOVING CONCRETE BASES EACH | SPV.0060.0021 REMOVING AND STOCKPILING LIGHT POLES ARMS & LUMINAIRES EACH |
|---|---|---|---|---|---|
| 1100 | PARK & RIDE | | | | |
| | | 5PR+29 | 118' RT | 1 | 1 |
| | | 5PR+53 | 6' RT | 1 | 1 |
| | DPW SITE | | | | |
| | | 51ESR+17 | 22' RT | 1 | 1 |
| | | 51ESR+58 | 91' RT | 1 | 1 |
| | | 51ESR+58 | 232' RT | 1 | 1 |
| | | 52ESR+48 | 20' RT | 1 | 1 |
| | | 53ESR+30 | 235' RT | 1 | 1 |
| | | 54ESR+39 | 18' RT | 1 | 1 |
| | | 55ESR+05 | 102' RT | 1 | 1 |
| | | 55ESR+75 | 186' RT | 1 | 1 |
| | | 55ESR+99 | 17' RT | 1 | 1 |
| | | 56ESR+87 | 79' RT | 1 | 1 |
| | TOTAL | | | 12 | 12 |

## SAWING

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 690.0150 SAWING ASPHALT LF | 690.0250 SAWING CONCRETE LF |
|---|---|---|---|---|---|---|---|
| 1000 | DPW SITE | | | | | | |
| | | 54ESR+08 | | 54ESR+24 | LT | 16 | -- |
| | | 54ESR+70 | | 54ESR+98 | LT | 28 | -- |
| | | 55ESR+37 | | 55ESR+65 | LT | 29 | -- |
| | | 56ESR+08 | | 56ESR+30 | LT | 22 | -- |
| | | 56ESR+78 | | 57ESR+51 | LT | 84 | -- |
| | | 20NSR+92 | | 21NSR+41 | RT | 95 | -- |
| | | 20NSR+95 | | 21NSR+67 | RT | -- | 84 |
| | | 21NSR+41 | | 21NSR+65 | RT | -- | 48 |
| | | 21NSR+65 | | 22NSR+48 | RT | 245 | -- |
| | | 21NSR+83 | | 21NSR+83 | RT | -- | 22 |
| | | 22NSR+42 | | 22NSR+48 | RT | -- | 44 |
| | | 26NSR+15 | | 26NSR+95 | RT | 80 | -- |
| | SWAN BOULEVARD | | | | | | |
| | | 167BV+92 | | 167BV+92 | RT | 54 | -- |
| | | 170BV+10 | | 170BV+12 | RT | 63 | -- |
| | TOTAL | | | | | 716 | 198 |

## REMOVING STORM SEWER

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 204.0245.0001 REMOVING STORM SEWER 6-INCH LF | 204.0245.0002 REMOVING STORM SEWER 8-INCH LF | 204.0245.0003 REMOVING STORM SEWER 10-INCH LF | 204.0245.0004 REMOVING STORM SEWER 12-INCH LF | 204.0245.0005 REMOVING STORM SEWER 18-INCH LF | 204.0245.0006 REMOVING STORM SEWER 24-INCH LF | 204.0245.0007 REMOVING STORM SEWER 30-INCH LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | DPW SITE | | | | | | | | | | | |
| | | 50ESR+89 | | 51ESR+92 | RT | -- | -- | -- | -- | -- | 102 | -- |
| | | 51ESR+92 | | 51ESR+92 | RT | -- | -- | -- | 18 | -- | -- | -- |
| | | 51ESR+92 | | 53ESR+21 | RT | -- | -- | -- | -- | -- | 129 | -- |
| | | 53ESR+21 | | 53ESR+21 | RT | -- | 40 | -- | -- | -- | -- | -- |
| | | 53ESR+21 | | 54ESR+39 | RT | -- | -- | -- | -- | -- | 119 | -- |
| | | 54ESR+39 | | 54ESR+96 | RT | -- | -- | -- | -- | -- | 59 | -- |
| | | 21NSR+24 | | 21NSR+48 | RT/LT | -- | -- | -- | -- | 27 | -- | -- |
| | | 23NSR+71 | | 25NSR+72 | LT | -- | -- | -- | -- | -- | -- | 204 |
| | | 23NSR+79 | | 24NSR+04 | LT | -- | -- | -- | 419 | -- | -- | -- |
| | | 25NSR+72 | | 26NSR+61 | LT | -- | -- | -- | -- | -- | 85 | -- |
| | | 25NSR+90 | | 25NSR+96 | LT | 6 | -- | -- | -- | -- | -- | -- |
| | | 25NSR+96 | | 25NSR+96 | LT | 81 | -- | -- | -- | -- | -- | -- |
| | | 25NSR+96 | | 25NSR+97 | LT | -- | 81 | -- | -- | -- | -- | -- |
| | | 25NSR+97 | | 26NSR+94 | LT | -- | -- | 97 | -- | -- | -- | -- |
| | | 26NSR+94 | | 27NSR+07 | LT | -- | -- | -- | 178 | -- | -- | -- |
| | | 27NSR+18 | | 27NSR+48 | LT | -- | -- | -- | -- | -- | -- | 34 |
| | | 27NSR+07 | | 27NSR+58 | LT | -- | -- | -- | 50 | -- | -- | -- |
| | | 27NSR+58 | | 27NSR+60 | RT/LT | -- | -- | -- | -- | -- | 309 | -- |
| | | 27NSR+55 | | 27NSR+56 | LT | -- | -- | -- | 35 | -- | -- | -- |
| | TOTAL | | | | | 87 | 121 | 97 | 700 | 27 | 803 | 238 |

## REMOVING EXISTING FOUNDATION

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | SPV.0060.0010 REMOVING EXISTING FOUNDATION EACH |
|---|---|---|---|---|---|---|
| 1000 | DPW SITE | | | | | |
| | | 24NSR+35 | | 26NSR+35 | RT | 24 |
| | TOTAL | | | | | 24 |

3

## BASE AGGREGATE

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON | COMMENTS |
|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | | |
| | | 1PR+31 | | 7PR+48 | RT/LT | 4,911 | |
| | DPW SITE | | | | | | |
| | | 20NSR+92 | | 22NSR+48 | RT | 54 | WATER MAIN PATCH |
| | | 20NSR+95 | | 30NSR+22 | RT/LT | 20,750 | |
| | SWAN BOULEVARD | | | | | | |
| | | 167BV+18 | | 167BV+92 | RT | 203 | |
| | | 170BV+10 | | 173BV+67 | RT | 675 | |
| | TOTAL | | | | | 26,593 | |

FOR INFORMATION ONLY

| AGGREGATE UNIT WEIGHTS USED | |
|---|---|
| Base Aggregate Dense | 2.0 TONS/CY |

## ASPHALTIC ITEMS

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 455.0105 ASPHALTIC MATERIAL PG 58-28 TON | 455.0605 TACK COAT GAL | 460.1101 HMA PAVEMENT TYPE E-1 TON | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | | | | |
| | | 1PR+28 | | 6PR+36 | RT/LT | 114 | 922 | 2,066 | |
| 1000 | DPW SITE | | | | | | | | |
| | | 20NSR+92 | | 22NSR+48 | RT | 1 | 10 | 23 | WATER MAIN PATCH |
| | | 27NSR+42 | | 29NSR+75 | RT/LT | 87 | 708 | 1,586 | FLEET PARKING |
| | | 51ESR+06 | | 54ESR+16 | RT | 103 | 834 | 1,870 | FACILITIES PARKING |
| | | 22NSR+39 | | 23NSR+89 | LT | 30 | 196 | 550 | SALT DOME |
| | | 23NSR+21 | | 28NSR+61 | LT | 299 | 1,944 | 5,443 | MAINTENANCE YARD |
| | SWAN BOULEVARD | | | | | | | | |
| | | 167BV+18 | | 167BV+92 | RT | 6 | 46 | 102 | |
| | | 170BV+10 | | 173BV+67 | RT | 19 | 152 | 340 | |
| | TOTAL | | | | | 659 | 4,812 | 11,980 | |

FOR INFORMATION ONLY

| MATERIAL UNIT WEIGHTS USED | |
|---|---|
| HMA PAVEMENT | 112 LB/(SY*IN) |

## CONCRETE PAVEMENT

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 415.0080 CONCRETE PAVEMENT 8-INCH SY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | | |
| | | 5PR+39 | | 7PR+48 | RT/LT | 2,432 | BUS TURNAROUND |
| 1000 | DPW SITE | | | | | | |
| | | 21NSR+41 | | 22NSR+48 | RT | 29 | WATER MAIN PATCH |
| | | 20NSR+95 | | 28NSR+01 | RT/LT | 13,140 | |
| | TOTAL | | | | | 15,601 | |

## CONCRETE SIDEWALK

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 602.0410 CONCRETE SIDEWALK 5-INCH SF |
|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | |
| | | 5PR+06 | | 5PR+37 | RT/LT | 2,212 |
| | | 5PR+14 | | 6PR+01 | LT | 2,149 |
| | | 5PR+64 | | 5PR+91 | LT | 178 |
| | | 7PR+33 | | 7PR+42 | RT | 60 |
| | | 7PR+33 | | 7PR+42 | RT | 111 |
| | | 54ESR+00 | | 54ESR+58 | RT | 1,272 |
| | TOTAL | | | | | 5,982 |

## CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA

| CATEGORY | ROADWAY | STATION | OFFSET | 602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF |
|---|---|---|---|---|
| 1000 | PARK & RIDE | | | |
| | | 5PR+18 | 103' LT | 8 |
| | | 5PR+29 | 73' LT | 8 |
| | | 5PR+66 | 63' LT | 8 |
| | | 5PR+89 | 68' LT | 8 |
| | | 7PR+37 | 53' RT | 8 |
| | | 7PR+37 | 117' RT | 16 |
| | | 54ESR+10 | 3' RT | 8 |
| | TOTAL | | | 64 |

3

## CONCRETE CURB & GUTTER

| CATEGORY | ROADWAY | FROM STATION | FROM OFFSET | TO STATION | TO OFFSET | 601.0319 CONCRETE CURB & GUTTER 19-INCH LF | 601.0331 CONCRETE CURB & GUTTER 31-INCH LF | 601.0600 CONCRETE CURB PEDESTRIAN LF | SPV.0090.0001 CONCRETE CURB & GUTTER 6-INCH SLOPED 31-INCH LF | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | | | | | | |
| | | 2PR+98 | 85' RT | 2PR+98 | 85' RT | 95 | -- | -- | -- | ISLAND |
| | | 2PR+99 | 2' RT | 2PR+99 | 2' RT | 107 | -- | -- | -- | ISLAND |
| | | 4PR+22 | 86' RT | 4PR+22 | 86' RT | 95 | -- | -- | -- | ISLAND |
| | | 4PR+23 | 33' LT | 4PR+23 | 33' LT | 110 | -- | -- | -- | ISLAND |
| | | 5PR+05 | 19' RT | 5PR+05 | 19' RT | -- | 281 | -- | 178 | ISLAND |
| | | 5PR+16 | 101' LT | 5PR+30 | 110' LT | -- | -- | 21 | -- | |
| | | 5PR+25 | 73' LT | 5PR+32 | 53' LT | -- | -- | 21 | -- | |
| | | 5PR+47 | 111' LT | 7PR+46 | 32' RT | -- | -- | -- | 417 | |
| | | 5PR+59 | 134' RT | 5PR+47 | 111' LT | -- | 1,043 | -- | -- | |
| | | 5PR+59 | 134' RT | 7PR+46 | 147' RT | -- | -- | -- | 276 | |
| | | 5PR+63 | 5' RT | 5PR+63 | 5' RT | -- | 249 | -- | 250 | ISLAND |
| | | 6PR+38 | 17' RT | 6PR+38 | 17' RT | -- | 257 | -- | 263 | ISLAND |
| | DPW SITE | | | | | | | | | |
| | | 51ESR+04 | 168' RT | 51ESR+06 | 184' RT | -- | 42 | -- | -- | |
| | | 51ESR+04 | 42' RT | 51ESR+19 | 1' RT | -- | 60 | -- | -- | |
| | | 51ESR+68 | 1' RT | 51ESR+68 | 1' RT | 101 | -- | -- | -- | ISLAND |
| | | 52ESR+30 | 1' RT | 52ESR+30 | 1' RT | 101 | -- | -- | -- | ISLAND |
| | | 52ESR+92 | 1' RT | 52ESR+92 | 1' RT | 95 | -- | -- | -- | ISLAND |
| | | 53ESR+54 | 1' RT | 53ESR+54 | 1' RT | 95 | -- | -- | -- | ISLAND |
| | | 54ESR+01 | 244' RT | 54ESR+39 | 236' RT | -- | 587 | -- | -- | |
| | | 56ESR+19 | 0' | 56ESR+19 | 0' | -- | 518 | -- | -- | ISLAND |
| | | 20NSR+95 | 21' RT | 23NSR+21 | 388' LT | -- | 479 | -- | -- | |
| | | 23NSR+06 | 0' | 23NSR+06 | 0' | -- | 655 | -- | -- | ISLAND |
| | | 26NSR+10 | 0' | 26NSR+10 | 0' | -- | 445 | -- | -- | ISLAND |
| | | 27NSR+96 | 121' LT | 28NSR+62 | 156' LT | -- | 112 | -- | -- | |
| | | 27NSR+96 | 58' LT | 29NSR+51 | 220' LT | -- | 513 | -- | -- | |
| TOTAL | | | | | | 799 | 5,241 | 42 | 1,384 | |

3

## EROSION CONTROL ITEMS

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF | 628.1905 MOBILIZATIONS EROSION CONTROL EACH | 628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH | 628.2004 EROSION MAT CLASS I TYPE B SY | 628.2023 EROSION MAT CLASS II TYPE B SY | 630.0200 SEEDING TEMPORARY LB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | 1PR+00 | | 7PR+50 | RT/LT | 1,600 | 1,600 | -- | -- | 5,870 | -- | -- |
| | DPW SITE | 20NSR+97 | | 28NSR+96 | RT/LT | -- | -- | -- | -- | 3,376 | 2,178 | -- |
| | SWAN BOULEVARD | 167BV+18 | | 167BV+92 | RT | 117 | 117 | -- | -- | -- | -- | -- |
| | | 170BV+10 | | 173BV+67 | RT | 229 | 229 | -- | -- | 175 | -- | -- |
| | UNDISTRIBUTED | | | | | -- | -- | 8 | 8 | -- | -- | 320 |
| | TOTAL | | | | | 1,946 | 1,946 | 8 | 8 | 9,421 | 2,178 | 320 |

3

## INLET PROTECTION

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | 628.7005 TYPE A EACH | 628.7010 TYPE B EACH | 628.7015 TYPE C EACH |
|---|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | 1PR+00 | | 7PR+50 | RT/LT | 14 | 3 | 14 |
| | DPW SITE | 51ESR+00 | | 58ESR+00 | RT | 15 | -- | 20 |
| | | 21NSR+00 | | 29NSR+00 | RT/LT | 24 | 14 | 11 |
| | SWAN BOULEVARD | 170BV+00 | | 173BV+00 | RT | -- | 4 | -- |
| | TOTAL | | | | | 53 | 21 | 45 |

## TRACKING PADS

| CATEGORY | LOCATION | STATION | OFFSET | 628.7560 TRACKING PADS EACH |
|---|---|---|---|---|
| 1000 | PARK & RIDE | 7PR+25 | 80' RT | 1 |
| | DPW SITE | 51ESR+00 | 10' LT | 1 |
| | | 21NSR+00 | 40' RT | 1 |
| | | 26NSR+60 | 15' RT | 1 |
| | TOTAL | | | 4 |

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | MISCELLANEOUS QUANTITIES | SHEET: | E |
|---|---|---|---|---|---|

FILE NAME: W:\PDS\C3D\10603473\DSN\PLAN\030201_mq.pptx PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

STORM SEWER STRUCTURES

| CATEGORY | ROADWAY | STR NO. | STATION[1] | OFFSET[1] | RIM OR FLOW ELEV | DEPTH[2] FT | 611.1004 CATCH BASINS 4-FT DIAMETER EACH | 611.1005 CATCH BASINS 5-FT DIAMETER EACH | 611.2003 MANHOLES 3-FT DIAMETER EACH | 611.2004 MANHOLES 4-FT DIAMETER EACH | 611.2005 MANHOLES 5-FT DIAMETER EACH | 611.2006 MANHOLES 6-FT DIAMETER EACH | 611.2007 MANHOLES 7-FT DIAMETER EACH | 611.3003 INLETS 3-FT DIAMETER EACH | 611.3004 INLETS 4-FT DIAMETER EACH | 611.0545 MANHOLE COVERS TYPE L EACH | 611.0612 INLET COVERS TYPE C EACH | 611.0630 INLET COVERS TYPE HM-GJ EACH | SPV.0060.0001 INLET COVERS TYPE 57[3] EACH | SPV.0060.0002 INLET COVERS TYPE R[4] SPECIAL EACH | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | S500 | 6PR+50.59 | 99.8' RT | 740.45 | 4.47 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | -- | -- | |
| | PARK & RIDE | S501 | 6PR+15.95 | 125.9' RT | 739.56 | 4.42 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | -- | -- | |
| | PARK & RIDE | S502 | 5PR+70.66 | 90.9' RT | 739.45 | 4.57 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | S503 | 5PR+60.73 | 79.8' RT | 738.89 | 4.33 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | -- | -- | |
| | PARK & RIDE | S504 | 5PR+38.41 | 91.6' RT | 738.41 | 4.43 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | -- | -- | |
| | PARK & RIDE | S505 | 5PR+25.99 | 123.5' RT | 737.40 | 4.10 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | S506 | 5PR+10.55 | 98.1' LT | 739.76 | 4.00 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | S507 | 4PR+90.34 | 61.7' LT | 739.45 | 4.53 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | S508 | 4PR+90.24 | 88.2' RT | 736.53 | 4.63 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | S509 | 3PR+39.86 | 140.1' RT | 730.67 | 4.54 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | S510 | 1PR+60.86 | 138.7' RT | 727.30 | 4.77 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | S511 | 3PR+06.99 | 55.7' LT | 732.40 | 4.73 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | S512 | 1PR+29.03 | 15.5' LT | 727.61 | 3.60 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | S513 | 1PR+28.10 | 108.5' RT | 726.46 | 5.35 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | |
| | PARK & RIDE | SE710 | 1PR+00.11 | 100.1' RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | DPW SITE | S600 | 24NSR+86.49 | 268.3' LT | 737.68 | 3.38 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | -- | -- | -- | |
| | DPW SITE | S600A | 24NSR+96.49 | 268.3' LT | 737.77 | 3.20 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | -- | -- | -- | |
| | DPW SITE | S600B | 23NSR+22.31 | 294.8' LT | 737.06 | 3.75 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | -- | -- | -- | |
| | DPW SITE | S600C | 23NSR+53.04 | 356.2' LT | 738.88 | 3.96 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | |
| | DPW SITE | S601 | 23NSR+04.86 | 305.9' LT | 736.85 | 3.59 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | -- | -- | -- | |
| | DPW SITE | S601A | 22NSR+66.03 | 313.9' LT | 738.22 | 5.06 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | |
| | DPW SITE | S601AA | 22NSR+48.96 | 283.1' LT | 738.44 | 5.38 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | |
| | DPW SITE | S601B | 21NSR+43.00 | 91.5' LT | 737.58 | 5.18 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | |
| | DPW SITE | S602 | 21NSR+13.60 | 40.4' LT | 737.18 | 4.94 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 4' SUMP |
| | DPW SITE | S603 | 21NSR+82.87 | 2.0' LT | 735.62 | 2.28 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | SE100 | 23NSR+78.83 | 2.0' LT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | REPLACE INLET COVER |
| | DPW SITE | BE203 | 20NSR+86.03 | 20.6' RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | DPW SITE | S700 | 25NSR+61.99 | 543.5' LT | 739.37 | 4.07 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | -- | -- | -- | |
| | DPW SITE | S700A | 24NSR+81.01 | 558.0' LT | 740.05 | 5.25 | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | |
| | DPW SITE | S701 | 23NSR+56.95 | 435.1' LT | 738.48 | 3.30 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | -- | -- | -- | |
| | DPW SITE | S702 | 24NSR+35.53 | 438.9' LT | 738.00 | 4.07 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | -- | -- | -- | |
| | DPW SITE | S702A | 24NSR+43.41 | 432.7' LT | 738.10 | 4.32 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | -- | -- | -- | |
| | DPW SITE | S702B | 25NSR+05.21 | 384.3' LT | 738.10 | 5.38 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | -- | -- | -- | |
| | DPW SITE | S702C | 24NSR+78.66 | 349.2' LT | 738.90 | 4.27 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | |
| | DPW SITE | S703 | 25NSR+13.08 | 378.1' LT | 738.00 | 5.42 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | 4' SUMP |
| | DPW SITE | S703A | 26NSR+15.42 | 268.3' LT | 738.89 | 7.51 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | -- | -- | -- | |
| | DPW SITE | S704 | 27NSR+88.61 | 497.2' LT | 737.37 | 4.00 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | -- | -- | -- | |
| | DPW SITE | S705 | 28NSR+60.83 | 206.0' LT | 737.37 | 5.58 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 | -- | -- | -- | |
| | DPW SITE | S706 | 28NSR+69.30 | 140.9' LT | 738.10 | 7.02 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | |
| | DPW SITE | S707 | 27NSR+56.29 | 171.9' LT | 739.26 | 9.88 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | |
| | DPW SITE | S708 | 23NSR+01.12 | 21.2' LT | 736.44 | 3.10 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S709 | 24NSR+43.96 | 21.2' LT | 737.45 | 5.41 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S710 | 25NSR+05.81 | 21.2' LT | 737.59 | 6.24 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | 1 | -- | |
| | DPW SITE | S711 | 26NSR+90.57 | 2.0' LT | 735.95 | 4.00 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S712 | 27NSR+05.68 | 21.2' LT | 736.78 | 7.49 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S713 | 27NSR+43.70 | 6.8' LT | 735.68 | 6.85 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | 1 | -- | |
| | DPW SITE | S714 | 27NSR+52.73 | 11.5' LT | 734.93 | 7.67 | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S715 | 56ESR+18.92 | 11.0' RT | 734.87 | 8.53 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S716 | 54ESR+96.70 | 11.0' RT | 734.23 | 8.58 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S717 | 54ESR+96.73 | 2.0' RT | 734.13 | 4.50 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |

[1]STATION AND OFFSET MEASURED TO THE FLOW LINE UNLESS TYPE HM-GJ CASTING. TYPE HM-GJ CASTING MEASURED TO THE FLANGE.
[2]DEPTH = RIM OR FLOW ELEV - LOWEST PIPE INVERT ELEVATION.
[3]TOP SLAB OPENINGS FOR INLET COVERS TYPE 57 SHALL BE 2'-0" X 2'-0".
[4]TOP SLAB OPENINGS FOR INLET COVERS TYPE R SPECIAL SHALL BE 1'-7" X 2'-6".

STORM SEWER STRUCTURES CONTINUED

| CATEGORY | ROADWAY | STR NO. | STATION[1] | OFFSET[1] | RIM OR FLOW ELEV | DEPTH[2] FT | 611.1004 CATCH BASINS 4-FT DIAMETER EACH | 611.1005 CATCH BASINS 5-FT DIAMETER EACH | 611.2003 MANHOLES 3-FT DIAMETER EACH | 611.2004 MANHOLES 4-FT DIAMETER EACH | 611.2005 MANHOLES 5-FT DIAMETER EACH | 611.2006 MANHOLES 6-FT DIAMETER EACH | 611.2007 MANHOLES 7-FT DIAMETER EACH | 611.3003 INLETS 3-FT DIAMETER EACH | 611.3004 INLETS 4-FT DIAMETER EACH | 611.0545 MANHOLE COVERS TYPE L EACH | 611.0612 INLET COVERS TYPE C EACH | 611.0630 INLET COVERS TYPE HM-GJ EACH | SPV.0060.0001 INLET COVERS TYPE 57[3] EACH | SPV.0060.0002 INLET COVERS TYPE R[4] SPECIAL EACH | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | DPW SITE | S718 | 54ESR+54.68 | 11.0' RT | 734.14 | 8.77 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S719 | 54ESR+54.68 | 2.0' RT | 733.93 | 4.50 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S720 | 54ESR+03.51 | 20.0' RT | 734.60 | 9.56 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | |
| | DPW SITE | S721 | 53ESR+65.52 | 18.0' RT | 734.69 | 9.91 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| | DPW SITE | S722 | 52ESR+79.53 | 18.0' RT | 735.16 | 10.95 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| | DPW SITE | S723 | 53ESR+03.51 | 18.0' RT | 735.03 | 10.63 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| | DPW SITE | S724 | 53ESR+03.51 | 1.0' RT | 734.89 | 4.50 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 1 | |
| | DPW SITE | S725 | 52ESR+33.51 | 21.0' RT | 735.41 | 11.57 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| | DPW SITE | S726 | 52ESR+41.50 | 21.0' RT | 735.39 | 11.44 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| | DPW SITE | S727 | 52ESR+41.54 | 1.0' RT | 735.23 | 4.50 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | 1 | |
| | DPW SITE | S728 | 52ESR+12.52 | 16.0' RT | 735.47 | 11.81 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | |
| | DPW SITE | S729 | 27NSR+90.62 | 228.1' LT | 740.81 | 9.56 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | |
| | DPW SITE | S730 | 27NSR+36.42 | 431.2' LT | 740.93 | 7.43 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | |
| | DPW SITE | WE152 | 50ESR+89.26 | 22.4' RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | DPW SITE | WE99 | 57ESR+70.51 | 160.6' RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | REPLACE INLET COVER |
| | | | | | | TOTAL | 1 | 1 | 3 | 1 | 18 | 1 | 1 | 20 | 14 | 8 | 15 | 4 | 27 | 8 | |

[1]STATION AND OFFSET MEASURED TO THE FLOW LINE UNLESS TYPE HM-GJ CASTING. TYPE HM-GJ CASTING MEASURED TO THE FLANGE.
[2]DEPTH = RIM OR FLOW ELEV - LOWEST PIPE INVERT ELEVATION.
[3]TOP SLAB OPENINGS FOR INLET COVERS TYPE 57 SHALL BE 2'-0" X 2'-0".
[4]TOP SLAB OPENINGS FOR INLET COVERS TYPE R SPECIAL SHALL BE 1'-7" X 2'-6".

3

STORM SEWER PIPES

| CATEGORY | ROADWAY | PIPE ID | FROM STR | TO STR | INLET ELEV | DISCH ELEV | SLOPE[A] % | PIPE LENGTH[B] LF | 608.0236 STORM SEWER PIPE REINFORCED CONCRETE CLASS II 36-INCH LF | 608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF | 608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF | 608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF | 608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF | 608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH LF | 608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF | 608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH LF | 608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF | 608.0436 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 36-INCH LF | SPV.0090.0009 STORM SEWER CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) 12-INCH LF | SPV.0090.0011 STORM SEWER PVC SDR 35 6-INCH LF | SPV.0090.0012 STORM SEWER PVC SDR 35 8-INCH LF | SPV.0090.0013 STORM SEWER PVC SDR 35 10-INCH LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | P500 | S500 | S501 | 735.98 | 735.24 | 2.00 | 37 | -- | 41 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P501 | S501 | S505 | 735.14 | 733.40 | 2.00 | 87 | -- | -- | -- | -- | -- | -- | 91 | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P502 | S502 | S503 | 734.88 | 734.66 | 2.00 | 11 | -- | 15 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P503 | S503 | S504 | 734.56 | 734.08 | 2.00 | 24 | -- | 28 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P504 | S504 | S505 | 733.98 | 733.40 | 2.00 | 29 | -- | -- | -- | -- | -- | -- | 33 | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P505 | S505 | S508 | 733.30 | 732.38 | 2.00 | 46 | -- | -- | -- | -- | -- | -- | 50 | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P506 | S506 | S507 | 735.76 | 735.02 | 2.00 | 37 | -- | -- | -- | -- | -- | -- | 41 | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P507 | S507 | S508 | 734.92 | 732.00 | 2.00 | 146 | -- | 150 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P508 | S508 | S509 | 731.90 | 726.48 | 3.50 | 155 | -- | 159 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P509 | S509 | S510 | 726.13 | 722.63 | 2.00 | 175 | -- | -- | | -- | -- | -- | -- | 179 | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P510 | S510 | S513 | 722.53 | 721.73 | 2.00 | 40 | -- | -- | 44 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P511 | S511 | S512 | 727.67 | 724.11 | 2.00 | 178 | -- | -- | -- | -- | -- | -- | 182 | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P512 | S512 | S513 | 724.01 | 721.61 | 2.00 | 120 | -- | 124 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | PARK & RIDE | P513 | S513 | SE710 | 721.11 | 720.55 | 2.00 | 28 | -- | -- | -- | -- | -- | -- | -- | -- | 32 | -- | -- | -- | -- | -- |
| | DPW SITE | P600 | S600 | S600B | 734.30 | 733.81 | 0.30 | 162 | -- | -- | -- | -- | -- | -- | -- | -- | 166 | -- | -- | -- | -- | -- |
| | DPW SITE | P600A | S600A | S600 | 734.57 | 734.55 | 0.30 | 6 | -- | -- | -- | -- | -- | -- | -- | 10 | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P600B | S600B | S601 | 733.31 | 733.26 | 0.30 | 17 | -- | -- | -- | -- | 21 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P600C | S600C | S601 | 734.92 | 734.59 | 0.50 | 65 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 70 | -- |
| | DPW SITE | P600D | -- | S600C | 735.41 | 735.09 | 1.00 | 32 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 34 | -- | -- |
| | DPW SITE | P600E | -- | S600C | 736.11 | 735.09 | 1.00 | 102 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 103 | -- | -- |
| | DPW SITE | P601 | S601 | S601A | 733.26 | 733.16 | 0.30 | 35 | -- | -- | -- | -- | 40 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P601A | S601A | S601AA | 733.16 | 733.06 | 0.30 | 30 | -- | -- | -- | -- | 35 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P601AA | S601AA | S601B | 733.06 | 732.40 | 0.30 | 214 | -- | -- | -- | -- | 219 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P601B | S601B | S602 | 732.40 | 732.24 | 0.30 | 54 | -- | -- | -- | -- | 59 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P601C | -- | S601B | 734.27 | 733.90 | 1.00 | 37 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 39 | -- | -- |
| | DPW SITE | P602 | S602 | BE203 | 732.24 | 732.05 | 0.30 | 64 | -- | -- | -- | -- | 68 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P603 | S603 | BE203 | 733.09 | 732.80 | 0.30 | 96 | -- | -- | -- | -- | -- | -- | -- | 100 | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P700 | S700 | S700A | 735.30 | 734.90 | 0.50 | 79 | -- | -- | -- | -- | -- | -- | -- | 82 | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P700A | S700A | S702 | 734.80 | 734.18 | 0.50 | 123 | -- | -- | -- | -- | -- | -- | -- | 127 | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P701 | S701 | S702 | 735.18 | 734.43 | 1.00 | 75 | -- | -- | -- | -- | -- | -- | 79 | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P702 | S702 | S702A | 733.93 | 733.88 | 0.75 | 6 | -- | -- | -- | -- | -- | -- | -- | -- | 10 | -- | -- | -- | -- | -- |
| | DPW SITE | P702A | S702A | S702B | 733.78 | 733.22 | 0.75 | 75 | -- | -- | -- | -- | -- | -- | -- | -- | 79 | -- | -- | -- | -- | -- |
| | DPW SITE | P702B | S702B | S703 | 732.72 | 732.68 | 0.75 | 6 | -- | -- | -- | -- | 10 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P702C | S702C | S702B | 734.63 | 734.22 | 1.00 | 41 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 44 | -- | -- |
| | DPW SITE | P702D | -- | S702C | 736.09 | 734.73 | 1.00 | 136 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 137 | -- | -- |
| | DPW SITE | P703 | S703 | S703A | 732.58 | 731.48 | 0.75 | 146 | -- | -- | -- | -- | 150 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P703A | S703A | S707 | 731.38 | 729.48 | 1.15 | 166 | -- | -- | -- | -- | 171 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P704 | S704 | S705 | 733.37 | 731.89 | 0.50 | 297 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 300 | -- | -- | -- |
| | DPW SITE | P705 | S705 | S706 | 731.79 | 731.33 | 0.75 | 62 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 66 | -- | -- | -- |
| | DPW SITE | P706 | S706 | S707 | 731.08 | 730.23 | 0.75 | 112 | -- | -- | 117 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P707 | S707 | S714 | 729.38 | 728.26 | 0.70 | 154 | -- | -- | -- | -- | 160 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P708 | S708 | S709 | 733.34 | 732.29 | 0.75 | 140 | -- | -- | -- | -- | -- | -- | 143 | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P709 | S709 | S710 | 732.04 | 731.60 | 0.75 | 58 | -- | -- | 62 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P710 | S710 | S712 | 731.35 | 729.39 | 1.00 | 195 | -- | -- | -- | 200 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P711 | S711 | S712 | 731.95 | 731.51 | 2.00 | 22 | -- | 26 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P712 | S712 | S713 | 729.29 | 728.93 | 1.00 | 35 | -- | -- | -- | 40 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P713 | S713 | S714 | 728.83 | 728.76 | 1.00 | 7 | -- | -- | -- | 12 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P714 | S714 | S715 | 727.26 | 726.44 | 0.50 | 163 | 169 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P715 | S715 | S716 | 726.34 | 725.75 | 0.50 | 116 | 122 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

[A] SLOPE CALCULATED BASED ON PIPE LENGTH. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM OUTSIDE OF STRUCTURE TO OUTSIDE OF STRUCTURE.
[B] PIPE LENGTH SHOWN FOR SLOPE CALCULATION ONLY. NOT INTENDED FOR PAY QUANTITY.

STORM SEWER PIPES CONTINUED

| CATEGORY | ROADWAY | PIPE ID | FROM STR | TO STR | INLET ELEV | DISCH ELEV | SLOPE[A] % | PIPE LENGTH[B] LF | 608.0236 STORM SEWER PIPE REINFORCED CONCRETE CLASS II 36-INCH LF | 608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF | 608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF | 608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF | 608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF | 608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH LF | 608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF | 608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH LF | 608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF | 608.0436 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 36-INCH LF | SPV.0090.0009 STORM SEWER CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) 12-INCH LF | SPV.0090.0011 STORM SEWER PVC SDR 35 6-INCH LF | SPV.0090.0012 STORM SEWER PVC SDR 35 8-INCH LF | SPV.0090.0013 STORM SEWER PVC SDR 35 10-INCH LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | DPW SITE | P716 | S716 | S718 | 725.65 | 725.47 | 0.50 | 37 | 42 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P717 | S717 | S716 | 729.63 | 729.49 | 2.00 | 7 | -- | 11 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P718 | S718 | S720 | 725.37 | 725.14 | 0.50 | 46 | -- | -- | -- | -- | -- | 52 | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P719 | S719 | S718 | 729.43 | 729.31 | 2.00 | 6 | -- | 11 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P720 | S720 | S721 | 725.04 | 724.88 | 0.50 | 33 | -- | -- | -- | -- | -- | 38 | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P721 | S721 | S723 | 724.78 | 724.50 | 0.50 | 57 | -- | -- | -- | -- | -- | 62 | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P722 | S722 | S726 | 724.21 | 724.05 | 0.50 | 33 | -- | -- | -- | -- | -- | 38 | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P723 | S723 | S722 | 724.40 | 724.31 | 0.50 | 19 | -- | -- | -- | -- | -- | 24 | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P724 | S724 | S723 | 730.39 | 730.11 | 2.00 | 14 | -- | 18 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P725 | S725 | S728 | 723.84 | 723.76 | 0.50 | 17 | -- | -- | -- | -- | -- | 22 | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P726 | S726 | S725 | 723.95 | 723.94 | 0.50 | 3 | -- | -- | -- | -- | -- | 8 | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P727 | S727 | S726 | 730.73 | 730.39 | 2.00 | 17 | -- | 21 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | DPW SITE | P728 | S728 | WE153 | 723.66 | 723.06 | 0.50 | 117 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 123 | -- | -- | -- | -- |
| | DPW SITE | P729 | S729 | S707 | 731.25 | 730.65 | 1.00 | 60 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 66 |
| | DPW SITE | P730 | S730 | S729 | 733.50 | 731.42 | 1.00 | 208 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 210 |
| | DPW SITE | P731 | -- | S730 | 735.68 | 733.60 | 1.00 | 208 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 209 | -- |
| | DPW SITE | P732 | -- | S729 | 732.06 | 731.42 | 1.00 | 64 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 68 | -- |
| | | | | | | | | TOTAL | 333 | 604 | 223 | 252 | 933 | 244 | 619 | 498 | 287 | 123 | 366 | 357 | 347 | 276 |

[A]SLOPE CALCULATED BASED ON PIPE LENGTH. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM OUTSIDE OF STRUCTURE TO OUTSIDE OF STRUCTURE.
[B]PIPE LENGTH SHOWN FOR SLOPE CALCULATION ONLY. NOT INTENDED FOR PAY QUANTITY.

## RECONSTRUCTING MANHOLES

| CATEGORY | ROADWAY | STATION | OFFSET | 611.0420 RECONSTRUCTING MANHOLES EACH |
|---|---|---|---|---|
| 1000 | DPW SITE | | | |
| | | 21NSR+22 | 6' LT | 1 |
| | TOTAL | | | 1 |

## SEALING PIPES

| CATEGORY | ROADWAY | STATION | OFFSET | 204.0280 SEALING PIPES EACH |
|---|---|---|---|---|
| 1000 | DPW SITE | | | |
| | | 21NSR+22 | 6' LT | 1 |
| | | 23NSR+68 | 510' LT | 1 |
| | | 23NSR+79 | 6' LT | 1 |
| | | 27NSR+48 | 714' LT | 1 |
| | TOTAL | | | 4 |

## MAYFAIR POND OUTLET STORM SEWER STRUCTURE RECONSTRUCTION

| CATEGORY | ROADWAY | STATION | OFFSET | SPV.0060.0020 MAYFAIR POND OUTLET STORM SEWER STRUCTURE RECONSTRUCTION EACH |
|---|---|---|---|---|
| 1000 | STH 100 | | | |
| | | 640SN+83 | 291' RT | 1 |
| | TOTAL | | | 1 |

3

## PIPE UNDERDRAIN

| CATEGORY | ROADWAY | STRUCTURE NUMBER | STATION | OFFSET | 612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH LF |
|---|---|---|---|---|---|
| 1000 | DPW SITE | | | | |
| | | S600 | 24NSR+86 | 268' LT | 30 |
| | | S601A | 22NSR+66 | 314' LT | 30 |
| | | S700A | 24NSR+81 | 558' LT | 30 |
| | | S701 | 23NSR+57 | 435' LT | 30 |
| | | S702 | 24NSR+36 | 439' LT | 30 |
| | TOTAL | | | | 150 |

## CONCRETE COLLARS FOR PIPE

| CATEGORY | ROADWAY | STRUCTURE NUMBER | STATION | OFFSET | 520.8000 CONCRETE COLLARS FOR PIPE EACH |
|---|---|---|---|---|---|
| 1000 | PARK & RIDE | | | | |
| | | SE710 | 0PR+98 | 101' RT | 1 |
| 1000 | DPW SITE | | | | |
| | | WE153 | 50ESR+89 | 22' RT | 1 |
| | | S600 | 24NSR+86 | 268' LT | 2 |
| | | S600A | 24NSR+96 | 268' LT | 1 |
| | | S600B | 23NSR+22 | 295' LT | 2 |
| | | S601 | 23NSR+05 | 306' LT | 3 |
| | | S603 | 21NSR+83 | 1' LT | 1 |
| | | S708 | 23NSR+01 | 22' LT | 1 |
| | TOTAL | | | | 12 |

3

## REMOVING, ADJUSTING, AND RECONSTRUCTING SANITARY MANHOLES

| CATEGORY | ROADWAY | STATION | OFFSET | SPV.0060.0004 REMOVING SANITARY MANHOLES EACH | SPV.0060.0005 RECONSTRUCTING SANITARY MANHOLES EACH | SPV.0060.0006 ADJUSTING SANITARY MANHOLES EACH |
|---|---|---|---|---|---|---|
| 7000 | DPW SITE | | | | | |
| | | 53ESR+12 | 15' LT | -- | -- | 1 |
| | | 53ESR+14 | 41' RT | -- | 1 | -- |
| | | 55ESR+68 | 38' RT | -- | -- | 1 |
| | | 56ESR+31 | 7' RT | 1 | -- | -- |
| | | 26NSR+27 | 366' LT | -- | 1 | -- |
| | | 27NSR+49 | 53' LT | 1 | -- | -- |
| | | 27NSR+80 | 44' LT | -- | 1 | -- |
| | | 27NSR+81 | 230' LT | -- | 1 | -- |
| | TOTAL | | | 2 | 4 | 2 |

## SANITARY SEWER LATERAL

| CATEGORY | ROADWAY | FROM STR | TO STR | INLET ELEV | DISCH ELEV | SLOPE % | SPV.0060.0007 CONNECTING SANITARY LATERAL 6-INCH EACH |
|---|---|---|---|---|---|---|---|
| 7000 | DPW SITE | | | | | | |
| | | STORAGE BLDG 2 | SAN MAIN | -- | 732.58 | 1.00 MIN | 1 |
| | TOTAL | | | | | | 1 |

## REMOVING SANITARY SEWER

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | SPV.0090.0002 REMOVING SANITARY SEWER LF |
|---|---|---|---|---|---|---|
| 7000 | DPW SITE | | | | | |
| | | 27NSR+49 | | 27NSR+80 | LT | 32 |
| | | 27NSR+49 | | 27NSR+49 | LT | 198 |
| | TOTAL | | | | | 230 |

## INSULATE PIPE

| CATEGORY | ROADWAY | FROM STATION | TO STATION | SPV.0180.0001 INSULATION BOARD POLYSTYRENE, 4-INCH SY | COMMENTS |
|---|---|---|---|---|---|
| | DPW SITE | | | | |
| 7000 | | 2SAN+50 | 7SAN+25 | 400 | SANITARY |
| 7100 | | 27NSR+37 | 28NSR+08 | 75 | WATER |
| | UNDISTRIBUTED | | | | |
| 7000 | | | | 40 | SANITARY |
| | TOTAL | | | 515 | |

3

## PAVEMENT MARKING ITEMS

| CATEGORY | ROADWAY | STATION | TO | STATION | 646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF | 646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF | 646.0126 PAVEMENT MARKING EPOXY 8-INCH LF | 646.0156 PAVEMENT MARKING ARROWS EPOXY TYPE 1 EACH | 646.0256 PAVEMENT MARKING SYMBOLS EPOXY EACH | 647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH LF | 647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH LF | 647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | PARK & RIDE | 1PR+30 | | 7PR+41 | 5,513 | -- | 74 | 10 | 7 | 22 | 230 | 195 |
| 1000 | DPW SITE | 51ESR+06 | | 54ESR+16 | 6,648 | 222 | -- | -- | 8 | 65 | -- | -- |
| | SUBTOTALS | | | | 12,161 | 222 | 74 | 10 | 15 | 87 | 230 | 195 |
| | TOTAL | | | | 12,383 | | 74 | 10 | 15 | 87 | 230 | 195 |

## FENCING ITEMS

| CATEGORY | ROADWAY | FROM STATION | FROM OFFSET | TO STATION | TO OFFSET | 616.0206 FENCE CHAIN LINK 6-FT LF |
|---|---|---|---|---|---|---|
| 1000 | DPW SITE | | | | | |
| | | 22NSR+73 | 406' LT | 22NSR+71 | 357' LT | 51 |
| | | 22NSR+71 | 357' LT | 21NSR+58 | 169' LT | 219 |
| | | 21NSR+58 | 169' LT | 21NSR+08 | 19' LT | 176 |
| | | 21NSR+47 | 19' LT | 24NSR+55 | 19' LT | 307 |
| | | 25NSR+05 | 19' LT | 27NSR+07 | 19' LT | 202 |
| | | 27NSR+47 | 19' LT | 29NSR+08 | 19' LT | 161 |
| | | 27NSR+51 | 340' RT | 29NSR+89 | 340' RT | 238 |
| | | 57ESR+95 | 9' RT | 57ESR+81 | 9' RT | 14 |
| | | 57ESR+95 | 166' RT | 54ESR+36 | 247' RT | 368 |
| | | 54ESR+36 | 9' RT | 54ESR+56 | 9' RT | 19 |
| | | 54ESR+96 | 9' RT | 57ESR+41 | 9' RT | 246 |
| | TOTAL | | | | | 2,001 |

## GATES CHAIN LINK

| CATEGORY | ROADWAY | STATION | OFFSET | 616.0329.S.0001 GATES CHAIN LINK (40 FEET) EACH | 616.0329.S.0002 GATES CHAIN LINK (50 FEET) EACH |
|---|---|---|---|---|---|
| 1000 | DPW SITE | | | | |
| | | 21NSR+28 | 19' LT | 1 | -- |
| | | 24NSR+80 | 19' LT | -- | 1 |
| | | 27NSR+27 | 19' LT | 1 | -- |
| | | 57ESR+61 | 9' RT | 1 | -- |
| | | 54ESR+76 | 9' RT | 1 | -- |
| | TOTAL | | | 4 | 1 |

## PARKING LOT BOLLARD

| CATEGORY | ROADWAY | STATION | OFFSET | SPV.0060.0019 PARKING LOT BOLLARD EACH | COMMENTS |
|---|---|---|---|---|---|
| 1000 | DPW SITE | | | | |
| | | 22NSR+00 | 73' LT | 7 | SALT BRINE BUILDING |
| | | 21NSR+74 | 165' LT | 2 | SPRAYER |
| | | 22NSR+70 | 270' LT | 2 | SCALE |
| | | 24NSR+03 | 363' LT | 39 | STORAGE BUILDING 1 |
| | | 27NSR+67 | 347' LT | 52 | STORAGE BUILDING 2 |
| | | 27NSR+02 | 282' LT | 4 | HYDRANTS |
| | | 26NSR+55 | 539' LT | 4 | HYDRANTS |
| | TOTAL | | | 110 | |

## SURVEY PROJECT

| CATEGORY | LOCATION | SPV.0105.0001 SURVEY PROJECT 1060-34-73 EACH |
|---|---|---|
| 1000 | PROJECT | 1 |
| | TOTAL | 1 |

## INSTALLING COUNTY FURNISHED KEYPAD

| CATEGORY | LOCATION | SPV.0060.0011 INSTALLING COUNTY FURNISHED KEYPAD EACH | COMMENTS |
|---|---|---|---|
| 1000 | DPW SITE | | |
| | | 1 | SALT BRINE BUILDING |
| | | 1 | STORAGE BUILDING 1 |
| | | 1 | STORAGE BUILDING 2 |
| | TOTAL | 3 | |

## INCENTIVE DENSITY HMA PAVEMENT

| CATEGORY | LOCATION | 460.2000 INCENTIVE DENSITY HMA PAVEMENT DOL |
|---|---|---|
| 1000 | PROJECT | 7,660 |
| | TOTAL | 7,660 |

## INCENTIVE STRENGTH CONCRETE PAVEMENT

| CATEGORY | LOCATION | 715.0415 INCENTIVE STRENGTH CONCRETE PAVEMENT DOL |
|---|---|---|
| 1000 | PROJECT | 1,038 |
| | TOTAL | 1,038 |

## PAVEMENT CLEANUP PROJECT

| CATEGORY | LOCATION | SPV.0105.0002 PAVEMENT CLEANUP PROJECT 1060-34-73 LS |
|---|---|---|
| 1000 | PROJECT | 1 |
| | TOTAL | 1 |

## MANAGEMENT OF SOLID WASTE

| CATEGORY | ROADWAY | STATION | TO | STATION | OFFSET | SPV.0195.0001 MANAGEMENT OF SOLID WASTE TON |
|---|---|---|---|---|---|---|
| 1000 | PARK & ROAD | | | | | |
| | | 1PR+75 | | 2PR+00 | RT | 87 |
| | | 2PR+45 | | 2PR+65 | RT | 128 |
| | | 2PR+75 | | 3PR+00 | LT | 41 |
| | | 3PR+35 | | 3PR+60 | RT | 2 |
| | | 5PR+15 | | 5PR+60 | LT | 162 |
| | | 5PR+60 | | 6PR+35 | RT/LT | 2,770 |
| | | 6PR+35 | | 7PR+50 | RT/LT | 2,500 |
| | TOTAL | | | | | 5,690 |

## STATIC SCALE SYSTEM

| CATEGORY | LOCATION | SPV.0105.0005 STATIC SCALE SYSTEM LS |
|---|---|---|
| 1000 | DPW SITE | 1 |
| | TOTAL | 1 |

## WATER

| CATEGORY | LOCATION | 624.0100 WATER MGAL |
|---|---|---|
| 1000 | PROJECT - BASE AGGREGATE | 27 |
| | PROJECT - EXCAVATION | 143 |
| | TOTAL | 170 |

CONVERSION = 2 GAL/CY BASE AGGREGATE
2 GAL/CY EXCAVATION/BORROW

## CONDUIT RIGID NONMETALLIC SCHEDULE 80 4-INCH

| CATEGORY | ROADWAY | FROM STATION | FROM OFFSET | TO STATION | TO OFFSET | 652.0340 CONDUIT RIGID NONMETALLIC SCHEDULE 80 4-INCH LF |
|---|---|---|---|---|---|---|
| 1000 | DPW SITE | 21NSR+73 | 170' LT | 21NSR+80 | 85' LT | 86 |
| | TOTAL | | | | | 86 |

## DUST CONTROL SURFACE TREATMENT

| CATEGORY | LOCATION | 623.0200 DUST CONTROL SURFACE TREATMENT SY |
|---|---|---|
| 1000 | PROJECT | 63,605 |
| | TOTAL | 63,605 |

## MOVING STATE-OWNED MATERIALS

| CATEGORY | LOCATION | SPV.0105.0004 MOVING STATE-OWNED MATERIALS LS |
|---|---|---|
| 1000 | PROJECT | 1 |
| | TOTAL | 1 |

## MOVING SALT

| CATEGORY | LOCATION | SPV.0105.0003 MOVING SALT LS |
|---|---|---|
| 1010 | PROJECT | 1 |
| | TOTAL | 1 |

## MOBILIZATION

| CATEGORY | LOCATION | 619.1000 MOBILIZATION EACH |
|---|---|---|
| 1000 | PROJECT | 1 |
| | TOTAL | 1 |

## INSTALLING STATE FURNISHED BIKE RACK

| CATEGORY | ROADWAY | STATION | OFFSET | SPV.0060.0102 INSTALLING STATE FURNISHED BIKE RACK EACH |
|---|---|---|---|---|
| 1000 | PARK & RIDE | | | |
| | | 5PR+60.30 | 136.3' LT | 1 |
| | | 5PR+91.13 | 136.2' LT | 1 |
| | DPW SITE | | | |
| | | 54ESR+31.00 | 13.5' RT | 1 |
| | | 54ESR+31.00 | 32.5' RT | 1 |
| | TOTAL | | | 4 |

## DEWATERING CATCH BASIN

| CATEGORY | LOCATION | SPV.0105.0106 DEWATERING CATCH BASIN LS |
|---|---|---|
| 1020 | PROJECT | |
| | | 1 |
| | TOTAL | 1 |

3

3

## RESTORATION ITEMS

| CATEGORY | LOCATION | 629.0210 FERTILIZER TYPE B CWT | SPV.0085.7001 NO MOW FESCUE GRASS SEED LB | SPV.0090.7001 POLY EDGING MATERIAL LF | SPV.0180.0007 TOPSOIL SPECIAL SY | SPV.0195.7001 RIVER STONE TON |
|---|---|---|---|---|---|---|
| 6000 | PROJECT | | | | | |
| | | 15.0 | 800 | 1,285 | 23,500 | 40 |
| | TOTALS | 15.0 | 800 | 1,285 | 23,500 | 40 |

## DECORATIVE FENCING ITEMS

| CATEGORY | LOCATION | SPV.0060.7001 GABION PILLARS EACH | SPV.0090.7002 DECORATIVE STEEL FENCE LF | SPV.0090.7003 GREEN SCREEN FENCE LF |
|---|---|---|---|---|
| 6000 | PARK & RIDE | | | |
| | | 19 | 181 | 352 |
| | TOTALS | 19 | 181 | 352 |

3

## DPW BUILDING ITEMS

| CATEGORY | LOCATION | SPV.0105.0101 SALT DOME LS | SPV.0105.0102 STORAGE BUILDING 1 LS | SPV.0105.0103 STORAGE BUILDING 2 LS | SPV.0105.0104 SALT BRINE BUILDING LS | SPV.0105.0105 BINS LS |
|---|---|---|---|---|---|---|
| 1000 | DPW SITE | | | | | |
| | | 1 | 1 | 1 | 1 | 1 |
| | TOTALS | 1 | 1 | 1 | 1 | 1 |

## CONVEYOR

| CATEGORY | LOCATION | SPV.0060.0101 EACH |
|---|---|---|
| 1030 | DPW SITE | |
| | | 1 |
| | TOTALS | 1 |

## BUILDING EBS EARTHWORK

| CATEGORY | LOCATION | SPV.0035.0100 EBS EXCAVATION CY | SPV.0035.0101 EBS BACKFILL CY |
|---|---|---|---|
| 1000 | | | |
| | UNDISTRIBUTED | 200 | 200 |
| | TOTALS | 200 | 200 |

## TREES, SHRUBS, AND VINES

| | | 632.0101.0001 | 632.0101.0002 | 632.0101.0003 | 632.0101.0004 | 632.0101.0005 | 632.0101.0006 | 632.0101.0007 | 632.0101.0008 | 632.0101.0009 | 632.0101.0011 | 632.0101.0013 | 632.0101.0014 | 632.0101.0015 | 632.0101.0016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SPECIES: | QUERCUS MACROCARPA | CELTIS OCCIDENTALIS | ACER X FREEMANII 'CELZAM' | GYMNOCLADUS DIOICUS 'ESPRESSO' | PLANTANUS OCCIDENTALIS | ACER SACCHARUM | QUERCUS BICOLOR | ULMUS AMERICANA 'VALLEY FORGE' | MALUS 'ADIRONDAK' | CORNUS MAS | AMELANDCHIER X GLANDIFLORA 'ROBIN HILL' | CRATAEGUS VIRIDIS 'WINTER KING' | PECEA GLAUCA VAR. DEPRESSA | JUNIPERUS VIRGINIANA |
| | COMMON NAME: | BUR OAK B&B 3-INCH | COMMON HACKBERRY B&B 3-INCH | CELEBRATION MAPLE B&B 3-INCH | ESPRESSO COFFEETREE B&B 3-INCH | LONDON PLANE TREE B&B 3-INCH | SUGAR MAPLE B&B 3-INCH | SWAMP WHITE OAK B&B 3-INCH | VALLEY FORGE ELM B&B 3-INCH | ADIRONDAK CARBAPPLE B&B 3-INCH | CORNELIANCHERRY DOGWOOD: TREE FORM B&B 3-INCH | ROBIN HILL SERVICEBERRY: MULTI-STEM B&B 3-INCH | WINTER KING HAWTHORN B&B 3-INCH | BLACK HILLS SPRUCE B&B 60-INCH | EASTERN REDCEDER B&B 60-INCH |
| CATEGORY | LOCATION | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH |
| 6000 | PROJECT | 18 | 6 | 21 | 36 | 12 | 3 | 13 | 9 | 6 | 8 | 26 | 14 | 18 | 40 |
| | TOTALS | 18 | 6 | 21 | 36 | 12 | 3 | 13 | 9 | 6 | 8 | 26 | 14 | 18 | 40 |

## TREES, SHRUBS, AND VINES (CONTINUED)

| | | 632.0201.0001 | 632.0201.0002 | 632.0201.0003 | 632.0201.0004 | 632.0201.0005 | 632.0201.0006 | 632.0301.0001 | 632.0301.0002 | 632.9101 |
|---|---|---|---|---|---|---|---|---|---|---|
| | SPECIES: | VIBURNUM DENTATUM 'J.N. SELECT' | DIERVILLA IONICERA | PHYSOCARPA OPULIFLIUS 'MONLO' | ARONIA MELONACARPA VAR. ELATA | RHUS AROMATICA 'GRO-LOW' | SYMPHORICARPOS ORBICULATUS | CELUSTRUS SCANDENS | LONICERA DIOICA | |
| | COMMON NAME: | BLUE MUFFIN ARROWWOOD VIBURNUM #2 CONT. | DWARF BUSH-HONEYSUCKLE #2 CONT. | DIABLO NINEBARK #2 CONT. | GLOSSY BLACK CHOKEBERRY #2 CONT. | GRO-LOW SUMAC #2 CONT. | INDIANCURRANT CORALBERRY #2 CONT. | AMERICAN BITTERSWEET VINE #2 CONT. | LIMBER HONEYSUCKLE #2 CONT. | LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES |
| CATEGORY | LOCATION | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH |
| 6000 | PROJECT | 3 | 9 | 4 | 21 | 65 | 85 | 43 | 45 | 24 |
| | TOTALS | 3 | 9 | 4 | 21 | 65 | 85 | 43 | 45 | 24 |

3

## WATER MAIN ITEMS

| CATEGORY 7100 LOCATION | | | | | SPV.0060.7101 HYDRANT ASSEMBLY EACH | SPV.0060.7102 BUTTERFLY VALVE 12-INCH EACH | SPV.0060.7103 RESILIENT WEDGE GATE VALVE 8-INCH EACH | SPV.0060.7104 RESILIENT WEDGE GATE VALVE 6-INCH EACH | SPV.0060.7105 CUT AND CAP WATER MAIN EACH | SPV.0060.7106 REMOVING HYDRANT EACH | SPV.0060.7107 HYDRANT ASSEMBLY RELOCATION EACH | SPV.0060.7108 AIR RELEASE VALVE 2-INCH EACH | SPV.0060.7109 ABANDON VALVE BOXES EACH | SPV.0060.7110 ADJUSTING VALVE BOXES EACH | SPV.0060.7111 ADJUSTING HYDRANT EACH | SPV.0060.7112 REMOVING WATER VALVE EACH | SPV.0090.7101 DUCTILE IRON (DI) CLASS 55 WATER MAIN 12-INCH LF | SPV.0090.7102 DUCTILE IRON (DI) CLASS 55 WATER MAIN 8-INCH LF | SPV.0090.7103 COPPER WATER SERVICE 2-INCH LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATION | OFFSET | TO | STATION | OFFSET | | | | | | | | | | | | | | | |
| 0+29 | 3.7' RT | - | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 0+37 | -- | - | 5+16 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 479 | -- | -- |
| 0+39 | 2.6' LT | - | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 0+43 | -- | - | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- |
| 0+71 | 28.4' LT | - | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1+43 | 75.1' LT | - | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- |
| 3+29 | 12.4' LT | - | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4+99 | 1.4' LT | - | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5+14 | -- | - | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 20+61NSR | 65.3' RT | - | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 20+63NSR | 63.7' RT | - | 22+48NSR | 64.1' RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 185 | -- |
| 20+66NSR | 63.7' RT | - | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 24+38NSR | 5.9' LT | - | 22+46NSR | 8.5' LT | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- |
| 27+36NSR | 6.5' RT | - | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- |
| 27+37NSR | 163.2' LT | - | 28+09NSR | 163.3' LT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 72 |
| 27+51NSR | 1.4' RT | - | 27+47NSR | 15.9' LT | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- |
| 22+26NSR | 62.3' LT | - | 22+44NSR | 64.1' RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 142 |
| 53+46ESR | 0.1' RT | - | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- |
| 55+07ESR | 6.8' RT | - | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- |
| 57+70ESR | 8.5' LT | - | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| UNDISTRIBUTED | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | 11 | -- | -- | -- | -- | -- |
| | | | | TOTALS | 2 | 1 | 1 | 1 | 4 | 1 | 2 | 1 | 1 | 11 | 1 | 2 | 479 | 185 | 214 |

**TYPE II SIGN REMOVAL** **CATAGORY 1000** **USH 45 1060-34-73**

| SIGN NO. | SIGN CODE | SIGN MESSAGE | 638.2602 REM SIGNS TYPE II [EA] | 638.3000 REM SMALL SIGN SUP [EA] | REMARKS / NEW SIGN LOCATION |
|---|---|---|---|---|---|
| 1R | -- | SHERIFF'S OFFICE PARKING ONLY | 1 | -- | MOUNTED ON FENCE |
| 2R | -- | SHERIFF'S OFFICE PARKING ONLY | 1 | -- | MOUNTED ON FENCE |
| 3R | R1-1 | -- | 1 | 1 | -- |
| 4R | R7-8 | -- | 1 | 1 | -- |
| 5R | R7-8 (MOD) | -- | 1 | -- | -- |
| 6R | R1-1 | -- | 1 | 1 | -- |
| 7R | R1-1 | -- | 1 | 1 | -- |
| 8R | R1-1 | -- | 1 | 1 | -- |
| 9R | R1-2 | -- | 1 | 1 | REMOVE THE R2-1 ALSO |
| 10R | R2-1 | -- | 1 | 1 | -- |
| 11R | R2-1 | -- | 1 | 1 | -- |
| 12R | R1-1 | -- | 1 | 1 | -- |
| TOTALS | | | 12 | 9 | |

3

SHEET: 1 OF 1

| PROJECT NO:1060-34-73 | HWY: USH 45 | COUNTY:MILWAUKEE | MISCELLANEOUS QUANTITIES – SIGNING REMOVAL | SHEET: | E |
|---|---|---|---|---|---|

## TYPE I & II PERMANENT SIGNING

CATEGORY CODE 1000

| SIGN NO. | | SIGN MESSAGE | TYPE II SIGN SIZE W x H [IN.] x [IN.] | 637.1220 SIGNS TYPE I [SF] | 637.2210 SIGNS TYPE II REFLECTIVE H [SF] | 634.0616 WOOD POSTS 4"x 6"X16' [EA] | 634.0816 POSTS TUBULAR STEEL 2"x2"x16' [EA] | 635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [LB] | 636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY] | 636.0500 SIGN SUPPORTS STEEL REINFORCEMENT [LB] | 638.2102 MOVING SIGNS TYPE II [EA] | REMARKS NEW SIGN LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D4-2L(2S) | PARK & RIDE [LA] | 30 x 36 | -- | 7.50 | 1 | -- | -- | -- | -- | -- | -- |
| 1A | D4-55L | CRASH INVESTIGATION SITE [LA] | 36 36 | -- | 9.00 | -- | -- | -- | -- | -- | -- | -- |
| 2 | NOT USED | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3 | NOT USED | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4 | D4-1(M0D)(2S) | PARKING [UA] | 30 x 24 | -- | 5.00 | 1 | -- | -- | -- | -- | -- | -- |
| 5 | D4-1(M0D)(2S) | BUSES [LA] | 36 x 36 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 6 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | 1 | -- | -- | -- | -- | -- | -- |
| 7 | R7-4D(2S) | -- | 18 x 24 | -- | 3.00 | 1 | -- | -- | -- | -- | -- | -- |
| 8 | -- | NO COMMERCIAL ACTIVITY | 30 x 42 | -- | 8.75 | 1 | -- | -- | -- | -- | -- | -- |
| 9 | -- | NO PARKING EXCEPT CRASH INVESTIGATION | 42 x 42 | -- | 12.25 | 1 | -- | -- | -- | -- | -- | -- |
| 9A | R8-56 | 2 HOUR LIMIT | 24 x 18 | -- | 3.00 | -- | -- | -- | -- | -- | -- | -- |
| 10 | D1-1 | SITE 40 | 54 x 36 | -- | 13.50 | 2 | -- | -- | -- | -- | -- | -- |
| 11 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | 1 | -- | -- | -- | -- | -- | -- |
| 12 | D12-2A(2S) | -- | 60 x 30 | -- | 12.50 | 2 | -- | -- | -- | -- | -- | -- |
| 13 | -- | NO PARKING EXCEPT CRASH INVESTIGATION | 42 x 42 | -- | 12.25 | 1 | -- | -- | -- | -- | -- | -- |
| 13A | R8-56 | 2 HOUR LIMIT | 24 x 18 | -- | 3.00 | -- | -- | -- | -- | -- | -- | -- |
| 14 | D4-55R | CRASH INVESTIGATION SITE [RA] | 36 x 36 | -- | 9.00 | -- | -- | -- | -- | -- | -- | -- |
| 15 | R5-2(2S) | -- | 24 x 24 | -- | 4.00 | 1 | -- | -- | -- | -- | -- | -- |
| 15A | R5-2A(2S) | -- | 24 x 12 | -- | 2.00 | -- | -- | -- | -- | -- | -- | -- |
| 15B | R5-2A(MOD)(2S) | -- | 24 x 12 | -- | 2.00 | -- | -- | -- | -- | -- | -- | -- |
| 16 | -- | LONG TERM PARKING 5-DAY LIMIT [LA] | 24 x 24 | -- | 4.00 | 1 | -- | -- | -- | -- | -- | -- |
| 17 | -- | LONG TERM PARKING 5-DAY LIMIT [RA] | 24 x 24 | -- | 4.00 | 1 | -- | -- | -- | -- | -- | -- |
| 18 | R7-4D(2S) | -- | 18 x 24 | -- | 3.00 | 1 | -- | -- | -- | -- | -- | -- |
| 19 | R6-2R(2S) | -- | 24 x 30 | -- | 5.00 | 1 | -- | -- | -- | -- | -- | -- |
| 20 | R5-1(2S) | -- | 30 x 30 | -- | 6.25 | 1 | -- | -- | -- | -- | -- | -- |
| 21 | R5-1(2S) | -- | 30 x 30 | -- | 6.25 | 1 | -- | -- | -- | -- | -- | -- |
| 22 | R5-1(2S) | -- | 30 x 30 | -- | 6.25 | 1 | -- | -- | -- | -- | -- | -- |
| 23 | R1-1(2S) | -- | 30 x 30 | -- | 5.18 | 1 | -- | -- | -- | -- | -- | -- |
| 24 | -- | -- | 204 x 102 | 144.50 | -- | -- | -- | 1000 (EST) | 1.6 | 98 | -- | -- |
| 25 | -- | -- | 204 x 102 | 144.50 | -- | -- | -- | 1000 (EST) | 1.6 | 98 | -- | -- |
| 26 | D4-2R(2S) | PARK & RIDE [LA] | 30 x 36 | -- | 7.50 | 1 | -- | -- | -- | -- | -- | -- |
| 26A | D4-55R | CRASH INVESTIGATION SITE [LA] | 36 x 36 | -- | 9.00 | -- | -- | -- | -- | -- | -- | -- |
| 27 | D4-2R(2S) | PARK & RIDE [LA] | 30 x 36 | -- | 7.50 | 1 | -- | -- | -- | -- | -- | -- |
| 27A | D4-55R | CRASH INVESTIGATION SITE [LA] | 36 x 36 | -- | 9.00 | -- | -- | -- | -- | -- | -- | -- |
| 28 | D4-2L(2S) | PARK & RIDE [LA] | 30 x 36 | -- | 7.50 | 1 | -- | -- | -- | -- | -- | -- |
| 28A | D4-55R | CRASH INVESTIGATION SITE [LA] | 36 36 | -- | 9.00 | -- | -- | -- | -- | -- | -- | -- |
| 29 | R6-2R(2S) | -- | 24 x 30 | -- | 5.00 | 1 | -- | -- | -- | -- | -- | -- |
| 30 | R6-2R(2S) | -- | 24 x 30 | -- | 5.00 | 1 | -- | -- | -- | -- | -- | -- |



| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | MISCELLANEOUS QUANTITIES - SIGNING | SHEET: | E |
|---|---|---|---|---|---|

**TYPE I & II PERMANENT SIGNING**

CATEGORY CODE 1000

| SIGN NO. | | SIGN MESSAGE | TYPE II SIGN SIZE W x H [IN.] x [IN.] | 637.1220 SIGNS TYPE I [SF] | 637.2210 SIGNS TYPE II REFLECTIVE H [SF] | 634.0616 WOOD POSTS 4"x 6"X16' [EA] | 634.0816 POSTS TUBULAR STEEL 2"x2"x16' [EA] | 635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [LB] | 636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY] | 636.0500 SIGN SUPPORTS STEEL REINFORCEMENT [LB] | 638.2102 MOVING SIGNS TYPE II [EA] | REMARKS NEW SIGN LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | -- | 1 | -- | -- | -- | -- | -- |
| 32 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | -- | -- | -- | -- | -- | -- | BACK OF SIGN #31 |
| 33 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | -- | 1.00 | -- | -- | -- | -- | -- |
| 34 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | -- | -- | -- | -- | -- | -- | BACK OF SIGN #33 |
| 35 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | -- | 1.00 | -- | -- | -- | -- | -- |
| 36 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | -- | -- | -- | -- | -- | -- | BACK OF SIGN #35 |
| 37 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | -- | 1.00 | -- | -- | -- | -- | -- |
| 38 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | -- | -- | -- | -- | -- | -- | BACK OF SIGN #37 |
| 39 | R7-63L(MOD)(1) | MOTORCYCLE PARKING ONLY | 12 x 18 | -- | 1.50 | -- | 1.00 | -- | -- | -- | -- | -- |
| 40 | R7-63R(MOD)(1) | MOTORCYCLE PARKING ONLY | 12 x 18 | -- | 1.50 | -- | 1.00 | -- | -- | -- | -- | -- |
| 41 | R7-63D(MOD)(1) | MOTORCYCLE PARKING ONLY | 12 x 18 | -- | 1.50 | -- | 1.00 | -- | -- | -- | -- | -- |
| 42 | R7-63(MOD) | FLEET VEHICLES ONLY | 12 x 18 | -- | 1.50 | -- | 1.00 | -- | -- | -- | -- | -- |
| 43 | R7-63(MOD) | FLEET VEHICLES ONLY | 12 x 18 | -- | 1.50 | -- | 1.00 | -- | -- | -- | -- | -- |
| 44 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | 1 | -- | -- | -- | -- | -- | -- |
| 45 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | 1 | -- | -- | -- | -- | -- | -- |
| 46 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | 1 | -- | -- | -- | -- | -- | -- |
| 47 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | 1 | -- | -- | -- | -- | -- | -- |
| 48 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | 1 | 1 | -- | -- | -- | -- | -- |
| 49 | R7-8A(2S) | -- | 12 x 18 | -- | 1.50 | 1 | 1 | -- | -- | -- | -- | -- |
| 50 | R1-1(2S) | | 30 x 30 | -- | 5.18 | -- | -- | -- | -- | -- | 1 | -- |
| 51 | R2-1(2S) | | 24 x 30 | -- | 5.00 | -- | -- | -- | -- | -- | 1 | -- |
| 52 | | COUNTY EMPLOYEE PARKING LOT | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- |
| 53 | | COUNTY EMPLOYEE PARKING LOT | -- | -- | -- | -- | 1.00 | -- | -- | -- | 1 | -- |
| 54 | R2-1(2S) | 15 MPH | 24 x 30 | -- | 5.00 | -- | 1.00 | -- | -- | -- | -- | -- |
| 55 | R2-1(2S) | 15 MPH | 24 x 30 | -- | 5.00 | -- | 1.00 | -- | -- | -- | -- | -- |
| 56 | R1-1(2S) | | 30 x 30 | -- | 5.18 | -- | 1.00 | -- | -- | -- | -- | -- |
| 57 | R1-2(2S) | | 36 x 31 | -- | 3.88 | -- | 1.00 | -- | -- | -- | -- | -- |
| 58 | R1-1(2S) | | 30 x 30 | -- | 5.18 | -- | 1.00 | -- | -- | -- | -- | -- |
| 59 | R1-1(2S) | | 30 x 30 | -- | 5.18 | -- | 1.00 | -- | -- | -- | -- | -- |
| 60 | R1-1(2S) | | 30 x 30 | -- | 5.18 | -- | 1.00 | -- | -- | -- | -- | -- |
| 61 | R1-1(2S) | | 30 x 30 | -- | 5.18 | -- | 1.00 | -- | -- | -- | -- | -- |
| 62 | R2-1(2S) | 15 MPH | 24 x 30 | -- | 5.00 | -- | 1.00 | -- | -- | -- | -- | -- |
| 63 | R2-1 | 15 MPH | 24 x 30 | -- | 5.00 | -- | 1.00 | -- | -- | -- | -- | -- |
| 64 | R1-1(2S) | | 30 x 30 | -- | 5.18 | -- | 1.00 | -- | -- | -- | -- | -- |
| | TOTALS | | | 289.00 | 297.64 | 32 | 23 | 2000 | 3 | 196 | 4 | -- |

## LIGHTING AND MISCELLANEOUS - PARK-N- RIDE

| CATEGORY | DESCRIPTION | LOCATION | | 653.0135 ** PULL BOXES STEEL, 24x36-INCH EACH | 654.0105 ** CONCRETE BASES TYPE 5 EACH | 655.0610 ** ELECTRICAL WIRE LIGHTING 12 AWG LF | 657.0255 ** TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH | 657.0322 ** POLES TYPE 5 ALUMINUM EACH | 657.0610 ** LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP, 6-FT EACH | 659.0802 ** PLAQUES SEQUENCE IDENTIFICATION EACH | 659.1120 LUMINAIRE UTILITY LED B EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1100 | PB-WR-1 | N = 302281.310 | E = 570178.588 | 1 | -- | -- | -- | -- | -- | -- | -- | |
| | AWR1/BWR1 | N = 302309.936 | E = 570075.266 | -- | 1 | 224 | 1 | 1 | 2 | 2 | 2 | |
| | PB-WR-2 | N = 302433.032 | E = 570178.545 | 1 | -- | -- | -- | -- | -- | -- | -- | |
| | AWR2/BWR2 | N = 302434.126 | E = 570027.852 | -- | 1 | 224 | 1 | 1 | 2 | 2 | 2 | |
| | AWR3/BWR3 | N = 302558.814 | E = 569992.743 | -- | 1 | 224 | 1 | 1 | 2 | 2 | 2 | |
| | AWR4/BWR4 | N = 302639.207 | E = 570007.000 | -- | 1 | 224 | 1 | 1 | 2 | 2 | 2 | |
| | PB-WR-3 | N = 302627.495 | E = 569922.520 | 1 | -- | -- | -- | -- | -- | -- | -- | |
| | AWR5 | N = 302726.239 | E = 569897.040 | -- | 1 | 112 | 1 | 1 | 1 | 1 | 1 | |
| | CWR1/DWR1 | N = 302433.580 | E = 570112.765 | -- | 1 | 224 | 1 | 1 | 2 | 2 | 2 | |
| | CWR2/DWR2 | N = 302557.910 | E = 570113.494 | -- | 1 | 224 | 1 | 1 | 2 | 2 | 2 | |
| | CWR3 | N = 302646.770 | E = 570153.306 | -- | 1 | 112 | 1 | 1 | 1 | 1 | 1 | |
| | DWR3 | N = 302724.448 | E = 570188.704 | -- | 1 | 112 | 1 | 1 | 1 | 1 | 1 | |
| | CWR4 | N = 302759.779 | E = 570042.918 | -- | 1 | 112 | 1 | 1 | 1 | 1 | 1 | |
| | DWR4 | N = 302828.435 | E = 570084.751 | -- | 1 | 112 | 1 | 1 | 1 | 1 | 1 | |
| | CWR5 | N = 302818.407 | E = 569996.269 | -- | 1 | 112 | 1 | 1 | 1 | 1 | 1 | |
| | | | TOTAL | 3 | 12 | 2016 | 12 | 12 | 18 | 18 | 18 | |

** = ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

## LIGHTING - WIRE AND CONDUIT - PARK-N-RIDE

| CATEGORY | FROM | TO | ** 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH LF | ** 655.0620 ELECTRICAL WIRE LIGHTING 8 AWG LF | REMARKS |
|---|---|---|---|---|---|
| 1100 | HL-40-WR | PB-WR-1 | 50 | 400 | |
| | HL-40-WR | PB-WR-1 | 50 | 200 | |
| | PB-WR-1 | AWR1/BWR1 | 115 | 460 | |
| | PB-WR-1 | PB-WR-2 | 160 | 1280 | |
| | PB-WR-2 | CWR1/DWR1 | 75 | 600 | |
| | CWR1/DWR1 | AWR2/BWR2 | 90 | 360 | |
| | AWR2/BWR2 | AWR3/BWR3 | 135 | 540 | |
| | AWR3/BWR3 | AWR4/BWR4 | 95 | 380 | |
| | AWR4/BWR4 | PB-WR-3 | 90 | 270 | |
| | PB-WR-3 | AWE5 | 110 | 330 | |
| | CWR1/DWR1 | CWR2/DWR2 | 130 | 520 | |
| | CWR2/DWR2 | CWR3 | 105 | 420 | |
| | CWR3 | DWR3 | 95 | 380 | |
| | DWR3 | CWR4 | 180 | 720 | |
| | DWR3 | DWR4 | 175 | 525 | |
| | DWR4 | CWR5 | 100 | 300 | |
| | | TOTAL | 1755 | 7685 | |

** = ADDITIONAL QUANITES SHOWN ELSEWHERE

## LIGHTING AND MISCELLANEOUS - DPW

| CATEGORY | DESCRIPTION | LOCATION | | 653.0135** PULL BOXES STEEL, 24x36-INCH EACH | 654.0105** CONCRETE BASES TYPE 5 EACH | 654.0108 CONCRETE BASES TYPE 8 EACH | 655.0610** ELECTRICAL WIRE LIGHTING 12 AWG LF | 657.0210 TRANSFORMER BASE BREAKAWAY 15-17 INCH BOLT CIRCLE EACH | 657.0255** TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH | 657.0322** POLES TYPE 5 ALUMINUM EACH | 657.0375 POLES TYPE A ALUMINUM EACH | 657.0610** LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP, 6-FT EACH | 657.0620 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 4-FT EACH | 659.0802** PLAQUES SEQUENCE IDENTIFICATION EACH | 659.1120** LUMINAIRE UTILITY LED B EACH | 659.1130 LUMINAIRE UTILITY LED D EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1100 | AMD1 | N = 302962.192 | E = 570417.809 | -- | 1 | -- | 112 | -- | 1 | 1 | -- | 1 | -- | 1 | 1 | -- | |
| | BMD1 | N = 303060.502 | E = 570459.126 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | PB-LPC-1 | N = 303089.495 | E = 570463.236 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | PB-MDP-1 | N = 303182.448 | E = 570525.796 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | CMD1 | N = 303208.386 | E = 570542.184 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | AMD2 | N = 303123.620 | E = 570637.290 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | BMD2/CMD2 | N = 303105.215 | E = 570836.621 | -- | -- | 1 | 366 | 1 | -- | -- | 1 | -- | 2 | 2 | -- | 2 | |
| | AMD3 | N = 303235.505 | E = 570762.534 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | BMD3 | N = 302990.642 | E = 570705.257 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | CMD3 | N = 302935.375 | E = 570825.735 | -- | 1 | -- | 112 | -- | 1 | 1 | -- | 1 | -- | 1 | 1 | -- | |
| | AMD4 | N = 302934.970 | E = 570992.440 | -- | 1 | -- | 112 | -- | 1 | 1 | -- | 1 | -- | 1 | 1 | -- | |
| | PB-MDP-2 | N = 302934.851 | E = 570548.675 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | PB-MDP-3 | N = 302935.767 | E = 570694.920 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | PB-MDP-4 | N = 302933.690 | E = 570994.611 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | APP1 | N = 303057.672 | E = 571100.273 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | PB-MDP-5 | N = 303068.268 | E = 571096.738 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | PB-PP-4 | N = 303050.935 | E = 571188.133 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | PB-PP-1 | N = 302938.442 | E = 571206.667 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | BPP1 | N = 302936.859 | E = 571127.552 | -- | 1 | -- | 112 | -- | 1 | 1 | -- | 1 | -- | 1 | 1 | -- | |
| | PB-PP-2 | N = 302935.362 | E = 571061.691 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | CPP1 | N = 302813.038 | E = 571055.590 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | APP2 | N = 302667.635 | E = 571054.220 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | BPP2 | N = 302836.234 | E = 571230.604 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | PB-PP-5 | N = 302781.973 | E = 571249.777 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | CPP2 | N = 302664.694 | E = 571271.932 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | PB-PP-3 | N = 302574.809 | E = 571288.670 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | APP3 | N = 302576.322 | E = 571172.291 | -- | -- | 1 | 183 | 1 | -- | -- | 1 | -- | 1 | 1 | -- | 1 | |
| | PB-PP-6 | N = 302571.057 | E = 571294.853 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | DPP1 | N = 302543.240 | E = 571274.957 | -- | 1 | -- | 112 | -- | 1 | 1 | -- | 1 | -- | 1 | 1 | -- | |
| | PB-PP-7 | N = 302494.900 | E = 571310.478 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | EPP1/FPP1 | N = 302494.744 | E = 571195.942 | -- | 1 | -- | 224 | -- | 1 | 1 | -- | 2 | -- | 2 | 2 | -- | |
| | DPP2/EPP2 | N = 302494.744 | E = 571057.887 | -- | 1 | -- | 224 | -- | 1 | 1 | -- | 2 | -- | 2 | 2 | -- | |
| | FPP2 | N = 302449.423 | E = 571317.655 | -- | 1 | -- | 112 | -- | 1 | 1 | -- | 1 | -- | 1 | 1 | -- | |
| | PB-PP-8 | N = 302370.494 | E = 571336.938 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | DPP3/EPP3 | N = 302370.596 | E = 571196.537 | -- | 1 | -- | 224 | -- | 1 | 1 | -- | 2 | -- | 2 | 2 | -- | |
| | FPP3/DPP4 | N = 302369.782 | E = 571059.555 | -- | 1 | -- | 224 | -- | 1 | 1 | -- | 2 | -- | 2 | 2 | -- | |
| | EPP4 | N = 302310.536 | E = 571317.306 | -- | 1 | -- | 112 | -- | 1 | 1 | -- | 1 | -- | 1 | 1 | -- | |
| | FPP4 | N = 302241.902 | E = 571207.789 | -- | 1 | -- | 112 | -- | 1 | 1 | -- | 1 | -- | 1 | 1 | -- | |
| | DPP5 | N = 302240.994 | E = 571080.755 | -- | 1 | -- | 112 | -- | 1 | 1 | -- | 1 | -- | 1 | 1 | -- | |
| | | | TOTALS | 14 | 13 | 12 | 4283 | 12 | 13 | 13 | 12 | 17 | 13 | 30 | 17 | 13 | |

** = ADDITIONAL QUANTITIES SHOWN ELSEWHERE

## LIGHTING - WIRE AND CONDUIT - DPW

| CATEGORY | CIRCUIT ID | FROM | TO | RACEWAY | WIRING | 652.0145 CONDUIT RIGID METALLIC 4-INCH LF | 652.0225** CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH LF | 652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3 -INCH LF | 652.0240 CONDUIT RIGID NONMETALLIC SCHEDULE 40 4 -INCH LF | 652.0325 CONDUIT RIGID NONMETALLIC SCHEDULE 80 2 -INCH LF | 655.0610 ** ELECTRICAL WIRE LIGHTING 12 AWG LF | 655.0620** ELECTRICAL WIRE LIGHTING 8 AWG LF | 655.0625 ELECTRICAL WIRE LIGHTING 6 AWG LF | SPV.0090.1035 ELECTRICAL WIRE LIGHTING 500 KCMIL LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1100 | ES | METERING PEDESTAL | STUB AT SWAN BLVD | 4" (RMC) | EMPTY (CAP ENDS) | 125 | -- | -- | -- | -- | -- | -- | -- | -- | WIRING BY WE ENERGIES |
| | MDP-1 | MDP (RM 301) | TRANSFORMER XFMR-E (RM 108) | 2" (PVC) | 3#6,1#6 GND | -- | 475 | -- | -- | -- | -- | -- | 1928 | -- | |
| | MDP-2 | MDP (RM 301) | SALT CONVEYOR NON-FUSED DISC SWITCH | 2" (PVC) | 3#6,1#6 GND | -- | 251 | -- | -- | -- | -- | -- | 1032 | -- | |
| | MDP-2A | MDP (RM 301) | SALT CONVEYOR PUSHBUTTON STATION | 2" (PVC) | 6#12 | -- | 251 | -- | -- | -- | 1272 | -- | -- | -- | |
| | MDP-3 | MDP (RM 301) | PB-MDP-2 | 4" (PVC) | 4#500 KCMIL,1#500 KCMIL GND | -- | -- | -- | 70 | -- | -- | -- | -- | 308 | |
| | MDP-3.1 | PB-MDP-2 | PB-MDP-3 | 4" (PVC) | 4#500 KCMIL,1#500 KCMIL GND | -- | -- | -- | 465 | -- | -- | -- | -- | 1888 | |
| | MDP-3.2 | PB-MDP-3 | PB-MDP-4 | 4" (PVC) | 4#500 KCMIL,1#500 KCMIL GND | -- | -- | -- | 280 | -- | -- | -- | -- | 1148 | |
| | MDP-3.3 | PB-MDP-4 | PP-1 (RM 200) | 4" (PVC) | 4#500 KCMIL,1#500 KCMIL GND | -- | -- | -- | 105 | -- | -- | -- | -- | 448 | EMPTY |
| | MDP-4 | MDP (RM 301) | POLE BMD1 (NOTE 4) | 2" (PVC) | 4#6,1#6 GND (A,B,C,N,GND) | -- | 115 | -- | -- | -- | -- | -- | 610 | -- | |
| | MDP-4.1 | POLE BMD1 | POLE AMD1 | 2" (PVC) | 2#6,1#6 GND (A,N,GND) | -- | 130 | -- | -- | -- | -- | -- | 411 | -- | |
| | MDP-4.2 | POLE BMD1 | PB-MDP-1 | 2" (PVC) | 4#6,1#6 GND (A,B,C,N,GND) | -- | 145 | -- | -- | -- | -- | -- | 760 | -- | |
| | MDP-4.3 | PB-MDP-1 | POLE CMD1 | 2" (PVC) | 2#6,1#6 GND (C,N,GND) | -- | 40 | -- | -- | -- | -- | -- | 141 | -- | |
| | MDP-4.4 | PB-MDP-1 | POLE AMD2 | 2" (PVC) | 4#6,1#6 GND (A,B,C,N,GND) | -- | 130 | -- | -- | -- | -- | -- | 685 | -- | |
| | MDP-4.5 | POLE AMD2 | POLE AMD3 | 2" (PVC) | 2#6,1#6 GND (A,N,GND) | -- | 176 | -- | -- | -- | -- | -- | 549 | -- | |
| | MDP-4.6 | POLE AMD2 | POLE BMD2/CMD2 | 2" (PVC) | 3#6,1#6 GND (B,C,N,GND) | -- | 205 | -- | -- | -- | -- | -- | 848 | -- | |
| | MDP-5 | MDP (RM 301) | POLE BMD3 | 2" (PVC) | 4#6,1#6 GND (A,B,C,N,GND) | -- | 205 | -- | -- | -- | -- | -- | 1060 | -- | |
| | MDP-5.1 | POLE BMD3 | PB-MDP-2 | 2" (PVC) | 3#6,1#6 GND (A,C,N,GND) | -- | 65 | -- | -- | -- | -- | -- | 288 | -- | |
| | MDP-5.2 | PB-MD-2 | POLE CMD3 | 2" (PVC) | 3#6,1#6 GND (A,C,N,GND) | -- | 135 | -- | -- | -- | -- | -- | 426 | -- | |
| | MDP-5.3 | POLE CMD3 | POLE AMD4 | 2" (PVC) | 2#6,1#6 GND (A,N,GND) | -- | 170 | -- | -- | -- | -- | -- | 531 | -- | |
| | LPC-1 | LP-C (RM 301) | SALT DOME LIGHTING PANEL LP-D | 2" (PVC) | 4#6,1#6 GND | -- | 250 | -- | -- | -- | -- | -- | 1285 | -- | |
| | LPC-3 | LP-C (RM 301) | SCALE PEDESTAL | 2" (PVC-80) | 2#12.1#12 GND | -- | -- | -- | -- | 215 | 680 | -- | -- | -- | |
| | LPC-3.1 | ROOM 301 | SCALE PEDESTAL | 2" (PVC-80) | 6#12 | -- | -- | -- | -- | 215 | 1350 | -- | -- | -- | EMPTY |
| | LPC-3.2 | SCALE PEDESTAL | SCALE PIT | 2" (PVC) | EMPTY (CAP ENDS) | -- | 15 | -- | -- | -- | -- | -- | -- | -- | EMPTY |
| | LPC-4 | BRINE ROOM | STOP LIGHT FOR SPRAY BAR (NOTE 5) | 2" (PVC-80) | 4#12,1#12 GND | -- | -- | -- | -- | 55 | 310 | -- | -- | -- | |
| | LPC-4.1 | BRINE ROOM | INDUCTIVE LOOP FOR STOP LIGHT (NOTE 6) | 2" (PVC-80) | 4#12 LOOP + 2#12 LEADIN | -- | -- | -- | | 225 | 880 | -- | -- | -- | |
| | PP-1 | PP-1 (RM 200) | POLE APP1 | 2" (PVC) | 3#8 (A,N,GND) | -- | 95 | -- | -- | -- | -- | 306 | -- | -- | |
| | PP-2 | PP-1 (RM 200) | PB-PP-1 | 2" (PVC) | 5#6 (A,B,C,N,GND) | -- | 175 | -- | -- | -- | -- | -- | 910 | -- | |
| | PP-2.1 | PB-PP-1 | POLE BPP1 | 2" (PVC) | 5#6 (A,B,C,N,GND) | -- | 155 | -- | -- | -- | -- | -- | 810 | -- | |
| | PP-2.2 | POLE BPP1 | PB-PP-2 | 2" (PVC) | 4#6 (A,C,N,GND) | -- | 90 | -- | -- | -- | -- | -- | 388 | -- | |
| | PP-2.3 | PB-PP-2 | POLE CPP1 | 2" (PVC) | 4#6 (A,C,N,GND) | -- | 135 | -- | -- | -- | -- | -- | 568 | -- | |
| | PP-2.4 | POLE CPP1 | POLE APP2 | 2" (PVC) | 3#6 (A,N,GND) | -- | 155 | -- | -- | -- | -- | -- | 486 | -- | |
| | PP-2.5 | PB-PP-1 | POLE BPP2 | 2" (PVC) | 5#6 (A,B,C,N,GND) | -- | 125 | -- | -- | -- | -- | -- | 660 | -- | |
| | PP-2.6 | POLE BPP2 | POLE CPP2 | 2" (PVC) | 4#6 (A,C,N,GND) | -- | 185 | -- | -- | -- | -- | -- | 768 | -- | |
| | PP-2.7 | POLE CPP2 | PB-PP-3 | 2" (PVC) | 3#6 (A,N,GND) | -- | 105 | -- | -- | -- | -- | -- | 336 | -- | |
| | PP-2.8 | PB-PP-3 | POLE APP3 | 2" (PVC) | 3#6 (A,N,GND) | -- | 125 | -- | -- | -- | -- | -- | 396 | -- | |
| | PP-3 | PP-1 (RM 200) | PB-PP-4 | 2" (PVC) | 5#6 (D,E,F,N,GND) | -- | 65 | -- | -- | -- | -- | -- | 360 | -- | |
| | PP-3.1 | PB-PP-4 | PB-PP-5 | 2" (PVC) | 5#6 (D,E,F,N,GND) | -- | 285 | -- | -- | -- | -- | -- | 1460 | -- | |
| | PP-3.2 | PB-PP-5 | PB-PP-6 | 2" (PVC) | 5#6 (D,E,F,N,GND) | -- | 220 | -- | -- | -- | -- | -- | 1135 | -- | |
| | PP-3.3 | PB-PP-6 | POLE DPP1 | 3" (PVC) | 10#6 (D,E,F,N,GND; D,E,F,N,GND) | -- | -- | 50 | -- | -- | -- | -- | -- | -- | LOOP BACK. DO NOT SPLICE IN PB |
| | PP-3.4 | PB-PP-6 | PB-PP-7 | 3" (PVC) | 10#6 (D,E,F,N,GND; D,E,F,N,GND) | -- | -- | 90 | -- | -- | -- | -- | -- | -- | |
| | PP-3.5 | PB-PP-7 | POLE EPP1/FPP1 | 2" (PVC) | 5#6 (D,E,F,N,GND) | -- | 125 | -- | -- | -- | -- | -- | 660 | -- | |
| | PP-3.6 | POLE EPP1/FPP1 | POLE DPP2/EPP2 | 2" (PVC) | 4#6 (D,E,N,GND) | -- | 145 | -- | -- | -- | -- | -- | 608 | -- | |
| | PP-3.7 | PB-PP-7 | POLE FPP2 | 2" (PVC) | 5#6 (D,E,F,N,GND) | -- | 55 | -- | -- | -- | -- | -- | 310 | -- | |
| | PP-3.8 | POLE FPP2 | PB-PP-8 | 3" (PVC) | 10#6 (D,E,F,N,GND; D,E,F,N,GND) | -- | -- | 90 | -- | -- | -- | -- | -- | -- | |
| | PP-3.9 | PB-PP-8 | POLE DPP3/EPP3 | 2" (PVC) | 5#6 (D,E,F,N,GND) | -- | 145 | -- | -- | -- | -- | -- | 760 | -- | |
| | PP-3.10 | POLE DPP3/EPP3 | POLE FPP3/DPP4 | 2" (PVC) | 4#6 (D,F,N,GND) | -- | 145 | -- | -- | -- | -- | -- | 608 | -- | |
| | PP-3.11 | PB-PP-8 | POLE EPP4 | 2" (PVC) | 5#6 (D,E,F,N,GND) | -- | 70 | -- | -- | -- | -- | -- | 385 | -- | |
| | PP-3.12 | POLE EPP4 | POLE FPP4 | 2" (PVC) | 4#6 (D,F,N,GND) | -- | 140 | -- | -- | -- | -- | -- | 588 | -- | |
| | PP-3.13 | POLE FPP4 | POLE DPP5 | 2" (PVC) | 3#6 (D,N,GND) | -- | 135 | -- | -- | -- | -- | -- | 426 | -- | |
| | LPA-1 | LP-A | DEWATERING FACILITY LP-DW | 2" (PVC) | 4#6, 1#6 GND | -- | 125 | -- | -- | -- | -- | -- | 660 | -- | |
| TOTAL | | | | | | 125 | 5758 | 230 | 920 | 710 | 4492 | 306 | 23836 | 3792 | |

** = ADDITIONAL QUANTITIES SHOWN ELSEWHERE

NOTES

1. RACEWAY AND WIRING TO RECEPTACLES, INTERIOR AND BUILDING MOUNTED LIGHTING, HVAC EQUIPMENT, DOOR OPENERS AND OTHER INTERIOR DEVICES NOT INCLUDED IN THIS TABLE. SEE SPV.0105.1025; SPV.0105.1026; SPV.0105.1027 AND SPV.0105.0101.
2. RACEWAY TYPES: RMC=RIGID METALLIC CONDUIT; PVC=PVC RNC SCH 40; PVC80=PVD RNC SCH 80;
3. THE INTERIOR PORTION OF RACEWAY AND WIRING TO AN EXTERIOR DEVICE (EXCEPT WALLPACKS) IS PART OF THE RESPECTIVE SPV.
4. VIA LIGHTING CONTACTOR IN RM 301. LIGHTING CONTACTOR NEMA 1, 3 POLE, 30A CONTACTS, HAND-OFF-AUTO SWITCH. AUTO VIA PE CELL ON EAST SIDE OF BUILDING. SIMILAR IN ROOM 20-0 EXCEPT 6 POLE.
5. CONTROLLED FROM SPRAY BAR SYSTEM. CONDUIT AND WIRE IN BRINE ROOM BY BRINE SYSTEM SUPPLIER. DPW TO FURNISH ELECTRONICS FOR LOOP DETECTOR INDUCTION SIGNAL TO CONTACT CLOSURE.
6. LOOP IS INPUT TO SPRAY BAR SYSTEM WHICH IS PART OF THE BRINE MAKING SYSTEM. SEE WISDOT E.D.D. 9 F 15-4a. SEE ALSO NOTE 5

## LIGHTING -SERVICES & DISTRIBUTION CENTERS

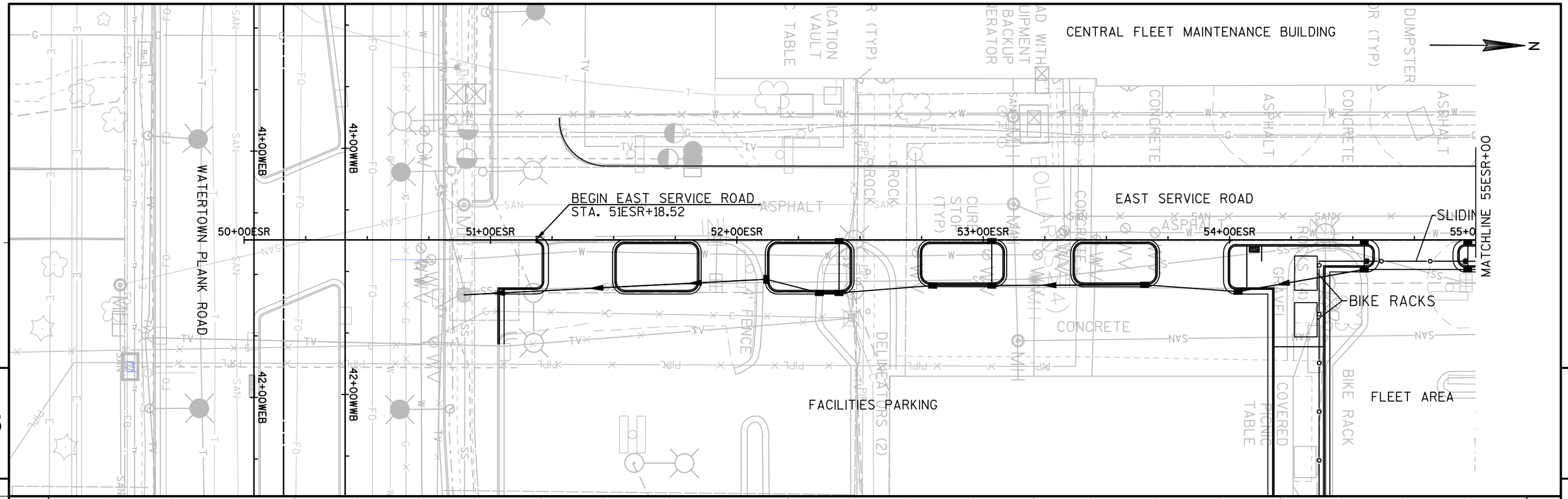
| CATEGORY | DESCRIPTION | LOCATION | 654.0230 CONCRETE CONTROL CABINET BASES TYPE L30 EACH | 656.0400.0001 ELECTRIC SERVICE MAIN LUGS ONLY METER PEDESTAL EACH | 656.0400.0002 ELECTRIC SERVICE MAIN LUGS ONLY METER PEDESTAL EACH | ** 659.0802 PLAQUES SEQUENCE IDENTIFICATION EACH | 659.2230 LIGHTING CONTROL CABINETS 240/480 30-INCH EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 1100 | HL-40-WR | N = 302250.842 E = 570148.891 | 1 | 1 | -- | 1 | 1 | 240/480V, 1 PH, 3W, 100A |
| | DPW | SALT BRINE BUILDING - ROOM 301 | -- | -- | 1 | -- | -- | NOTE 1; 480Y/277V, 3 PH, 4W, 400A |
| | | TOTAL | 1 | 1 | 1 | 1 | 1 | |

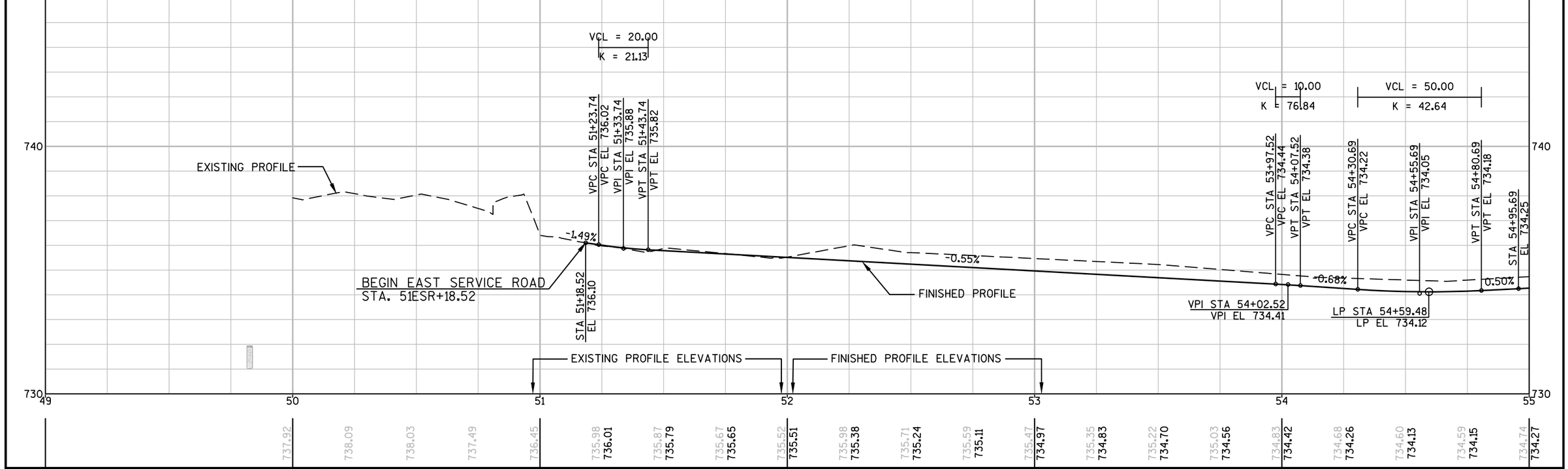
** = ADDITIONAL QUANTITIES SHOWN ELSEWHERE

NOTES

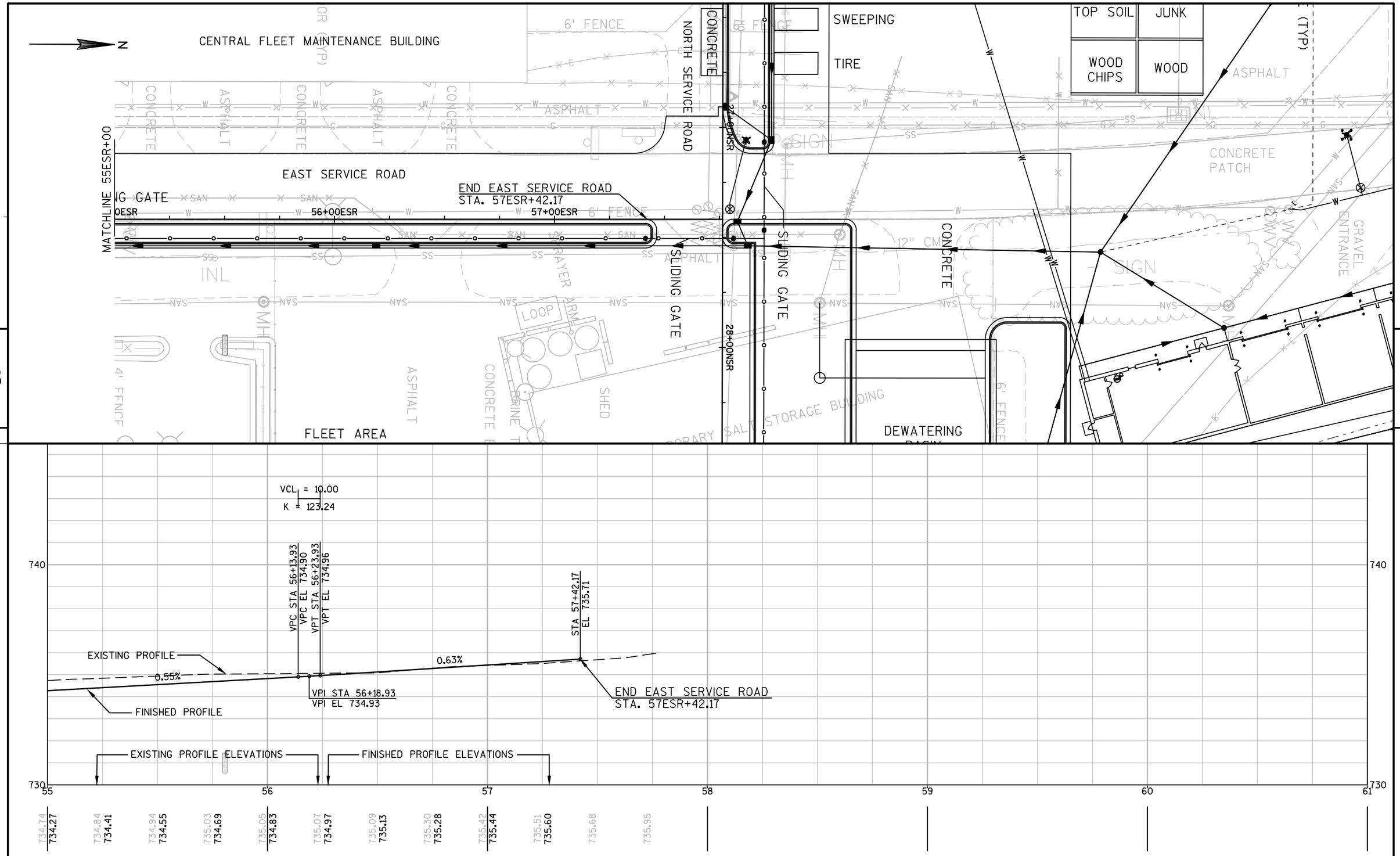
1. THE COST OF ELECTRICAL SERVICE TO THE SALT BRINE BUILDING IS NOT PART OF SPV.0105.1027. THE SERVICE COST IS IN ADDITION TO THE BUILDING COST.

| CATEGORY | DESCRIPTION | SPV.0105.1025 COMMON ELECTRICAL WORK STORAGE BUILDING 1 LS | SPV.0105.1026 COMMON ELECTRICAL WORK STORAGE BUILDING 2 LS | SPV.0105.1027 COMMON ELECTRICAL WORK SALT BRINE BUILDING LS | REMARKS |
|---|---|---|---|---|---|
| 1100 | STORAGE BUILDING 1 ELECTRICAL | 1 | -- | -- | |
| | STORAGE BUILDING 2 ELECTRICAL | -- | 1 | -- | |
| | SALT BRINE BUILDING ELECTRICAL | -- | -- | 1 | |
| | TOTAL | 1 | 1 | 1 | |



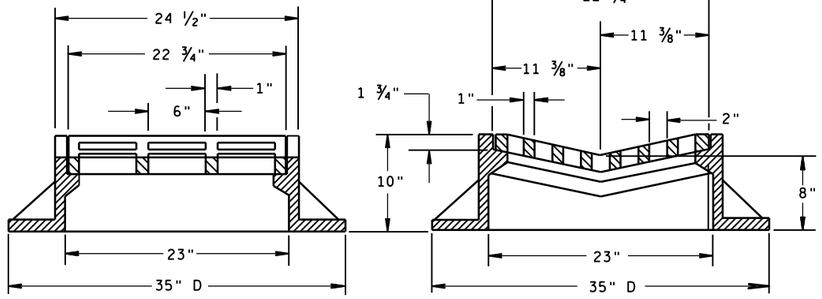

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PLAN AND PROFILE: EAST SERVICE ROAD | SHEET 206 | E |
|---|---|---|---|---|---|

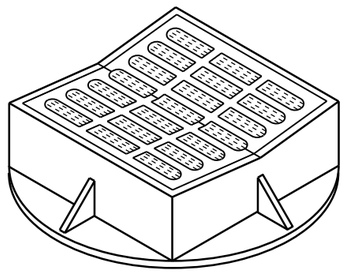



| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | PLAN AND PROFILE: EAST SERVICE ROAD | SHEET 207 | E |
|---|---|---|---|---|---|

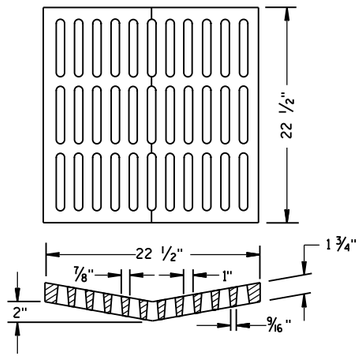
# Standard Detail Drawing List

| | |
|---|---|
| 08A05-19B | INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM |
| 08A05-19C | INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S |
| 08A05-19D | INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M |
| 08A08-01 | CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER |
| 08B09-01 | MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER |
| 08C06-01 | INLETS 3-FT AND 4-FT DIAMETER |
| 08D05-15A | CURB RAMPS TYPES 1 AND 1-A |
| 08D05-15B | CURB RAMPS TYPES 2 AND 3 |
| 08D05-15C | CURB RAMPS TYPES 4A AND 4A1 |
| 08D05-15D | CURB RAMPS TYPE 4B AND 4B1 |
| 08D05-15E | CURB RAMPS TYPES 5, 6, 7A, 7B & 8 |
| 08D16-10 | CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES |
| 08E09-06 | SILT FENCE |
| 08E10-02 | INLET PROTECTION TYPE A, B, C AND D |
| 08E14-01 | TRACKING PAD |
| 08F04-07 | JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL |
| 08F05-01 | CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER |
| 09B02-08 | CONDUIT UNDER PAVED HIGHWAYS |
| 09B04-11 | PULL BOX |
| 09C02-07 | CONCRETE BASES, TYPES 1, 2, 5, & 6 |
| 09C03-04 | TRANSFORMER/PEDESTAL BASES |
| 09C09-05 | CONCRETE BASE, TYPE 8 |
| 09C14-01 | CONCRETE CONTROL CABINET BASE, TYPE L |
| 09E01-13D | POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET) |
| 09E02-04 | FREEWAY LIGHTING UNIT POLE WIRING |
| 09H11-01 | IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS |
| 10A01-03 | ELECTRICAL HANDHOLE WIRING |
| 10A02-02 | IDENTIFICATION PLAQUES LIGHT POLES |
| 10A17-04A | POLES, TYPES 7 ALUMINUM - 35'-10" SHAFT |
| 10A17-04B | POLES, TYPES A ALUMINUM 47'-6" SHAFT |
| 10A17-04C | POLES, TYPES E, ALUMINUM 49'-0" SHAFT |
| 10A18-05A | LUMINAIRE ARMS, SINGLE MEMBER 6-INCH CLAMP |
| 10A18-05B | LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP |
| 14A02-01 | TREE PLANTING DETAIL |
| 15B03-13A | FENCE CHAIN LINK |
| 15B03-13B | FENCE CHAIN LINK |
| 15C07-12A | PAVEMENT MARKING SYMBOLS |
| 15C07-12C | PAVEMENT MARKING ARROWS |
| 15C08-16A | PAVEMENT MARKING (MAINLINE) |
| 15C08-16B | PAVEMENT MARKING (INTERSECTIONS) |
| 15C33-01 | STOP LINE AND CROSSWALK PAVEMENT MARKING |
| 16A01-06 | LANDMARK REFERENCE MONUMENTS AND COVERS |



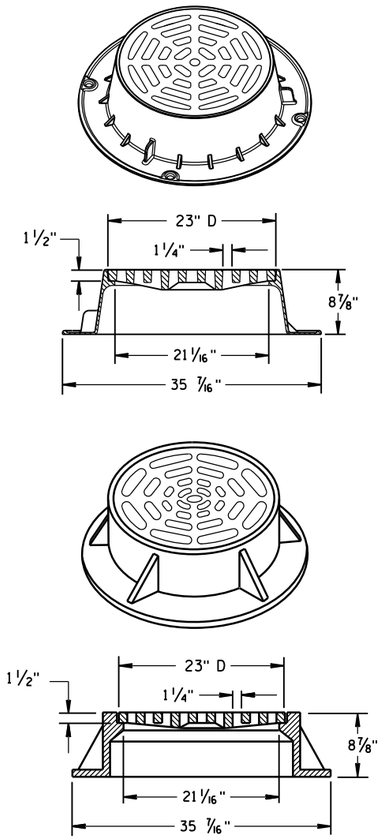



TYPE "B"




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"

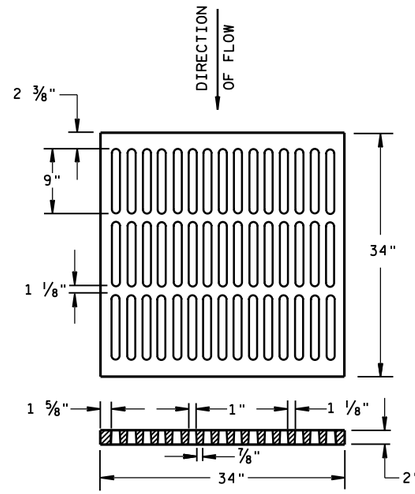
NOTE: EITHER CASTING IS ACCEPTABLE

## 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.

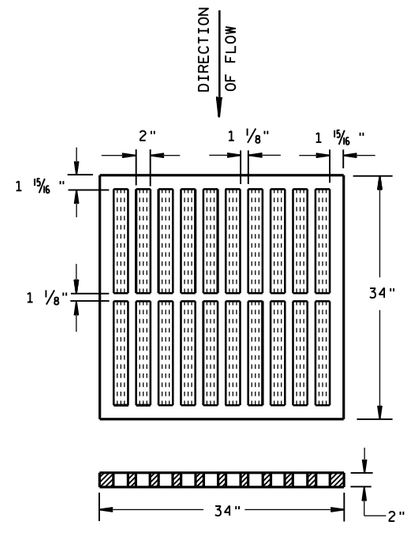
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



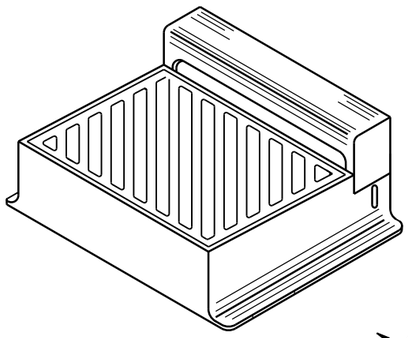

ALTERNATIVE TYPE "MS"

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



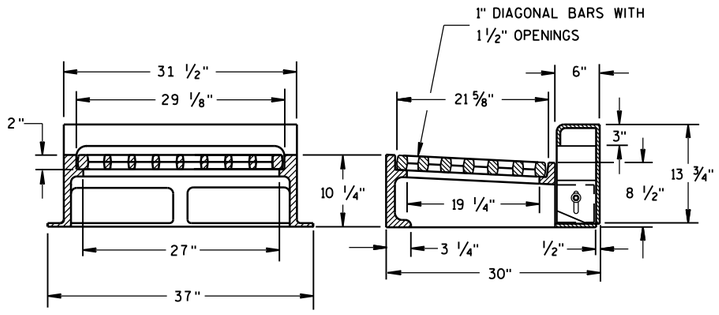

TYPE "MS"

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






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




NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

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

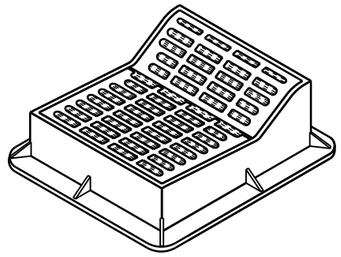
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

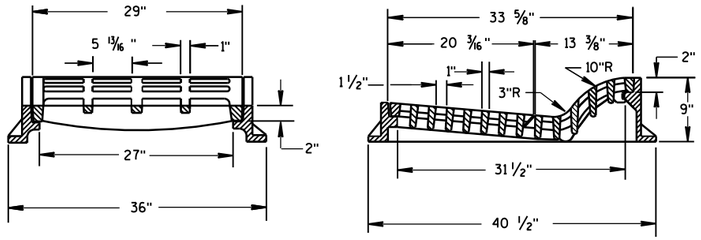
APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA



6

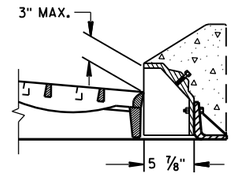
S.D.D. 8 A 5-19b






## TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.




## ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

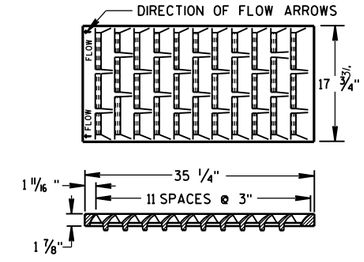
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

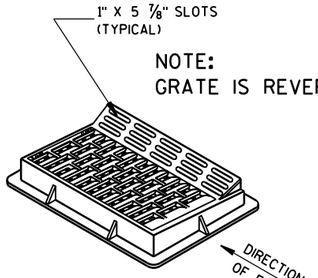
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

## GENERAL NOTES

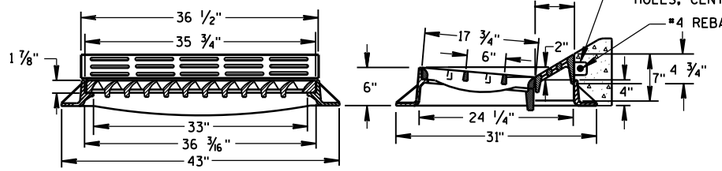
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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



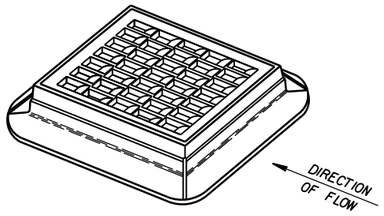

NOTE:
GRATE IS REVERSIBLE.

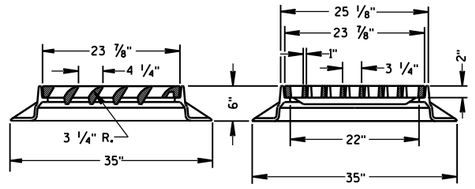



## TYPE "HM"

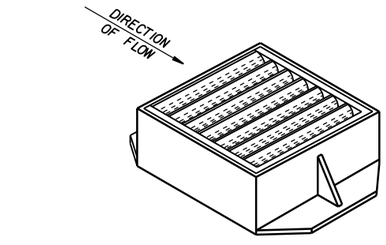
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

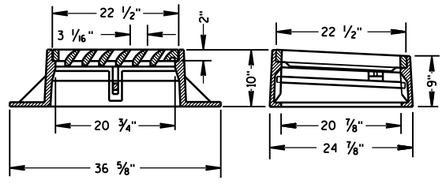
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



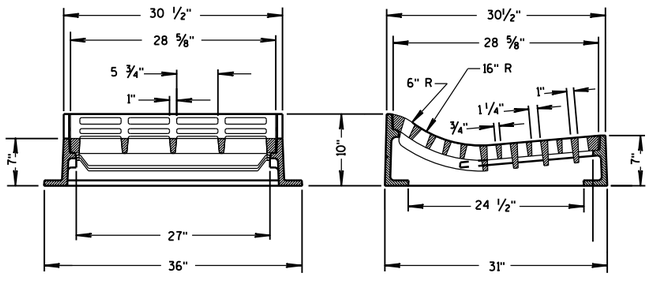




## TYPE "S"



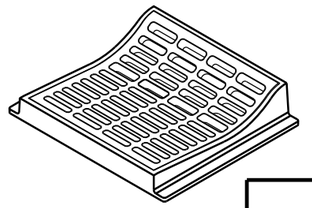




## TYPE "V"




## TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



## INLET COVERS
## TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

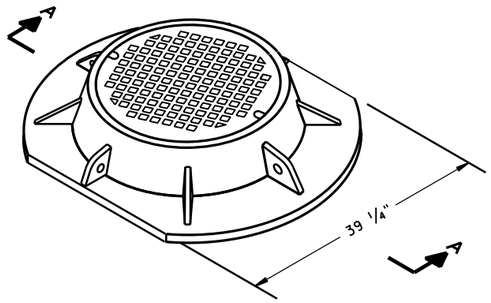
APPROVED
11/27/2013
DATE

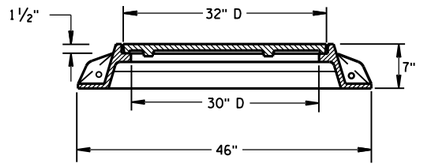
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

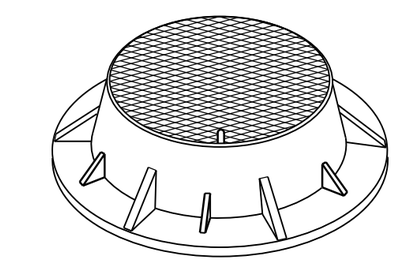


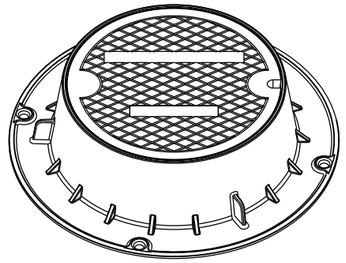
6
S.D.D. 8 A 5-19c

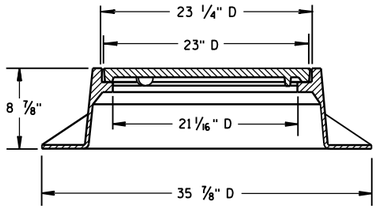


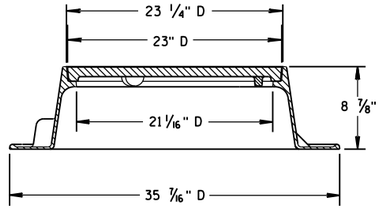




SECTION A-A
**TYPE "K"**







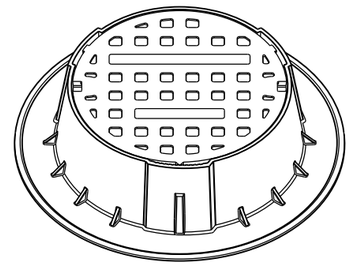

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**NOTE: EITHER CASTING IS ACCEPTABLE**

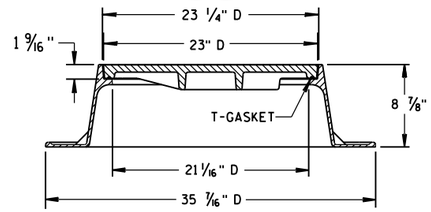
## GENERAL NOTES

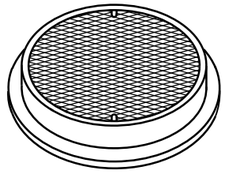
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

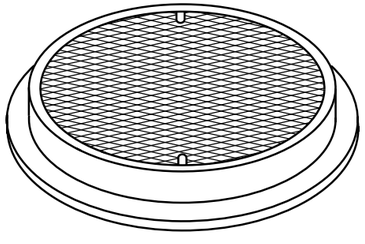
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

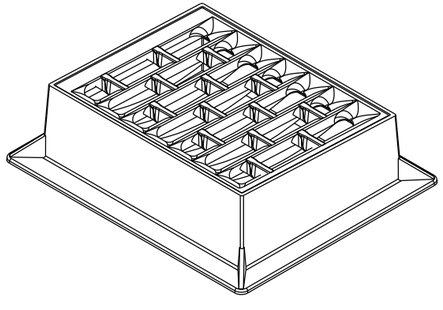
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

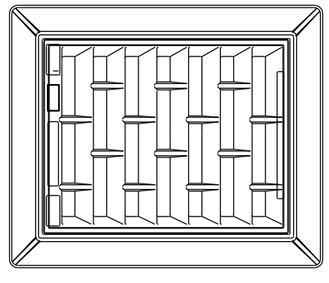


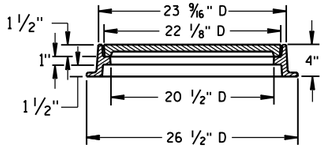


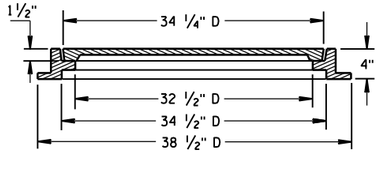




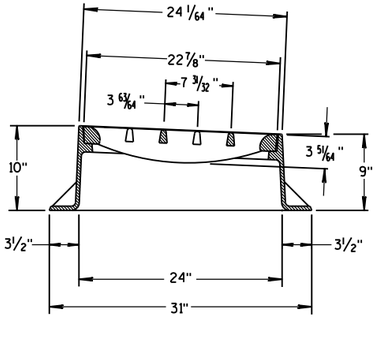


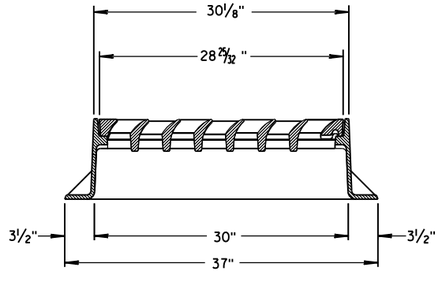



**TYPE "L"**

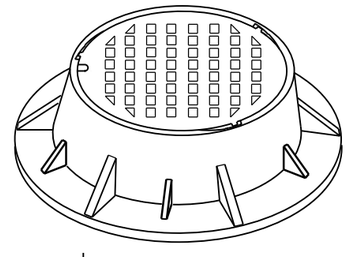


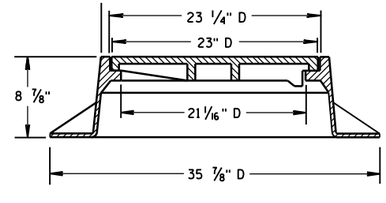

**TYPE "M"**




**INLET COVER TYPE "BW"**






**TYPE "J" SPECIAL**
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
**NOTE: EITHER CASTING IS ACCEPTABLE**

**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

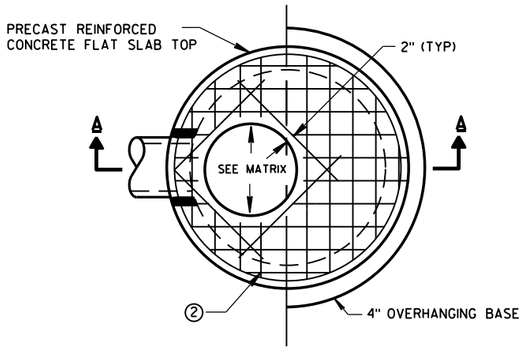
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER



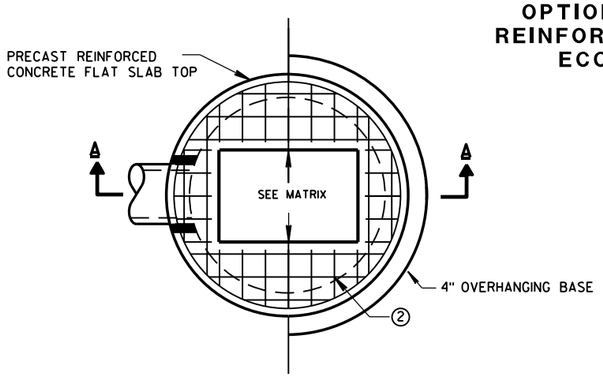
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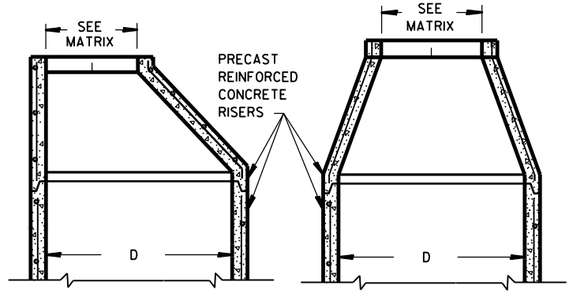
S.D.D. 8 A 5-19d




PLAN VIEW CIRCULAR OPENING



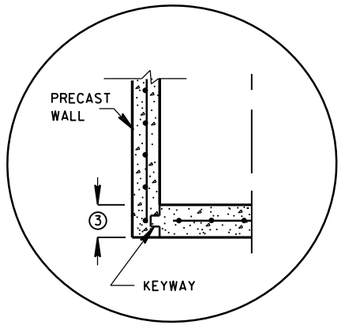

PLAN VIEW RECTANGULAR OPENING



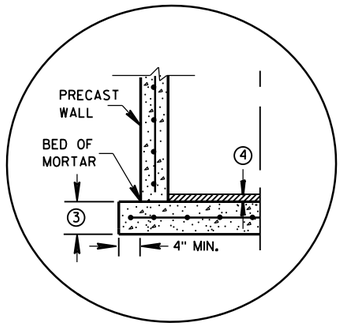

OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP




OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

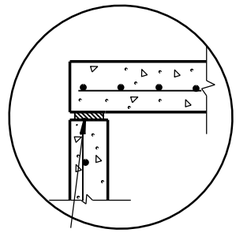



PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



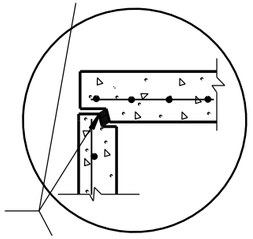

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

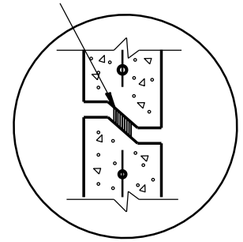


TOP WITH PLAIN END JOINT

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

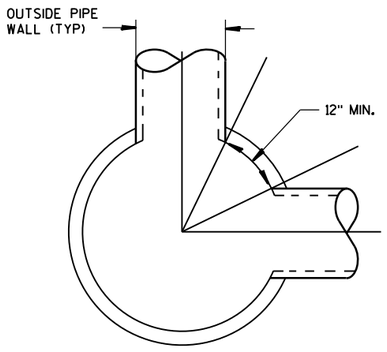


TOP WITH TONGUE AND GROOVE JOINT

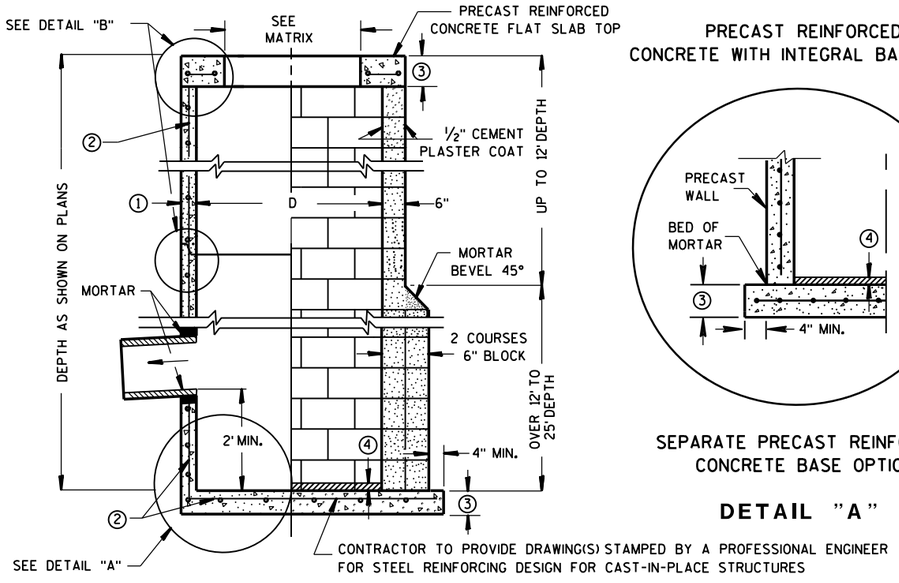


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"




DETAIL "C"




CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

SECTION A-A

**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**

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

## 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 CATCH BASIN 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 GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

④ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

## CATCH BASIN COVER OPENING MATRIX

| CATCH BASIN SIZE | INLET COVER TYPE | ALL A'S | ALL B'S | BW | C | F | ALL H'S | S | T | V | WM | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | OPENING SIZE (FT) | | | | | | | | | | | |
| 3-FT | 2X2 | X | X | | | | | X | | X | | |
| | 2 DIA. | | | | X | | | | | | | X |
| 4-FT-6-FT | 2X2 | X | X | | | | | X | | X | | |
| | 2X2.5 | | | X | | | | X | X | X | X | |
| | 2 DIA. | | | | X | | | | | | | X |
| | 2X3 | | | | | | X | | | | | |
| | 2.5X3 | | | | | X | | | | | | |

## PIPE MATRIX

| CATCH BASIN SIZE | MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES | |
|---|---|---|
| | 180° SEPARATION (IN) | 90° SEPARATION (IN) |
| 3-FT | 15 | 12 |
| 4-FT | 24 | 18 |
| 5-FT | 36 | 24 |
| 6-FT | 42 | 30 |

# CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

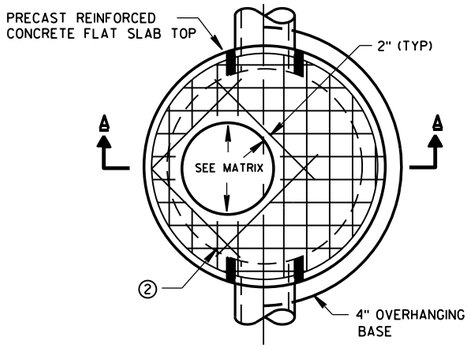
CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

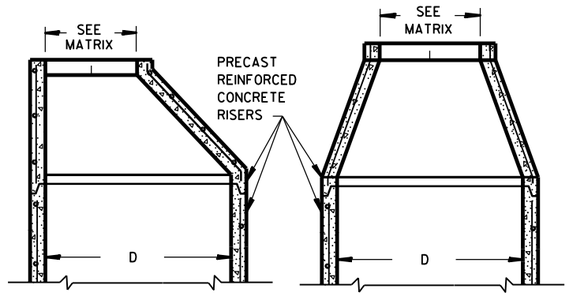
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA




S.D.D. 8 A 8-1

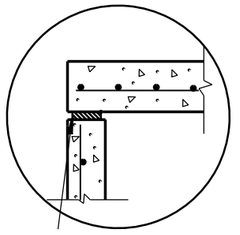



PLAN VIEW CIRCULAR OPENING

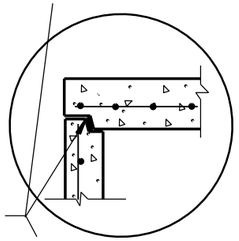



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

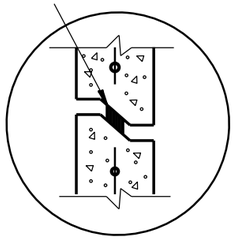


TOP WITH PLAIN END JOINT



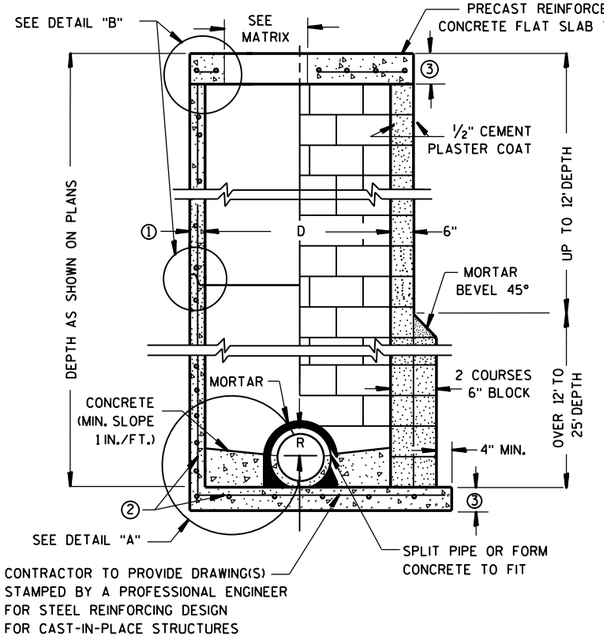
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



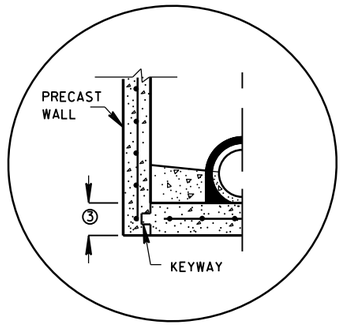
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

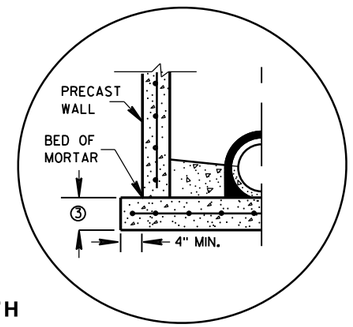



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

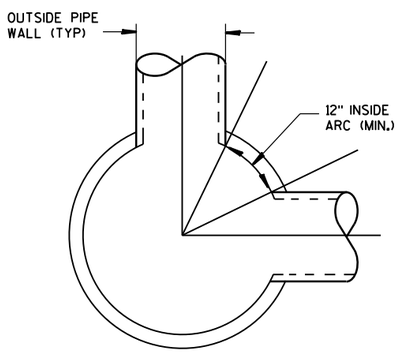



PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION




SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"




DETAIL "C"

## GENERAL NOTES

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

## MANHOLE COVER OPENING MATRIX

| MANHOLE COVER TYPE | C | ALL J'S | K | L | M |
|---|---|---|---|---|---|
| OPENING SIZE (FT) | | | | | |
| 2 DIA. | X | X | | X | |
| 3 DIA. | | | X | | X |

## PIPE MATRIX

| MANHOLE SIZE | MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES | |
|---|---|---|
| | 180° SEPARATION (IN) | 90° SEPARATION (IN) |
| 3-FT | 15 | 12 |
| 4-FT | 24 | 18 |
| 5-FT | 36 | 24 |
| 6-FT | 42 | 36 |
| 7-FT | 48 | 36 |
| 8-FT | 60 | 42 |

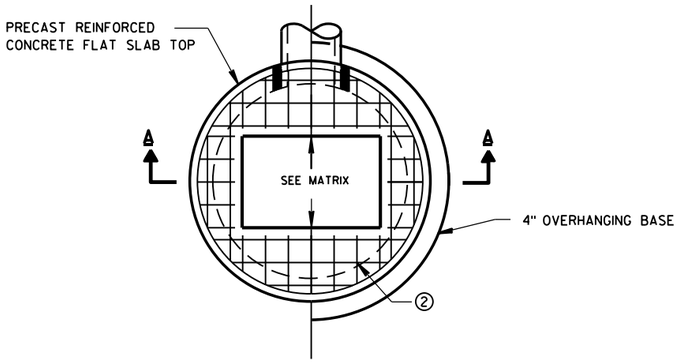
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

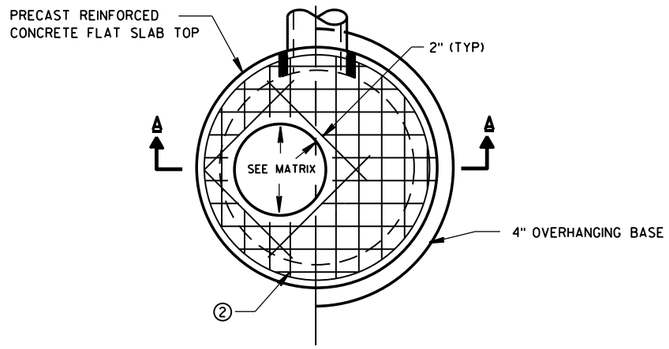
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



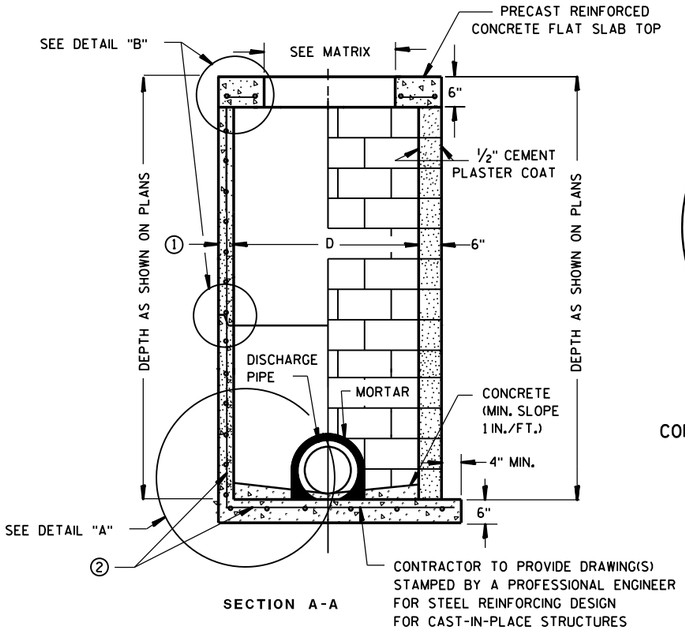

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S.D.D. 8 B 9-1




PLAN VIEW RECTANGULAR OPENING




PLAN VIEW CIRCULAR OPENING

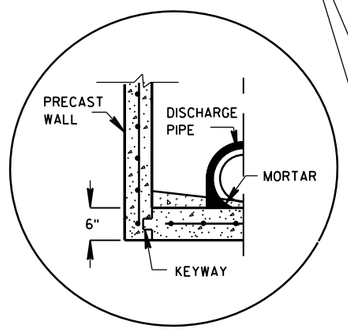



SECTION A-A

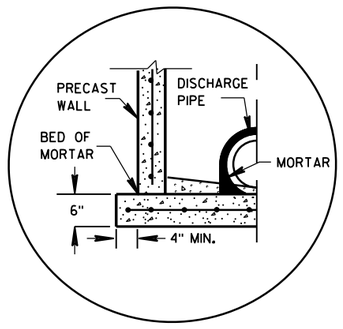
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

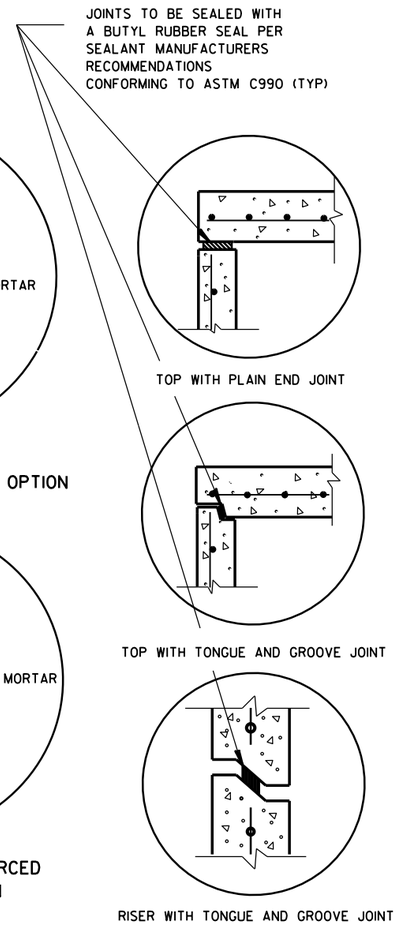



PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION




SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"




DETAIL "B"

## 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 GRANULAR 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.

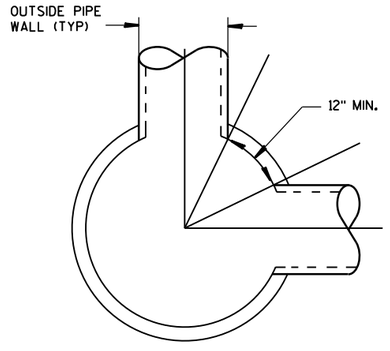
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

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

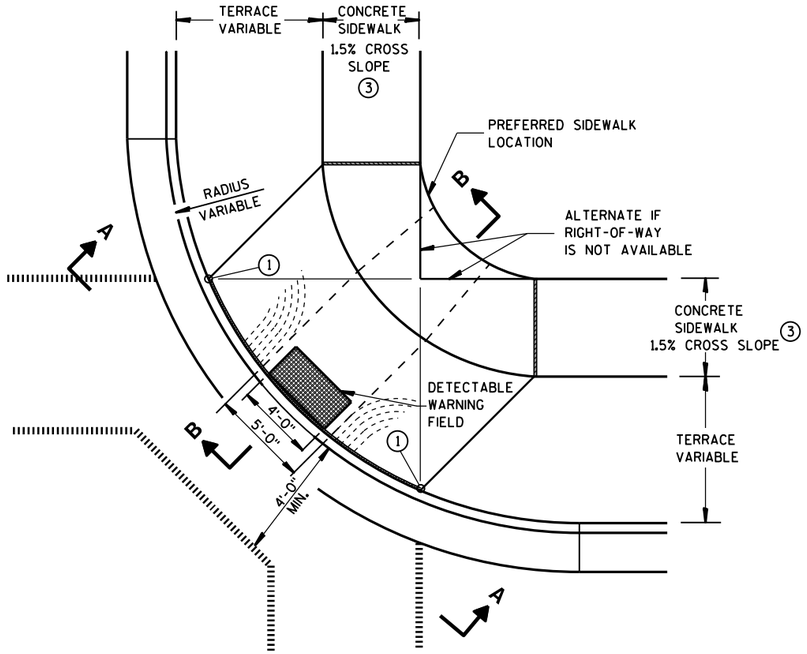
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

INLETS 3-FT AND 4-FT DIAMETER

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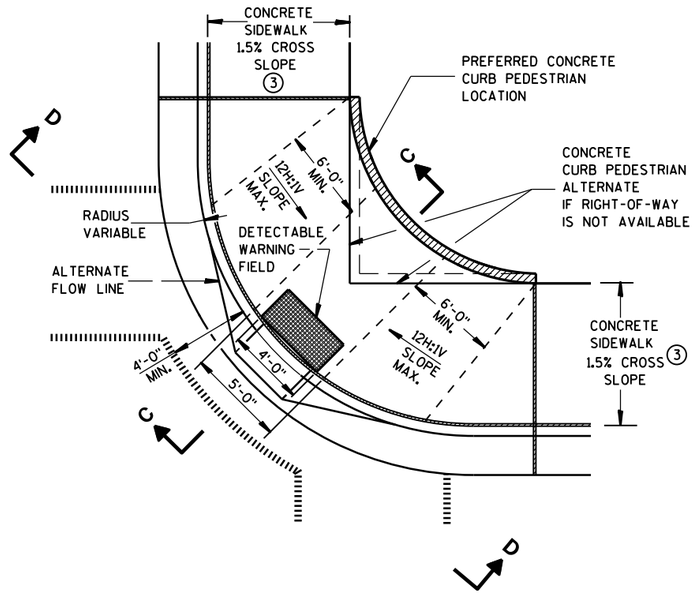
S.D.D. 8 C 6-1




PLAN VIEW

## TYPE 1 RAMP

(CENTER OF CORNER RADIUS)




PLAN VIEW

## TYPE 1-A RAMP

(NO TERRACE)

## 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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

**TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.**

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

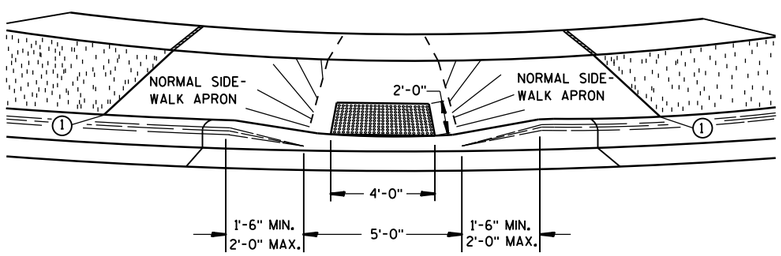
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

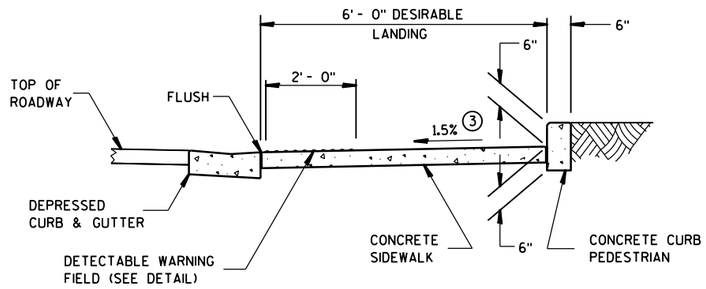
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

### LEGEND

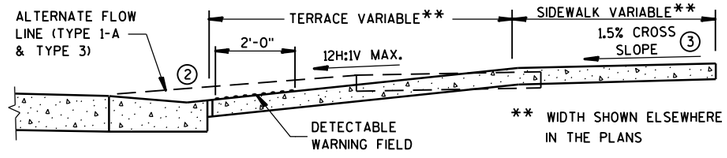
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



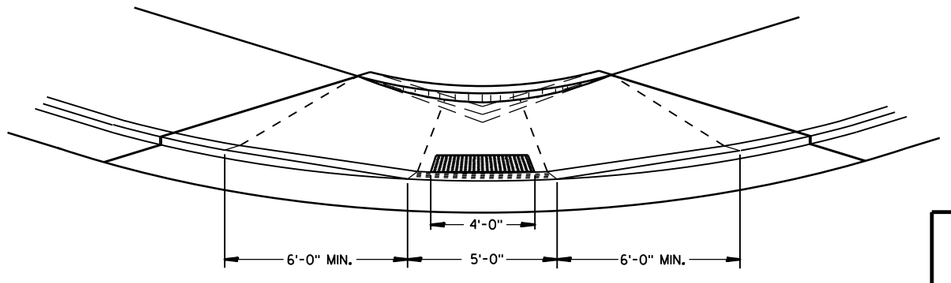

VIEW A-A




SECTION C-C




SECTION B-B




VIEW D-D

## CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

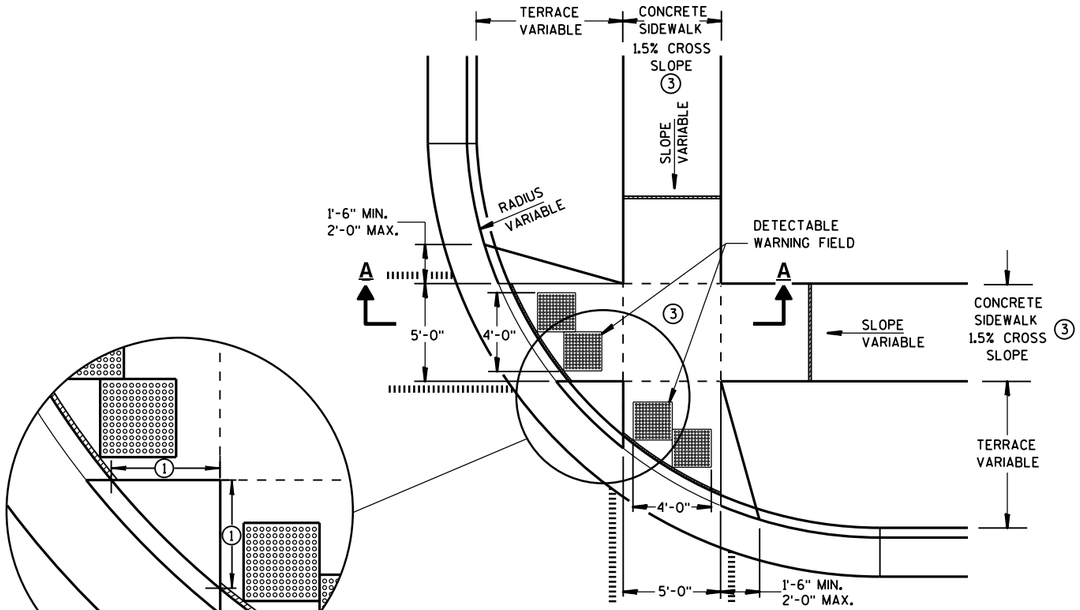


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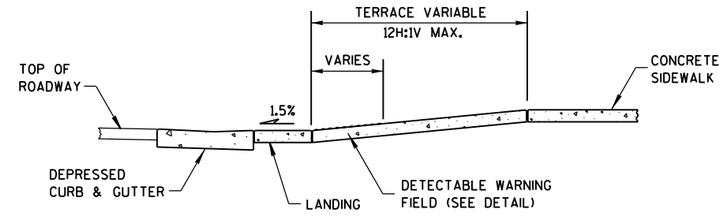
S.D.D. 8 D 5-15a

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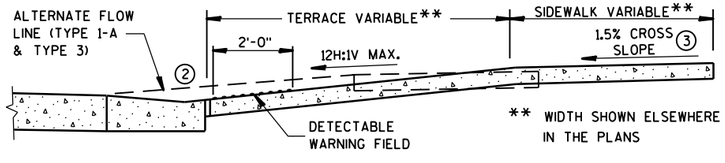
S.D.D. 8 D 5-15a




**PLAN VIEW**
## TYPE 2 RAMP
(ON LINE WITH SIDEWALK)




**SECTION A-A**




**SECTION B-B**

## GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

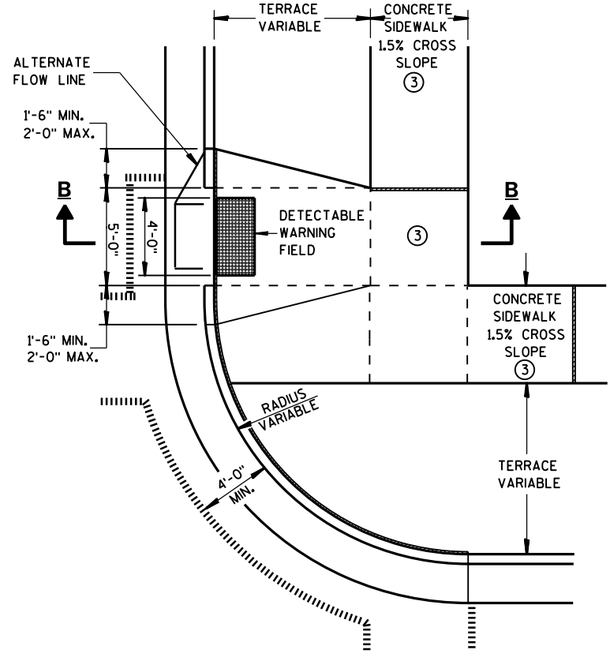
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

### LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT




**PLAN VIEW**
## TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

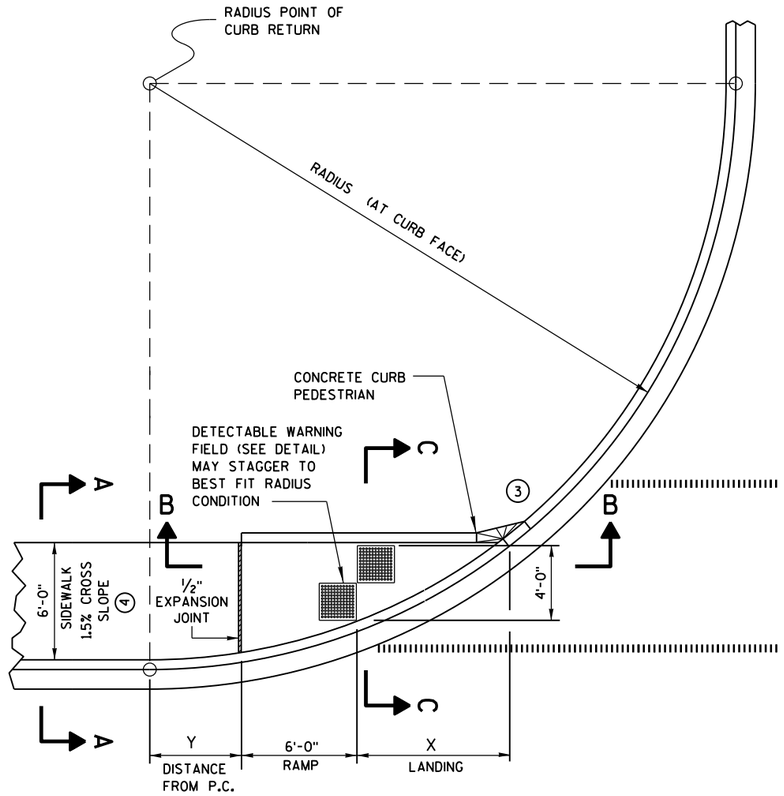
**CURB RAMPS TYPES 2 AND 3**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

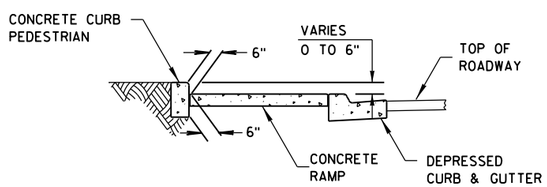



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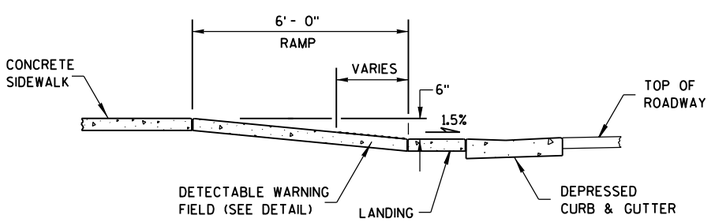
S.D.D. 8 D 5-15b




## CURB RAMP TYPE 4A
### PLAN VIEW



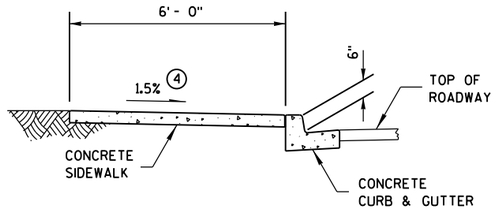

### SECTION C-C FOR TYPE 4A




### SECTION B-B FOR TYPE 4A

| RADIUS (AT CURB FACE) | X | Y |
|---|---|---|
| 20 FEET | 6'-1¾" | 2'-7¼" |
| 30 FEET | 7'-11¾" | 4'-8¼" |
| 40 FEET | 9'-5¼" | 6'-5" |
| 50 FEET | 10'-8¾" | 7'-11¼" |
| 60 FEET | 11'-10¼" | 9'-3½" |

INTERMEDIATE RADII CAN BE INTERPOLATED




### SECTION A-A FOR TYPE 4A

## GENERAL NOTES

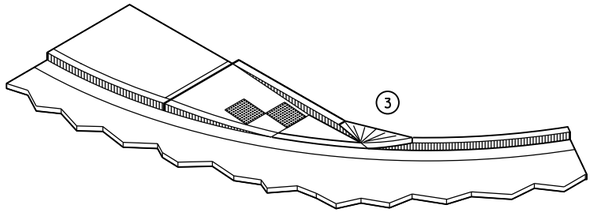
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

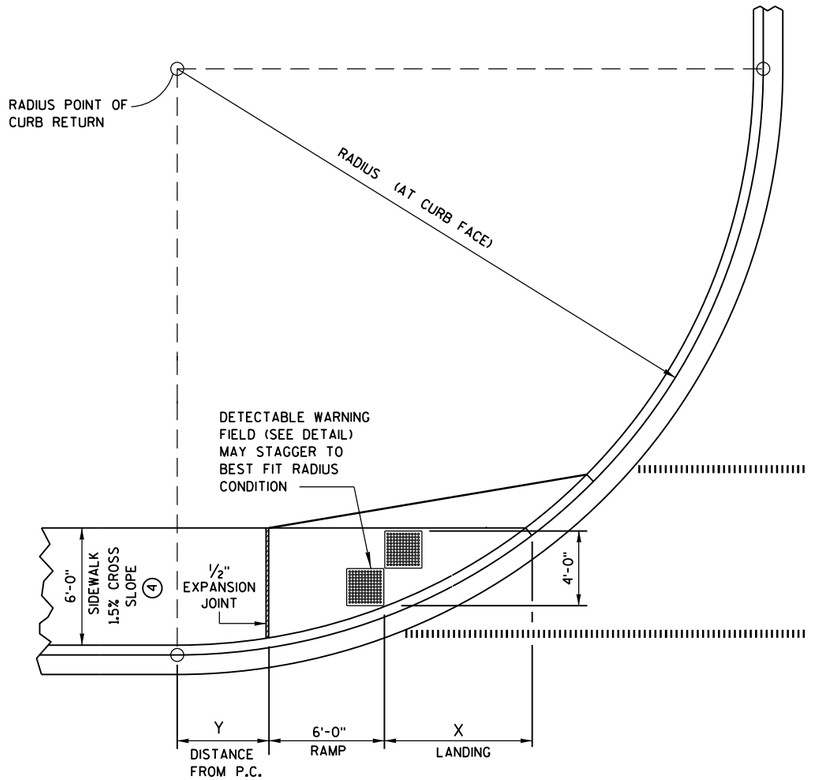
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

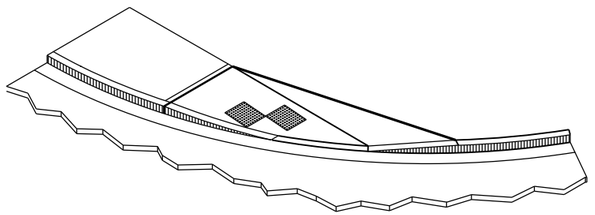
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.




### ISOMETRIC VIEW FOR TYPE 4A




## CURB RAMP TYPE 4A1
### PLAN VIEW



### ISOMETRIC VIEW FOR TYPE 4A1

### LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

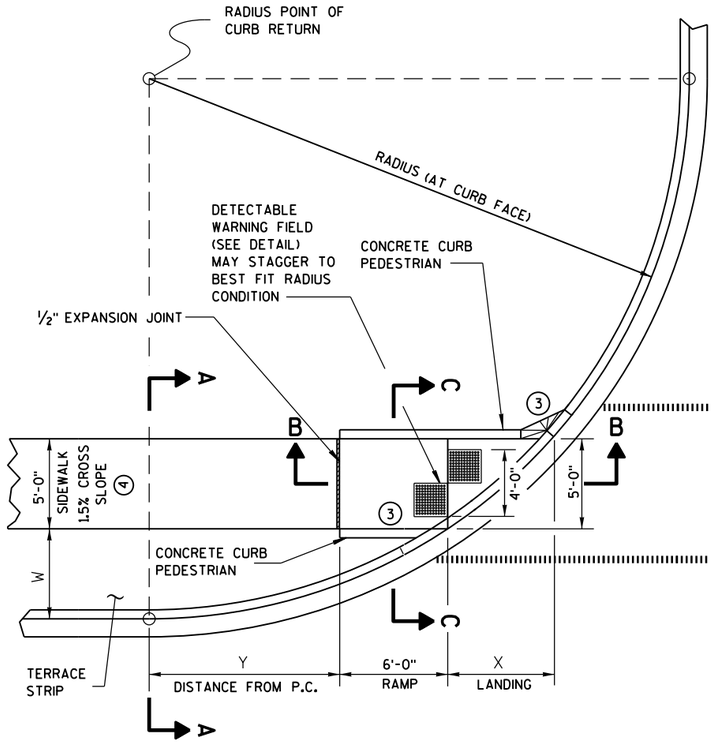
**CURB RAMPS TYPES 4A AND 4A1**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

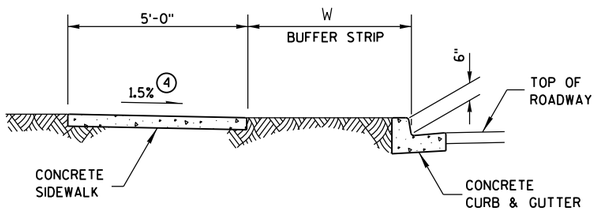



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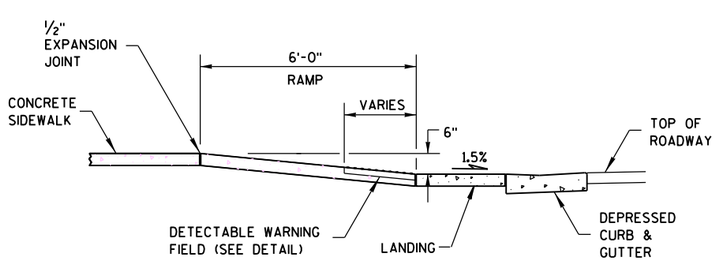
S.D.D. 8 D 5-15c




## CURB RAMP TYPE 4B
### PLAN VIEW




SECTION A-A FOR TYPE 4B



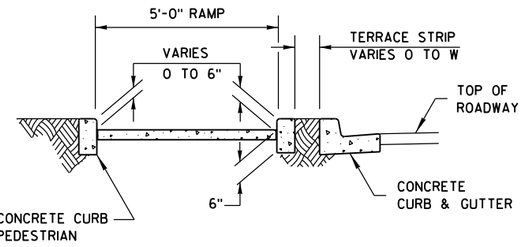

SECTION B-B FOR TYPE 4B

**LEGEND**

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

| RADIUS (AT CURB FACE) | W = 3'-0" | | W = 4'-0" | | W = 5'-0" | | W = 6'-0" | | W = 7'-0" | |
|---|---|---|---|---|---|---|---|---|---|---|
| | X | Y | X | Y | X | Y | X | Y | X | Y |
| 20 FEET | 5'-5½" | 4'-6½" | 4'-8½" | 6'-0" | 4'-1" | 7'-2¾" | 3'-7" | 8'-3½" | 3'-1½" | 9'-2½" |
| 30 FEET | 7'-3¾" | 7'-1" | 6'-5½" | 8'-11½" | 5'-9¼" | 10'-7" | 5'-2½" | 12'-0" | 4'-8¾" | 13'-3¼" |
| 40 FEET | 8'-9½" | 9'-2½" | 7'-10" | 11'-5¼" | 7'-1" | 13'-4½" | 6'-5¾" | 15'-¾" | 5'-11½" | 16'-7¼" |
| 50 FEET | 10'-¾" | 11'-¾" | 9'-¼" | 13'-7¼" | 8'-2½" | 15'-9½" | 7'-6½" | 17'-9" | 6'-11¾" | 19'-6¼" |
| 60 FEET | 11'-2½" | 12'-8¾" | 10'-¾" | 15'-6½" | 9'-2¼" | 17'-11¾" | 8'-5¾" | 20'-1¾" | 7'-10½" | 22'-1½" |

INTERMEDIATE RADII CAN BE INTERPOLATED




SECTION C-C FOR TYPE 4B

## GENERAL NOTES

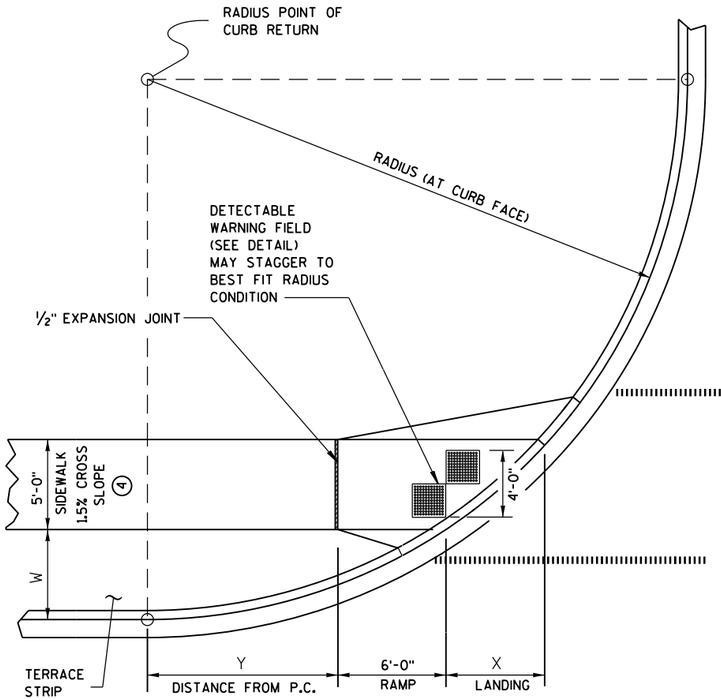
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

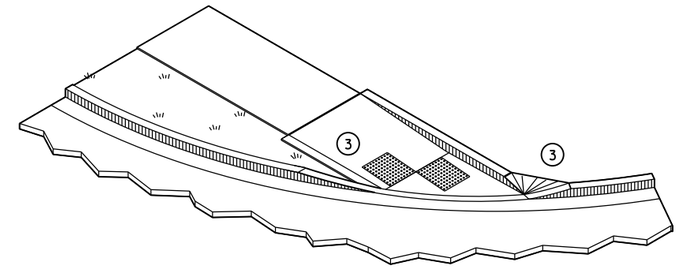
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

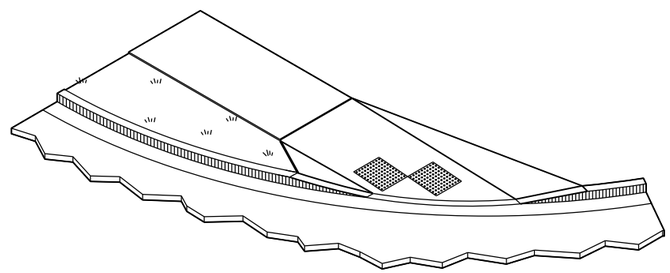
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.




## CURB RAMP TYPE 4B1
### PLAN VIEW




ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

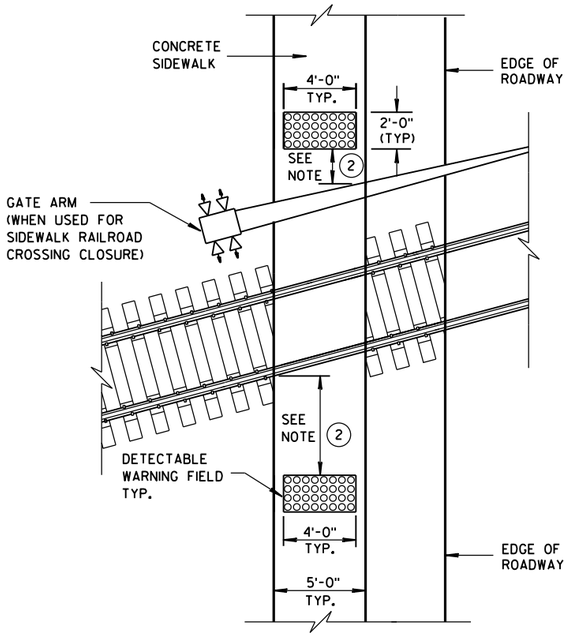
CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

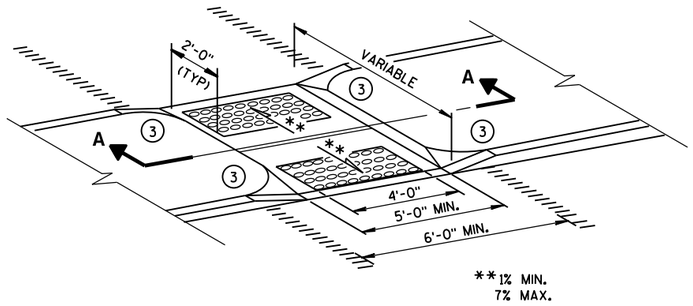



6

S.D.D. 8 D 5-15d




**TYPE 8**
**DETECTABLE WARNINGS AT RAILROAD CROSSING**




**MEDIAN ISLAND**
**NON-ELEVATED CROSSING**
**TYPE 5**

## GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

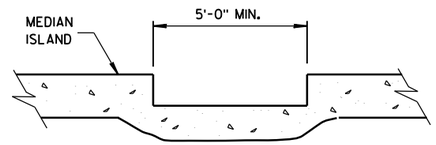
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

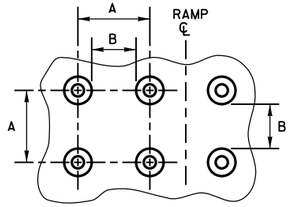
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



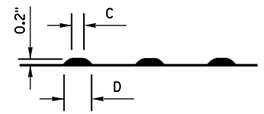

**SECTION A-A**



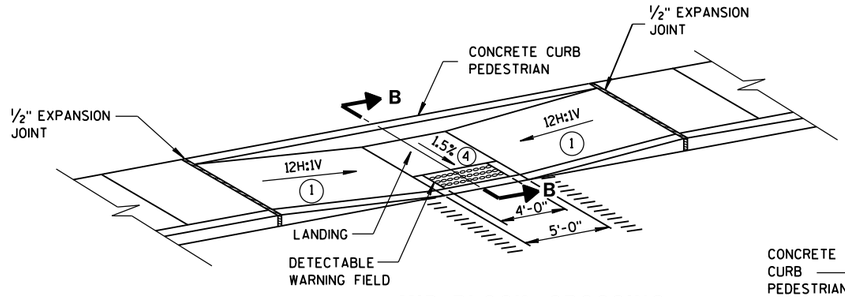

**PLAN VIEW**

| | MIN. | MAX. |
|---|---|---|
| A | 1.6" | 2.4" |
| B | 0.65" | 1.5" |
| C | * | * |
| D | 0.9" | 1.4" |

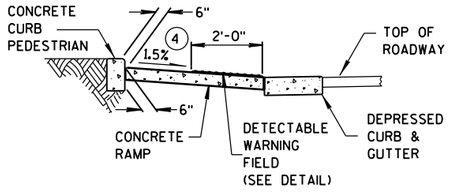
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.




**ELEVATION VIEW**

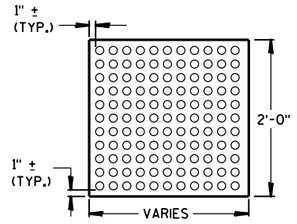



**MID-BLOCK CROSSING**
**TYPE 7A**



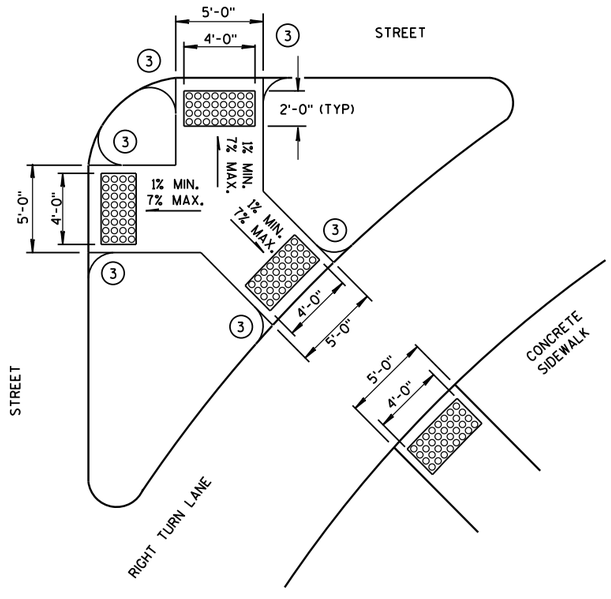

**SECTION B-B**

## TRUNCATED DOMES
### DETECTABLE WARNING PATTERN DETAIL

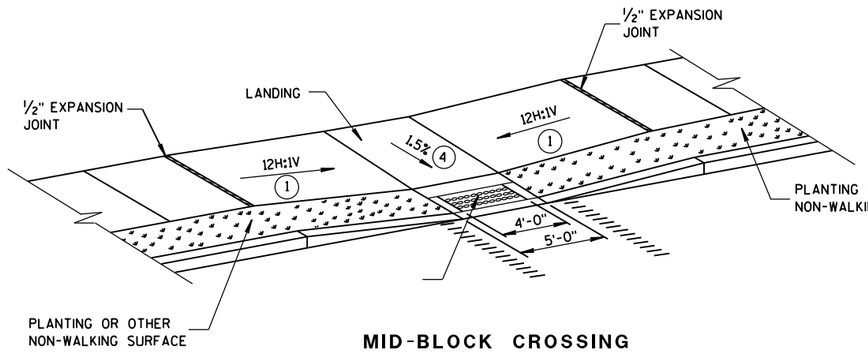



**PLAN VIEW**

## DETECTABLE WARNING FIELD (TYPICAL)




**TYPE 6**
**DETECTABLE WARNING AT ISLANDS**




**MID-BLOCK CROSSING**
**TYPE 7B**

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

**LEGEND**

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS**
**TYPES 5, 6, 7A, 7B & 8**

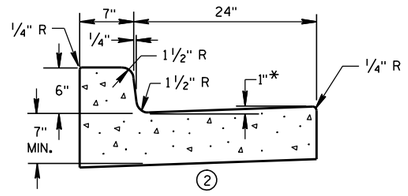
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

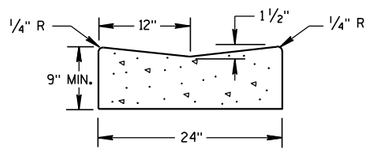



6

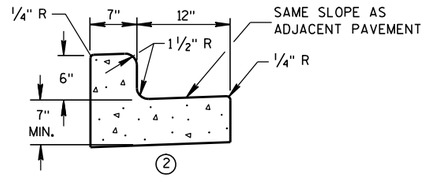
S.D.D. 8 D 5-15e



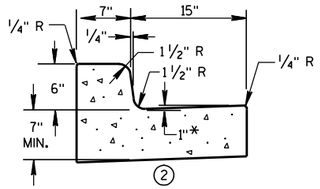

① CONCRETE CURB & GUTTER 31"




① CONCRETE GUTTER 24"

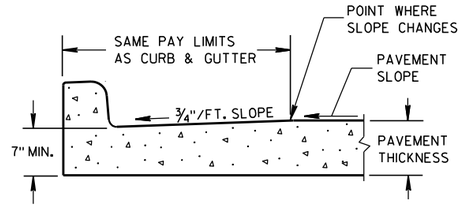



① CONCRETE CURB & GUTTER 19"




① CONCRETE CURB & GUTTER 22"

* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.




PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

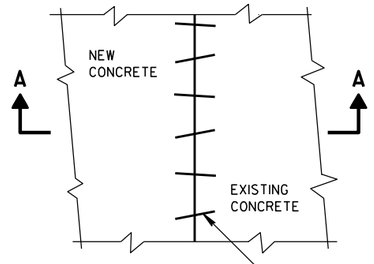
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

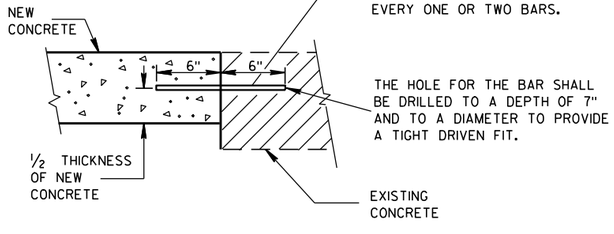
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MIMIMUM GUTTER THICKNESS IS MAINTAINED.

③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



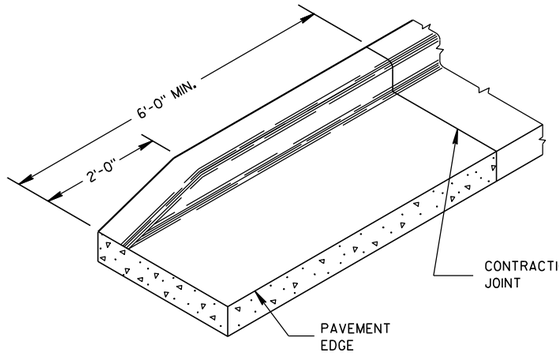

PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

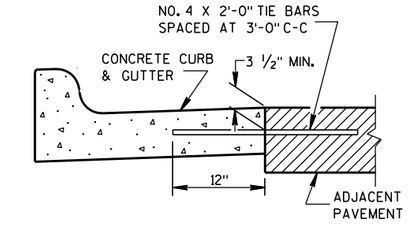



SECTION A-A

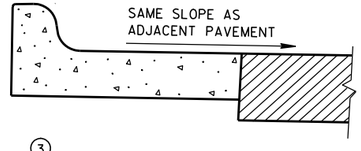
PAVEMENT TIES




END SECTION CURB & GUTTER




① TYPICAL TIE BAR LOCATION




③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

**CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES**

**(For Optional Use in Milwaukee Co. Only)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010 — DATE

/S/ Jerry Zogg — ROADWAY STANDARDS ENGINEER

220 — ENT

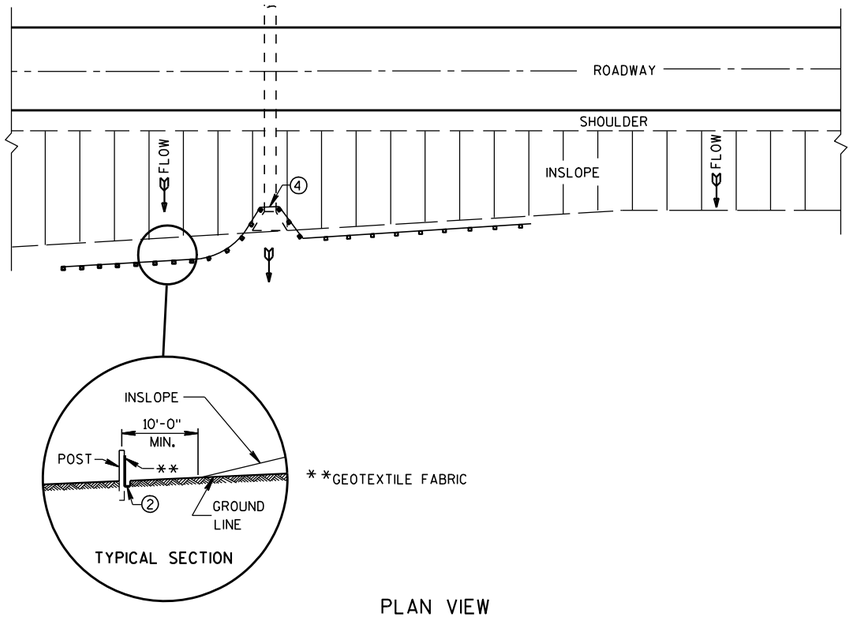
FHWA

6

S.D.D. 8 D 16-10

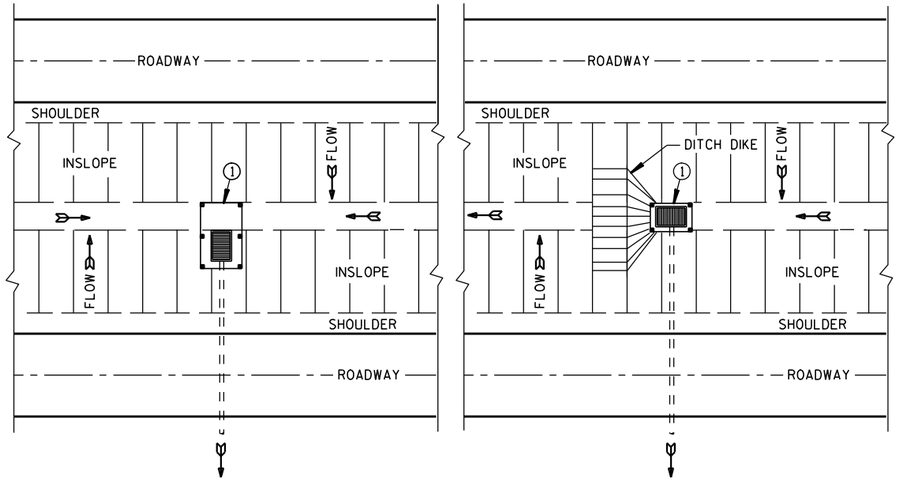
6

S.D.D. 8 D 16-10




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE




PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

## GENERAL NOTES

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

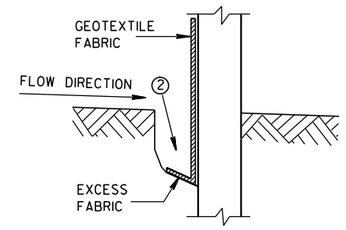
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

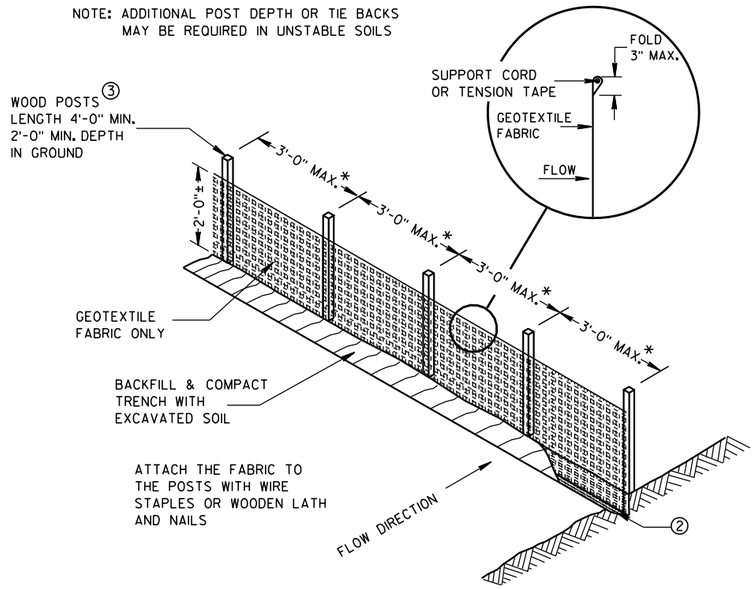
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

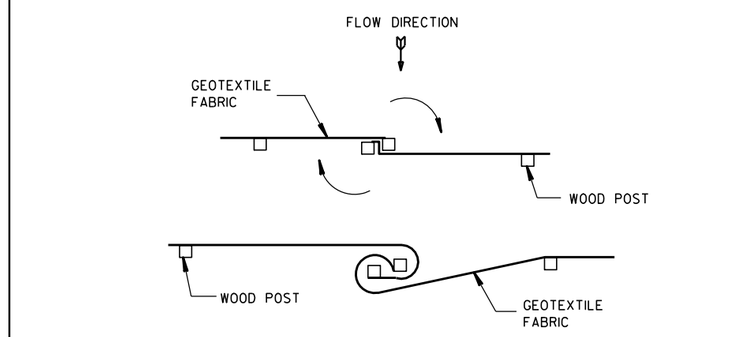



## TRENCH DETAIL

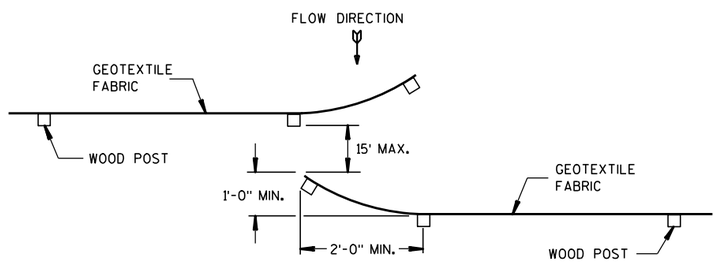



*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

## SILT FENCE

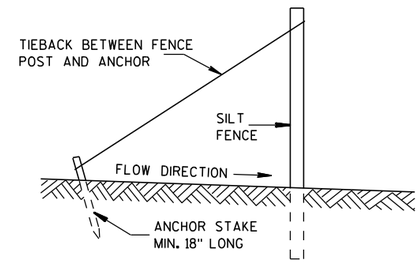



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE ⑤




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

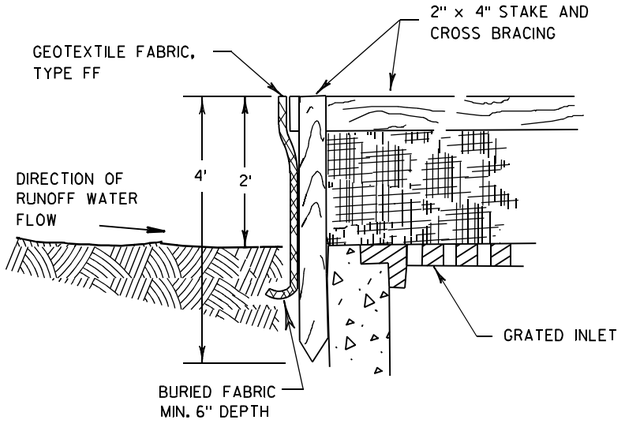


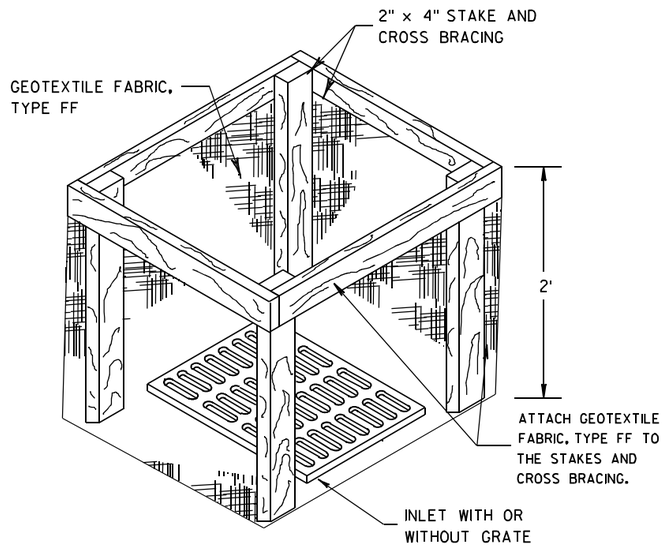
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S.D.D. 8 E 9-6

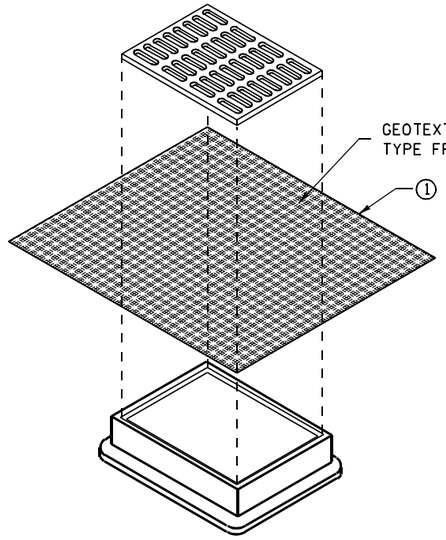
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S.D.D. 8 E 9-6



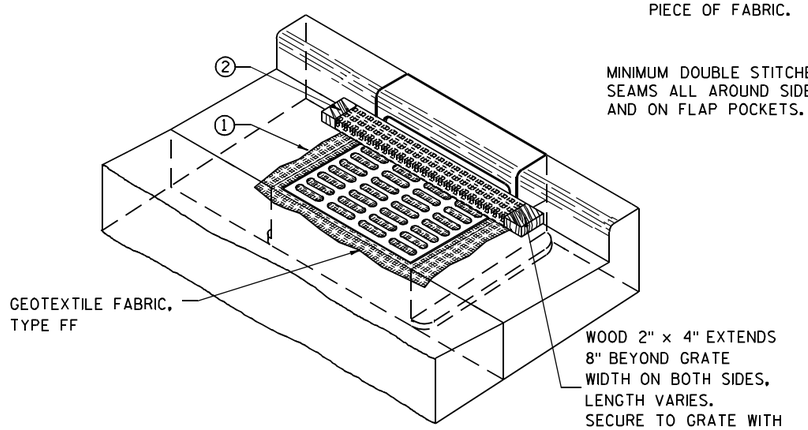




## INLET PROTECTION, TYPE A

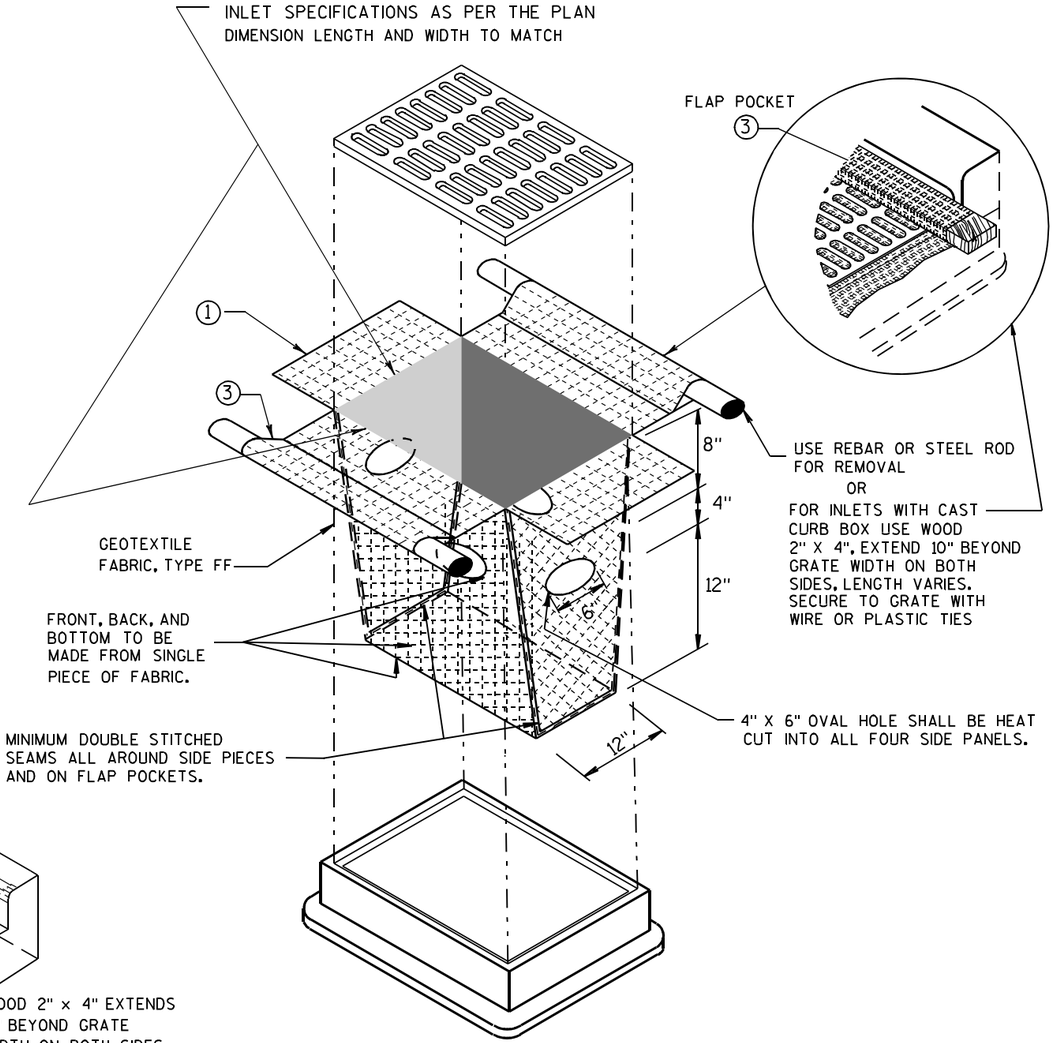



## INLET PROTECTION, TYPE B
## (WITHOUT CURB BOX)

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




## INLET PROTECTION, TYPE C (WITH CURB BOX)




## INLET PROTECTION, TYPE D

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

## 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.

## 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 A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

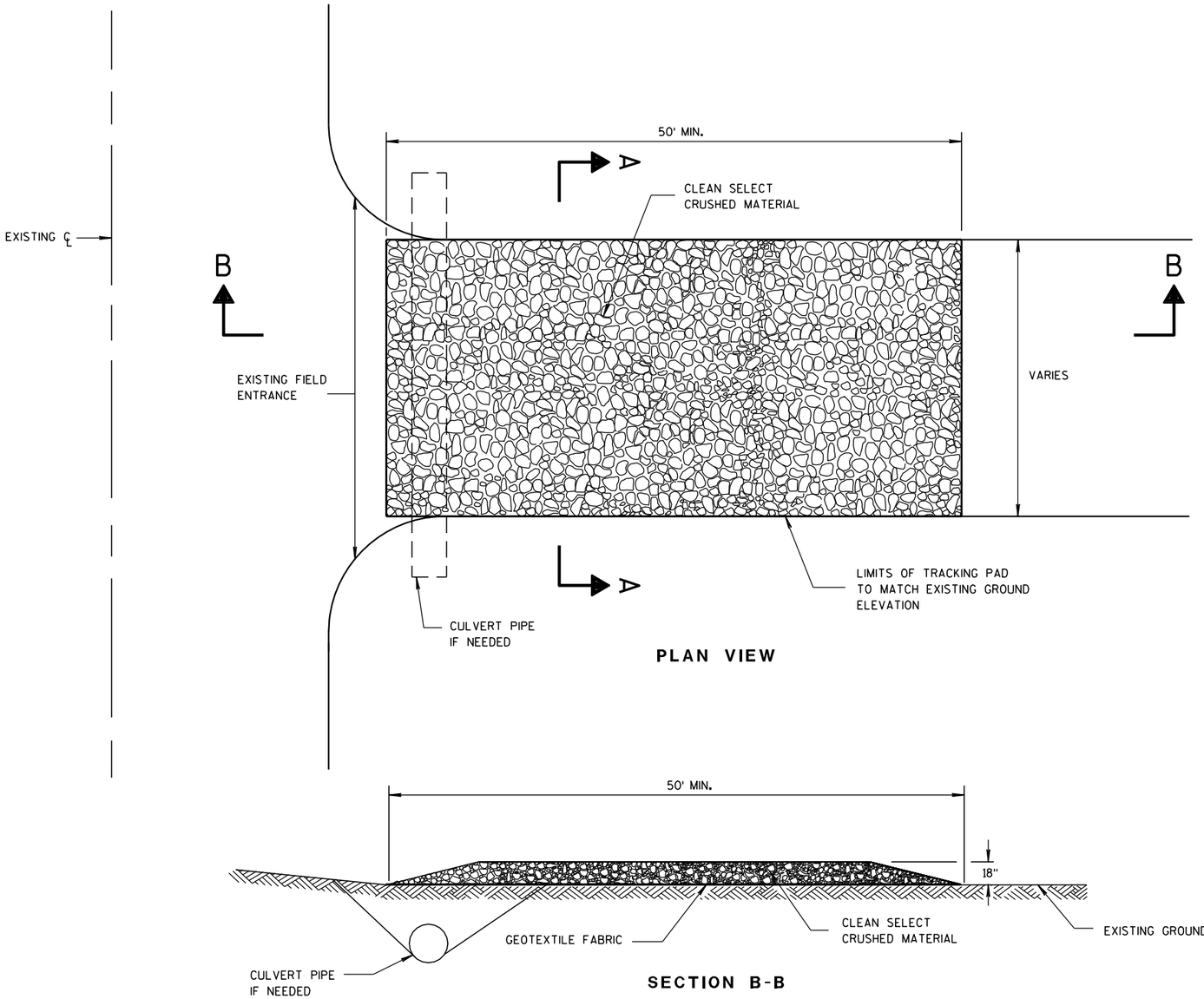


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S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2




PLAN VIEW




SECTION B-B

## 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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

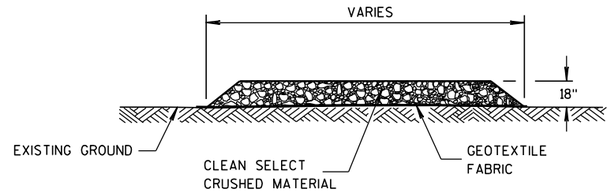
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.




SECTION A-A

# TRACKING PAD

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S.D.D. 8 E 14-1

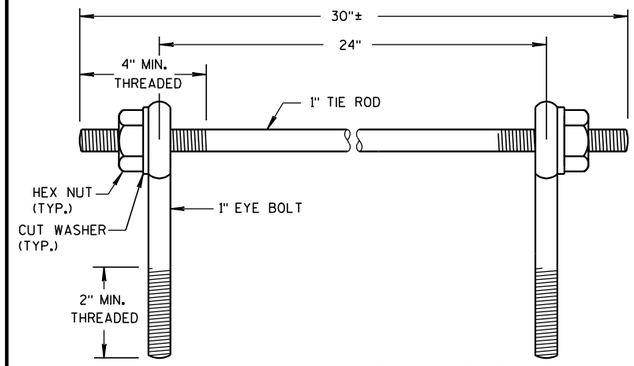
TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

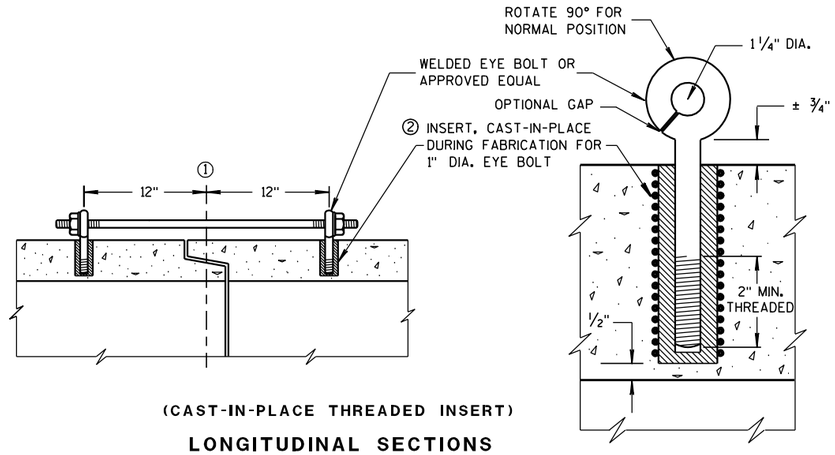
APPROVED
3/24/2011 DATE
/S/ Jerry H. Zoda
ROADWAY STANDARDS ENGINEER
223
ENT
FHWA

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S.D.D. 8 E 14-1




EYE BOLTS AND TIE ROD




(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

# EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

## GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

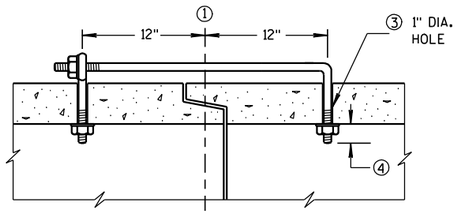
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

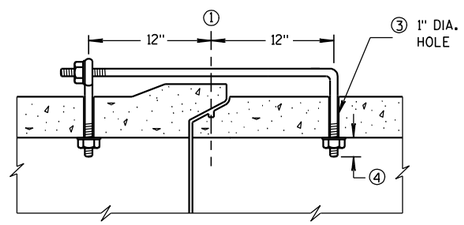
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.




(TONGUE & GROOVE PIPE)

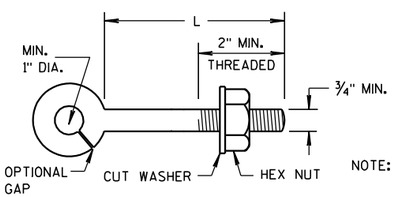



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

**EYE BOLT DIMENSION TABLE**

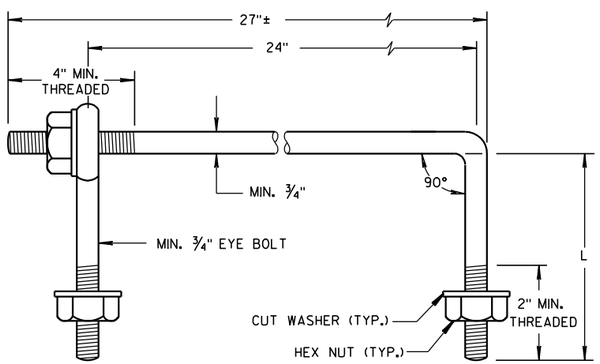
| PIPE SIZE | L = LENGTH | |
|---|---|---|
| | TONGUE & GROOVE PIPE | MODIFIED BELL PIPE |
| 18" TO 24" | 4 1/2" | 6 1/4" |
| 30" | 5" | 7" |
| 36" | 5 1/2" | 7" |
| 42" | 6" | |
| 48" | 6 1/2" | |
| 60" | 7 1/2" | |
| 66" | 8" | |




NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.




EYE BOLT AND TIE ROD

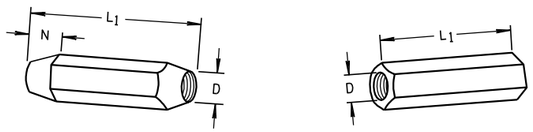
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

# EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

**ADJUSTABLE TIE ROD TABLE**

| PIPE DIAMETER | TIE ROD DIAMETER | D | $L_1$ | N |
|---|---|---|---|---|
| 12-60 | 5/8 | 5/8 | 5 | 1/2 |
| 66-84 | 3/4 | 3/4 | 5 | 1/2 |
| 90-108 | 1 | 1 | 7 | 1 1/16 |

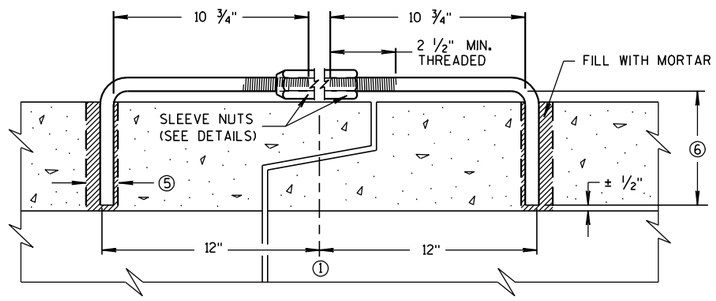
DIMENSIONS SHOWN ARE IN INCHES




TAPERED PLAIN

RIGHT AND LEFT THREADS

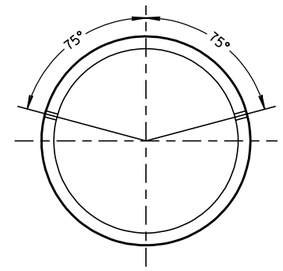
SLEEVE NUTS




LONGITUDINAL SECTION

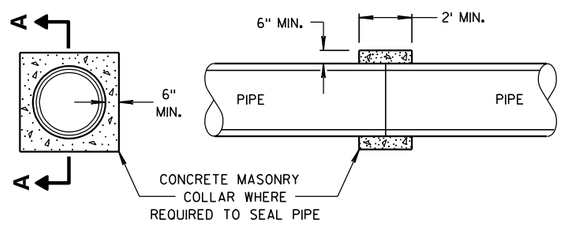
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

# ADJUSTABLE TIE ROD (ALTERNATE NO. 3)




PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION




SECTION A-A

# CONCRETE COLLAR DETAIL

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
224
FHWA

6

S.D.D. 8 F 4-7

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S.D.D. 8 F 4-7

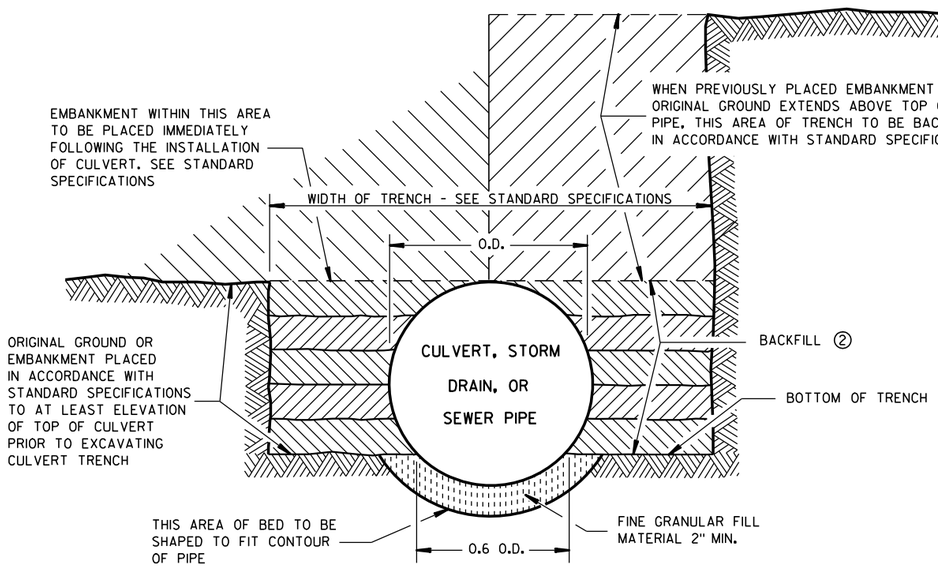
# GENERAL NOTES

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

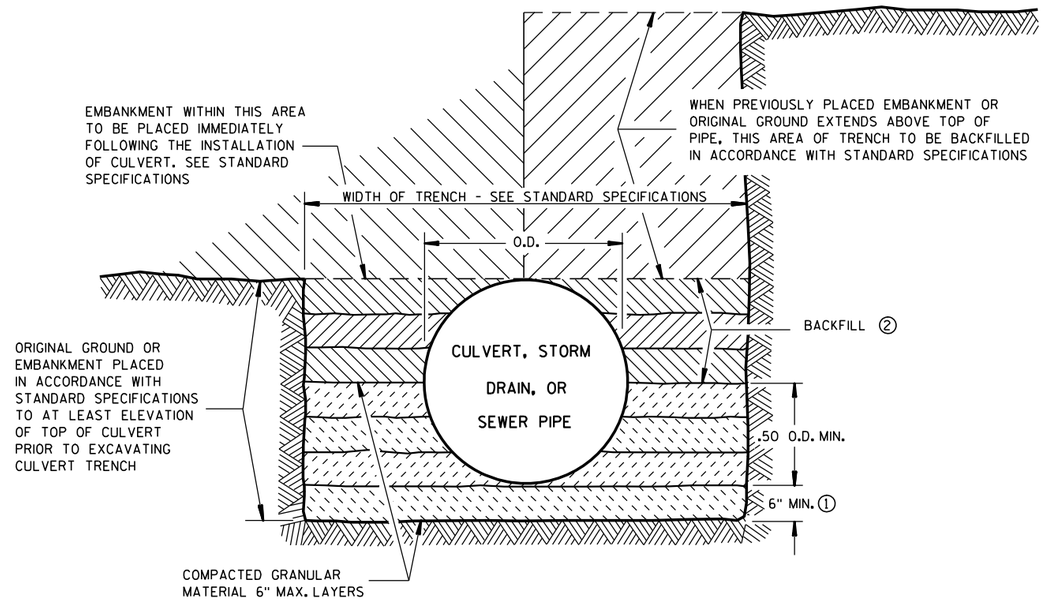
THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO ½ INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.

② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.




SHAPED SUBGRADE WITH GRANULAR FOUNDATION



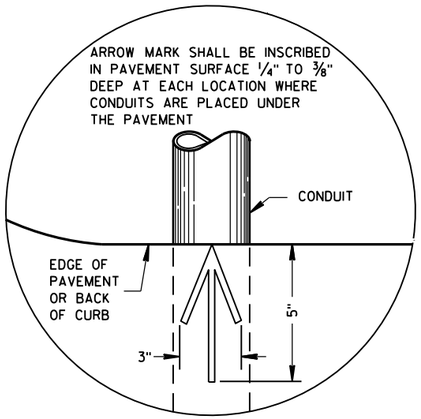

GRANULAR FOUNDATION

## CLASS "B" BEDDING

| CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER | |
|---|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | |
| 4/7/83 DATE | /S/ D. L. Strand STATE DESIGN ENGINEER |
| FHWA | 225 HWYS |

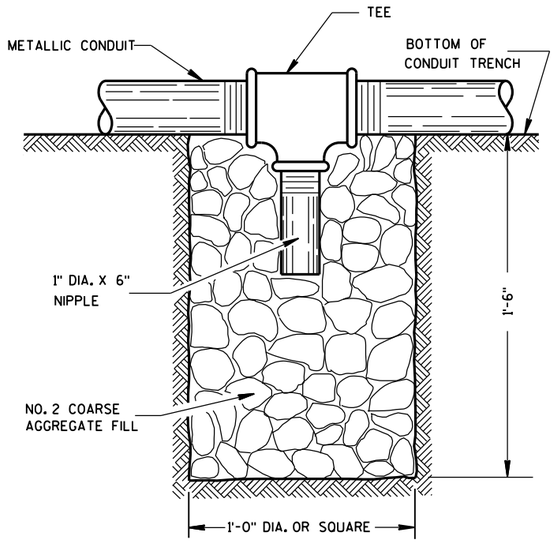

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S.D.D. 8 F 5-1



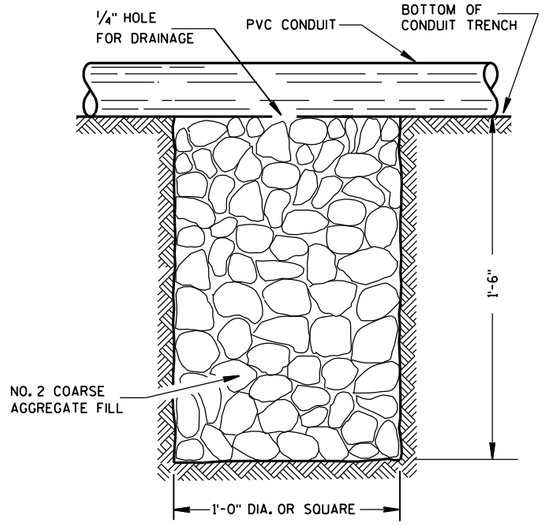

PLAN VIEW

**ARROW MARK**




NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

**DRAIN SUMP FOR METALLIC CONDUIT**




NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

**DRAIN SUMP FOR PVC CONDUIT**

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

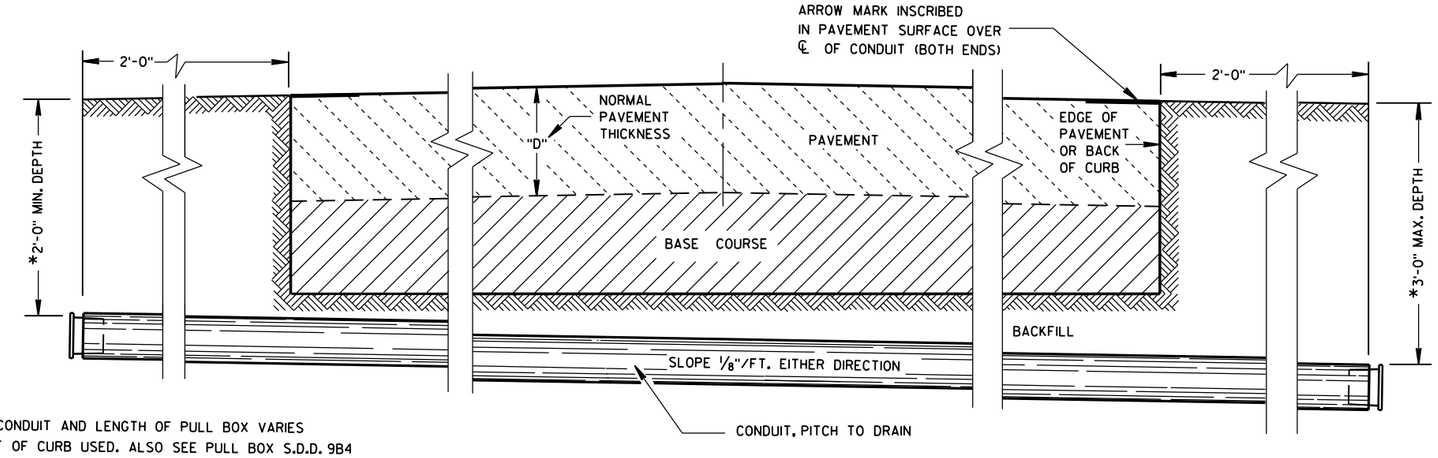
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.




*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

**DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS**

**CONDUIT UNDER PAVED HIGHWAYS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA



6

S.D.D. 9 B 2-8

6

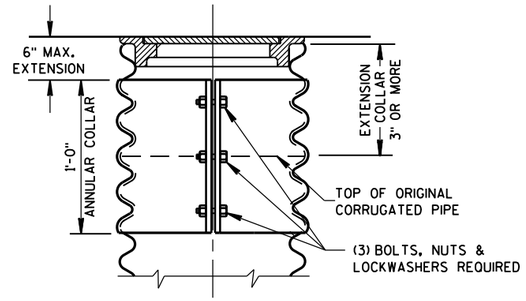
S.D.D. 9 B 2-8

## TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

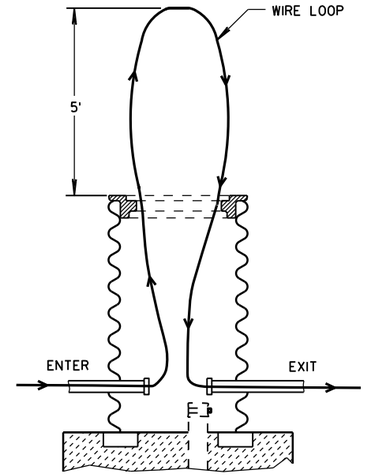
| DIMENSION IN INCHES | | CORRUGATED STEEL PIPE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PIPE DIAMETER (INSIDE) | A | 12 | 12 | 12 | 18 | 18 | 18 | 24 | 24 | 24 |
| PIPE LENGTH ** | B | 24 | 30 | 36 | 24 | 30 | 36 | 36 | 42 | 48 |
| WALL THICKNESS | C | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 |
| COVER | D | 10 1/4 | 10 1/4 | 10 1/4 | 16 1/4 | 16 1/4 | 16 1/4 | 22 1/4 | 22 1/4 | 22 1/4 |
| FRAME | E | 14 1/2 | 14 1/2 | 14 1/2 | 20 1/2 | 20 1/2 | 20 1/2 | 26 1/2 | 26 1/2 | 26 1/2 |
| FRAME | F | 8 1/2 | 8 1/2 | 8 1/2 | 14 1/2 | 14 1/2 | 14 1/2 | 20 1/2 | 20 1/2 | 20 1/2 |
| FRAME | G | 11 1/2 | 11 1/2 | 11 1/2 | 17 1/2 | 17 1/2 | 17 1/2 | 23 1/2 | 23 1/2 | 23 1/2 |
| WEIGHT IN POUNDS * | | | | | | | | | | |
| FRAME AND COVER | | 60 | 60 | 60 | 110 | 110 | 110 | 155 | 155 | 155 |

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

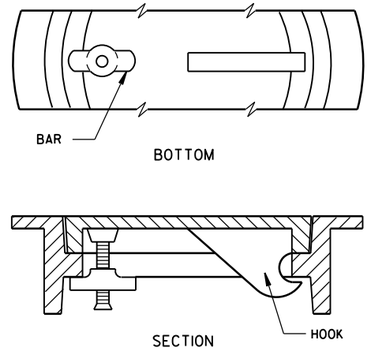
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.




CORRUGATED PIPE EXTENDER

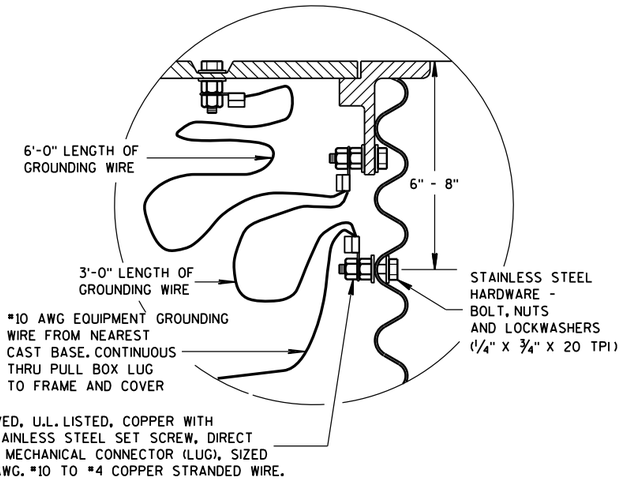



MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX




ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE




EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

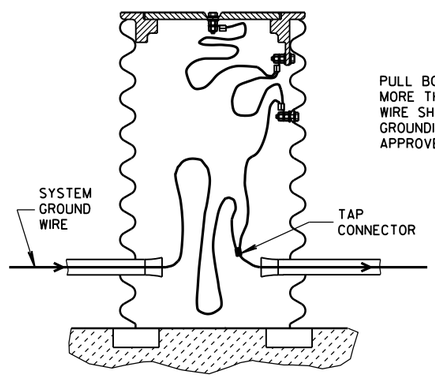
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.




PULL BOX




PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

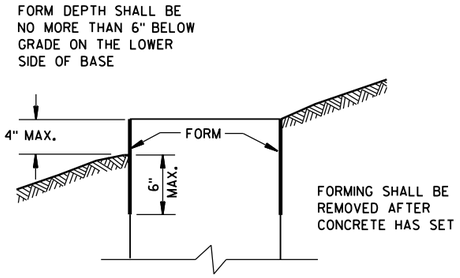
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL 227
FHWA

6

S.D.D. 9 B 4-11




## FORMING DETAIL

| QUANTITY REQUIREMENTS | CONCRETE BASE TYPE | | |
|---|---|---|---|
| | 1 | 2 | 5 & 6 |
| APPROX. CUBIC YARDS OF CONCRETE | 0.40 | 0.57 | 0.40 |
| LBS. OF HOOP BAR STEEL | NONE | 23 | 16 |
| LBS. OF VERTICAL BAR STEEL | NONE | 60 | 18 |

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

## GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

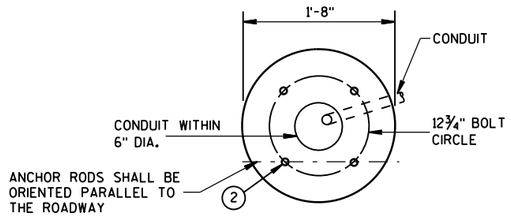
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

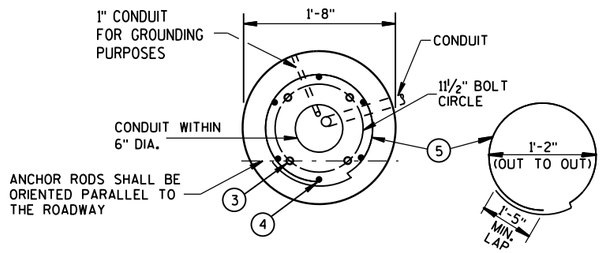
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

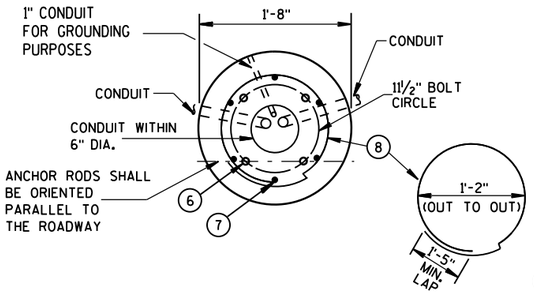
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

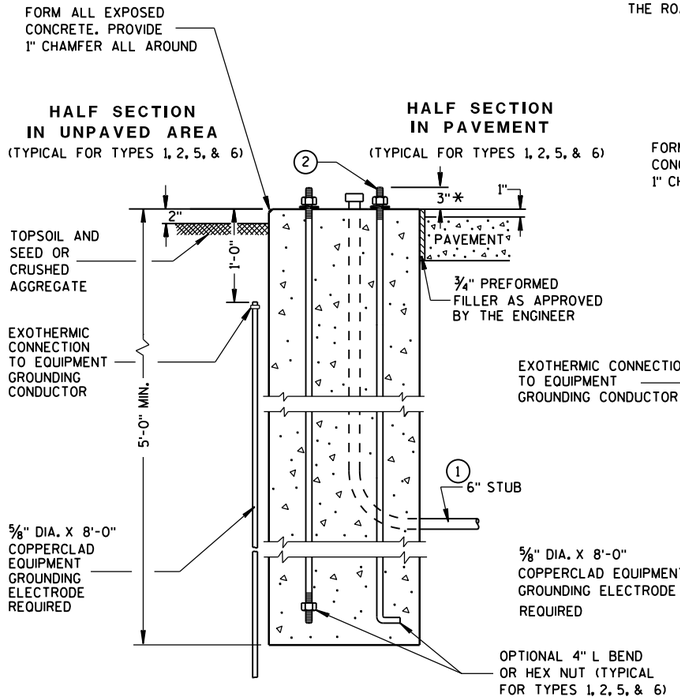


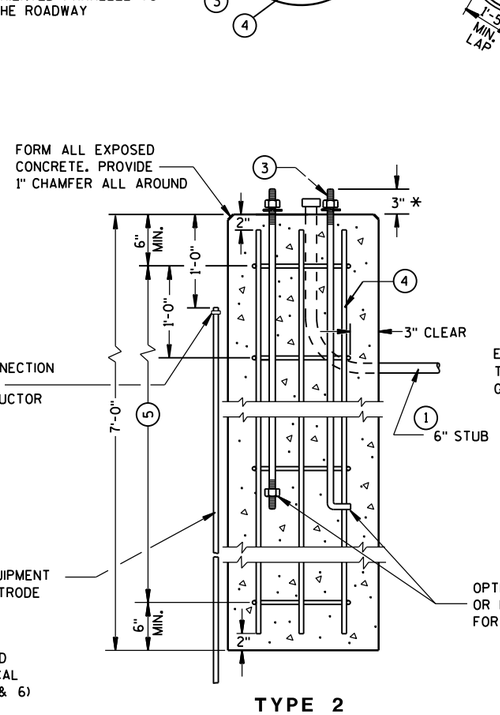



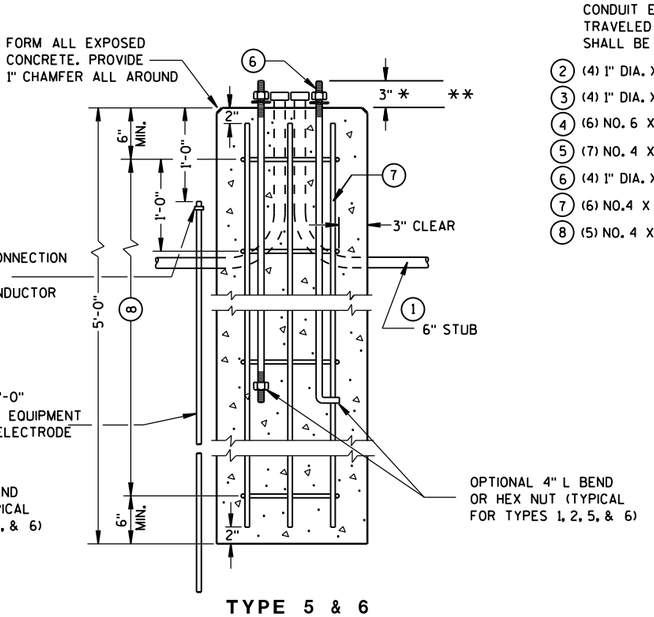

### HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)

### HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)




TYPE 2




TYPE 5 & 6

## CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

**CONCRETE BASES, TYPES 1, 2, 5, & 6**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA



6

S.D.D. 9 C 2-7

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

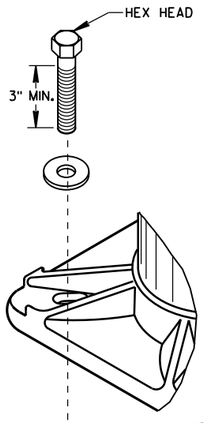
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

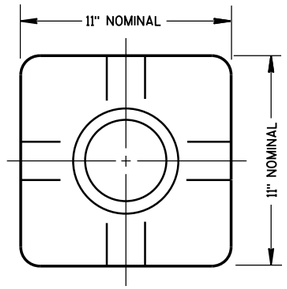
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

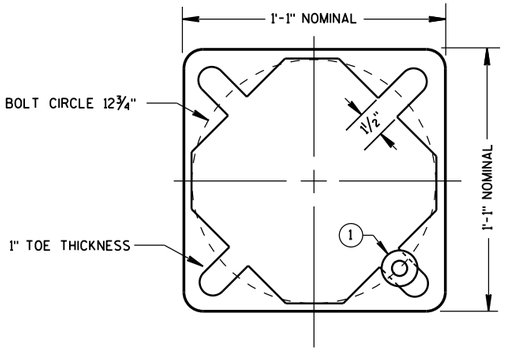
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

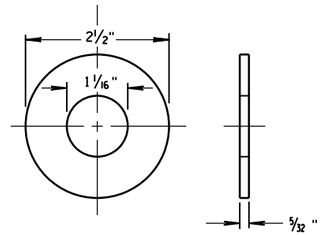



TOP VIEW
(PEDESTAL BASE)

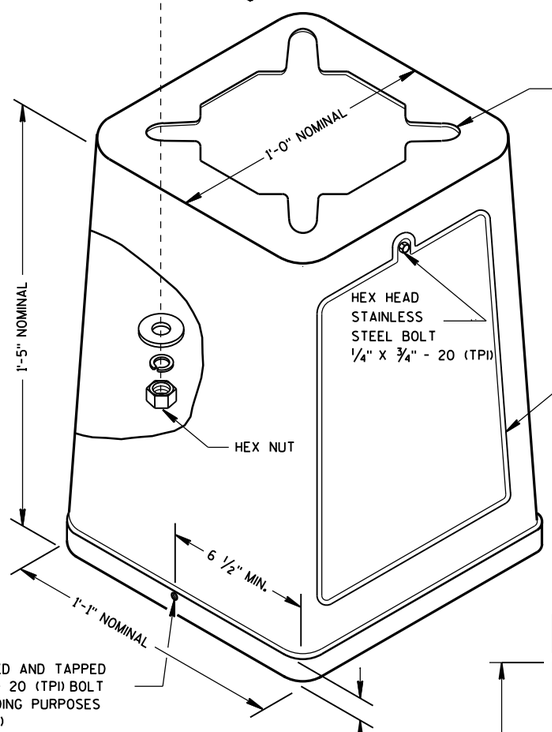



BOTTOM VIEW
(PEDESTAL BASE)

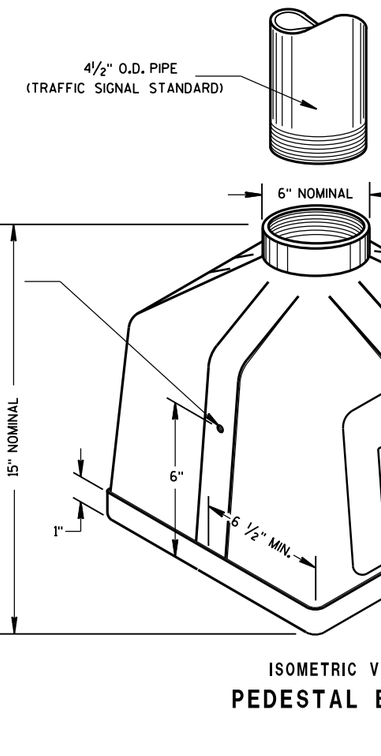



ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

**PEDESTAL BASE WASHER** (1)

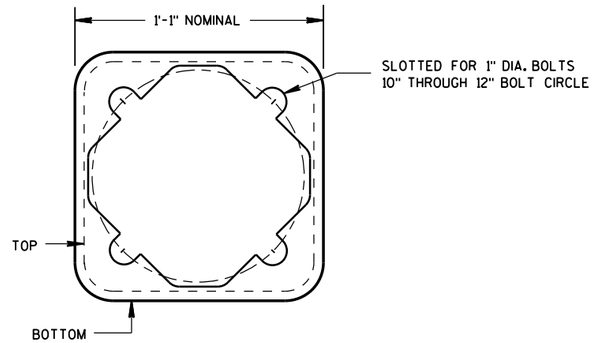



ISOMETRIC VIEW

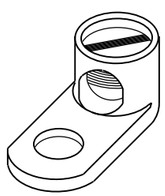



ISOMETRIC VIEW

**PEDESTAL BASE**




BOTTOM VIEW
(TRANSFORMER BASE)

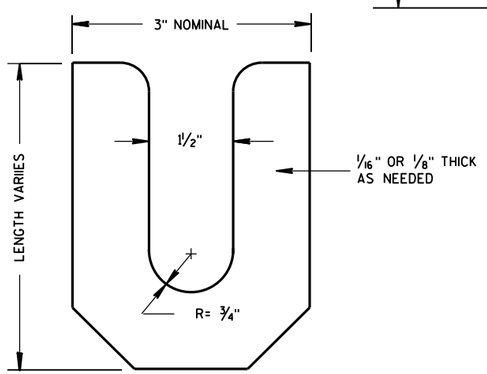


**TYPICAL MECHANICAL CONNECTOR LUG**

TO BE FURNISHED WITH EACH BASE

**TRANSFORMER BASE**

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES




**LEVELING SHIM**

**TRANSFORMER/PEDESTAL BASES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA



6

S.D.D. 9 C 3-4

6

S.D.D. 9 C 3-4

# GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE 1" X 60".

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

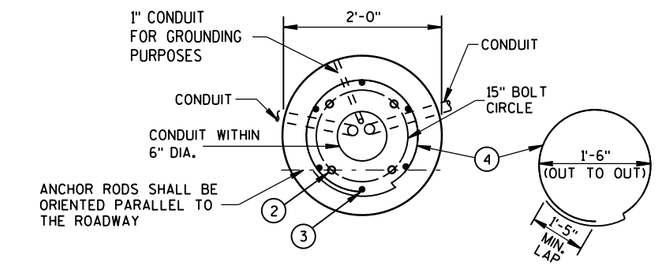
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

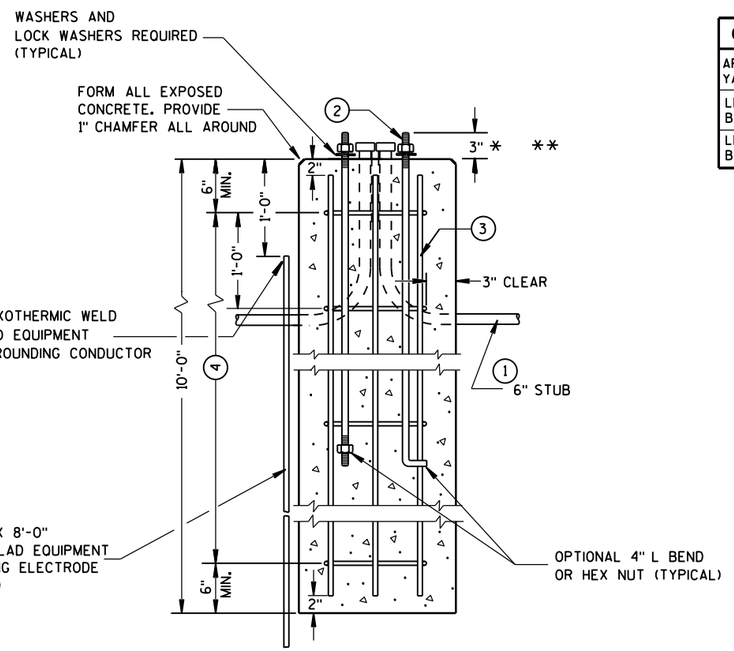
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 5'-0" ANCHOR RODS

(3) (6) NO. 6 X 9'-8" BAR STEEL REINFORCEMENT.

(4) (10) NO. 4 X 6'-2" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



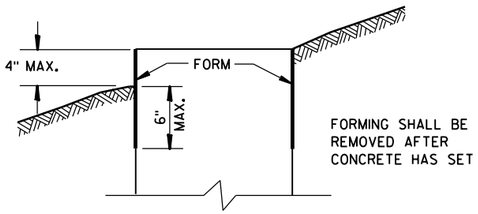




## CONCRETE BASE, TYPE 8 (FOR 50' LIGHT POLES)

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

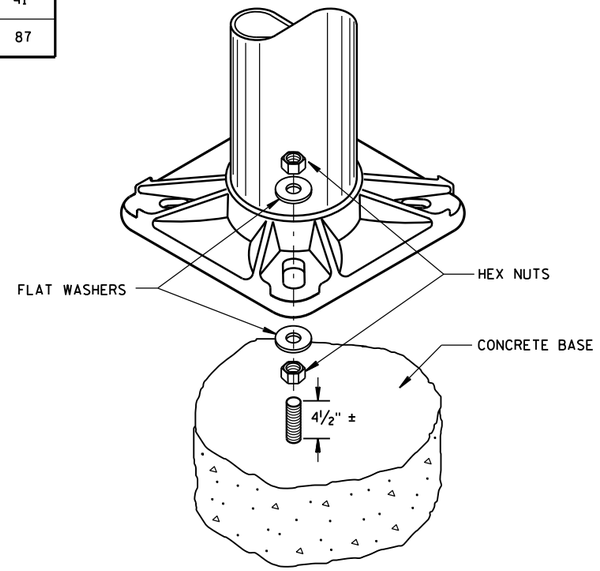
** FOR NONBREAKAWY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE




## FORMING DETAIL

| QUANTITY REQUIREMENTS | |
|---|---|
| APPROX. CUBIC YARDS OF CONCRETE | 1.2 |
| LBS. OF HOOP BAR STEEL | 41 |
| LBS. OF VERTICAL BAR STEEL | 87 |




## NON-BREAKAWAY INSTALLATION (LEVELING NUT)

CONCRETE BASE, TYPE 8

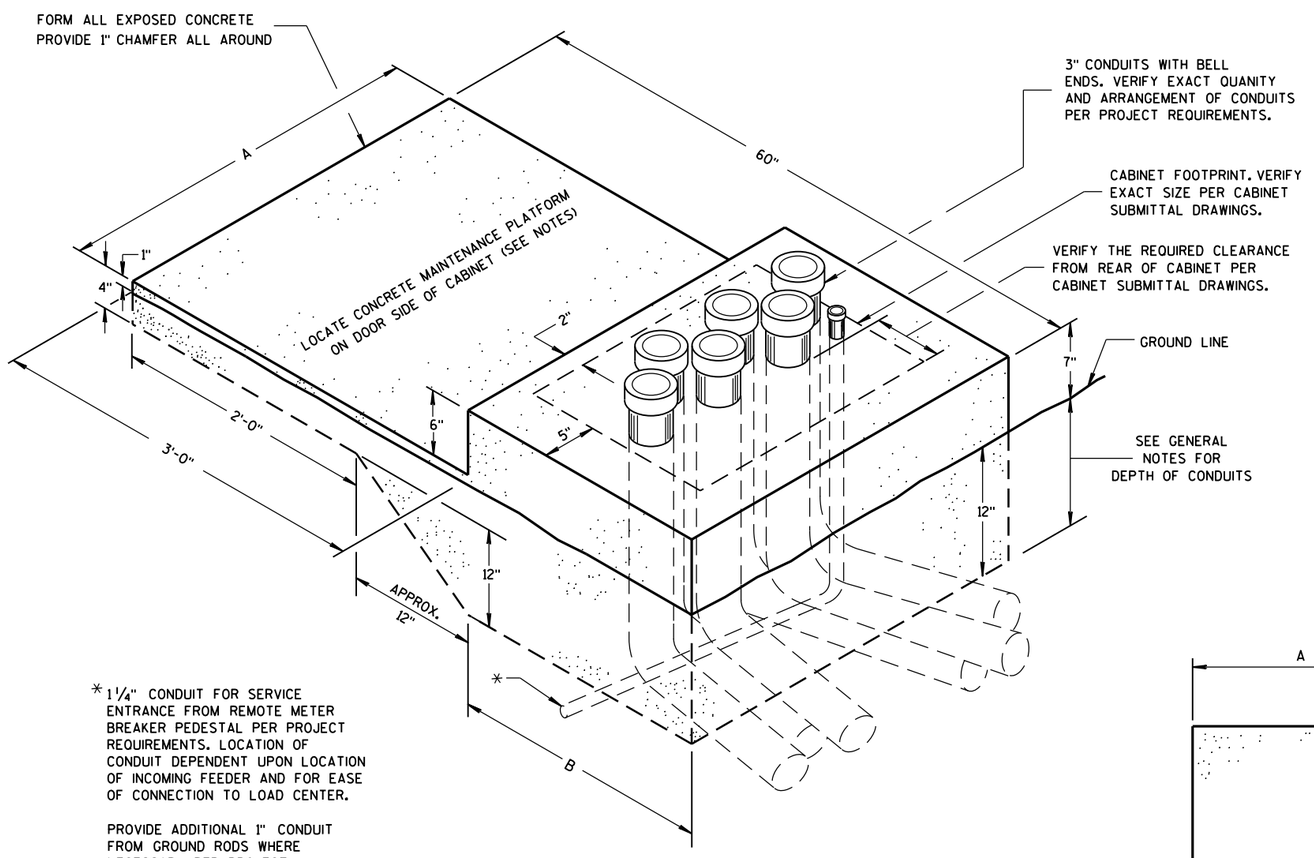
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA




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SDD 9 C 9-5




* 1¼" CONDUIT FOR SERVICE ENTRANCE FROM REMOTE METER BREAKER PEDESTAL PER PROJECT REQUIREMENTS. LOCATION OF CONDUIT DEPENDENT UPON LOCATION OF INCOMING FEEDER AND FOR EASE OF CONNECTION TO LOAD CENTER.

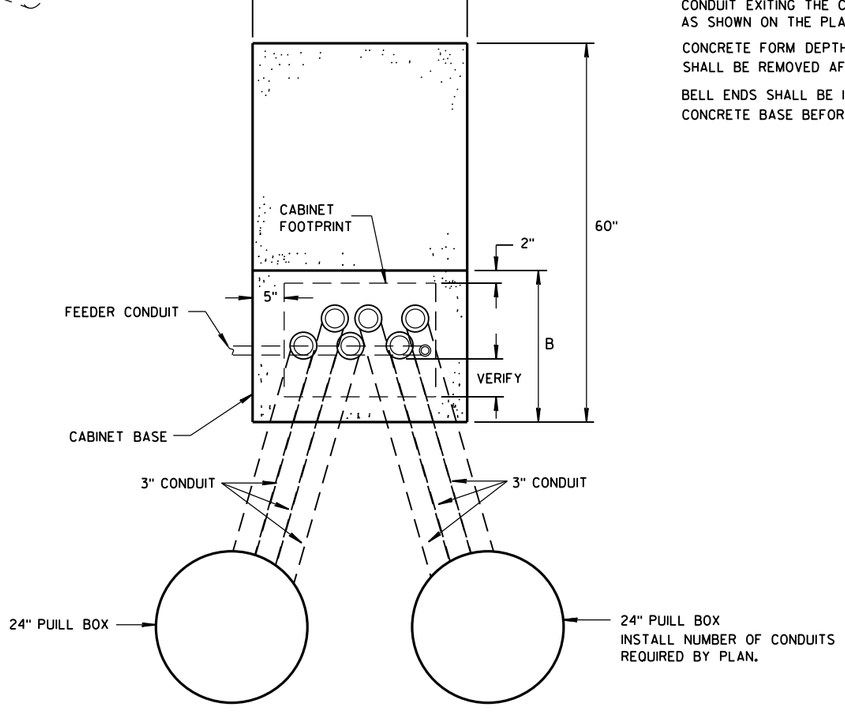
PROVIDE ADDITIONAL 1" CONDUIT FROM GROUND RODS WHERE NECESSARY PER PROJECT REQUIREMENTS.

**ISOMETRIC VIEW**

## CONCRETE CONTROL CABINET BASE, TYPE L

( C.Y. CONCRETE = APPROX. 0.4 )

| CONCRETE BASE TYPE | CABINET WIDTH | DIMENSIONS | |
|---|---|---|---|
| | | A | B |
| L24 | 24" | 34" | 24" |
| L30 | 30" | 40" | 24" |




**PLAN VIEW**

## CONCRETE CONTROL CABINET BASE, TYPE L

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

**CONCRETE CONTROL CABINET BASE, TYPE L**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

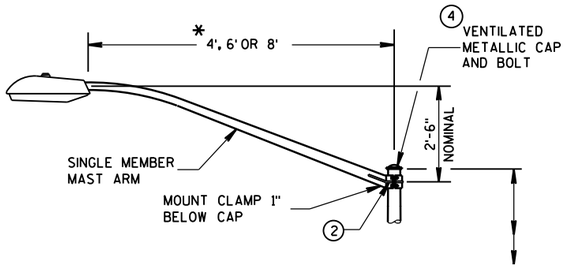
APPROVED
June 2014 — DATE
/S/ Thomas Gonring — STATE LIGHTING ENGINE — WYS
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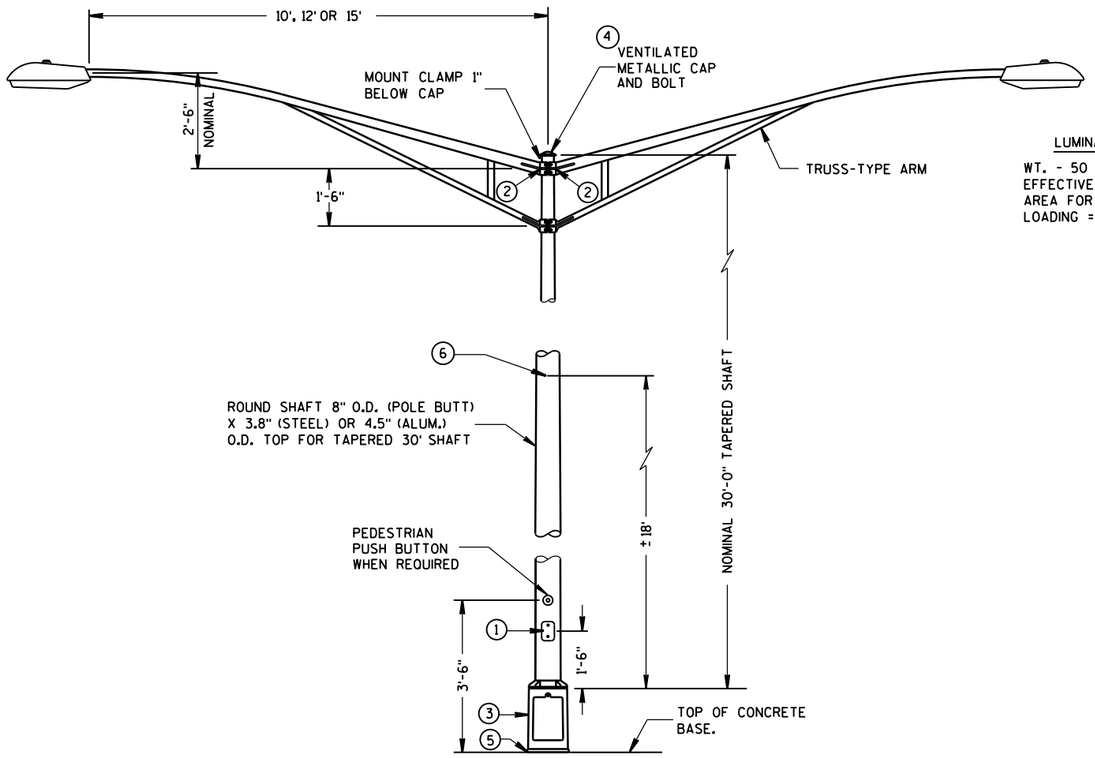


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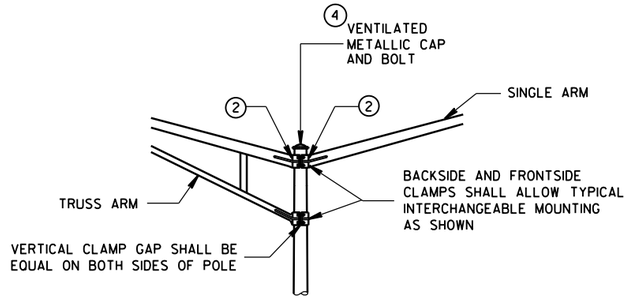
S.D.D. 9 C 14-1

*RISE FOR 4' ARM SHALL BE 2'-0".




TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY




INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONEECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(4) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

6

S.D.D. 9 E 1-13d

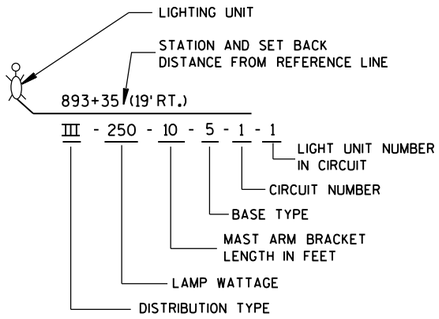
POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

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DEPARTMENT OF TRANSPOI

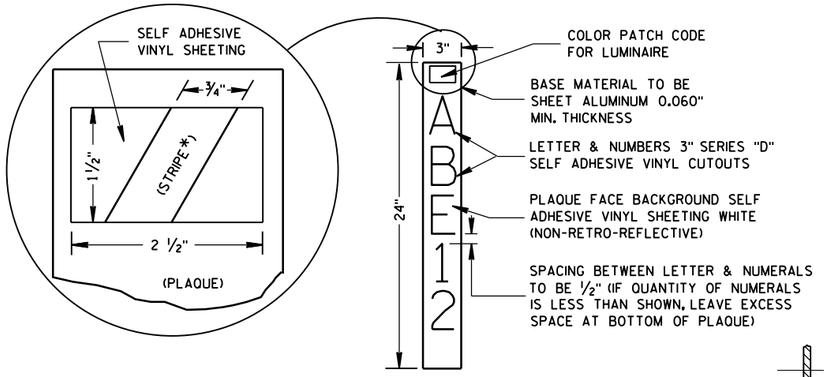


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## LIGHTING UNIT CODE
(TYPICAL)




## COLOR PATCH CODE FOR LUMINAIRES

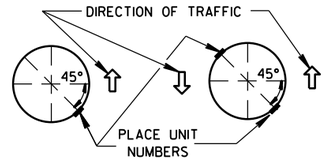
**(HIGH PRESSURE SODIUM)**

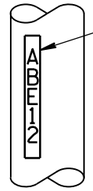
1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE W/WHITE STRIPE*
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN

**(MERCURY VAPOR)**

400 WATT - (NO PATCH)
250 WATT - YELLOW

## IDENTIFICATION PLAQUE




FASTEN TOP, CENTER AND BOTTOM OF PLAQUE WITH 3 ALUMINUM POP RIVETS (ALUM. POLES) OR STAINLESS STEEL POP RIVETS (STEEL POLES)

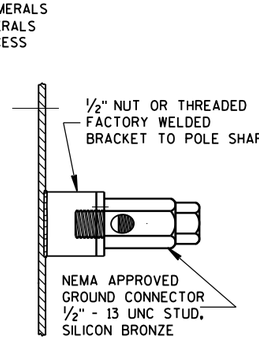
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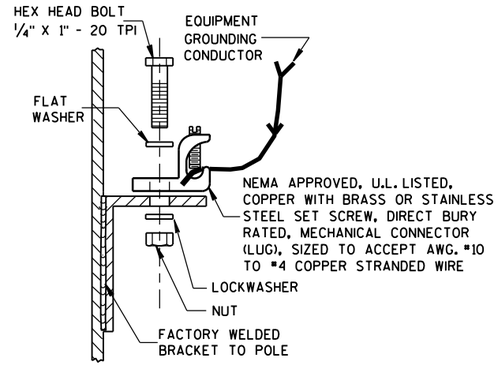
1) PLACE BOTTOM OF UNIT NUMBER PLAQUE 5'-0" ABOVE ELEVATION OF ADJACENT CURB OR SHOULDER.

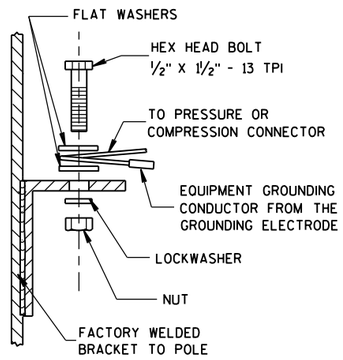
2) UNIT NUMBERS: ONE REQUIRED FOR SINGLE ARM POLES TWO REQUIRED FOR MEDIAN MOUNT POLES.

## LIGHTING UNIT IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENT
**(TYPICAL ALL LIGHTING UNITS)**

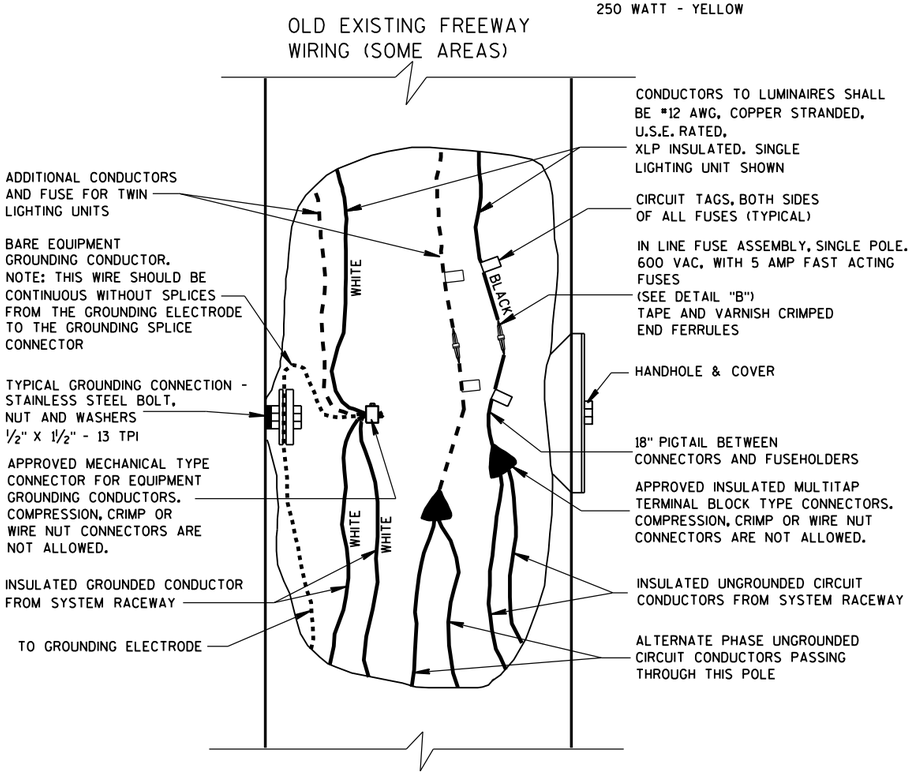
FURNISH PLAQUE WHEN CALLED FOR BY SPECIAL PROVISIONS



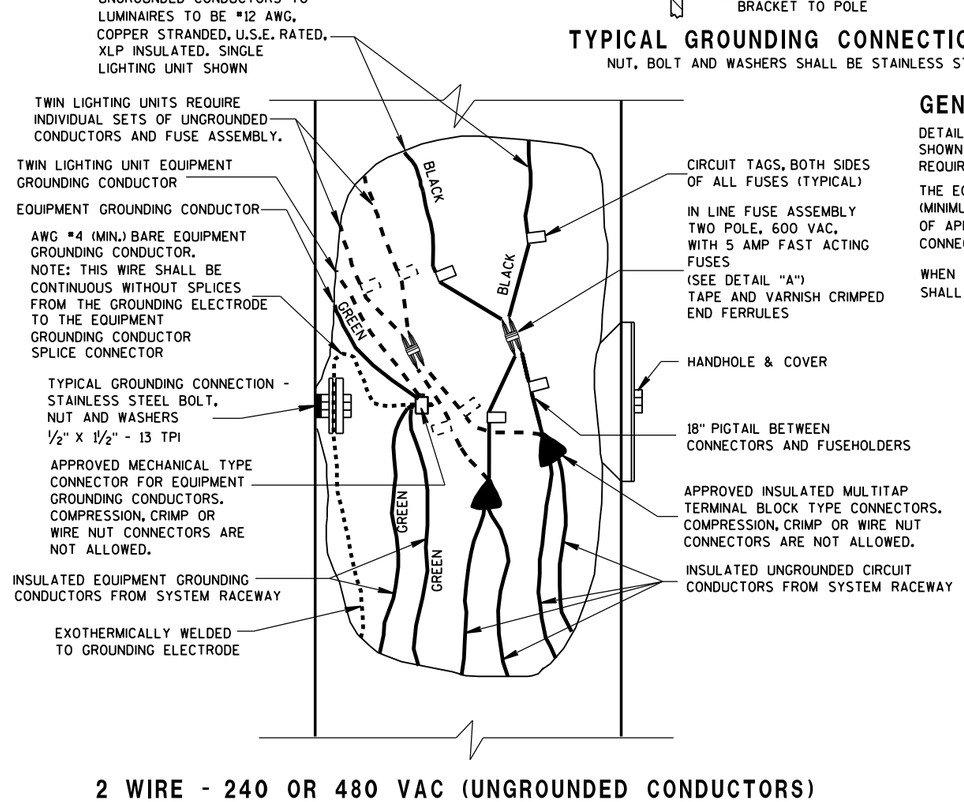




## TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL




## 2 WIRE - 120, 240 OR 480 VAC TO GROUND



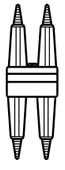

## 2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

## GENERAL NOTES

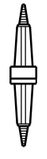
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



**DETAIL "A"**
BREAKAWAY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



**DETAIL "B"**
BREAKAWAY SINGLE POLE WITH WATERPROOF INSULATING BOOT

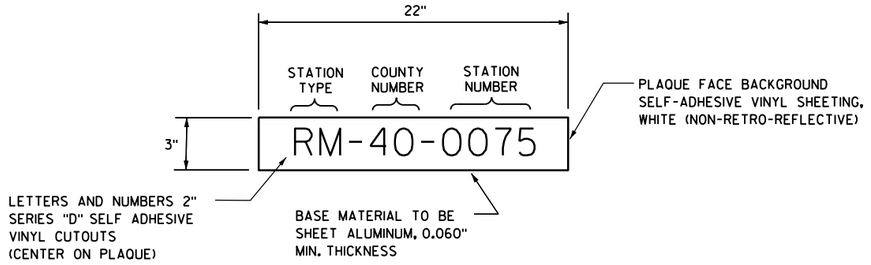
**FREEWAY LIGHTING UNIT POLE WIRING**

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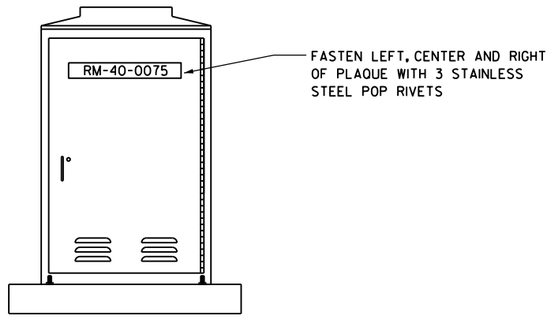
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA




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S.D.D. 9 E 2-4

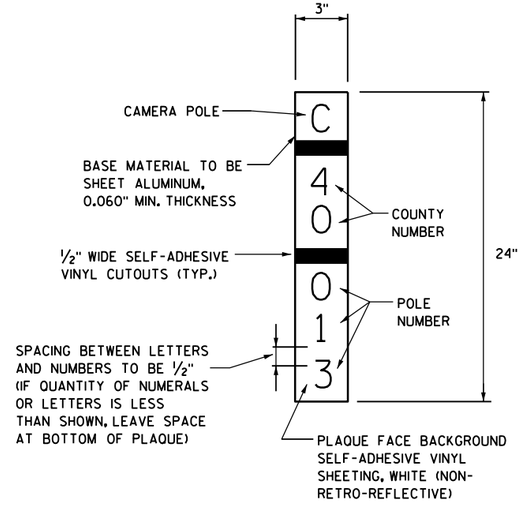



## CONTROL CABINET IDENTIFICATION PLAQUE DETAIL

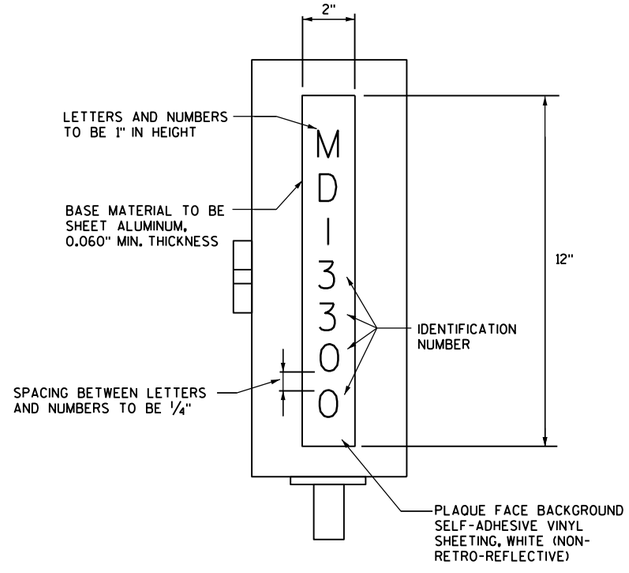



## CONTROL CABINET IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

(TYPICAL ALL CONTROL CABINETS)




## POLE IDENTIFICATION PLAQUE DETAIL




## MICROWAVE DETECTOR FIELD CABINET IDENTIFICATION PLAQUE DETAIL

## GENERAL NOTES

1. TWO PLAQUES PER CABINET REQUIRED ON CONTROL CABINET.
2. FASTEN ONE PLAQUE ON FRONT DOOR, UPPER HALF.
3. FASTEN ONE PLAQUE ON SIDE FACING LOCAL STREET. IF NO LOCAL STREET NEARBY, OR IF SUCH LOCATION COINCIDES WITH LOCATION OF PLAQUE IN NOTE (2), FASTEN PLAQUE ON REAR OF CABINET, UPPER HALF.
4. COUNTY NUMBER NOT REQUIRED ON RAMP METER CABINETS.

## LEGEND STATION TYPE

RM - RAMP METER
CCTV - CLOSED CIRCUIT TELEVISION
ATR - AUTOMATIC TRAFFIC RECORDER
SDS - SYSTEM DETECTOR STATION
MD - MICROWAVE DETECTOR

## IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

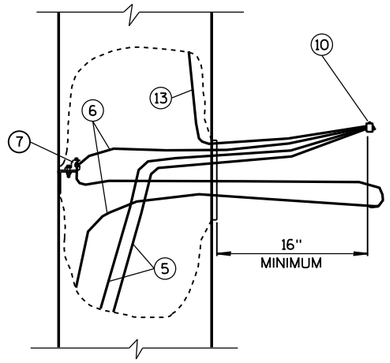
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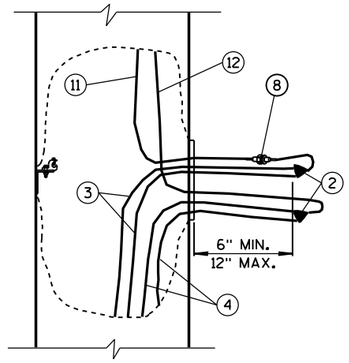



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S.D.D. 9 H 11-1

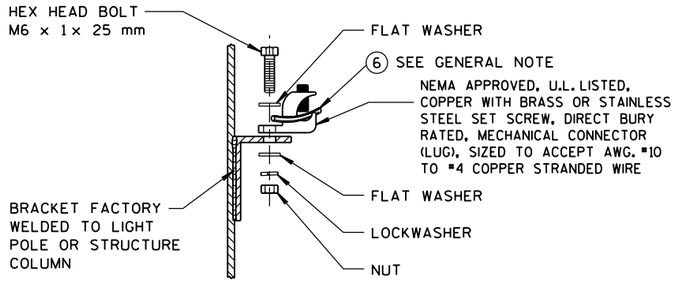



EQUIPMENT GROUNDING CONDUCTOR SLACK




UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

## TYPICAL CONDUCTOR SLACK AT HANDHOLES



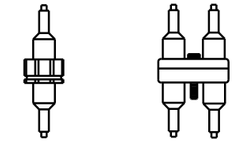

## HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

| KEY | CONDUCTOR | COLOR |
|---|---|---|
| 3 | UNGROUNDED LINE WIRE | * |
| 4 | GROUNDED LINE WIRE | WHITE |
| 5 | SYSTEM GROUNDING LINE WIRE | GREEN |
| 6 | GROUNDING ELECTRODE CONDUCTOR | BARE |
| 11 | UNGROUNDED POLE WIRE | * |
| 12 | GROUNDED POLE WIRE | WHITE |
| 13 | EQUIPMENT GROUNDING POLE WIRE | GREEN |

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.




## FUSE ASSEMBLIES

## GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

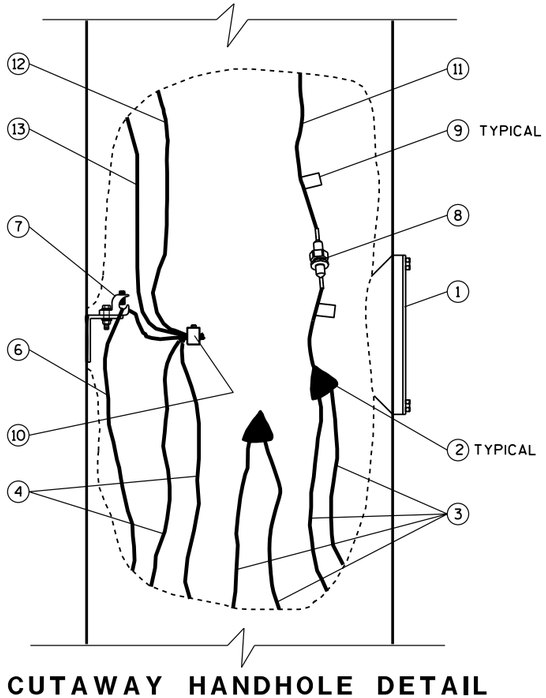
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

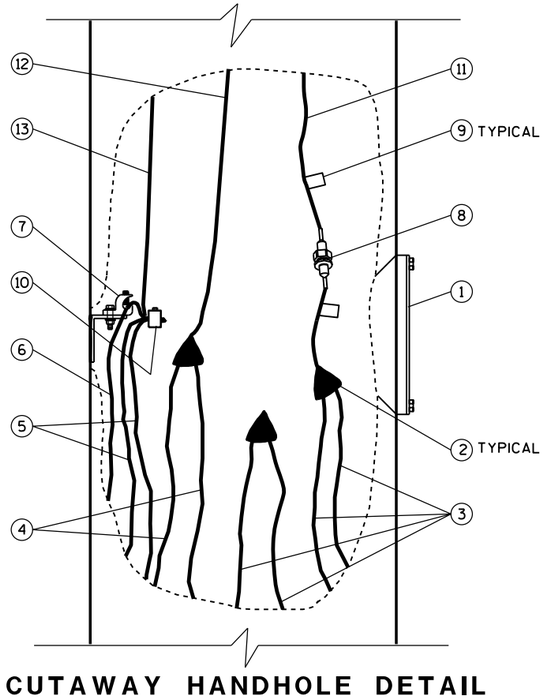
IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



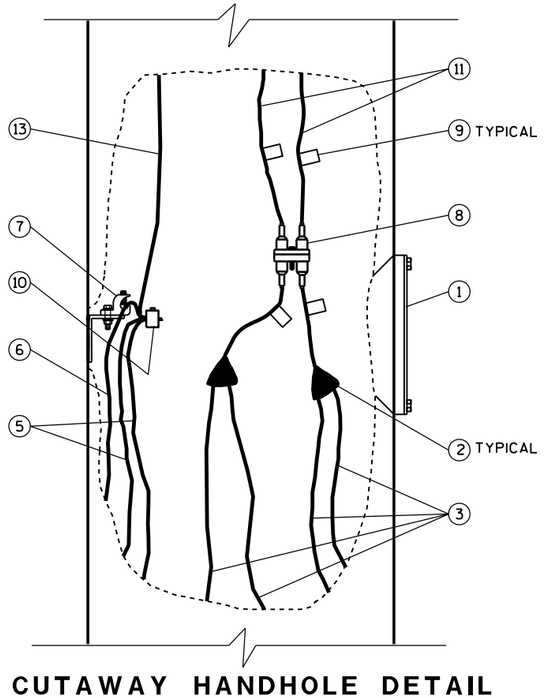

## CUTAWAY HANDHOLE DETAIL

GROUNDED NEUTRAL SYSTEMS
1-Φ




## CUTAWAY HANDHOLE DETAIL

ISOLATED NEUTRAL SYSTEMS
1-Φ SHOWN; 3-Φ WYE SIMILAR
(SEE GENERAL NOTE)




## CUTAWAY HANDHOLE DETAIL

PHASE-TO-PHASE SYSTEMS
1-Φ SHOWN; 3-Φ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

(1) HANDHOLE AND COVER
(2) INSULATED SPLICE
(3) UNGROUNDED LINE WIRE
(4) GROUNDED LINE WIRE
(5) SYSTEM GROUNDING LINE WIRE
(6) GROUNDING ELECTRODE CONDUCTOR
(7) HANDHOLE GROUNDING LUG
(8) FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
(9) CIRCUIT TAG (SEE GENERAL NOTE)
(10) REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
(11) UNGROUNDED POLE WIRE
(12) GROUNDED POLE WIRE
(13) EQUIPMENT GROUNDING POLE WIRE

# ELECTRICAL HANDHOLE WIRING

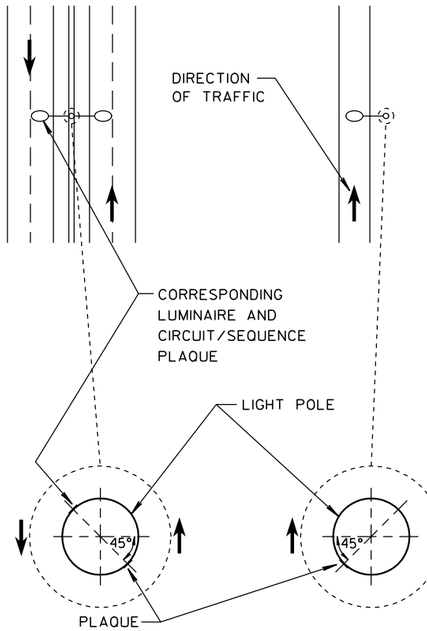
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APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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S.D.D. 10 A 1-3




MEDIAN POLE SINGLE ARM POLE

## LOCATION OF LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

## GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETRORFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

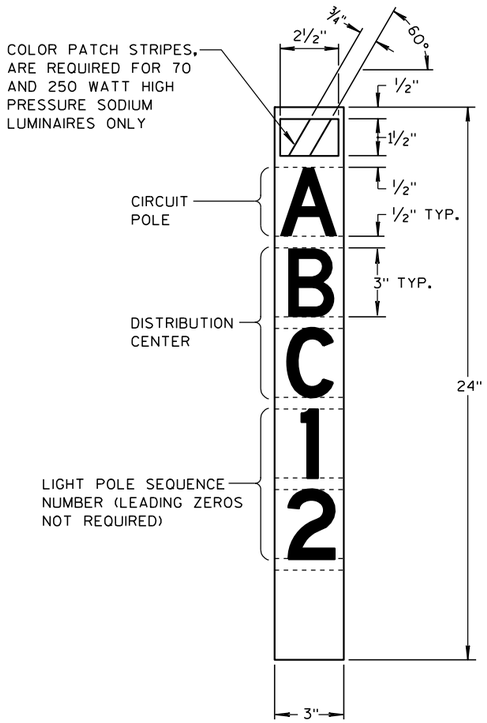
COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM POLES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

COLOR PATCH CODE FOR HPS LUMINAIRES

1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE WITH WHITE STRIPE
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN
70 WATT - BROWN WITH WHITE STRIPE




## LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

**IDENTIFICATION PLAQUES LIGHT POLES**

STATE OF WISCONSIN
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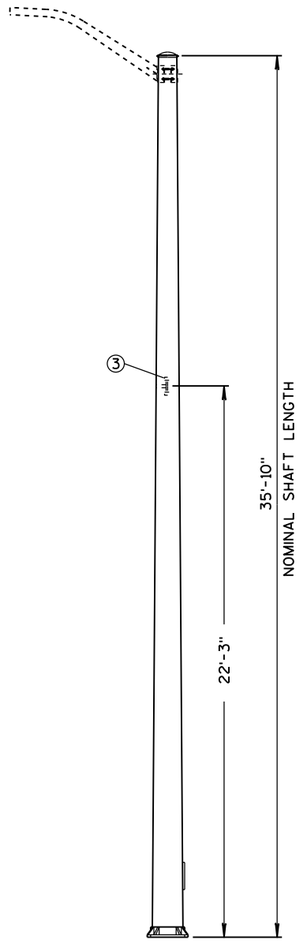
APPROVED
10/25/2010 — DATE
/S/ John Corbin — STATE ELECTRICAL ENGI 236 — HWYS
FHWA

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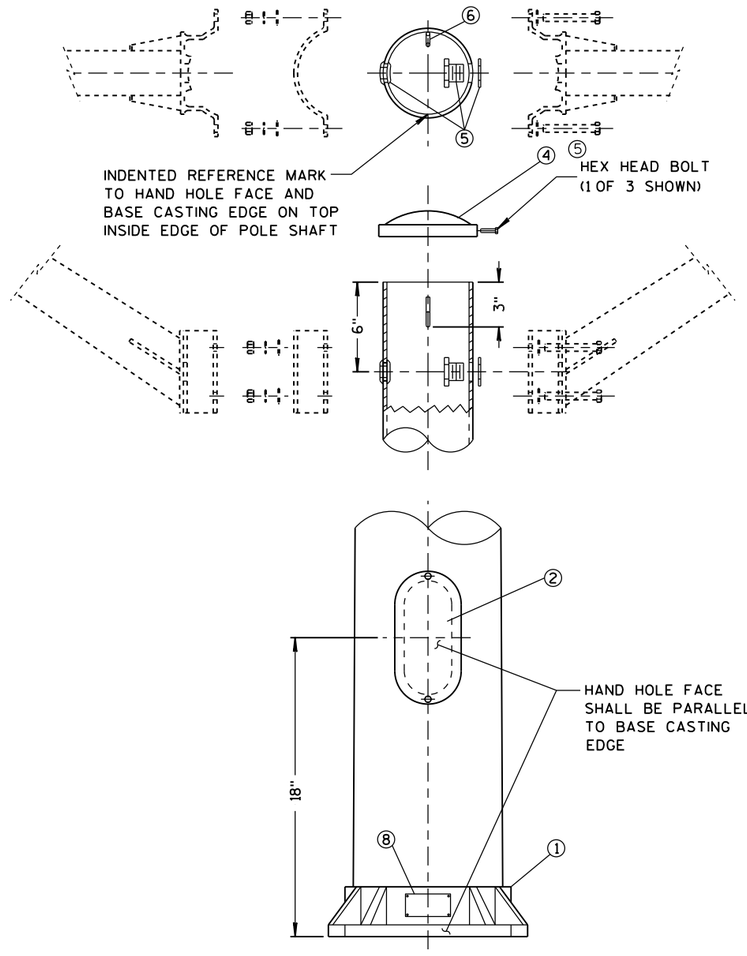
S.D.D. 10 A 2-2

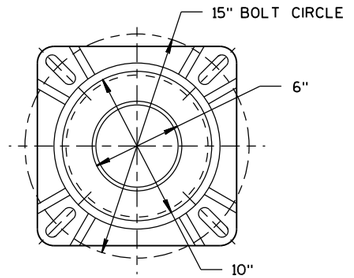
6

S.D.D. 10 A 2-2

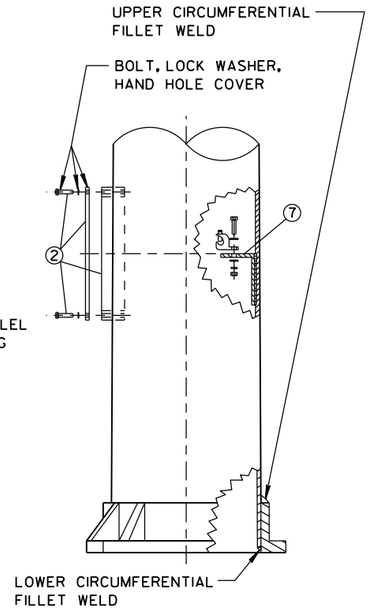



**POLE, TYPE 7**




**(TOP VIEW)**




## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SLOTTED ANCHOR ROD HOLES FOR 1"-8 UNC ANCHOR RODS (4 EACH, 15" BOLT CIRCLE), SHALL BE PROVIDED IN BASE CASTING.

POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM.
EXCEPT THAT BASE CASTINGS SHALL BE CONSTRUCTED OF 356-T6 ALUMINUM.
THE SHAFT SHALL BE ROUND AND UNIFORMLY TAPERED FROM A 10" O.D. BUTT TO A 6" O.D. TOP.

HEAT TREATMENT OF WELDMENTS IN STRUCTURAL AREAS (e.g. BASE CASTING, HAND HOLE, BRACKET FOR GROUNDING LUG) REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE ARMS AND CLAMP ASSEMBLIES SHOWN FOR INFORMATION ONLY (PAID SEPARATELY).

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A.

① SHOE BASE.

② 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY SECURED BY TWO (2) 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

HANDHOLE SHALL BE 90 DEGREES FROM LUMINAIRE ARMS OF TWIN LUMINAIRE POLES; 180 DEGREES FROM LUMINAIRE ARM OF SINGLE LUMINAIRE POLES; 0 DEGREES FROM LUMINAIRE ARM FOR STRUCTURE MOUNTED POLES.

③ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

④ FURNISH AND INSTALL CAST OR METALLIC (ALUMINUM ALLOY) POLE CAP. FASTEN CAP WITH THREE 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑤ 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET), PER EACH REQUIRED LUMINAIRE ARM.

⑥ FACTORY-WELDED "J" HOOK FOR POLE WIRE STRAIN RELIEF.

⑦ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE. (LUG AND HARDWARE PAID UNDER SEPARATE ITEMS; SHOWN FOR INFORMATION ONLY). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑧ MANUFACTURER'S PLATE SHOWING WisDOT POLE TYPE, MANUFACTURER, AND DATE.

| POLE TYPE (NOM. SHAFT LENGTH) | TYPICAL APPLICATION | ARM & LUMINAIRE LOADS (MAX.) | ADDITIONAL (MAX.) LOADS |
|---|---|---|---|
| TYPE 7 (35'-10") | ARTERIALS | TWIN ARMS UP TO 10 FT. (SINGLE MEMBER) | UP TO 20 SQ. FT. ON TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN, PLUS 1-3 SECTION, 1-5 SECTION, AND 2-PED. TRAFFIC HEAD |
| | FREEWAY | SINGLE ARM, UP TO 20 FT. TRUSS TYPE | UP TO 20 SQ. FT. OF TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN |

**POLES, TYPE 7**
**ALUMINUM - 35'-10" SHAFT**

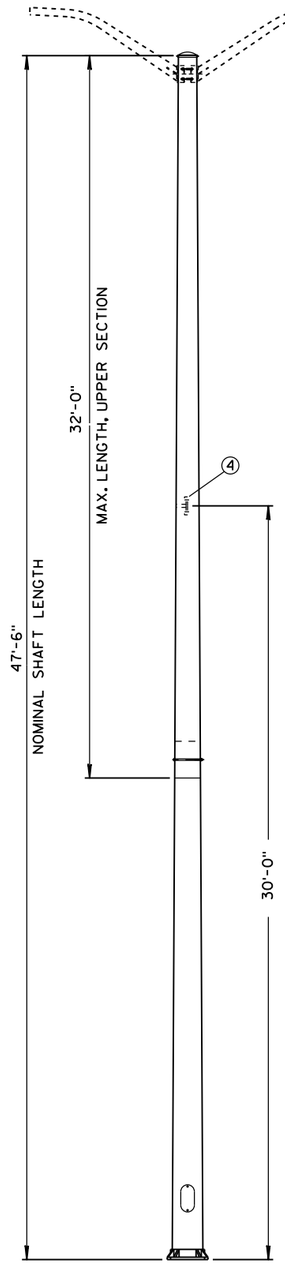
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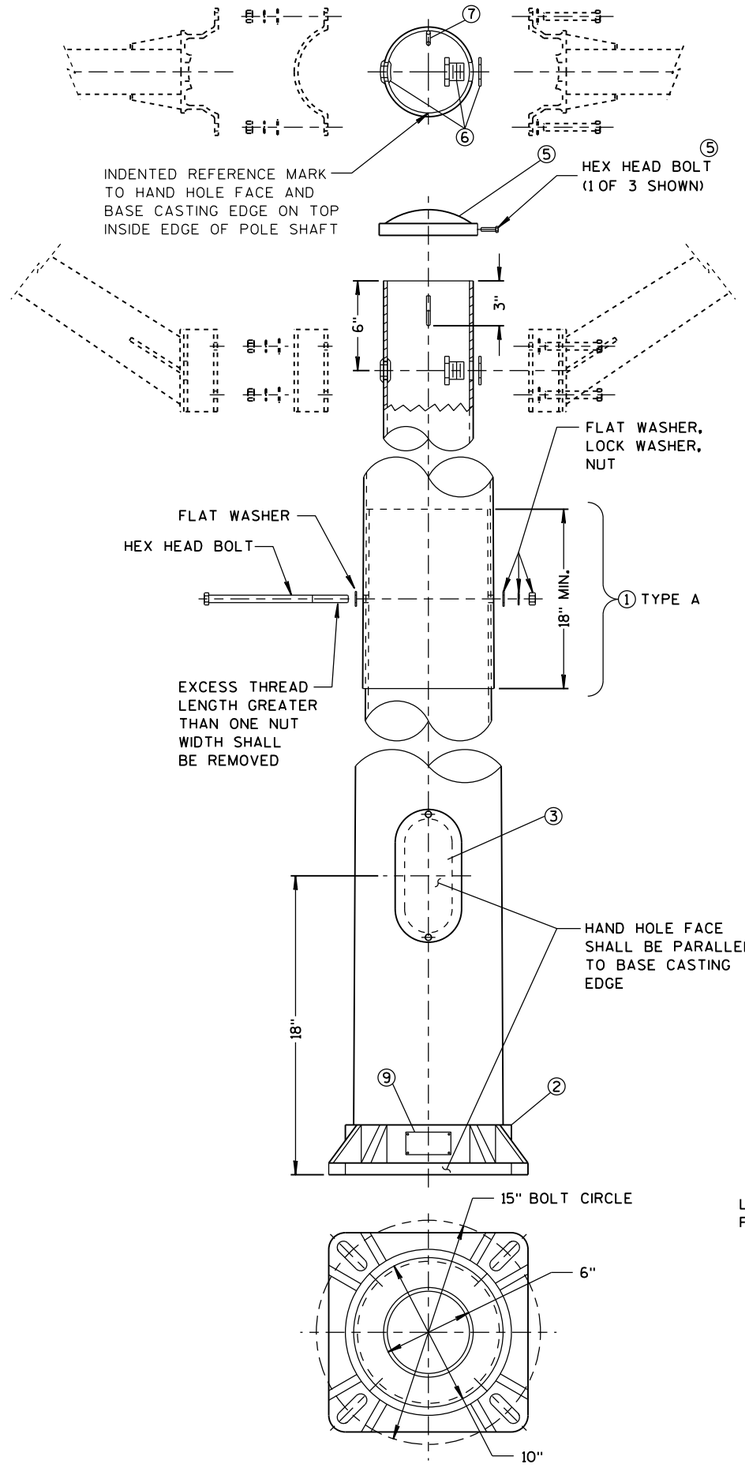




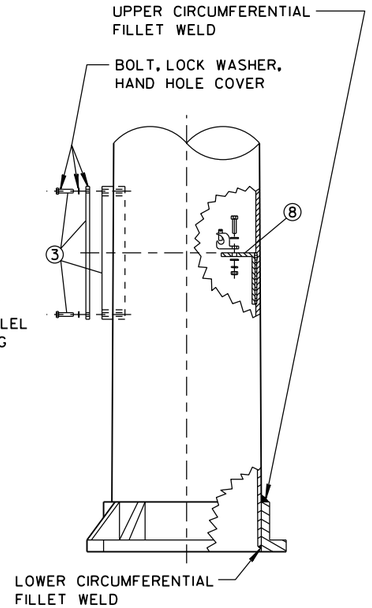
6
S.D.D. 10 A 17-4a




POLE, TYPE A




(TOP VIEW)




## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM. EXCEPT THAT BASE CASTINGS SHALL BE CONSTRUCTED OF 356-T6 ALUMINUM. THE SHAFT SHALL BE ROUND AND UNIFORMLY TAPERED FROM A 10" O.D. BUTT TO A 6" O.D. TOP.

HEAT TREATMENT OF WELDMENTS IN STRUCTURAL AREAS (e.g. BASE CASTING, HAND HOLE, BRACKET FOR GROUNDING LUG) REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE ARMS AND CLAMP ASSEMBLIES SHOWN FOR INFORMATION ONLY (PAID SEPARATELY).

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A.

① OPTIONAL TELESCOPING FIELD JOINT SECURED BY A $\frac{5}{8}$"-11 TPI THROUGH BOLT OR STUD.

THE OVERLAP OF THE UPPER AND LOWER SECTIONS SHALL BE NOT LESS THAN 18".

② SHOE BASE.

③ 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY SECURED BY TWO (2) $\frac{1}{4}$" X $\frac{3}{4}$" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

HANDHOLE SHALL BE 90 DEGREES FROM LUMINAIRE ARMS OF TWIN LUMINAIRE POLES; 180 DEGREES FROM LUMINAIRE ARM OF SINGLE LUMINAIRE POLES; 0 DEGREES FROM LUMINAIRE ARM FOR STRUCTURE MOUNTED POLES.

④ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

⑤ FURNISH AND INSTALL CAST OR METALLIC (ALUMINUM ALLOY) POLE CAP. FASTEN CAP WITH THREE $\frac{1}{4}$" X $\frac{3}{4}$" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑥ 1 $\frac{3}{8}$" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET), PER EACH REQUIRED LUMINAIRE ARM.

⑦ FACTORY-WELDED "J" HOOK FOR POLE WIRE STRAIN RELIEF.

⑧ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE. (LUG AND HARDWARE PAID UNDER SEPARATE ITEMS; SHOWN FOR INFORMATION ONLY). PROVIDE HOLE IN BRACKET FOR $\frac{1}{4}$" X $\frac{3}{4}$" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑨ MANUFACTURER'S PLATE SHOWING WisDOT POLE TYPE, MANUFACTURER, AND DATE.

| POLE TYPE (NOM. SHAFT LENGTH) | TYPICAL APPLICATION | ARM & LUMINAIRE LOADS (MAX.) | ADDITIONAL (MAX.) LOADS |
|---|---|---|---|
| TYPE A, (47'-6") | FREEWAY MEDIAN OR STRUCTURE MOUNT | SINGLE ARM, UP TO 10 FT., OR TWIN 4 FT. ARMS | UP TO 20 SQ. FT. OF TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN |

**POLES, TYPE A**
**ALUMINUM 47'-6" SHAFT**

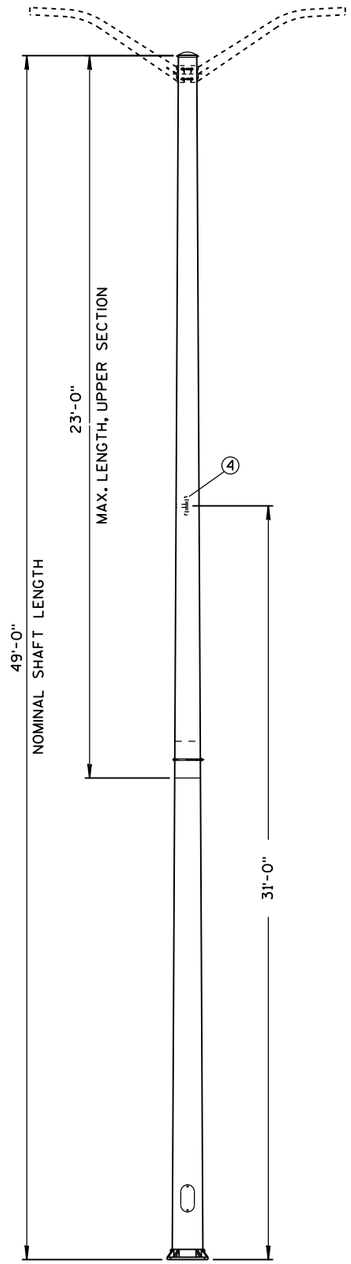
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Sept. 2014
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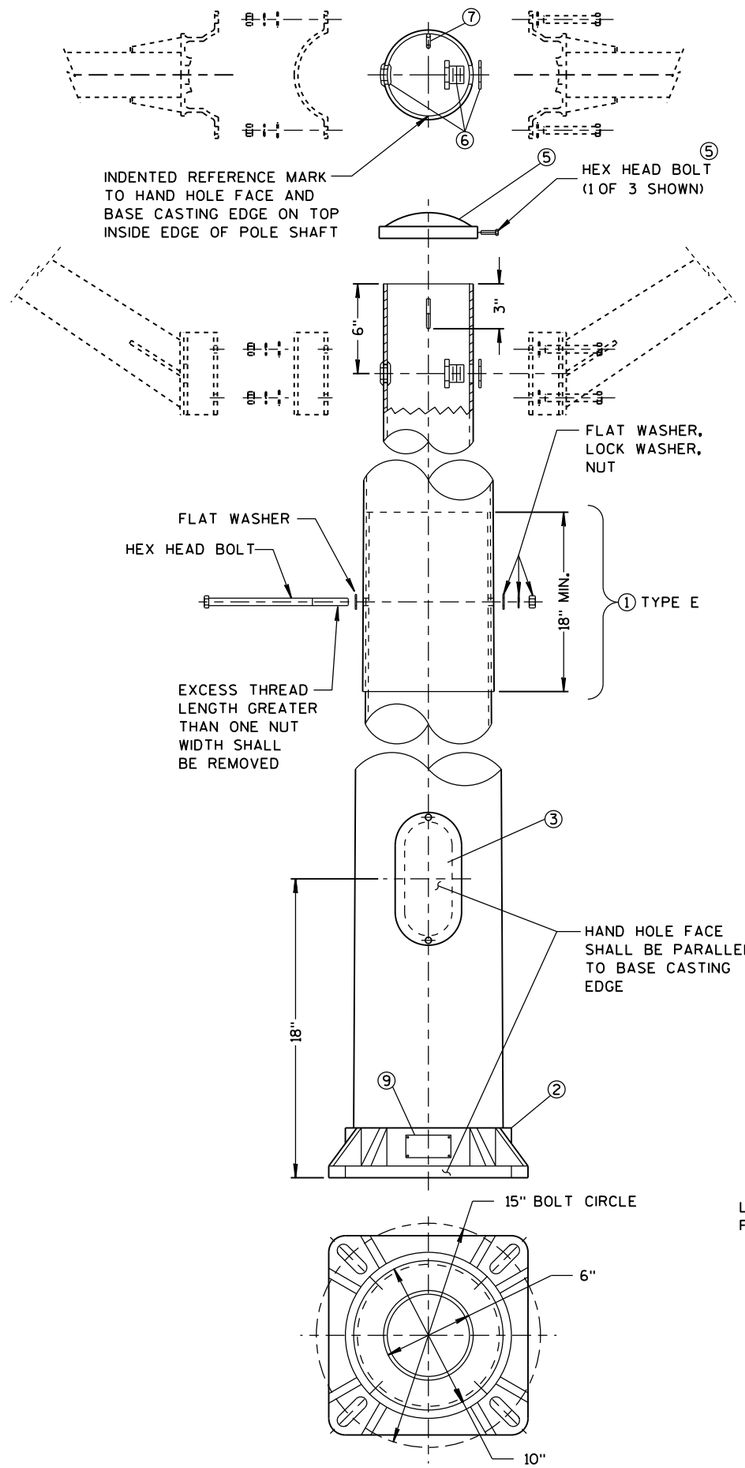



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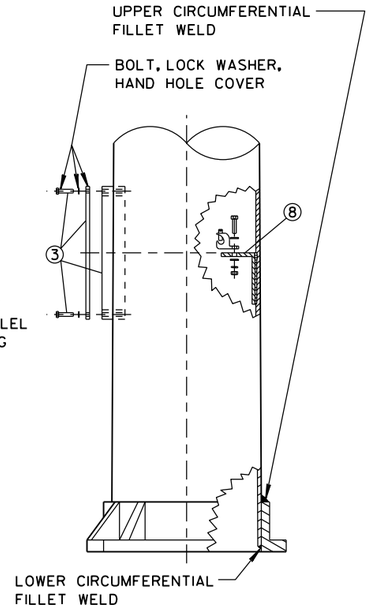
S.D.D. 10 A 17-4b




POLE, TYPE E




(TOP VIEW)




## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM.
EXCEPT THAT BASE CASTINGS SHALL BE CONSTRUCTED OF 356-T6 ALUMINUM.

HEAT TREATMENT OF WELDMENTS IN STRUCTURAL AREAS (e.g. BASE CASTING, HAND HOLE, BRACKET FOR GROUNDING LUG) REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE ARMS AND CLAMP ASSEMBLIES SHOWN FOR INFORMATION ONLY (PAID SEPARATELY).

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. E.P.A..

① OPTIONAL TELESCOPING FIELD JOINT SECURED BY A 5/8"-11 TPI THROUGH BOLT OR STUD.
THE OVERLAP OF THE UPPER AND LOWER SECTIONS SHALL BE NOT LESS THAN 18".

② SHOE BASE.

③ 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY SECURED BY TWO (2) 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
HANDHOLE SHALL BE 90 DEGREES FROM LUMINAIRE ARMS OF TWIN LUMINAIRE POLES; 180 DEGREES FROM LUMINAIRE ARM OF SINGLE LUMINAIRE POLES; 0 DEGREES FROM LUMINAIRE ARM FOR STRUCTURE MOUNTED POLES.

④ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

⑤ FURNISH AND INSTRALL CAST OR METALLIC (ALUMINUM ALLOY) POLE CAP. FASTEN CAP WITH THREE 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑥ 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET), PER EACH REQUIRED LUMINAIRE ARM.

⑦ FACTORY-WELDED "J" HOOK FOR POLE WIRE STRAIN RELIEF.

⑧ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE. (LUG AND HARDWARE PAID UNDER SEPARATE ITEMS; SHOWN FOR INFORMATION ONLY). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

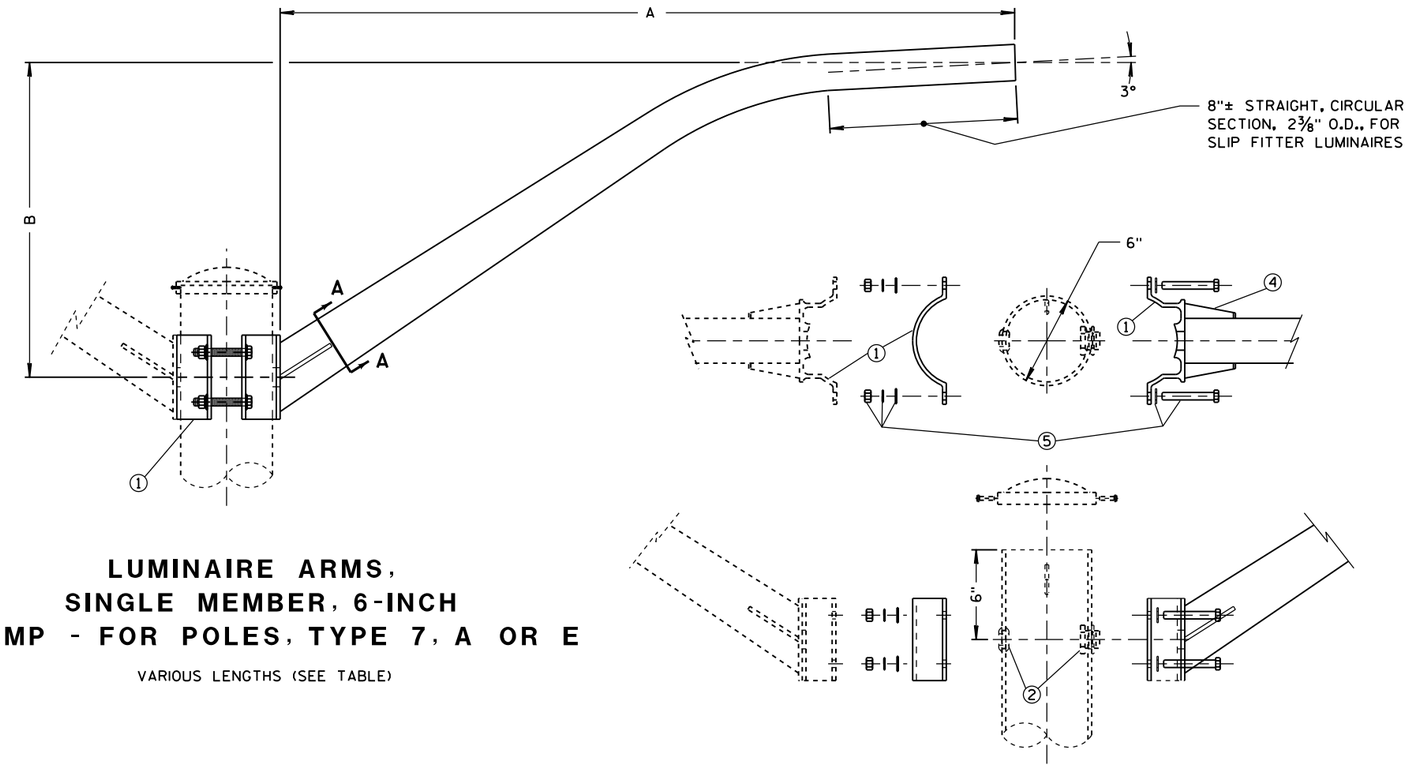
⑨ MANUFACTURER'S PLATE SHOWING WisDOT POLE TYPE, MANUFACTURER, AND DATE.

| POLE TYPE (NOM. SHAFT LENGTH) | TYPICAL APPLICATION | ARM & LUMINAIRE LOADS (MAX.) | ADDITIONAL (MAX.) LOADS |
|---|---|---|---|
| TYPE E, (49') | FREEWAY SLOPE MOUNT | SINGLE ARM, UP TO 20 FT., TRUSS TYPE OR TWIN ARMS UP TO 10' SINGLE MEMBER | UP TO 20 SQ. FT. OF TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN |

**POLES, TYPE E, ALUMINUM 49'-0" SHAFT**

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DEPARTMENT OF TRANSPORTATION

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DATE
/S/ Ahmet Demirbilek
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## LUMINAIRE ARMS, SINGLE MEMBER, 6-INCH CLAMP - FOR POLES, TYPE 7, A OR E

VARIOUS LENGTHS (SEE TABLE)

## CLAMP ASSEMBLY

SINGLE MEMBER CLAMP SHOWN

| TYPE | DIM. A NOMINAL ARM LENGTH (FT) | DIM. B APPROX. RISE (FT) |
|---|---|---|
| SINGLE MEMBER | 4.0 | 2.0 |
| SINGLE MEMBER | 8.0 | 3.0 |
| SINGLE MEMBER | 10.0 | 3.0 |
| SINGLE MEMBER | 15.0 | 3.0 |

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ARMS AND CLAMP EXTRUSIONS SHALL BE CONSTRUCTED OF NATURAL FINISH 6063-T6 ALUMINUM.

HEAT TREATMENT OF WELDS IN STRUCTURAL AREAS IS REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A..

① CLAMPS SHALL BE EXTRUDED ALUMINUM.

② RACE WAY: 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET) PER EACH REQUIRED LUMINAIRE ARM. PROVIDE 1 1/2" HOLE IN CLAMP EXTRUSION TO CONTINUE RACEWAY.

③ STIFFENER

④ GUSSETS REQUIRED.

⑤ CLAMP BOLT ASSEMBLY (BOLT - 1/2"-13 UNC, 2 EACH - FLAT WASHER, LOCK WASHER, NUT) - 4 EACH PER CLAMP.

**LUMINAIRE ARMS, SINGLE MEMBER 6-INCH CLAMP**

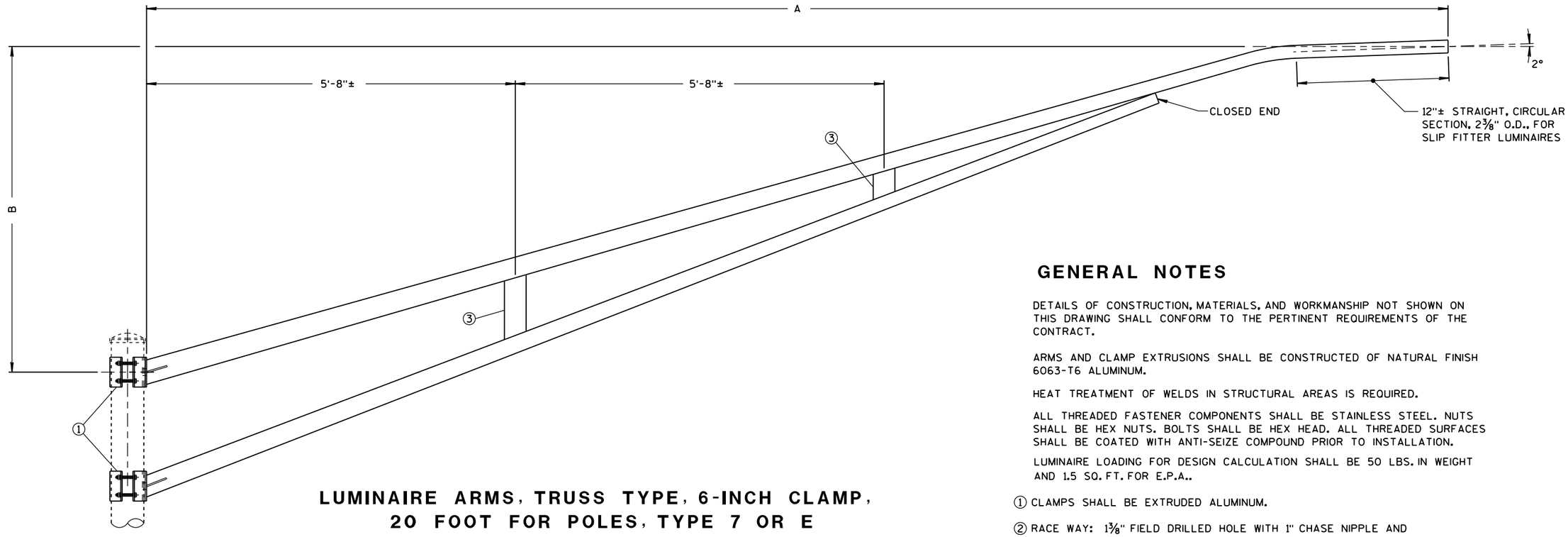
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S.D.D. 10 A 18-5a




## LUMINAIRE ARMS, TRUSS TYPE, 6-INCH CLAMP, 20 FOOT FOR POLES, TYPE 7 OR E

UPPER AND LOWER TRUSS CHORD CLAMPS SIMILIAR

| TYPE | DIM. A NOMINAL ARM LENGTH (FT) | DIM. B APPROX. RISE (FT) |
|---|---|---|
| TRUSS TYPE | 20.0 | 5.0 |

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ARMS AND CLAMP EXTRUSIONS SHALL BE CONSTRUCTED OF NATURAL FINISH 6063-T6 ALUMINUM.

HEAT TREATMENT OF WELDS IN STRUCTURAL AREAS IS REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A..

① CLAMPS SHALL BE EXTRUDED ALUMINUM.

② RACE WAY: 1⅜" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET) PER EACH REQUIRED LUMINAIRE ARM. PROVIDE 1½" HOLE IN CLAMP EXTRUSION TO CONTINUE RACEWAY. NOTE: NO RACEWAY ON LOWER TRUSS CORD CLAMP. FOR INFORMATION ONLY.

③ STIFFENER.

④ GUSSETS REQUIRED.

⑤ CLAMP BOLT ASSEMBLY (BOLT - ½"-13 UNC, 2 EACH - FLAT WASHER, LOCK WASHER, NUT) - 4 EACH PER CLAMP.

**LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP**

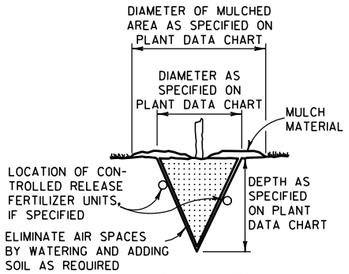
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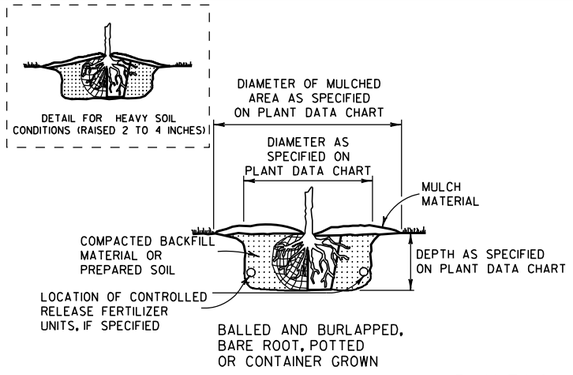



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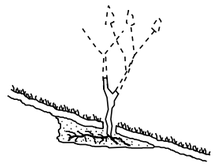
S.D.D. 10 A 18-5b




MACHINE MOVED

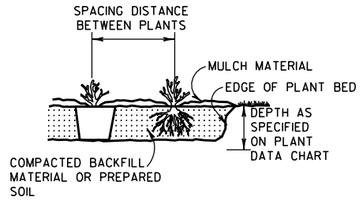



BALLED AND BURLAPPED, BARE ROOT, POTTED OR CONTAINER GROWN



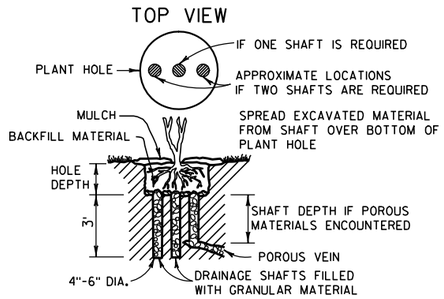
ACCOMMODATE ROOTS (SMOOTH AND STAGHORN SUMAC)

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



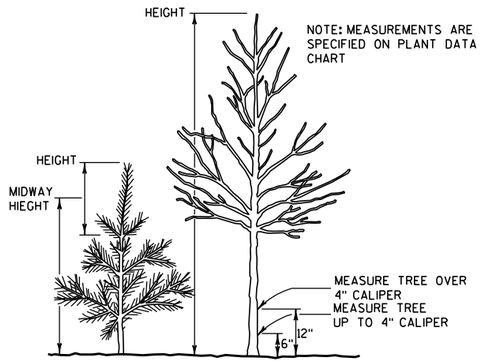

PREPARED BED (BARE ROOT AND POTTED)

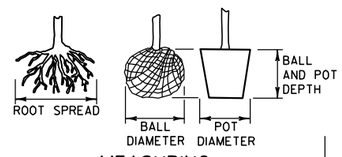
## PLANTING



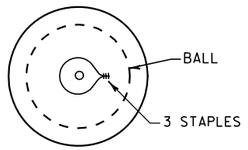

NOTE:
DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

## DRAINING

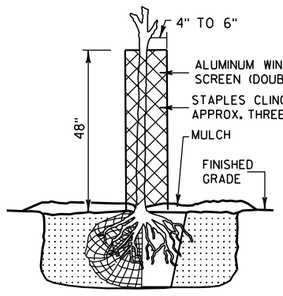


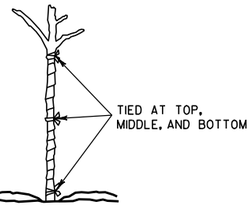

## MEASURING



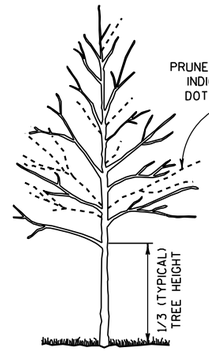

TOP VIEW



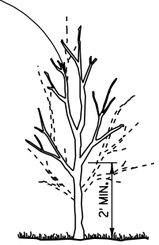

## RODENT PROTECTION




## WRAPPING




TALL DECIDUOUS TREES (ASH, MAPLE, LINDEN, OAK)




SINGLE STEMMED LOW DECIDUOUS TREES (CRABS AND OTHER SINGLE STEM TYPE)



MULTI-STEMMED LOW DECIDUOUS TREES OR LARGE SHRUBS (HAWTHORN, SERVICEBERRY)

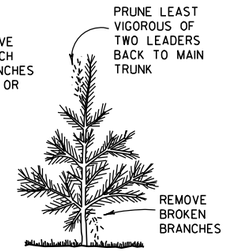
NOTE: WHEN PRUNING, PRESERVE CHARACTER AND SHAPE OF TREE. AVOID LEAVING STUBS - REMOVE BRANCH OR TWIG BACK TO THE NEAREST CROTCH
1) PRUNE TO REMOVE DEAD AND BROKEN BRANCHES
2) PRUNE TO REMOVE BRANCHES THAT TOUCH OR ARE TOO CLOSE TO OTHER BRANCHES



SHRUBS (GRAY DOGWOOD ARROWWOOD VIBURNUM)

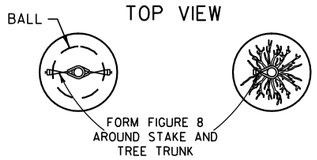


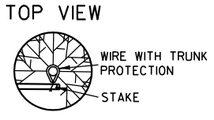
SUMAC

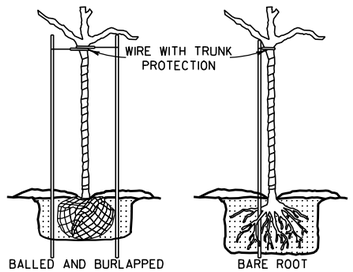


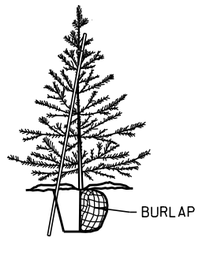

TREE TYPE EVERGREENS (PINE, SPRUCE, FIR) EVERGREENS USUALLY ARE NOT PRUNED

## PRUNING



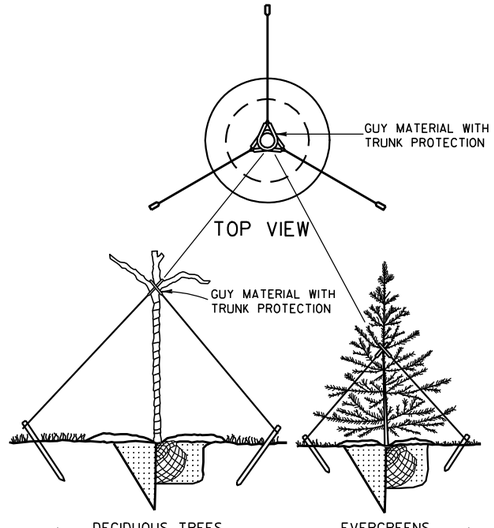



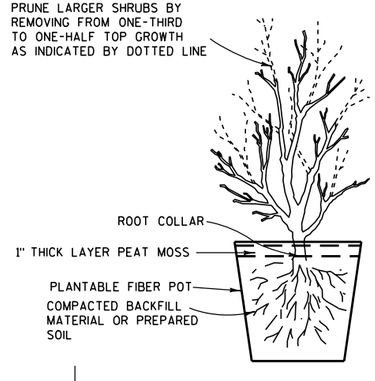




NOTE: BRACING STAKE
1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.
2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.
3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND
4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD THE WIRE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

## BRACING




## GUYING




## 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

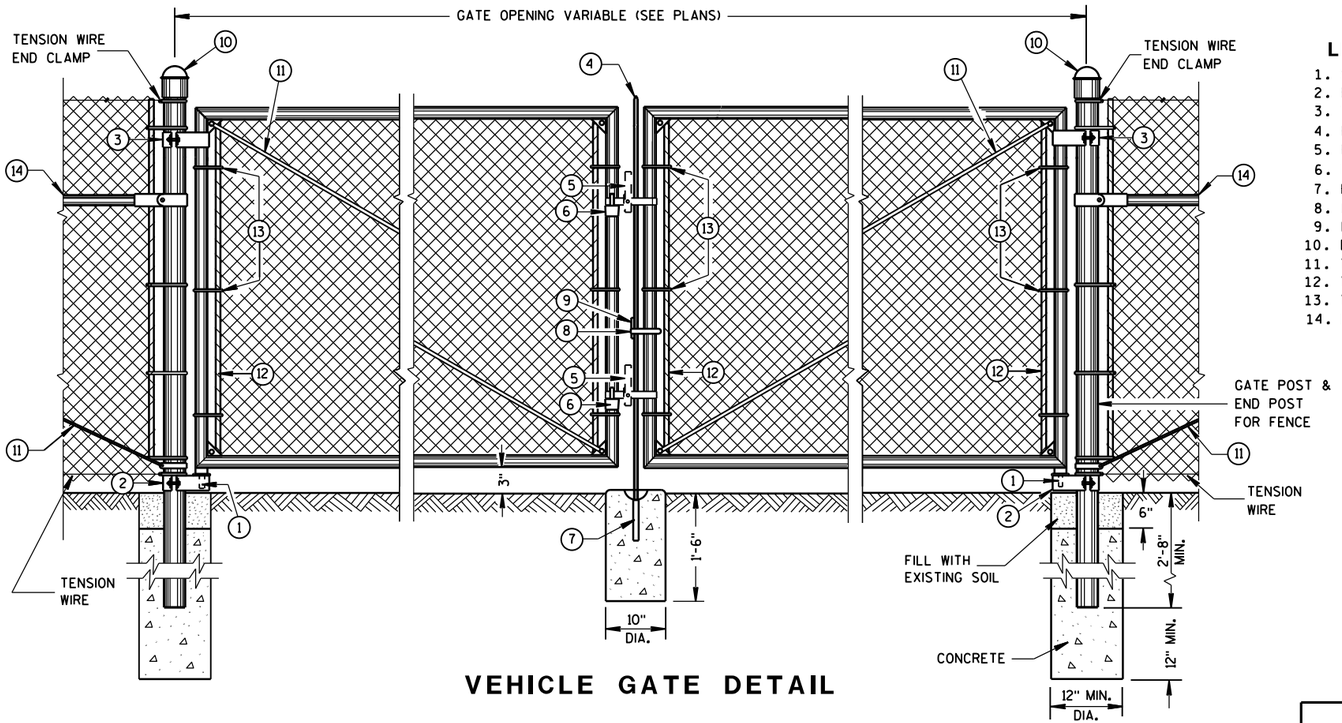
APPROVED
4/11/94
DATE
/S/ Rory L. Rhinesmith
CHIEF METHODS DEVELOPMENT ENGINEER
FHWA



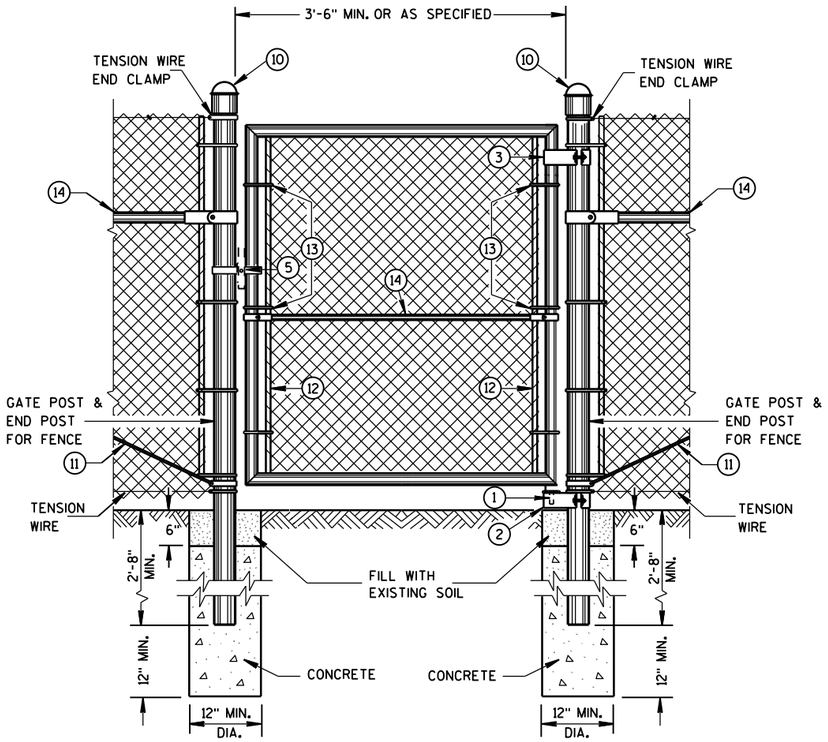


6

S.D.D. 14 A 2-1




## VEHICLE GATE DETAIL




## PEDESTRIAN GATE DETAIL

### LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

## GENERAL NOTES

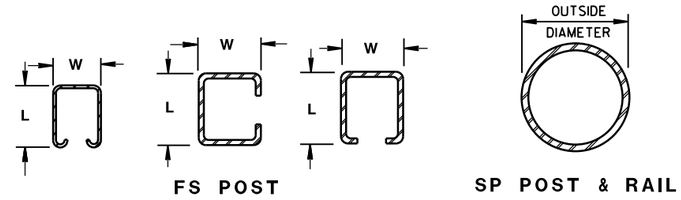
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.




FS POST

SP POST & RAIL

## CROSS SECTIONS OF POSTS AND RAILS

### REQUIRED FENCE POST SIZES

| USE | FABRIC HEIGHTS FEET | POST TYPE |
|---|---|---|
| TERMINAL POSTS ** | LESS THAN OR EQUAL TO 6 FT. | SP3 |
| | GREATER THAN OR EQUAL TO 6 FT. | SP4 |
| LINE POSTS | LESS THAN OR EQUAL TO 6 FT. | SP2 |
| | LESS THAN OR EQUAL TO 8 FT. | SP3 |
| | GREATER THAN OR EQUAL TO 8 FT. | SP4 |
| | LESS THAN OR EQUAL TO 8 FT. | FS2 OR FS2† |
| | GREATER THAN OR EQUAL TO 8 FT. | FS3 |

### BRACE RAIL TYPES

| USE | | TYPE |
|---|---|---|
| BRACE RAIL | | SP1 OR FS1 |

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

### SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FORMED STEEL FENCE POST

| POST TYPE | LENGTH (L) INCH | WIDTH (W) INCH | WEIGHT LBS/FT |
|---|---|---|---|
| FS1 | 1.625 | 1.25 | 1.35 |
| FS2† | 1.875 | 1.625 | 1.850 |
| FS2 | 1.875 | 1.625 | 2.400 |
| FS3 | 2.250 | 1.700 | 2.780 |

### REQUIRED POST SIZE FOR GATES

| USE | LEAF WIDTHS FEET | POST TYPE |
|---|---|---|
| GATES | LESS THAN OR EQUAL TO 6 FT. | SP4 |
| | LESS THAN OR EQUAL TO 13 FT. | SP5 |
| | LESS THAN OR EQUAL TO 18 FT. | SP6 |
| | LESS THAN OR EQUAL TO 23 FT. | SP7 |

### SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR ROUND STEEL FENCE POST

| POST TYPE | OUTSIDE DIMENSION INCH | WALL THICKNESS INCH | WEIGHT LBS/FT |
|---|---|---|---|
| SP1 | 1.660 | 0.140 | 2.270 |
| SP2 | 1.900 | 0.145 | 2.720 |
| SP3 | 2.375 | 0.154 | 3.650 |
| SP4 | 2.875 | 0.203 | 5.800 |
| SP5 | 4.000 | 0.226 | 9.120 |
| SP6 | 6.625 | 0.280 | 18.990 |
| SP7 | 8.625 | 0.322 | 28.580 |

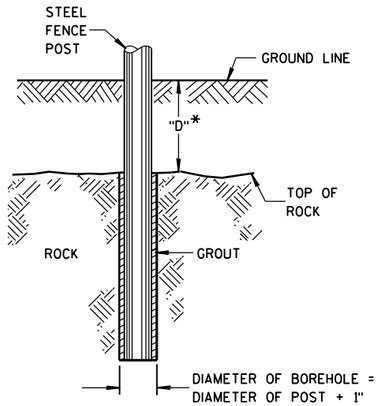
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR



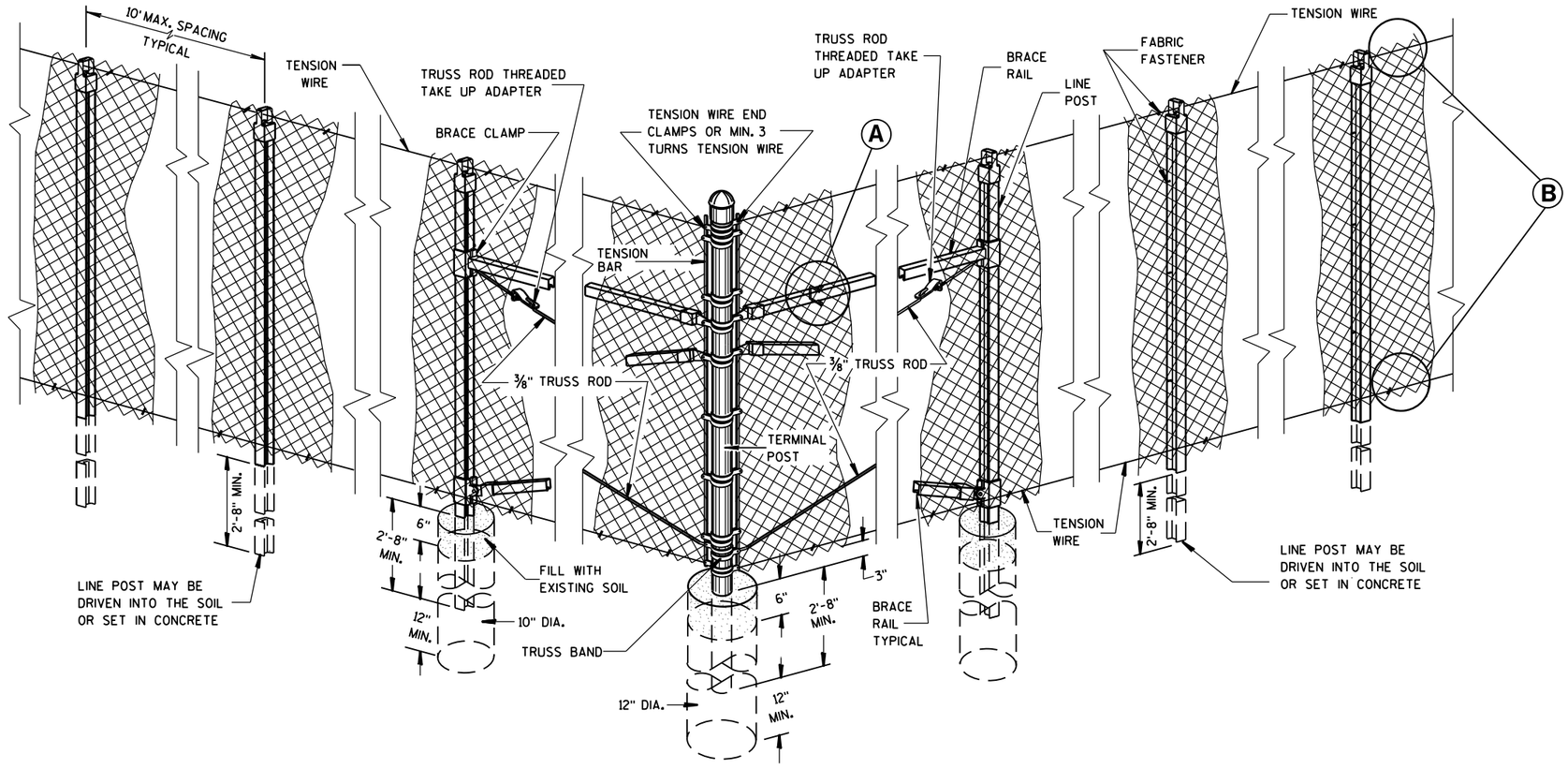

6

S.D.D. 15 B 3-13a
S.D.D. 15 B 3-13a

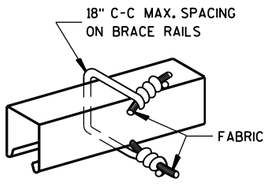



*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

## ROCK INSTALLATION OF LINE POST



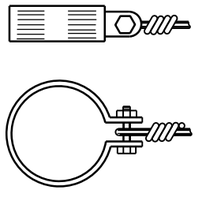

## END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



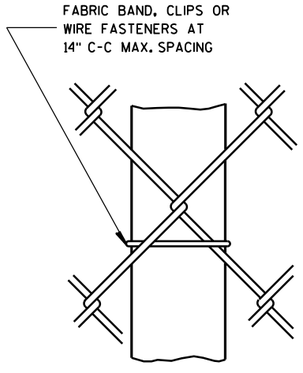

BRACE RAIL

## FABRIC FASTENER

Ⓐ



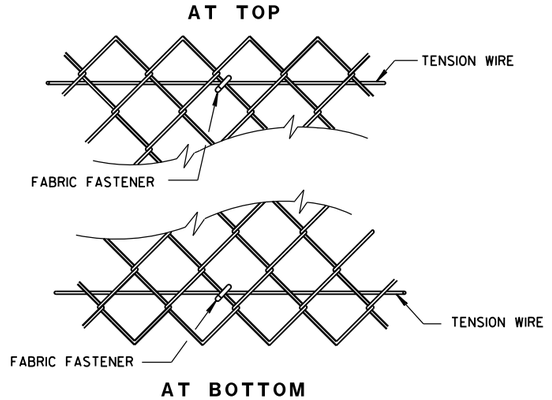
## TENSION WIRE END CLAMP




LINE POST

## FABRIC FASTENER

AT TOP




AT BOTTOM

## SELVAGES

Ⓑ

## FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/16/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



6

S.D.D. 15 B 3-13b

6

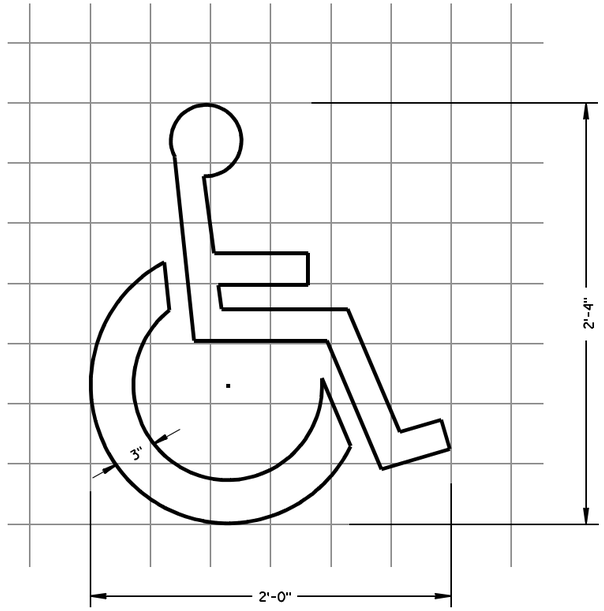
S.D.D. 15 B 3-13b

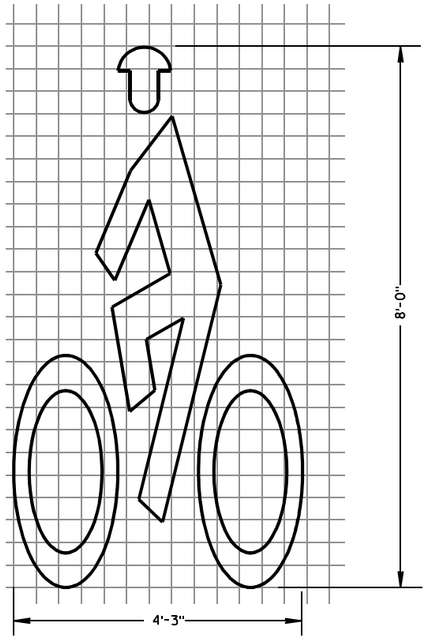
## GENERAL NOTES

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

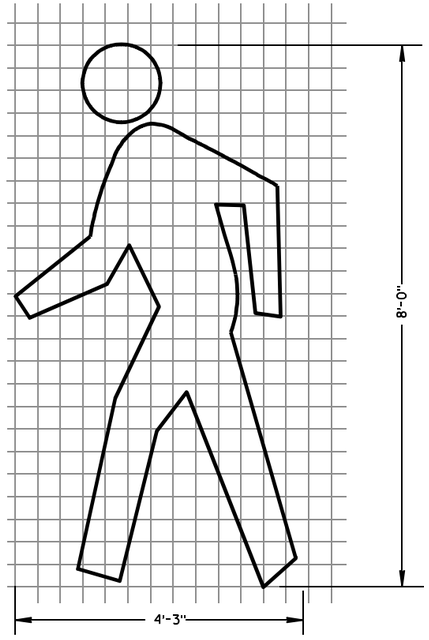
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

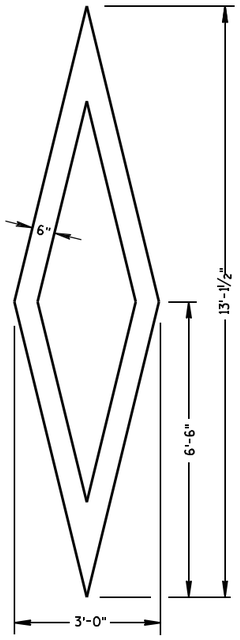



BIKE CROSSING SYMBOL




PEDESTRIAN SYMBOL




PREFERENTIAL LANE SYMBOL

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N Nathan — STATE TRAFFIC ENGINEER

FHWA



6

S.D.D. 15 C 7-12a

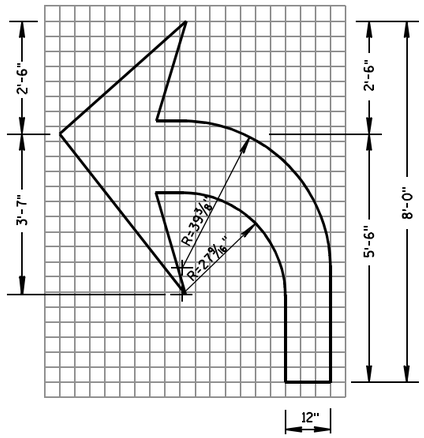
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S.D.D. 15 C 7-12a

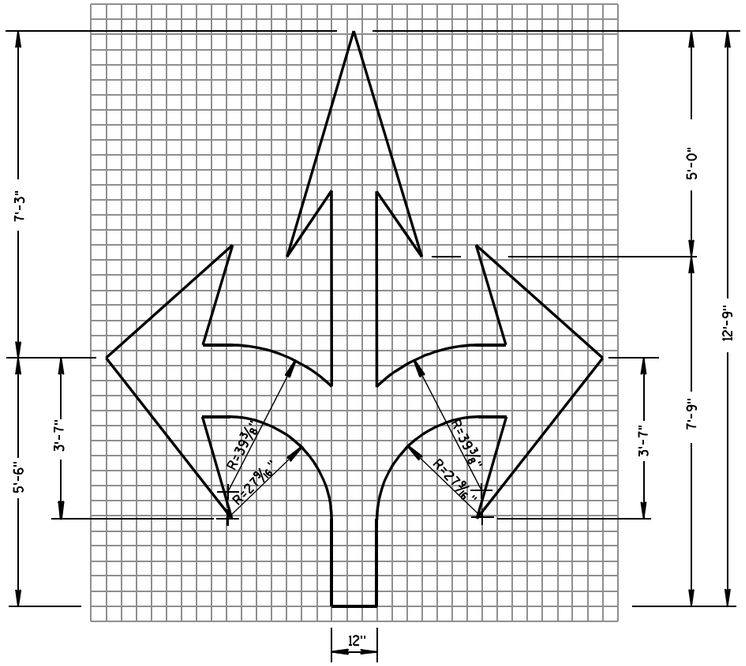
## GENERAL NOTES

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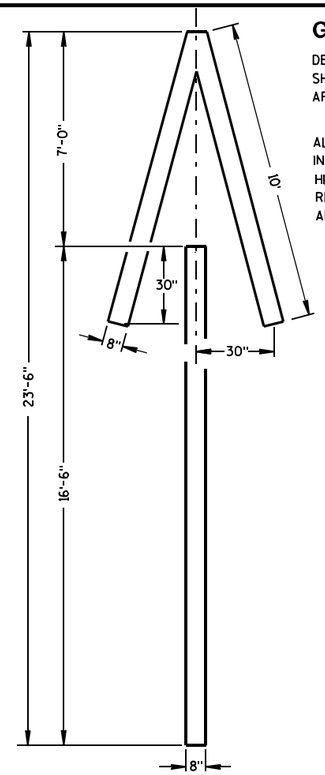
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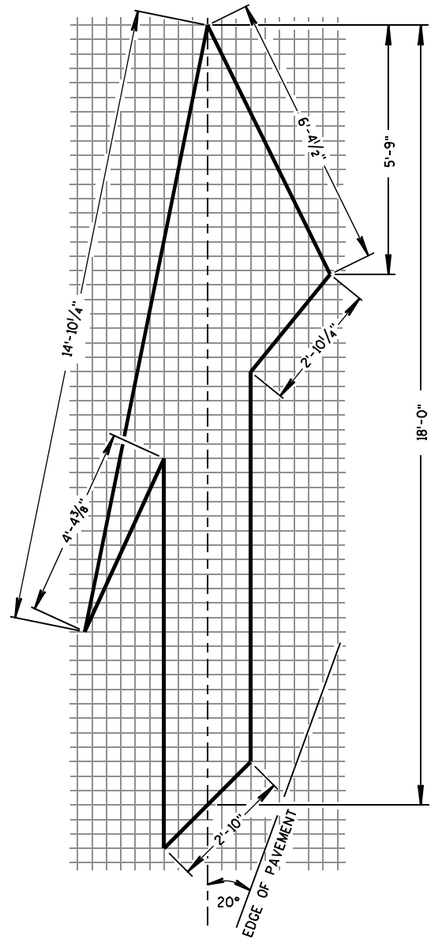

TYPE 2



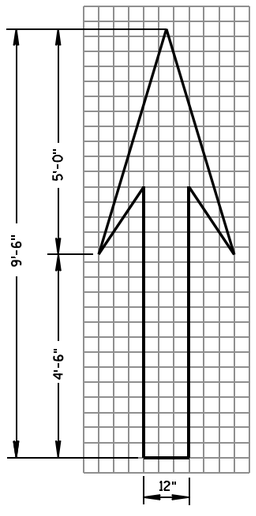

TYPE 6



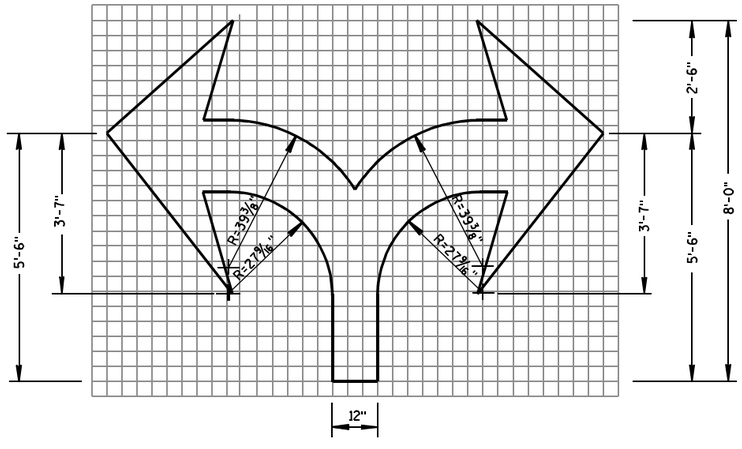

TYPE 4



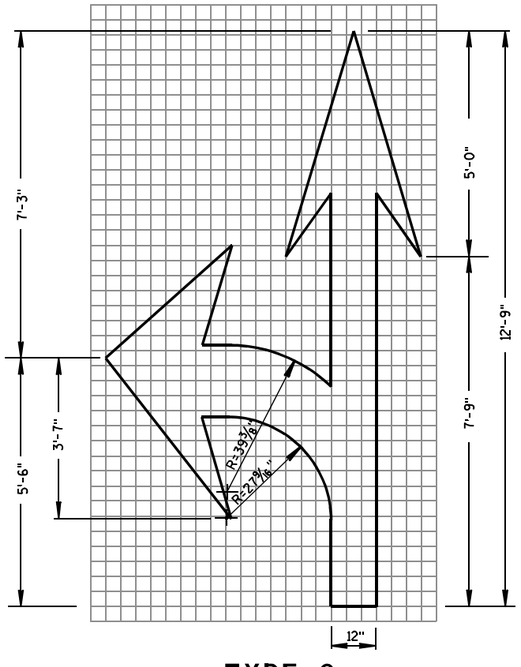

TYPE 5 LANE DROP ARROW




TYPE 1




TYPE 7




TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

FHWA

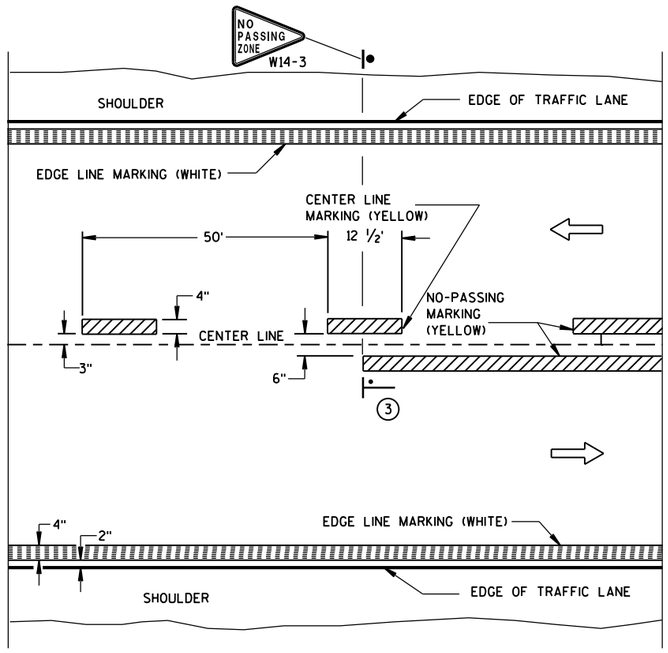


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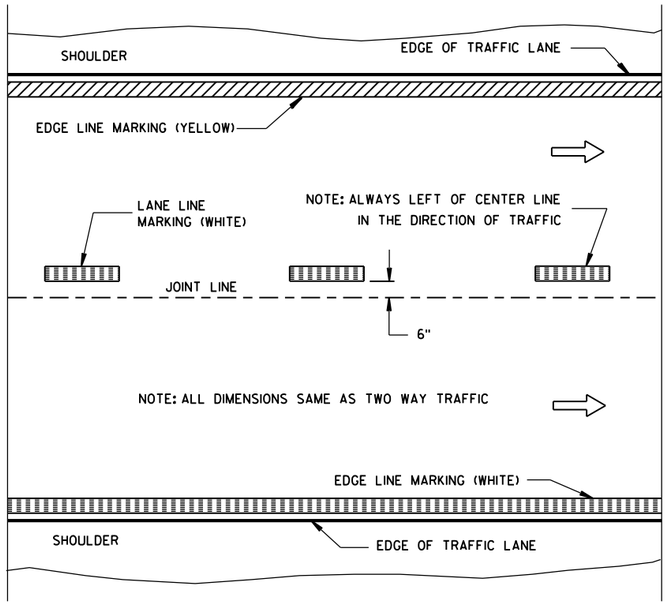
S.D.D. 15 C 7-12c

6

S.D.D. 15 C 7-12c

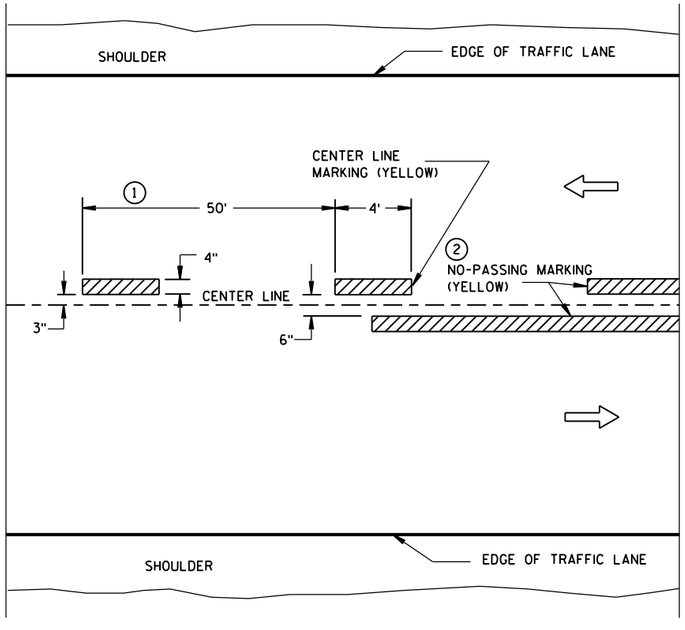



TWO WAY TRAFFIC

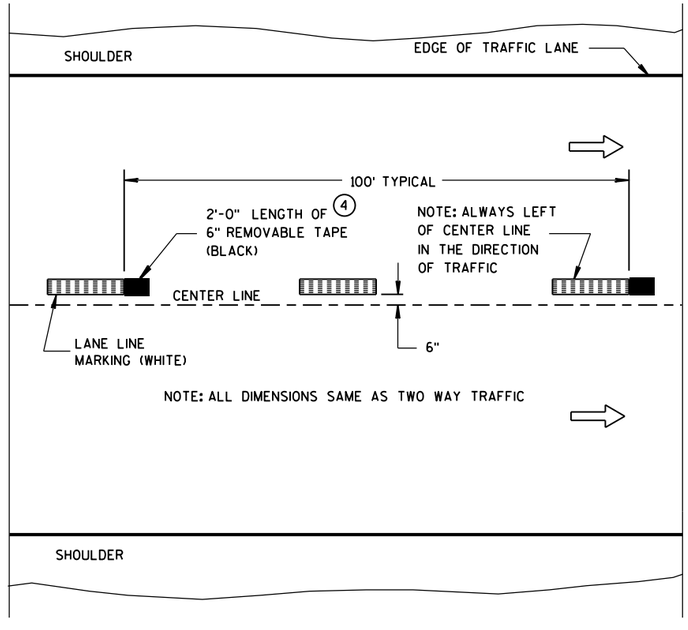



ONE WAY TRAFFIC

## PERMANENT PAVEMENT MARKING




TWO WAY TRAFFIC




ONE WAY TRAFFIC

## TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

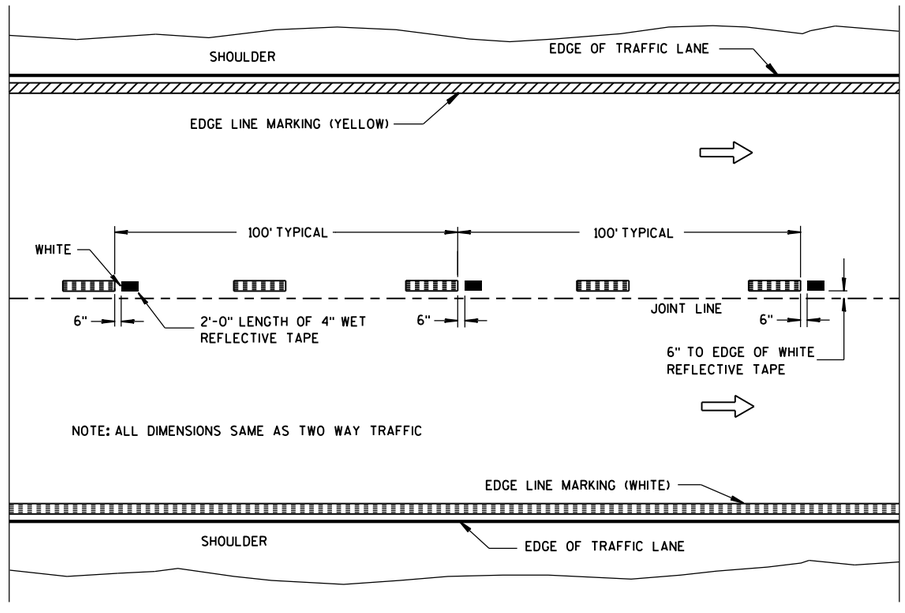
## GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

## NOTE

ARROW SYMBOL ( ⇨ ) SHOWS DIRECTION OF TRAVEL




WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

**LEGEND**

"T" MARKING

POST MOUNTED SIGN

**PAVEMENT MARKING (MAINLINE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

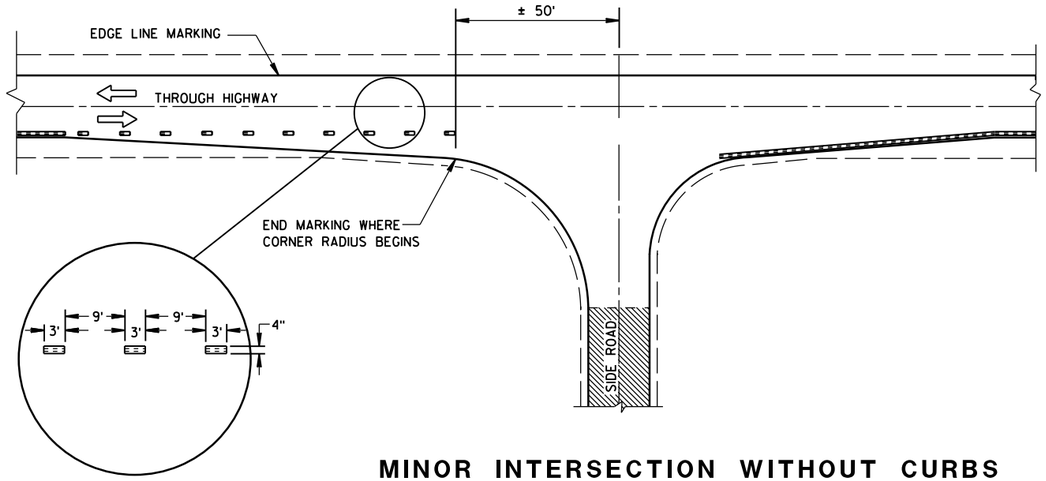


6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a




## MINOR INTERSECTION WITHOUT CURBS

## GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

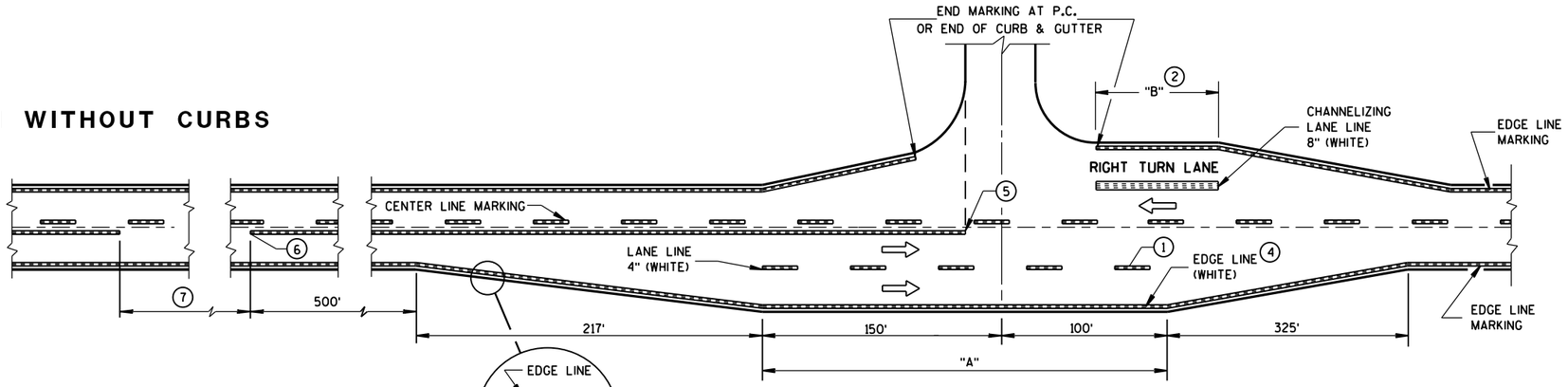
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL ( ⇨ ) SHOWS DIRECTION OF TRAVEL

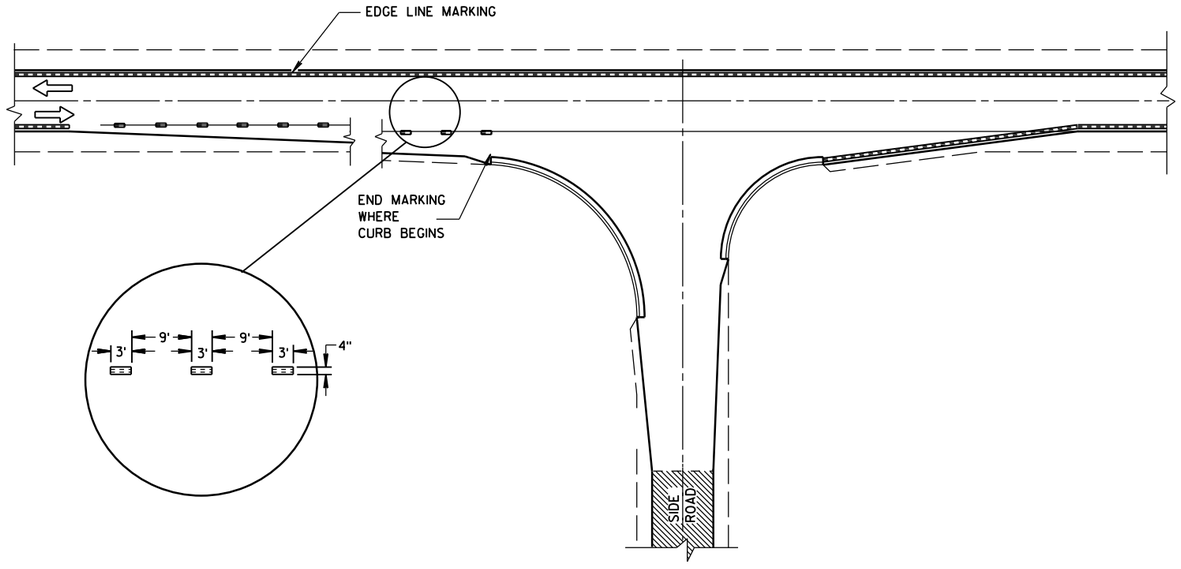
(7)

| POSTED SPEED (MPH) | MINIMUM DISTANCE BETWEEN ZONES (FEET) |
|---|---|
| 25 - 30 | 528 |
| 35 - 40 | 528 |
| 45 - 50 | 686 |
| 55 | 792 |



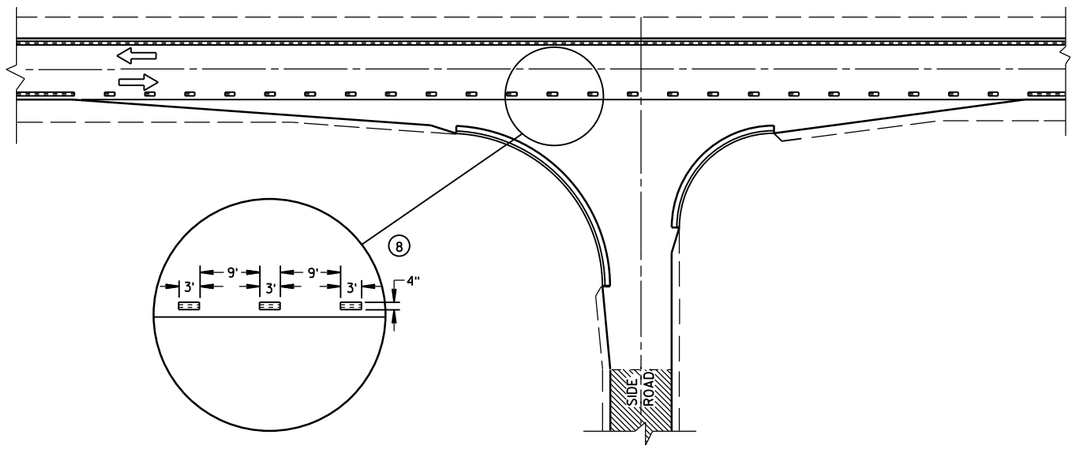

## MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)




## MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)




## MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

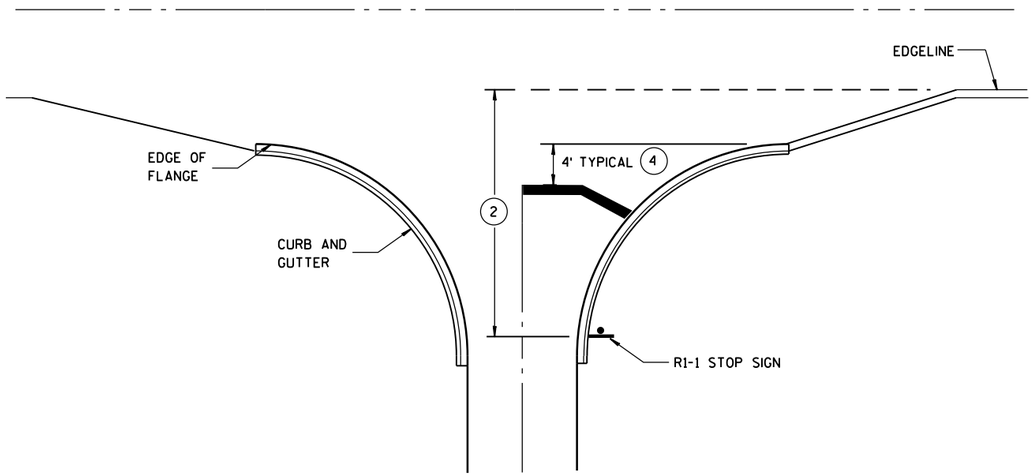


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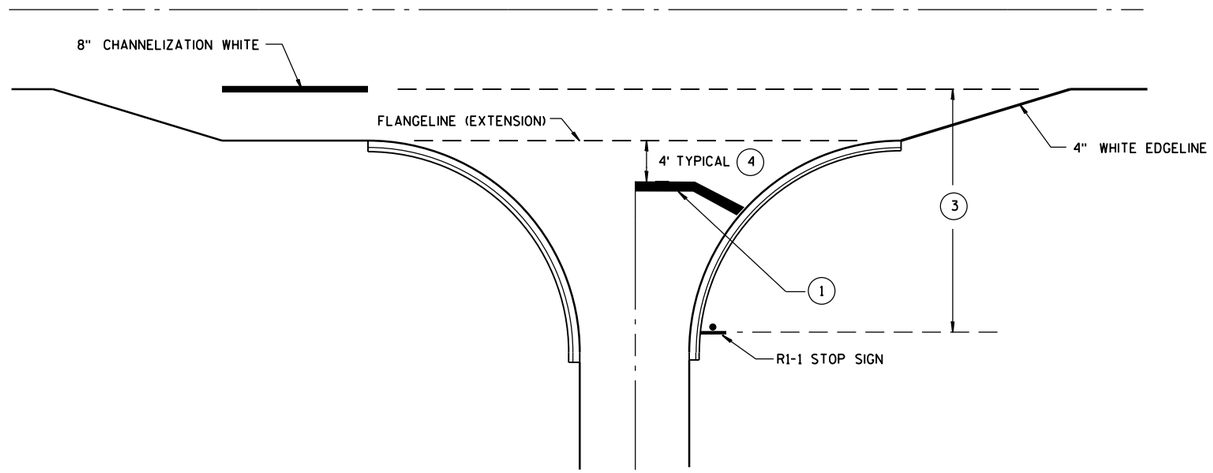
S.D.D. 15 C 8-16b

6

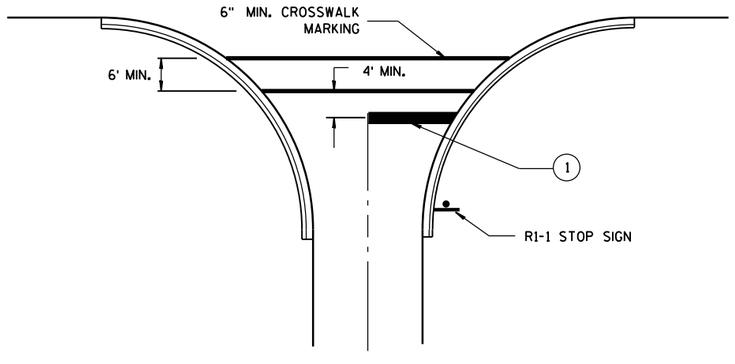
S.D.D. 15 C 8-16b



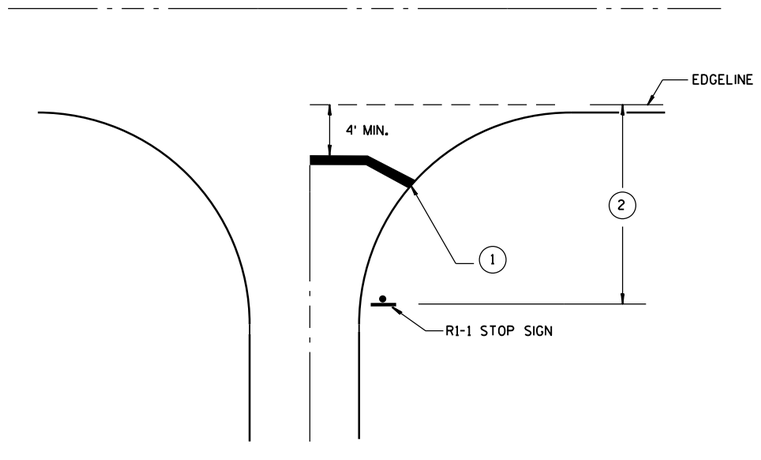

**TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER**




**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE**




**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING**




**TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER**

## GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

**STOP LINE AND CROSSWALK PAVEMENT MARKING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

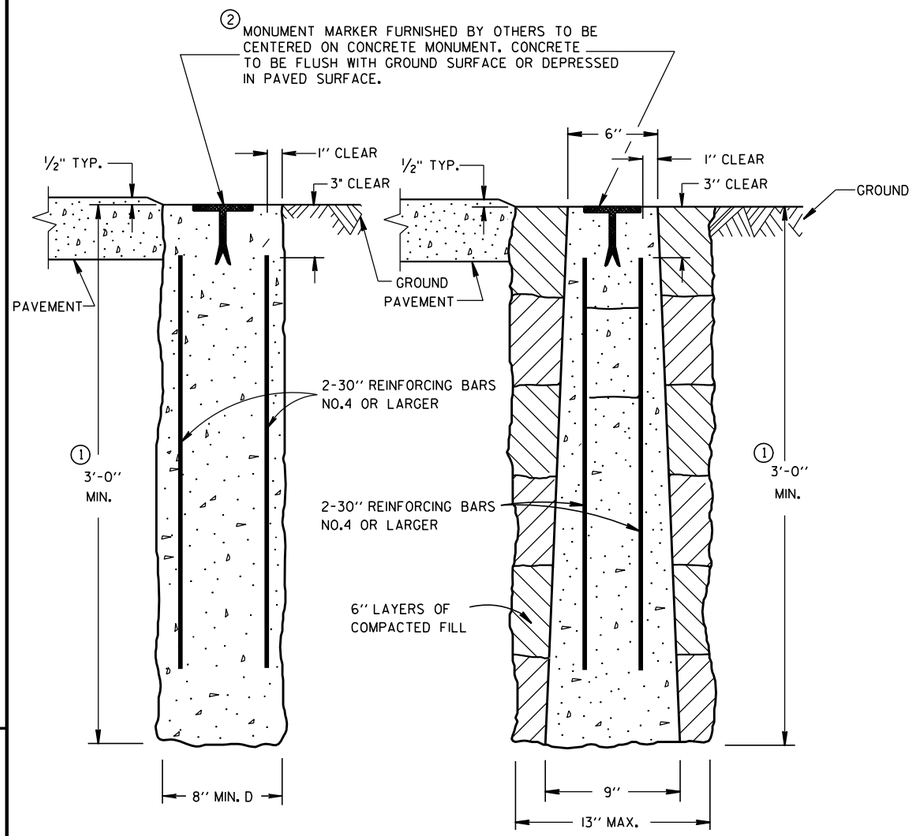
/S/ Travis Feltes
STATE TRAFFIC E

FHWA




6

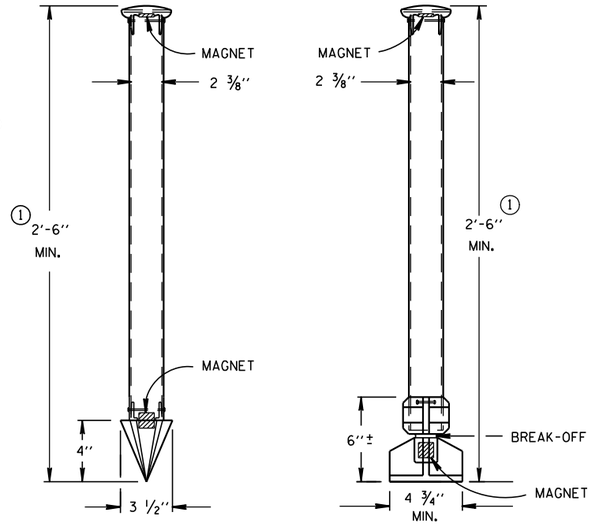

S.D.D. 15 C 33-1




CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A

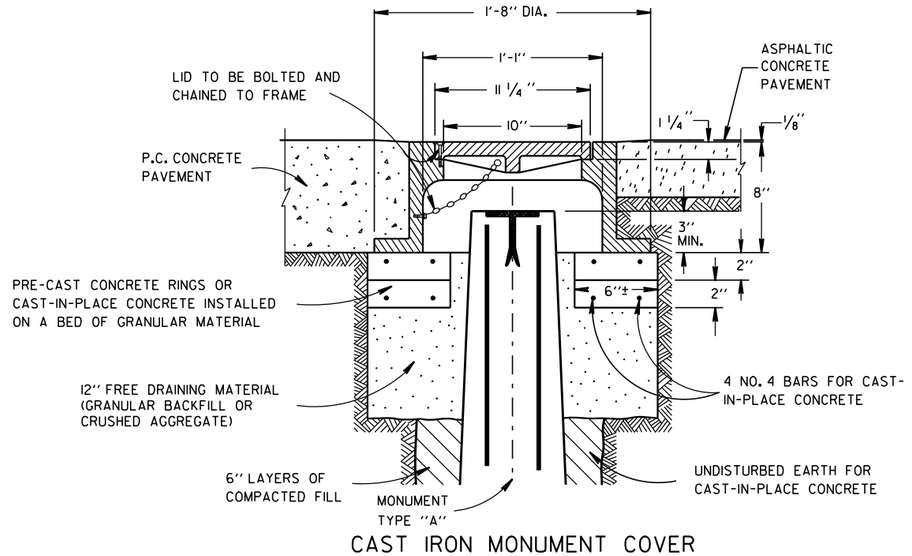



TYPE C DRIVE-IN MONUMENT

TYPE D BREAK-OFF MONUMENT

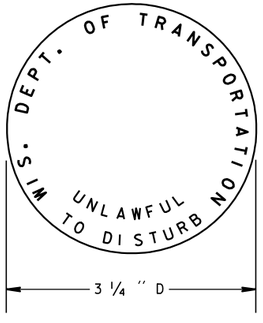
ALUMINUM MONUMENTS

(INCLUDES MARKER)




CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)




② WIS DOT MONUMENT MARKER LOGO FOR TYPES "A", "C" & "D"

## 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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

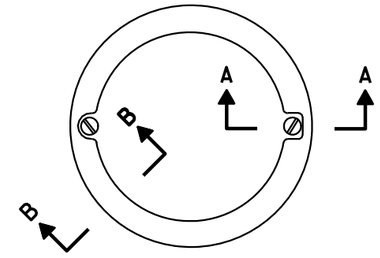
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

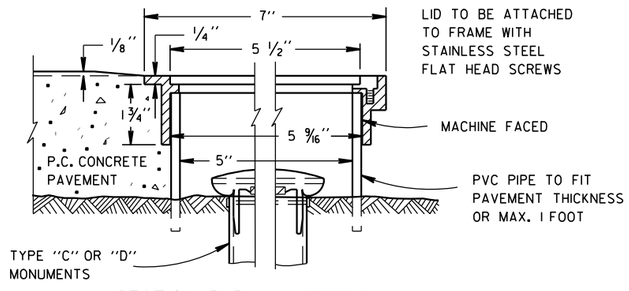
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.




TOP VIEW




SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

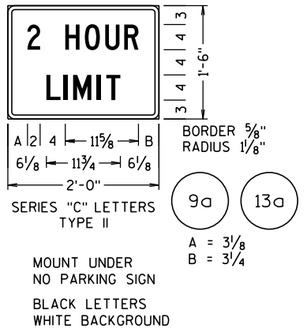
(APPROXIMATE WEIGHT 2 LBS)

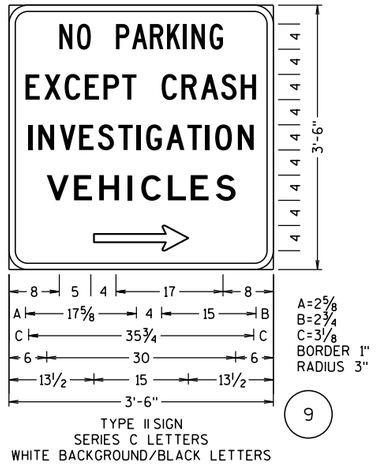
(FOR CONCRETE PAVEMENT ONLY)

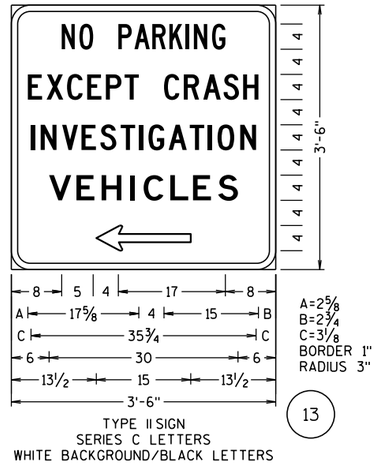
**LANDMARK REFERENCE MOUNMENTS AND COVERS**

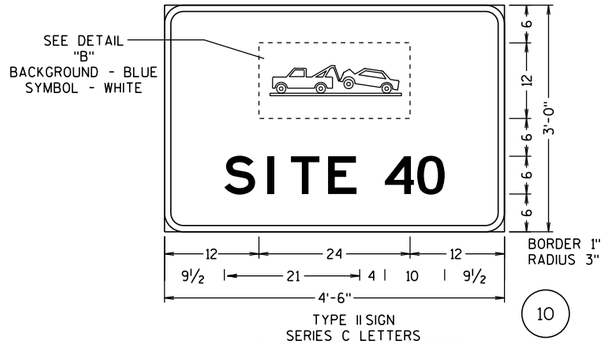
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/22/1999 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



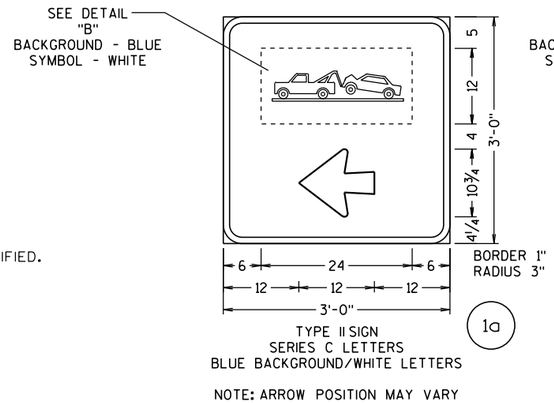



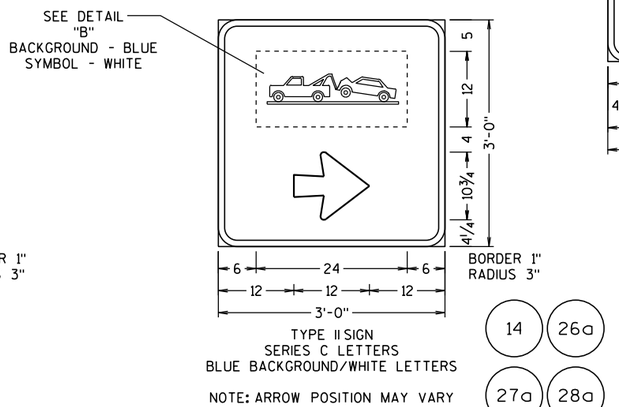



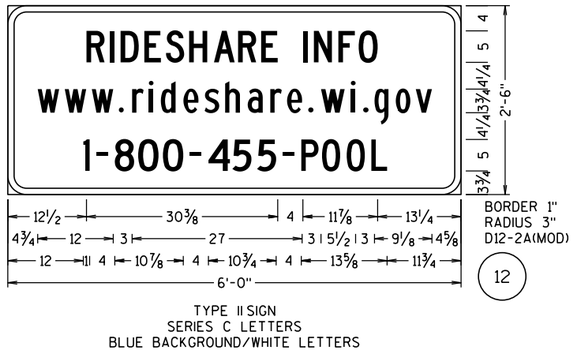




## GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.
6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10
11. DO NOT SCALE.



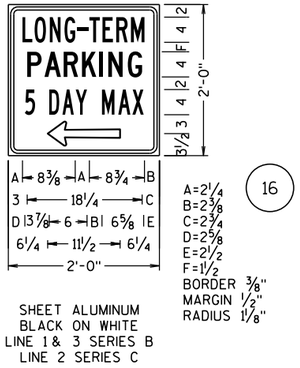





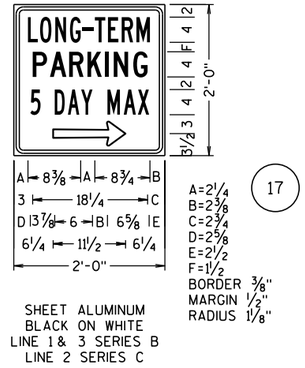

| PROJECT NO: 1060-34-73 | HWY: WTP PARK & RIDE | COUNTY: MILWAUKEE | CRASH INVESTIGATION SIGN DETAILS | SCALE: 0 ½" 1" | SHEET 251 | E |
|---|---|---|---|---|---|---|

FILE NAME : J:\projects\D2_10603445\Sign\070101_ms.dgn PLOT DATE : 11-DEC-2014 15:57 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 48.125:1
WISDOT/CADDS SHEET 47




16

SHEET ALUMINUM
BLACK ON WHITE
LINE 1 & 3 SERIES B
LINE 2 SERIES C




17

SHEET ALUMINUM
BLACK ON WHITE
LINE 1 & 3 SERIES B
LINE 2 SERIES C

## GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

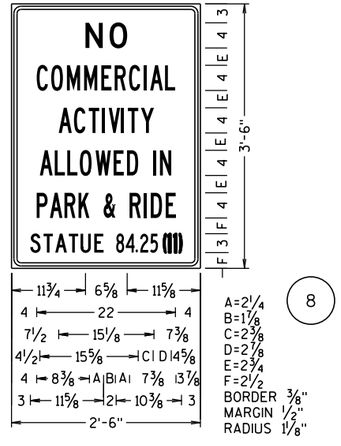
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.




8

SHEET ALUMINUM
BLACK ON WHITE
SERIES B EXCEPT LINE 1
LINE 1 SERIES D



| PROJECT NO: 1060-34-73 | HWY: WTP PARK & RIDE | COUNTY: MILWAUKEE | SIGN DETAILS | SCALE: 0 1/2" 1" | SHEET 252 | E |
|---|---|---|---|---|---|---|

FILE NAME : J:\projects\D2_10603445\Sign\070101_ms.dgn PLOT DATE : 11-DEC-2014 15:58 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 48.125:1
WISDOT/CADDS SHEET 47

## GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE I".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE SH REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

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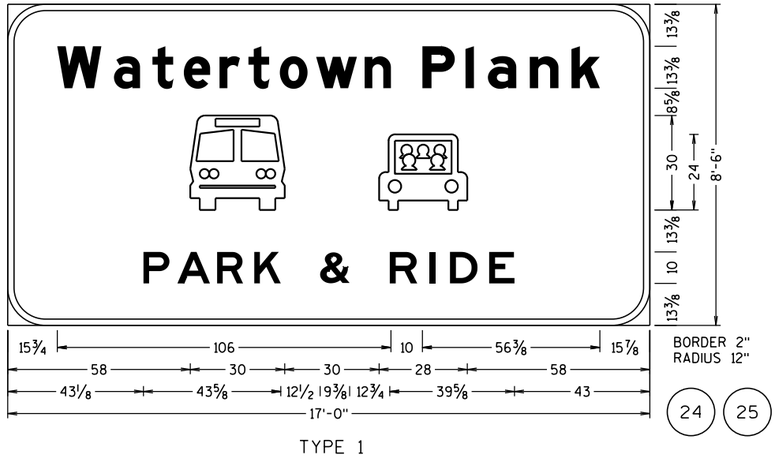
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8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

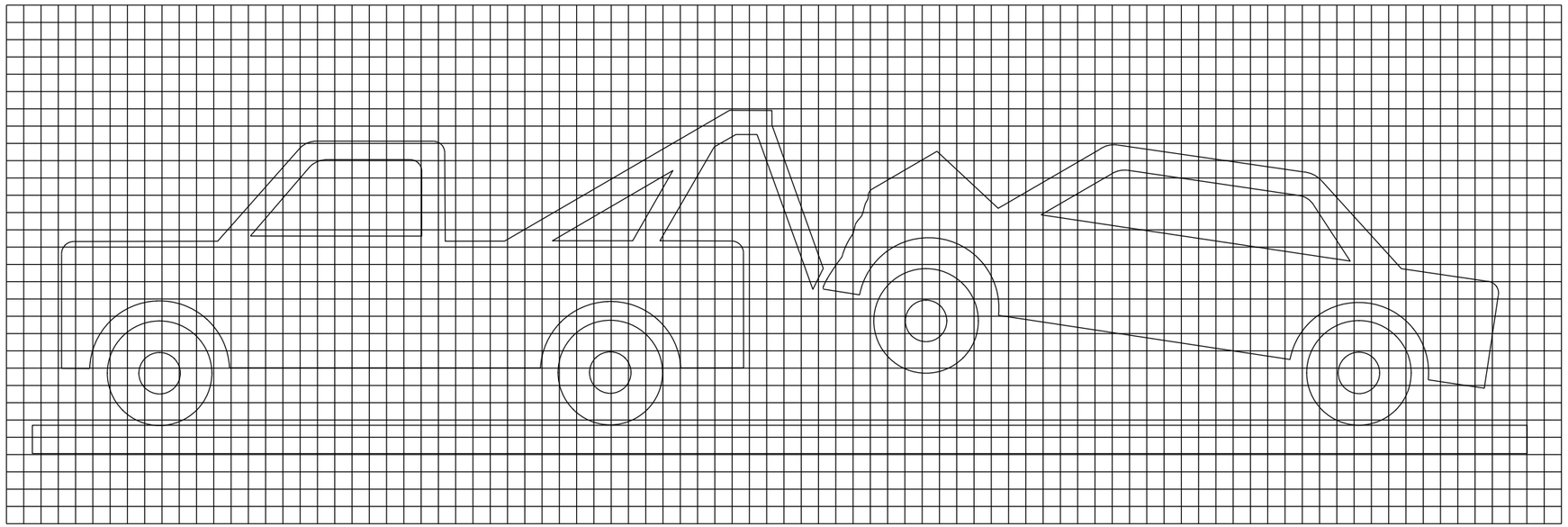
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.




TYPE 1



DETAIL "A"

## GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

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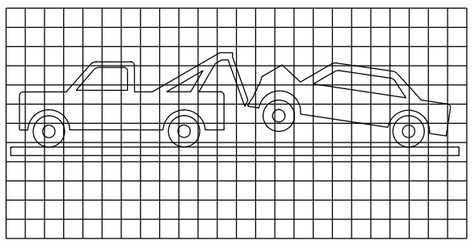
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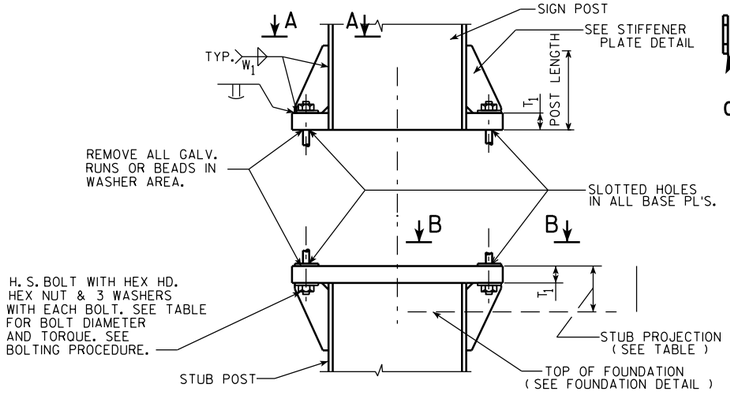
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10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

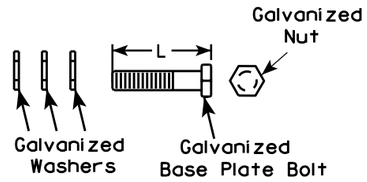
11. DO NOT SCALE.



DETAIL "B"




## SIGN POST AND STUB POST ELEVATION

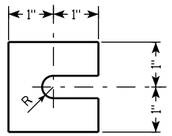






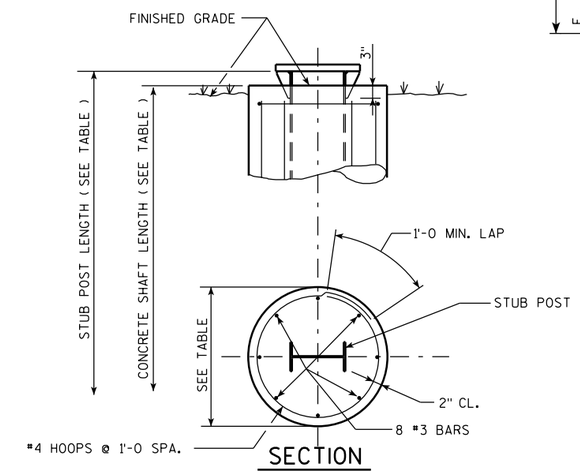
## STIFFENER PLATE DETAIL

( SEE TABLE FOR DIMENSIONS )

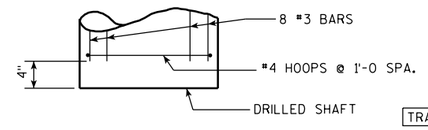



FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

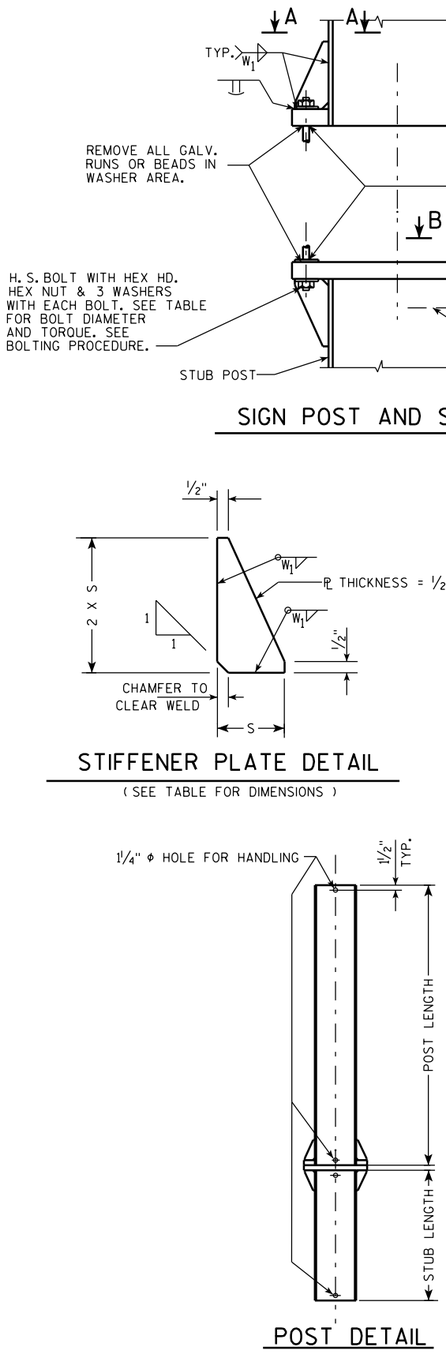
## SHIM DETAIL




## SECTION




## FOUNDATION DETAIL



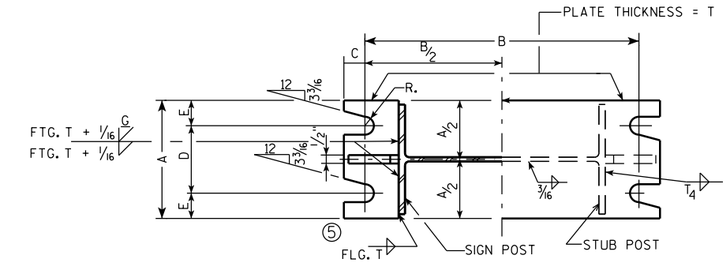

## POST DETAIL

| QUANTITIES FOR 1 FOOTING | | |
|---|---|---|
| | CONC. MASONRY C.Y. | REINF. STEEL LBS. |
| A | 0.6 | 34 |
| B | 0.8 | 49 |
| C | 0.9 | 50 |
| D | 0.9 | 56 |
| E | 1.0 | 62 |
| | | |

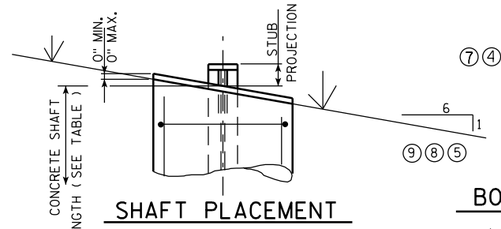
⑦

| REINF. | TYPE | #3 | #4 |
|---|---|---|---|
| | A | 8 @ 4'-5 | 5 @ 6'-3 |
| | B | 8 @ 6'-5 | 7 @ 6'-3 |
| | C | 8 @ 6'-11 | 7 @ 6'-3 |
| | D | 8 @ 7'-5 | 8 @ 6'-3 |
| | E | 8 @ 7'-11 | 9 @ 6'-3 |

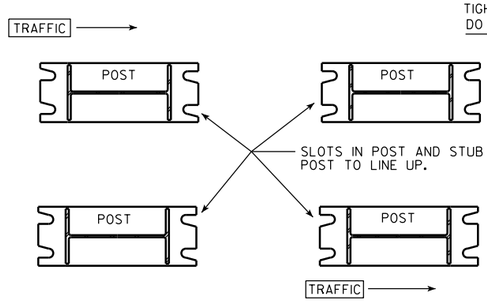
⑦




## SECTION A-A SECTION B-B




## SHAFT PLACEMENT




## POST SLOT ORIENTATION ⑦

## DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

| GROUP LOADS | PERCENT OF ALLOWABLE STRESS |
|---|---|
| 1. DEAD | 100 |
| 2. DEAD & WIND | 140 |
| 3. DEAD, ICE & ½ WIND[4] | 140 [4]25 P.S.F. MIN. |

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50.
⑨ THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
H.S. BOLTS, WASHERS & NUTS SHALL BE A325 GALVANIZED WHEN POSTS, POST STUBS AND ATTACHMENTS ARE A709 GRADE 50 AND GALVANIZED.

## BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. ( SEE TABLE )
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

| L | X | TYPE | DIMENSION / POST SIZE | BASE CONNECTION DATA TABLE: BOLT SIZE & TORQUE | A | B | C | D | E | $T_1$ | $T_4$ | $W_1$ | R | S | FOUNDATION DATA: STUB LENGTH | STUB PROJECTION | SHAFT DIAMETER | SHAFT LENGTH | ② K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 ¾ | ④ | A | W10"X12.0 #/FT. | ¾" ϕ @ 75#-FT. | 5¼" | 1'-0⅜ | ⅞" | 3½" | ⅞" | 1" | 3/16" | 5/16" | 13/32" | 2⅛" | 3'-6 | 3" | 2'-0 ϕ | 5'-0 | 76.0# ④ |
| 4 ¾ | ④ | B | W12"X16.0 #/FT. | ⅞" ϕ @ 85#-FT. | 5½" | 1'-4¼ | 1" | 3½" | 1" | 1¼" | ¼" | 5/16" | 15/32" | 3" | 5'-6 | 3" | 2'-0 ϕ | 7'-0 | 146.5# ④ |
| 5 | | C | W12"X19.0 #/FT. | ⅞" ϕ @ 85#-FT. | 5½" | 1'-4¼ | 1" | 3½" | 1" | 1½" | 5/16" | 5/16" | 15/32" | 3" | 6'-0 | 3" | 2'-0 ϕ | 7'-6 | 182.1# |
| 5 | | D | W12"X22.0 #/FT. | ⅞" ϕ @ 85#-FT. | 5½" | 1'-4¼ | 1" | 3½" | 1" | 1½" | ⅜" | 5/16" | 15/32" | 3" | 6'-6 | 3" | 2'-0 ϕ | 8'-0 | 210.5# |
| 5 | ③ | E | W12"X26.0 #/FT. | 1" ϕ @ 90#-FT. | 7" | 1'-4¼ | 1¼" | 4" | 1½" | 1½" | ⅜" | 5/16" | 11/32" | 3" | 7'-0 | 3" | 2'-0 ϕ | 8'-6 | 293.0# ③ |
| | | | | | | | | | | | | | | | | | | | |

① ⑥ ①

STRUCTURAL CARBON STEEL PAY WTS. ( 1 POST ) = K+ ( POST LENGTH X POST WT. )
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO. A3-1.15

| | | |
|---|---|---|
| ⑩ | 1-21-14 | LUBRICATION OF BASE BOLTS |
| ⑨ | 4-26-11 | REMOVE NON-GALVANIZED |
| ⑧ | 10-30-96 | NOT GALVANIZED/GALVANIZED |
| ⑦ | 10-30-92 | QUANT., A588 EXCEPT., ADD SLOT VIEW |
| ⑥ | 8-24-87 | BASE CONN. WELD |
| ⑤ | 10-13-81 | BASE CONN. WELD & FUSE ℄ WASHERS |
| ④ | 10-19-79 | POST A & B, A572 GR. 50, & K |
| ② | 11-28-78 | "K" ③ 4-23-79 TYPE "E" |
| ① | 5-4-78 | $T_1$ , $T_2$ & $W_1$ |
| NO. | DATE | REVISION |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
**DIVISION OF HIGHWAYS**

**TYPE A, B, C, D, & E**

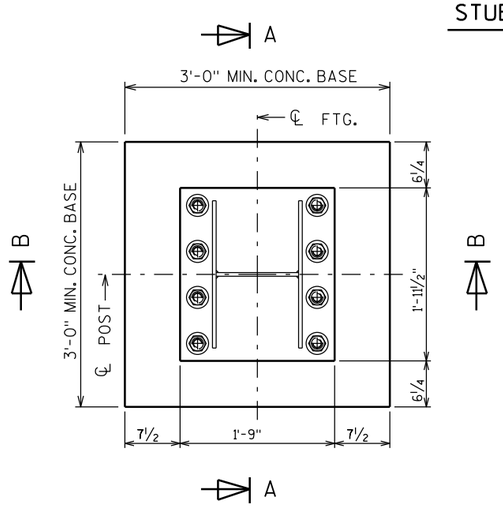
| CONST. SPEC. 2011 | DRAWN BY JPH | PLANS CK'D. |
|---|---|---|

**FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS**

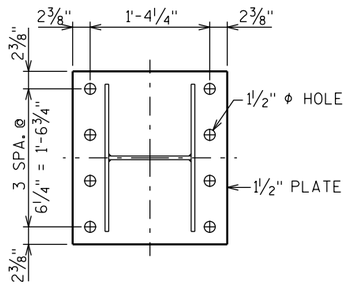
SHEET 255

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

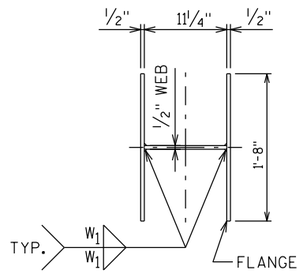
## STUB AND MASONRY ANCHOR DETAILS




STUB SECTION



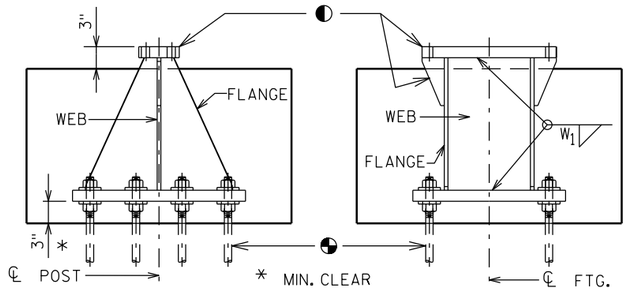

BASE PLATE



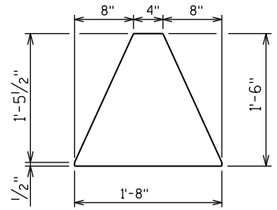

STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.




SECTION A SECTION B



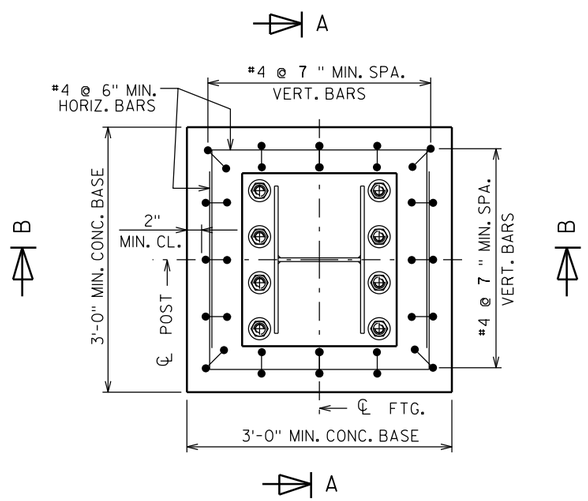

FLANGE

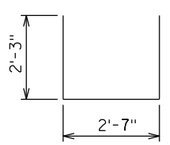
### GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

## CONCRETE BASE AND REINFORCING STEEL DETAILS

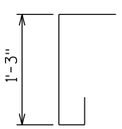
### CONCRETE BASE SECTION



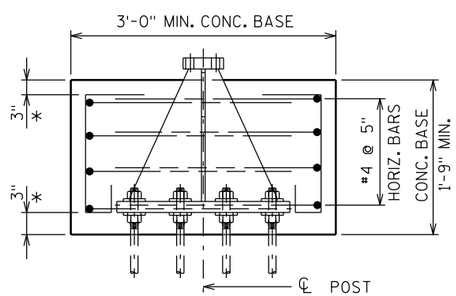

HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



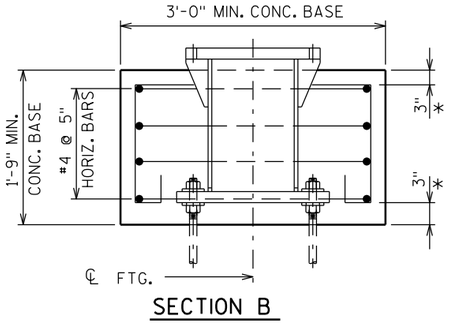

VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED




SECTION A

* MIN. CLEAR




SECTION B

ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

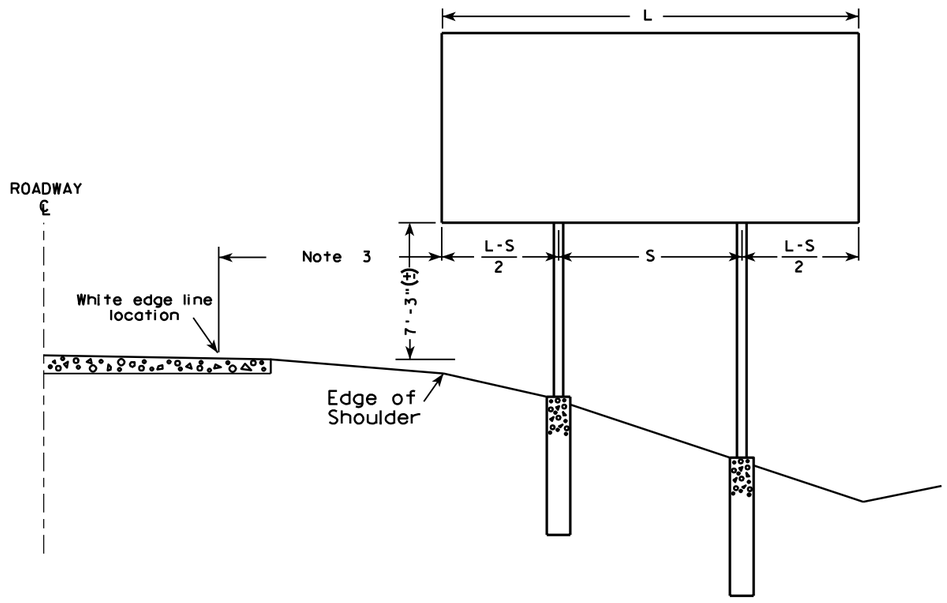
DATE 2/06/2014 PLATE A3-1M.1

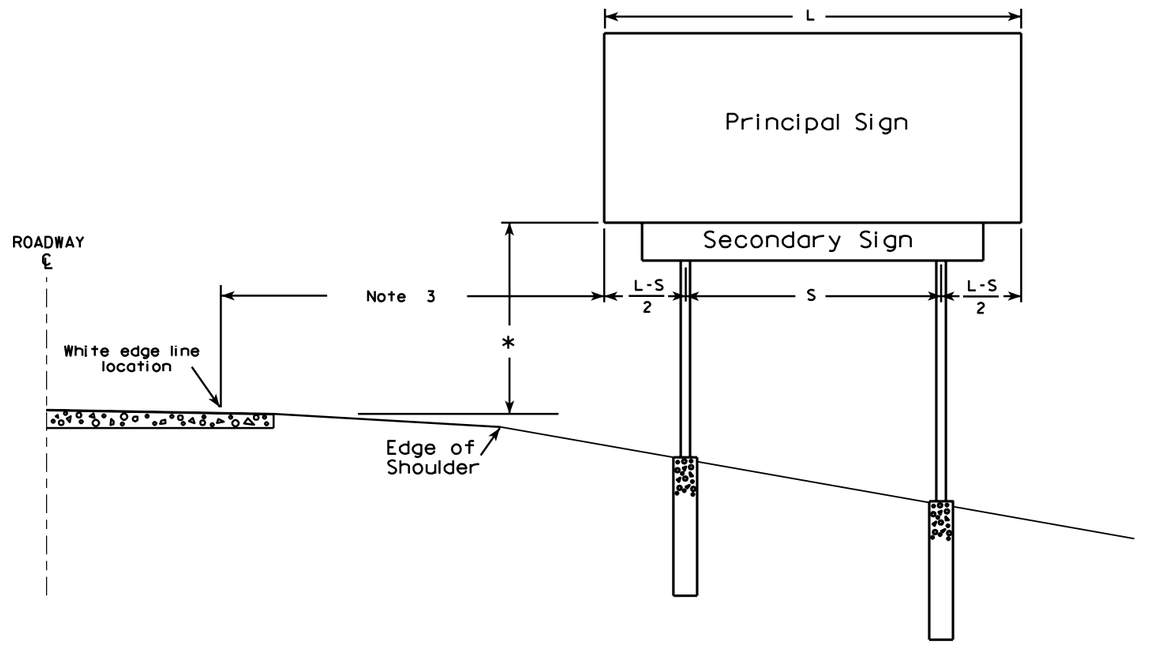


| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31M.DGN PLOT DATE : 10-MAR-2014 15:16 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.556674:1.000000

WISDOT/CADDS SHEET 42




## GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

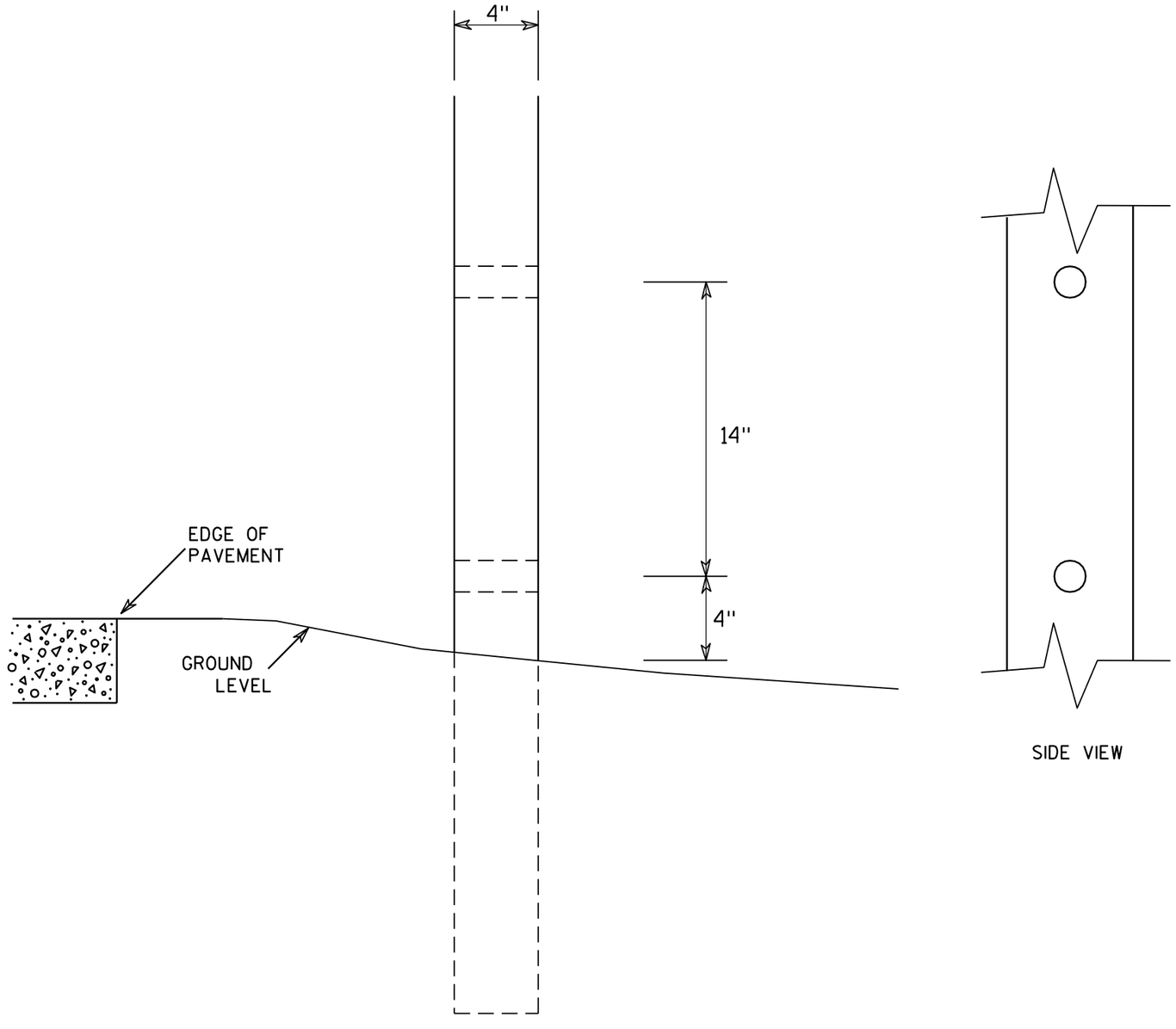
TYPICAL INSTALLATION
OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

| PROJECT NO: | | | | SHEET NO: 257 | E |
|---|---|---|---|---|---|






SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

# 4 X 6 WOOD POST MODIFICATIONS

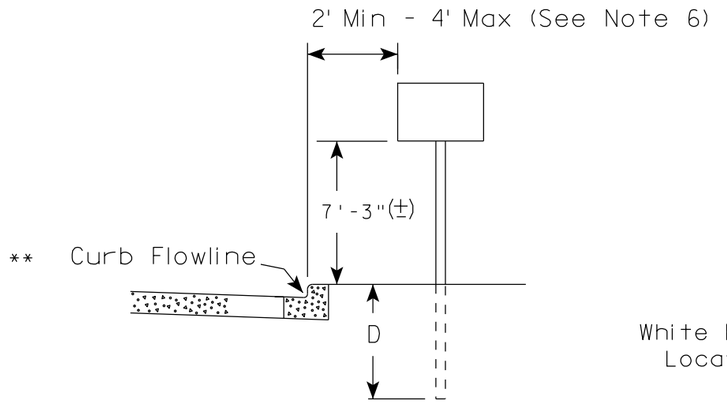
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

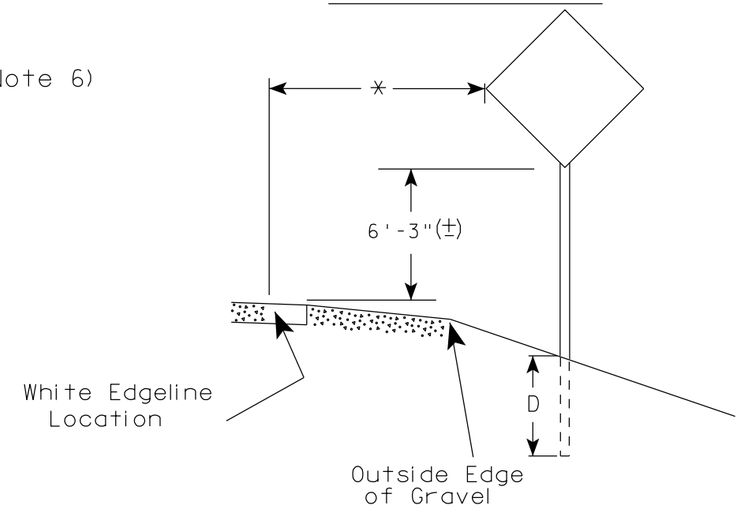
DATE 3/27/97 PLATE NO. A4-11.2

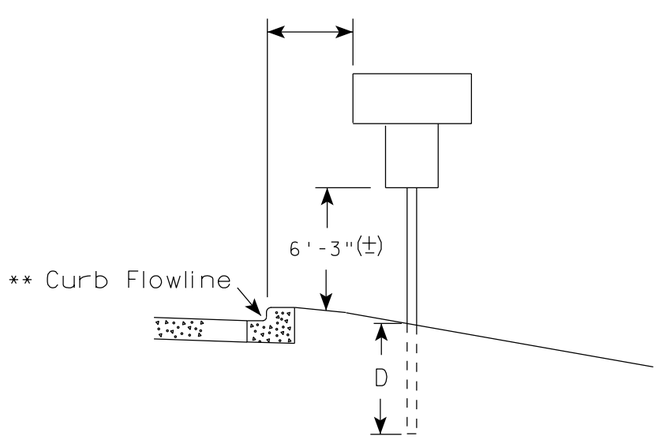
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 258 | E |
|---|---|---|---|---|---|

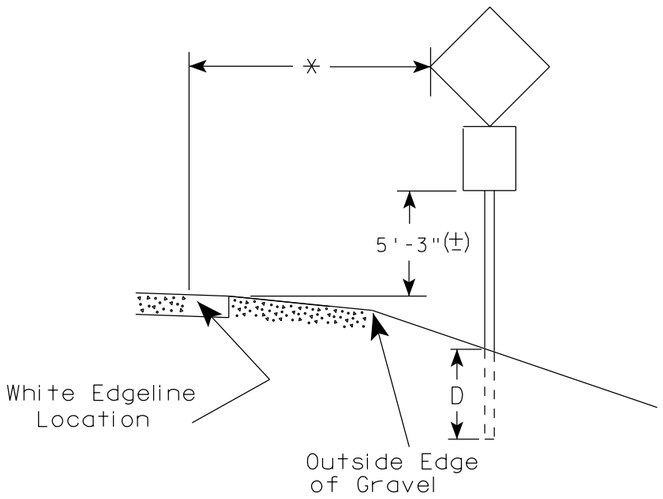
## URBAN AREA




## RURAL AREA (See Note 2)




## GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

| Area of Sign Installation ( Sq. Ft. ) | D ( Min ) |
|---|---|
| 20 or Less | 4' |
| Greater than 20 | 5' |

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

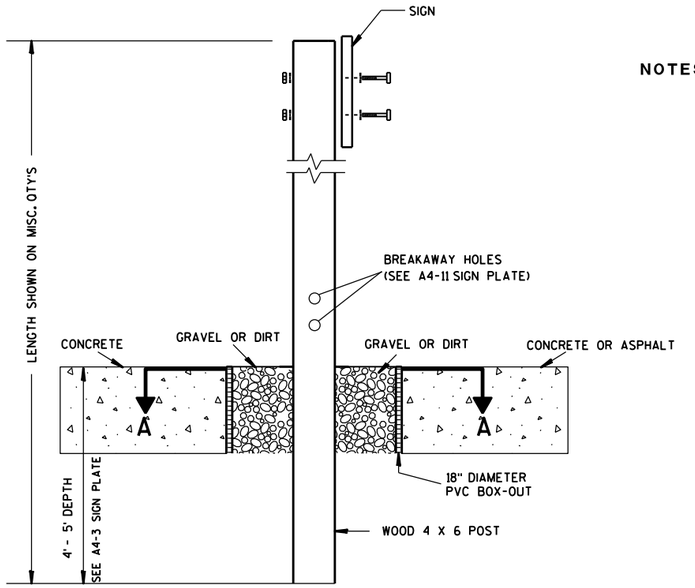
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19



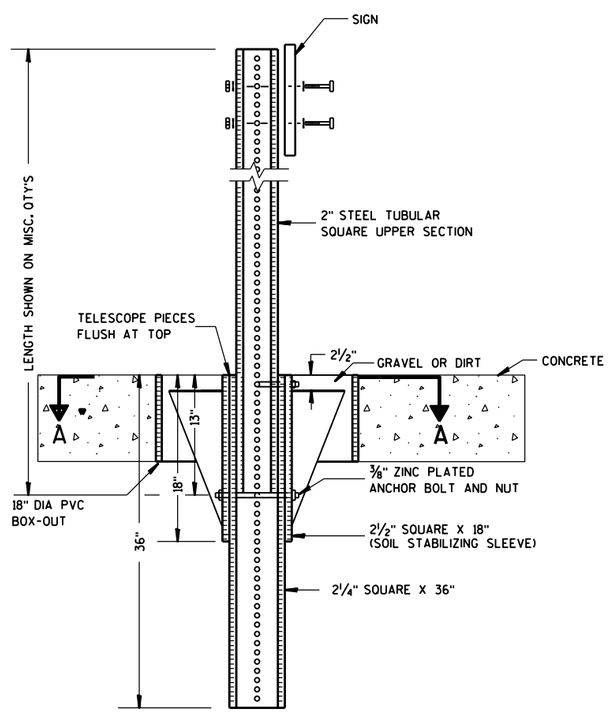
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

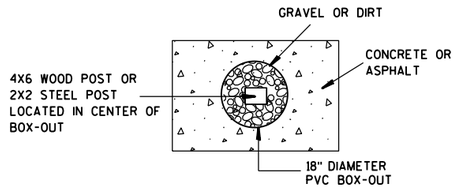
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.




**ELEVATION VIEW**

**DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT**




**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

# SIGN POST BOX-OUTS A4-3B

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

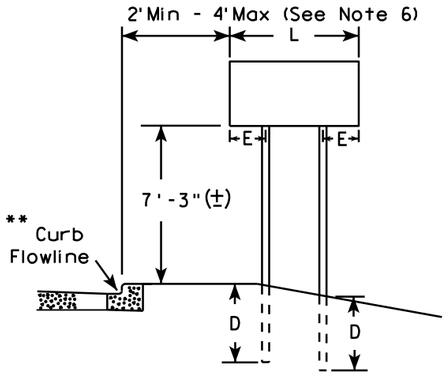
DATE 1/27/14 PLATE NO. A4-3B.1



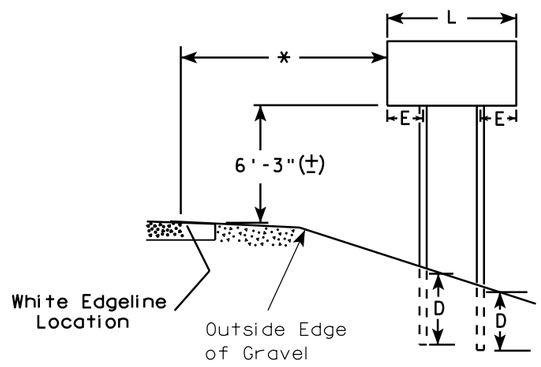
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|---|---|---|---|---|---|

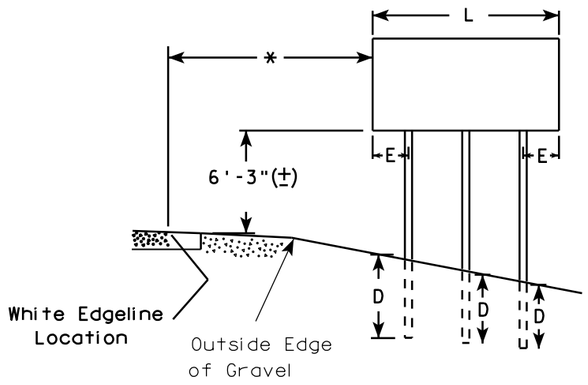
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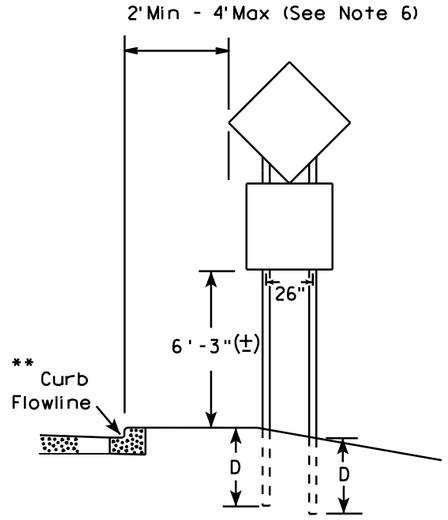
## URBAN AREA



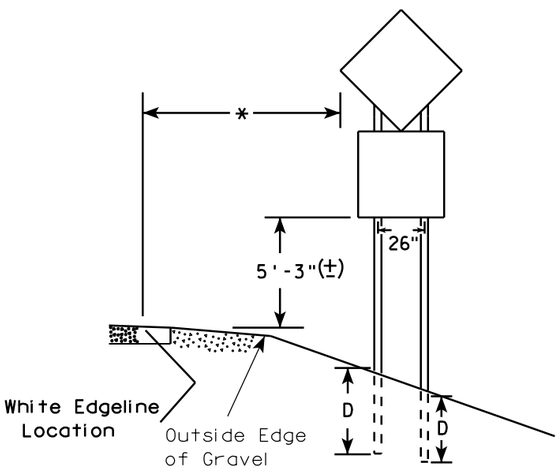

## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN




48" DIAMOND WARNING SIGN

### GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width or less than 20 S.F. in area.

***

| SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 48" Less than 60" | 12" |
| 60" to 120" | L/5 |

| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 120" less than 168" | 12" |

| SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED) | |
|---|---|
| L | E |
| 168" and greater | 12" |

### POST EMBEDMENT DEPTH

| Area of Sign Installation ( Sq. Ft. ) | D ( Min ) |
|---|---|
| 20 or Less | 4' |
| Greater than 20 | 5' |

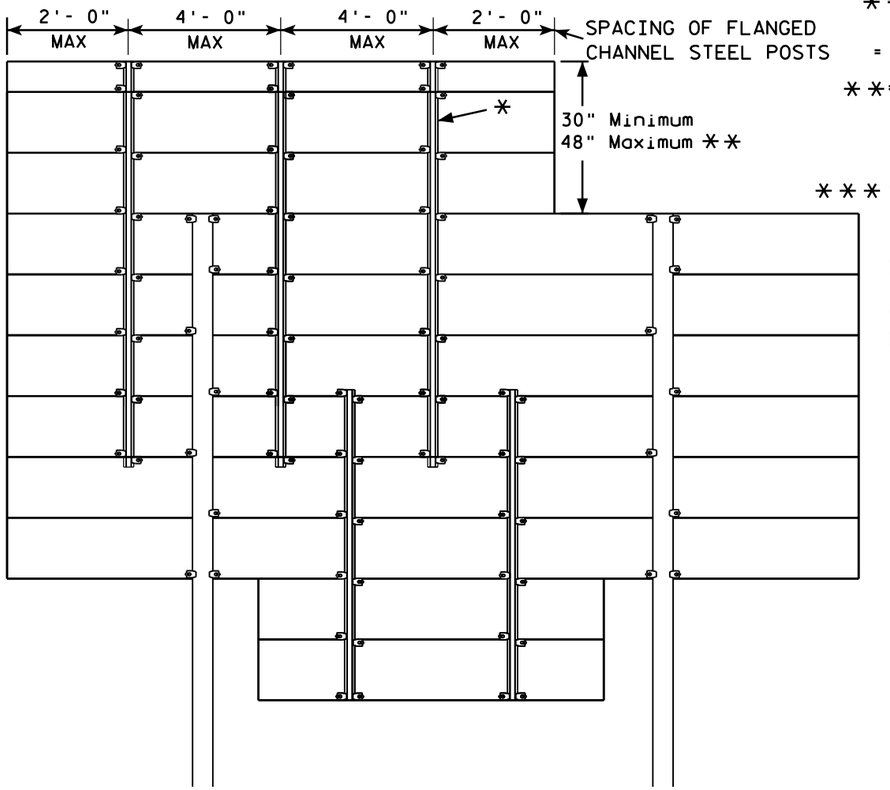
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4 13

## GROUND MOUNTED SIGN

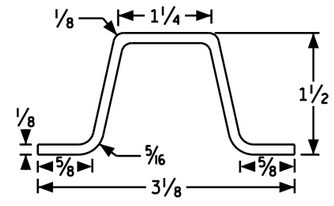



* =2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

** =FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

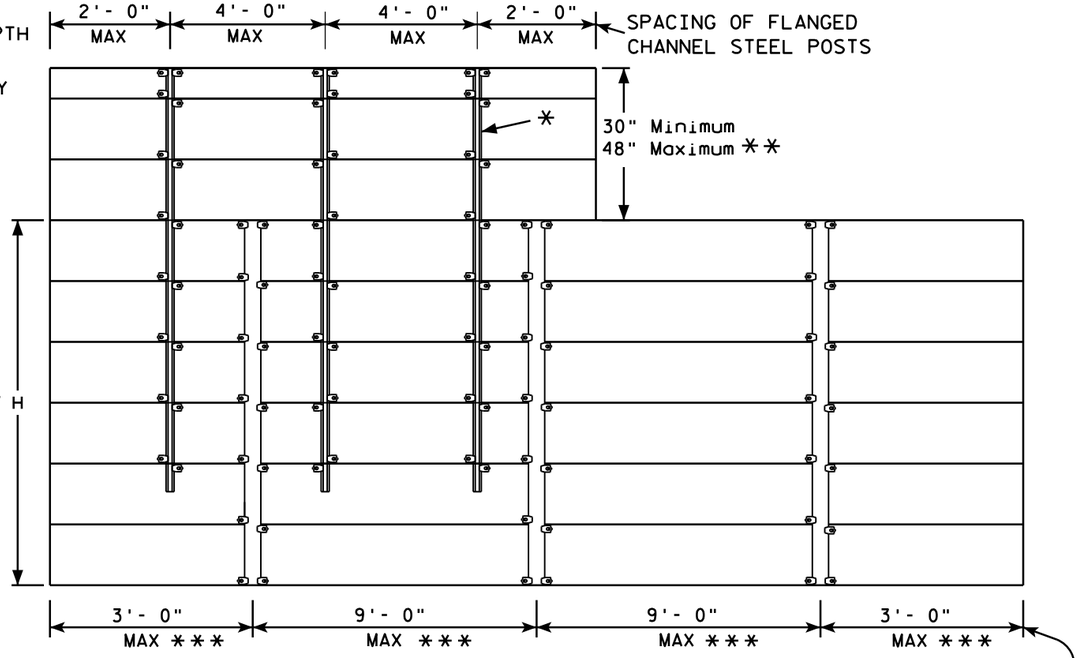
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

### FLANGE CHANNEL DETAIL




NOT TO SCALE

## SIGN BRIDGE MOUNTED SIGN




### GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

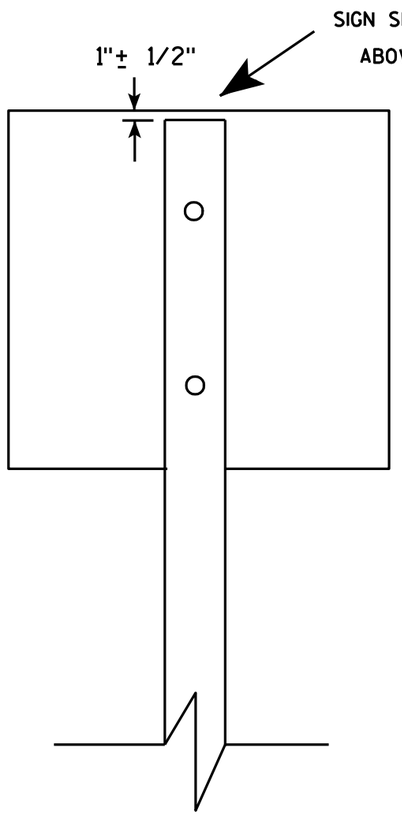
## ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

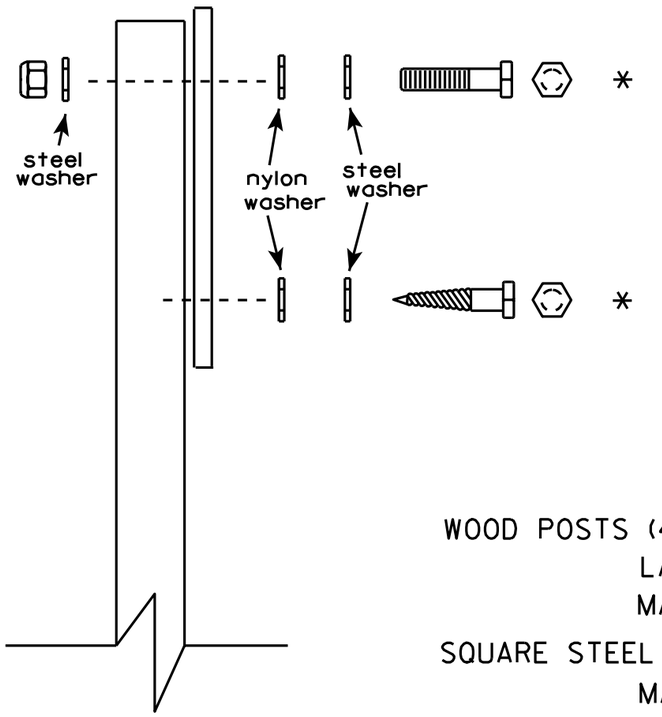
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 262 A4-6.12

PROJECT NO: | SHEET NO: E




Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

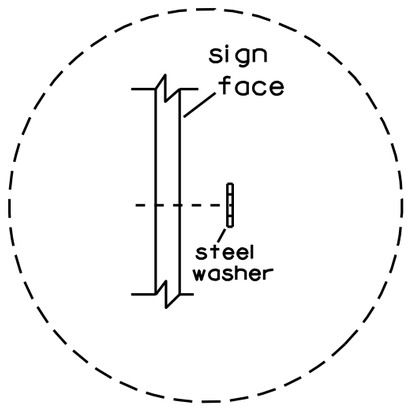
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.




Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

# ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

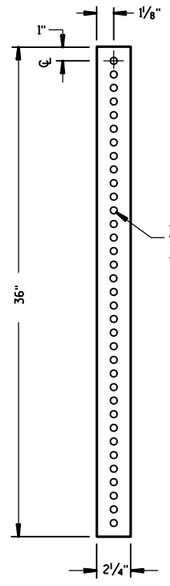
7

PROJECT NO:

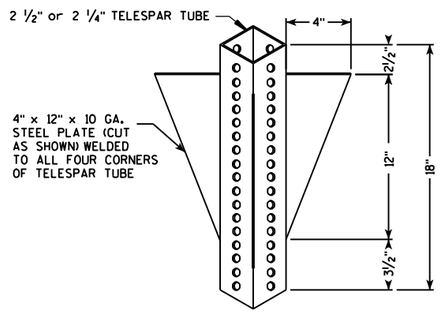
SHEET NO: 263 E

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

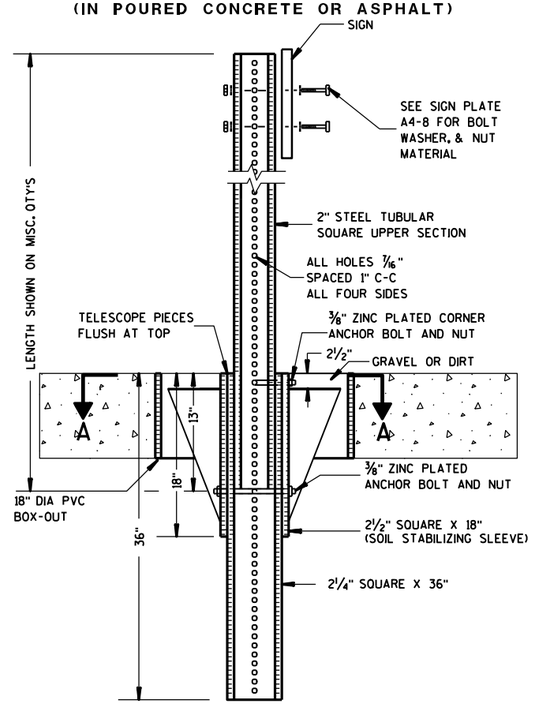
**2 1/4 " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



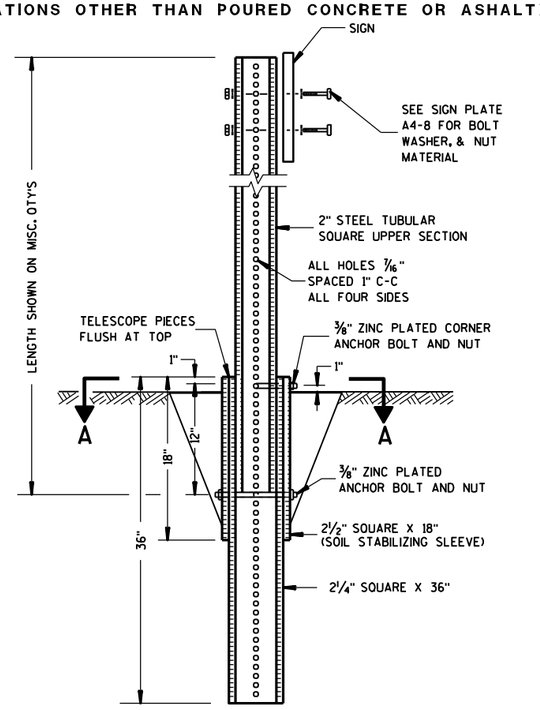

**2 1/2 " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

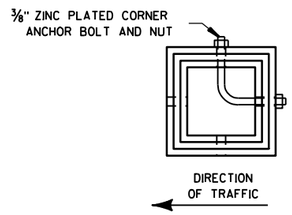



## DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)




## DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASHALT)




SECTION A-A

| Area of Sign Installation (Sq. Ft.) | Number of Required Posts |
|---|---|
| 9 or less | 1 |
| Greater than 9 less than or equal to 18 | 2 |
| Greater than 18 less than or equal to 27 | 3 |

**Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).**

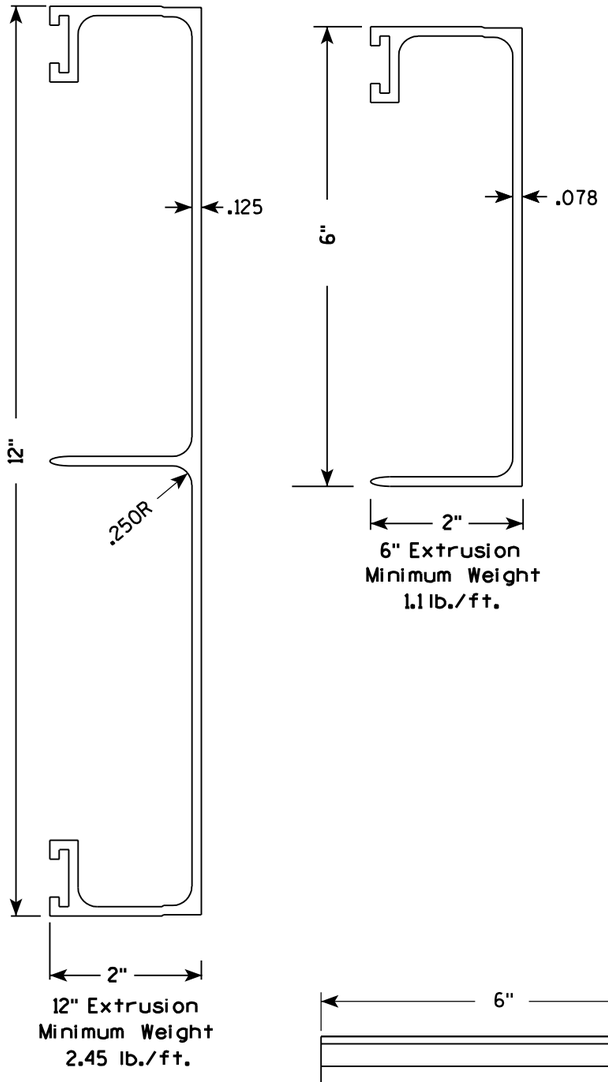
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/30/12 PLATE NO. A4-9.7

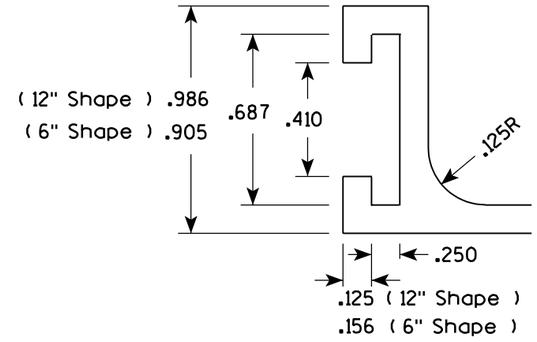
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 264 | E |
|---|---|---|---|---|---|

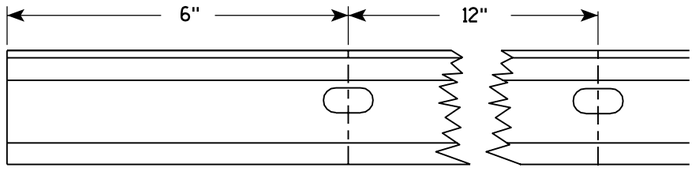
## Extruded Shape



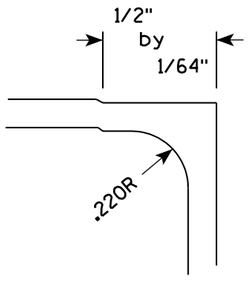







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

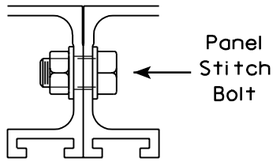



## Hardware

### STITCH BOLT, WASHER & NUT

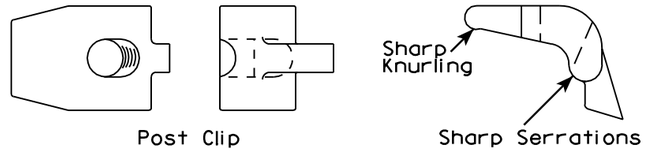
The hardware includes:

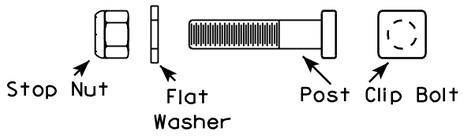
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy




### POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.




### NOTES

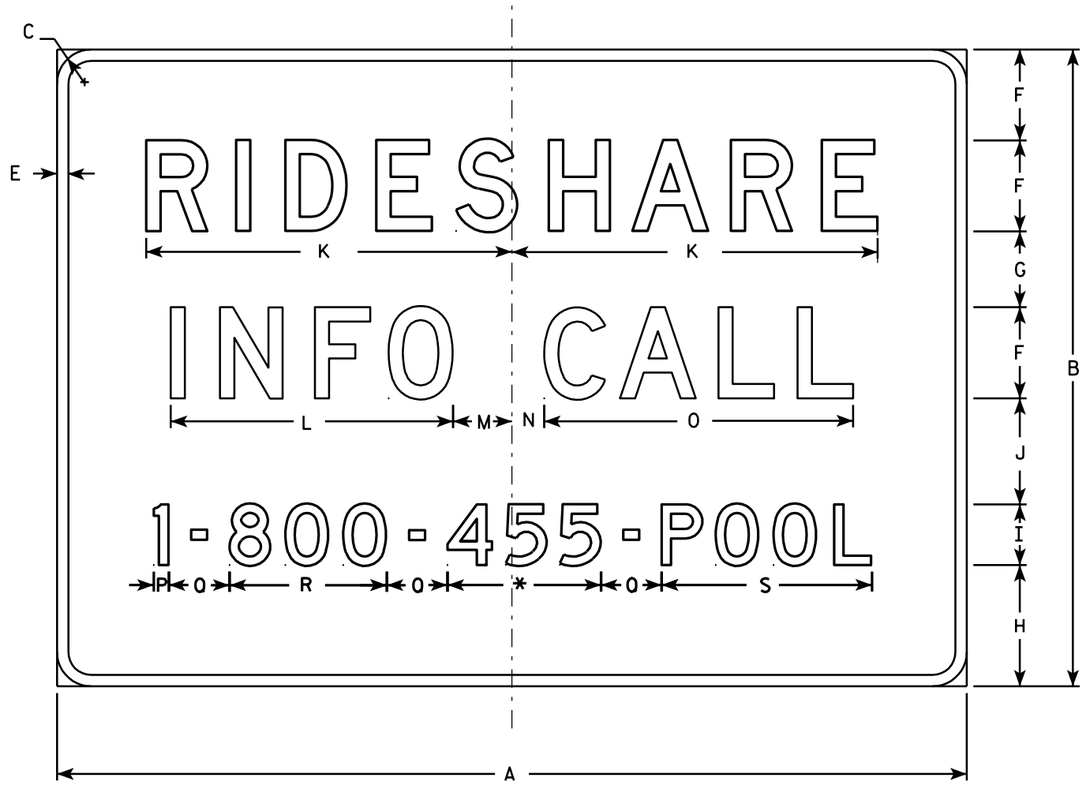
1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

# ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 11/18/99 PLATE NO. A5-2.9




D12-2A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust spacing as required to achieve proper balance.

Metric equivalent for this sign is:

| SIZE | |
|---|---|
| 1 | 1200 mm X 525 mm |
| 2 | 1500 mm X 1050 mm |
| 3 | |
| 4 | 1500 mm X 1050 mm |
| 5 | 1950 mm X 1350 mm |

* Variable (See note 5)

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. | Area m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 48 | 21 | 1 1/2 | | 1/2 | 3 | 2 3/4 | 3 1/2 | 3 | 2 3/4 | 12 1/8 | 9 3/8 | 2 | 1 1/8 | 10 1/4 | 3/4 | 3 | 7 3/4 | 10 5/8 | | | | | | | | 7.0 | 0.63 |
| 2 | 60 | 42 | 2 1/4 | | 3/4 | 6 | 5 | 8 | 4 | 7 | 24 1/8 | 18 5/8 | 3 7/8 | 2 1/8 | 20 1/8 | 1 | 4 | 10 3/8 | 13 7/8 | | | | | | | | 17.5 | 1.58 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 60 | 42 | 2 1/4 | | 3/4 | 6 | 5 | 8 | 4 | 7 | 24 1/8 | 18 5/8 | 3 7/8 | 2 1/8 | 20 1/8 | 1 | 4 | 10 3/8 | 13 7/8 | | | | | | | | 17.5 | 1.58 |
| 5 | 78 | 54 | 3 | | 1 | 8 | 6 | 10 | 6 | 8 | 30 7/8 | 23 5/8 | 4 7/8 | 2 1/8 | 26 3/8 | 1 1/2 | 5 | 15 1/2 | 21 1/4 | | | | | | | | 29.25 | 2.63 |

STANDARD SIGN
D12-2A

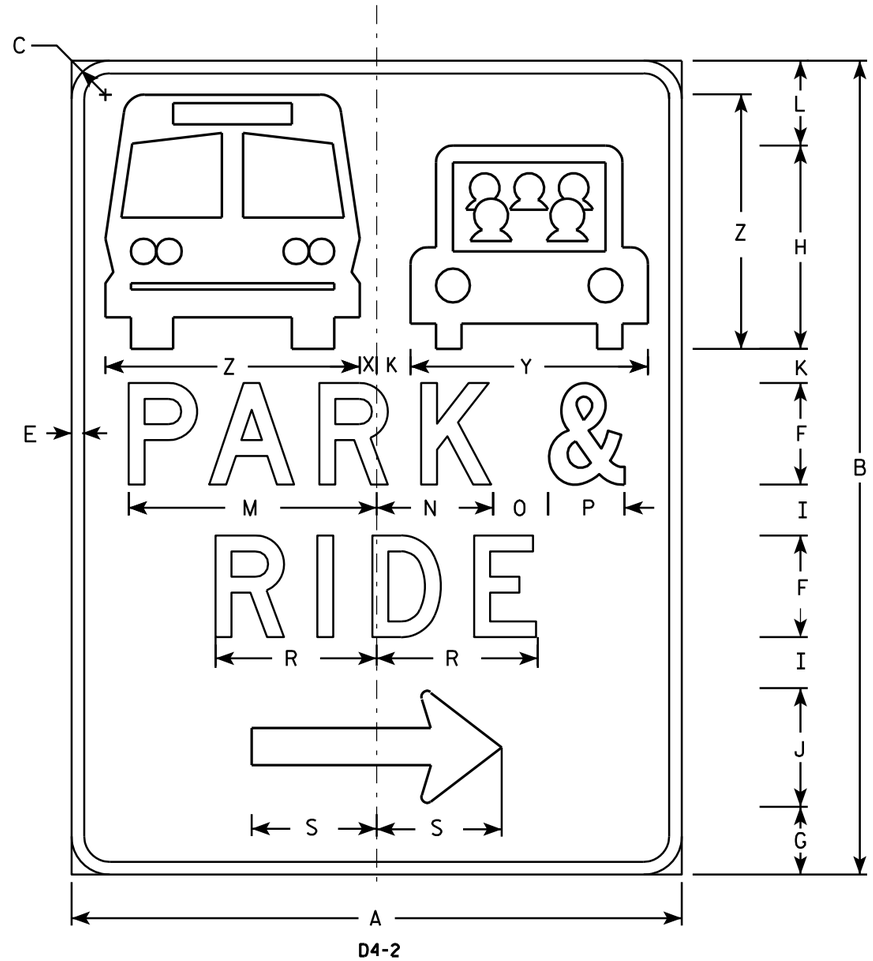
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spay for State Traffic Engineer

DATE 1/16/02 PLATE NO. D12-2A.3

PROJECT NO:

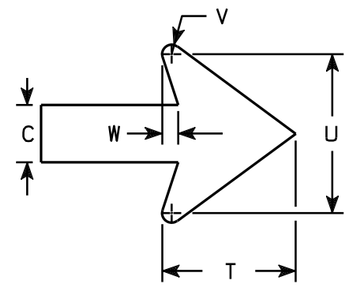
SHEET NO: 266 E




D4-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The D4-2L is the same as a D4-2R except the arrow is reversed.
6. The D4-2 sign may have either symbol or both symbols at the same time.




Arrow Detail

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | O | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 24 | 30 | 1 1/8 | | 1/2 | 4 | 1 5/8 | 7 1/2 | 1 1/2 | 4 5/8 | 1 3/8 | 3 7/8 | 9 3/4 | 4 | 2 3/4 | 3 | | 6 3/8 | 4 7/8 | 3 1/2 | 4 1/8 | 1/4 | 3/8 | 5/8 | 9 3/8 | 10 | 5.0 |
| 2 | 30 | 36 | 1 3/8 | | 5/8 | 5 | 2 | 9 | 1 5/8 | 5 1/2 | 1 5/8 | 4 5/8 | 12 1/4 | 5 1/8 | 3 3/8 | 3 3/4 | | 8 | 6 1/8 | 4 3/8 | 5 1/4 | 3/8 | 1/2 | 7/8 | 11 3/4 | 12 1/2 | 7.50 |
| 3 | 36 | 48 | 2 1/4 | | 3/4 | 6 | 4 | 12 | 3 | 7 | 2 | 5 | 14 5/8 | 6 7/8 | 3 1/4 | 4 1/2 | | 9 1/2 | 7 1/2 | 5 1/4 | 6 1/4 | 3/8 | 5/8 | 1 | 14 | 15 | 12.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
D4-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/10 PLATE NO. D4-2.5

PROJECT NO:

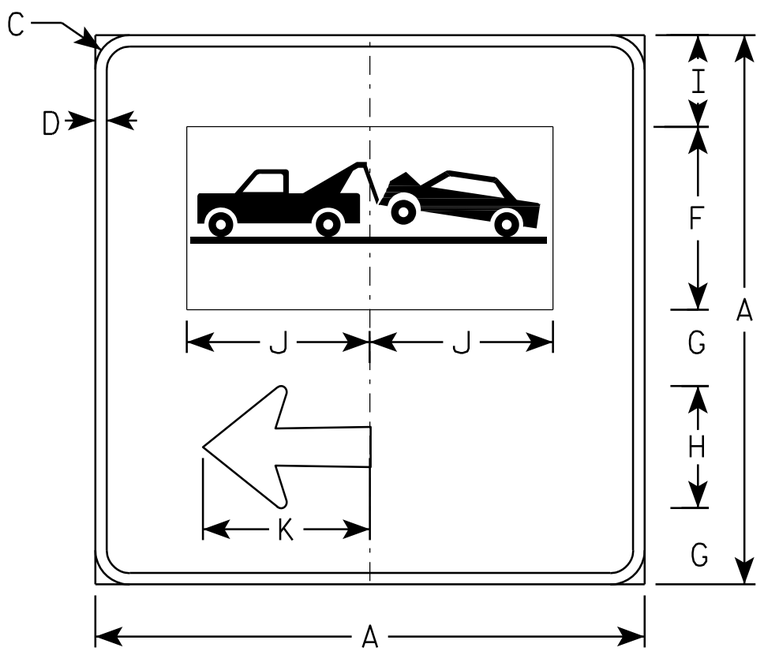
SHEET NO: 267 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\D42.dgn PLOT DATE : 10-FEB-2011 14:21 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

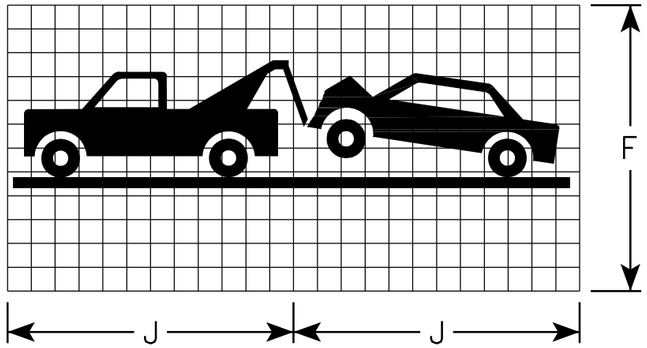
7




D4-55L

## NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - BLUE
   Message - WHITE
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. D4-55R is same as D4-55L except arrow is reversed.
6. Arrow is from A1-2 Lower Case 4½ Series D & E




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 36 | | 2 1/4 | 3/4 | | 12 | 5 | 8 | 6 | 12 | 11 | | | | | | | | | | | | | | | | 9.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

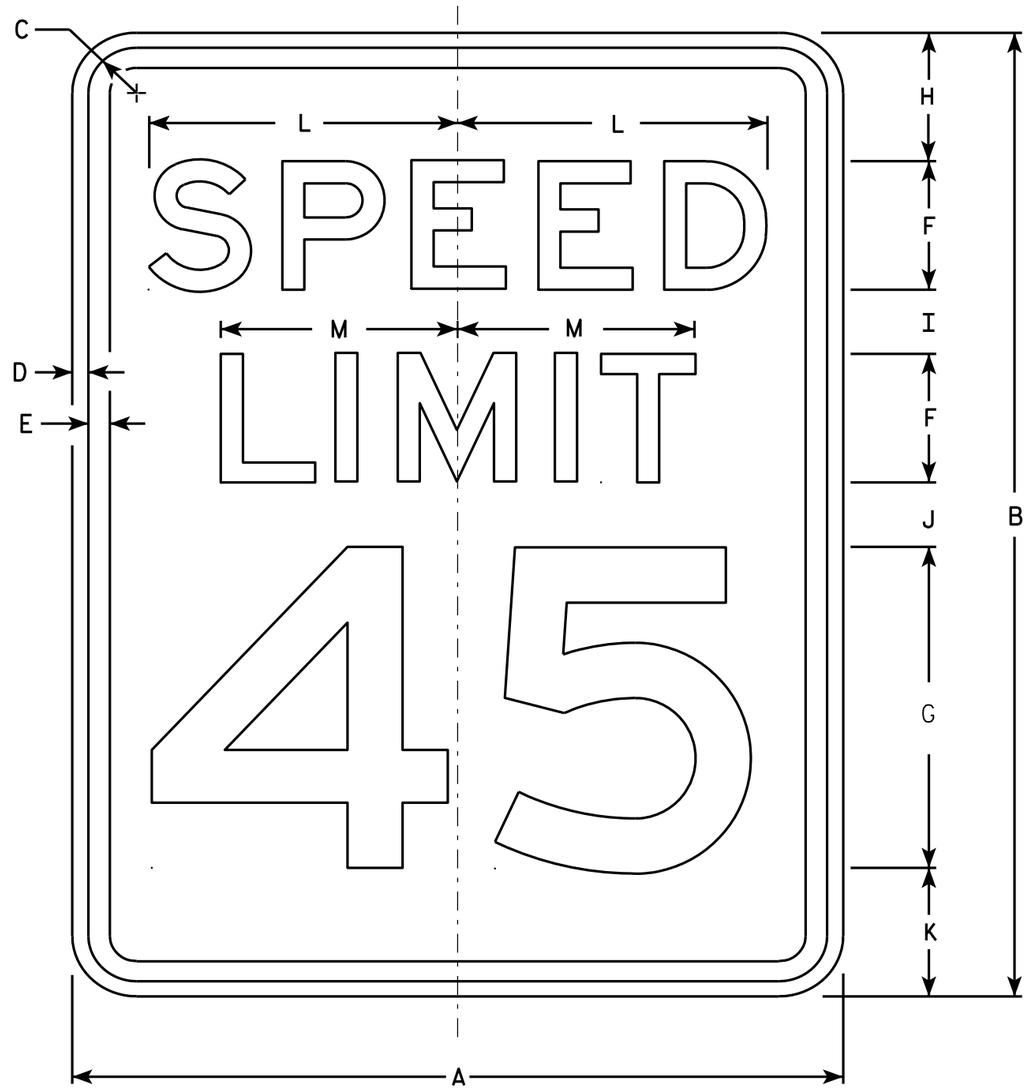
STANDARD SIGN
D4-55 L & R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/14/2011 PLATE NO. D4-55.1

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 268 | E |
|---|---|---|---|---|---|




R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 3 | 8 | 3 | 2 | 2 | 3 | 7 1/4 | 5 1/2 | | | | | | | | | | | | | | 3.0 |
| 2S | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 4 | 10 | 3 | 2 1/4 | 3 3/8 | 3 3/8 | 9 5/8 | 7 3/8 | | | | | | | | | | | | | | 5.0 |
| 2M | 30 | 36 | 1 3/8 | 1/2 | 5/8 | 5 | 12 | 5 | 2 1/2 | 2 1/2 | 4 | 12 | 9 1/4 | | | | | | | | | | | | | | 7.5 |
| 3 | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5 | 5 | 6 | 14 3/8 | 11 | | | | | | | | | | | | | | 12.0 |
| 4 | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5 | 5 | 6 | 14 3/8 | 11 | | | | | | | | | | | | | | 12.0 |
| 5 | 48 | 60 | 2 1/4 | 3/4 | 1 | 8 | 20 | 6 | 4 1/2 | 6 3/4 | 6 3/4 | 19 1/4 | 14 5/8 | | | | | | | | | | | | | | 20.0 |

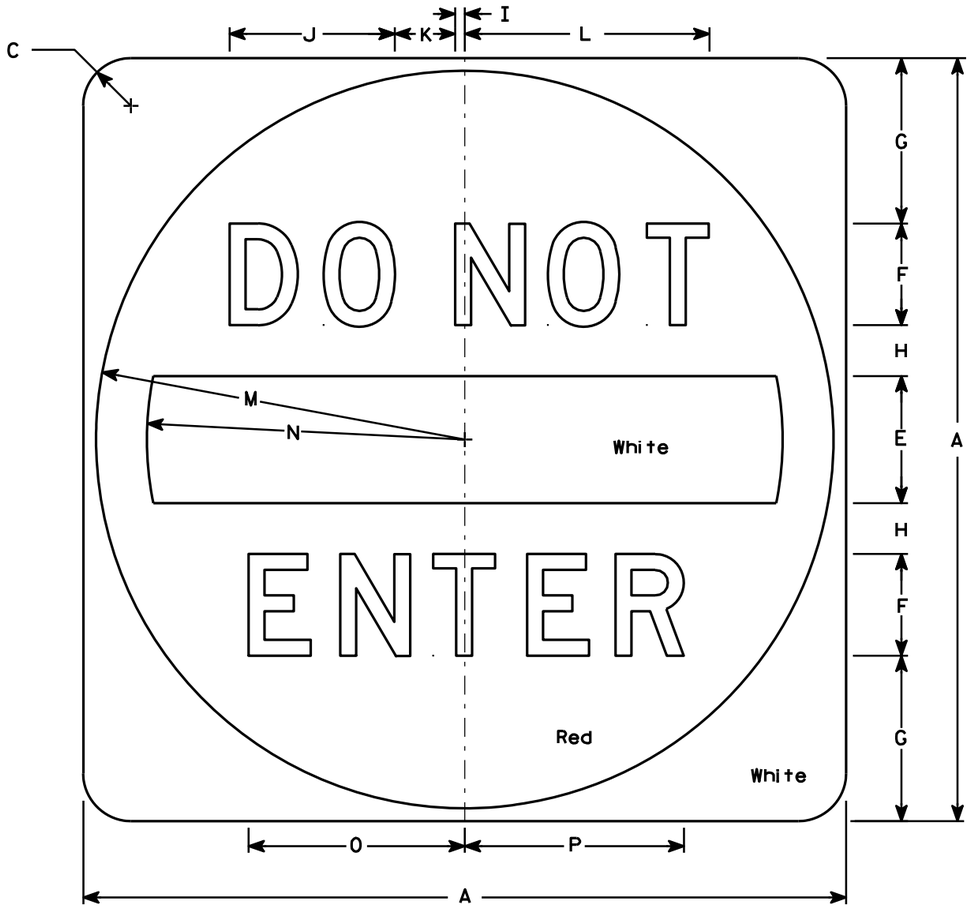
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 269 | E




R5-1

## NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 30 | | 1 7/8 | | 5 | 4 | 6 1/2 | 2 | 3/8 | 6 1/2 | 2 3/8 | 9 5/8 | 14 1/2 | 12 1/2 | 8 1/2 | 8 5/8 | | | | | | | | | | | 6.26 |
| 2M | 36 | | 2 1/4 | | 6 | 5 | 7 1/2 | 2 1/2 | 1/2 | 8 1/8 | 3 | 12 1/8 | 17 1/2 | 15 | 10 5/8 | 10 3/4 | | | | | | | | | | | 9.0 |
| 3 | 36 | | 2 1/4 | | 6 | 5 | 7 1/2 | 2 1/2 | 1/2 | 8 1/8 | 3 | 12 1/8 | 17 1/2 | 15 | 10 5/8 | 10 3/4 | | | | | | | | | | | 9.0 |
| 4 | 36 | | 2 1/4 | | 6 | 5 | 7 1/2 | 2 1/2 | 1/2 | 8 1/8 | 3 | 12 1/8 | 17 1/2 | 15 | 10 5/8 | 10 3/4 | | | | | | | | | | | 9.0 |
| 5 | 48 | | 3 | | 8 | 6 | 11 | 3 | 5/8 | 9 3/4 | 3 5/8 | 14 1/2 | 23 1/2 | 20 | 12 3/4 | 12 7/8 | | | | | | | | | | | 16.0 |

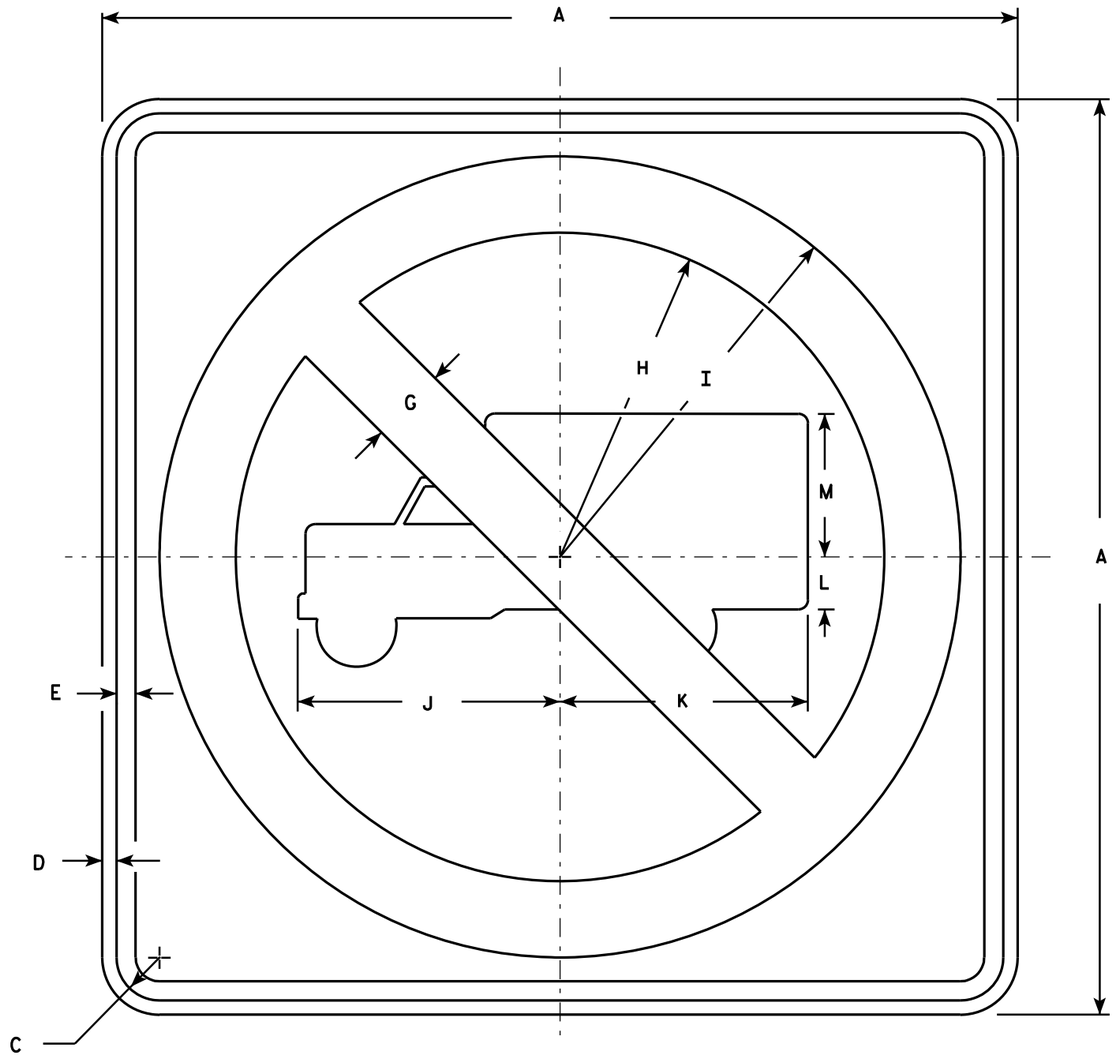
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 270 | E




R5-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Circle & Diagonal - Reflective red.
   Truck Symbol & Border - Non-reflective black.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | | 1 1/8 | 3/8 | 1/2 | | 2 | 8 1/2 | 10 1/2 | 6 7/8 | 6 1/2 | 1 3/8 | 3 3/4 | | | | | | | | | | | | | | 4.0 |
| 2M | 24 | | 1 1/8 | 3/8 | 1/2 | | 2 | 8 1/2 | 10 1/2 | 6 7/8 | 6 1/2 | 1 3/8 | 3 3/4 | | | | | | | | | | | | | | 4.0 |
| 3 | 30 | | 1 3/8 | 1/2 | 5/8 | | 2 1/2 | 10 5/8 | 13 1/8 | 8 1/2 | 8 1/8 | 1 5/8 | 4 3/4 | | | | | | | | | | | | | | 6.25 |
| 4 | 36 | | 1 5/8 | 5/8 | 3/4 | | 3 | 12 3/4 | 15 3/4 | 10 1/4 | 9 3/4 | 2 | 5 3/4 | | | | | | | | | | | | | | 9.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 4 | 17 | 21 | 13 5/8 | 13 | 2 5/8 | 7 5/8 | | | | | | | | | | | | | | 16.0 |

STANDARD SIGN
R5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-2.6

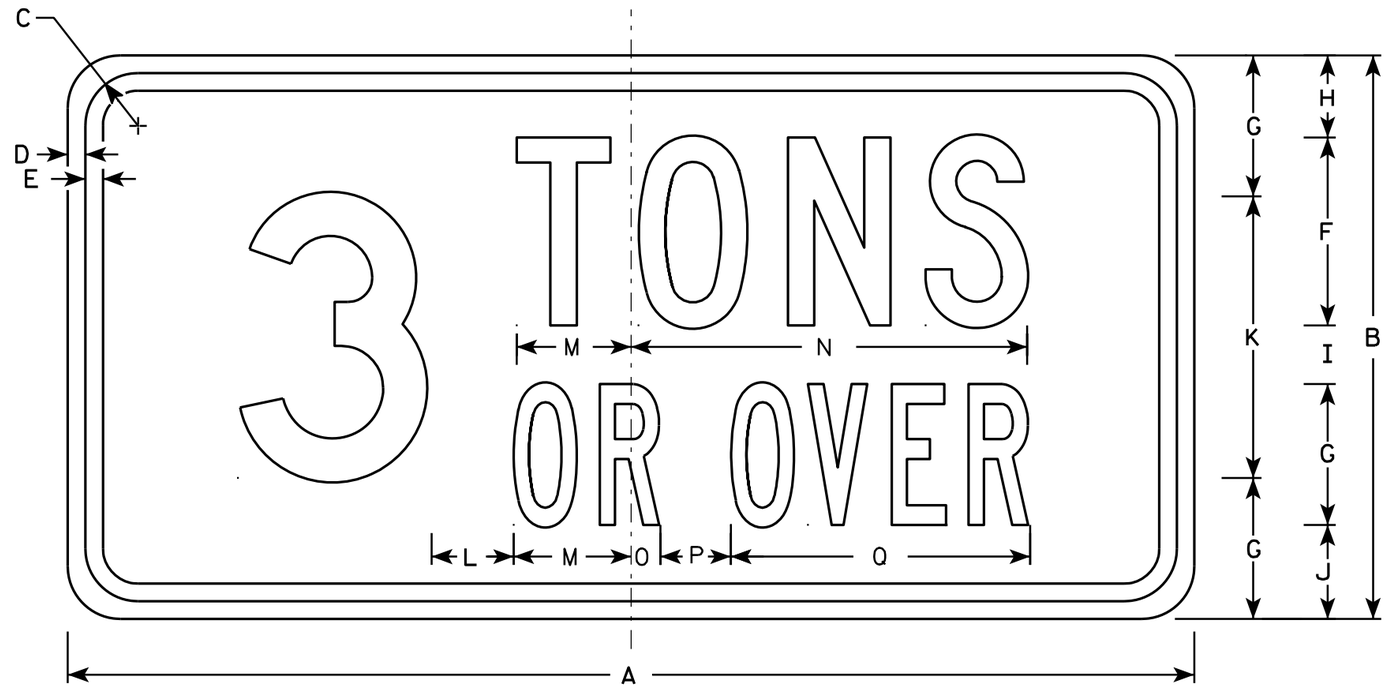
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 271 | E |
|---|---|---|---|---|---|

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R52.DGN PLOT DATE : 29-MAR-2011 11:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42

7

7




R5-2A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series "C"
   Line 2 is Series "B"
   Numeral is Series "D"
6. Substitute appropriate numerals.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 4 | 3 | 1 3/4 | 1 1/4 | 2 | 6 | 1 3/4 | 2 1/2 | 8 1/2 | 5/8 | 1 1/2 | 6 3/8 | | | | | | | | | | 2.0 |
| 2M | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 4 | 3 | 1 3/4 | 1 1/4 | 2 | 6 | 1 3/4 | 2 1/2 | 8 1/2 | 5/8 | 1 1/2 | 6 3/8 | | | | | | | | | | 2.0 |
| 3 | 30 | 15 | 1 1/8 | 3/8 | 1/2 | 5 | 4 | 2 1/8 | 1 3/8 | 2 1/2 | 7 | 2 1/4 | 3 1/8 | 10 1/2 | 1 | 2 3/8 | 8 1/2 | | | | | | | | | | 2.25 |
| 4 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 6 | 5 | 2 5/8 | 1 3/8 | 3 | 9 | 2 1/2 | 3 3/4 | 12 5/8 | 1 3/8 | 3 1/8 | 10 1/2 | | | | | | | | | | 4.5 |
| 5 | 48 | 24 | 1 3/8 | 3/8 | 5/8 | 8 | 6 | 3 1/2 | 2 1/2 | 4 | 12 | 3 1/2 | 4 7/8 | 16 7/8 | 1 1/4 | 3 | 12 3/4 | | | | | | | | | | 8.0 |

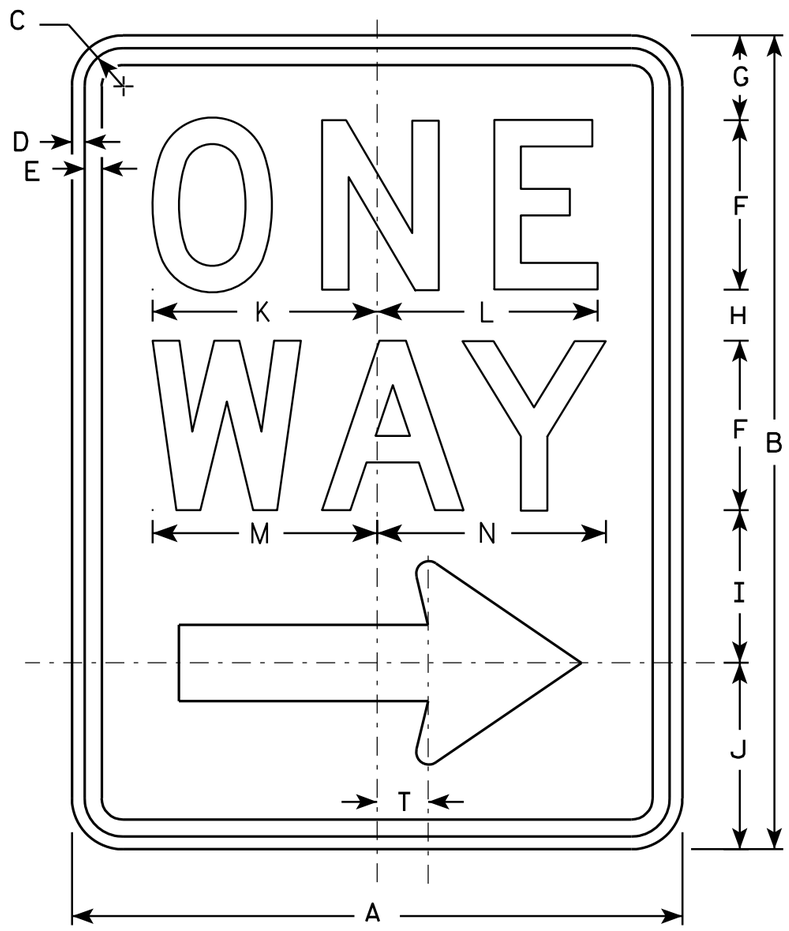
STANDARD SIGN
R5-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-2A.7

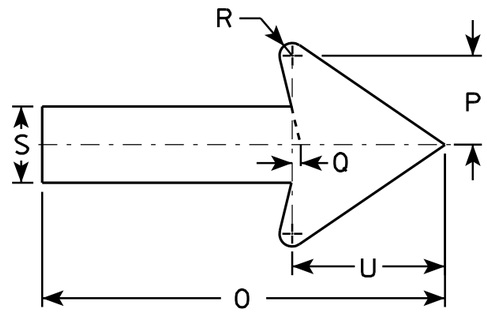
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 272 | E




R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | O | R | S | T | U | V | W | X | Y | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 5 | 2 1/2 | 1 1/2 | 4 1/2 | 5 1/2 | 6 5/8 | 6 1/2 | 6 5/8 | 6 3/4 | 11 7/8 | 2 5/8 | 1/4 | 3/8 | 2 1/4 | 1 1/2 | 4 1/2 | | | | | |
| 2S | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 6 | 3 | 2 1/2 | 5 1/2 | 7 | 8 1/8 | 8 1/8 | 8 1/2 | 8 5/8 | 16 | 3 1/2 | 3/8 | 1/2 | 3 | 2 | 6 | | | | | |
| 2M | 30 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 2 1/2 | 2 5/8 | 6 7/8 | 8 | 10 1/2 | 10 1/2 | 11 1/4 | 11 1/4 | 20 | 4 3/8 | 1/2 | 5/8 | 3 3/4 | 2 1/2 | 7 1/2 | | | | | |
| 3 | 36 | 48 | 1 7/8 | 1/2 | 5/8 | 10 | 5 1/4 | 3 1/4 | 9 | 10 1/2 | 12 3/4 | 12 3/4 | 13 1/4 | 13 1/2 | 24 | 5 5/8 | 1/2 | 3/4 | 4 3/4 | 3 | 9 | | | | | |
| 4 | 36 | 48 | 1 7/8 | 1/2 | 5/8 | 10 | 5 1/4 | 3 1/4 | 9 | 10 1/2 | 12 3/4 | 12 3/4 | 13 1/4 | 13 1/2 | 24 | 5 5/8 | 1/2 | 3/4 | 4 3/4 | 3 | 9 | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | |

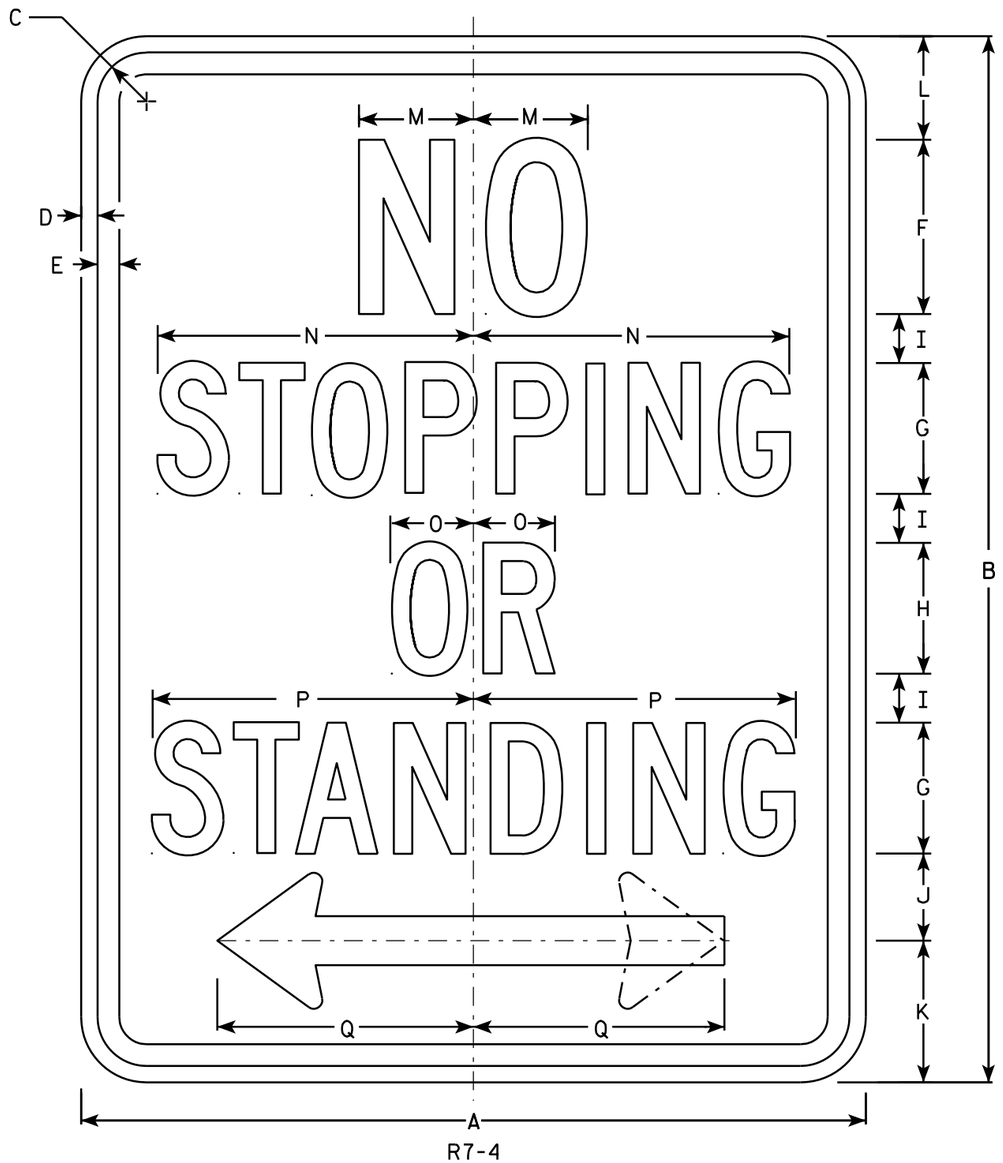
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

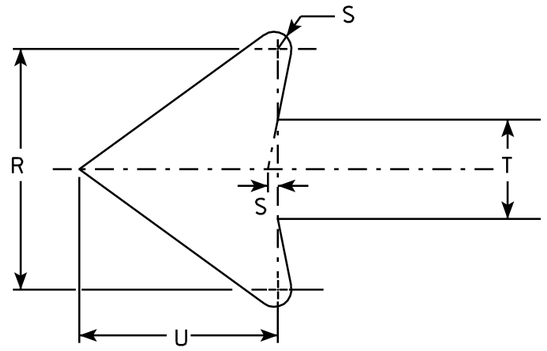
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 273 | E




R7-4

## NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R7-4L (left arrow)
   R7-4R (right arrow)
   R7-4D (double arrow)




ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12 | 18 | 1 1/8 | 3/8 | 3/8 | 3 | 2 | 2 | 1 | 1 1/2 | 2 1/2 | 2 | 2 | 4 7/8 | 1 1/4 | 4 7/8 | 3 7/8 | 1 3/4 | 1/8 | 3/4 | 1 1/2 | | | | | | 1.5 |
| 2S | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 4 | 3 | 3 | 1 1/8 | 2 | 3 1/4 | 2 3/8 | 2 5/8 | 7 1/4 | 1 7/8 | 7 3/8 | 5 7/8 | 2 5/8 | 1/4 | 1 1/8 | 2 1/4 | | | | | | 3.0 |
| 2M | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 5 | 4 | 3 | 1 1/2 | 3 | 4 | 2 1/2 | 3 3/8 | 10 | 2 1/2 | 10 1/4 | 7 3/4 | 3 1/2 | 1/4 | 1 1/2 | 3 | | | | | | 5.0 |
| 3 | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 5 | 4 | 3 | 1 1/2 | 3 | 4 | 2 1/2 | 3 3/8 | 10 | 2 1/2 | 10 1/4 | 7 3/4 | 3 1/2 | 1/4 | 1 1/2 | 3 | | | | | | 5.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

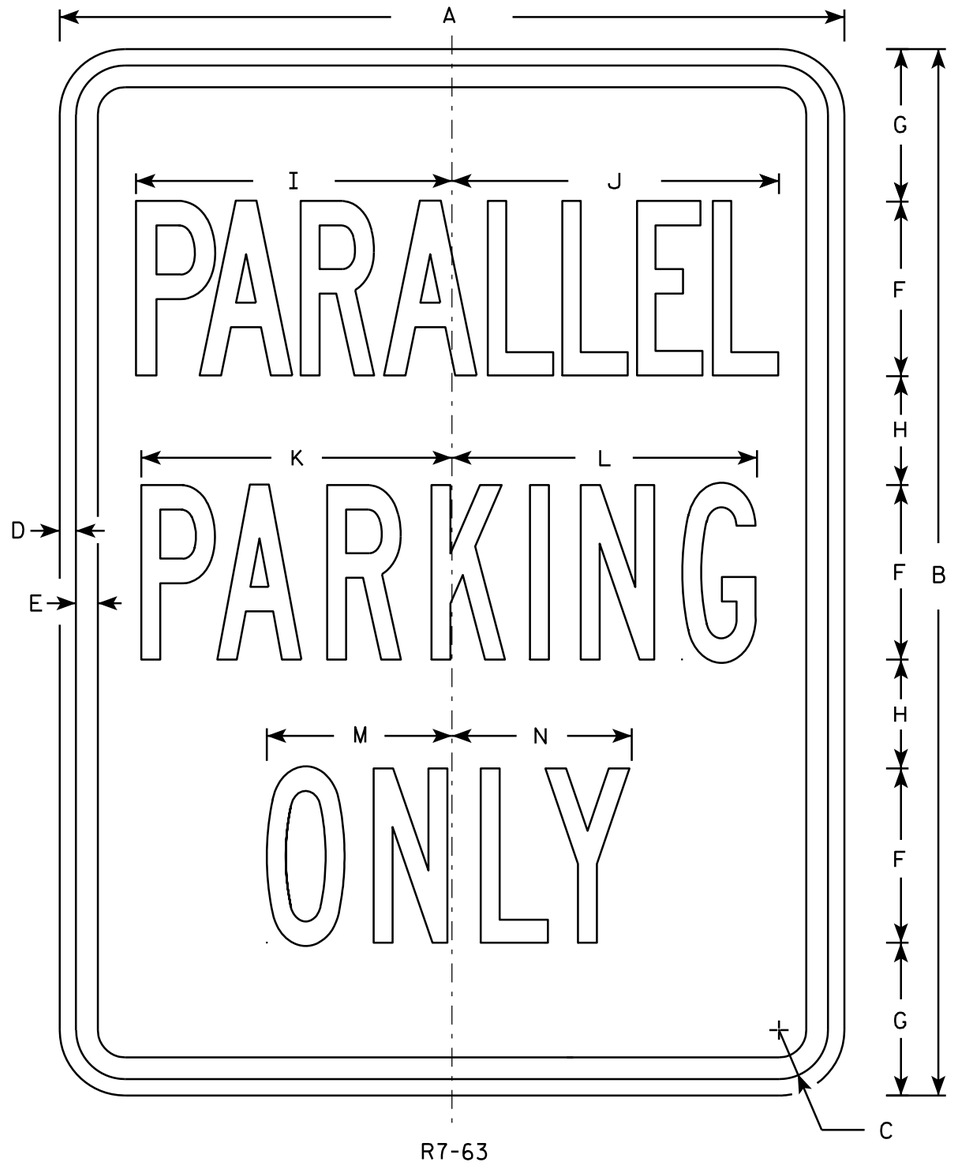
# STANDARD SIGN
# R7-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-4.8

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 274 | E |
|---|---|---|---|---|---|




R7-63

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12 | 18 | 1 1/8 | 3/8 | 3/8 | 3 | 2 5/8 | 1 7/8 | 4 7/8 | 5 | 4 7/8 | 4 7/8 | 3 1/8 | 3 1/8 | | | | | | | | | | | | | 1.5 |
| 2S | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 4 | 3 1/2 | 2 1/2 | 7 1/4 | 7 1/2 | 7 1/8 | 7 | 4 1/4 | 4 1/8 | | | | | | | | | | | | | 3.0 |
| 2M | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 5 | 4 3/8 | 3 1/4 | 9 5/8 | 10 | 9 1/4 | 9 1/4 | 5 1/4 | 5 1/8 | | | | | | | | | | | | | 5.0 |
| 3 | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 5 | 4 3/8 | 3 1/4 | 9 5/8 | 10 | 9 1/4 | 9 1/4 | 5 1/4 | 5 1/8 | | | | | | | | | | | | | 5.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

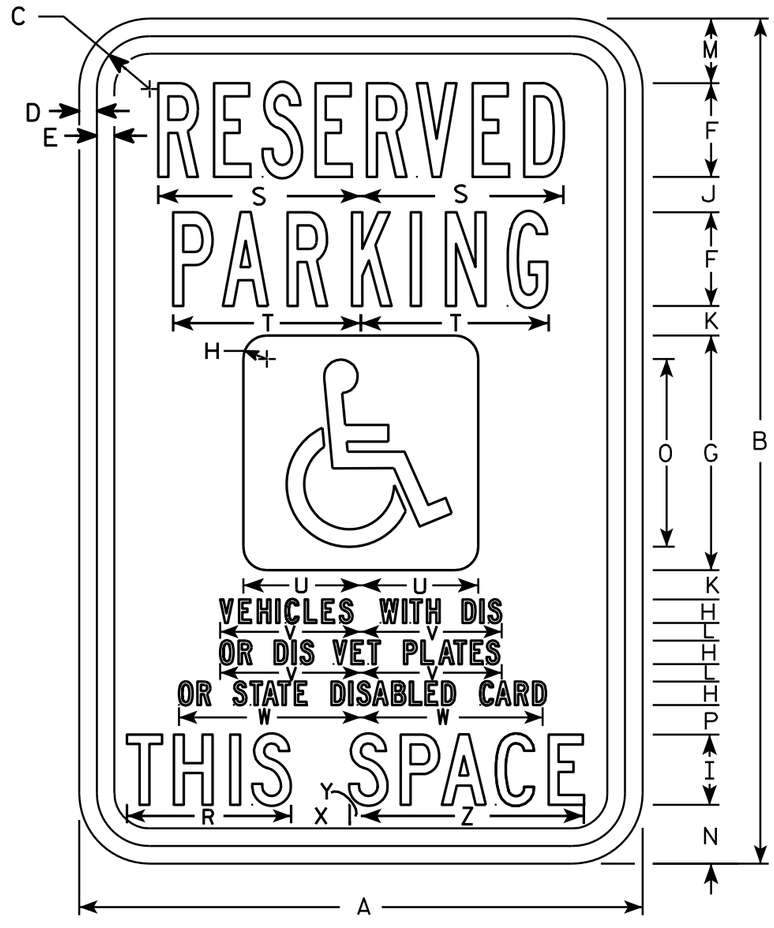
STANDARD SIGN
R7-63

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-63.6

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 275 | E |
|---|---|---|---|---|---|




R7-8A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Sign is white Type H Reflective; paraplegic background is blue.
   Message - Legend and border are green; paraplegic symbol is white
3. Message Series - Lines 1 & 2 are Series B
   Lines 3, 4, 5 & 6 are Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 12 | 18 | 1 1/8 | 3/8 | 3/8 | 2 | 5 | 1/2 | 1 1/2 | 3/4 | 5/8 | 3/8 | 1 3/8 | 1 1/4 | 4 | 5/8 | | 3 1/2 | 4 3/8 | 4 | 2 1/2 | 3 | 3 7/8 | 1 1/4 | 1/4 | 4 3/4 | 1.5 |
| 2M | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 3 | 6 | 3/4 | 2 | 7/8 | 5/8 | 1/2 | 1 7/8 | 2 | 5 | 3/4 | | 4 5/8 | 6 1/2 | 5 3/8 | 3 | 4 1/2 | 5 7/8 | 1 1/2 | 1/4 | 6 3/8 | 3.0 |
| 3 | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 3 | 6 | 3/4 | 2 | 7/8 | 5/8 | 1/2 | 1 7/8 | 2 | 5 | 3/4 | | 4 5/8 | 6 1/2 | 5 3/8 | 3 | 4 1/2 | 5 7/8 | 1 1/2 | 1/4 | 6 3/8 | 3.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

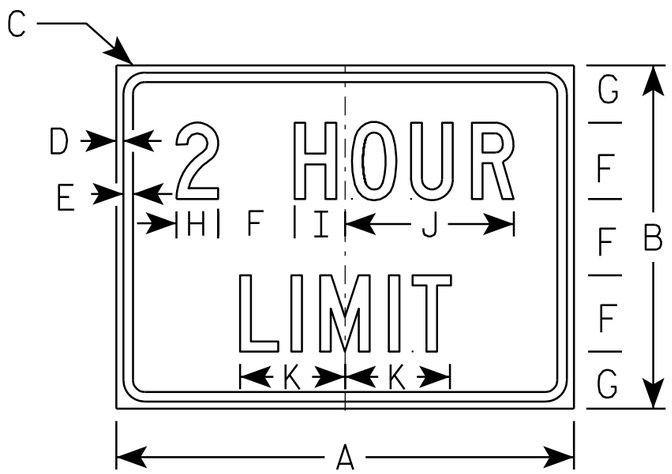
STANDARD SIGN
R7-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/25/2011 PLATE NO. R7-8A.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 276 | E




R8-56

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | 18 | 1 1/8 | 3/8 | 1/2 | 4 | 3 | 2 1/4 | 2 5/8 | 8 7/8 | 5 1/2 | | | | | | | | | | | | | | | | 2.0 |
| 2M | 24 | 18 | 1 1/8 | 3/8 | 1/2 | 4 | 3 | 2 1/4 | 2 5/8 | 8 7/8 | 5 1/2 | | | | | | | | | | | | | | | | 2.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
R8-56

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/31/2011 PLATE NO R8-56.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 277 | E |
|---|---|---|---|---|---|

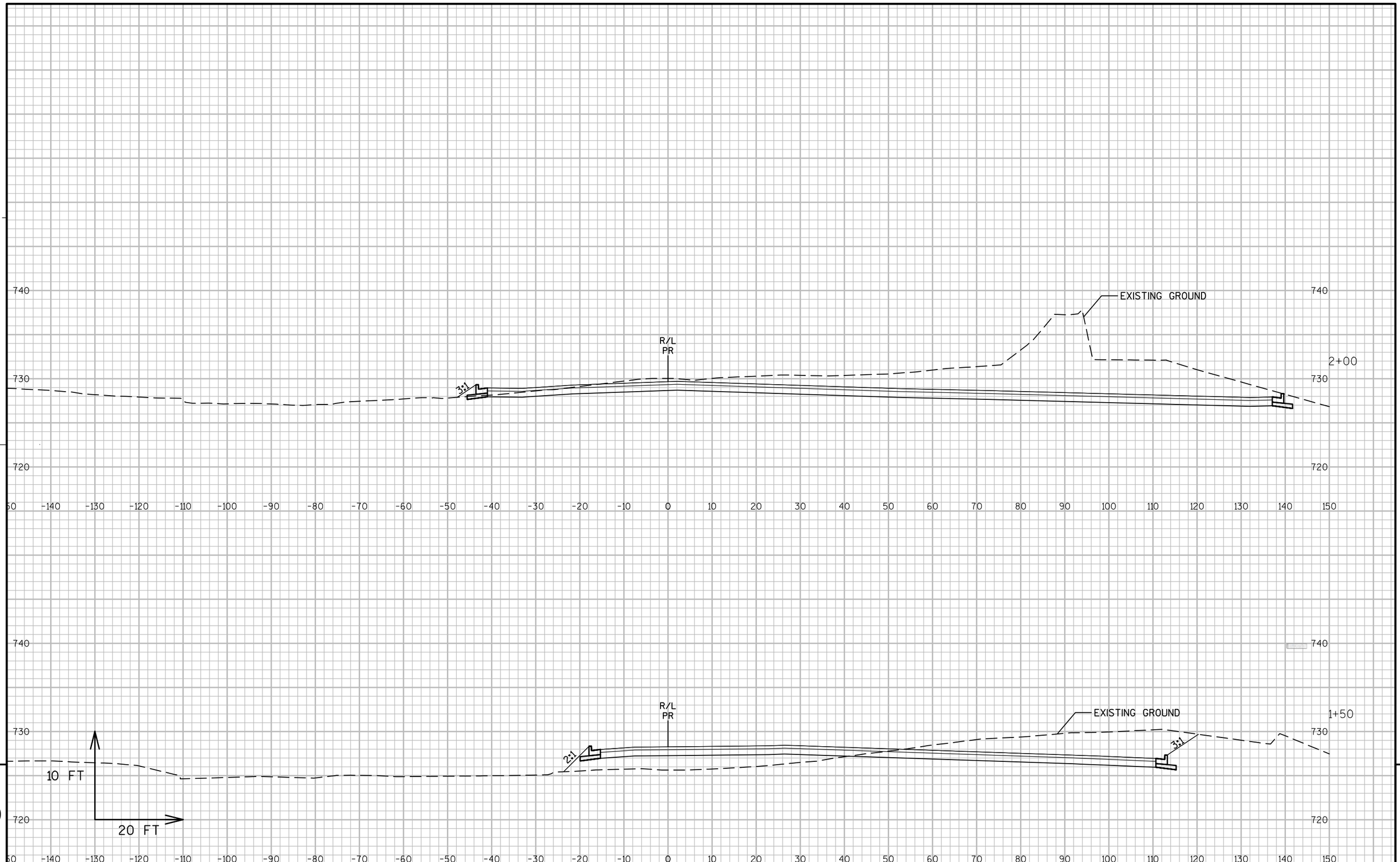
| Division | From / To Station | Location | Common Excavation (1) | (item # 205.0100) | Salvaged / Unusable Pavement Material (4) | Available Material (5) | Marsh Excavation (6) | Rock Excavation (7) | Reduced Marsh in Fill (8) | Reduced EBS in Fill (9) | Expanded Marsh Backfill (10) | Expanded EBS Backfill (11) | Expanded Rock (12) | Unexpanded Fill | Expanded Fill (13) | Mass Ordinate + / - (14) | Waste | Borrow | Comment: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cut (2) | EBS Excavation (3) | | | (item #205.0500) | (item #205.0200) | Factor 0.60 | Factor 0.80 | Factor 1.50 | Factor 1.30 | Factor 1.10 | | Factor 1.25 | | | (item #208.0100) | |
| 1 | 1PR+00 to 8PR+00 | Park & Ride | 15774 | 0 | 4435 | 11339 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 282 | 353 | 10987 | 10987 | | |
| Division 1 Subtotal | | | 15774 | 0 | 4435 | 11339 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 282 | 353 | 10987 | 10987 | | |
| 2 | 20NSR+50 to 29NSR+00 | DPW Site | 55507 | 0 | 3294 | 52213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1479 | 1849 | 50364 | 50364 | | |
| Division 2 Subtotal | | | 55507 | 0 | 3294 | 52213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1479 | 1849 | 50364 | 50364 | | |
| 3 | 167BV+18 to 173BV+67 | Swan Blvd | 430 | 0 | 51 | 379 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 170 | 213 | 167 | 167 | | |
| Division 3 Subtotal | | | 430 | 0 | 51 | 379 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 170 | 213 | 167 | 167 | | |
| Grand Total | | | 71711 | 0 | 7780 | 63931 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1931 | 2414 | 61517 | 61517 | | |
| | | | Total Common Exc | 71711 | | | | | | | | | | | | | | | |

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) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 205.0500
7) Rock Excavation item number 205.0200
8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
9) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.11
11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.11
12) Expanded Rock - Factor = 1.1.
13) Expanded Fill. Factor = 1.25
Depending on selections:

**Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor**

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor

14) 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.



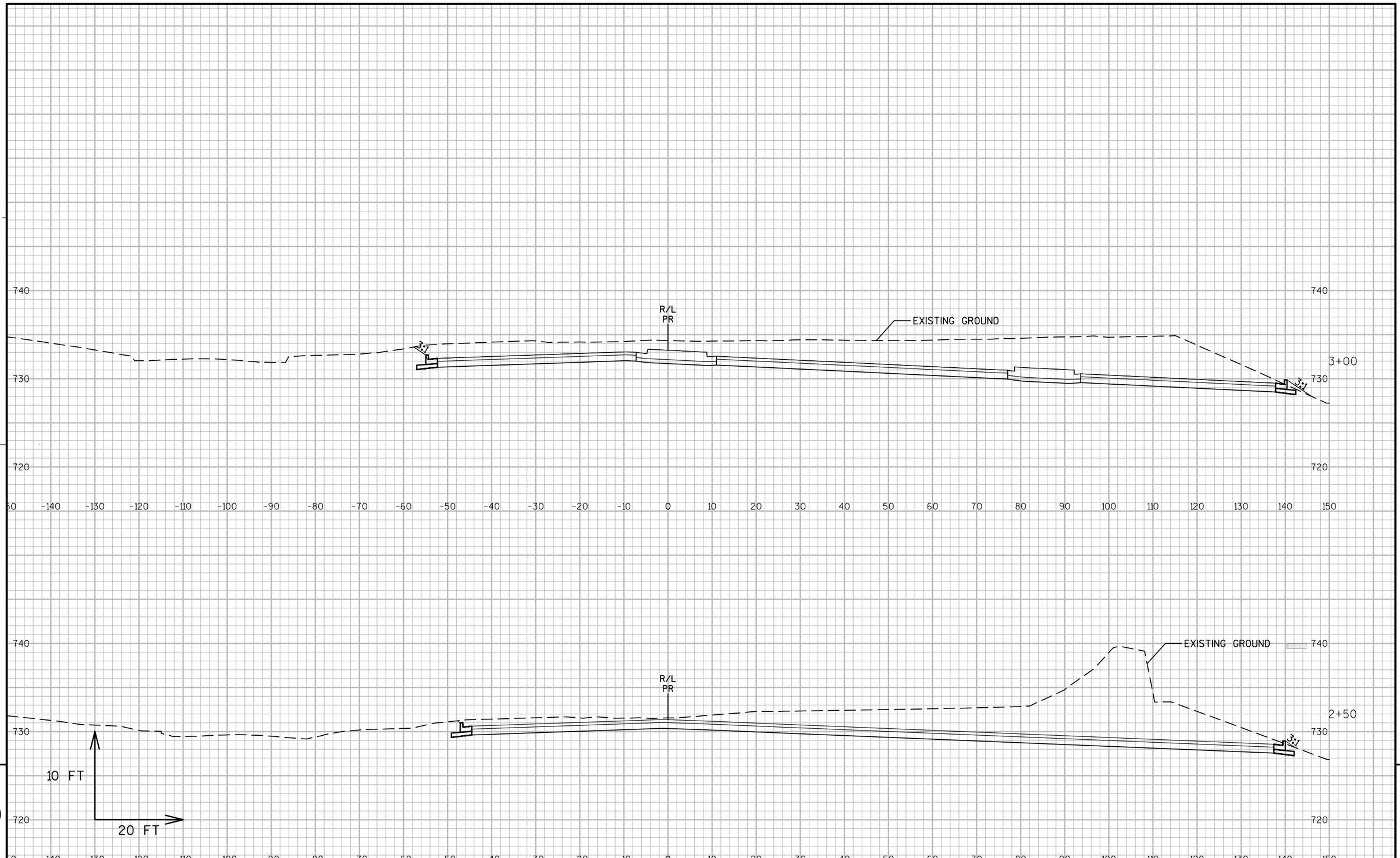

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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: PARK & RIDE | SHEET 279 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090202_XS.DWG PLOT DATE : 9/17/2014 3:11 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF

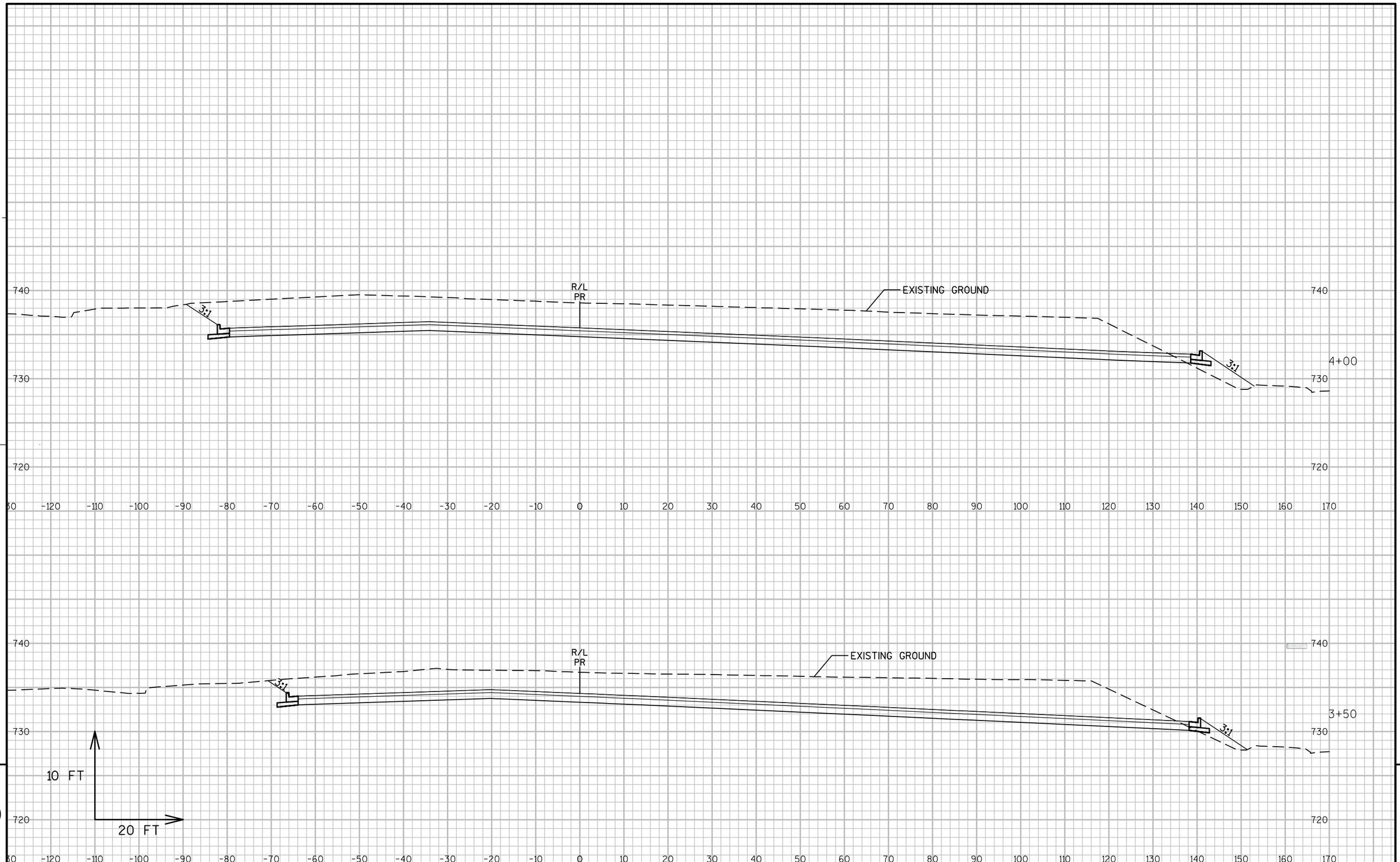
WISDOT/CADDS SHEET 49




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: PARK & RIDE | SHEET 280 E |
|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090202_XS.DWG PLOT DATE : 9/17/2014 3:12 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

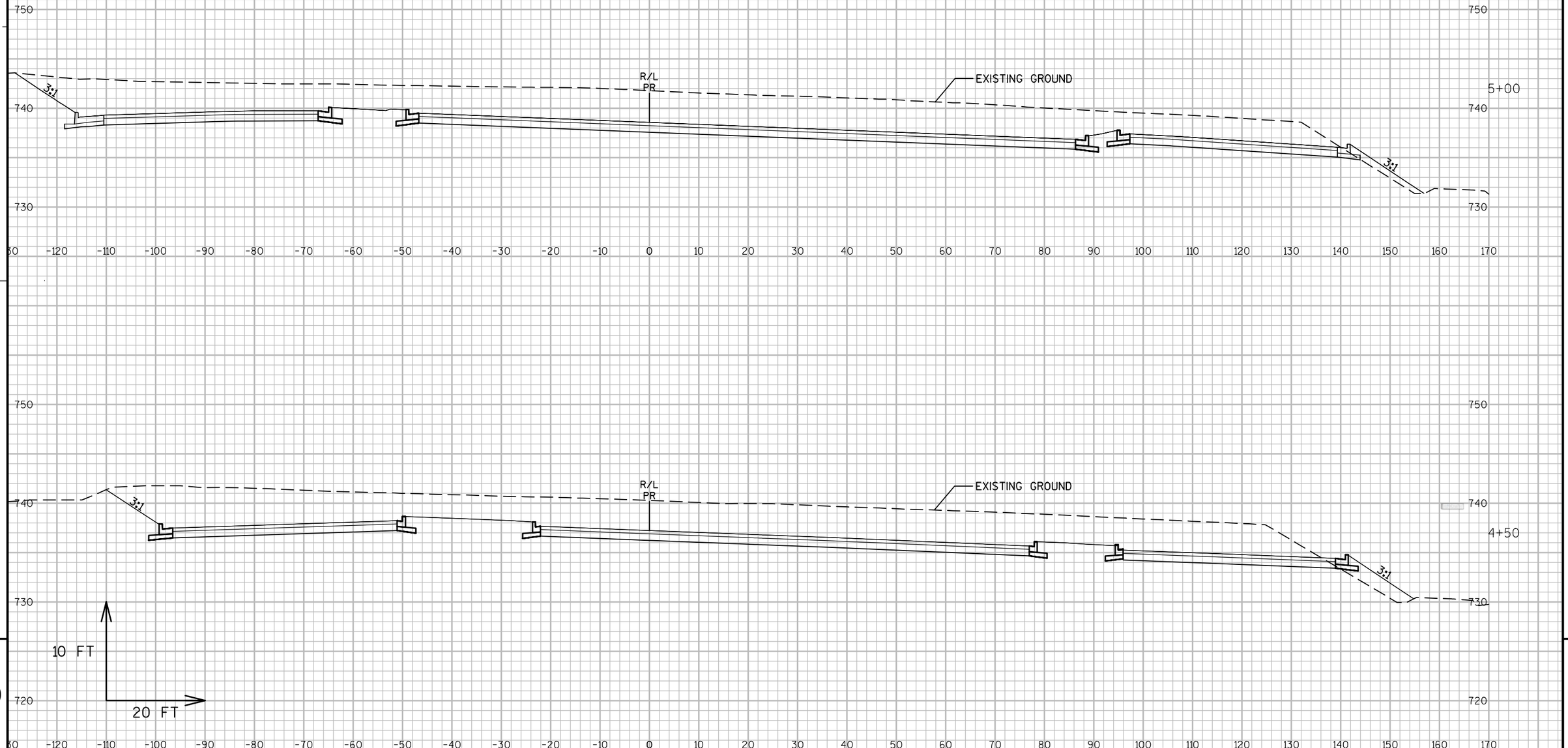



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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: PARK & RIDE | SHEET 281 E |
|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090202_XS.DWG PLOT DATE : 10/2/2014 3:06 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF



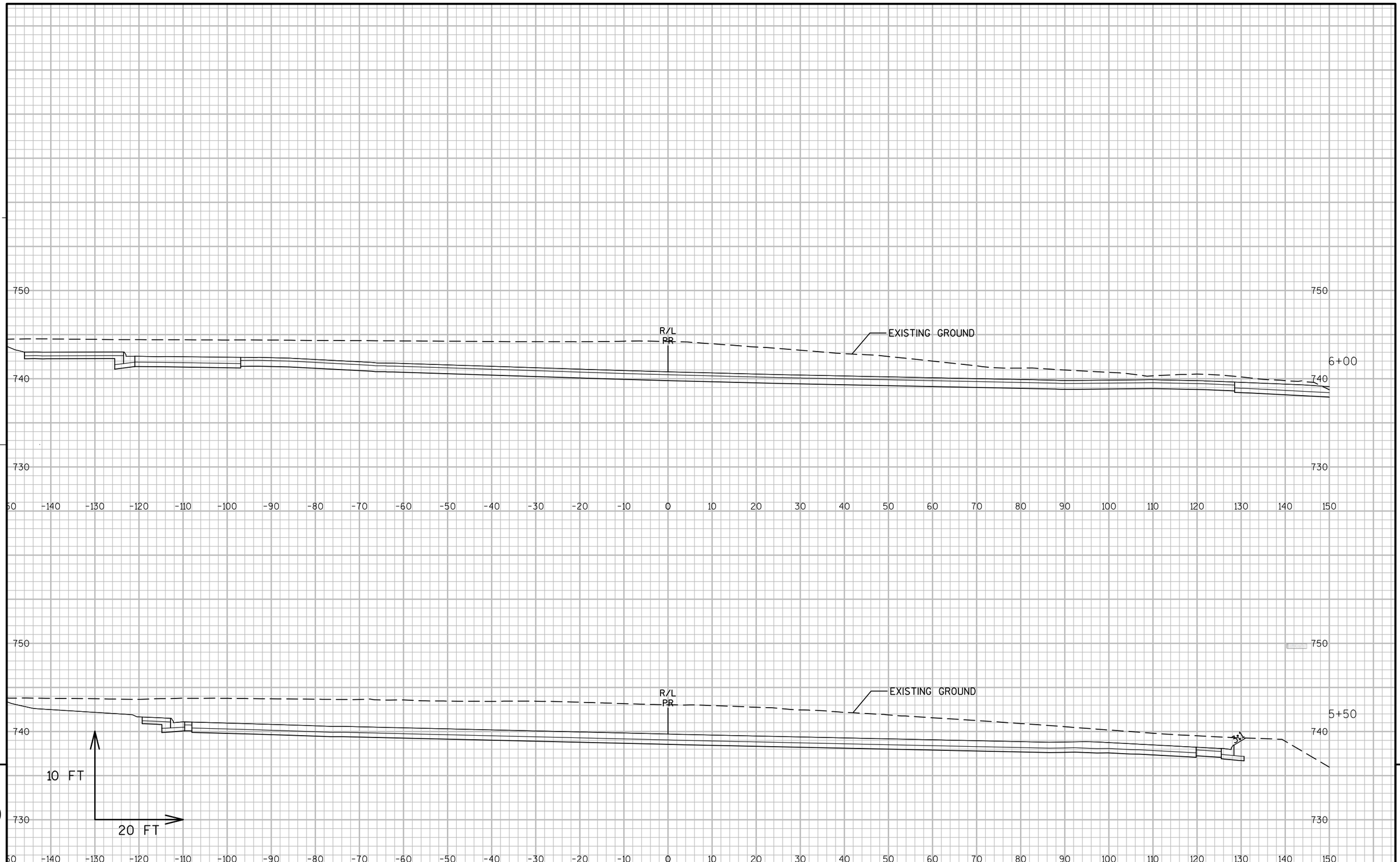

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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: PARK & RIDE | SHEET 282 E |
|---|---|---|---|---|

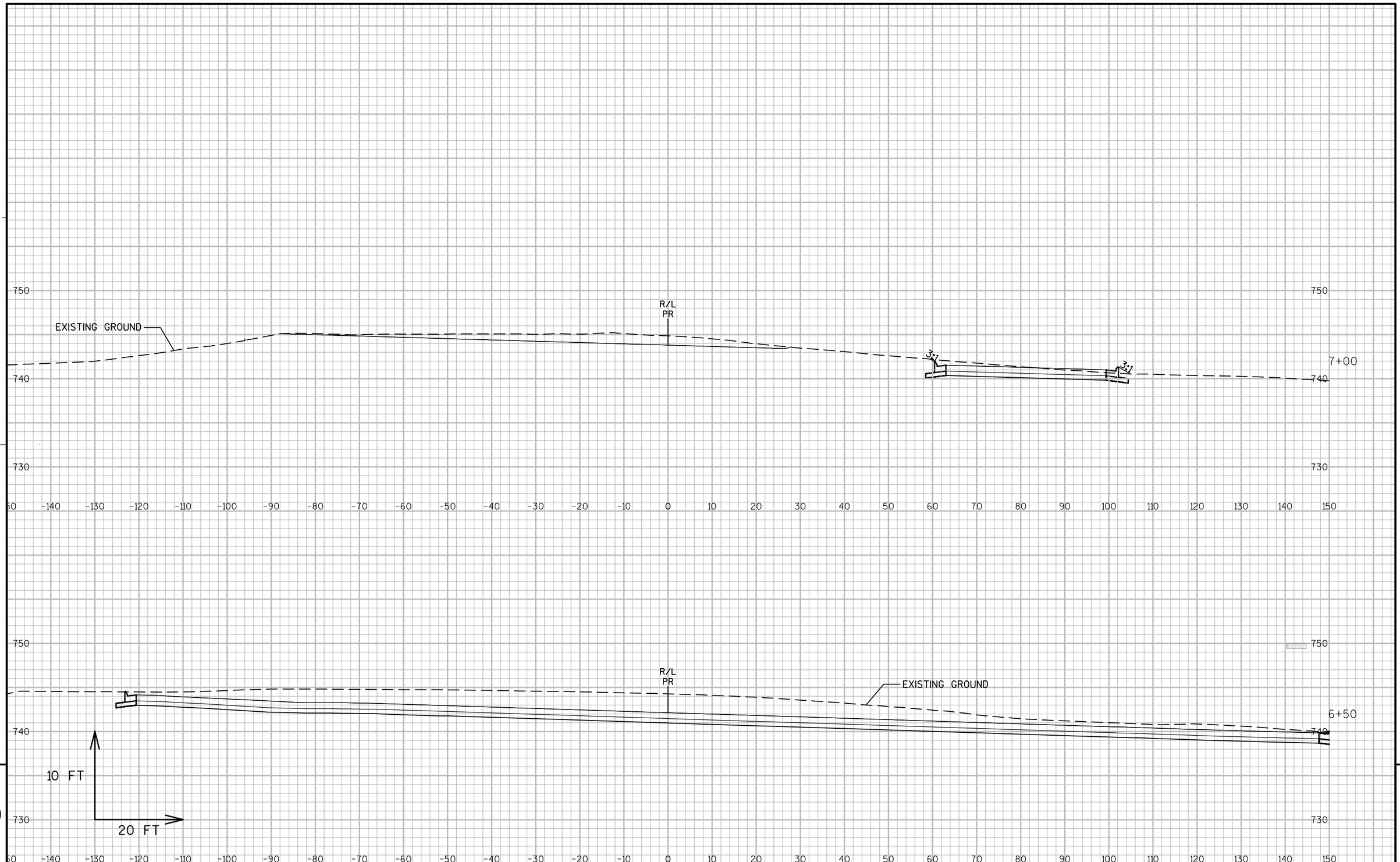
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WISDOT/CADDS SHEET 49




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: PARK & RIDE | SHEET 283 E |
|---|---|---|---|---|

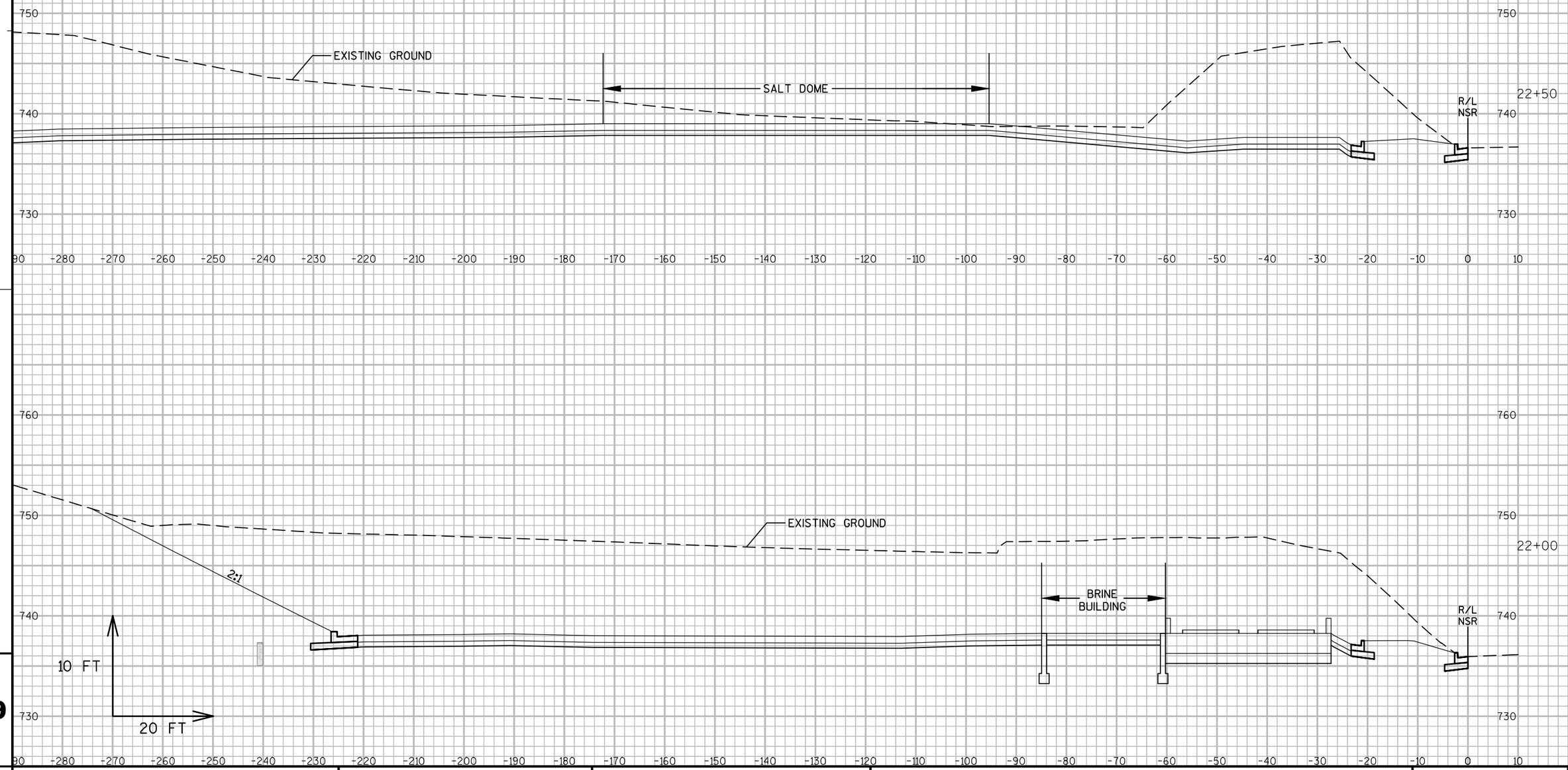
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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: PARK & RIDE | SHEET 284 E |
|---|---|---|---|---|



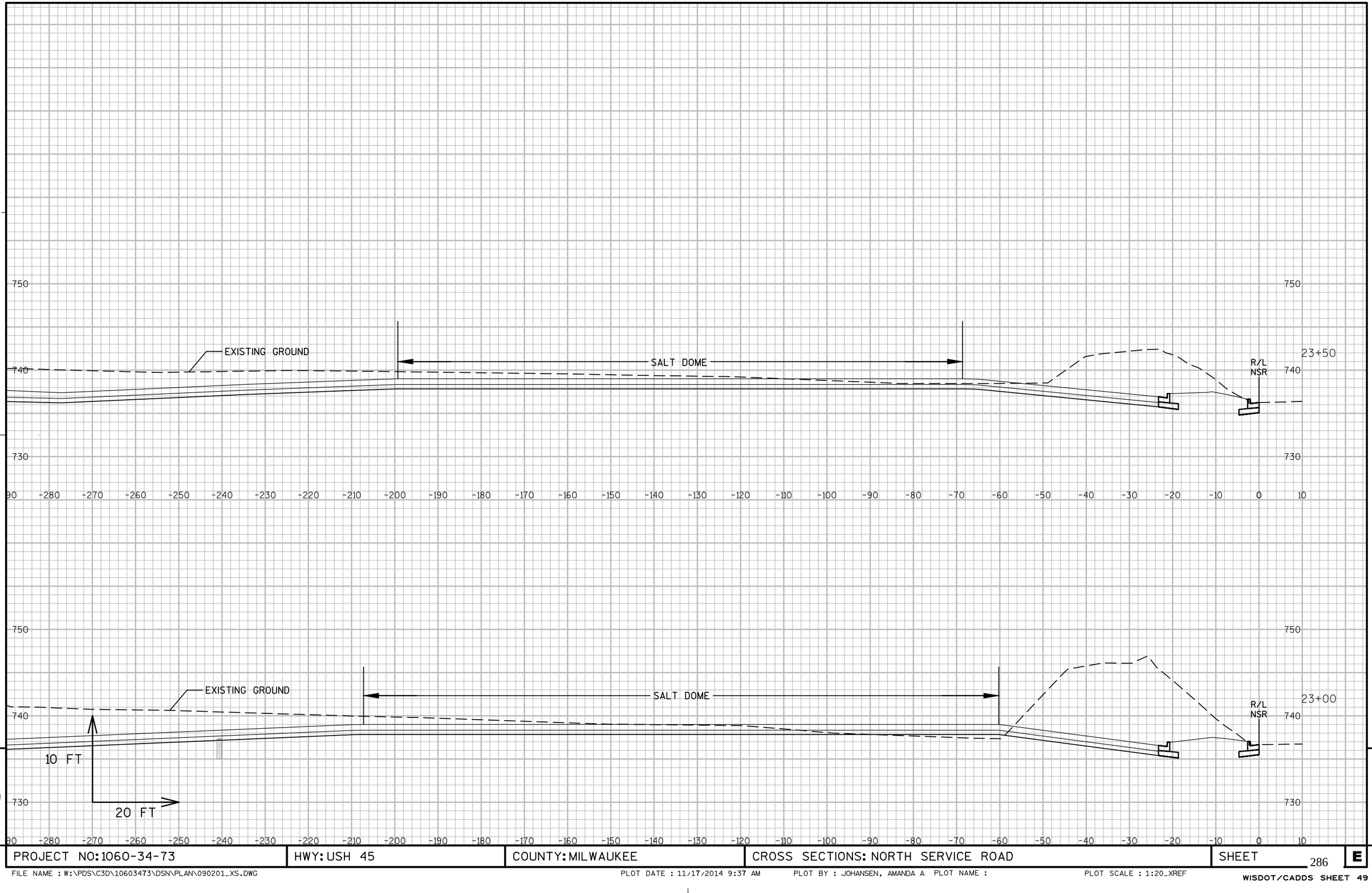

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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: NORTH SERVICE ROAD | SHEET 285 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090201_XS.DWG PLOT DATE : 11/17/2014 9:36 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



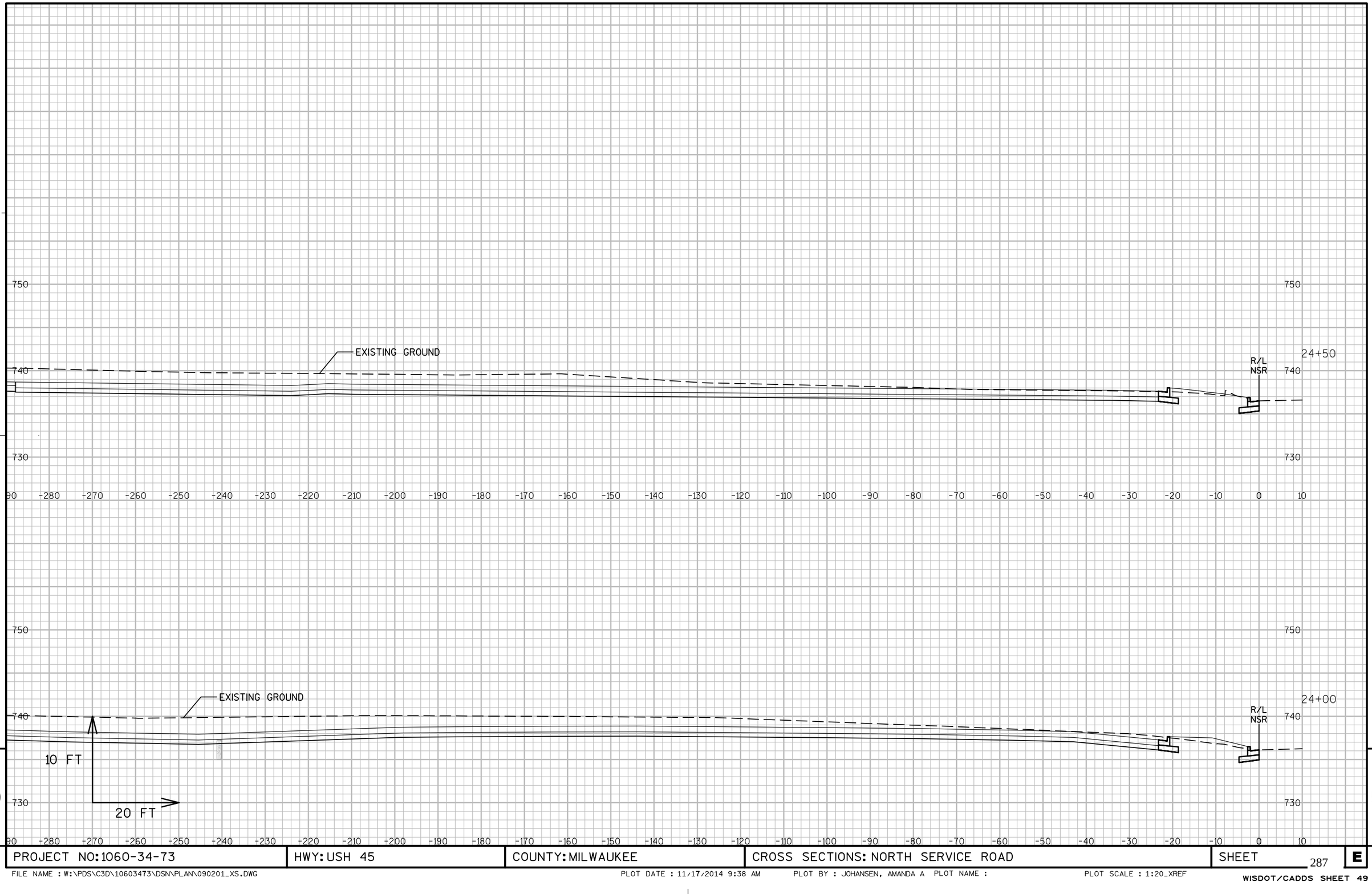

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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: NORTH SERVICE ROAD | SHEET 286 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090201_XS.DWG PLOT DATE : 11/17/2014 9:37 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



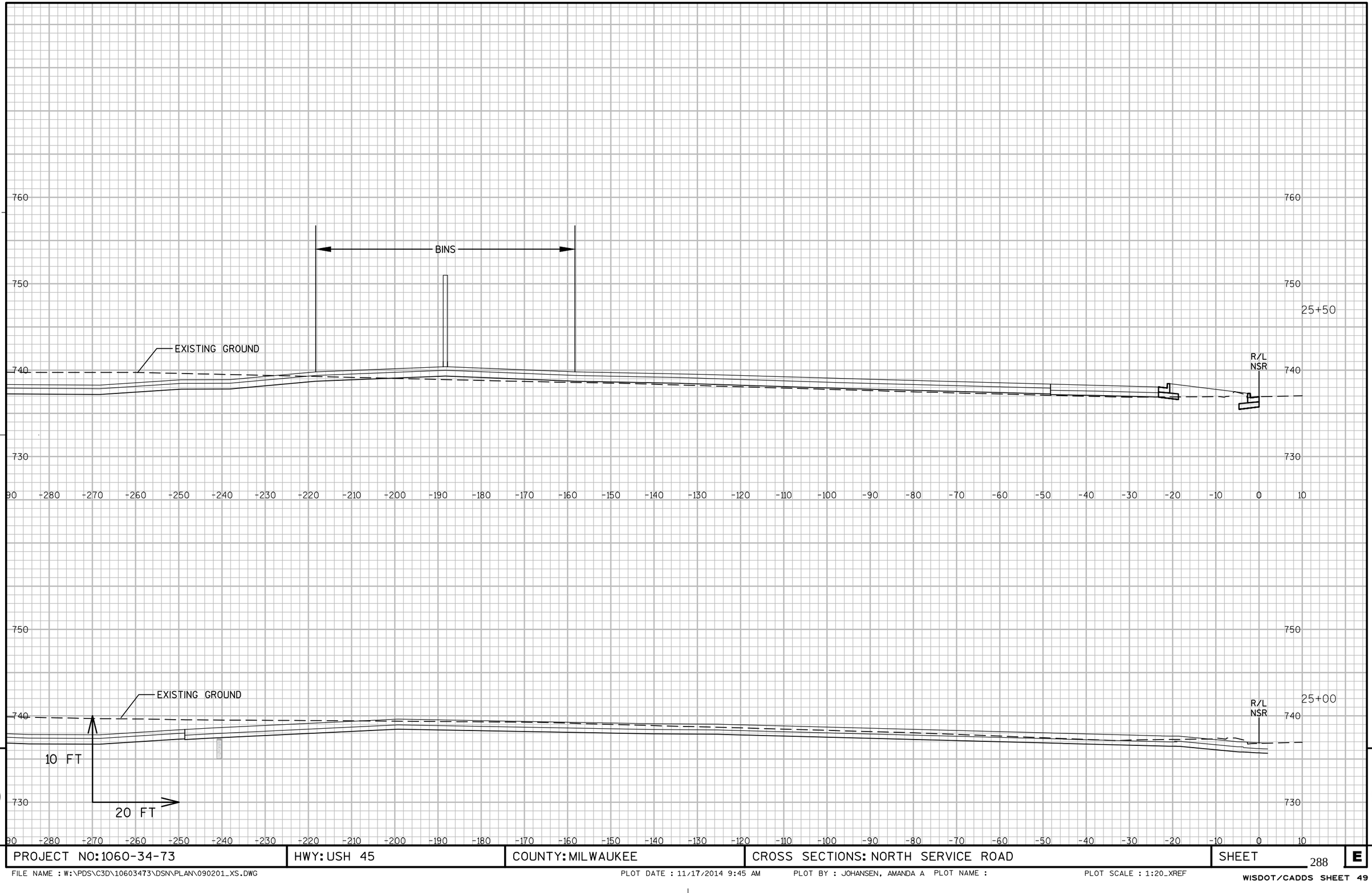

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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: NORTH SERVICE ROAD | SHEET 287 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090201_XS.DWG PLOT DATE : 11/17/2014 9:38 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF

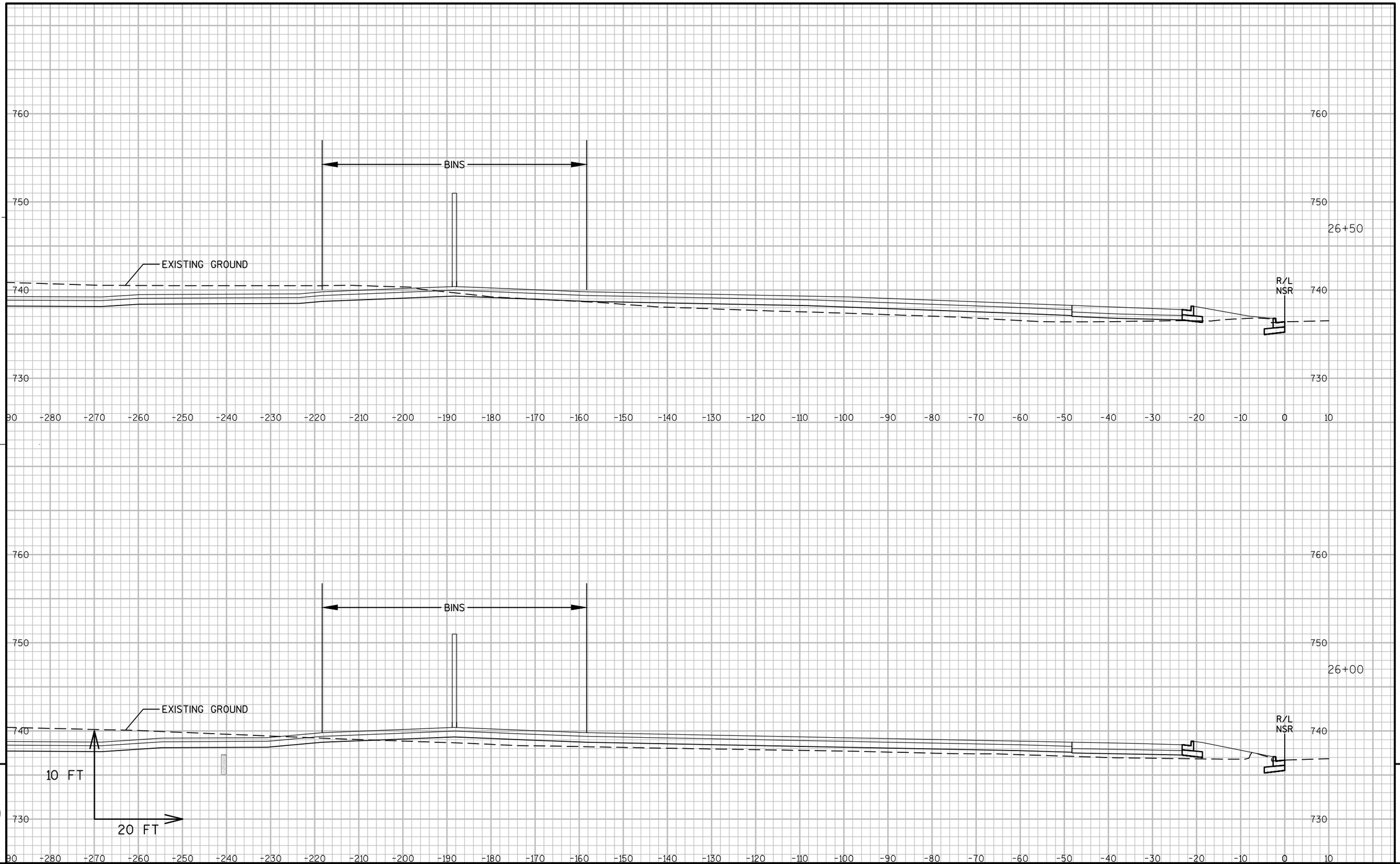
WISDOT/CADDS SHEET 49



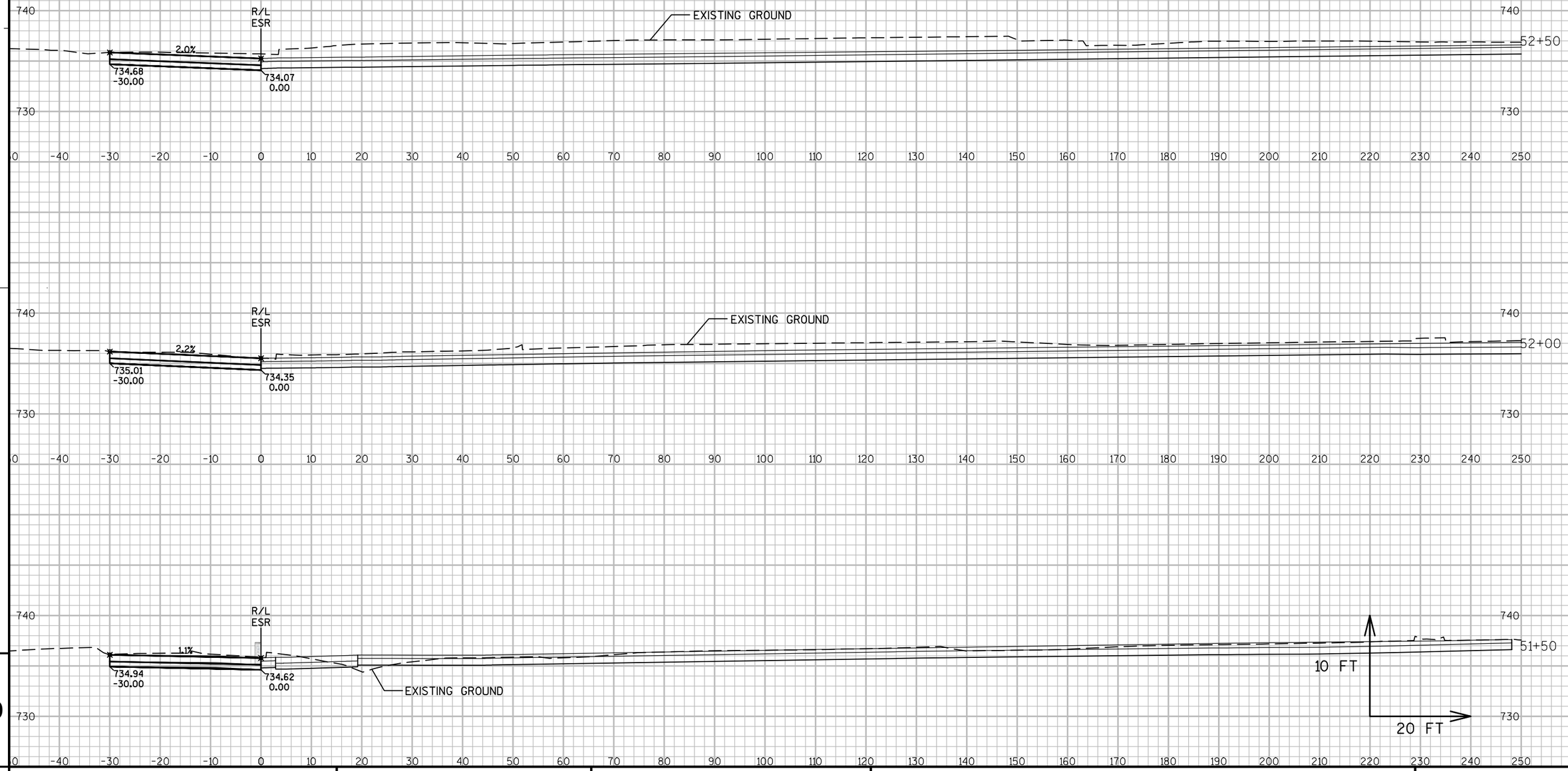

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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: NORTH SERVICE ROAD | SHEET 288 | E |
|---|---|---|---|---|---|



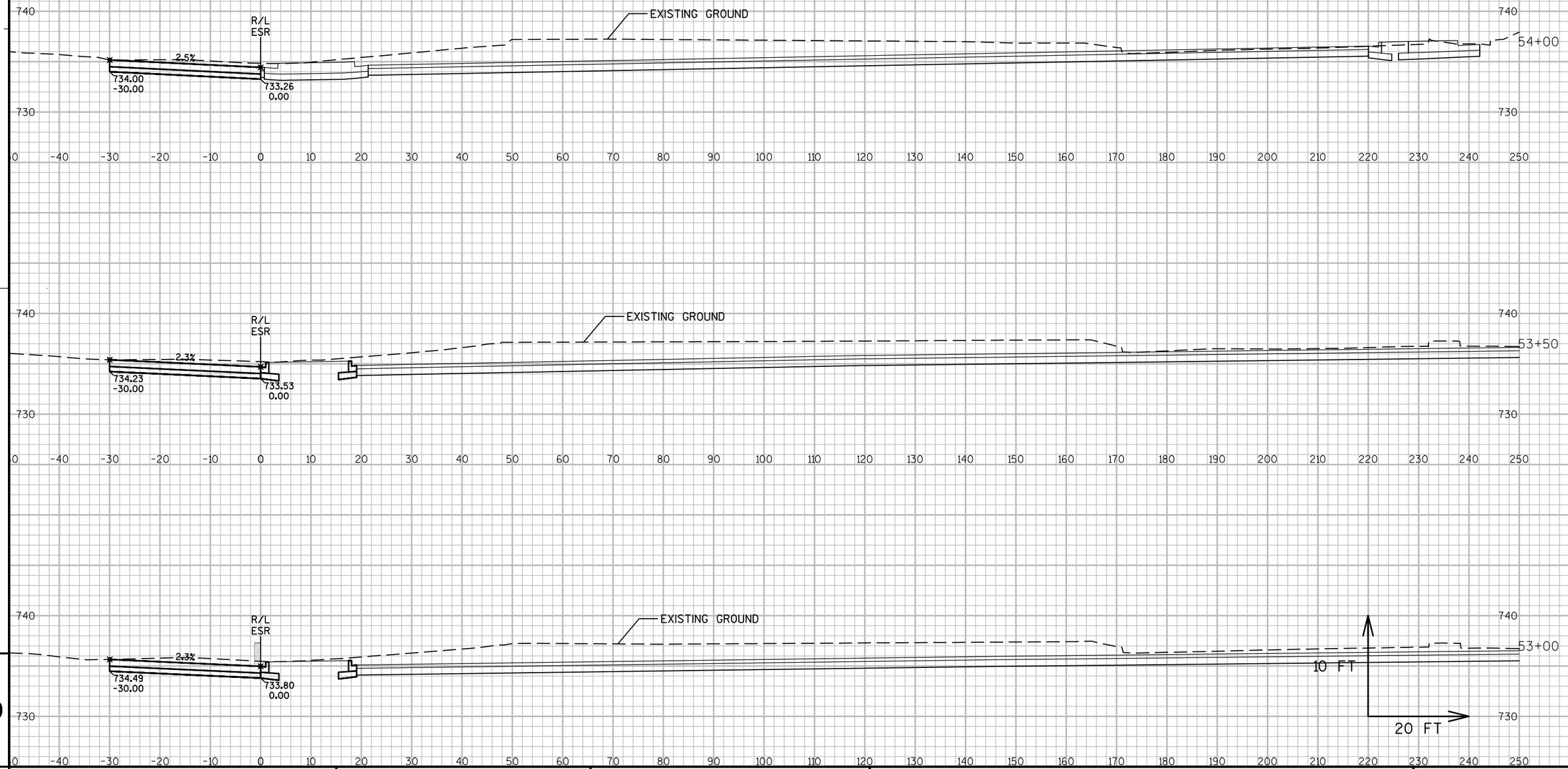

| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: NORTH SERVICE ROAD | SHEET 289 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: EAST SERVICE ROAD | SHEET 290 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090201_XS.DWG PLOT DATE : 10/3/2014 7:23 AM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

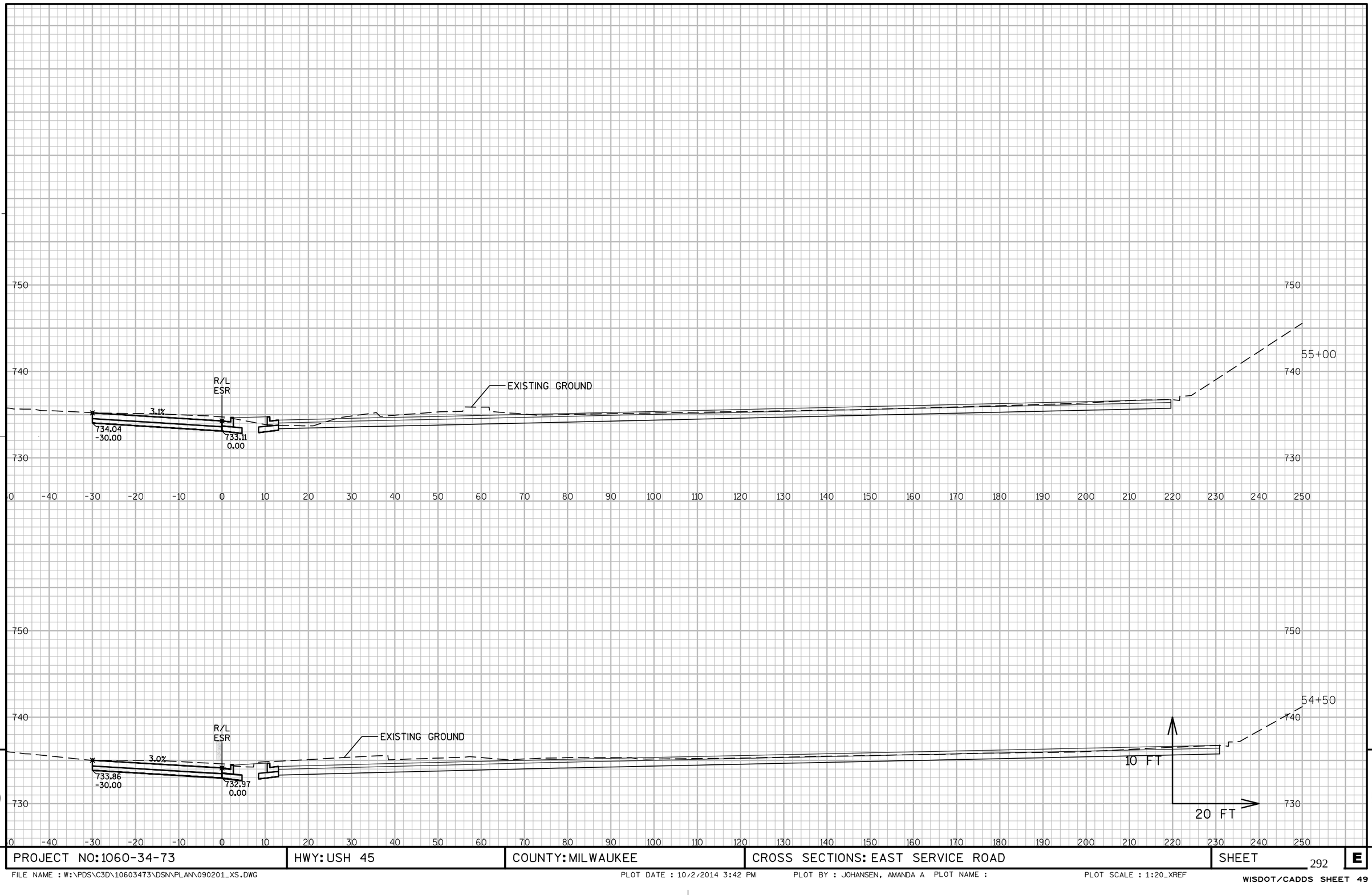



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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: EAST SERVICE ROAD | SHEET 291 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090201_XS.DWG PLOT DATE : 9/17/2014 3:49 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF



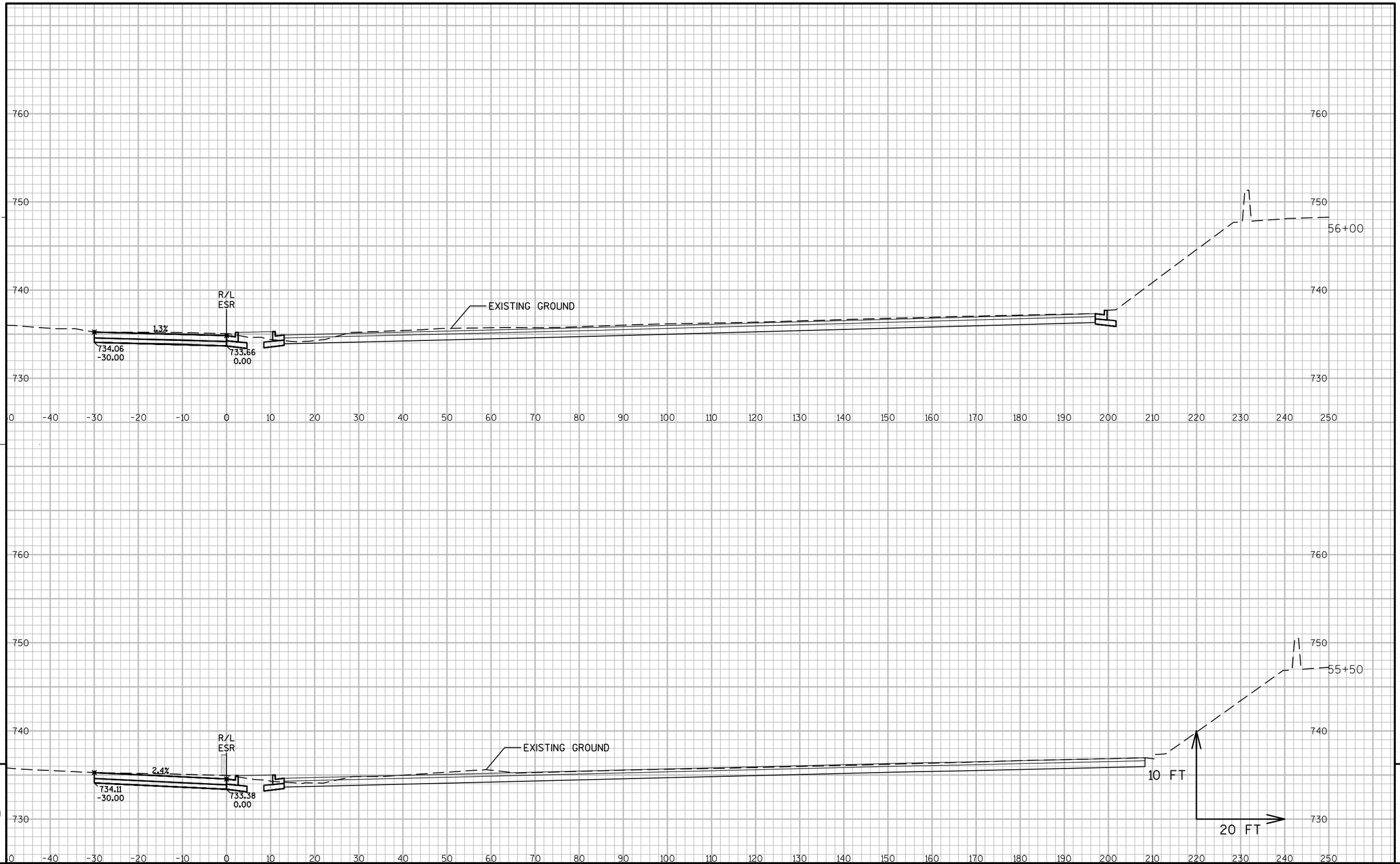

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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: EAST SERVICE ROAD | SHEET 292 | E |
|---|---|---|---|---|---|

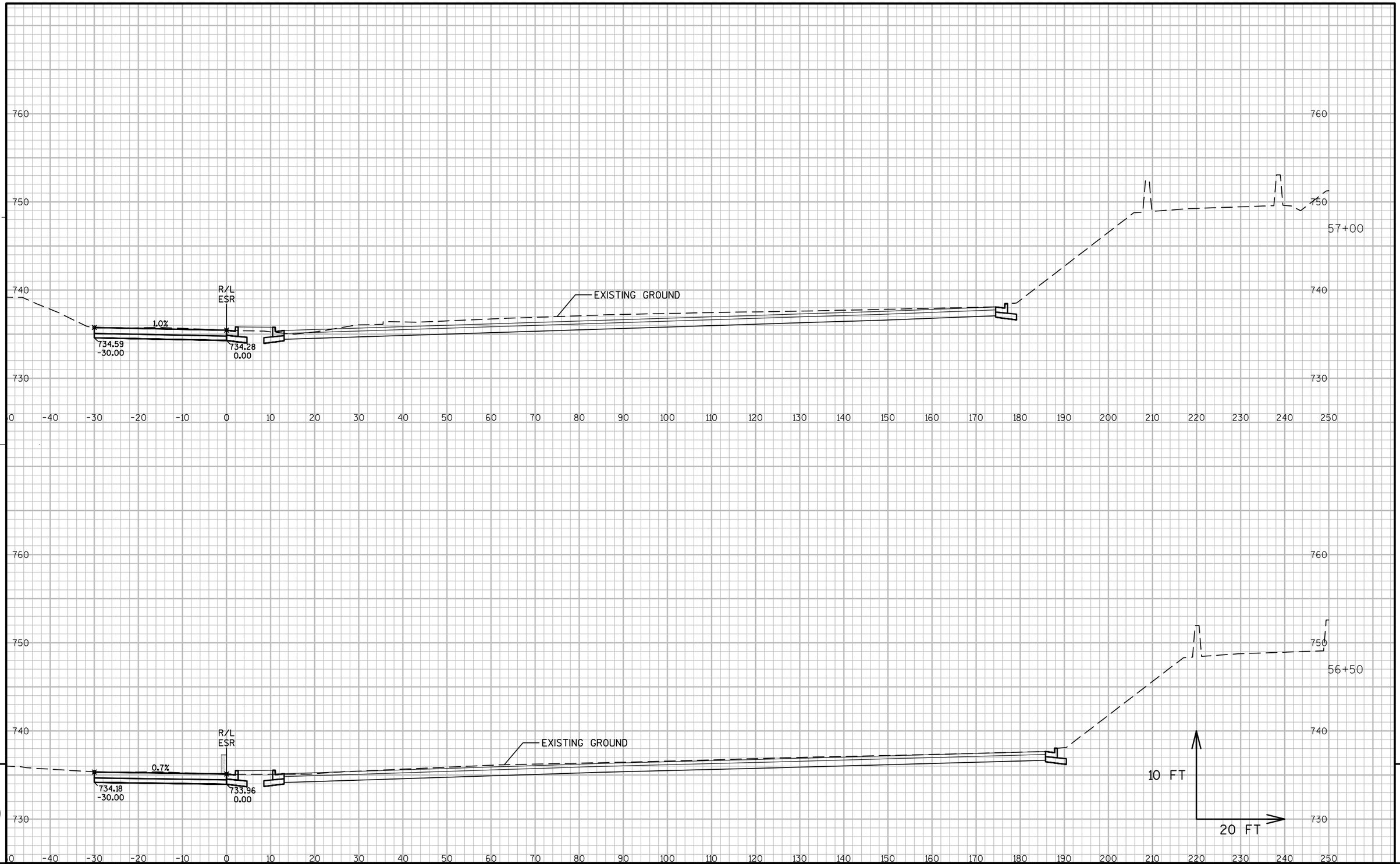
FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090201_XS.DWG PLOT DATE : 10/2/2014 3:42 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49




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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: EAST SERVICE ROAD | SHEET 293 | E |
|---|---|---|---|---|---|




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| PROJECT NO: 1060-34-73 | HWY: USH 45 | COUNTY: MILWAUKEE | CROSS SECTIONS: EAST SERVICE ROAD | SHEET 294 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\10603473\DSN\PLAN\090201_XS.DWG PLOT DATE : 10/2/2014 3:51 PM PLOT BY : JOHANSEN, AMANDA A PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

Notes

**Wisconsin Department of Transportation**

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov