

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERING DIVISION STANDARD SPECIFICATIONS FOR PAVING AND RELATED CONSTRUCTION (MARCH 2009).

**CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS**

**RIOPELLE STREETSCAPE  
I-75 SERVICE DRIVE TO DIVISION STREET**



THESE PLANS WERE PREPARED BY

*Scott J. Emmons* 4/24/19  
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APPROVALS

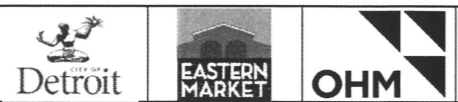
RECOMMENDED FOR APPROVAL BY:

RICHARD DOHERTY, P.E. - CITY ENGINEER

**CITY OF DETROIT**

MILES: 0.15  
CONTRACT FOR:  
STREETSCAPE IMPROVEMENTS. INCLUDES SIDEWALK CONSTRUCTION, HMA PAVING,  
STORM SEWER, LANDSCAPING, SIGNING AND PAVEMENT MARKINGS, LIGHTING,  
AND MAINTAINING TRAFFIC.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



**NO SCALE**

DATE: 04/23/19	JN: PW-7008 RIOPELLE
FILE: Title.dgn	

TITLE SHEET		DRAWING	SHEET
RIOPELLE STREETSCAPE		RIO	SECT 1
		TITLE	
		001	1

**PUBLIC UTILITIES**

The existing utilities listed below and shown on these plans represent the best information available as obtained on our surveys. This information does not relieve the contractor of the responsibility to be satisfied as to it's accuracy and the location of existing utilities.

<u>Name Of Owner</u>	<u>Type Of Utility</u>
City of Detroit Public Lighting Authority 65 Cadillac Square Suite 3100 Detroit, MI 48226 (313) 324-8290, ext. 216 Mohamed Abbas abbasm@detroitmi.gov	Street Lighting and Traffic Signals
City of Detroit Detroit Water & Sewerage Department Contract Services Facility 6425 Huber Detroit, MI 48211 General: (313) 267-4863 Fax: (313) 842-6480	Water Mains & Sewers
City of Detroit Traffic Engineering, D.P.W. 2633 Michigan Avenue Detroit, MI 48207 General: (313) 224-1610 Fax: (313)224-1304 Prasad Nannapaneni (313) 628-5603 prasadn@detroitmi.gov Sunny Jacobs (313) 628-5604 sunjac@detroitmi.gov Jubi Chackunkal (313) 224-1315 JubCha@detroitmi.gov	Pavement Marking Signs & Traffic Signals
Sign Shop 2425 Fenkell Detroit, MI 48238 Willie Riley (313) 628-2923 Fax (313) 628-4966	Sign Removals & Installation
City of Detroit Detroit Fire Department 1301 3rd Street Detroit, MI 48226 General: (313) 596-2900 Fax: (313) 224-4128 communityrelations@detroitmi.gov	KNOX Boxes & Fire Hydrants
City of Detroit Detroit Police Department 1301 3rd Street Detroit, MI 48226 General: (313) 596-2200 Fax: (313)596-1450 publicinfo@detroitmi.gov	Police Call Boxes
DTE One Energy Plaza Detroit, MI 48226 Gas Leak 1-800-947-5000 Electrical 1-800-477-4747	Electric & Gas

**PUBLIC UTILITIES CONT.**

<u>Name Of Owner</u>	<u>Type Of Utility</u>
AT&T 17651 Michigan Ave, Dearborn, MI 48126 Joe Raczak Legal Mandate Engineer (313) 240-5314 JR1983@att.com or Mark Braham OSP Engineer - Metro South (313) 240-5390 MB6352@att.com	Telephone For adjusting Frames & Covers
Comcast Attention: Craig Pudas 25626 Telegraph Southfield, MI 48034 Phone: (419) 874-9262 ext. 144 Email: Craig_Pudas@cable.comcast.net	Fiber Optic
Detroit Thermal LLC 3575 E Palmer St Detroit, MI 48201 Ed LaRosa (313) 921-1922 Fax (313) 921-1972	Steam Lines

**NOTES APPLYING TO STANDARD PLANS**

Where the following items are called for on plans, they are to be constructed according to the standard plan given below opposite each item unless otherwise indicated.

Title	Plan No.
<b>ROAD</b>	
DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALK	R-29-I
CONCRETE PAVEMENT REPAIR	R-44-F
GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS	R-80-E
UTILITY TRENCHES	R-83-C
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E
SEEDING AND TREE PLANTING	R-100-H
GRADING CROSS-SECTIONS	R-105-D
SUPERELEVATION AND PAVEMENT CROWNS	R-107-H
<b>PAVEMENT MARKINGS</b>	
LONGITUDINAL LINE TYPES AND PLACEMENT	PAVE-905-D
INTERSECTION, STOP BAR AND CROSSWALK MARKINGS	PAVE-945-C
ON-STREET PARKING ZONE MARKINGS	PAVE-955-B
PARKING AREA PAVEMENT MARKINGS	PAVE-956-C
<b>SIGNING</b>	
STANDARD SIGN INSTALLATIONS	SIGN-100-G
SIGN SUPPORT SELECTION CHARTS	SIGN-150-D
STEEL POSTS	SIGN-200-D
MISCELLANEOUS SIGN CONNECTION DETAILS	SIGN-740-B



\* Denotes Special Detail

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**FUNDING CATEGORIES**

**Project Description**  
Category 0001 = Local Municipality

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )										 	NO SCALE	DATE: 04/23/19	CS:	<b>PROJECT INFORMATION SHEET</b> RIOPELLE STREETScape DRAWING SHEET RIO PROJ 001 SECT 1 2
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### SURVEY

#### GENERAL

- △ CP ALIGNMENT POINT MONUMENT
- ⊗ MONUMENT BOX

#### CONTROL

- △ CP CONTROL POINT
- BM BENCHMARK
- △ REFERENCE - GPS
- △ REFERENCE - NGS
- + REFERENCE - USGS

### BOUNDARY

- CITY LIMIT - MAP
- CITY LIMIT
- PARCEL - LEGAL
- PARCEL - NON-LEGAL
- PLAT - LEGAL
- PLAT - NON-LEGAL
- ROW - FREE ACCESS
- ROW - LIMITED ACCESS
- SECTION LINE
- SECTION LINE - QUARTER
- SECTION LINE - EIGHTH
- SECTION LINE - SIXTEENTH
- TOWNSHIP LINE (MAP)
- CONCRETE MONUMENT
- CONTIGUOUS PROPERTY SYMBOL
- PARCEL CORNER - CAPPED IRON
- PARCEL CORNER - IRON PIN
- PARCEL CORNER - IRON PIPE
- PARCEL CORNER - NO ID
- 123456 PARCEL NUMBER BOX
- PLAT CORNER
- PROPERTY OWNERSHIP ARROW
- PROPERTY OWNERSHIP ARROW - DOUBLE
- ROW MONUMENT
- SECTION CORNER - CENTER
- SECTION CORNER - MEANDER
- SECTION CORNER - QUARTER
- SECTION CORNER - QUARTER-HALF
- SECTION CORNER - SECTION
- SECTION CORNER - SECTION-HALF
- SECTION CORNER - SIXTEENTH
- SECTION CORNER - WITNESS

### MONUMENT PRESERVATION

- PRESERVE MONUMENT
- PROTECT MONUMENT

### GENERAL LABELING

#### GENERAL

- ← LEFT TURN ARROW
- TRAFFIC FLOW ARROW

#### REMOVAL

- (A) ABANDON
- (B) BULKHEAD
- (C) CLEARING
- (R) REMOVE
- (SALV) SALVAGE
- (S) SAVE

#### CONSTRUCTION

- (ADJ) ADJUST
- (ADJ-B) ADJUST - STRUC COVER WITH TYPE
- (ADJ-B/O) ADJUST - BY OTHERS

#### REMOVAL AND CONSTRUCTION

- (REL-1) RELOCATE - WITH CASE NUMBER
- (REL-B/O) RELOCATE - BY OTHERS

### CONSTRUCTION LIMITS

- SLOPE STAKE LINE

### BORINGS

- ⊗ BH# BORING

### STRUCTURES

- BEAM UNDERCLEARANCE
- REFERENCE POINT
- S01 OF 12345 STRUCTURE NO. + CONTROL SEC. LABEL

### VEGETATION

- BRUSH LINE
- HEDGE LINE
- TREE LINE - CANOPY OR TRUNK
- TREE LINE - TRUNK
- TRUNK LINE
- SHRUB
- TREE - CONIFER
- TREE - DECIDUOUS
- TREE - STUMP

### ENVIRONMENTAL

- EROSION CONTROL - SILT FENCE
- WETLAND - LEGAL
- WETLAND - NON-LEGAL
- CONTAMINATION - MONITORING WELL
- EROSION CONTROL NUMBER
- EROSION CONTROL - RIPRAP
- W.T. 12' WATER TABLE - PLAN NOTE
- WETLAND - SPOT EL
- POTENTIALLY CONTAMINATED SITE

### ROADSIDE / SITE

- ANTENNA
- BIG ROCK
- FLAG POLE
- PICNIC STOVE
- PICNIC TABLE
- SATELLITE DISH

### NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.  
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

### RAILROAD

- TRACK
- CROSSING - GATE
- CROSSING - SIGNAL BOX
- CROSSING - SIGNAL FLASHING
- CROSSING - SYMBOL

### SIGNS

- POST - DOUBLE
- POST - SINGLE
- STRUCTURE - CANTILEVER (EXISTING)
- STRUCTURE - CANTILEVER
- STRUCTURE - TRUSS (EXISTING)
- STRUCTURE - TRUSS
- SUSPENDED (EXISTING)

### MAINTAINING TRAFFIC

- TYPE III BARRICADE
- CHANNELIZING DEVICE - CONE
- CHANNELIZING DEVICE - DRUM
- LIGHT - HIGH INTENSITY TYPE B
- LIGHT - STEADY BURN TYPE C
- LIGHTED ARROW PANEL - BAR
- LIGHTED ARROW PANEL
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC REGULATOR
- TEMPORARY SIGN
- TEMPORARY TRAFFIC SIGNAL

- WORK AREA

### BARRIERS

- CABLE BARRIER - NOT TO SCALE
- CABLE BARRIER - TRUE SCALE
- CONCRETE BARRIER - DOUBLE FACE
- CONCRETE BARRIER - SINGLE FACE
- FENCE
- GUARDRAIL - NOT TO SCALE
- GUARDRAIL - TRUE SCALE
- NOISE BARRIER
- FENCE POST
- GUARDRAIL RUN NUMBER
- IMPACT ATTENUATOR
- POST - MAILBOX
- POST - NO ID

### SURFACING

#### REMOVAL

- CONCRETE RUBBLIZING OR HMA CRUSH & SHAPE
- HMA COLD MILLING
- PAVT, REM, MODIFIED
- PAVT FOR BUTT JOINTS, REM

#### PROPOSED

- VALLEY GUTTER
- EXPOSED AGGREGATE SIDEWALK
- HMA APPROACH
- MISCELLANEOUS CONCRETE

#### SIDEWALK

- SIDEWALK - REMOVAL
- SIDEWALK - CONCRETE RAMP
- SIDEWALK - DETECT. WARNING SURF.
- SIDEWALK - LANDING
- SIDEWALK - RAMP LABEL

### TYPICAL SECTION

- CONCRETE - PROPOSED
- HMA - PROPOSED
- AGGREGATE - PROPOSED
- CL II FILL - PROPOSED

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

FILE: LEGEND001.dgn

DATE: 04/23/19






JN: PW-7008 RIOPELLE

LEGEND SHEET  
RIOPELLE STREETSCAPE

DRAWING SHEET  
RIO LEGEND 001  
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









## ELECTRICAL



-  CONTROLLER CABINET - PAD MOUNTED
-  HANDHOLE
-  MANHOLE
- POLE UTILITY - EXISTING
- POLE UTILITY
-  TRANSFORMER - PAD MOUNTED
-  TRANSFORMER - POLE MOUNTED

- CABLE
- CABLE - TO BE REMOVED
- CABLE OVERHEAD
- CABLE OVERHEAD - TO BE REMOVED
- CABLE IN CONDUIT
- CABLE IN CONDUIT - TO BE REMOVED
- ▬▬▬▬ CABLE IN CONDUIT - DIRECTIONAL BORE



















## ARCHITECTURAL




































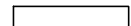


-  EXIT SIGN WITH EMERGENCY LIGHT
-  LIGHT RECESSED FIXTURE
-  MOTOR
-  OUTLET BOX
-  OUTLET SINGLE
- △ OUTLET TELEPHONE
-  SERVICE DISCONNECT
-  SERVICE METER
- \$ SWITCH
- \$₳ SWITCH THREE WAY
-  WALL BRACKET FIXTURE

## LIGHTING





-  CONTROL PANEL - EXISTING
-  CONTROL PANEL
- \* R&S LIGHT STANDARD EXISTING - TO BE REMOVED & SALVAGED
- \*○\* LIGHT STANDARD DOUBLE ARM - EXISTING
- \*●\* LIGHT STANDARD DOUBLE ARM
- \* LIGHT STANDARD POST TOP - EXISTING
- \* LIGHT STANDARD POST TOP
- \*○ LIGHT STANDARD SINGLE ARM - EXISTING
- \*● LIGHT STANDARD SINGLE ARM
- LIGHT POLE - TEMPORARY
- LUMINAIRE WALL MOUNTED UNDERBRIDGE - EXISTING
- LUMINAIRE WALL MOUNTED UNDERBRIDGE
- <sub>T</sub> TOWER LIGHTING UNIT - EXISTING
- ⊕<sub>T</sub> TOWER LIGHTING UNIT
- LIGHT STANDARD SINGLE ARM
- ☀ LIGHT STANDARD POST

## ITS / SIGNALS

-  DYNAMIC MESSAGE SIGN - EXISTING
-  DYNAMIC MESSAGE SIGN
-  ENVIRONMENTAL SENSOR STATION SITE
-  FIBER OPTIC SPLICE CABINET
-  HANDHOLE, ROUND, 3 FOOT DIAMETER
-  HANDHOLE, ROUND, COMMUNICATIONS
-  HANDHOLE, ROUND, ELECTRIC
-  HANDHOLE, TYPE D
-  ITS CABINET - EXISTING
-  ITS CABINET
-  MICROWAVE VEHICLE DETECTION SYSTEM - EXISTING
-  MICROWAVE VEHICLE DETECTION SYSTEM
-  MICROWAVE VEHICLE DETECTION SYSTEM ZONE COVERAGE - EXISTING
-  MICROWAVE VEHICLE DETECTION SYSTEM ZONE COVERAGE
- ◎ SPUN CONCRETE POLE - EXISTING
- SPUN CONCRETE POLE
-  SURVEILLANCE SYSTEM - EXISTING
-  SURVEILLANCE SYSTEM
-  WIRELESS LINK - EXISTING
-  WIRELESS LINK
- COMMUNICATIONS CABLE IN CONDUIT
- COMMUNICATIONS CABLE IN CONDUIT - TO BE REMOVED

-  ANTENNA
-  CASE SIGN (1-WAY OR 2-WAY)
-  CASE SIGN (4-WAY)
-  DEDICATED SHORT RANGE COMMUNICATIONS
-  CONTROLLER CABINET - POLE MOUNTED
-  CONTROL EMERGENCY PREEMPTION OPTICOM
-  DILEMMA ZONE DETECTION
-  GLOBAL POSITIONING SYSTEM MODULE
-  GUY ANCHOR
-  PEDESTRIAN PEDESTAL
-  PEDESTRIAN PUSHBUTTON
- POLE MAST ARM (LENGTH VARIES) - EXISTING
- POLE MAST ARM (LENGTH VARIES)
- ⊕ POLE STRAIN
-  ROAD SIGN W/ FLASHING SIGN OPTICAL (1-WAY)
-  SIGNAL HANDHOLE - POLYMER CONCRETE
-  SIGNAL HANDHOLE - 2 FOOT ROUND
-  SIGNAL HANDHOLE - 3 FOOT ROUND
-  SIGNAL HANDHOLE - 2 FOOT SQUARE
-  SIGNAL HANDHOLE - 4 FOOT SQUARE
-  SIGNAL HEAD PEDESTRIAN - EXISTING
-  SIGNAL HEAD PEDESTRIAN 1-WAY
-  SIGNAL HEAD PEDESTRIAN 2-WAY
-  SIGNAL HEAD VEHICLE 1-WAY - EXISTING
-  SIGNAL HEAD VEHICLE 2-WAY - EXISTING
-  SIGNAL HEAD VEHICLE 3-WAY - EXISTING
-  SIGNAL HEAD VEHICLE 4-WAY - EXISTING
-  SIGNAL HEAD VEHICLE 1-WAY
-  SIGNAL HEAD VEHICLE 2-WAY
-  SIGNAL HEAD VEHICLE 3-WAY
-  SIGNAL HEAD VEHICLE 4-WAY
-  SIGNAL HEAD VEHICLE BAGGED
-  SIGNAL HEAD VEHICLE PROGRAMMABLE
-  VEHICLE DETECTION CAMERA
-  VEHICLE DETECTION CAMERA - HEMISPHERICAL
-  VEHICLE DETECTION LOOP
-  VEHICLE DETECTION - RADAR
-  WIRELESS VEHICLE DETECTION RADIO RECEIVER
-  WIRELESS VEHICLE DETECTION RADIO REPEATER
-  WIRELESS VEHICLE DETECTION SENSOR - EXISTING
-  WIRELESS VEHICLE DETECTION SENSOR

## CABLING / WIRING DIAGRAM

-  CIRCUIT BREAKER
-  COILED WIRE
-  FUSE
-  FUSE SWITCH
-  GROUND
-  ILLUMINATED CASE SIGN
-  METER
-  SERVICE DISCONNECT
-  SIGNAL HEAD

### NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.  
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
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NO SCALE

FILE: LEGEND003.dgn

DATE: 04/23/19

JN: PW-7008 RIOPELLE

LEGEND SHEET  
RIOPELLE STREETScape

DRAWING	SHEET
RIO LEGEND 003	5

# GENERAL NOTES

## UTILITIES

### MISS DIG/UNDERGROUND UTILITY NOTIFICATION

For the protection of underground utilities and in conformance with Public Act 174 of 2013, the Contractor shall contact MISS DIG System, Inc. by phone at 811 or 800-482-7171 or via the web at either [elocate.missdig.org](http://elocate.missdig.org) for single address or [rte.missdig.org](http://rte.missdig.org), a minimum of 3 business days prior to excavating, excluding weekends and holidays.

## ROW / REAL ESTATE

### PROPERTY OWNERS

The names of property owners shown on the plans are for information only, and their accuracy is not guaranteed.

### MARKETABLE TIMBER

Marketable timber shall be handled in accordance with Section 201.03 of the 2012 Standard Specifications for Construction.

## SURVEY

### ADJUSTING MONUMENT BOXES

All government corners on this project shall be preserved, whether shown or not. It may be necessary to place or adjust monument boxes, as required.

### CONTRACTOR STAKING

All staking for the project will be conducted by the Contractor in accordance with Section 824 of the 2012 Standard Specifications for Construction.

## DETAILED GRADES

### GRADES FOR INTERSECTIONS

All intersections are to be considered as complete units and their grades determined before construction is started.

### SIDEWALK AND SIDEWALK RAMP GRADES

All sidewalk and sidewalk ramp grades shall be staked according to Standard Plan R-28 series and as shown on the plans. Prior to constructing the sidewalk and sidewalk ramps, the Engineer will verify the grades and authorize the construction of the sidewalk and sidewalk ramps.

## EARTHWORK

### EARTHWORK

Earthwork quantities are computed by the average end area method based upon ground survey information.

### EARTH DISTURBANCE LIMITS

The earth disturbance limit for this project will be limited to the face of buildings and the outside limits of work as shown at intersections and parking lots. The Contractor shall submit an earth change plan for any work beyond the approved limits to the Engineer for approval prior to the disturbance. All costs for obtaining and executing an approved earth change plan, including restoration, shall be at the Contractor's expense.

### SOIL EROSION MEASURES

Appropriate soil erosion and sedimentation control measures shall be in place prior to earth-disturbing activities. Place turf establishment items as soon as possible on potential erodible slopes as directed by the Engineer.

## BASES

### AGGREGATE BASE

Aggregate bases shall use aggregate 21AA, unless otherwise specified.

## SOIL EROSION AND SEDIMENTATION CONTROL

### SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

Measures must be taken to follow the Detroit Water and Sewerage Department's (DWSD) Standard Details for Soil Erosion and Sedimentation Control Measures.

The pay item "Erosion Control, Inlet Protection, Fabric Drop" must follow DWSD's detail for Inlet Protection Fabric Drop and is referred to as Soil Erosion Measure 26 on the plans.

The pay item "Erosion Control, Inlet Protection, Geotextile and Stone" must follow MDOT Standard Plan R-96-E and is referred to as Soil Erosion Measure 30 on the plans.

## DRAINAGE

### PROPOSED STORM SEWER

Proposed storm sewer is designed with a 3' minimum cover measured from the top of pipe to the proposed rim elevation of each structure. Unless otherwise shown on the plan, all storm sewer is designed to maintain positive drainage at 0.5%. Storm sewer may need to be raised or lowered as directed by the Engineer due to utility conflicts or a higher than expected outlet at the tapping structure. If modifications are made to the proposed inverts on plan, the proposed sewer must maintain positive drainage at a minimum of 0.5% or as directed by the Engineer.

It is the Contractor's responsibility to excavate test holes in order to expose existing public water main, sanitary sewer, storm sewer, sewer leads, water services, or any other buried utility lines, and determine if there will be possible construction conflicts between existing and proposed utilities. Locations of expected crossings are noted on the plans. The Contractor shall perform test holes at these locations prior to the start of underground sewer work and notify the Engineer if a conflict exists.

### ILLICIT CONNECTIONS TO STORM WATER SYSTEM

Connections to existing storm conveyance systems not shown on the plans must be reconnected with minimal interruption in service. Size, type and location by station and offset and any suspect illicit discharge observed shall be reported to the Engineer prior to reconnecting. Contractor shall proceed as directed by the Engineer.

### TEMPORARY BULKHEADS

Temporary bulkheads may be required for the part width construction of the culverts and sewers. All cost associated with the temporary bulkheads are included in the item of the pipe.

## PAVEMENT

### PAVEMENT AND HMA SURFACE REMOVAL QUANTITIES

Pavement and HMA Surface removal as shown on the plans will be at the discretion of the Engineer. If in his/her judgment, areas of pavement may be left in place, or additional areas added to provide the proper cross-section and base. Changes will be made in the quantities.

### SOIL BORINGS AND/OR PAVEMENT CORES

The soil boring logs and/or pavement cores represent point information. No inference should be made that subsurface or pavement conditions are the same at other locations.

### CONCRETE HAND FINISHING

Hand finishing of concrete pours to be struck off and consolidated by hand methods will be permitted on variable width lanes and lanes formed by flexible forms for short radius curves, as directed by the Engineer.

## CONCRETE

The type of concrete to be used on this project for the pavement repairs is Type P1.

## SIGNS

### GENERAL

All signs shall be installed, removed and/or salvaged according to the current edition of "Michigan Manual on Uniform Traffic Control Devices" and the current edition of Michigan Department of Transportation (MDOT) "Standard Specifications for Construction."

All signs on the plans or in the log that do not have a recommendation are to be retained.

### EXISTING SIGN RELOCATION

Any permanent signs requiring relocation due to Contractor operations shall be salvaged and reset by the Contractor at locations designated by the Engineer. Signs and posts damaged during the removal and storage operations shall be replaced with new signs and posts. The cost of this work shall be borne by the Contractor.

### PLAN SCALE

The final plans submitted with the proposal are not to scale. Where proposed on plan sheets, the signs and structures shall be fabricated in accordance to Typical Plans, Standards, and/or Details at locations described.

### SIGN LAYOUT

Sign layouts shall be according to the current English edition of "Standard Highway Signs" manual or as detailed in plans. Legend length shall be determined using the "SignCAD" software.

### SHEETING

Handling and installation of all signs shall conform to the sheeting manufacturer's specifications and guidelines.

Splice sheeting used for Type I signs with a 3" overlap.

Signs that have wrinkled or twisted sheeting may be rejected.

### SIGN INSTALLATION

When attaching signs to supports, tighten the nut, not the bolt head.

Nylon washers shall be placed between the steel washer and the sign face sheeting. The nylon washers are to be considered part of the attaching devices and hardware. Nylon washers shall have a 3/8 inch inner diameter, a 7/8 inch outer diameter and a 1/16 inch thickness.

The Contractor shall attach a date sticker to the back of all signs installed on the contract. Stickers will be supplied to the Contractor at the preconstruction meeting by the Engineer. Stickers will be supplied by MDOT Operations Field Services Division Statewide Sign Shop, Lansing, which can be contacted at 517-322-3357.

## MISCELLANEOUS

### AUDIO-VISUAL FILMING



An audio-visual filming of the project conditions as described in the unique special provision must be completed before and after construction.

### SITE SAFETY

Coordination with the Engineer on appropriate safety and traffic control measures during Saturdays and Sundays when Eastern Market has high volumes of pedestrian and vehicular traffic must be done in accordance with the Special Provision for Maintaining Traffic.

## MISCELLANEOUS QUANTITIES

TOTAL	UNIT	DESCRIPTION
1	LSUM	Audio-Visual Filming
1	LSUM	Mobilization, Max
2	Ea	Dumpster Receptacle, Remove, Salv and Reinstall
100	Cyd	Non Haz Contaminated Material Handling and Disposal, LM
17	Ea	Dr Structure Cover, MH
12	Ea	Reconstructing Dr Structure, Case 1, Modified
1	LSUM	Pavt, Cleaning
60	Syd	Conc Base Cse, Nonreinf, 9 inch
100	Ea	Lane Tie, Epoxy Anchored
1	LSUM	Monitoring Vibrations
100	Lb	Reinforcement, Steel, Epoxy Coated
100	Syd	Scarifying
100	Syd	Hydrodemolition, First Pass
20	Syd	Hydrodemolition, Second Pass
24	Syd	Joint Waterproofing, Modified
8	Ea	Water Shutoff, Adj, Case 1, Modified
1	Ea	Water Main Conflict, 8 inch
3	Ea	Sanitary Cleanout, Adj

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )								 	NO SCALE	DATE: 04/23/19	CS:	NOTE SHEET		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			DESIGN UNIT:	JN: PW-7008 RIOPELLE	RIOPELLE STREETSCAPE		RIO NOTE	SECT 1
										FILE: Note_Sheet.doc	TSC:			001	7

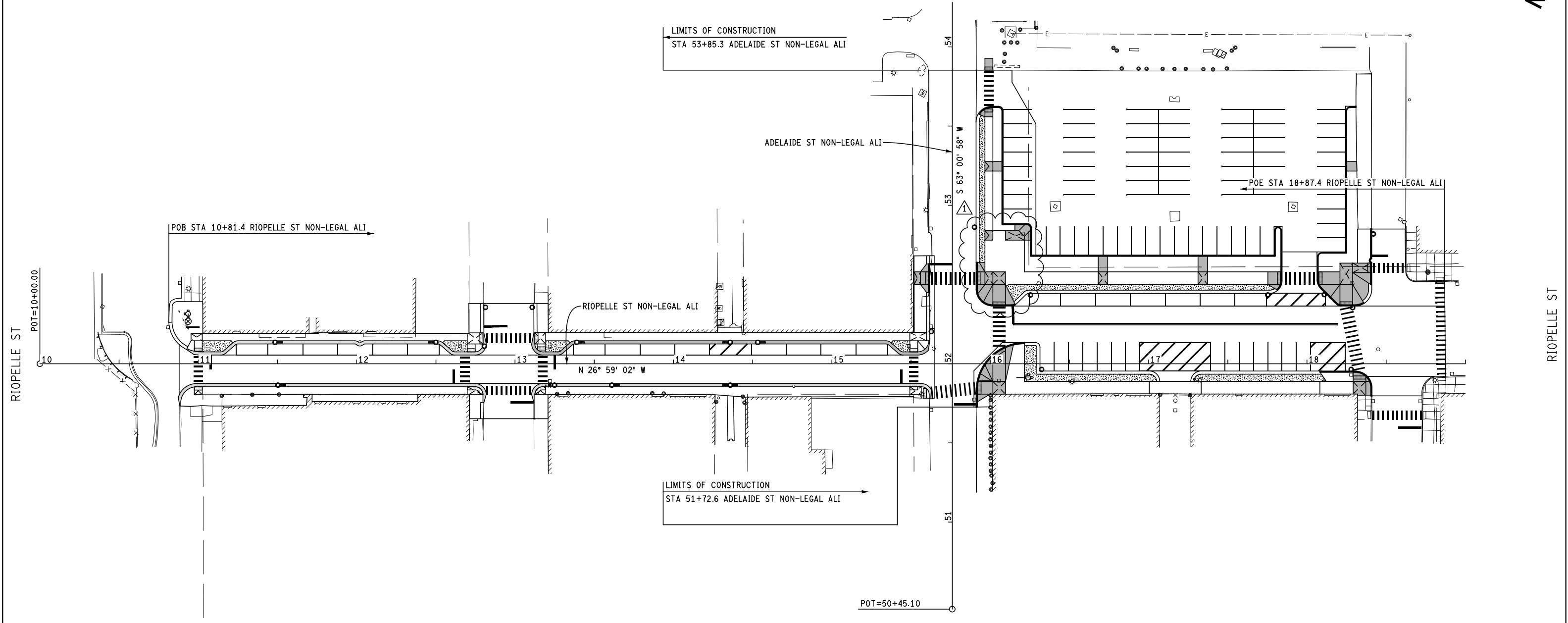
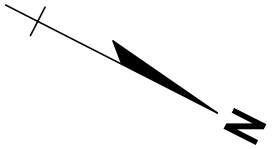
I-75 SERVICE DR

WINDER ST

ALLEY

ADELAIDE ST

DIVISION ST



RIOPELLE ST

RIOPELLE ST

I-75 SERVICE DR

WINDER ST

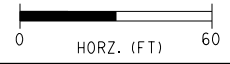
ALLEY

ADELAIDE ST

ALLEY

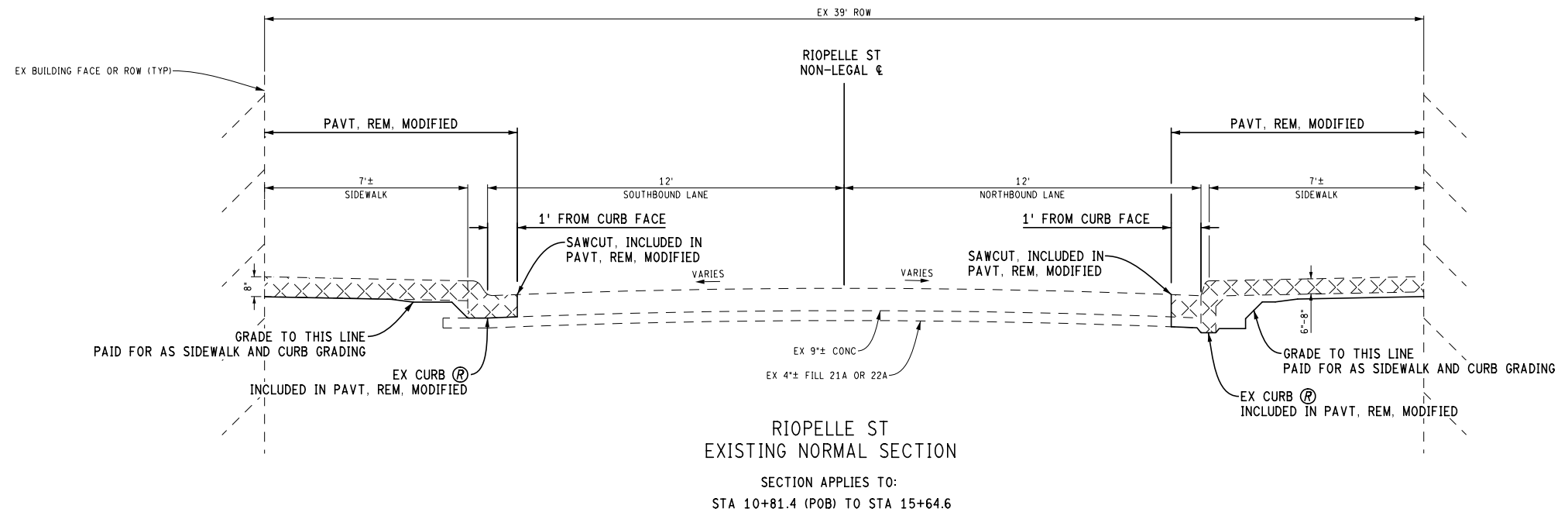
DIVISION ST

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION
1	7/19/19		SE CORNER PARKING LOT

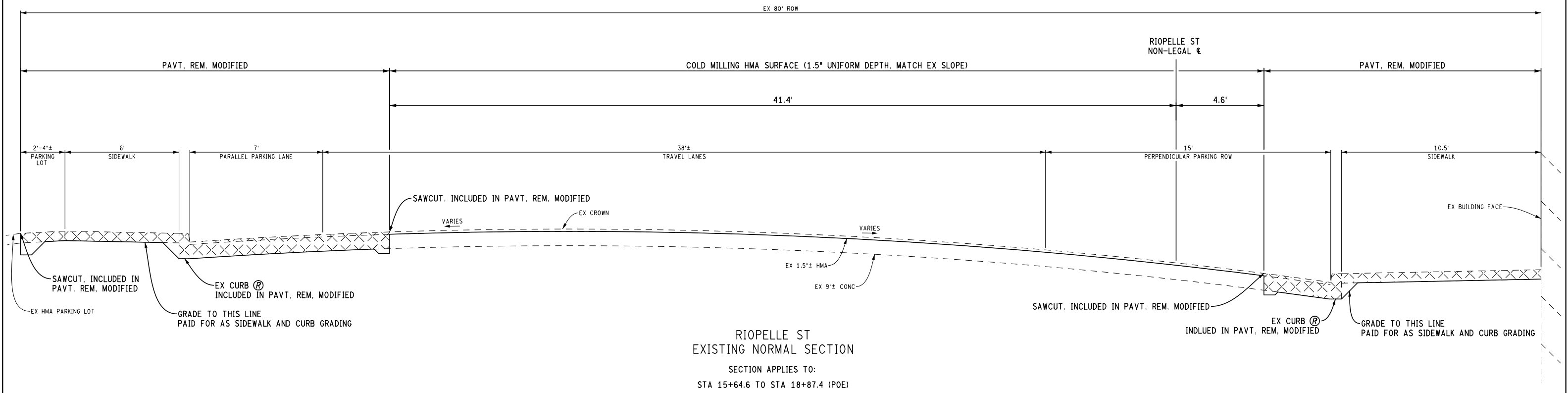


DATE: 03/22/19	JN: PW-7008 RIOPELLE	SITE PLAN RIOPELLE STREETSCAPE	DRAWING RIO SITE 001	SHEET SECT 1 6
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FILE: VICINITY001.dgn



RIOPELLE ST  
EXISTING NORMAL SECTION  
SECTION APPLIES TO:  
STA 10+81.4 (POB) TO STA 15+64.6



RIOPELLE ST  
EXISTING NORMAL SECTION  
SECTION APPLIES TO:  
STA 15+64.6 TO STA 18+87.4 (POE)

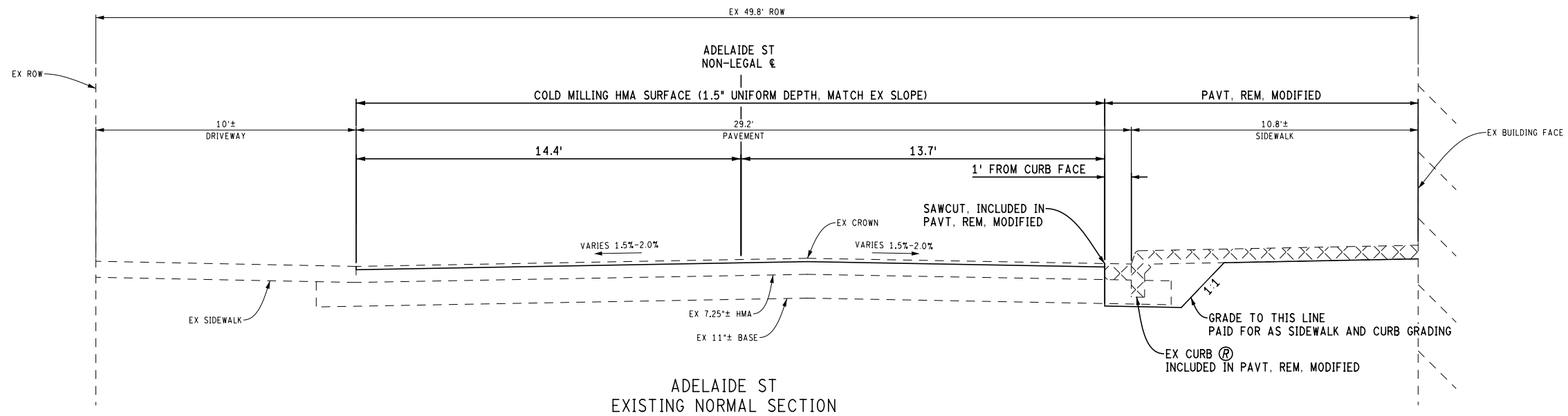
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

DATE: 04/23/19  
FILE: TYP001.dgn

JN: PW-7008 RIOPELLE

EXISTING TYPICAL SECTIONS		DRAWING	SHEET
RIOPELLE STREETSCAPE		RIO TYP 001	SECT 1
			8

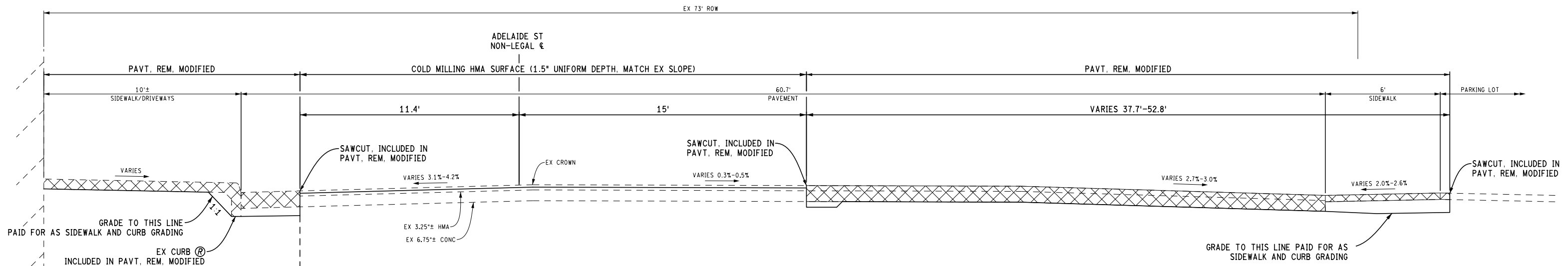




ADELAIDE ST  
EXISTING NORMAL SECTION

SECTION APPLIES TO:  
STA 51+72.6 TO STA 51+78.2

SEE RIOPELLE ST TYPICAL FOR  
STA 51+78.2 TO STA 52+12.5



ADELAIDE ST  
EXISTING NORMAL SECTION

SECTION APPLIES TO:  
STA 52+12.5 TO STA 52+87.0

SECTION APPLIES TO:  
STA 52+12.5 TO STA 52+87.0

SECTION APPLIES TO:  
STA 52+87.0 TO STA 53+85.3

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION
6	10/17/19		COLD STORAGE SIDEWALK				

DATE: 03/22/19  
FILE: TYP002.dgn

JN: PW-7008 RIOPELLE

EXISTING TYPICAL SECTIONS		DRAWING	SHEET
RIOPELLE STREETSCAPE		RIO TYP 002	SECT 1 9

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE LBS PER SYD	PERFORMANCE GRADE	REMARKS
5E3	HMA, 5E3	165	64-28	TOP COURSE (AWI=260)
4E3	HMA, 4E3	VARIES	64-28	LEVELING COURSE, 0"-9" DEPTH (2.5" MAX PER LIFT)
HA-1	HMA APPROACH	165	64-28	HMA, 5E3, TOP COURSE, PARALLEL PARKING STA 11+14 TO 12+62
		VARIES	64-28	HMA, 4E3, LEVELING COURSE, VARIES 0"-9" (2.5" MAX LIFT), PARALLEL PARKING STA 11+14 TO 12+62
HA-2	HMA APPROACH	330	64-28	HMA, 5E3, BUTT JOINT AT INTERSECTION APPROACHES
HA-3	HMA APPROACH	165	64-28	HMA, 5E3, TOP COURSE, PARALLEL PARKING STA 16+13 TO 17+76 AND DIVISION ST APPROACHES
HA-4	HMA APPROACH	165	64-28	HMA, 5E3, TOP COURSE, HMA DRIVES, PARKING LOT, AND ALLEY (AWI=260)
		275	64-28	HMA, 4E3, LEVELING COURSE, HMA DRIVES, PARKING LOT, AND ALLEY
HP-1	HAND PATCHING	VARIES	64-28	HMA, 5E3, HAND PATCHING FOR SMALL PATCHES. MATCH ADJACENT PAVT DEPTH
HP-2	HAND PATCHING	165	64-28	HMA, 5E3, TOP COURSE FOR UTILITY TRENCH SECTION (AWI=260)
		275	64-28	HMA, 4E3, LEVELING COURSE FOR UTILITY TRENCH SECTION
* BOND COAT		0.05-0.15 GAL		

\*FOR INFORMATION ONLY



NO SCALE

FILE: TYP003.dgn

JN: PW-7008 RIOPELLE

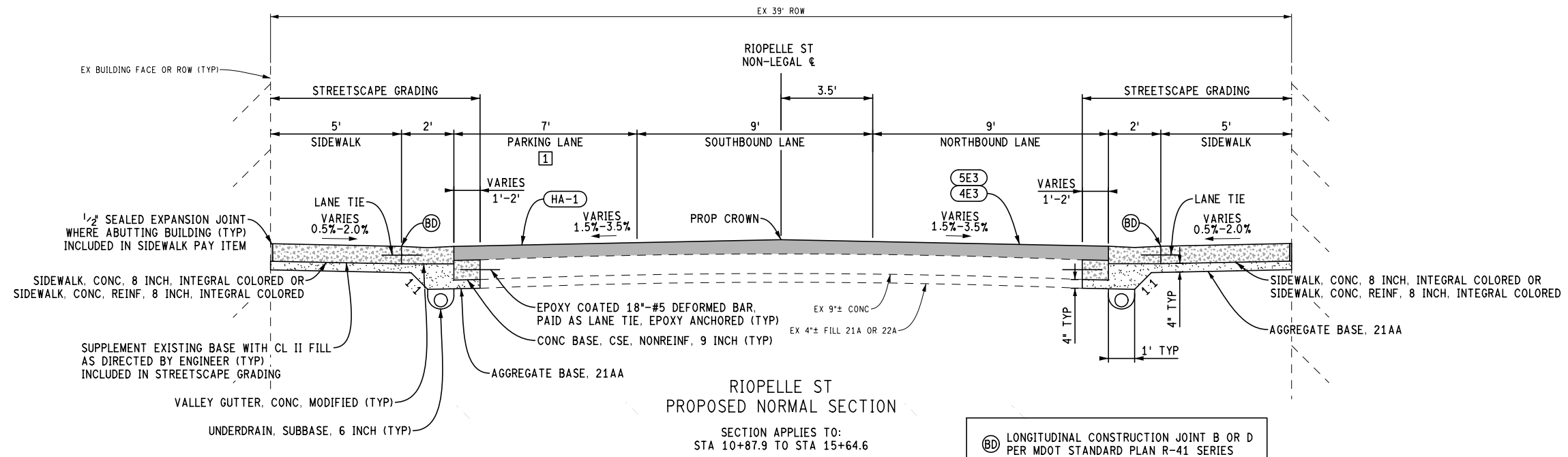
PROPOSED TYPICAL SECTIONS

RIOPELLE STREETScape

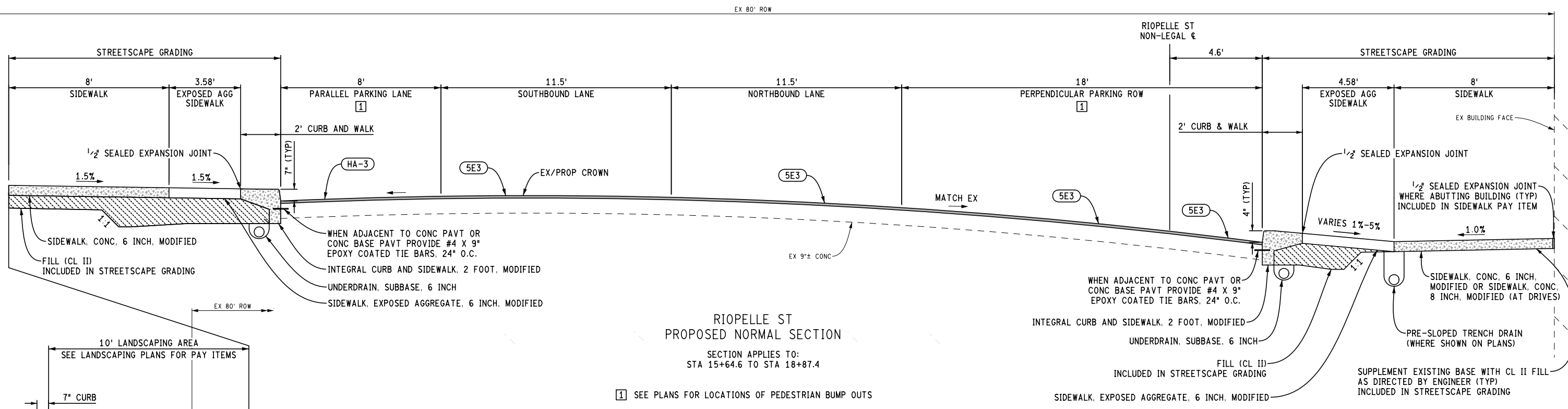
DRAWING SHEET

R10 TYP 003 SECT 1

10



Ⓟ LONGITUDINAL CONSTRUCTION JOINT B OR D PER MDOT STANDARD PLAN R-41 SERIES



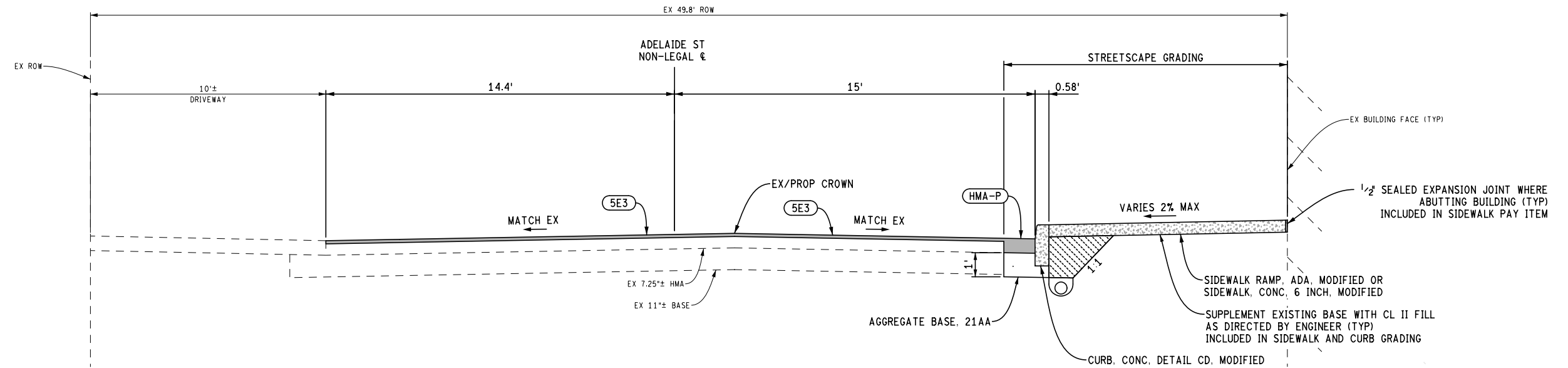
① SEE PLANS FOR LOCATIONS OF PEDESTRIAN BUMP OUTS

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

DATE: 04/23/19  
 FILE: TYP004.dgn

JN: PW-7008 RIOPELLE

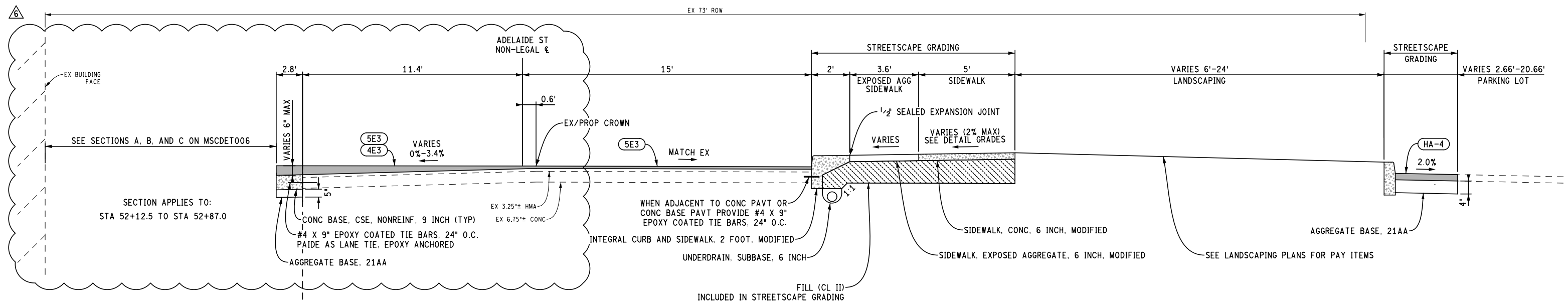
PROPOSED TYPICAL SECTIONS		DRAWING	SHEET
RIOPELLE STREETScape		RIO TYP 004	SECT 1 11



ADELAIDE ST  
PROPOSED NORMAL SECTION

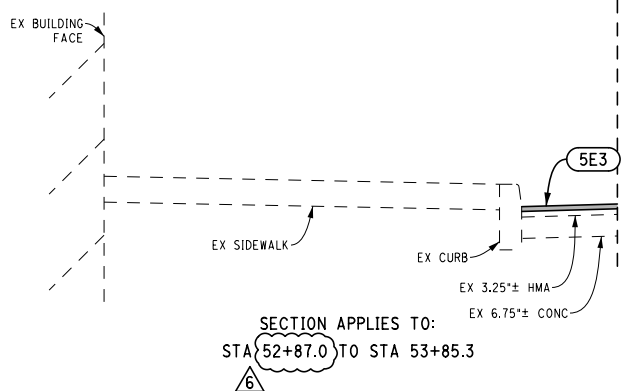
SECTION APPLIES TO:  
STA 51+72.6 TO STA 51+78.2

SEE RIOPELLE ST TYPICAL FOR  
STA 51+78.2 TO STA 52+12.5



ADELAIDE ST  
PROPOSED NORMAL SECTION

SECTION APPLIES TO:  
STA 52+12.5 TO STA 53+85.3

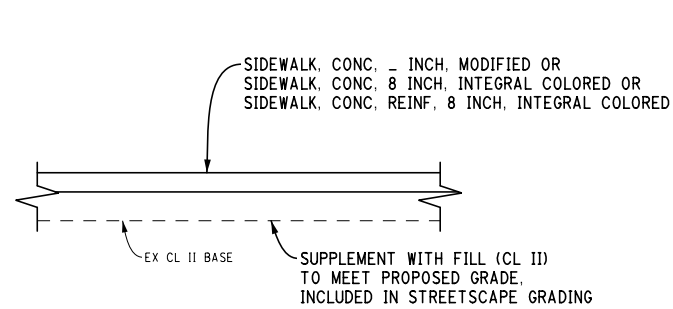


SECTION APPLIES TO:  
STA 52+87.0 TO STA 53+85.3

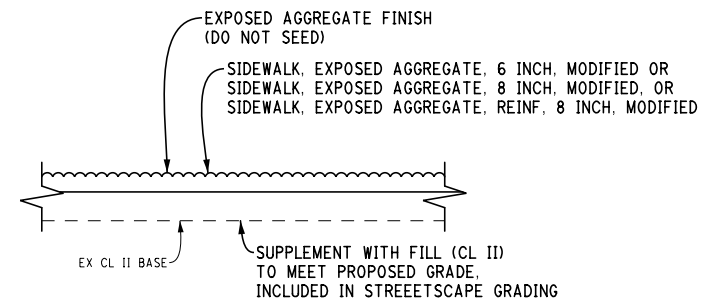
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )								DATE: 03/22/19		JN: PW-7008 RIOPELLE		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	PROPOSED TYPICAL SECTIONS		RIO TYP 005		SECT 1	
6	10/17/19		COLD STORAGE SIDEWALK					RIOPELLE STREETScape				12	



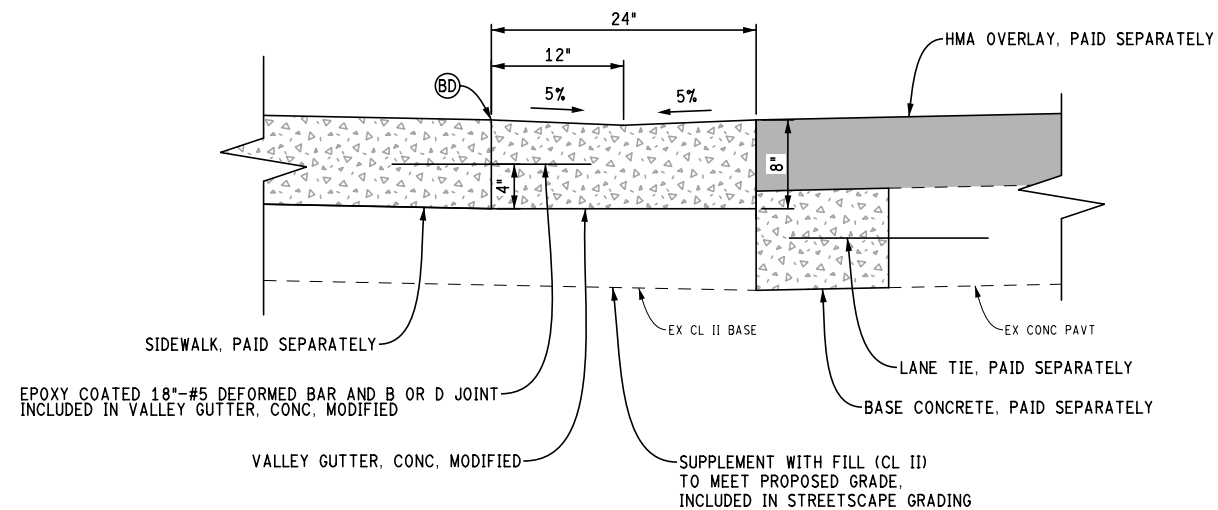
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SIDEWALK DETAIL

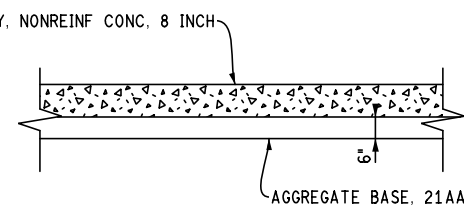


EXPOSED AGGREGATE SIDEWALK DETAIL

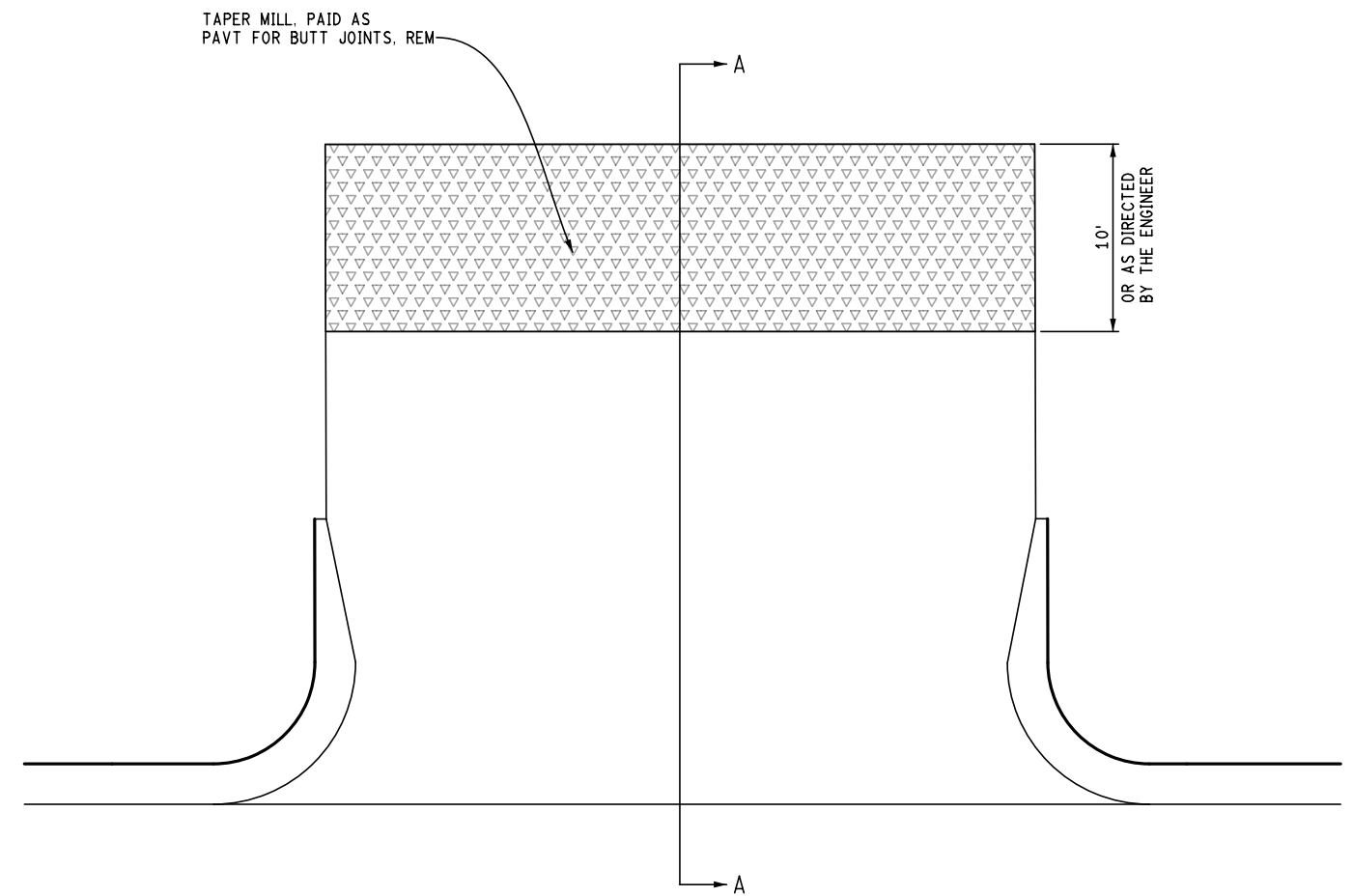


VALLEY GUTTER, CONC. MODIFIED

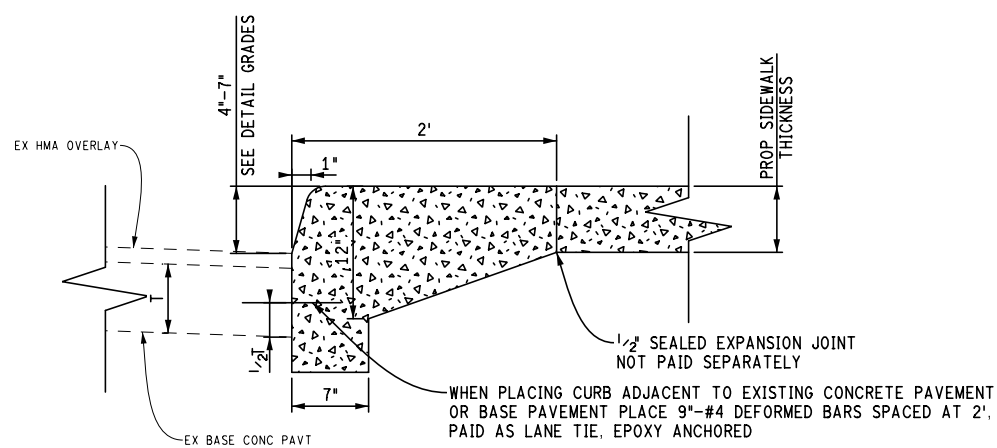
Ⓟ LONGITUDINAL CONSTRUCTION JOINT B OR D  
PER MDOT STANDARD PLAN R-41 SERIES



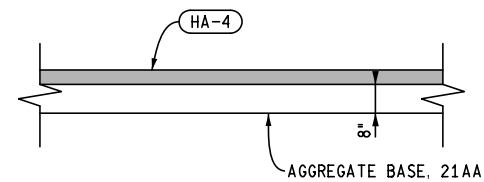
CONCRETE DRIVEWAY SECTION AT STA 18+25 RT



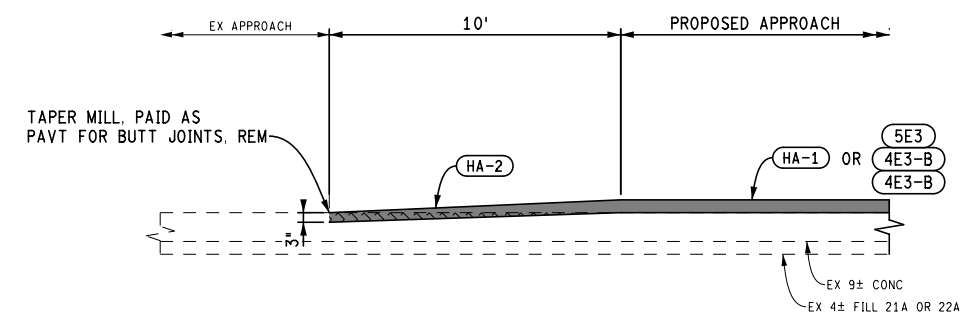
BUTT JOINT DETAIL



INTEGRAL CURB AND SIDEWALK, 2 FT. MODIFIED



HMA ALLEY, PARKING LOT AND DRIVEWAY SECTION DETAIL

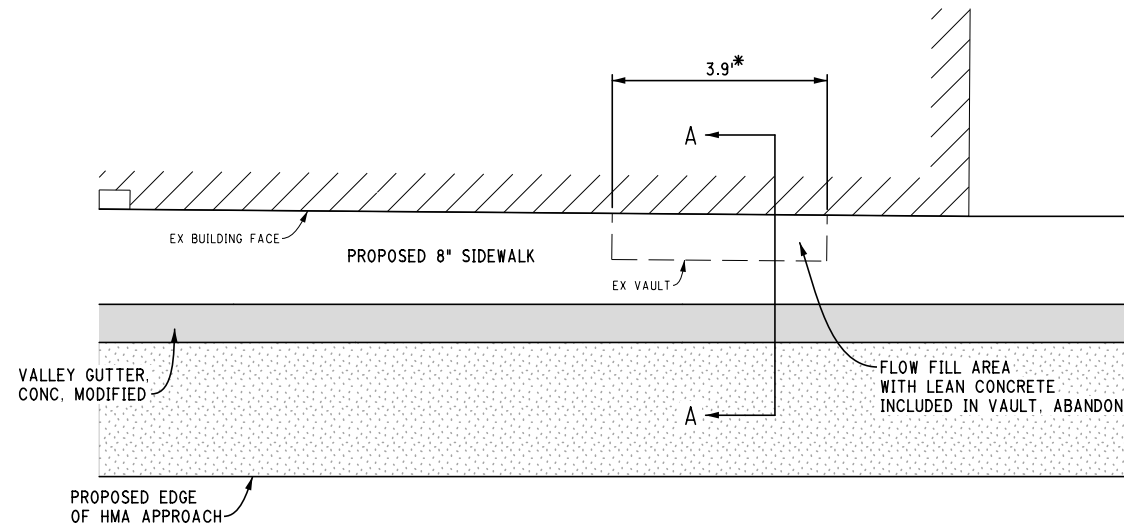


SECTION A-A - BUTT JOINT TYPICAL SECTION

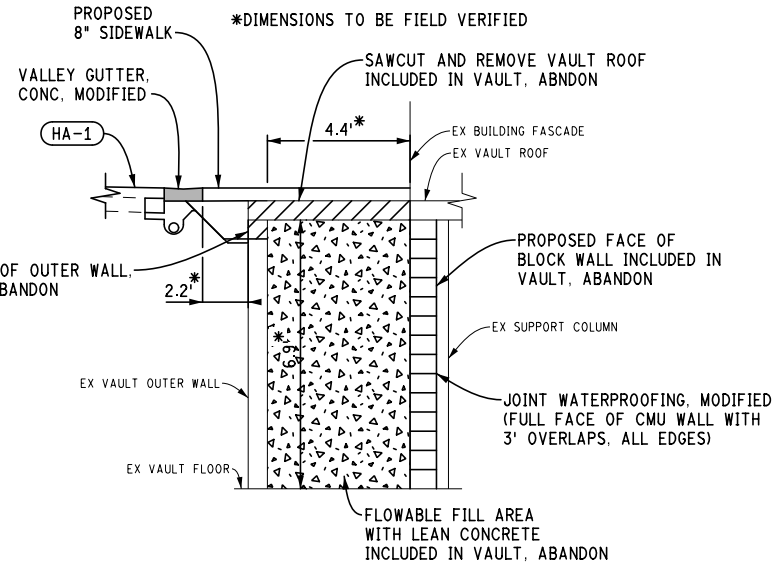
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )								DATE: 04/23/19		MISCELLANEOUS DETAILS		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			RIOPELLE STREETSCAPE		RIO MSCDET 001	SECT 1
								FILE: MSCDET001.dgn		JN: PW-7008 RIOPELLE			13



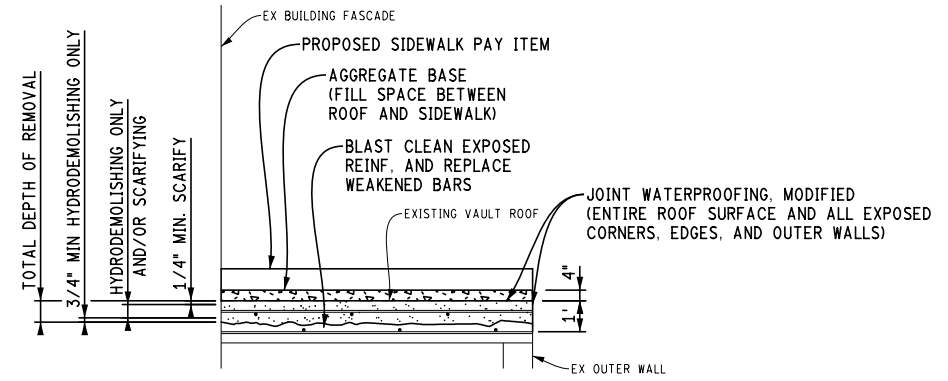
NO SCALE



**VAULT PLAN**

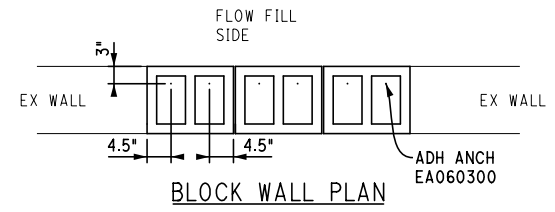


**SECTION A-A**

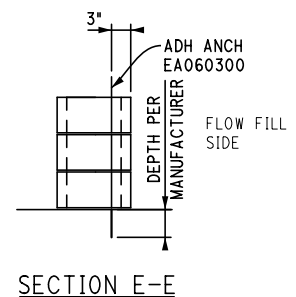


**EXISTING VAULT ROOF REPAIR SECTION**

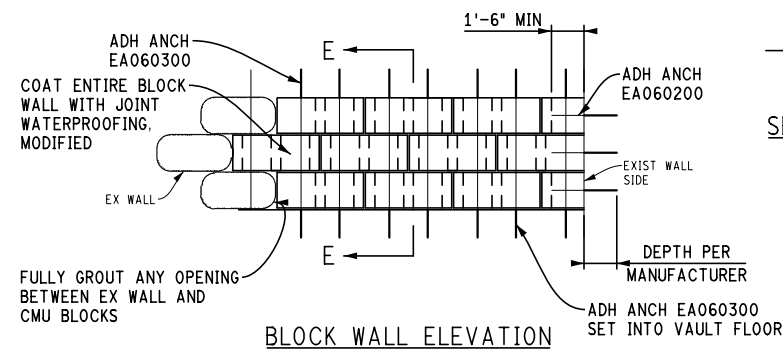
FOR REPAIR OF DETERIORATED VAULT ROOFS THAT ARE EXPOSED DURING CONSTRUCTION, TO BE USED AT THE DIRECTION OF THE ENGINEER.  
 \* 4" MAXIMUM OR 3/4" BELOW TOP MAT OF STEEL REINFORCEMENT WHICHEVER IS LESS.



**BLOCK WALL PLAN**



**SECTION E-E**



**BLOCK WALL ELEVATION**

**NOTES:**

**MATERIAL PROPERTIES:**  
 CONCRETE, GRADE D: f'c = 4000 psi  
 STEEL REINFORCEMENT: fy=60,000 psi

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING UTILITIES IN THE VAULT. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING INTO THE VAULT.

DIMENSIONS AND STATIONING SHALL BE FIELD VERIFIED. ANY VARIATIONS FROM PLAN DIMENSIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.

MASONRY WALL SHALL EXTEND FULL HEIGHT FROM TOP OF EXISTING FLOOR SLAB TO BOTTOM OF EXISTING VAULT ROOF.

MASONRY WALL IS COMPOSED OF 12" FULLY GROUTED UNREINFORCED CMU. f'm = 1500 psi

MORTAR SHALL BE 1500 PSI TYPE S (PC-L) PLACED AT 3/8" THICKNESS.

GROUT COMPRESSIVE STRENGTH SHALL NOT BE LESS THAN 2000 psi.

ADHESIVE ANCHOR 1-EA060300 VERTICAL BAR IN THE CENTER OF EACH CORE OF EACH CMU.

IF PORTION OF VAULT IS EXPOSED DURING REPLACEMENT OF VAULT ROOF, PLACE 3/4" STEEL PLATE OVER HOLE DURING NON-WORKING HOURS, SO THAT OPENING IS SECURED. STEEL PLATE SHALL NOT ALLOW ANY OPENINGS THAT A PERSON COULD FIT THROUGH, AND SHALL BE OF SUFFICIENT WEIGHT SO THAT IT CANNOT BE MOVED WITHOUT HEAVY EQUIPMENT.

IF NECESSARY, PLACE SAFETY FENCING AROUND REMOVED AREA OF VAULT ROOF DURING REPLACEMENT TO DELINEATE AREA AND WARN PEDESTRIAN OF EXPOSED ROOF AREA.

FIRST FLOWABLE FILL POUR SHALL NOT BEGIN UNTIL MORTAR AND GROUT ARE FULLY SET. SECOND POUR SHALL NOT BEGIN UNTIL FIRST POUR IS FULLY SET. EACH SUCCESSIVE POUR SHALL NOT BEGIN UNTIL PREVIOUS POUR IS FULLY SET. FLOW FILL PLACEMENT SPEED SHALL BE CONTROLLED AS DIRECTED BY THE ENGINEER TO MINIMIZE FLUID IMPACT ON MASONRY WALLS.

POURS SHALL NOT EXCEED 4'-0" IN HEIGHT OR 50 CYD WHICHEVER IS LESS.

SYSTEMS FOR ANCHORING VERTICAL OR HORIZONTAL REINFORCEMENT IN EXISTING CONCRETE SHALL BE CHOSEN FROM THE QUALIFIED PRODUCTS LIST IN THE CURRENT MDOT MATERIALS SOURCE GUIDE.

ALL CONCRETE ANCHORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

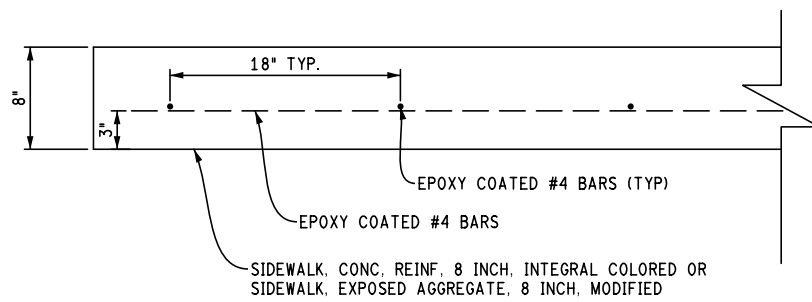
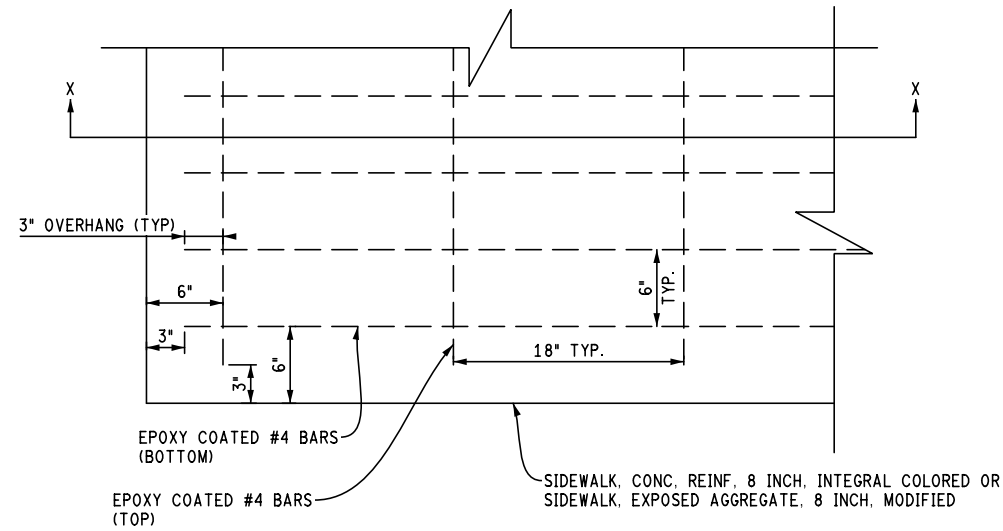
ADHESIVE ANCHORED BARS SHALL BE CUT TO PROVIDE EMBEDMENT LENGTH PER MANUFACTURER'S RECOMMENDATIONS AND CLEAR COVER AS SHOWN. EPOXY COATING SHALL BE REPAIRED ACCORDING TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION

DATE: 04/23/19  
 FILE: MSCDET002.dgn

JN: PW-7008 RIOPELLE

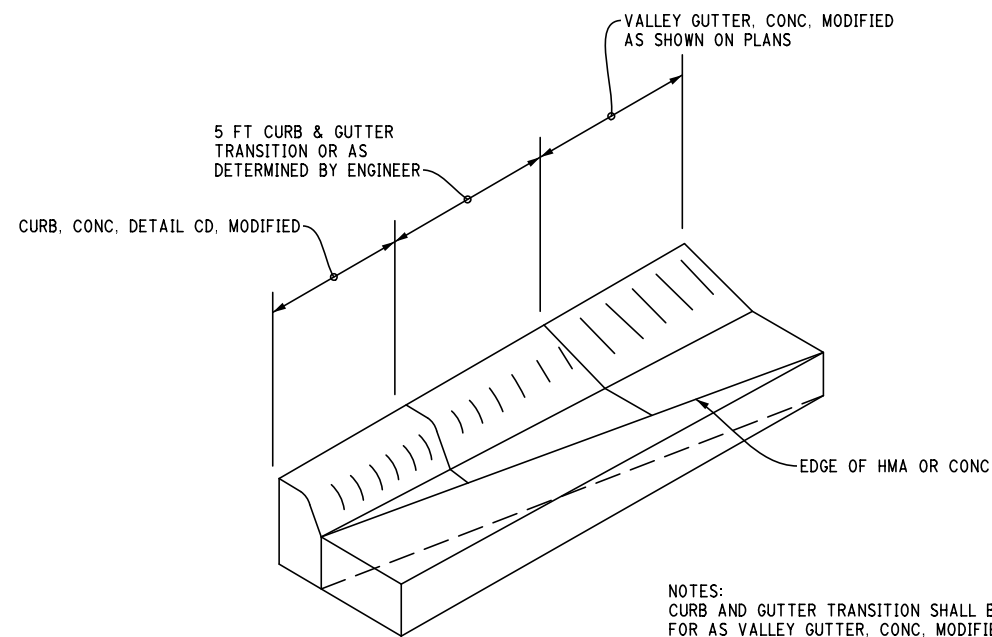
MISCELLANEOUS DETAILS	DRAWING	SHEET
RIOPELLE STREETSCAPE	R10 MSCDET 002	SECT 1 14



SECTION X-X

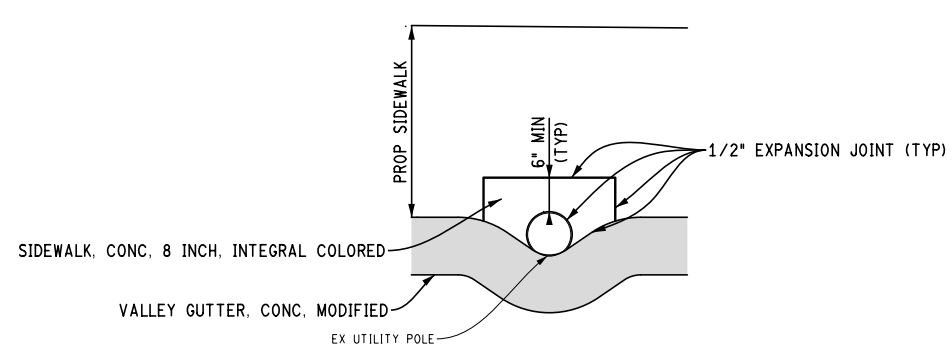
NOTE: MIN LAP LENGTH FOR #4 BARS SHALL BE 1'-7"

REINFORCED CONCRETE SIDEWALK



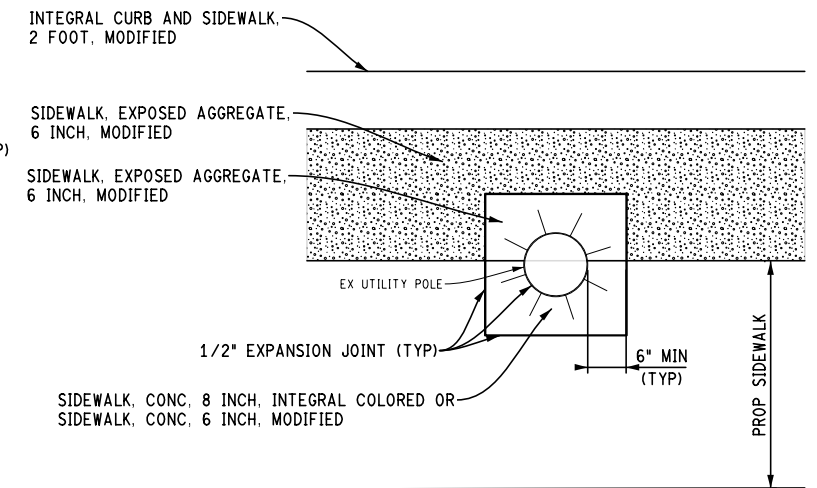
NOTES:  
CURB AND GUTTER TRANSITION SHALL BE PAID FOR AS VALLEY GUTTER, CONC. MODIFIED

TRANSITION BETWEEN TYPE CD CURB & VALLEY GUTTER (AS SHOWN ON PLANS)



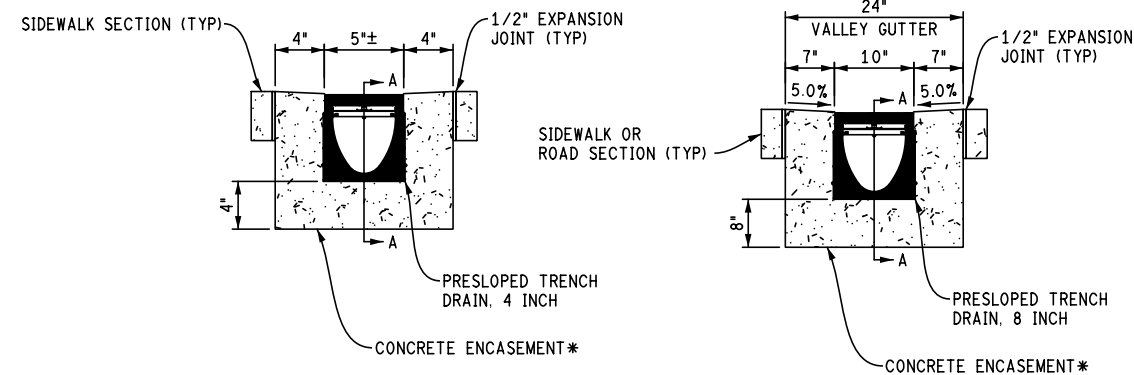
NOTE:  
THE 1/2" EXPANSION JOINT IS NOT PAID FOR SEPARATELY AND IS INCLUDED IN THE PAY ITEMS FOR SIDEWALK WORK.

CONC JOINTING FOR UTILITY POLES ADJACENT TO VALLEY GUTTER

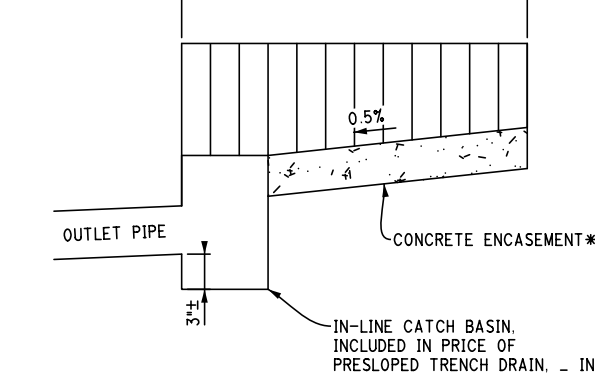


NOTE:  
THE 1/2" EXPANSION JOINT IS NOT PAID FOR SEPARATELY AND IS INCLUDED IN THE PAY ITEMS FOR SIDEWALK WORK.

CONC JOINTING FOR UTILITY POLES IN SIDEWALK



4 INCH      PRESLOPED TRENCH DRAIN, - INCH      8 INCH



SECTION A-A

\*CONCRETE ENCASEMENT TO BE PLACED MONOLITHICALLY WITH THE ADJACENT CONCRETE ITEM AND SHALL ADHERE TO THE SAME SPECIFICATIONS AS THAT ITEM. CONCRETE ENCASEMENT TO BE INCLUDED IN THE COST OF PRESLOPED TRENCH DRAIN, - INCH

PRESLOPED TRENCH DRAIN, - INCH

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION



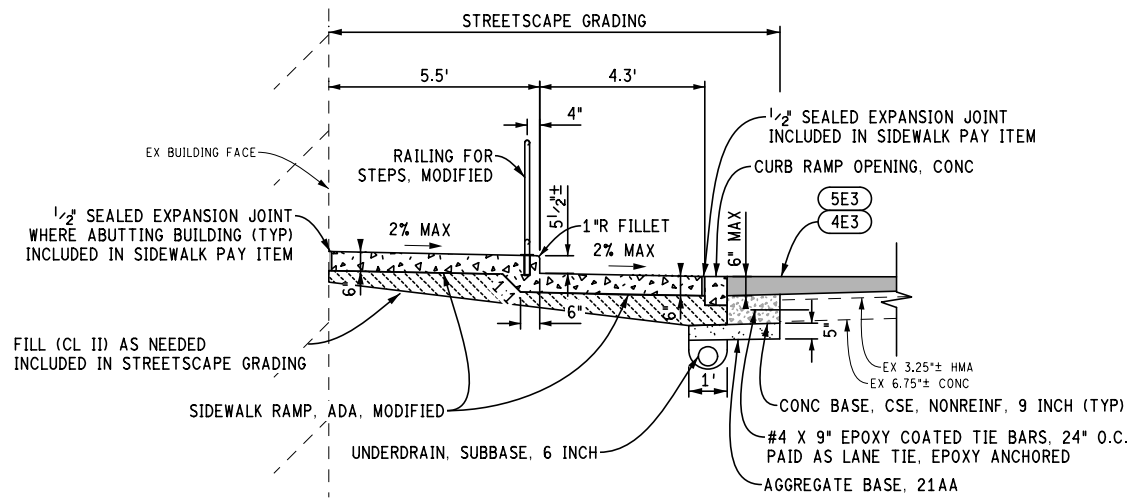
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DATE: 04/23/19
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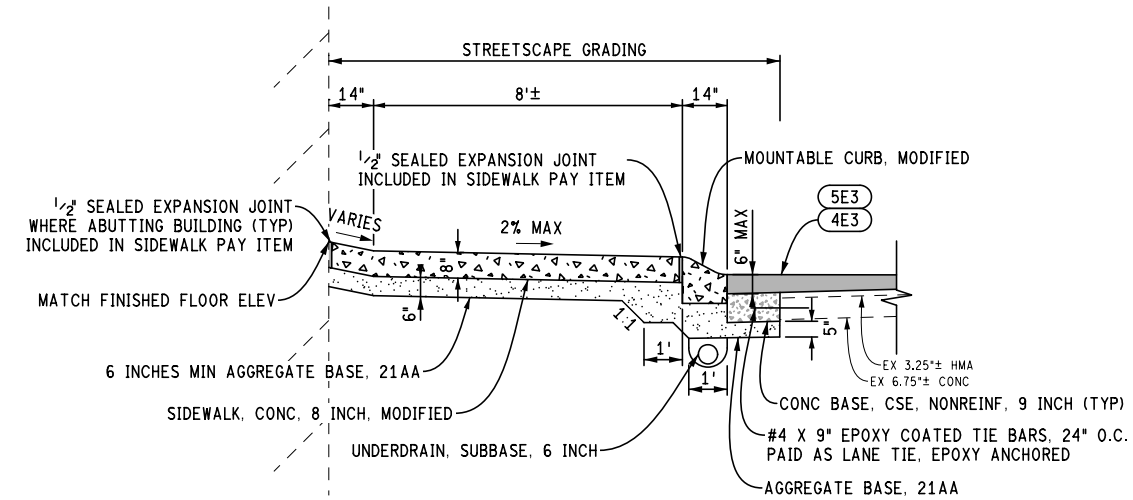
JN: PW-7008 RIOPELLE
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MISCELLANEOUS DETAILS
RIOPELLE STREETSCAPE

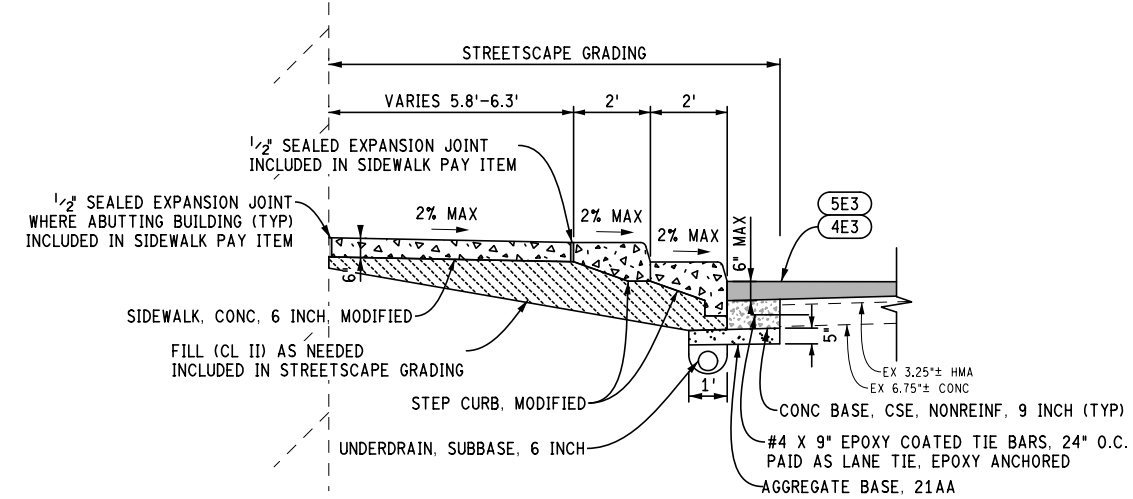
DRAWING	SHEET
RIO MSCDET 003	SECT 1 15



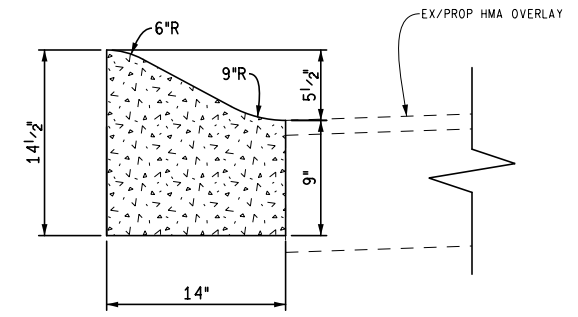
SECTION A



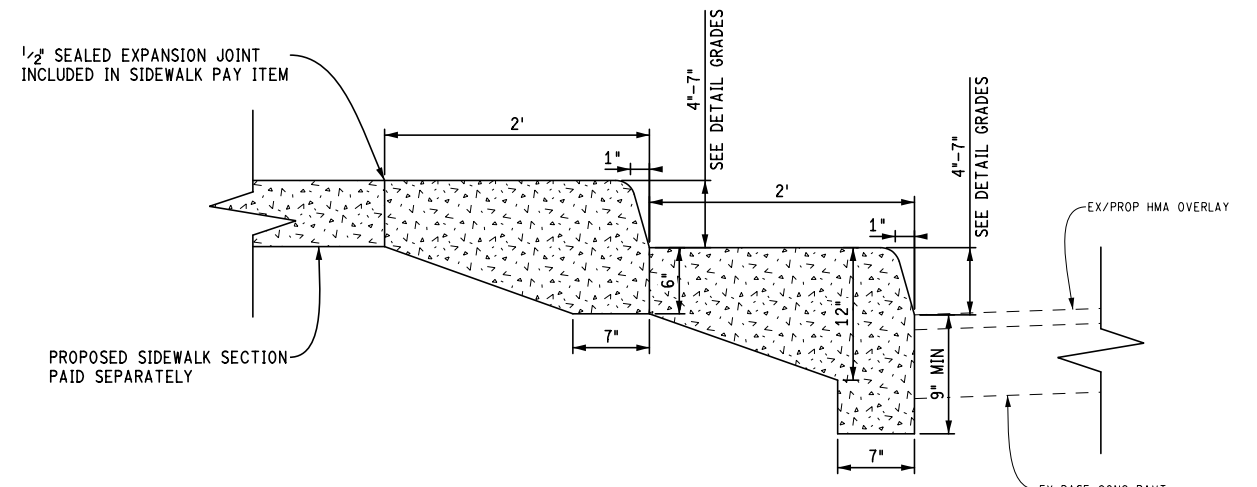
SECTION B



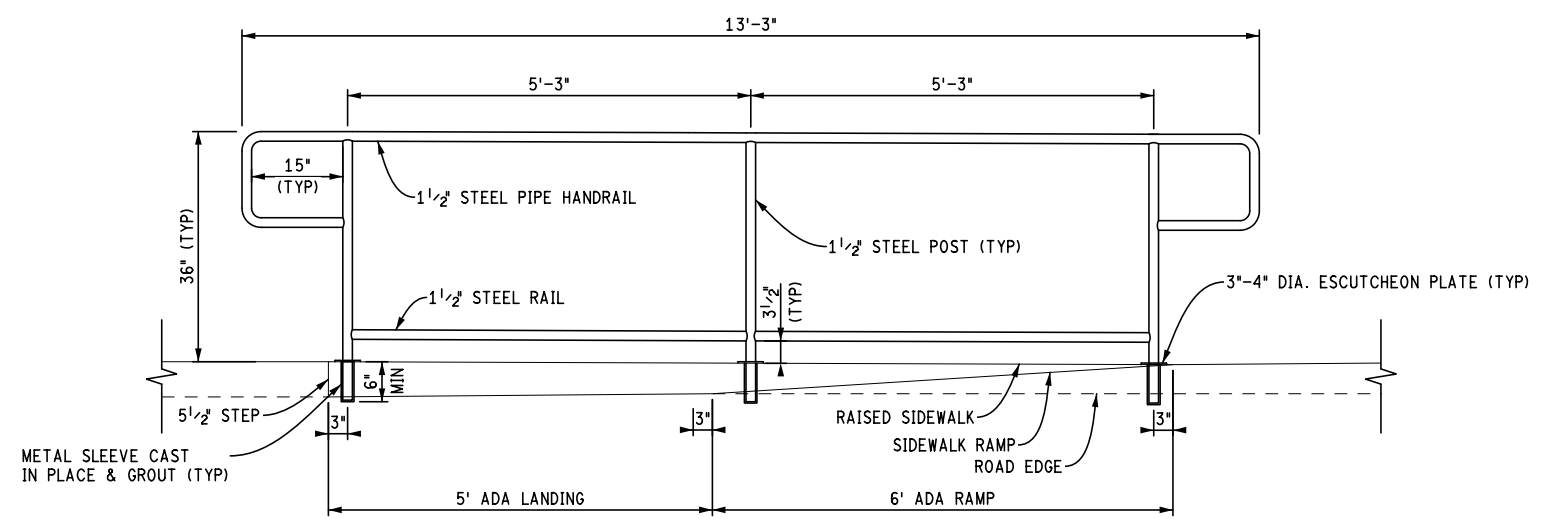
SECTION C



MOUNTABLE CURB, MODIFIED



STEP CURB, MODIFIED



RAILING FOR STEPS

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION
6	10/17/19		COLD STORAGE SIDEWALK




**NO SCALE**

DATE: 10/17/19  
 FILE: MSCDET006.dgn  
 JN: PW-7008 RIOPELLE

SIDEWALK AT EASTERN COLD STORAGE  
 RIOPELLE STREETScape  
 DRAWING SHEET  
 RIO MSCDET 006 SECT 1  
**16A**



**NOTES**

**COORDINATE SYSTEM:** STATE PLANE GRID  
**ZONE:** MICHIGAN SOUTH 2113  
**ELLIPSOID:** GRS 80  
**HORIZONTAL DATUM:** NAD 83 (2011)  
**VERTICAL DATUM:** CITY OF DETROIT  
**GEOID:** NA  
**UNITS:** INTERNATIONAL FEET

**INTERMEDIATE CONTROL**

CONTROL PT #: 100  
 DESCRIPTION: SET MAG NAIL IN CONCRETE SIDEWALK ON S. SIDE OF RIOPELLE @ SE CORNER OF RIOPELLE AND FISHER FWY E.

COORDINATES: N = 311120.13 E=13482498.36  
 EL: = 140.11 STA=10+66.00 OFF = 18.30' RT

WITNESSES:  
 1. SW 7' DTE MANHOLE  
 2. NORTH 75' FIRST GREEN COLUMN OF TRUE MERIDAN BLDG @ NE CORNER OF RIOPELLE AND FISHER FWY E.  
 3. WEST 21' AT&T MANHOLE @ SW QUAD OF RIOPELLE AND FISHER FWY E.

CONTROL PT #: 101  
 DESCRIPTION: SET MAG NAIL IN CONCRETE SIDEWALK @ SW CORNER OF RIOPELLE AND FISHER FWY E.

COORDINATS: N =311090.94 E = 13482473.90  
 EL: = 139.90 STA=10+51.09 OFF = 16.74' LT

WITNESSES:  
 1. WEST 12' WESTERLY POST OF 2-POST ONE-WAY SIGN  
 2. SW 15.5' NO STANDING SIGN  
 3. NNW 36' FISHER FWY E/N. RIOPELLE STREET SIGN

CONTROL PT #: 102  
 DESCRIPTION: SET CAPPED IRON IN CONCRETE SIDEWALK @ SE CORNER OF RIOPELLE AND WINDER

COORDINATES: N =311301.81 E = 13482401.42  
 EL: = 140.36 STA=12+71.89 OFF = 14.35' RT

WITNESSES:  
 1. ESE 5' WEST CORNER OF BEAUBIEN FINE FOODS BLDG  
 2. ENE 16' POWER POLE/STREET SIGN  
 3. NNW 12' DTE MANHOLE

CONTROL PT #: 103  
 DESCRIPTION: SET MAG NAIL IN ASPHALT JUST S. OF CONCRETE SIDEWALK @ NW CORNER OF WINDER AND RIOPELLE

COORDINATES: N =311322.34 E = 13482356.45  
 EL: = 140.45 STA=13+10.59 OFF = 16.41' LT

WITNESSES:  
 1. NW 8' FIRE HYDRANT  
 2. SE 18' DPW MANHOLE @ CENTER OF INT.  
 3. NNW 10' SW CORNER OF BUTCHER'S INN BLDG

CONTROL PT #: 104  
 DESCRIPTION: FOUND MAG NAIL IN ASPHALT ROADWAY @ SW CORNER OF ADELAIDE AND RIOPELLE

COORDINATES: N =311547.88 E = 13482240.87  
 EL: = 140.73 STA=XX+XX OFF = XX LT

WITNESSES:  
 1. E 8' DFD MANHOLE  
 2. NW 6' DWSD MANHOLE  
 3. SSW 13' NE CORNER OF EASTERN COLD STORAGE LLC BLDG

CONTROL PT #: 105  
 DESCRIPTION: SET MAG NAIL IN CONCRETE SIDEWALK @ NW CORNER OF RIOPELLE AND DIVISION

COORDINATES: N =311803.06 E = 13482069.49  
 EL: = 142.07 STA=15+64.02 OFF = 17.07' LT

WITNESSES:  
 1. W 16' SE CORNER PARKING GARAGE  
 2. S 17' WATER GV&W  
 3. WSW 19' POWER POLE WITH BM #205

**BENCHMARKS**

BENCHMARK #: 200  
 DESCRIPTION: SET CHISELED SQUARE ON S. SIDE OF CONCRETE BASE OF FIRST LIGHT POLE WEST OF RIOPELLE/FISHER FWY E. INT. N. SIDE OF FISHER FWY E.  
 EL: = 142.08 STA=10+92.98 OFF = 47.67' LT

BENCHMARK #: 202  
 DESCRIPTION: SET COTTON SPINDLE IN WEST FACE OF POWER POLE W/ 3 TRANSFORMERS. NE CORNER OF WINDER/RIOPELLE INT.  
 EL: = 141.48 STA=13+22.24 OFF = 12.99' RT

BENCHMARK #: 204  
 DESCRIPTION: SET COTTON SPINDLE IN WEST FACE OF POWER POLE @ SE CORNER OF ADELAIDE/RIOPELLE INT.  
 EL: = 141.89 STA=15+56.13 OFF = 18.82' RT

BENCHMARK #: 205  
 DESCRIPTION: SET COTTON SPINDLE IN EAST FACE OF POWER POLE/LIGHT POLE @ NW CORNER OF DIVISION/RIOPELLE INT.  
 EL: = 143.70 STA=18+64.24OFF = 71.77' LT

REVISIONS

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

FILE: SURVEYINFOSHEET.DOC

DATE: 04/23/19

DESIGN UNIT:

TSC:

CS:

JN: PW-7008 RIOPELLE

**SURVEY INFORMATION SHEET**

RIOPELLE STREETSCAPE

DRAWING SHEET

RIO SURVEY 001

CONST 17

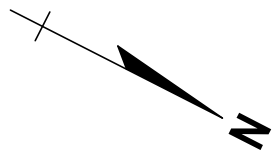
I-75 SERVICE DR

WINDER ST

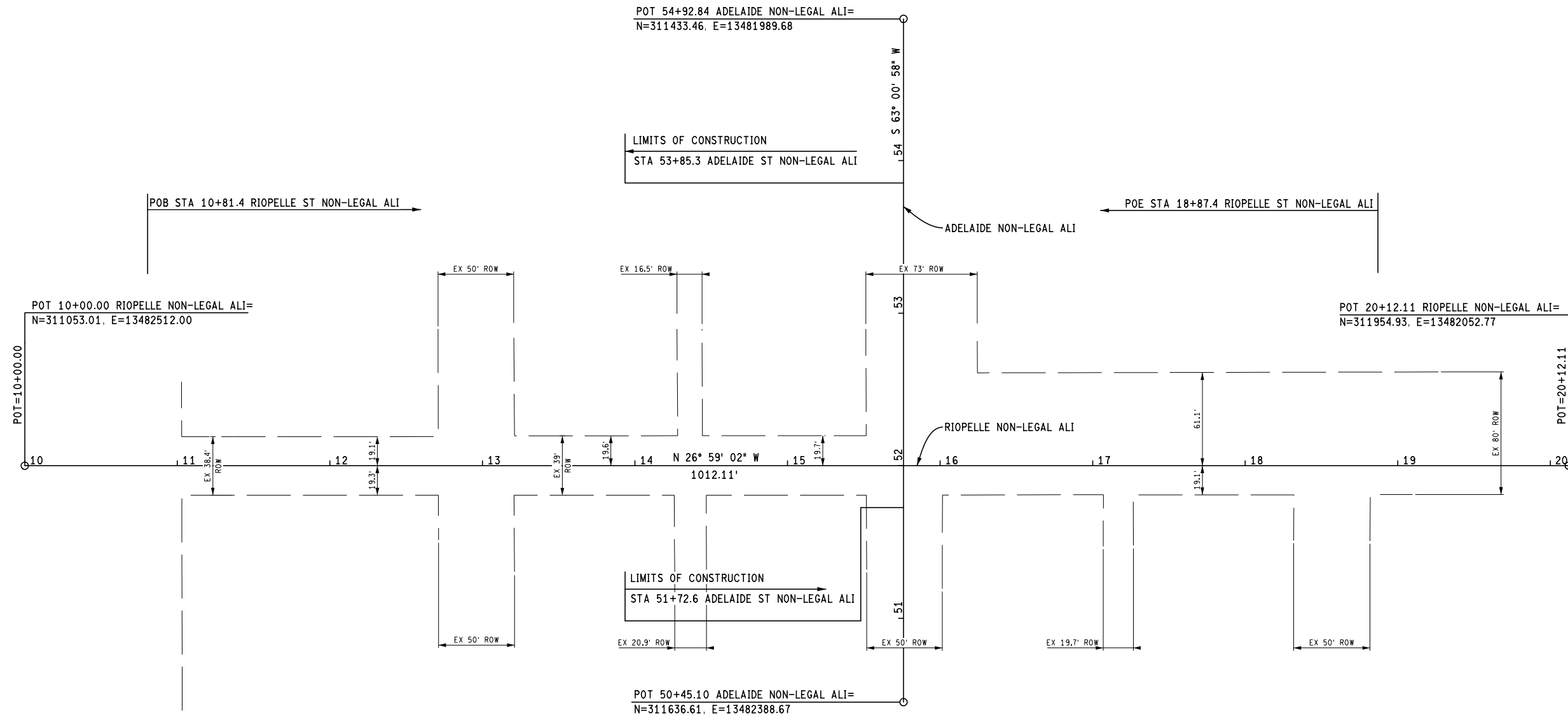
ALLEY

ADELAIDE ST

DIVISION ST



ALIGNMENT KEY  
 RIOPELLE NON-LEGAL ALI: CONSTRUCTION ALIGNMENT AS PROPOSED FOR JN PW-7008 RIOPELLE.  
 ADELAIDE NON-LEGAL ALI: CONSTRUCTION ALIGNMENT AS PROPOSED FOR JN PW-7008 RIOPELLE.



I-75 SERVICE DR

WINDER ST

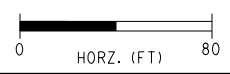
ALLEY

ADELAIDE ST

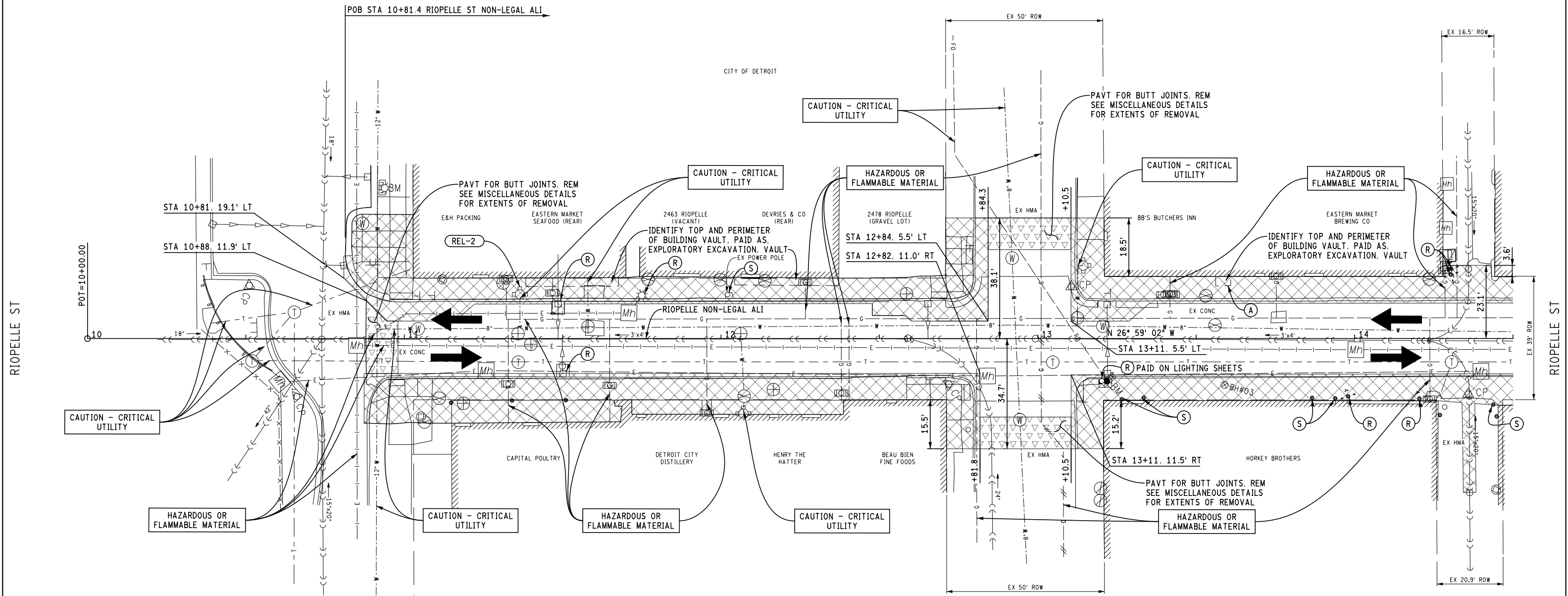
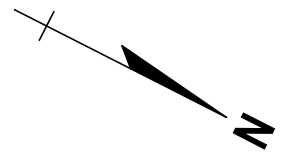
ALLEY

DIVISION ST

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 04/23/19	JN: PW-7008 RIOPELLE	ALIGNMENT SHEET	DRAWING	SHEET
FILE: Align.dgn		RIOPELLE STREETScape	RIO ALIGN 001	SECT 1 18



QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
2	Ea	Dr Structure, Rem, Modified
924	Syd	Pavt, Rem, Modified
4	Ea	Bollard, Rem
3	Ea	Exploratory Excavation, Vault
1	Ea	Vault, Abandon
66	Syd	Pavt for Butt Joints, Rem
1	Ea	Light Std Fdn, Rem

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

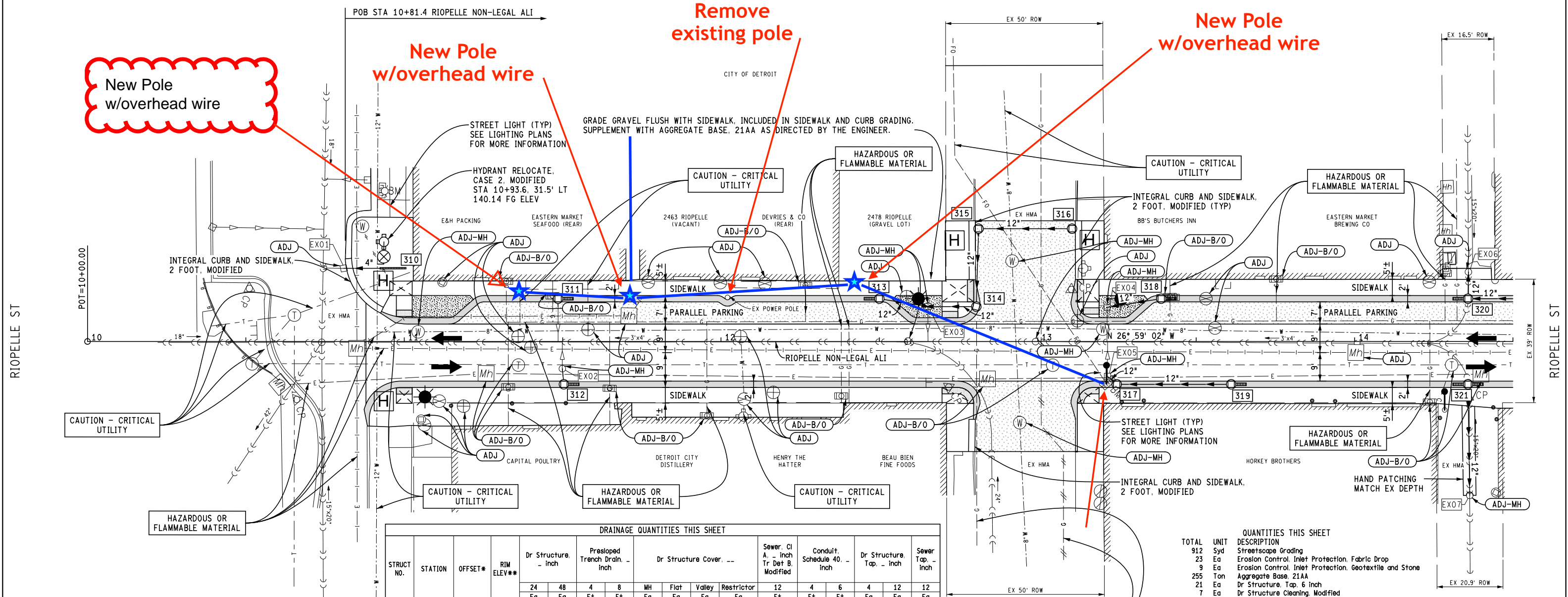
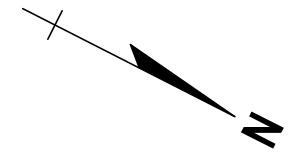


DATE: 04/23/19  
 FILE: REM001.dgn

JN: PW-7008 RIOPELLE

REMOVAL SHEET  
 RIOPELLE STREETScape  
 RIOPELLE STA 10+81.4 (POB) TO STA 14+50

DRAWING SHEET  
 RIO REM 001  
 SECT 1  
 19



**DRAINAGE QUANTITIES THIS SHEET**

STRUCT NO.	STATION	OFFSET*	RIM ELEV**	Dr Structure, - inch				Dr Structure Cover. --				Sewer, CI A. - inch Tr Det B. Modified	Conduit, Schedule 40, - inch			Dr Structure Tap, - inch	Sewer Tap, - inch		
				24 Ea	48 Ea	4 Ft	8 Ft	MH Ea	Flat Ea	Valley Ea	Restrictor Ea		12 Ft	4 Ft	6 Ft			4 Ea	12 Ea
EX01	10+80.89	23.07 LT	139.44																
310	10+92.33	23.10 LT	139.80			8.2							12		1				
311	11+48.54	13.50 LT	140.56	1			3.3						3		1		1		
EX02	11+49.90	8.57 RT	140.62					1								1			
312	11+50.38	13.50 RT	140.54	1			3.3						5		1				
313	12+49.98	13.50 LT	140.80	1			3.3						16		1				
EX03	12+65.31	11.01 LT	140.88					1									2		
314	12+80.59	11.01 LT	140.76		1								15						
315	12+81.29	35.58 LT	140.47										1						
316	13+10.81	35.58 LT	140.54	1									30						
EX04	13+21.89	10.76 LT	141.21					1									1		
EX05	13+21.98	11.01 RT	141.07					1									1		
317	13+24.92	13.50 RT	141.07		1								4						
318	13+38.93	13.50 LT	141.11	1			3.3						17		1				
319	13+61.05	13.50 RT	141.02	1			3.3						36		1				
EX06	14+35.95	21.93 LT	141.09						1									1	
320	14+35.81	13.50 LT	141.16	1			3.3						9		1				
321	14+35.81	13.50 RT	141.19	1			6.6						35		2				
EX07	14+36.35	48.55 RT	140.43						1									1	
<b>TOTAL</b>				8	3	9	27	5	1	9	2	195	12	8	1	7	1		

**QUANTITIES THIS SHEET**

TOTAL	UNIT	DESCRIPTION
912	Syd	Streetscape Grading
23	Ea	Erosion Control, Inlet Protection, Fabric Drop
9	Ea	Erosion Control, Inlet Protection, Geotextile and Stone
255	Ton	Aggregate Base, 21AA
21	Ea	Dr Structure, Tap, 6 inch
7	Ea	Dr Structure Cleaning, Modified
15	Ea	Dr Structure Cover, Adj, Case 1, Modified
711	Ft	Underdrain, Subbase, 6 inch
105	Ft	Underdrain Outlet, 6 inch
6	Ton	Hand Patching
254	Ton	HMA, 4E3
61	Ton	HMA, 5E3
144	Ton	HMA Approach
184	Syd	Conc Base Cse, Nonreinf, 9 inch
436	Ea	Lane Tie, Epoxy Anchored
11	Ft	Curb, Conc, Detail CD, Modified
69	Ft	Integral Curb and Sidewalk, 2 Foot, Modified
722	Ft	Valley Gutter, Conc, Modified
54	Ft	Detectable Warning Surface, Modified
384	Sft	Sidewalk, Conc, 6 inch, Modified
3937	Sft	Sidewalk, Conc, 8 inch, Integral Colored
456	Sft	Sidewalk, Conc, Reinf, 8 inch, Integral Colored
177	Sft	Sidewalk, Exposed Aggregate, 8 inch, Modified
116	Sft	Sidewalk, Exposed Aggregate, Reinf, 8 inch, Modified
1	Ea	Hydrant, Relocate, Case 2, Modified
17	Ea	Water Shutoff, Adj, Case 1, Modified
2	Ea	Sanitary Cleanout, Adj

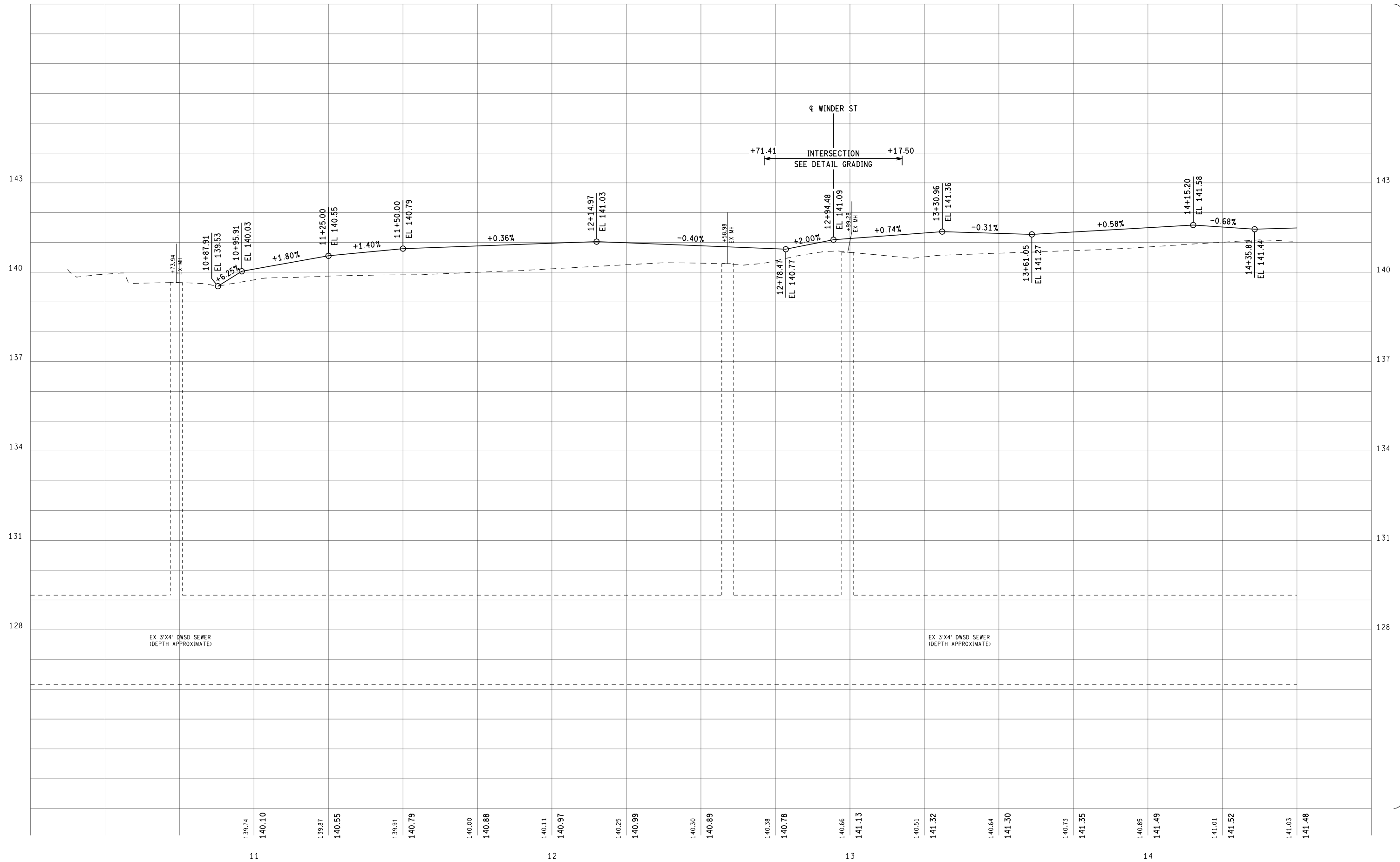
I-75 SERVICE DR \*OFFSETS ARE MEASURED TO CENTER OF CASTING  
 \*\*RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND CENTER OF COVER FOR MANHOLES

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )				DATE: 04/23/19				CONSTRUCTION SHEET		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	RIOPELLE STREETScape		RIO CON 001	SECT 1
								RIOPELLE STA 10+81.4 (POB) TO STA 14+50			20



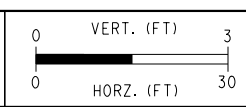
FILE: CON001.dgn

JN: PW-7008 RIOPELLE



EX GROUND PROFILE AT RIOPELLE NON-LEGAL ALI  
 PROP PLAN GRADE AT RIOPELLE NON-LEGAL ALI

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

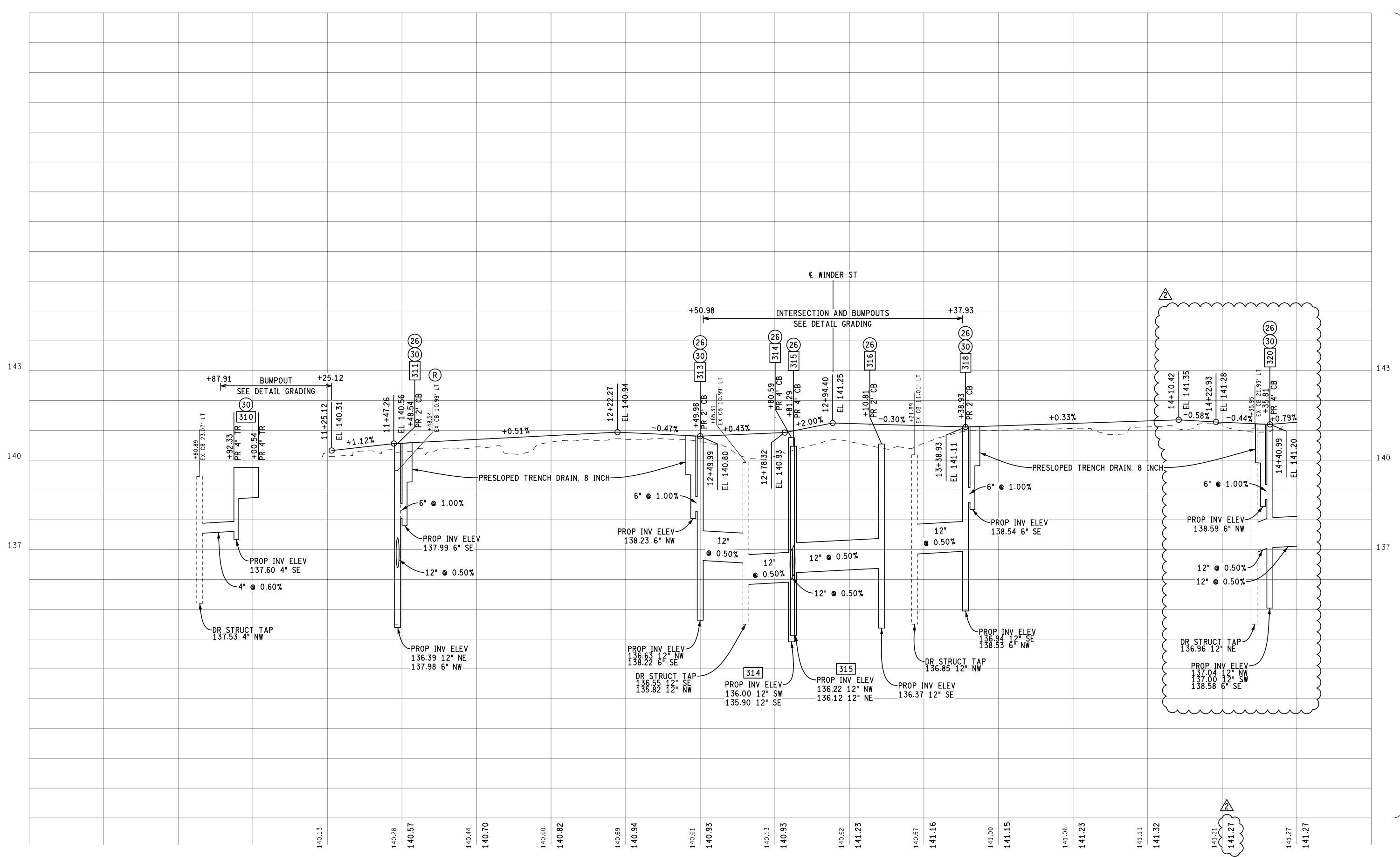


DATE: 04/23/19  
 FILE: PROF001.dgn

JN: PW-7008 RIOPELLE

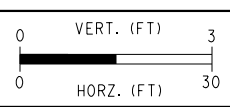
PROFILE SHEET (CENTER)  
 RIOPELLE STREETScape  
 RIOPELLE STA 10+81.4 (POB) TO STA 14+50

DRAWING SHEET  
 RIO PROF 001 SECT 1  
 21



EX GROUND LT AT FACE OF SIDEWALK  
 PROP LT FACE OF SIDEWALK

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

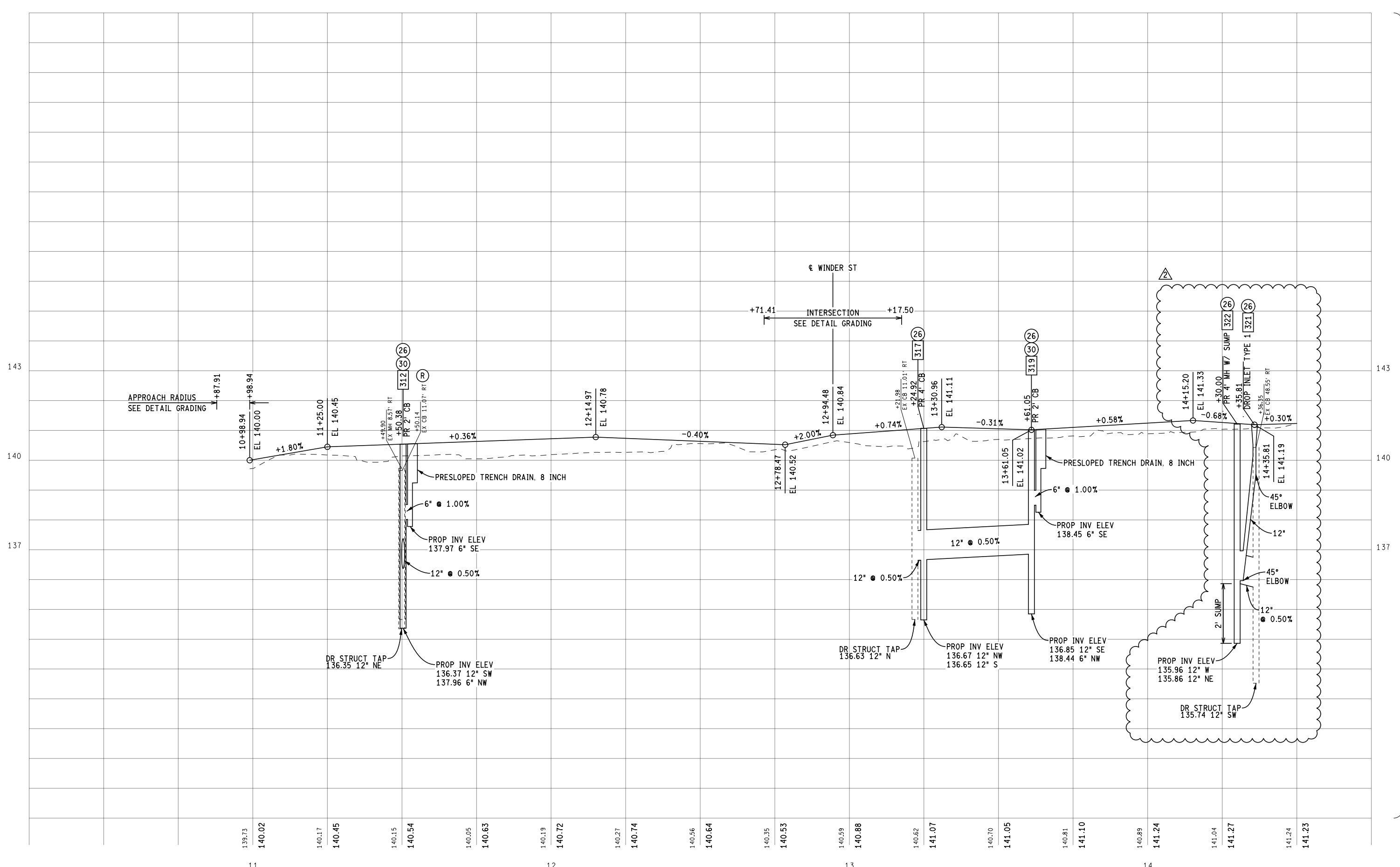


DATE: 03/22/19  
 FILE: PROF002.dgn

JN: PW-7008 RIOPELLE

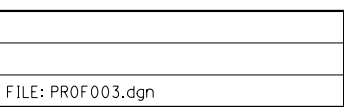
PROFILE SHEET (LEFT)  
 RIOPELLE STREETScape  
 RIOPELLE STA 10+81.4 (POB) TO STA 14+50

DRAWING SHEET  
 RIO PROF 002 SECT 1  
 22



139.73 140.02 140.17 140.45 140.15 140.54 140.05 140.63 140.19 140.72 140.27 140.74 140.56 140.64 140.35 140.53 140.59 140.88 140.62 141.07 140.70 141.05 140.81 141.10 140.89 141.24 141.04 141.27 141.24 141.23

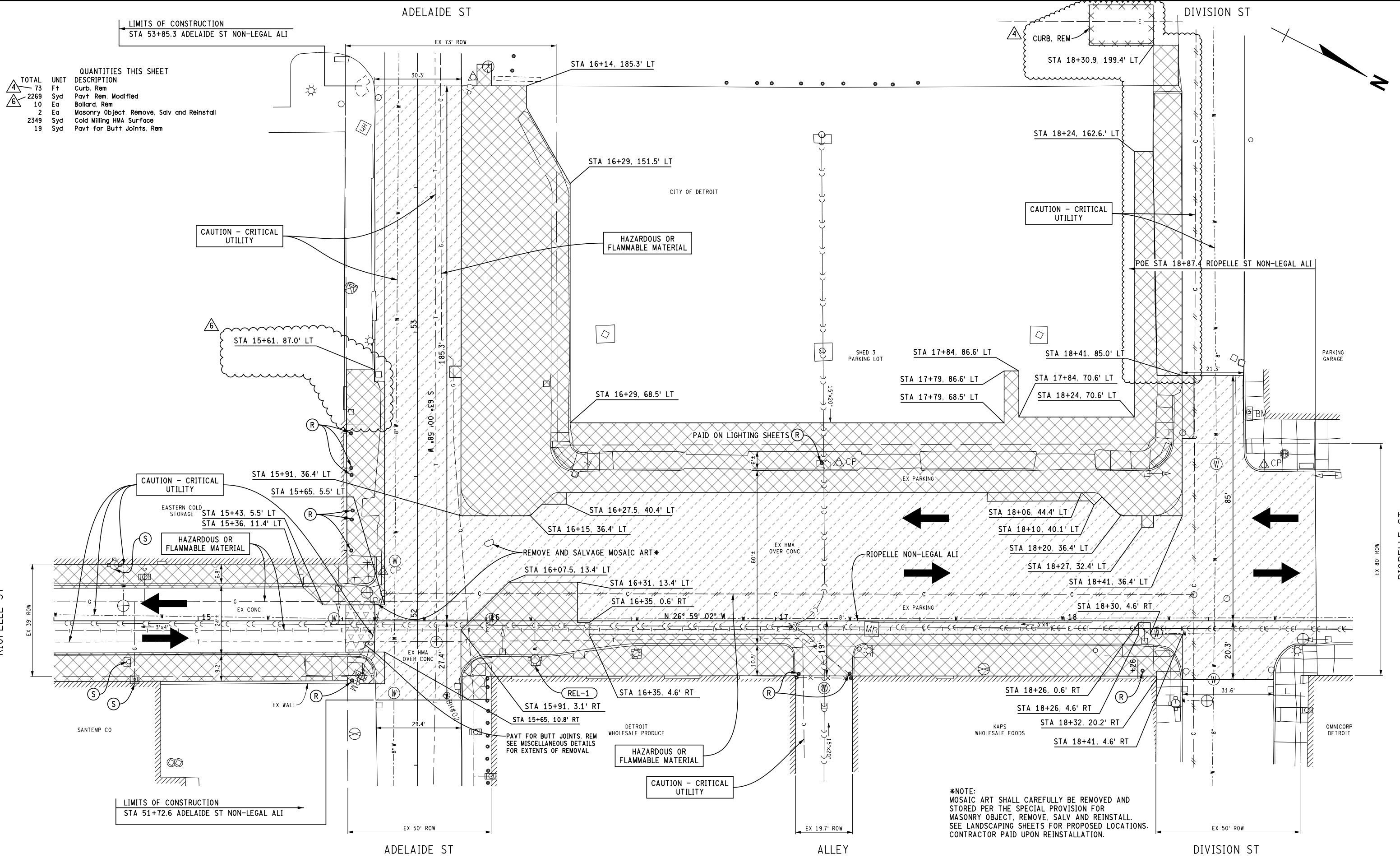
FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 03/22/19  
 JN: PW-7008 RIOPELLE  
 FILE: PROF003.dgn

PROFILE SHEET (RIGHT)  
 RIOPELLE STREETScape  
 RIOPELLE STA 10+81.4 (POB) TO STA 14+50

DRAWING SHEET  
 RIO PROF 003 SECT 1  
 23



QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
4	Ft	Curb, Rem
2269	Syd	Pavt, Rem, Modified
10	Ea	Ballard, Rem
2	Ea	Masonry Object, Remove, Salv and Reinstall
2349	Syd	Cold Milling HMA Surface
19	Syd	Pavt for Butt Joints, Rem

\*NOTE:  
 MOSAIC ART SHALL CAREFULLY BE REMOVED AND STORED PER THE SPECIAL PROVISION FOR MASONRY OBJECT, REMOVE, SALV AND REINSTALL. SEE LANDSCAPING SHEETS FOR PROPOSED LOCATIONS. CONTRACTOR PAID UPON REINSTALLATION.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION
4	09/17/19		DIVISION WALK/SITE FURNISHINGS				
6	10/17/19		COLD STORAGE SIDEWALK				

DATE: 03/22/19  
 FILE: REM002.dgn

JN: PW-7008 RIOPELLE

REMOVAL SHEET	DRAWING	SHEET
RIOPELLE STREETScape	RIO REM 002	SECT 1
RIOPELLE STA 14+50 TO STA 18+87.4 (POE)		24



LIMITS OF CONSTRUCTION  
STA 53+85.3 ADELAIDE ST NON-LEGAL ALI

ADELAIDE ST

DRIVEWAY, NONREINF CONC, 8 INCH  
6 INCH AGGREGATE BASE, 21AA

DIVISION ST

QUANTITIES THIS SHEET

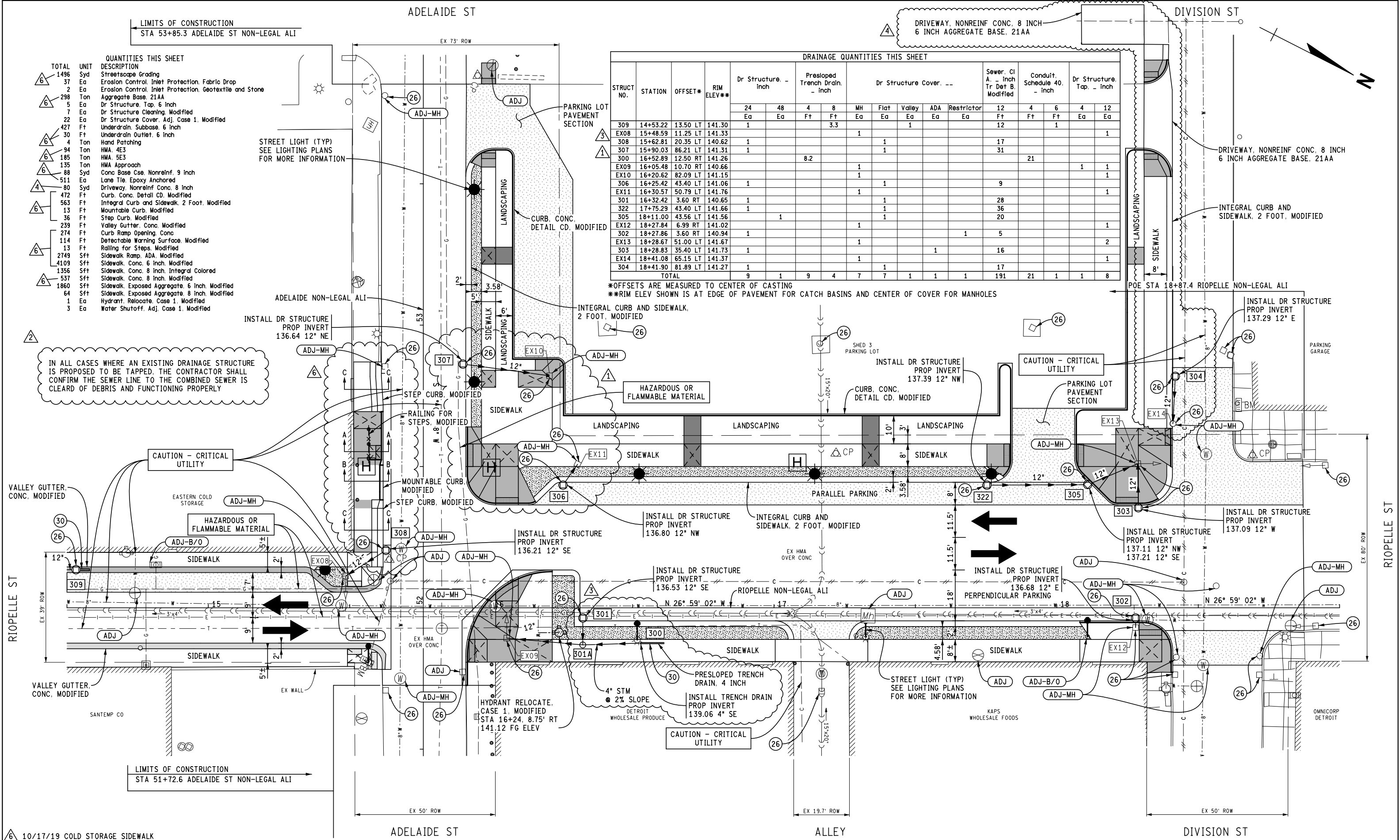
TOTAL	UNIT	DESCRIPTION
1496	Syd	Streetscape Grading
37	Ea	Erosion Control, Inlet Protection, Fabric Drop
2	Ea	Erosion Control, Inlet Protection, Geotextile and Stone
298	Ton	Aggregate Base, 21AA
5	Ea	Dr Structure, Tap, 6 inch
7	Ea	Dr Structure Cleaning, Modified
22	Ea	Dr Structure Cover, Adj, Case 1, Modified
427	Ft	Underdrain, Subbase, 6 inch
30	Ft	Underdrain Outlet, 6 inch
4	Ton	Hand Patching
94	Ton	HMA, 4E3
185	Ton	HMA, 5E3
135	Ton	HMA Approach
88	Syd	Conc Base Cse, Nonreinf, 9 inch
511	Ea	Lane Tie, Epoxy Anchored
80	Syd	Driveway, Nonreinf Conc, 8 inch
472	Ft	Curb, Conc, Detail CD, Modified
563	Ft	Integral Curb and Sidewalk, 2 Foot, Modified
13	Ft	Mountable Curb, Modified
36	Ft	Step Curb, Modified
239	Ft	Valley Gutter, Conc, Modified
274	Ft	Curb Ramp Opening, Conc
114	Ft	Detectable Warning Surface, Modified
13	Ft	Railing for Steps, Modified
2749	Sft	Sidewalk Ramp, ADA, Modified
4109	Sft	Sidewalk, Conc, 6 inch, Modified
1356	Sft	Sidewalk, Conc, 8 inch, Integral Colored
537	Sft	Sidewalk, Conc, 8 inch, Modified
1860	Sft	Sidewalk, Exposed Aggregate, 6 inch, Modified
64	Sft	Sidewalk, Exposed Aggregate, 8 inch, Modified
1	Ea	Hydrant, Relocate, Case 1, Modified
3	Ea	Water Shutoff, Adj, Case 1, Modified

DRAINAGE QUANTITIES THIS SHEET

STRUCT NO.	STATION	OFFSET*	RIM ELEV**	Dr Structure - inch		Presloped Trench Drain - inch					Dr Structure Cover. - inch					Sewer, CI A - inch Tr Det B, Modified	Conduit, Schedule 40, - inch	Dr Structure Tap, - inch		
				24	48	4	8	MH	Flat	Valley	ADA	Restrictor	12	4	6			4	12	
				Ea	Ea	Ft	Ft	Ea	Ea	Ea	Ea	Ea	Ea	Ea	Ft	Ft	Ft	Ea	Ea	
309	14+53.22	13.50 LT	141.30	1																
EX08	15+48.59	11.25 LT	141.33	1																
308	15+62.81	20.35 LT	140.62	1																
307	15+90.03	86.21 LT	141.31	1																
300	16+52.89	12.50 RT	141.26																	
EX09	16+05.48	10.70 RT	140.66																	
EX10	16+20.62	82.09 LT	141.15																	
306	16+25.42	43.40 LT	141.06	1																
EX11	16+30.57	50.79 LT	141.76																	
301	16+32.42	3.60 RT	140.65	1																
322	17+75.29	43.40 LT	141.66	1																
305	18+11.00	43.56 LT	141.56																	
EX12	18+27.84	6.99 RT	141.02																	
302	18+27.86	3.60 RT	140.94	1																
EX13	18+28.67	51.00 LT	141.67																	
303	18+28.83	35.40 LT	141.73	1																
EX14	18+41.08	65.15 LT	141.37																	
304	18+41.90	81.89 LT	141.27	1																
TOTAL				9	1	9	4	7	7	1	1	1	1	1	191	21	1	1	1	8

\*OFFSETS ARE MEASURED TO CENTER OF CASTING  
\*\*RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND CENTER OF COVER FOR MANHOLES

IN ALL CASES WHERE AN EXISTING DRAINAGE STRUCTURE IS PROPOSED TO BE TAPPED, THE CONTRACTOR SHALL CONFIRM THE SEWER LINE TO THE COMBINED SEWER IS CLEARED OF DEBRIS AND FUNCTIONING PROPERLY



LIMITS OF CONSTRUCTION  
STA 51+72.6 ADELAIDE ST NON-LEGAL ALI

10/17/19 COLD STORAGE SIDEWALK

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION
1	07/16/19	SE	CORNER PARKING LOT
2	08/15/19	DWS	REVISIONS
3	9/9/19		GRADING ADELAIDE TO DIVISION
4	09/17/19		DIVISION WALK/SITE FURNISHINGS

DATE: 08/13/19

JN: PW-7008 RIOPELLE

CONSTRUCTION SHEET

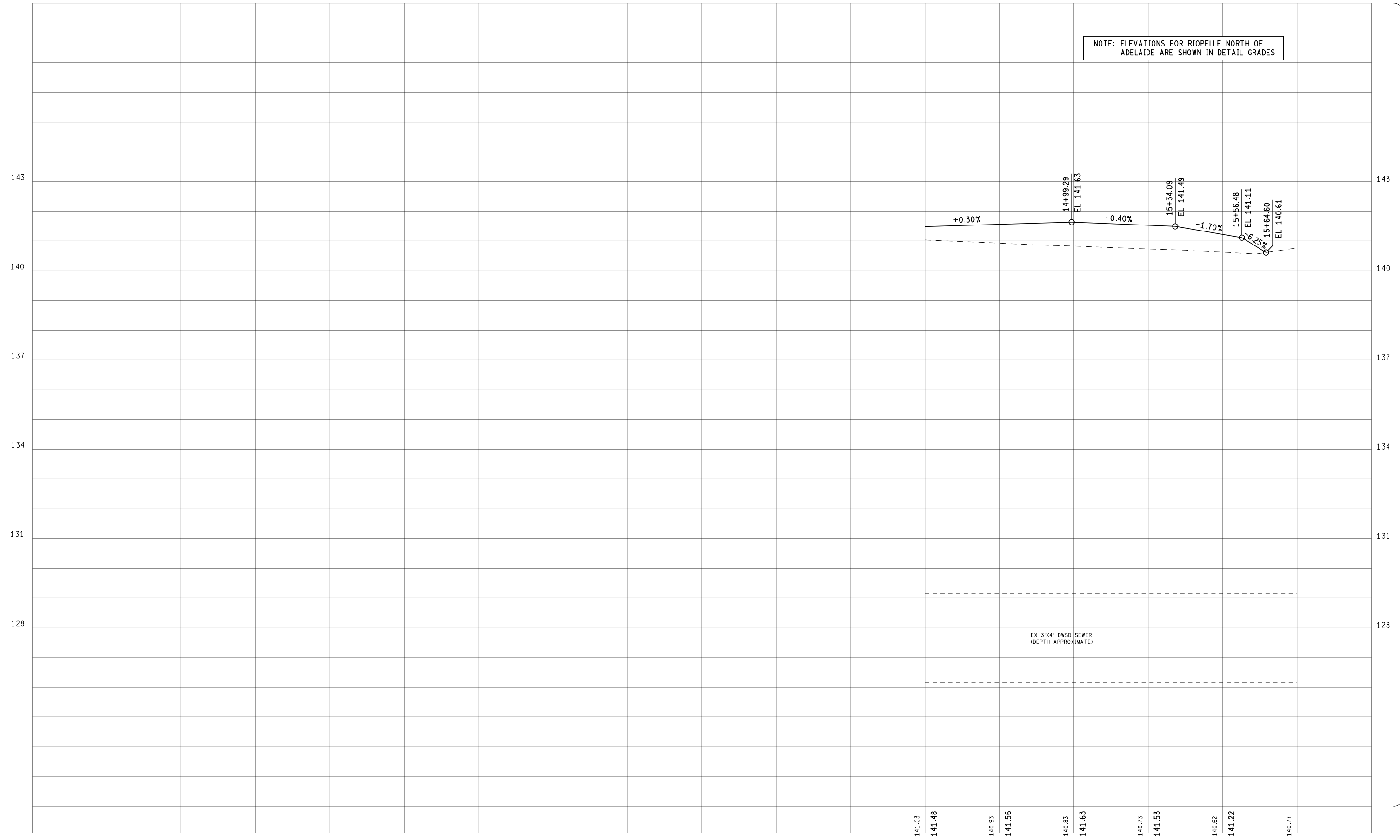
RIOPELLE STA 14+50 TO STA 18+87.4 (POE)

DRAWING SHEET

RIO CON 002 SECT 1

25

NOTE: ELEVATIONS FOR RIOPELLE NORTH OF ADELAIDE ARE SHOWN IN DETAIL GRADES

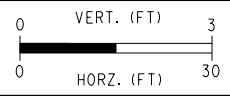


EX GROUND PROFILE AT RIOPELLE NON-LEGAL ALI  
 PROP PLAN GRADE AT RIOPELLE NON-LEGAL ALI

141.03 141.48 140.93 141.56 140.83 141.63 140.73 141.53 140.62 141.22 140.77

15

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

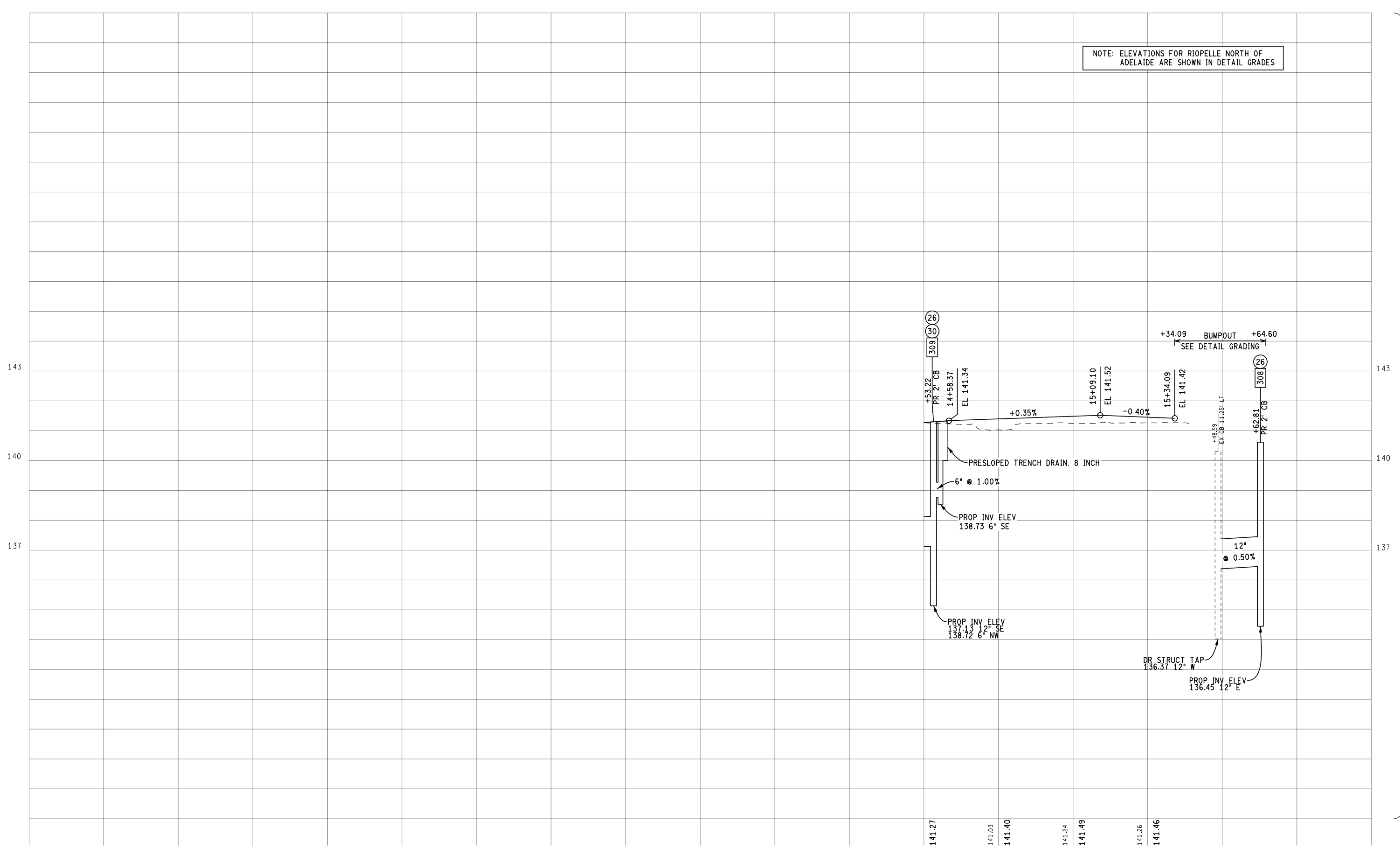


DATE: 04/23/19  
 JN: PW-7008 RIOPELLE  
 FILE: PROF004.dgn

PROFILE SHEET (CENTER)  
 RIOPELLE STREETScape  
 RIOPELLE STA 14+50 TO STA 15+75

DRAWING	RIO PROF 004	SHEET	26
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NOTE: ELEVATIONS FOR RIOPELLE NORTH OF ADELAIDE ARE SHOWN IN DETAIL GRADES



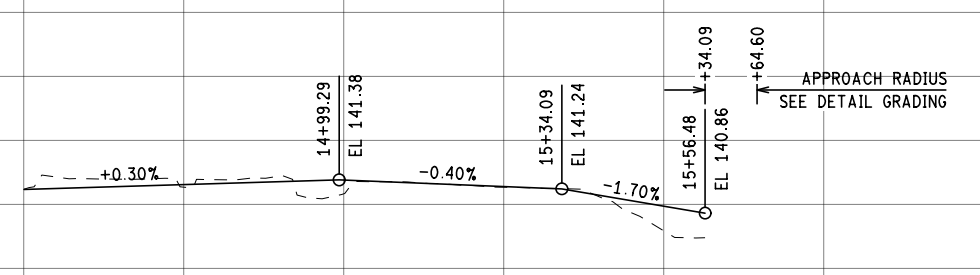
EX GROUND LT AT FACE OF SIDEWALK  
 PROP LT FACE OF SIDEWALK

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )							VERT. (FT) 0 3 0 30 HORZ. (FT)	DATE: 04/23/19	JN: PW-7008 RIOPELLE	PROFILE SHEET (LEFT)		DRAWING SHEET RIO PROF 005 27
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION							RIOPELLE STREETScape RIOPELLE STA 14+50 TO STA 15+75		

NOTE: ELEVATIONS FOR RIOPELLE NORTH OF ADELAIDE ARE SHOWN IN DETAIL GRADES

143  
140

143  
140

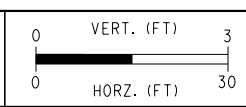


EX GROUND RT AT FACE OF SIDEWALK  
PROP RT FACE OF SIDEWALK

141.23 141.27 141.31 141.17 141.38 141.27 141.28 140.59 140.96

15

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



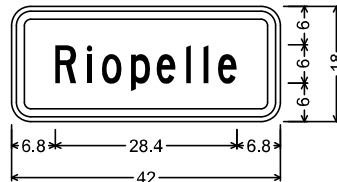
DATE: 04/23/19  
FILE: PROF006.dgn

JN: PW-7008 RIOPELLE

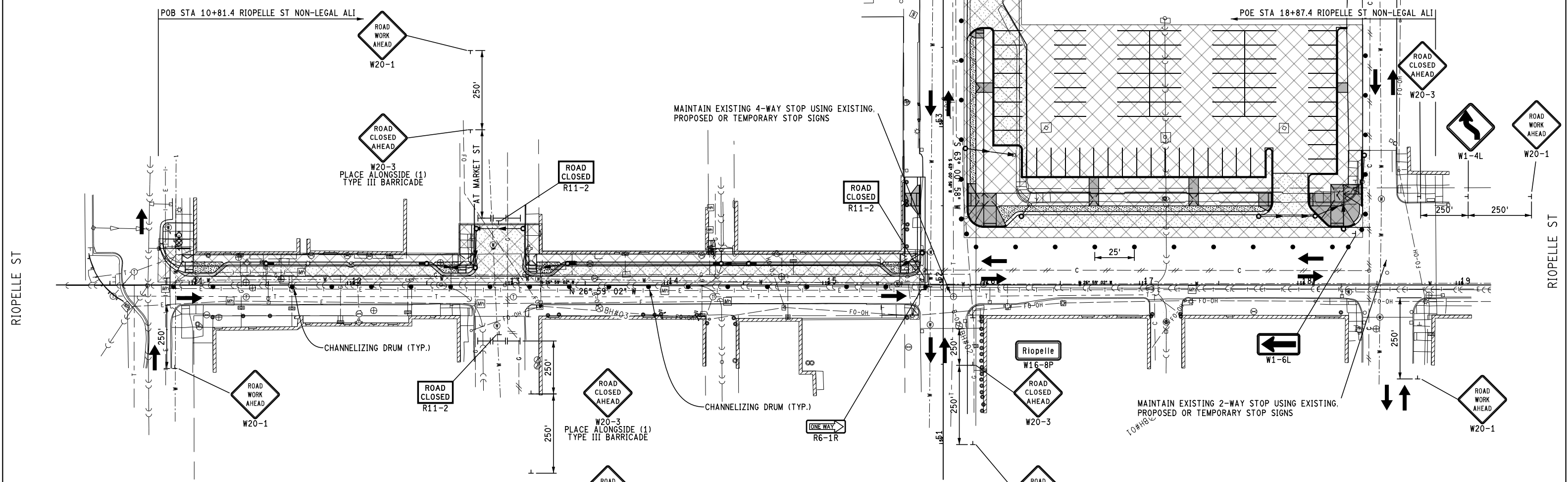
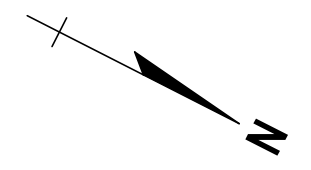
PROFILE SHEET (RIGHT)  
RIOPELLE STREETScape  
RIOPELLE STA 14+50 TO STA 15+75

DRAWING SHEET  
RIO PROF 006 SECT 1  
28

SIGN DETAIL



Identifier : W16-8P  
 3.0" Radius, 1.3" Border, 0.8" Indent, Black on Orange;  
 [Riopelle] C;



TOTAL	UNIT	DESCRIPTION
50	Ton	Maintenance Gravel
200	Ft	Pedestrian Path, Temp
6	Ea	Pedestrian Ramp, Temp
15	Ea	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn
15	Ea	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper
15	Ea	Pedestrian Type II Barricade, Temp
200	Ft	Pedestrian Type II Channelizer, Temp
1	LSUM	Minor Traf Devices
60	Ea	Plastic Drum, High Intensity, Furn
60	Ea	Plastic Drum, High Intensity, Oper
96	Sft	Sign, Type A, Temp, Prismatic, Furn
96	Sft	Sign, Type A, Temp, Prismatic, Oper
301	Sft	Sign, Type B, Temp, Prismatic, Furn
301	Sft	Sign, Type B, Temp, Prismatic, Oper
12	Sft	Sign, Type B, Temp, Prismatic, Special, Furn
12	Sft	Sign, Type B, Temp, Prismatic, Special, Oper
1	LSUM	Traf Regulator Control

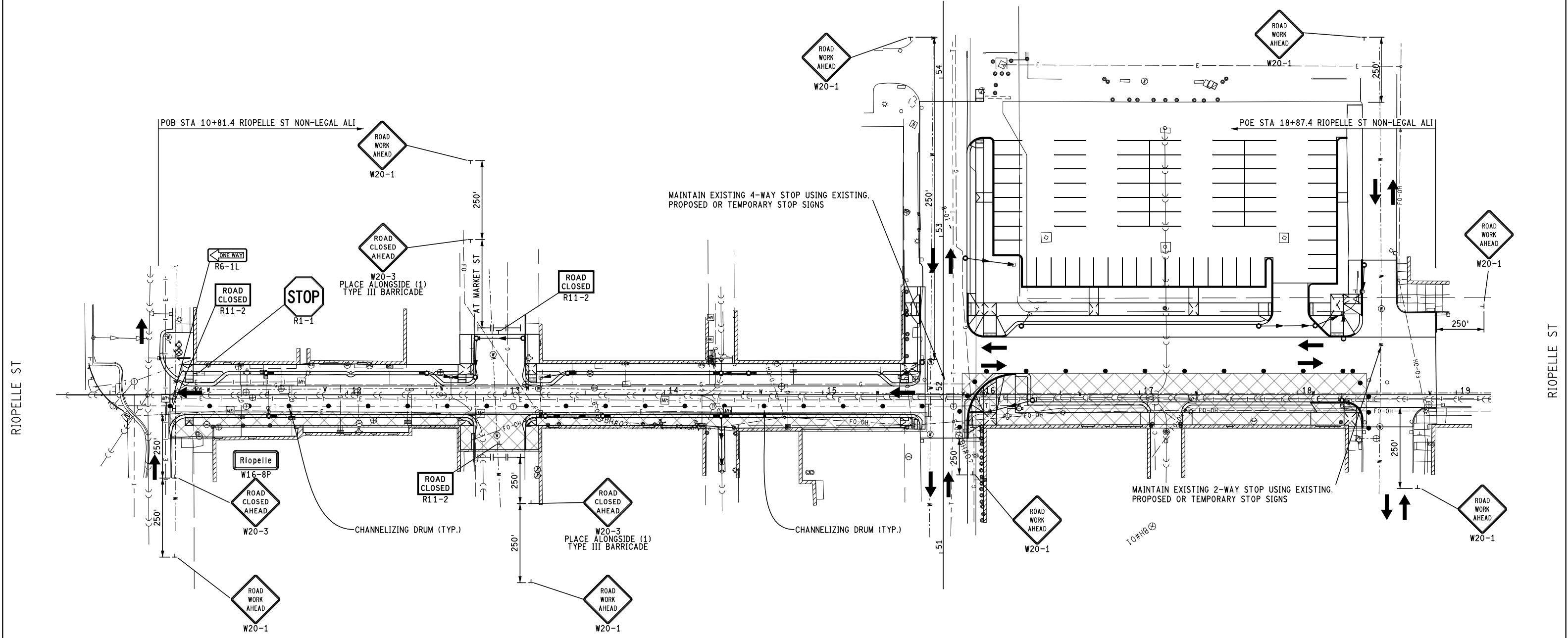
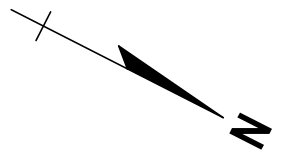
FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 04/23/19  
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JN: PW-7008 RIOPELLE

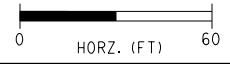
DRAWING		SHEET	
MAINTAINING TRAFFIC		RIO MTSTG 001	
RIOPELLE STREETSCAPE		SECT 1	
STAGE 1		29	



RIOPELLE ST

RIOPELLE ST

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



FILE: ST62.dgn

DATE: 04/23/19

JN: PW-7008 RIOPELLE

MAINTAINING TRAFFIC	DRAWING SHEET
RIOPELLE STREETSCAPE	
STAGE 2	RIO MTSTG 002
	SECT 1
	30

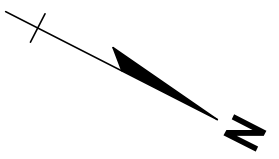
I-75 SERVICE DR

WINDER ST

ALLEY

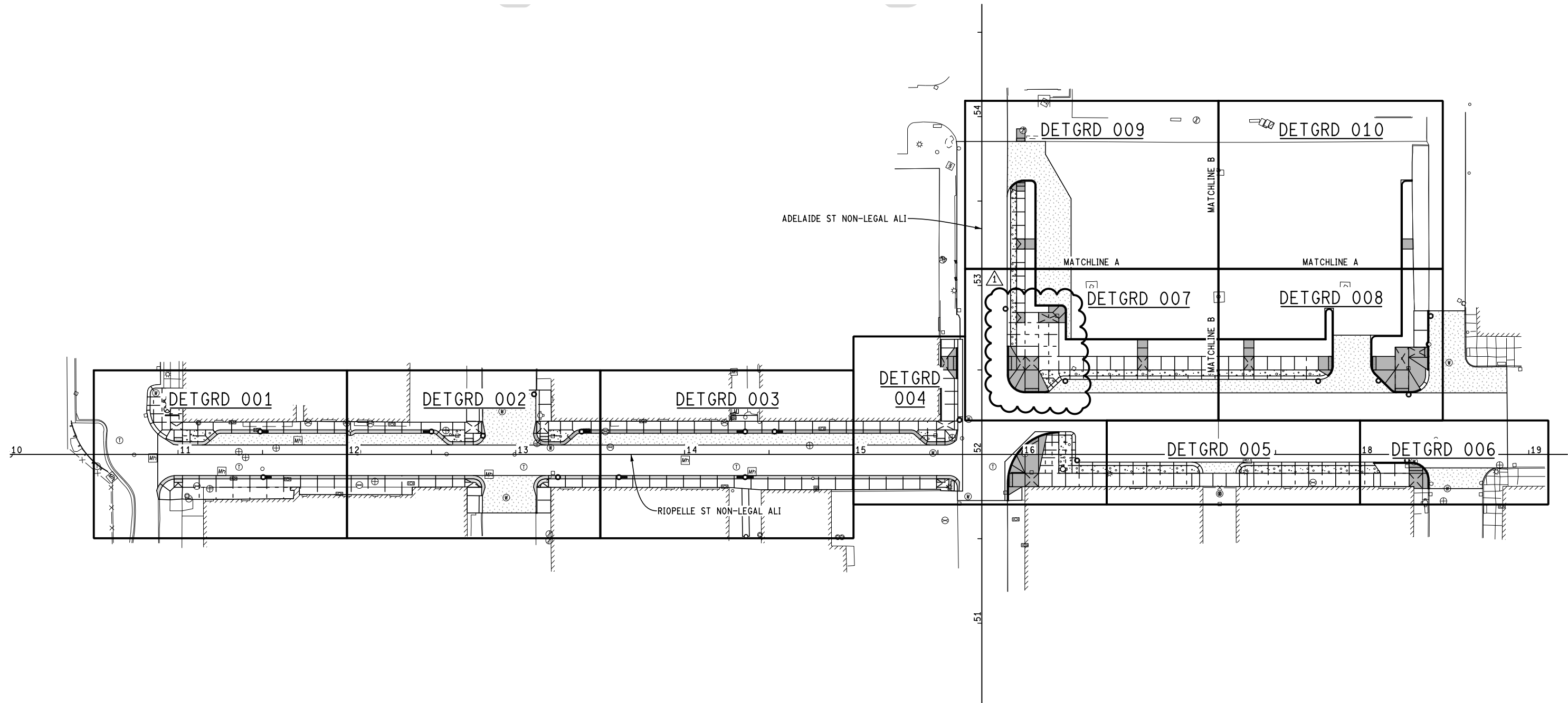
ADELAIDE ST

DIVISION ST



RIOPELLE ST

RIOPELLE ST



I-75 SERVICE DR

WINDER ST

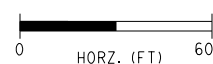
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ADELAIDE ST

ALLEY

DIVISION ST

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION
1	7/19/19		SE CORNER PARKING LOT				



FILE: DETGRD000.dgn

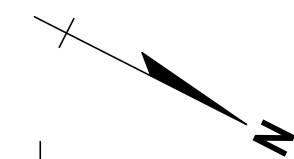
DATE: 03/22/19

JN: PW-7008 RIOPELLE

DETAIL GRADES OVERVIEW MAP  
RIOPELLE STREETScape

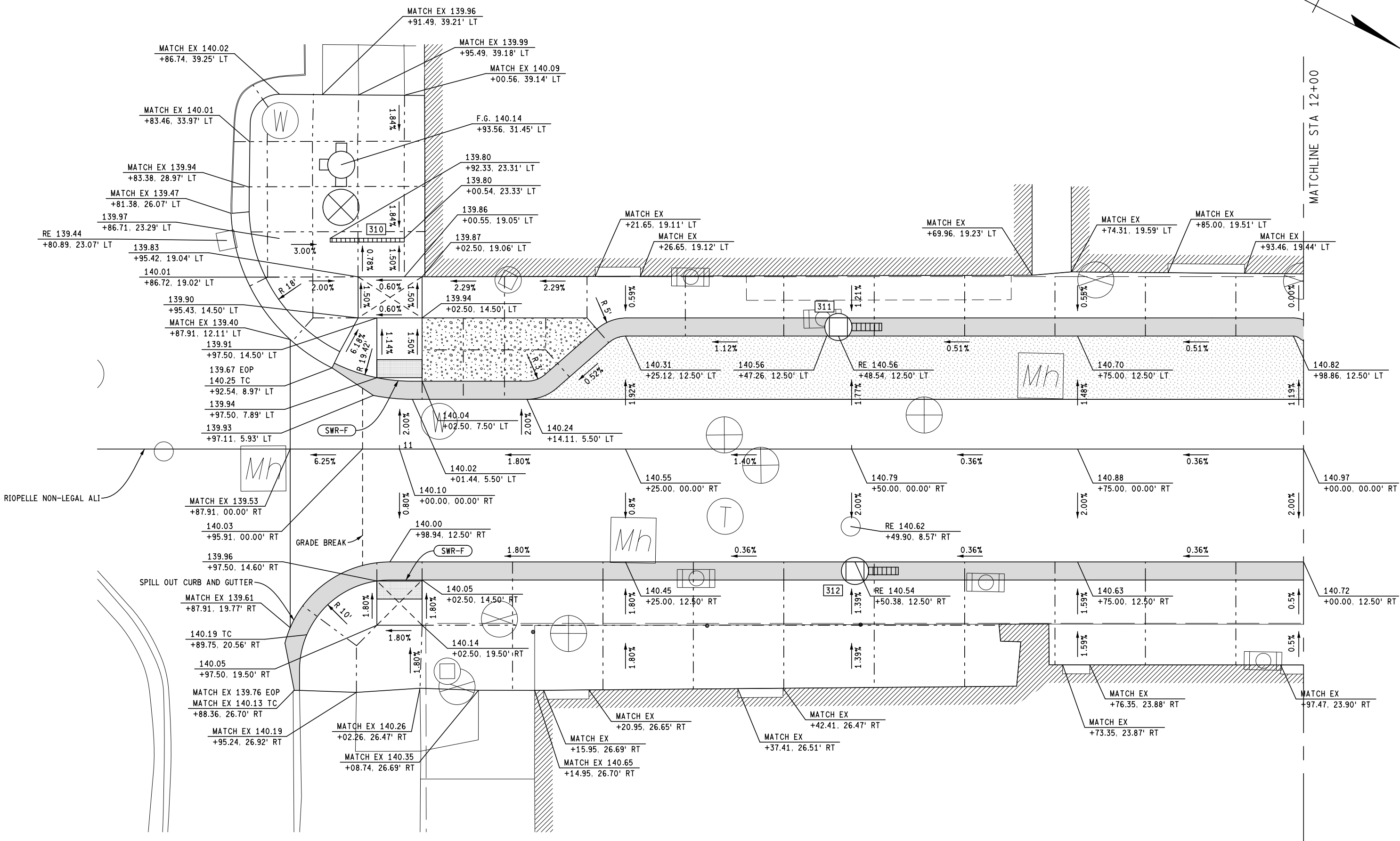
DRAWING	SHEET
R10 DETGRD 000	31

I-75 SERVICE DR



RIOPELLE ST

RIOPELLE ST



I-75 SERVICE DR

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

DATE: 04/23/19  
 FILE: DETGRD001.dgn

JN: PW-7008 RIOPELLE

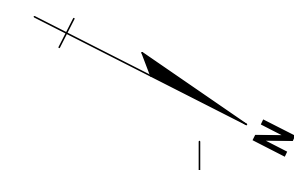
DETAIL GRADES  
 RIOPELLE STREETScape  
 RIOPELLE STA 10+81.4 (POB) TO STA 12+00.00

DRAWING SHEET  
 RIO DETGRD 001  
 SECT 1  
 32





ALLEY

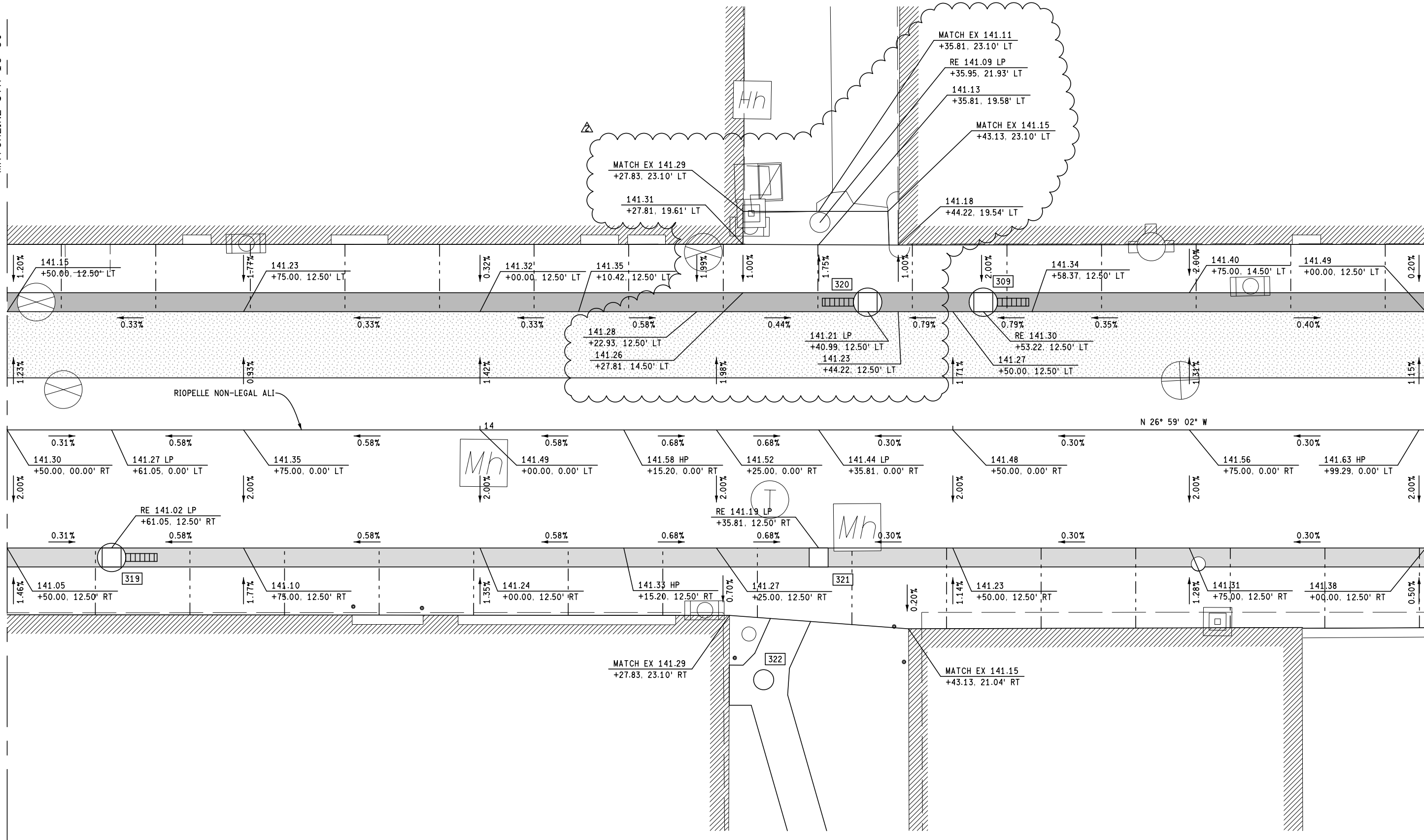


MATCHLINE STA 13+50

MATCHLINE STA 15+00

RIOPELLE ST

RIOPELLE ST



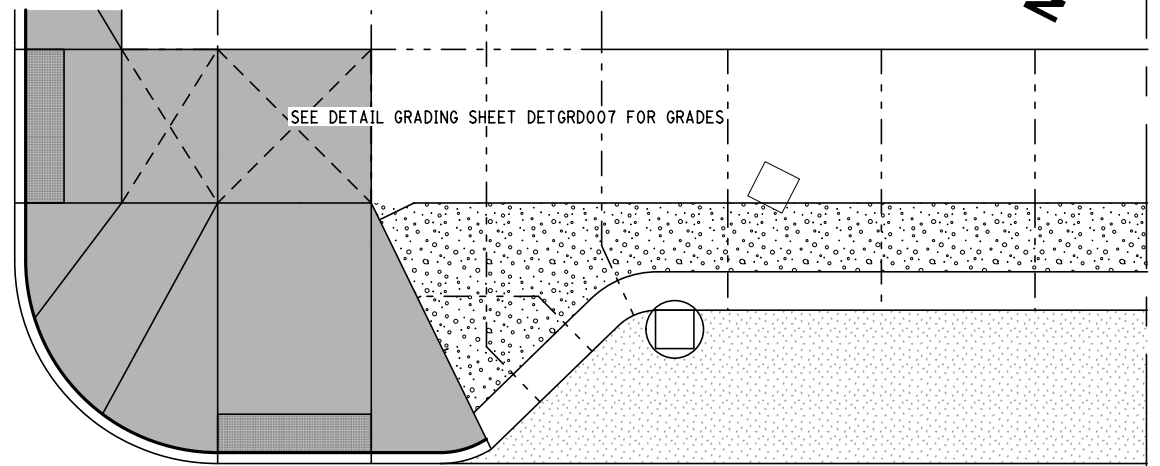
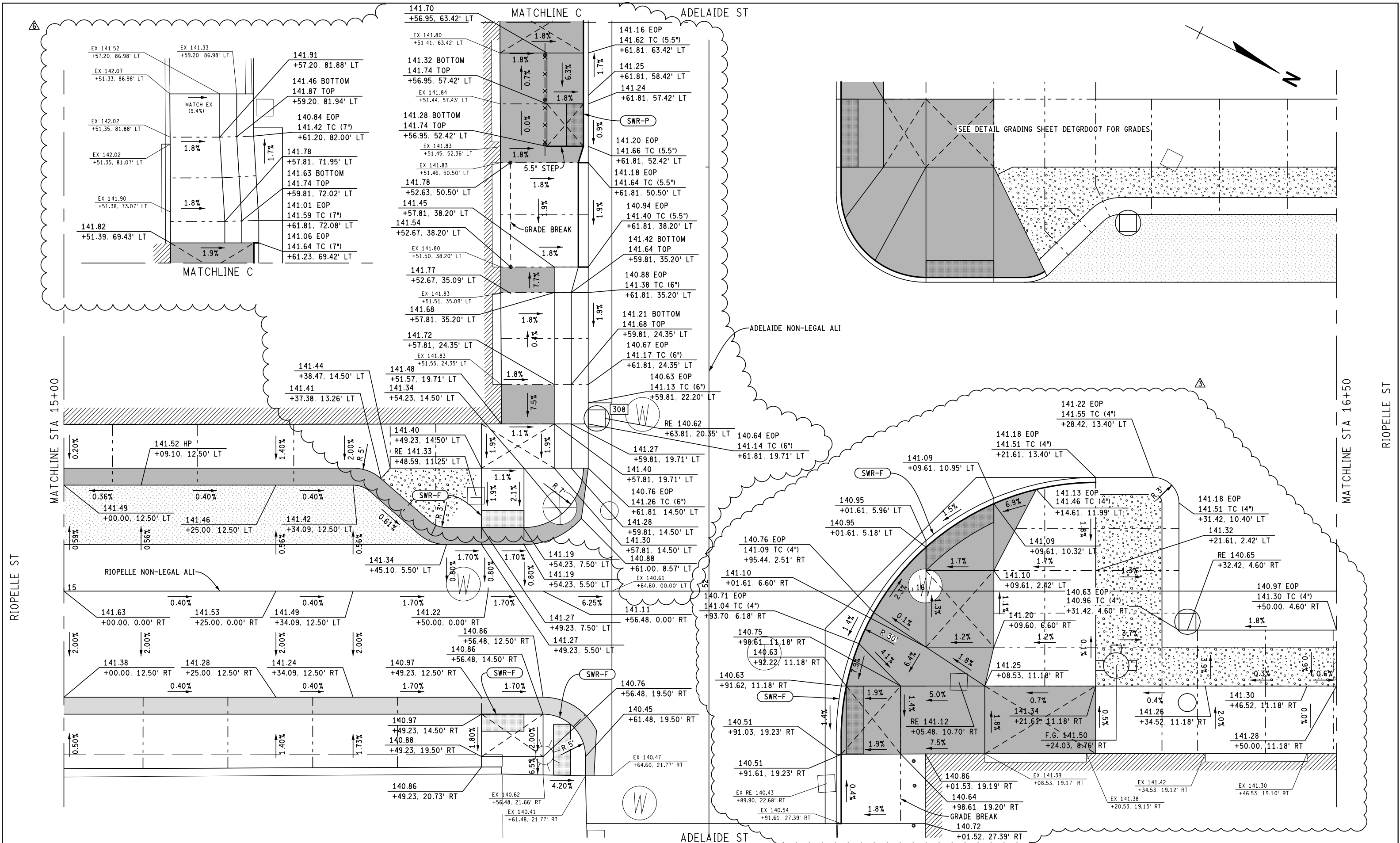
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NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION
2	8/15/19		DWSD REVISIONS				

DATE: 03/22/19  
 FILE: DETGRD003.dgn

JN: PW-7008 RIOPELLE

DETAIL GRADES  
 RIOPELLE STREETScape  
 RIOPELLE STA 13+50.00 TO STA 15+00.00

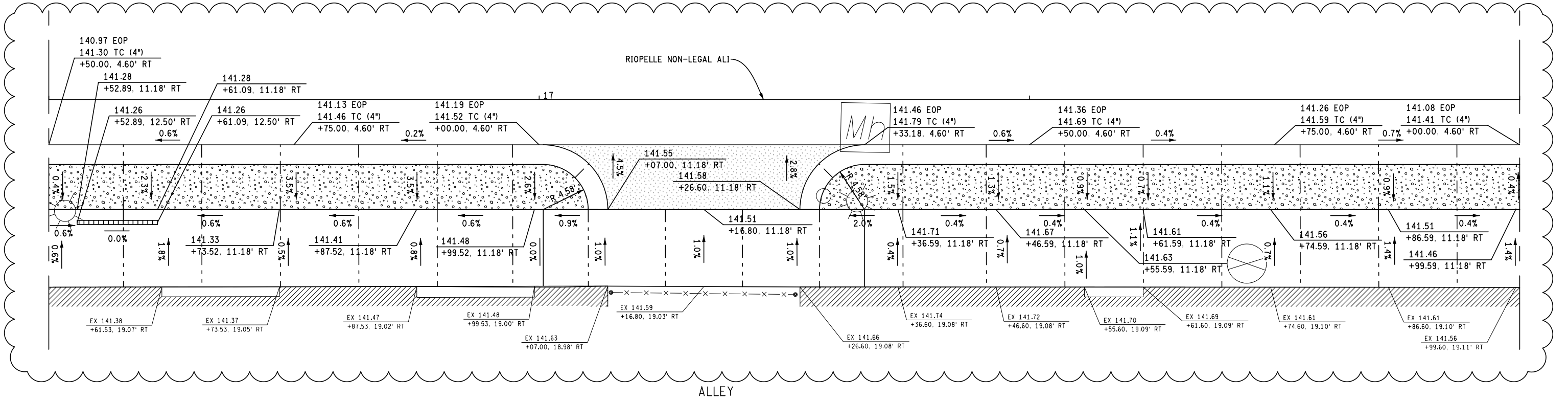
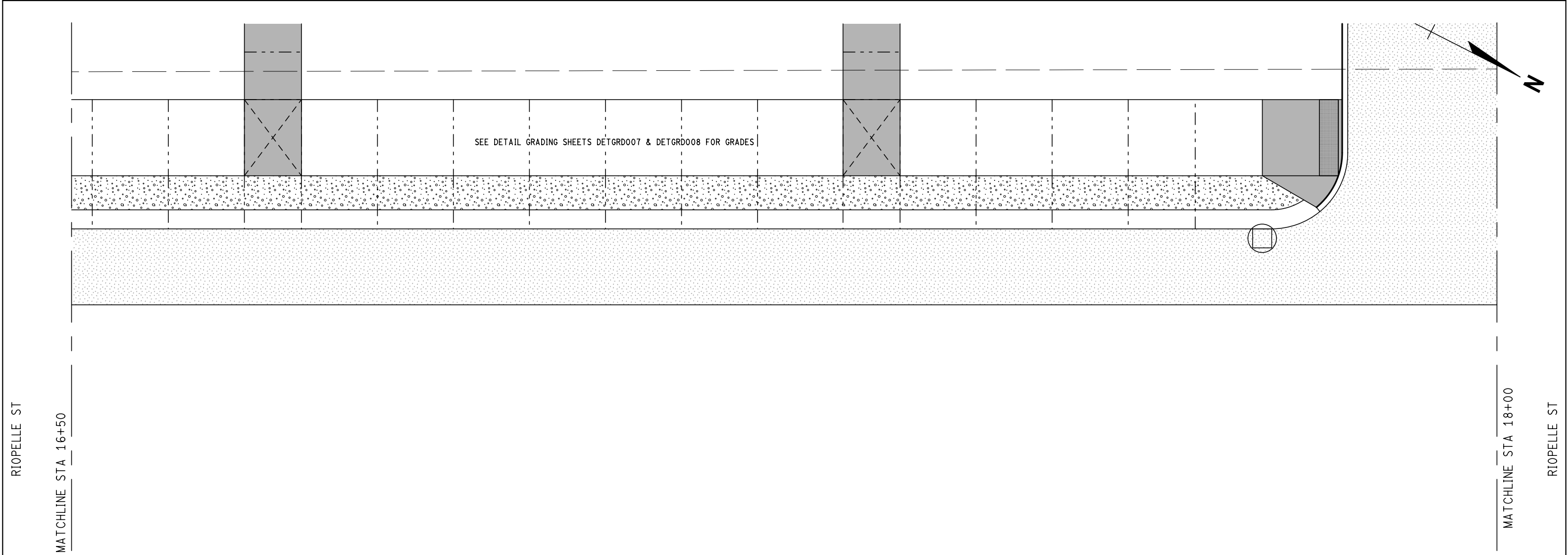
DRAWING SHEET  
 RIO DETGRD 003  
 SECT 1  
 34



FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )						DATE: 03/22/19		JN: PW-7008 RIOPELLE		DETAIL GRADES		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	RIOPELLE STREETScape		RIOPELLE STA 15+00.00 TO STA 16+50.00		RIO DETGRD 004	SECT 1
3	9/9/19		GRADING ADELAIDE TO DIVISION										35



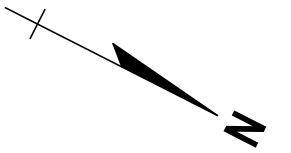
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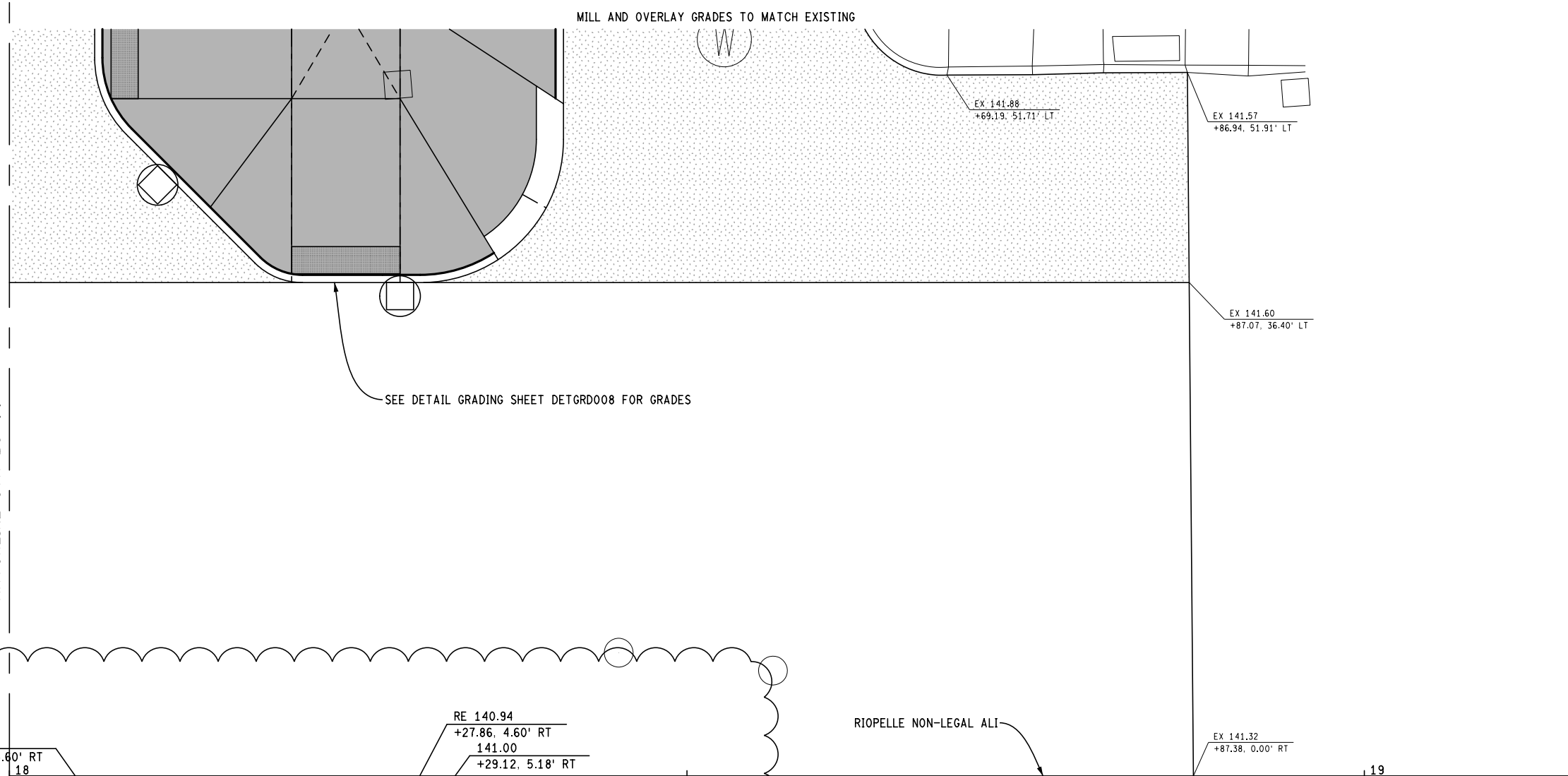
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NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			DETAIL GRADES		RIO	SHEET
3	9/9/19		GRADING ADELAIDE TO DIVISION					FILE: DETGRD005.dgn		RIOPELLE STREETScape		DETGRD	36
										RIOPELLE STA 16+50.00 TO STA 18+00.00		005	



DIVISION ST



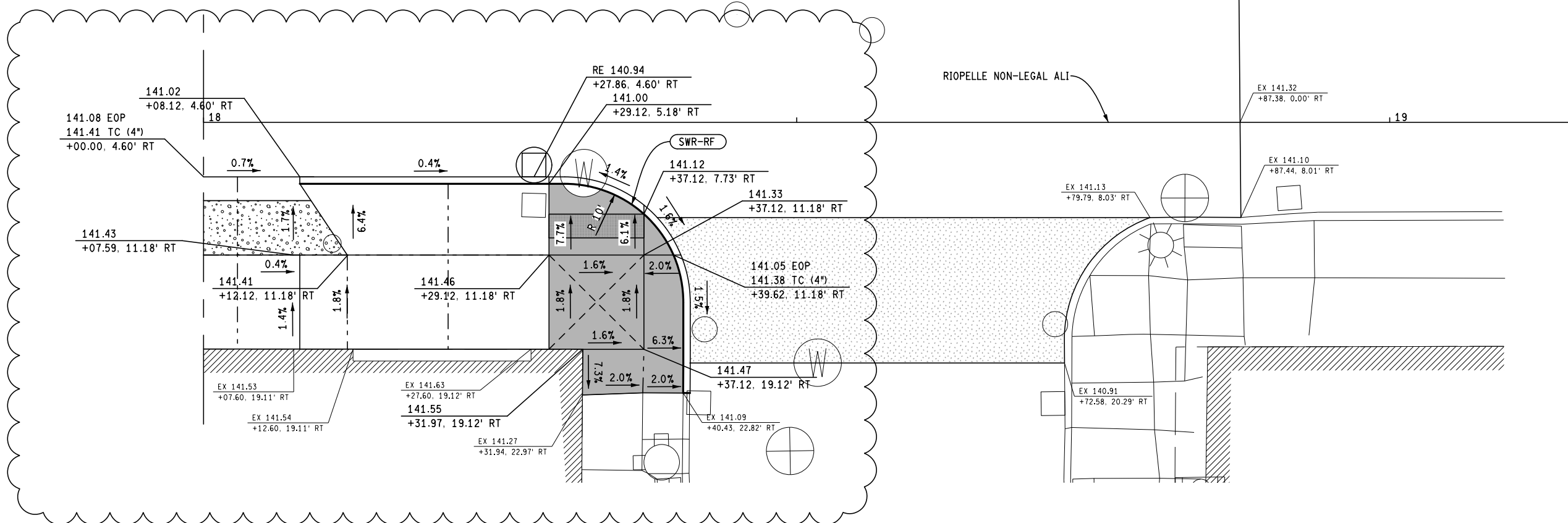
MILL AND OVERLAY GRADES TO MATCH EXISTING



RIOPELLE ST

MATCHLINE STA 18+00

RIOPELLE ST



DIVISION ST

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION
3	9/9/19		GRADING ADELAIDE TO DIVISION



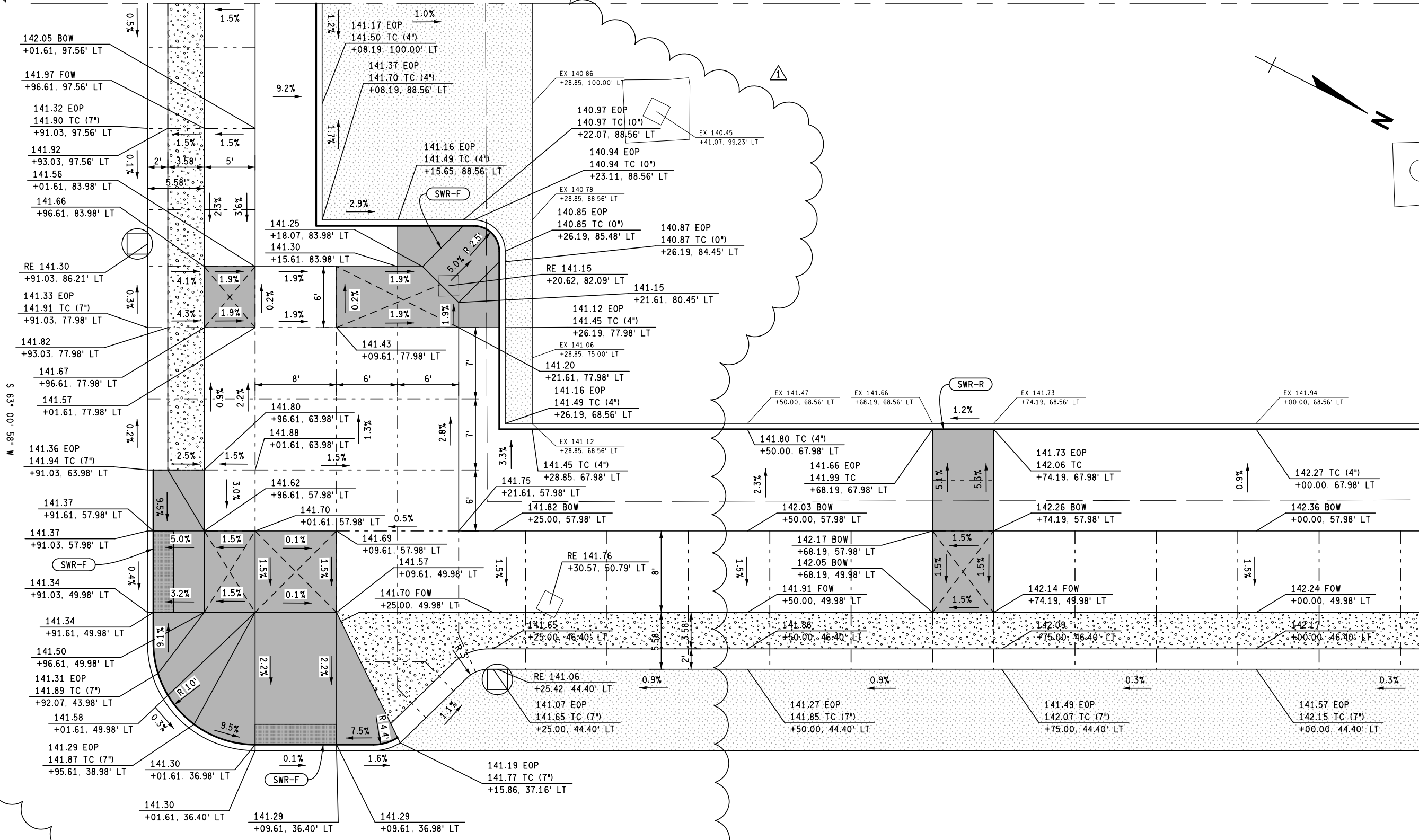
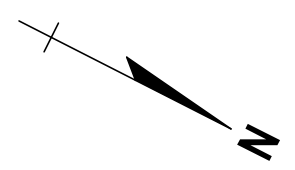
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JN: PW-7008 RIOPELLE

DRAWING		SHEET	
DETAIL GRADES		RIO DETGRD	
RIOPELLE STREETScape		006	
RIOPELLE STA 18+00.00 TO STA 18+87.4 (POE)		SECT 1	
		37	

ADELAIDE ST

MATCHLINE A



ADELAIDE NON-LEGAL ALI

S 63° 00' 58"

RIOPELLE ST

RIOPELLE ST

ADELAIDE ST

NOTE: ALL STATIONS AND OFFSETS ON THIS SHEET REFERENCE THE RIOPELLE NON-LEGAL ALIGNMENT.

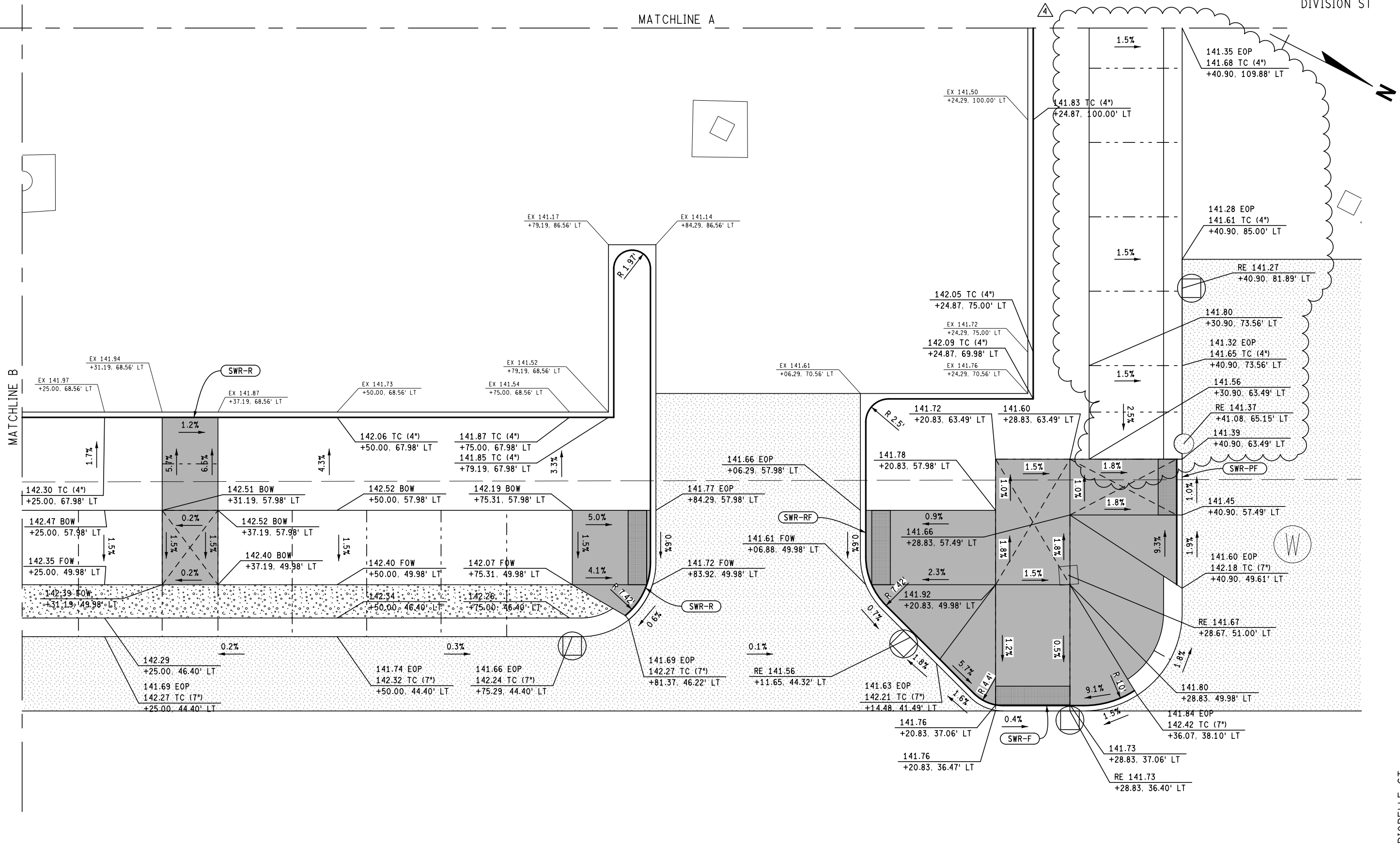
FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION
1	7/19/19		SE CORNER PARKING LOT

DATE: 03/22/19  
 FILE: DETGRD008.dgn

JN: PW-7008 RIOPELLE

DETAIL GRADES  
 RIOPELLE STREETScape  
 RIOPELLE STA 0+00 TO STA 0+00

DRAWING SHEET  
 RIO DETGRD 007 38



NOTE:  
 ALL STATIONS AND OFFSETS ON  
 THIS SHEET REFERENCE THE  
 RIOPELLE NON-LEGAL ALIGNMENT.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION
4	09/17/19		DIVISION WALK/SITE FURNISHINGS				

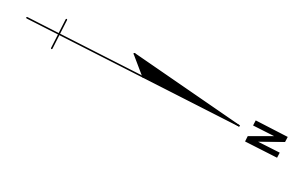
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JN: PW-7008 RIOPELLE

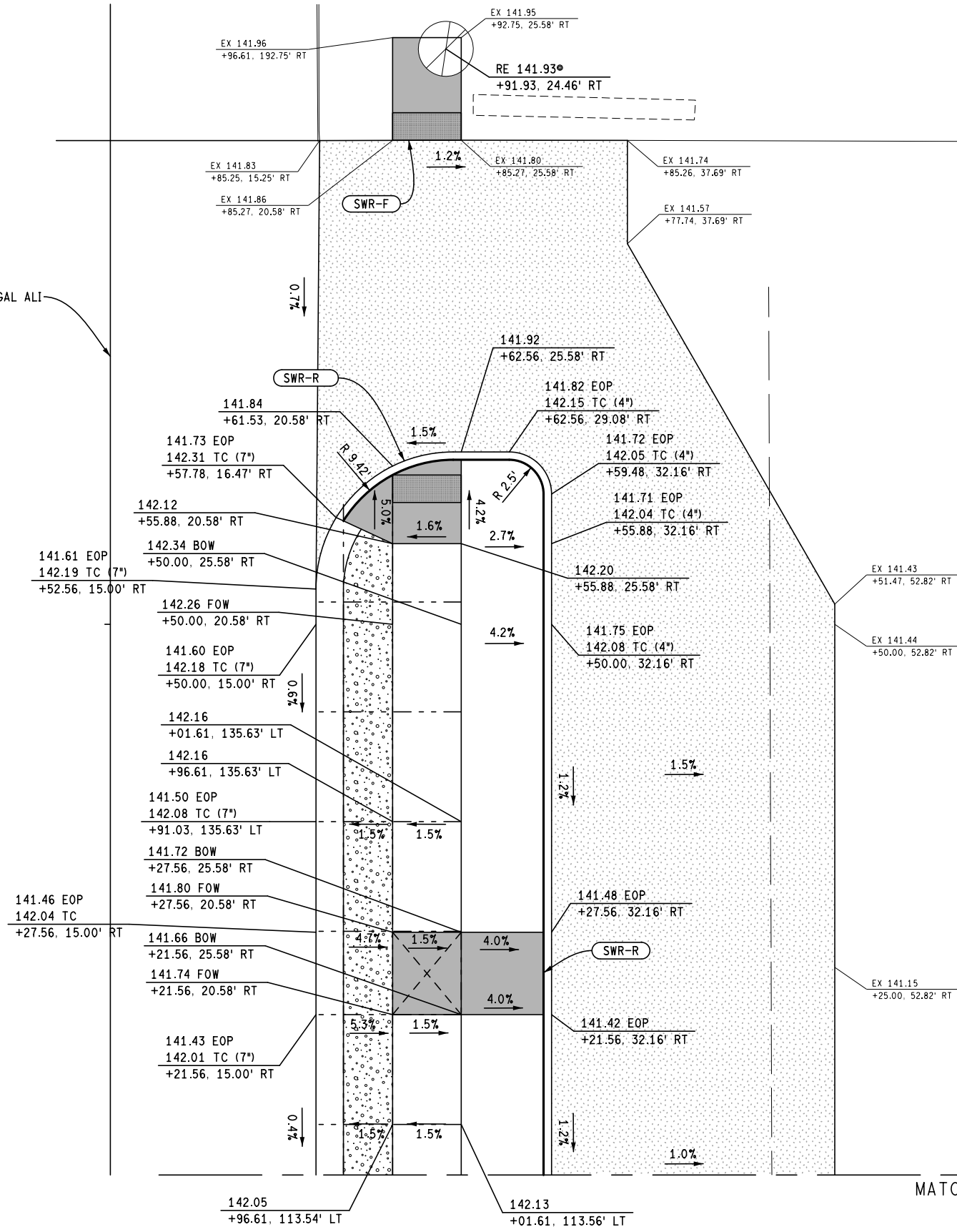
DETAIL GRADES  
 RIOPELLE STREETScape  
 RIOPELLE STA 0+00 TO STA 0+00

DRAWING	RIO DETGRD 008
SHEET	39

ADELAIDE ST



ADELAIDE NON-LEGAL ALI



MATCHLINE B

MATCHLINE A

NOTE:  
ALL STATIONS AND OFFSETS ON  
THIS SHEET REFERENCE THE  
ADELAIDE NON-LEGAL ALIGNMENT.

ADELAIDE ST

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

DATE: 04/23/19  
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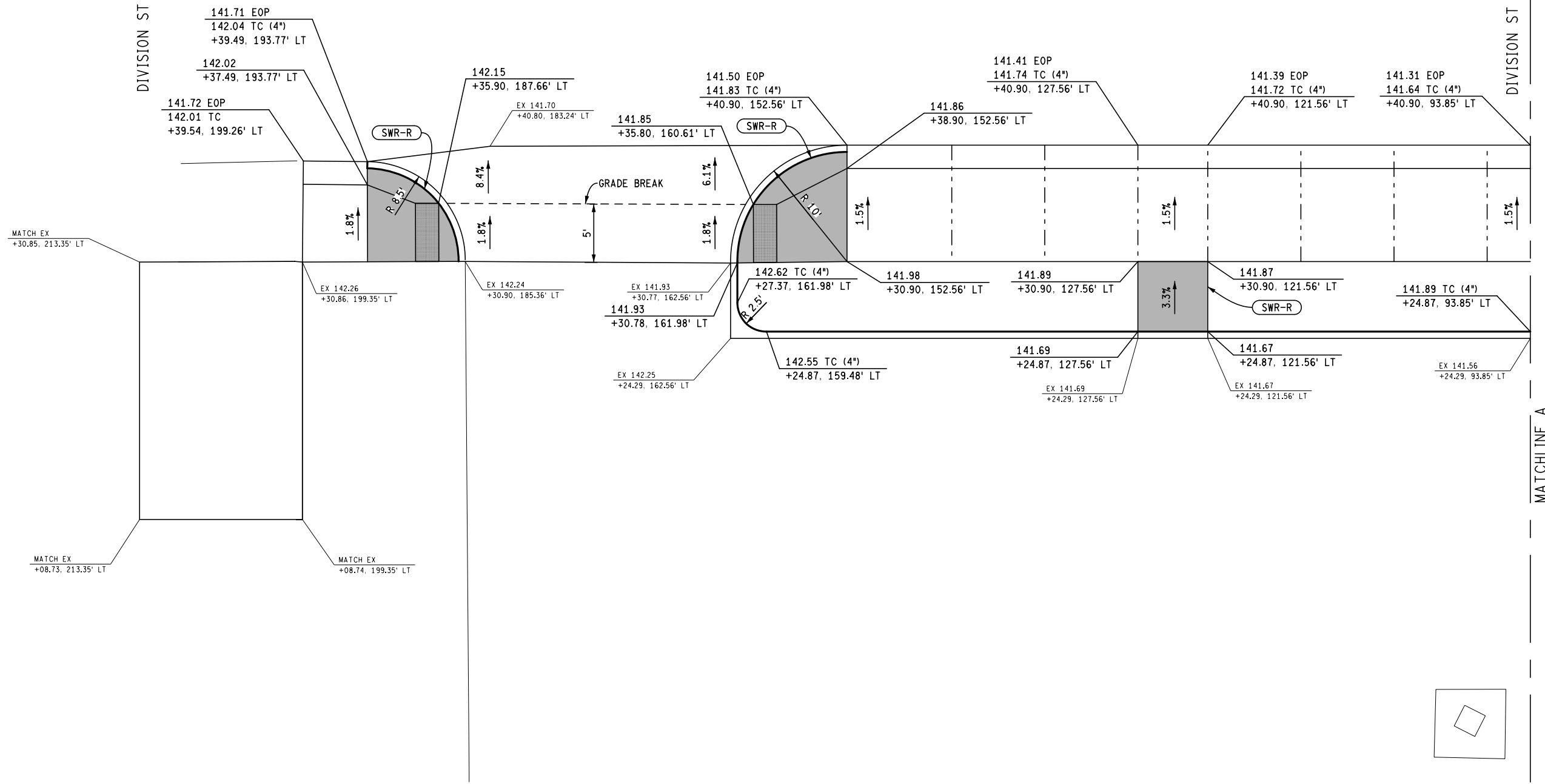
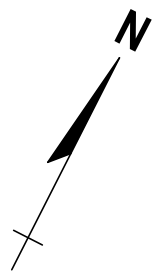
JN: PW-7008 RIOPELLE

DETAIL GRADES  
RIOPELLE STREETScape

DRAWING SHEET  
RIO DETGRD 009 SECT 1  
40



NOTE:  
ALL STATIONS AND OFFSETS ON  
THIS SHEET REFERENCE THE  
RIOPELLE NON-LEGAL ALIGNMENT.



FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )								DATE: 03/22/19		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	RIO DETGRD 010		SECT 1 41	
4	09/17/19		DIVISION WALK/SITE FURNISHINGS					JN: PW-7008 RIOPELLE		DETAIL GRADES RIOPELLE STREETScape	



FILE: DETGRD010.dgn

**GENERAL NOTES**

- CONTRACTOR SHALL BE RESPONSIBLE FOR BEING FAMILIAR WITH ALL DOCUMENTED UNDERGROUND UTILITIES, PIPES AND STRUCTURES. LOCATE AND PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION UNLESS OTHERWISE NOTED. CONTACT MISS DIG (811 OR 800-482-7171) A MINIMUM OF 3 DAYS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
- ALL WORK TO BE PERFORMED BY LICENSED AND INSURED CONTRACTORS AND EXPERIENCED WORKERS.
- REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL KEEP ALL DRAINAGE FACILITIES (CATCH BASINS, YARD DRAINS, ETC.) AFFECTED BY THEIR CONSTRUCTION OPERATIONS CLEAN AND FULLY OPERATIONAL AT ALL TIMES.
- CONTRACTOR SHALL REPAIR AT THEIR OWN EXPENSE, ANY DAMAGE, WHETHER INSIDE OR OUTSIDE OF THE PROJECT LIMITS, TO UTILITY SYSTEMS, SURFACE PAVEMENTS, FIXTURES, STRUCTURES, AND/OR EXISTING TREES OR LANDSCAPING THAT ARE NOT SPECIFICALLY INDICATED TO BE REMOVED OR RELOCATED AS PART OF THE PROJECT CONSTRUCTION. IN THE EVENT THAT ANY EXISTING DRAINAGE STRUCTURES OR UTILITIES ARE DAMAGED AND THE SERVICES DISRUPTED, THE LINES SHALL BE IMMEDIATELY REPAIRED AND THE SERVICES RESTORED AS DIRECTED BY THE ENGINEER.
- IN THE EVENT THAT DISCREPANCIES ARISE BETWEEN WHAT IS SHOWN ON THE DRAWINGS AND ACTUAL FIELD CONDITIONS THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR RESOLUTION.
- THE CONTRACTOR IS RESPONSIBLE FOR CONSISTENCY OF THE ANGLE OF THE SCORING PATTERN AND JOINTING PATTERN IN THE CROSSWALKS AND SIDEWALKS. THE SCORING PATTERN IS SUBJECT TO THE ENGINEERS APPROVAL.

**LAYOUT NOTES**

- ALL DIMENSIONS SHOWN ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
- DO NOT SCALE DRAWINGS. UTILIZE DIMENSIONS INDICATED ON THE PLANS.
- ALL DIMENSIONS ARE TO THE EDGE OF PAVEMENT, FACE OF WALL, OR FACE OF CURB UNLESS OTHERWISE NOTED.
- WALKWAYS AND HARDSCAPE ELEMENTS INDICATED AS CURVILINEAR SHALL HAVE SMOOTH CONTINUOUS CURVES.
- UNLESS INDICATED OTHERWISE, ALL WALKWAYS ABUT AT 90 DEGREE ANGLES.
- ALL CONCRETE SCORING SHALL BE PARALLEL, PERPENDICULAR OR TANGENT TO ADJACENT IMPROVEMENTS UNLESS OTHERWISE NOTED AND AS APPROVED BY THE ENGINEER.
- LAYOUT ALL CONSTRUCTION LINES AND VERIFY LAYOUT WITH THE ENGINEER PRIOR TO BEGINNING ANY CONSTRUCTION WORK.
- DIMENSIONS FOR PLANT BEDS ARE APPROXIMATE. STAKE PLANT BEDS ON-SITE FOR FINAL APPROVAL BY ENGINEER.
- REFER TO GENERAL NOTES FOR ADDITIONAL INSTRUCTIONS.
- FIELD VERIFY ALL PROPOSED AND EXISTING UTILITY LOCATIONS.
- THE CONTRACTOR SHALL COORDINATE ALL WORK AND BE RESPONSIBLE FOR ALL METHODS, MEANS, SEQUENCE, AND PROCEDURES OF THE WORK.

**IRRIGATION NOTES**

- ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
- CONTRACTOR WILL ARRANGE INSPECTIONS FOR IRRIGATION REQUIRED BY THE SPECIAL PROVISION DURING THE COURSE OF CONSTRUCTION. ALL WIRING AND BACKFLOW PREVENTION TO BE PER LOCAL CODE AND AS DESCRIBED IN THE SPECIAL PROVISION.
- INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS WITH MINIMUM 12" OF COVER BASED ON FINISH GRADES.
- ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A VALVE OR SPLICE BOX.
- ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED DIRECT BURY.
- SEE IRRIGATION SPECIAL PROVISION FOR ADDITIONAL INFORMATION
- SHOP DRAWINGS SHALL BE REQUIRED FOR IRRIGATION PLANS AS DESCRIBED IN THE SPECIAL PROVISIONS, AND SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL DESIGN THE SYSTEM TO PROVIDE HEAD TO HEAD COVERAGE IN THE PLANTING AREAS DEFINED IN THIS PLAN SET. REFER TO IRRIGATION SPEC FOR MORE INFORMATION.

**PLANTING NOTES**

- STAKE ALL BED LINES AND TREE LOCATIONS FOR THE ENGINEER'S REVIEW PRIOR TO INSTALLATION. ALL PLANTING PROCEDURES ARE SUBJECT TO THE REVIEW OF THE ENGINEER AND THE CONTRACTOR SHALL CORRECT ANY DEFICIENCIES FOUND AT NO ADDITIONAL COST TO THE OWNER.
- SECURE PLANT MATERIAL AS SPECIFIED ON PLANS. IN THE EVENT THAT PLANT MATERIALS SPECIFIED ARE NOT AVAILABLE, CONTRACTOR SHALL SUBMIT ALTERNATES TO ENGINEER FOR APPROVAL PRIOR TO SUBMITTING A BID. NO SUBSTITUTIONS FOR PLANT MATERIALS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE ENGINEER.
- VERIFY THAT ALL PLANTING PRODUCTS, PLANT MATERIAL, AND PLANT QUANTITIES DELIVERED TO THE SITE MATCH WHAT IS INDICATED ON THE PLANS AND SPECIFICATIONS.
- PROTECT ALL PLANT MATERIAL DURING DELIVERY TO PREVENT DAMAGE TO ROOT BALLS, TRUNKS, BRANCHES AND THE DESICCATION OF LEAVES. PROTECT ALL PLANT MATERIAL DURING SHIPPING WITH SHADE CLOTH OR SHIP WITH ENCLOSED TRANSPORT. MAINTAIN PROTECTIONS AND HEALTH OF PLANT MATERIAL STORED ON SITE. HANDLE ALL TREES WITH NYLON STRAPS. NO CHAINS OR CABLES ALLOWED. REMOVE UNACCEPTABLE PLANT MATERIAL IMMEDIATELY FROM THE SITE.
- ALL PLANT MATERIAL SHALL BE NURSERY GROWN, WELL FORMED, TRUE TO SPECIES, HARDENED OFF WITH VIGOROUS ROOT SYSTEMS, FULL CROWN AND CANOPIES, AND FREE FROM DISEASE, PESTS AND INSECTS, AND DEFECTS SUCH AS KNOTS, SUN SCALD, WINDBURN, LEAF DISCOLORATION, IRREGULAR BRANCHING OR INJURIES.
- ALL ROOT BALLS SHALL CONFORM TO THE SIZE STANDARDS SET FORTH IN 'AMERICAN STANDARDS FOR NURSERY STOCK'.
- PROVIDE SOURCE INFORMATION AND PLANT SAMPLES OR PHOTOGRAPHS OF EACH PLANT SPECIFIED TO THE ENGINEER FOR COMPLIANCE REVIEW PRIOR TO INSTALLATION.
- ALL PLANT MATERIAL DELIVERED TO THE SITE IS SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE ENGINEER BEFORE, DURING AND AFTER INSTALLATION.
- THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT AND/OR SELECT ANY AND ALL PLANT MATERIAL AT THE NURSERY PRIOR TO DELIVERY TO THE SITE.
- TEST FILL ALL TREE PITS AND PLANTING BEDS WITH WATER, PRIOR TO PLANTING, TO ASSURE PROPER SOIL PERCOLATION. PITS WHICH DO NOT ADEQUATELY DRAIN SHALL BE FURTHER EXCAVATED TO A DEPTH SUFFICIENT FOR DRAINAGE TO OCCUR AND/OR BACKFILLED WITH SUITABLE DRAINAGE GRAVEL. NO ALLOWANCES SHALL BE MADE FOR PLANT MATERIAL LOSS DUE TO IMPROPER DRAINAGE.
- CONTRACTOR SHALL REPLACE DEAD OR DYING PLANT MATERIAL WITH SAME SIZE AND SPECIES AT NO ADDITIONAL COST TO OWNER.
- ALL PLANT MATERIALS, INCLUDING RELOCATED PLANT MATERIAL, SHALL BE PLANTED IN A PROFESSIONAL MANNER TYPICAL TO THE INDUSTRY STANDARDS TO ASSURE COMPLETE SURVIVABILITY OF ALL INSTALLED PLANT MATERIALS AS WELL AS TO PROVIDE AN AESTHETICALLY APPROVED PROJECT. CONTRACTOR SHALL REFER TO THE PLANTING DETAILS FOR MINIMUM SIZE AND WIDTH OF TREE PITS, PLANTING BEDS, GUYING AND STAKING, MULCHING, AND OTHER PLANTING REQUIREMENTS.
- LAWN AREAS TO PROVIDE A SMOOTH AND CONTINUAL GRADE.
- PLANTING BEDS SHALL HAVE A MINIMUM OF 3" DEPTH OF DOUBLE SHREDDED HARDWOOD MULCH AND SHALL BE CONSISTENT WITH PLANTING DETAILS AND SPECIAL PROVISIONS.
- PLANTING MIX AND/OR TOPSOIL SHALL BE PROVIDED AND BLENDED AS DESCRIBED IN THE PLANTING DETAILS AND SPECIAL PROVISIONS.
- ALL PLANTING AREAS SHALL BE WEED FREE PRIOR TO PLANTING INSTALLATION.
- REMOVE ALL PLANTING AND LANDSCAPE DEBRIS FROM THE PROJECT SITE AND SWEEP AND WASH CLEAN ALL PAVED AND FINISHED SURFACES AFFECTED BY THE LANDSCAPE INSTALLATION.
- THE CONTRACTOR SHALL COORDINATE PLANTING PERIODS WITH INITIAL MAINTENANCE PERIODS TO PROVIDE THE REQUIRED MAINTENANCE FROM THE DATE OF PLANTING COMPLETION. ALL PLANTING SHALL OCCUR DURING ONE OF THE FOLLOWING PERIODS:  
 - SPRING PLANTING: APRIL 15 - JUNE 1  
 - FALL PLANTING: SEPTEMBER 1 - OCTOBER 15
- REFER TO GENERAL NOTES, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS.

**LANDSCAPE QUANTITIES**

TOTAL	UNIT	DESCRIPTION
70	Cyd	Excavation, Earth
10	Ea	Bollard
1	LSUM	Site Preparation, Max
91	Ea	Rosa radRazz Knock Out, #3 cont.
350	Ft	Railing
6	Ea	Acer miyabei 'Morton', 3 Inch
3	Ea	Bench
17	Ea	Bike Rack / Bollard
369	Ea	Hemerocallis 'Stella D'Oro', #1 cont.
3	Ea	Litter Receptacle
6	Ea	Planter, 30 inch
3	Ea	Planter, 36 inch
1	Ea	Planter, 48 inch
1	LSUM	Watering and Cultivating, First Season, Min. \$3000, Modified
28	Cyd	Double Shredded Hardwood Bark Mulch, 3 Inch Depth
112	Cyd	Planting Mix

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )				DATE: 03/22/19				LANDSCAPE NOTES		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	RIOPELLE STREETSCAPE		RIO	SECT 1
1	7/16/19		SE CORNER PARKING LOT	6	10/17/19		COLD STORAGE SIDEWALK	RIOPELLE STA 10+81.4 (POB) TO STA 14+50		L	001
4	09/17/19		DIVISION WALK/SITE FURNISHINGS								42

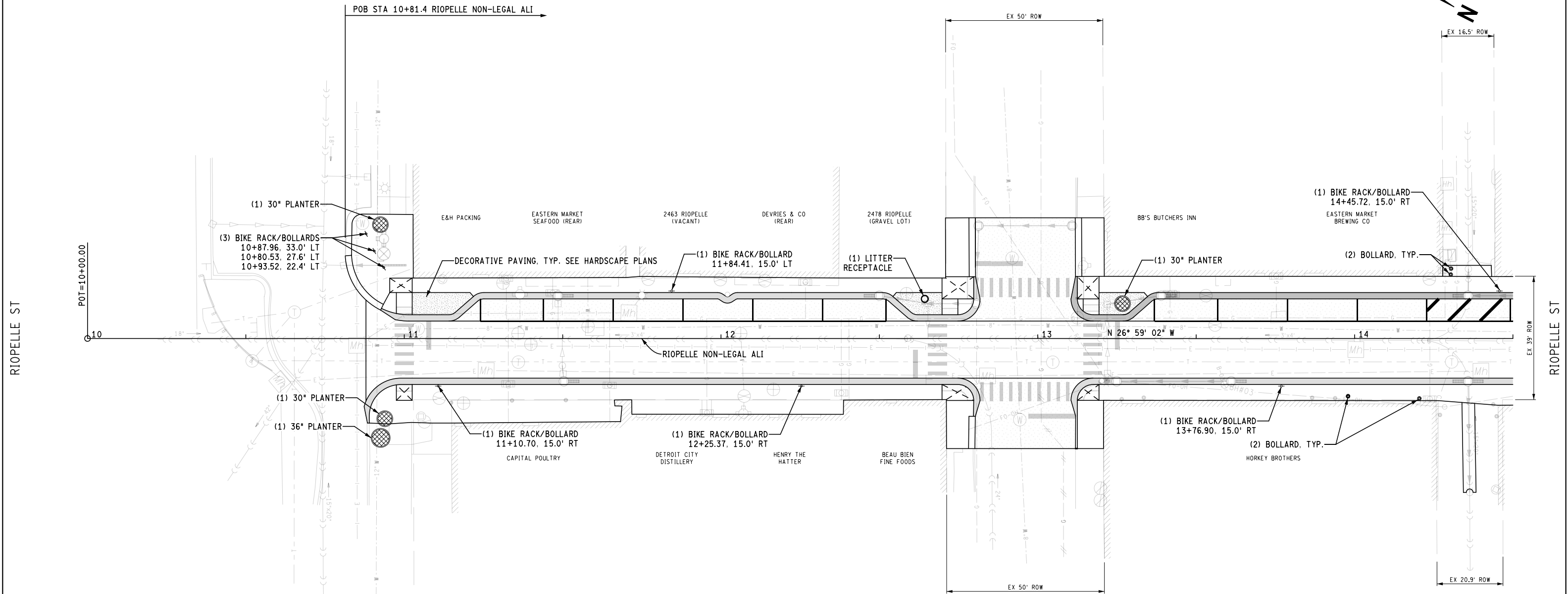
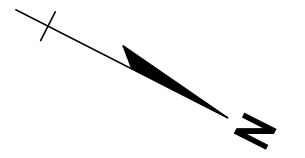


FILE: LNDSCP001.dgn  
 JN: PW-7008 RIOPELLE  
 DATE: 03/22/19

I-75 SERVICE DR

WINDER ST

ALLEY



LEGEND

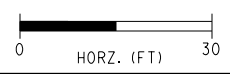
- BENCH
- BOLLARD
- BIKE RACK/BOLLARD
- LITTER RECEPTACLE
- RELOCATED MOSAIC ART
- 36" PLANTER
- 30" PLANTER
- RAILING

I-75 SERVICE DR

WINDER ST

ALLEY

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

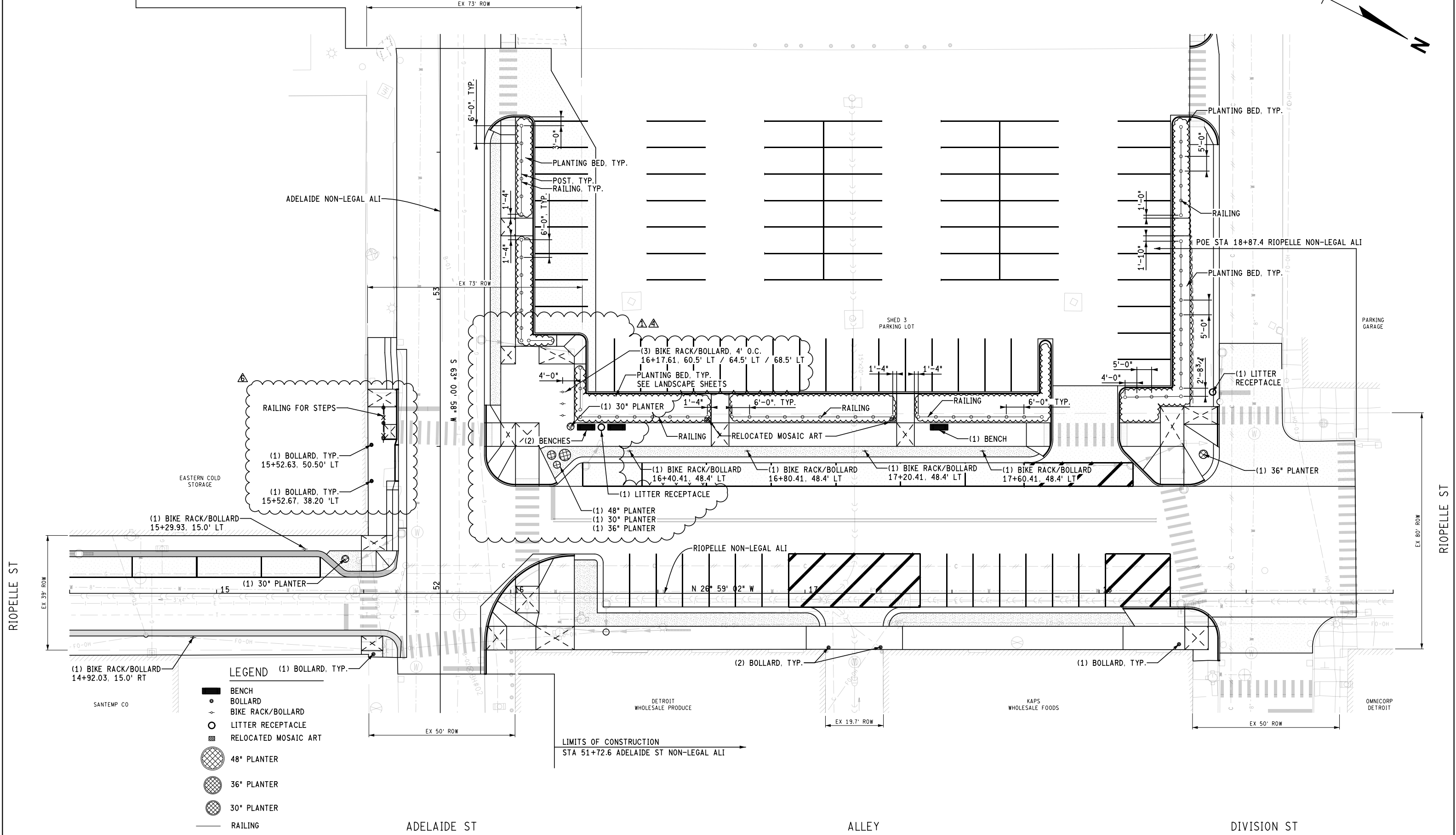
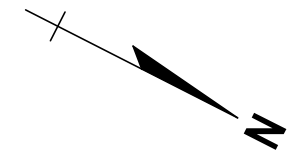


DATE: 04/23/19	JN: PW-7008 RIOPELLE	MATERIALS PLAN	DRAWING	SHEET
FILE: LNDSCP001.dgn		RIOPELLE STREETSCAPE	RIO MATLS 001	SECT 1
		RIOPELLE STA 10+81.4 (POB) TO STA 14+50		43

LIMITS OF CONSTRUCTION  
STA 53+85.3 ADELAIDE ST NON-LEGAL ALI

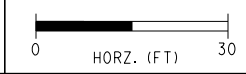
ADELAIDE ST

DIVISION ST



- LEGEND**
- (1) BOLLARD, TYP.
  - BENCH
  - BIKE RACK/BOLLARD
  - LITTER RECEPTACLE
  - RELOCATED MOSAIC ART
  - ⊗ 48" PLANTER
  - ⊗ 36" PLANTER
  - ⊗ 30" PLANTER
  - RAILING

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION
1	07/16/19		SE CORNER PARKING LOT	6	10/17/19		COLD STORAGE SIDEWALK
4	09/17/19		DIVISION WALK/SITE FURNISHINGS				



FILE: LNDSCP002.dgn

DATE: 03/22/19

JN: PW-7008 RIOPELLE

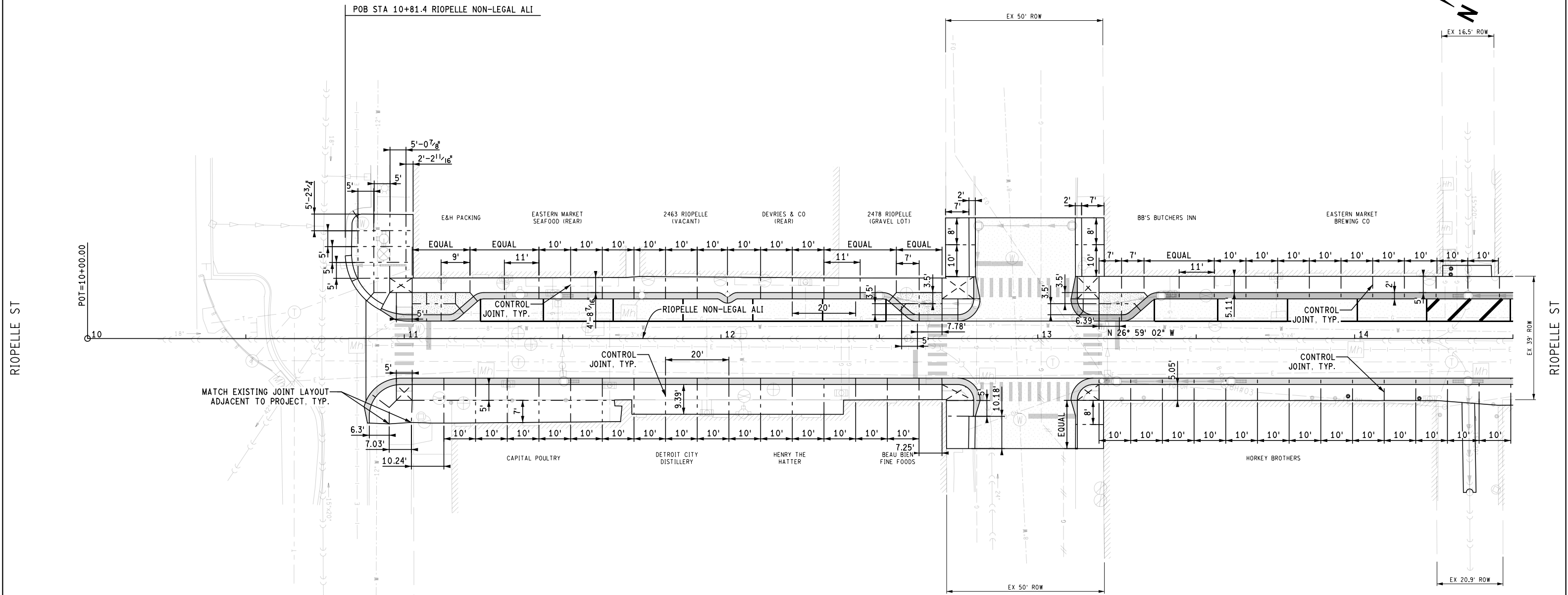
MATERIALS PLAN  
RIOPELLE STREETSCAPE  
RIOPELLE STA 14+50 TO STA 18+87.4 (POE)

DRAWING SHEET  
RIO MATLS 002  
SECT 1  
44

I-75 SERVICE DR

WINDER ST

ALLEY



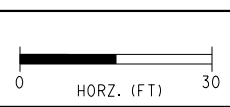
MATCH EXISTING JOINT LAYOUT ADJACENT TO PROJECT, TYP.

I-75 SERVICE DR

WINDER ST

ALLEY

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 04/23/19  
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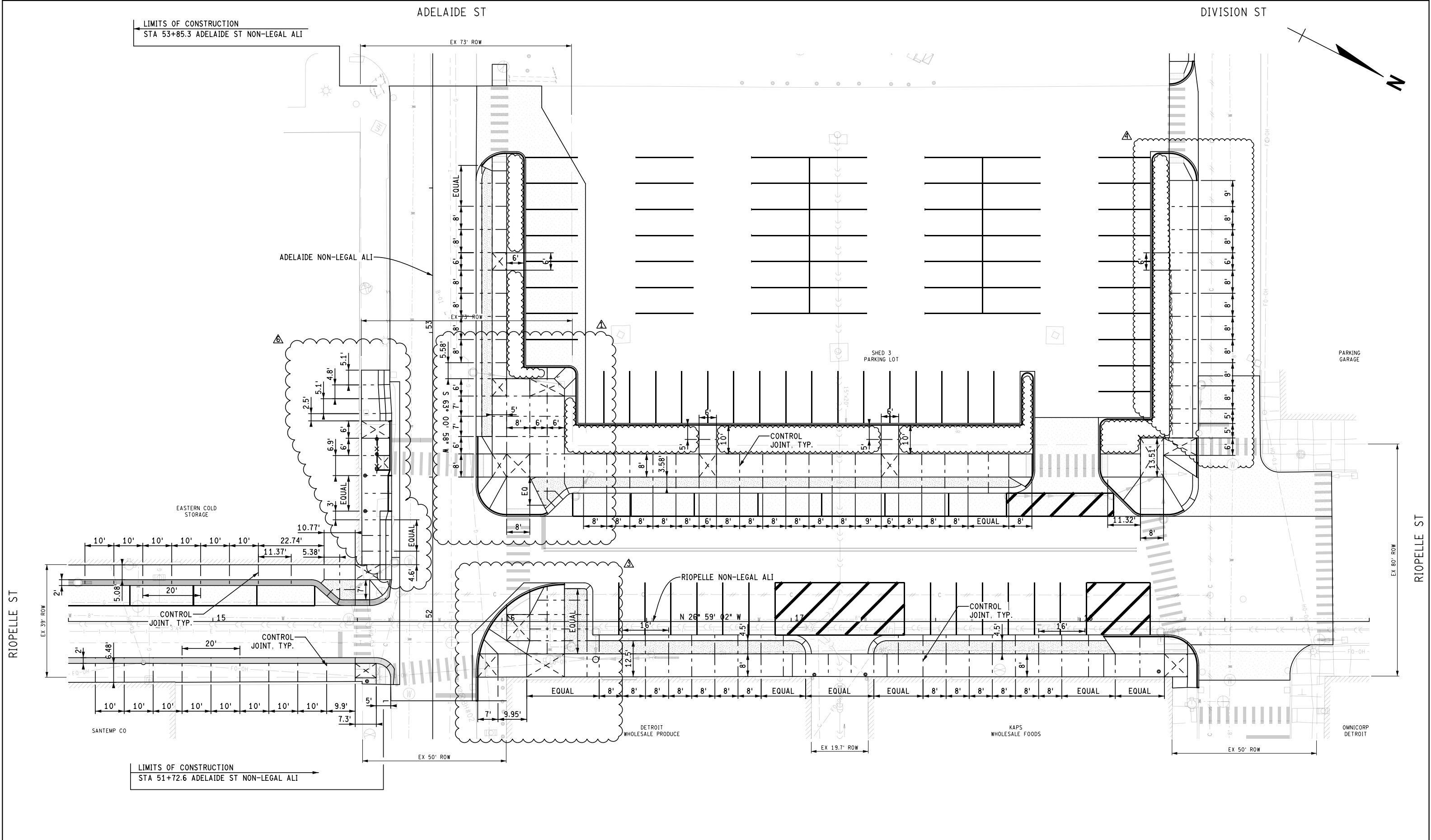
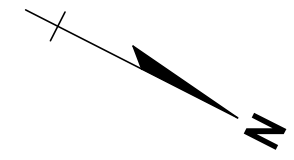
JN: PW-7008 RIOPELLE

LAYOUT PLAN  
 RIOPELLE STREETSCAPE  
 RIOPELLE STA 10+81.4 (POB) TO STA 14+50

DRAWING SHEET  
 RIO LAYOUT 001  
 SECT 1 45

LIMITS OF CONSTRUCTION  
STA 53+85.3 ADELAIDE ST NON-LEGAL ALI

DIVISION ST



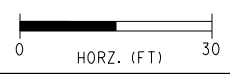
LIMITS OF CONSTRUCTION  
STA 51+72.6 ADELAIDE ST NON-LEGAL ALI

ADELAIDE ST

ALLEY

DIVISION ST

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION
1	07/16/19		SE CORNER PARKING LOT	4	09/17/19		DIVISION WALK/SITE FURNISHINGS
3	9/9/19		GRADING ADELAIDE TO DIVISION	6	10/17/19		COLD STORAGE SIDEWALK

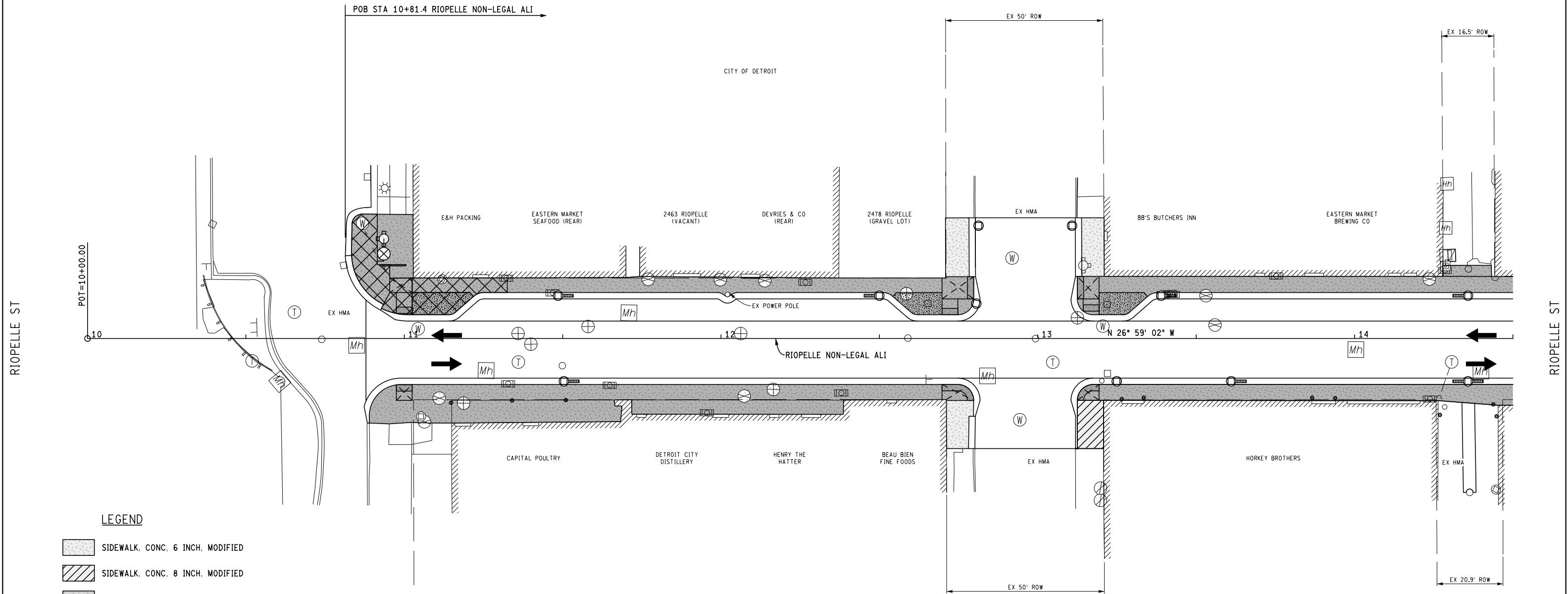
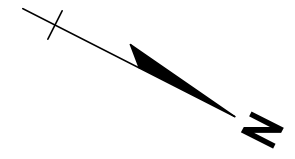


DATE: 03/22/19	JN: PW-7008 RIOPELLE	LAYOUT PLAN RIOPELLE STREETScape	DRAWING SHEET
		RIOPELLE STA 14+50 TO STA 18+87.4 (POE)	RIO LAYOUT 002
			SECT 1 46

I-75 SERVICE DR

WINDER ST

ALLEY



LEGEND

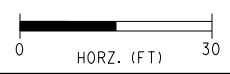
- SIDEWALK, CONC, 6 INCH, MODIFIED
- SIDEWALK, CONC, 8 INCH, MODIFIED
- SIDEWALK, CONC, 8 INCH, INTEGRAL COLORED
- SIDEWALK, CONC, REINF, 8 INCH, INTEGRAL COLORED
- SIDEWALK, EXPOSED AGGREGATE, 6 INCH, MODIFIED
- SIDEWALK, EXPOSED AGGREGATE, 8 INCH, MODIFIED
- SIDEWALK, EXPOSED AGGREGATE, REINF, 8 INCH, MODIFIED
- SIDEWALK RAMP, ADA, MODIFIED

I-75 SERVICE DR

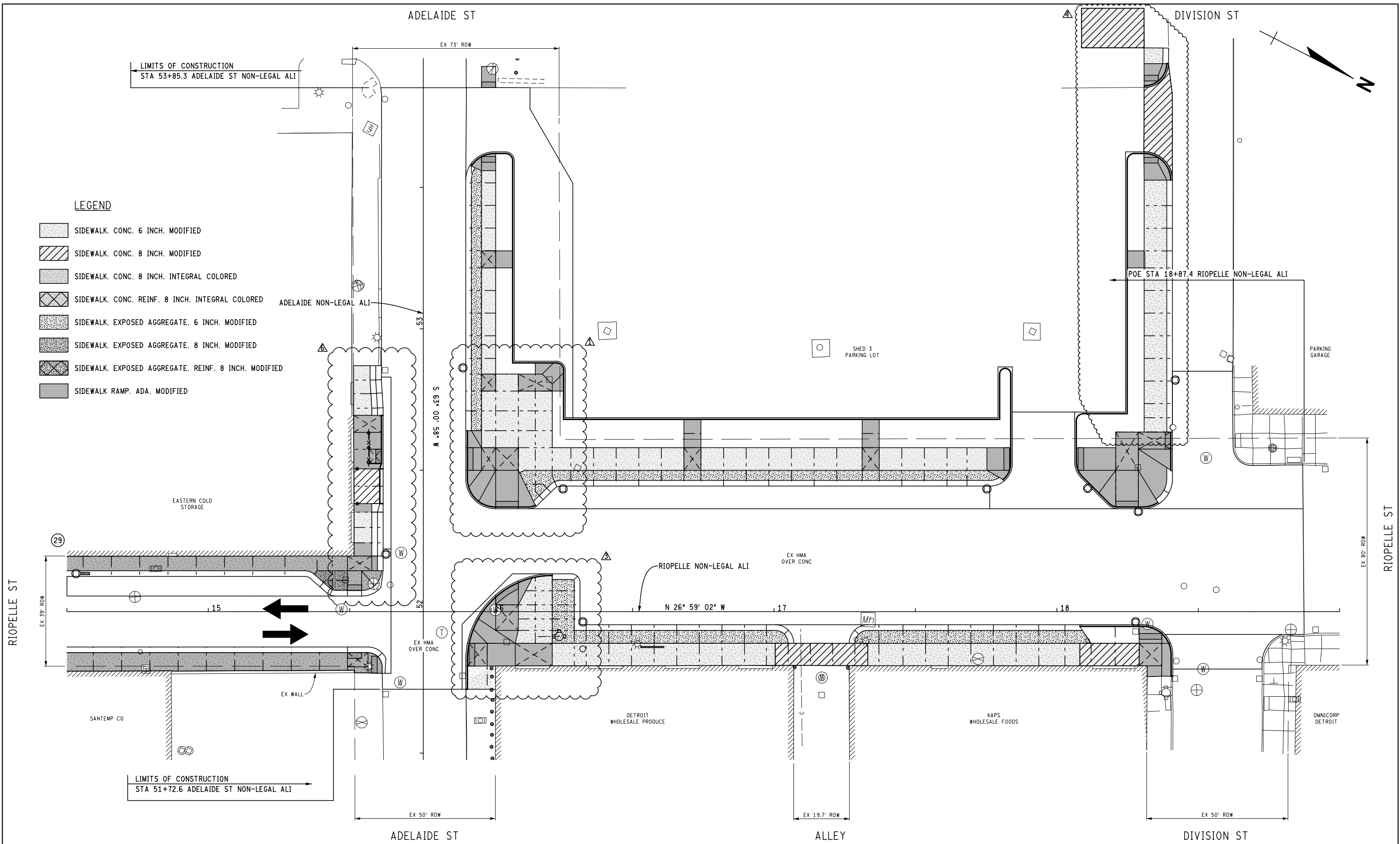
WINDER ST

ALLEY

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 04/23/19	JN: PW-7008 RIOPELLE	HARDSCAPE PLAN	DRAWING	SHEET
FILE: HRDSCAP_PLAN001.dgn		RIOPELLE STREETSCAPE	RIO HRDSCP 001	SECT 1
		RIOPELLE STA 10+81.4 (POB) TO STA 14+50		47



**LEGEND**

- SIDEWALK, CONC. 6 INCH, MODIFIED
- SIDEWALK, CONC. 8 INCH, MODIFIED
- SIDEWALK, CONC. 8 INCH, INTEGRAL COLORED
- SIDEWALK, CONC. REINF. 8 INCH, INTEGRAL COLORED
- SIDEWALK, EXPOSED AGGREGATE, 6 INCH, MODIFIED
- SIDEWALK, EXPOSED AGGREGATE, 8 INCH, MODIFIED
- SIDEWALK, EXPOSED AGGREGATE, REINF. 8 INCH, MODIFIED
- SIDEWALK RAMP, ADA, MODIFIED

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION
1	07/16/19		SE CORNER PARKING LOT
3	9/9/19		GRADING ADELAIDE TO DIVISION
4	09/17/19		DIVISION WALK/SITE FURNISHINGS
6	10/17/19		COLD STORAGE SIDEWALK

City of Detroit Eastern Market OHM

DATE: 03/22/19  
 FILE: HRDSCP\_PLAN002.dgn

DATE: 03/22/19  
 JN: PW-7008 RIOPELLE

HARDSCAPE PLAN  
 RIOPELLE STREETSCAPE  
 RIOPELLE STA 14+50 TO STA 18+87.4 (POE)

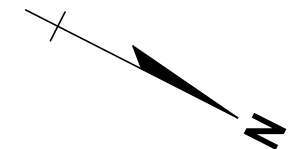
DRAWING SHEET  
 RIO HRDSCP 002 SECT 1  
 48



LIMITS OF CONSTRUCTION  
STA 53+85.3 ADELAIDE ST NON-LEGAL ALI

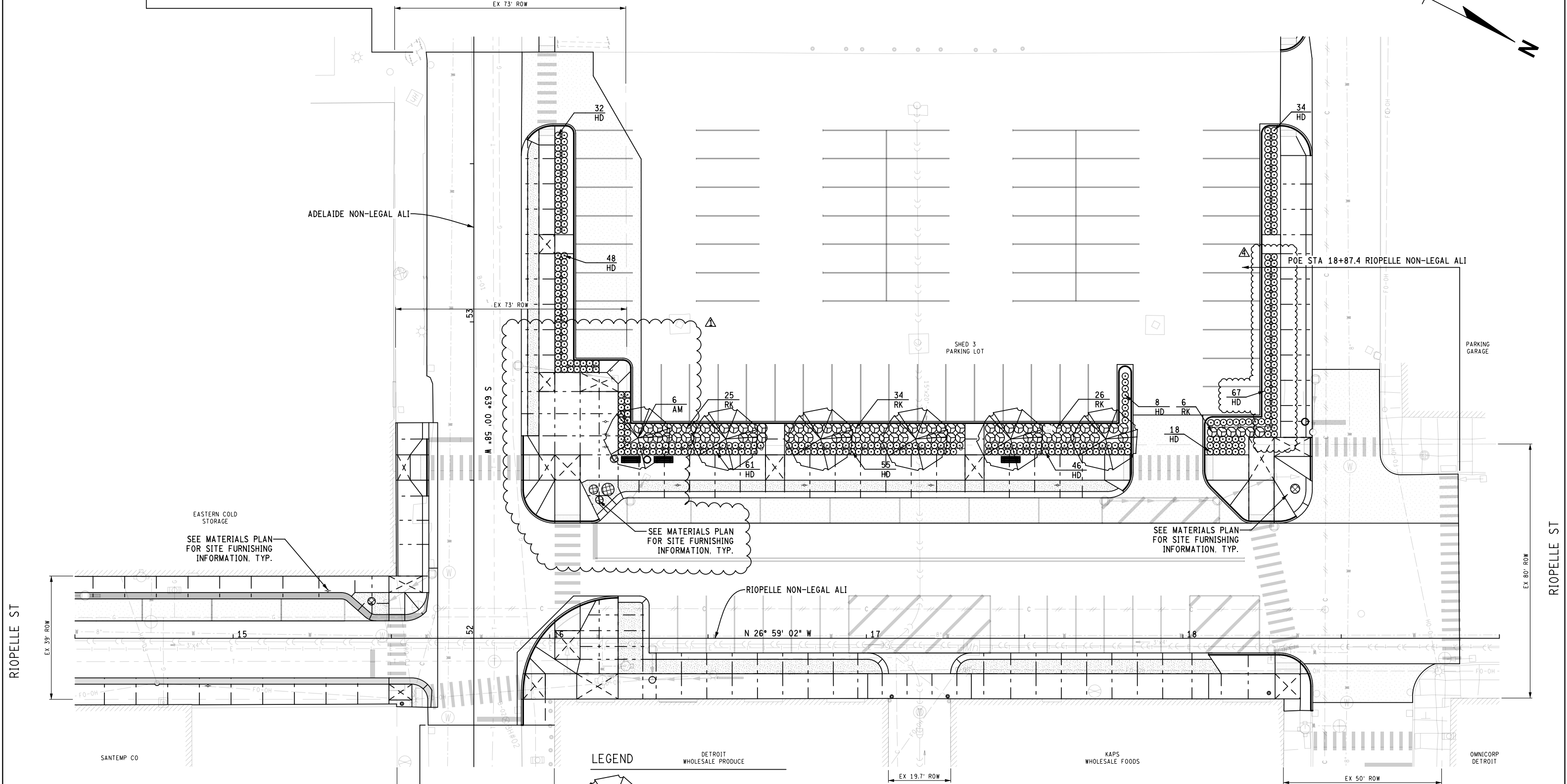
DIVISION ST

ADELAIDE ST



RIOPELLE ST

RIOPELLE ST



SEE MATERIALS PLAN FOR SITE FURNISHING INFORMATION, TYP.

SEE MATERIALS PLAN FOR SITE FURNISHING INFORMATION, TYP.

SEE MATERIALS PLAN FOR SITE FURNISHING INFORMATION, TYP.

LEGEND

- MIYABE MAPLE
- ROTSTRAHLBUSCH SWITCH GRASS
- STELLA D'ORO DAYLILY
- KNOCK OUT SHRUB ROSE

ITEM CODE	SCIENTIFIC NAME	COMMON NAME	QUANTITY	SIZE	CONTAINER	SPACING	NOTES
AM	<i>Acer miyabei 'Morton'</i>	Miyabe Maple	6	3"	B&B	30' O.C.	1 Central Leader, 7' Branch Height, Well Branched, Matched
HD	<i>Hemerocallis 'Stella D'oro'</i>	Stella D'oro Daylily	398-369	#1	Container	24" O.C.	Fully Rooted
RK	<i>Rosa x Radrazz'</i>	Knock Out Shrub Rose	91	#3	Container	36" O.C.	Minimum 3 Stems, Full

NOTE: PLANT LIST QUANTITIES REPRESENT PROJECT TOTALS, NOT SHEET TOTALS.

LIMITS OF CONSTRUCTION  
STA 51+72.6 ADELAIDE ST NON-LEGAL ALI

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION
1	07/16/19		SE CORNER PARKING LOT
4	09/17/19		DIVISION WALK/SITE FURNISHINGS

DATE: 03/22/19

FILE: LNDSCP002.dgn

JN: PW-7008 RIOPELLE

LANDSCAPE PLAN

RIOPELLE STREETSCAPE

RIOPELLE STA 14+50 TO STA 18+87.4 (POE)

DRAWING SHEET

RIO LNDSCP 002 SECT 1

50

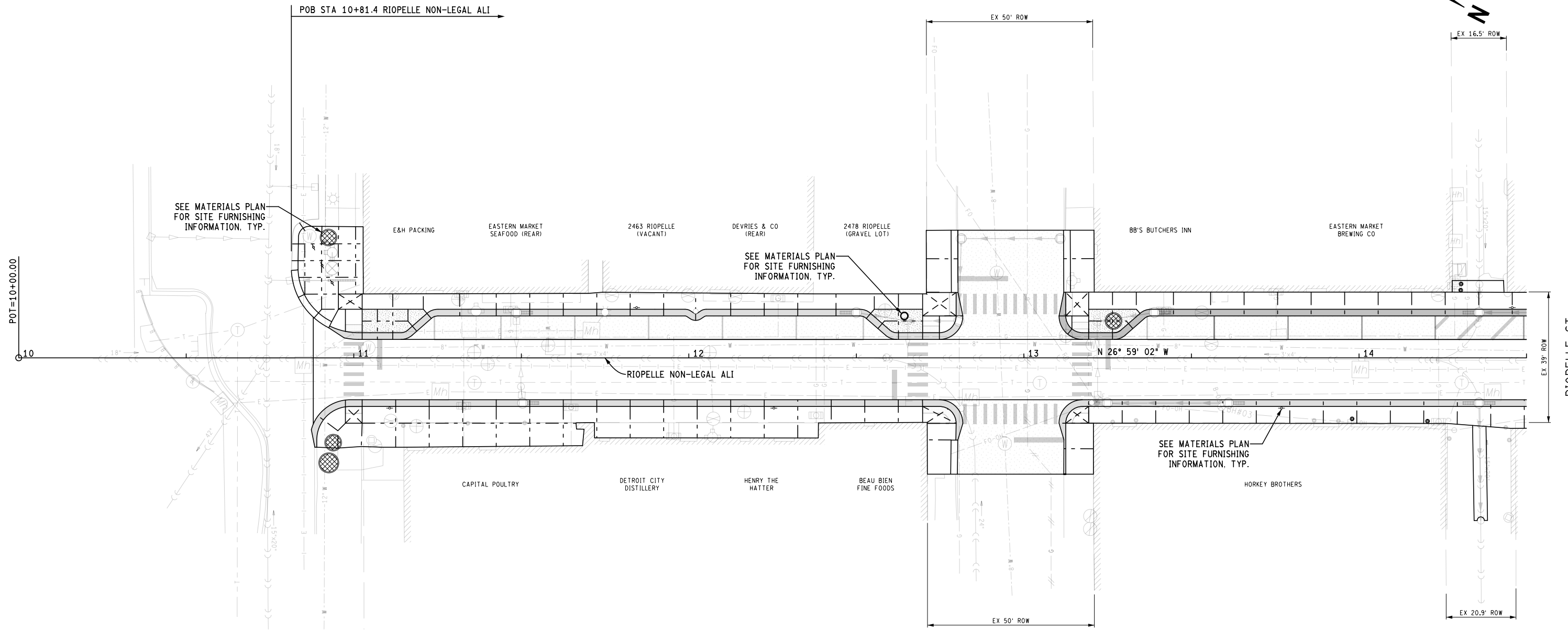
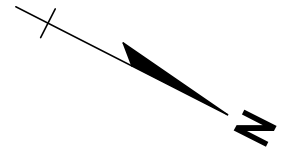
I-75 SERVICE DR

WINDER ST

ALLEY

RIOPELLE ST

RIOPELLE ST



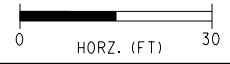
NO LANDSCAPE THIS SHEET

I-75 SERVICE DR

WINDER ST

ALLEY

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

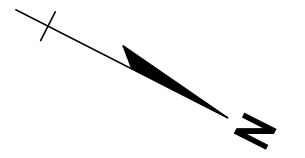


DATE: 04/23/19	JN: PW-7008 RIOPELLE	LANDSCAPE PLAN	DRAWING	SHEET
FILE: LNDSCP001.dgn		RIOPELLE STREETSCAPE	RIO LNDSCP 001	SECT 1
		RIOPELLE STA 10+81.4 (POB) TO STA 14+50		49

I-75 SERVICE DR

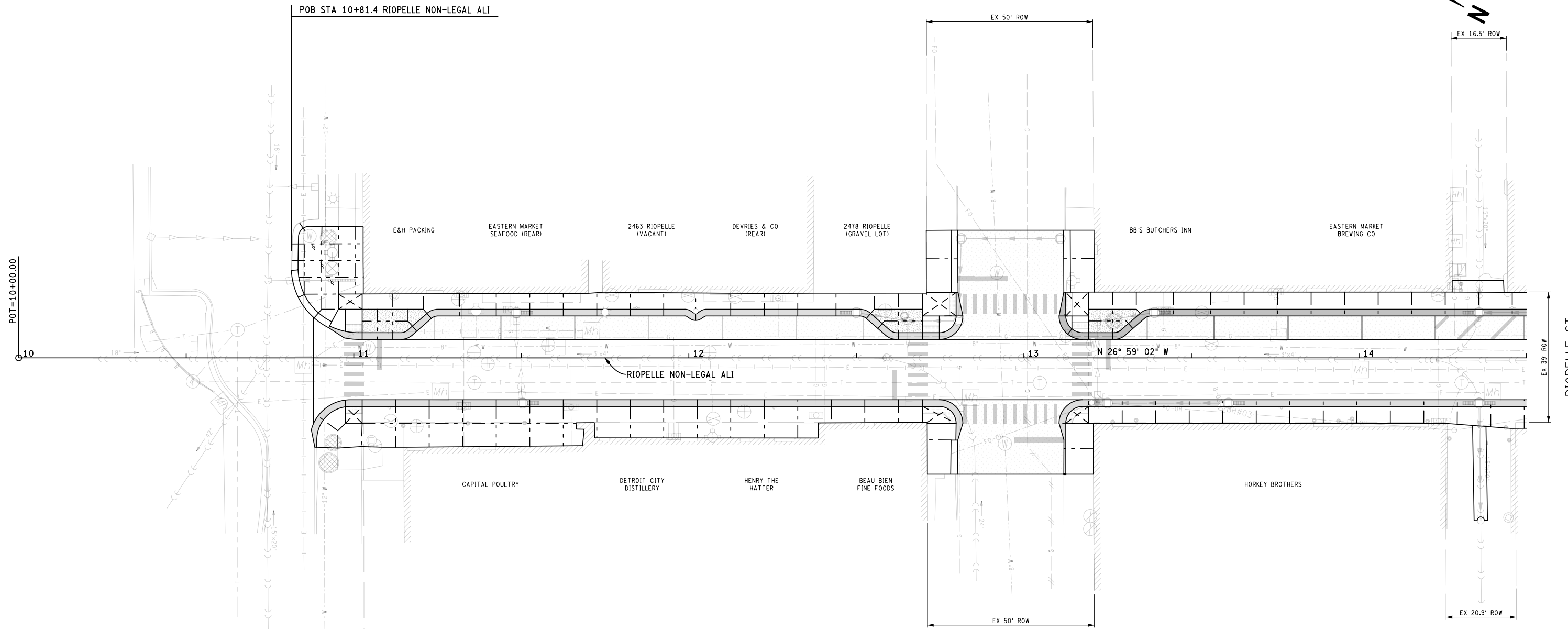
WINDER ST

ALLEY



RIOPELLE ST

RIOPELLE ST



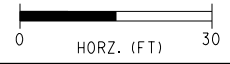
NO IRRIGATION THIS SHEET

I-75 SERVICE DR

WINDER ST

ALLEY

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NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

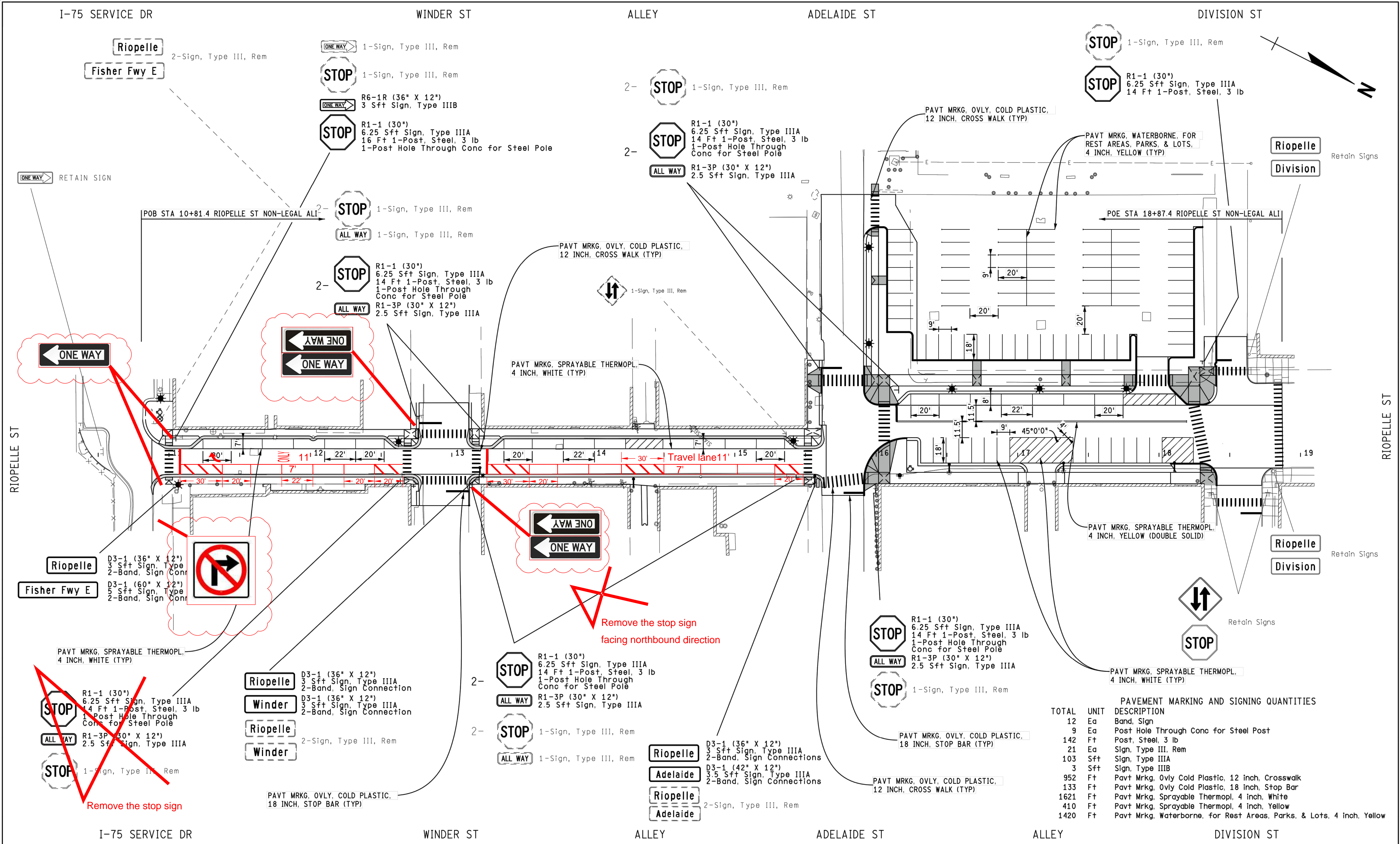


DATE: 04/23/19  
 FILE: LNDSCP001.dgn

JN: PW-7008 RIOPELLE

IRRIGATION PLAN  
 RIOPELLE STREETScape  
 RIOPELLE STA 10+81.4 (POB) TO STA 14+50

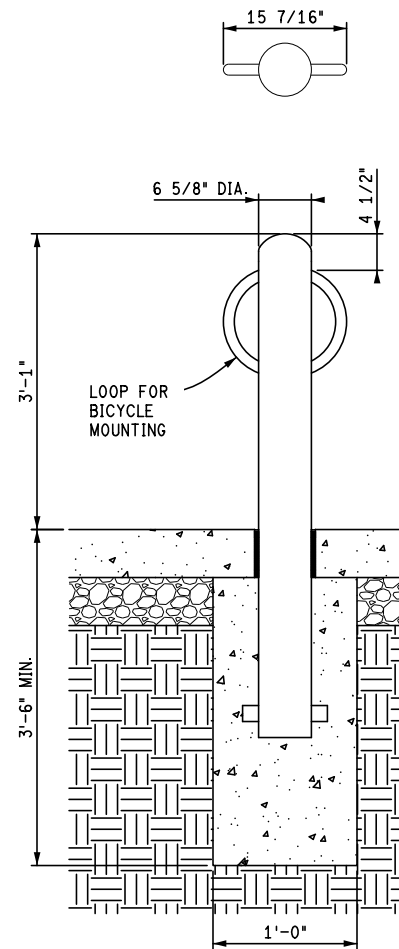
DRAWING SHEET  
 RIO IRRIG 001 SECT 1  
 51



FINAL ROW PLAN REVISIONS			(SUBMITTAL DATE: )		
NO.	DATE	AUTH	NO.	DATE	AUTH

DATE: 02/08/19  
 JN: PW-7008 RIOPELLE  
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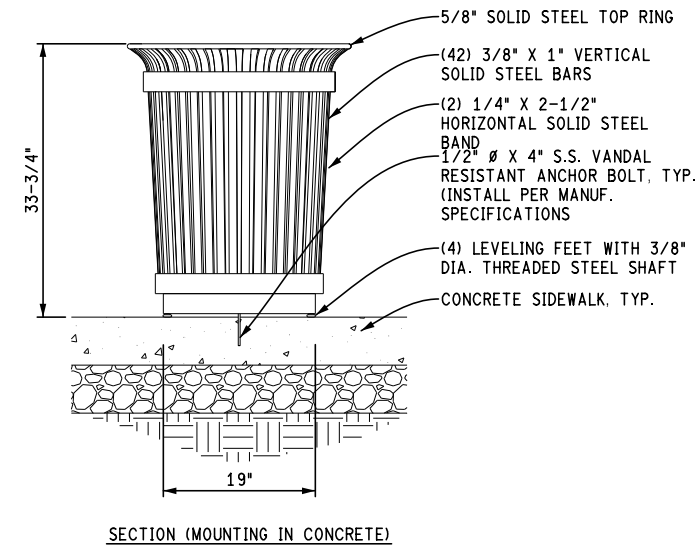
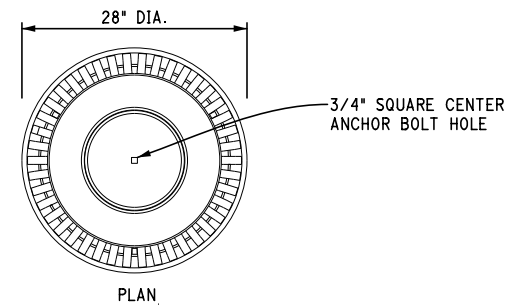
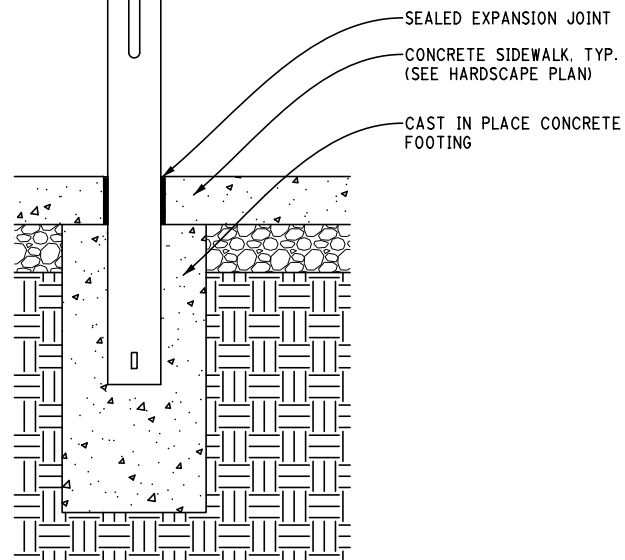
PAVEMENT MARKING AND SIGNING		DRAWING	SHEET
RIOPELLE STREETScape		RIO PMS 001	52



01 BIKE RACK/BOLLARD  
NTS

NOTES:

1. REFER TO MATERIALS PLANS FOR LOCATIONS AND QUANTITY OF BIKE RACKS
2. KEYSTONE RIDGE BIKE RACK, HARBOR SERIES, HRZE-6, 37" HT., COLOR BLACK.
3. BIKE RACK LOCATIONS TO BE FIELD VERIFIED BY ENGINEER PRIOR TO INSTALLATION.
4. ORIENTATION OF BIKE LOOPS SHALL BE AS SHOWN ON LAYOUT PLAN.



02 LITTER RECEPTACLE  
NTS

NOTES:

1. TRASH RECEPTACLE MODEL: VICTOR STANLEY STEELSITES RB SERIES, RB-36, STANDARD TAPERED FORMED LID, COLOR BLACK.
2. 36 GALLON CAPACITY HIGH DENSITY PLASTIC LINER (WEIGHT NOT TO EXCEED 6 LBS).
3. SITS ON 3/8" x 3" SUPPORT BARS.
4. DRILL (3) 1/4" HOLES IN BOTTOM OF LINER FOR DRAINAGE.
5. TRASH RECEPTACLE LOCATIONS TO BE FIELD VERIFIED BY ENGINEER PRIOR TO INSTALLATION.
6. REFER TO MATERIALS PLAN FOR LOCATION AND QUANTITY OF LITTER RECEPTACLES.

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

FILE: LNDSCP005.dgn

DATE: 04/23/19

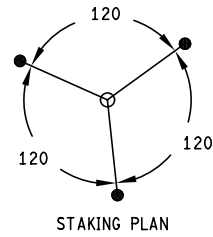
JN: PW-7008 RIOPELLE

LANDSCAPE DETAILS  
RIOPELLE STREETScape

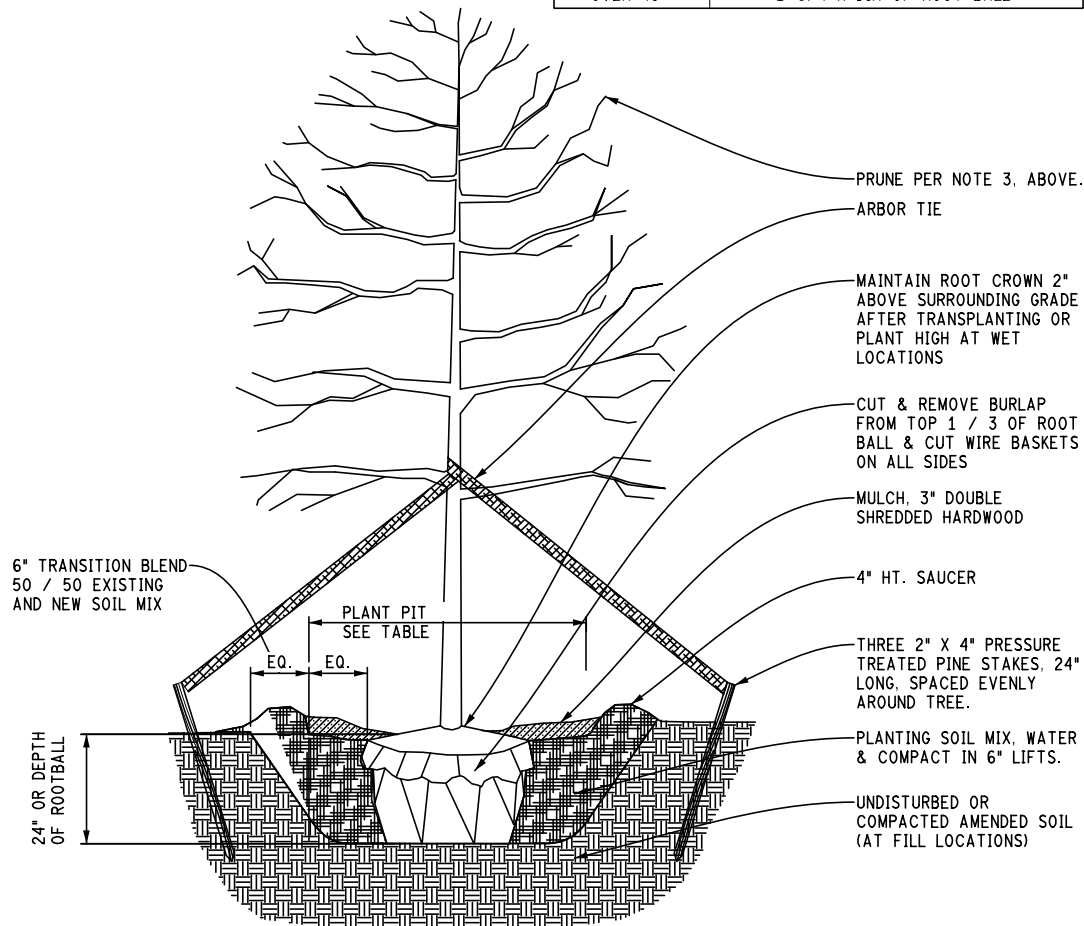
DRAWING	SHEET
RIO DETAILS 001	SECT 1 53

**NOTES:**

1. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
2. FINAL TREE STAKING PLACEMENT TO BE APPROVED BY OWNER.
3. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED, HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
4. MARK THE NORTH SIDE OF THE TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHEN EVER POSSIBLE.
5. IF PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, CUT THE WIRE BASKET IN FOUR PLACES AND FOLD DOWN (8 IN.) INTO PLANTING HOLE.
6. REMOVE ALL TWINE, ROPE, WIRE AND BURLAP FROM TOP HALF OF ROOTBALL.
7. SET TREE PLUMB IN PLANTING PIT.
8. EACH TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE TRUNK FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.



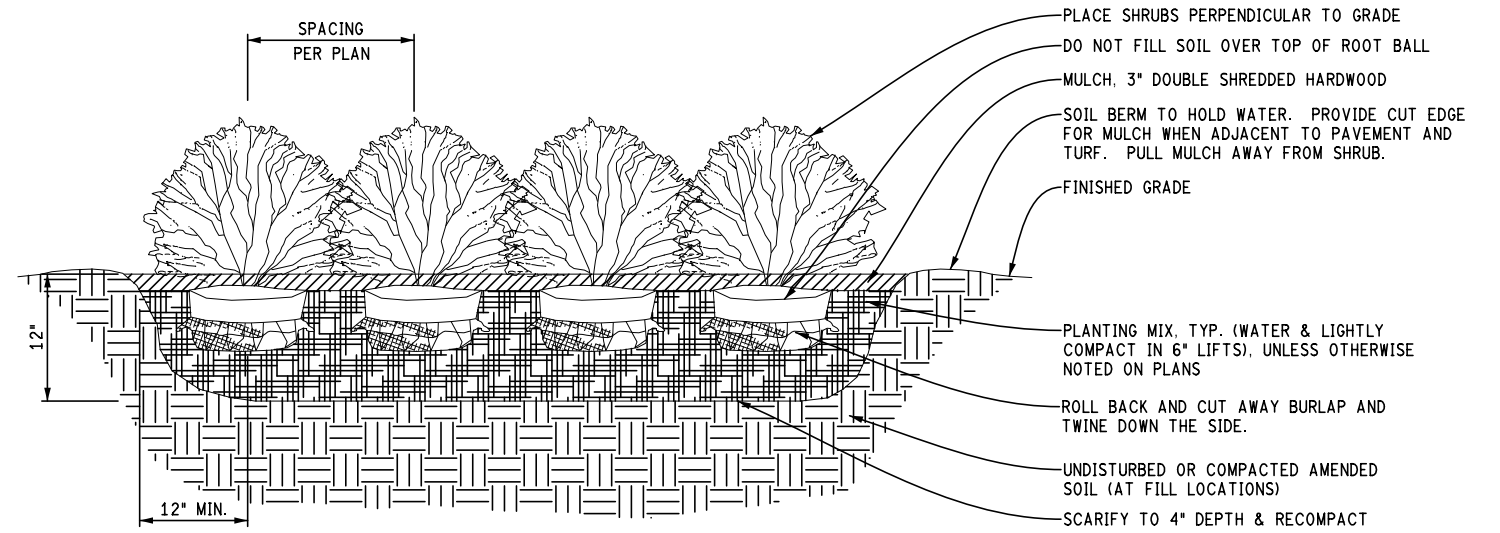
ROOT BALL SIZE	PIT WIDTH AT BOTTOM DIA. OF ROOT BALL
UP TO 48"	DIA. OF ROOT BALL + 2'
OVER 48"	1-3/4 X DIA OF ROOT BALL



01 DECIDUOUS TREE PLANTING  
NTS

**NOTES:**

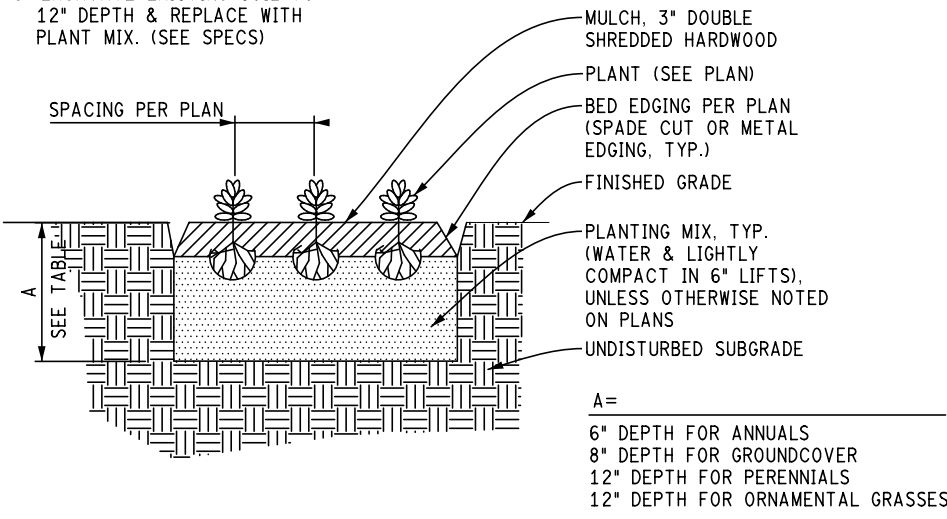
1. ALL WORK AND MATERIALS TO BE INCLUDED IN THE COST OF THE APPLICABLE PLANT PAY ITEM, UNLESS OTHERWISE NOTED.
2. 12" SETTLED PLANTING MIX OR AMENDED EXISTING SOIL AS SPECIFIED AND WHERE NOTED ON PLAN.



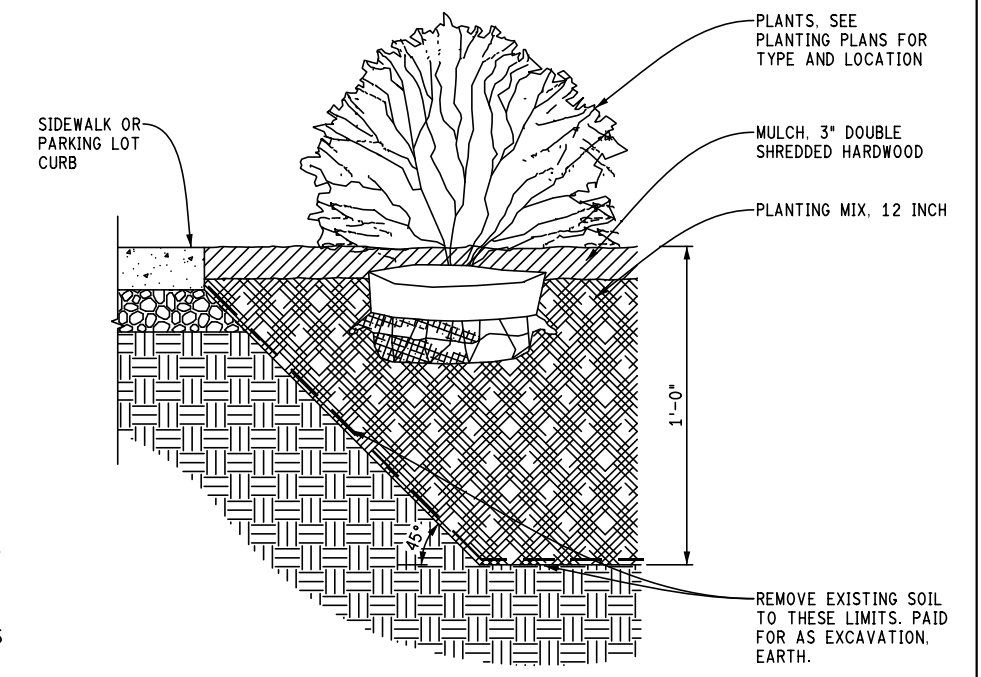
02 SHRUB/ORNAMENTAL GRASS PLANTING  
NTS

**NOTES:**

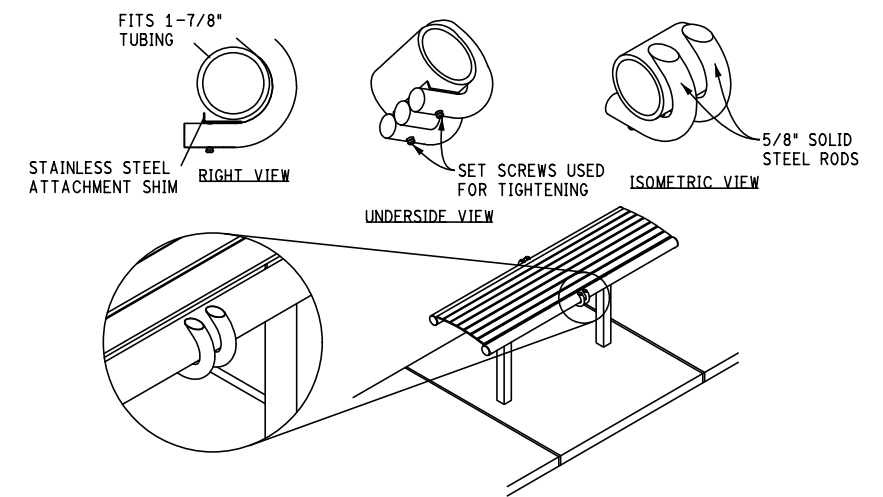
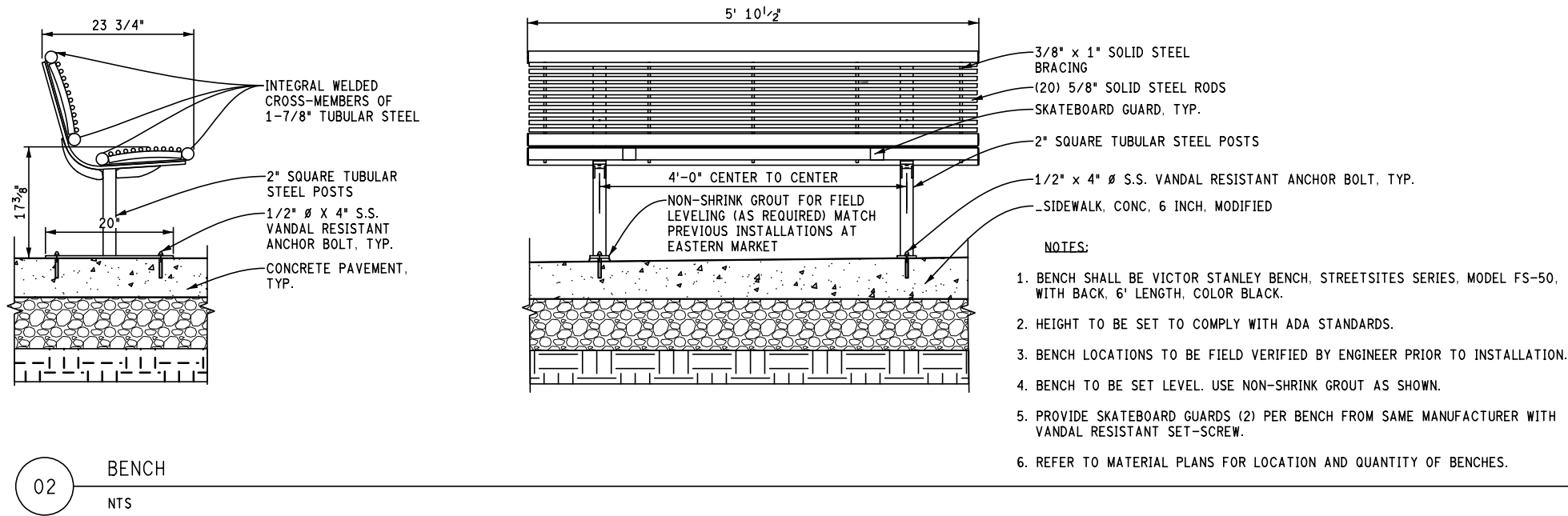
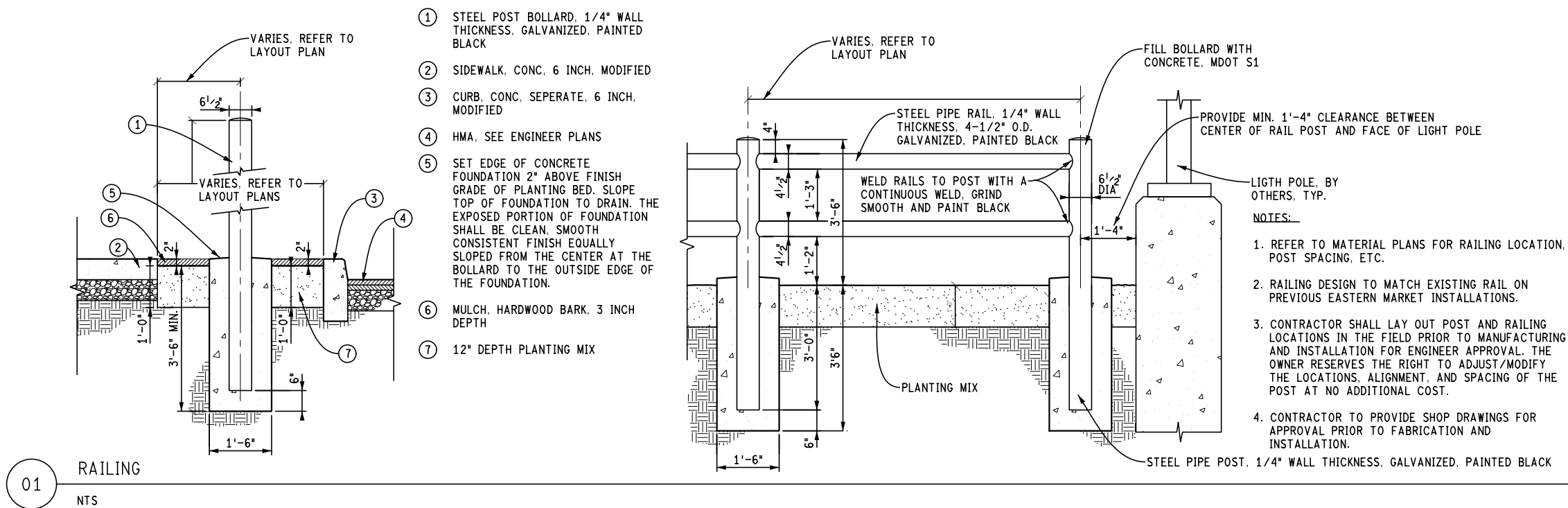
1. CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.
2. ALL WORK AND MATERIALS TO BE INCLUDED IN THE COST OF THE APPLICABLE PLANT PAY ITEM, UNLESS OTHERWISE NOTED.
3. EXCAVATE EXISTING SOIL TO 12" DEPTH & REPLACE WITH PLANT MIX. (SEE SPECS)



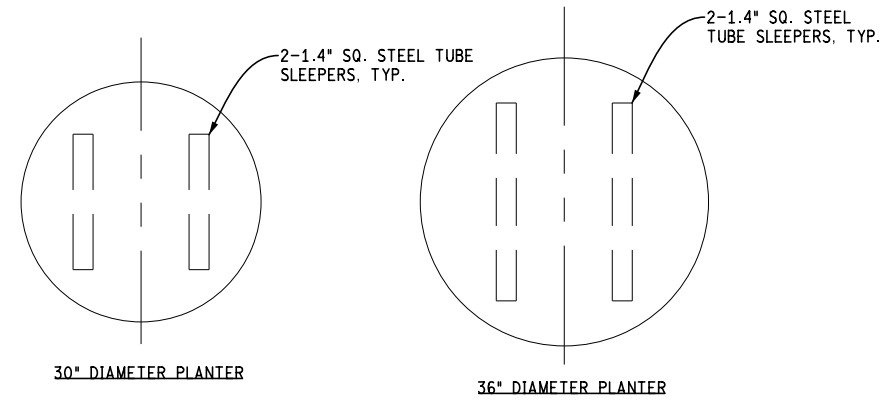
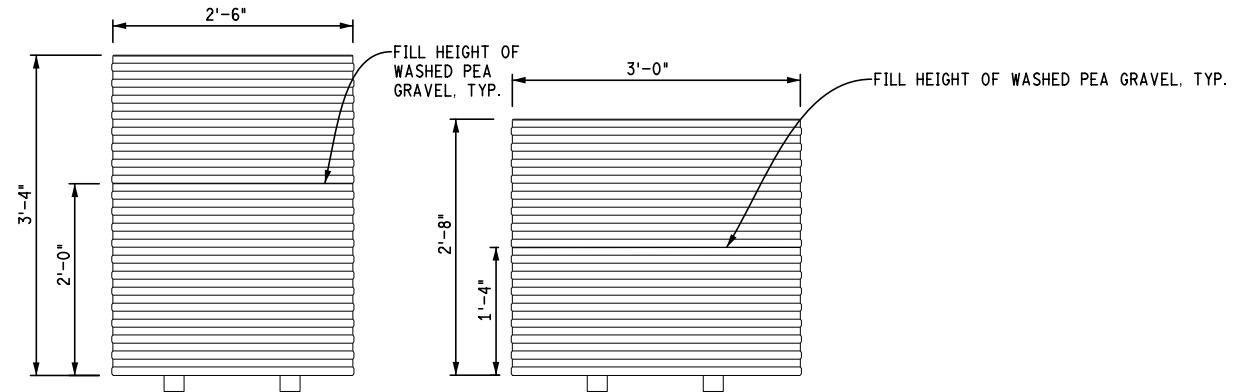
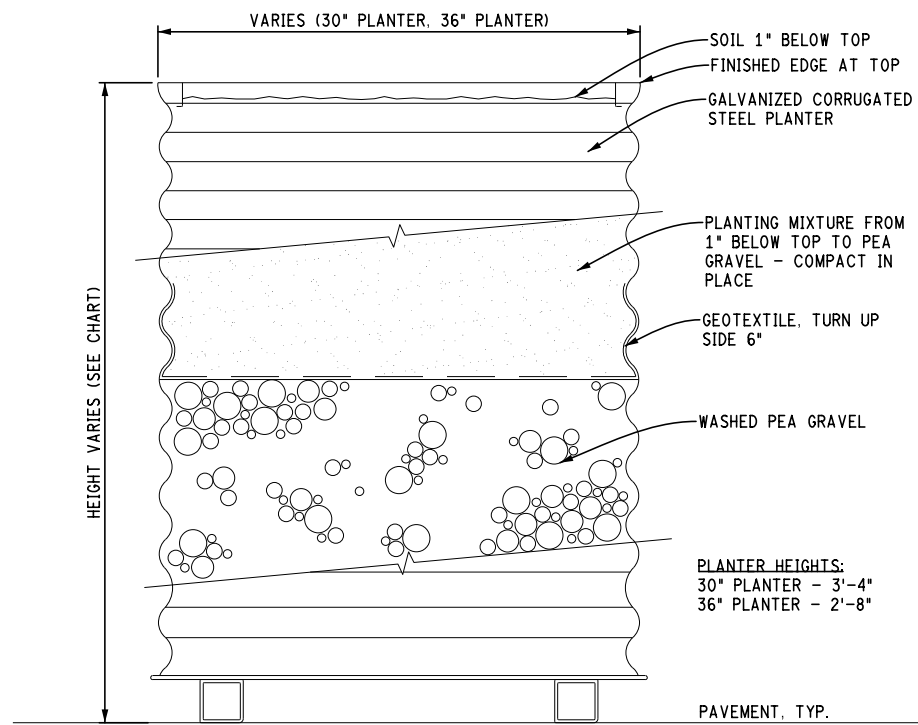
03 PERENNIAL/GROUNDCOVER/ANNUAL PLANTING DETAIL  
NTS



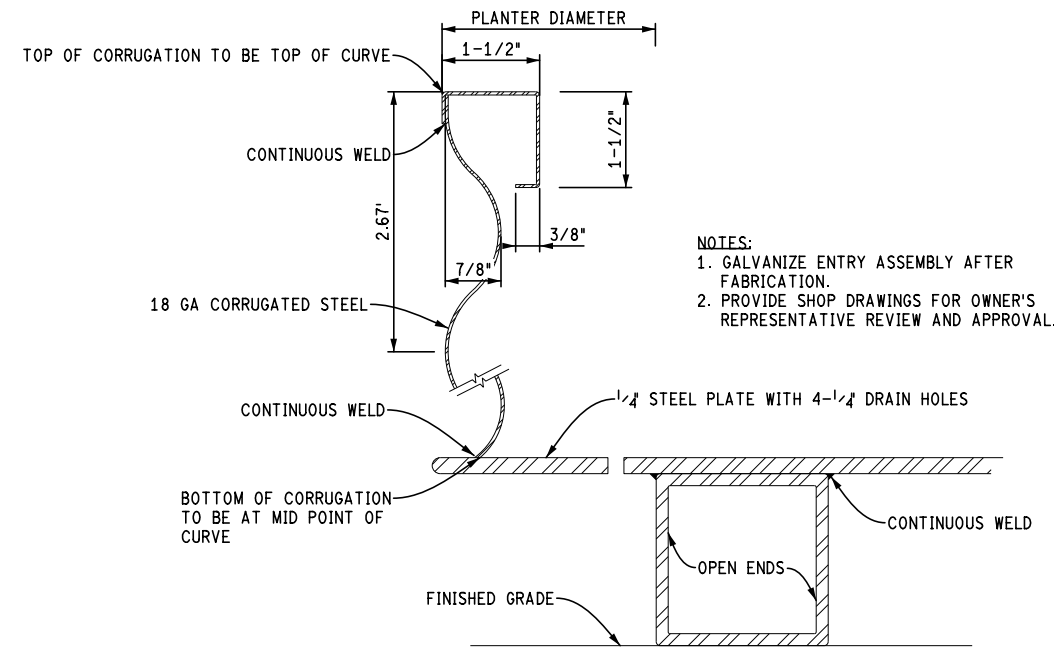
04 EXCAVATION FOR SOIL AT PAVEMENT AND STRUCTURES  
NTS



PLANTER SIZES  
 30" PLANTER - 3'-4" HT.  
 36" PLANTER - 2'-8" HT.



01 PLANTERS, (30 INCH & 36 INCH)  
 NTS



NOTES:  
 1. GALVANIZE ENTRY ASSEMBLY AFTER FABRICATION.  
 2. PROVIDE SHOP DRAWINGS FOR OWNER'S REPRESENTATIVE REVIEW AND APPROVAL.

02 PLANTER, TYPE E (30 INCH & 36 INCH)  
 NTS



**PUBLIC LIGHTING AUTHORITY OF DETROIT**  
 CITY OF DETROIT, WAYNE COUNTY, MICHIGAN  
**CONSTRUCTION PLANS FOR RIOPELLE STREET LIGHTING - 48207**  
**STREETSCAPE PROJECT STREET LIGHTING IMPROVEMENT**

**PROJECT DESCRIPTION**

THIS PROJECT CONSISTS OF UPGRADING THE STREET LIGHTING ALONG RIOPELLE FROM THE I-75 SERVICE DRIVE TO DIVISION. THE EXISTING LUMINAIRES WILL BE REPLACED WITH DECORATIVE LUMINAIRES. EASTERN MARKET PEDESTRIAN AND STRAND LIGHTING WILL BE INSTALLED.

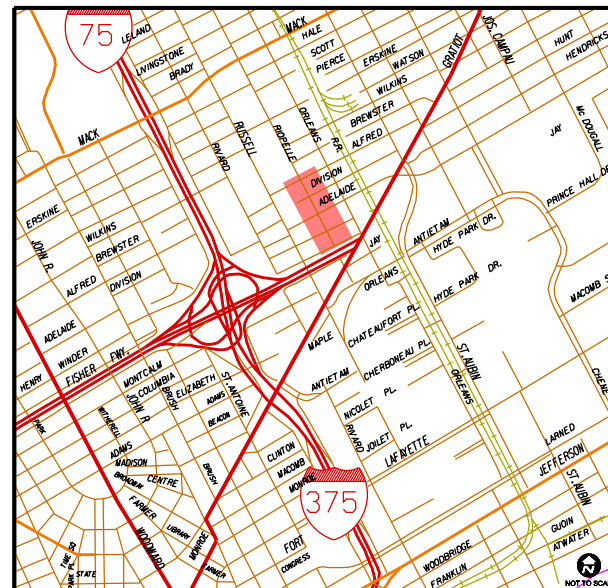
**CONSTRUCTION PLANS SHEET INDEX**

CO-01	COVER
LQ-01	LEGENDS AND QUANTITIES
GI-01	GENERAL INFORMATION
UG-01 TO UG-02	UNDERGROUND CONSTRUCTION PLAN
IN-01 TO IN-02	OVERHEAD CONSTRUCTION AND CABLING PLAN
ED-01	LC 07W5A ELECTRICAL DIAGRAM
ED-02	LC 07W6A ELECTRICAL DIAGRAM
ED-03	EASTERN MARKET ELECTRICAL DIAGRAM
DT-01	HOLOPHANE ROCKFORD HARBOR LIGHT STANDARD DETAILS
DT-02	ALUMINUM ROUND TAPERED LIGHT STANDARD AND 139W LUMINAIRE DETAILS
DT-03	ANTIQUE EUROTIQUE 30" WOOD POLE BRACKET
DT-04	HOLOPHANE GLASWERKS 2 HALLBROOK 112W LUMINAIRE DETAILS
DT-05	HOLOPHANE GLASWERKS 2 HALLBROOK 145W LUMINAIRE DETAILS
DT-06	OVERHEAD 4 AWG 600V AL QUADRUPLIX STREET LIGHTING CABLE DETAILS
DT-07	OVERHEAD 4 AWG 600V AL TRIPLEX STREET LIGHTING CABLE DETAILS
DT-08	UNDERGROUND 6 AWG 600V CU XHHW-2 STREET LIGHTING CABLE DETAILS
DT-09	OVERHEAD CIRCUITS TYPICAL WIRING SCHEMA DETAILS
DT-10	OVERHEAD CONSTRUCTION DETAILS
DT-11	UNDERGROUND CIRCUITS TYPICAL WIRING SCHEMA DETAILS
DT-12	UNDERGROUND FED STANDARD BASE ELECTRICAL CONNECTIONS DETAILS
DT-13	LAMP CORD CABLE DETAILS
DT-14	RECEPTACLE CORD CABLE DETAILS
DT-15	FUSE HOLDER DETAILS
DT-16	LUMINAIRE AND CABLE ID TAG DETAILS
DT-17	STREET LIGHTING PHOTO CONTROLLER DETAILS
DT-18	CONDUIT INSTALLATION DETAILS
DT-19	POLYMER CONCRETE 13" X 24" HANDHOLE DETAILS
DT-20	STRAND LIGHTING DETAILS (3 SHEETS)

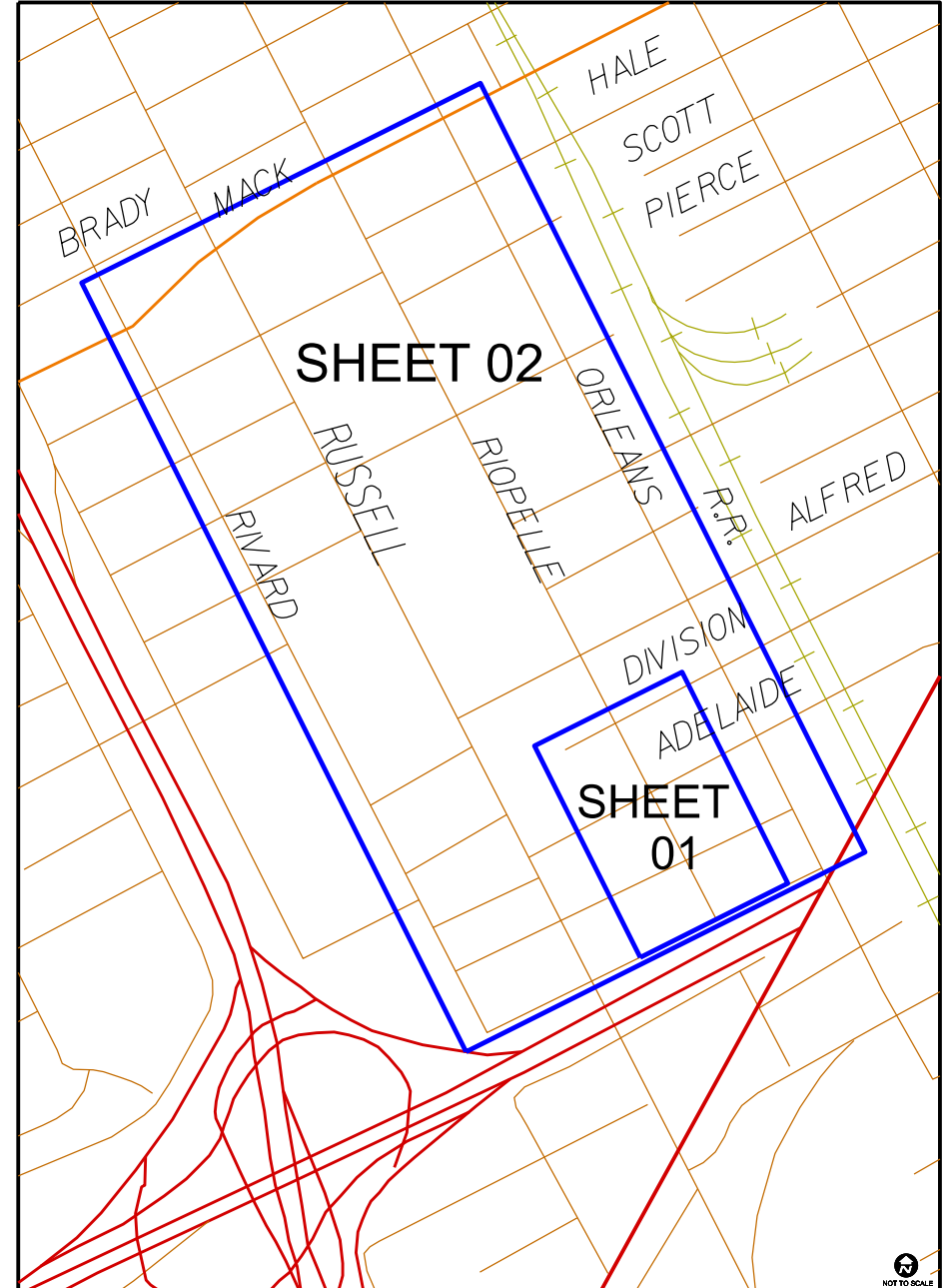
**COUNTY LOCATION MAP**



**PROJECT LOCATION MAP**






















**INSTALLATION PLAN SHEET INDEX**









# LEGENDS

## GENERAL LEGEND

-  Existing Wood Pole
-  Equipment Ground Conductor
-  Existing Lighting Controller (LC)
-  Install Lighting Controller (LC)
-  Remove Lighting Controller (LC)






-  Install Luminaire on Existing Bracket Arm and Pole
-  Remove Luminaire Leaving the Bracket Arm and Pole
-  Existing Luminaire on Existing Bracket Arm and Existing Pole
-  Install Wood Pole
-  Remove Wood Pole
-  Remove Luminaire, Bracket Arm and Wood Pole Complete
-  Existing Lighting Standard
-  Existing Lighting Standard with 2 Luminaires
-  Existing Strain Pole
-  Remove Strain Pole
-  Existing Polymer Handhole
-  Install Polymer Handhole
-  Existing Polymer Manhole
-  Install Polymer Manhole

## ELECTRICAL DIAGRAMS










-  Pole Connected to Lighting Controller
-  Light Standard Connected to Lighting Controller
-  Overhead Cable Connected to Lighting Controller (Quadruplex Unless Noted Otherwise)
-  Underground Cable Connected to Lighting Controller (4 Conductor Unless Noted Otherwise)
-  Equipment Ground Conductor (EGC) Bond to Ground Location
-  Neutral Bond to Ground Location

**\*\* CAUTION: Utility information is approximate. Contact MISS DIG and exercise caution when excavating.**

## UNDERGROUND CONSTRUCTION PLANS

-  Install Light Standard Foundation (Rockford Harbor Unless Noted Otherwise)
-  Install (1) 3" Direct Buried Conduit (Unless Noted Otherwise)
-  Install (2) 3" Directional Bored Conduit (Unless Noted Otherwise)
-  Existing Conduit
-  Remove Cable

## OVERHEAD CONSTRUCTION AND CABLING PLANS

-  Install Light Standard (Rockford Harbor Unless Noted Otherwise)
-  Install Underground Street Lighting Cable 6 AWG Copper (3) Single Conductor Cables with (1) EGC Underground (Unless Noted Otherwise)
-  Install Combined Underground Street Lighting and Receptacle Cable 6 AWG Copper (3) Single Conductor Cables with (1) EGC Underground (Unless Noted Otherwise)
-  Install 4 AWG Aluminum Quadruplex Overhead Cable (Unless Noted Otherwise)
-  Existing Cable
-  Install Strand Lighting Assembly
-  Strand Lighting Power Supply
-  Install Equipment Ground Conductor (EGC) Bond to Ground
-  Install Bond Connecting Neutral to Ground

PLA STOCK QUANTITIES	
DESCRIPTION	TOTAL
Light Std, Rockford Harbor	1
Light Std, Tapered Aluminum	1
Luminaire, Hallbrook, 112W	2
Luminaire, Hallbrook, 145W	2

## LIST OF PAY ITEM QUANTITIES

MDOT CODE	DESCRIPTION	QUANTITIES					TOTAL	UOM
		SHEET	UG-01	UG-02	IN-01	IN-02		
2040055	Sidewalk, Rem			25			25	Sft
6020074	Conc Pavt, Misc, Reinf, 8 inch		3				3	Syd
8037046	Sidewalk, Conc, 6 inch, Modified					25	25	Sft
8190016	Cable, Rem		1,000	125			1,125	Ft
8190029	Conduit, DB, 1, 3 inch		490				490	Ft
8190236	Cable, Equipment Ground Wire, 1/C#6				845		845	Ft
8190350	Luminaire, Install Salv					1	1	Ea
8190365	Luminaire, Rem and Salv		8	3			11	Ea
8190406	Cable, Sec, 600V, 2, 1/C#6				425		425	Ft
8190407	Cable, Sec, 600V, 3, 1/C#6				340		340	Ft
8190490	Wood Pole, Fit Up, Metered Sec Elec Serv with Photo Control				2		2	Ea
8190495	Wood Pole, Fit Up, Sec Cable Pole		2				2	Ea
8190505	Wood Pole, Rem		2	1			3	Ea
8190604	Conduit, Directional Bore, 2, 3 inch		205				205	Ft
8197001	Cable, Sec, Quadruplex				1,725		1,725	Ft
8197001	Cable, Sec, Triplex				120	240	360	Ft
8197050	Bracket Arm, Rem		7				7	Ea
8197050	Bracket Arm, Wood Pole				7		7	Ea
8197050	Ground Rod, Install, Wood Pole		2				2	Ea
8197050	Light Std Fdn, Rockford Harbor		8				8	Ea
8197050	Light Std, Rockford Harbor				9		9	Ea
8197050	Light Std, Tapered Aluminum				1		1	Ea
8197050	Luminaire, 139W				1	1	2	Ea
8197050	Luminaire, Hallbrook, 112W				9		9	Ea
8197050	Luminaire, Hallbrook, 145W				7		7	Ea
8197050	Strand Lighting Assembly Complete				2		2	Ea
8197050	Tag Pole				7	73	80	Ea
8197250	Hh, Polymer Conc, Modified		6				6	Ea
8197279	Light Std Fdn, Modified		1				1	Ea

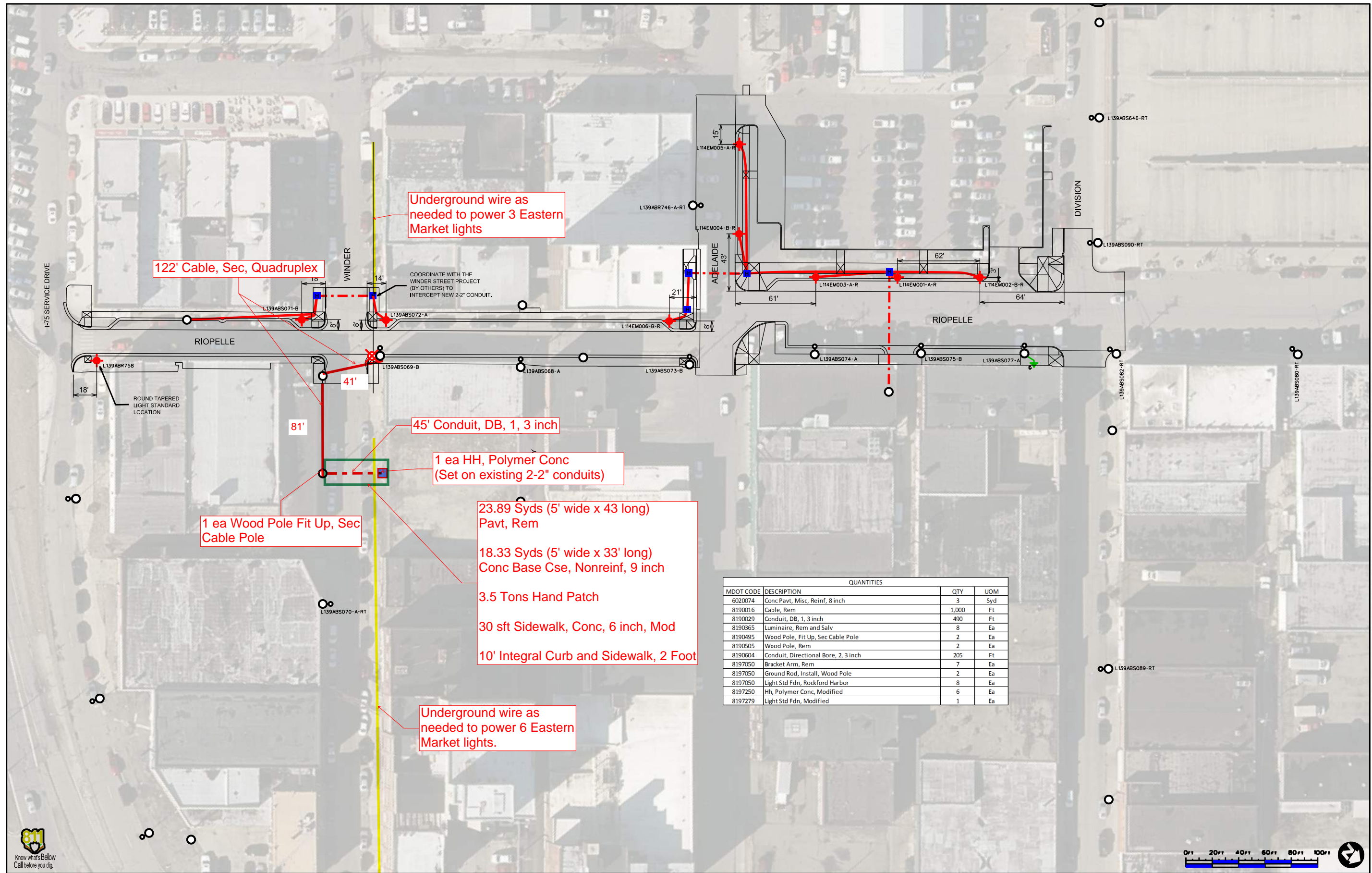
**GENERAL INFORMATION**

1. ALL MATERIAL AND EQUIPMENT FURNISHED BY THE CONTRACTOR MUST BE NEW AND MUST COMPLY WITH THE SPECIFICATIONS FOR THAT MATERIAL AND EQUIPMENT. THE OWNER SHALL HAVE THE RIGHT TO REJECT ANY EQUIPMENT WHICH DOES NOT MEET WITH SPECIFICATIONS.
2. CONSTRUCTION MUST BE PERFORMED BY QUALIFIED AND EXPERIENCED PERSONNEL. ALL WORK MUST MEET STANDARDS AND PRACTICES OF THE PUBLIC LIGHTING AUTHORITY (PLA), THE NATIONAL ELECTRICAL CODE, THE ELECTRIC CODE OF THE CITY OF DETROIT AND THE NATIONAL ELECTRICAL SAFETY CODE.
3. THE CONTRACTOR MUST USE PUBLIC LIGHTING AUTHORITY (PLA) SPECIFICATIONS FOR THIS PROJECT.
4. ALL SALVAGED PUBLIC LIGHTING AUTHORITY (PLA) EQUIPMENT SHALL BE RETURNED TO THE PLA.
5. ALL REMOVED PUBLIC LIGHTING DEPARTMENT (PLD) EQUIPMENT SHALL BE RETURNED TO THE PLD.
6. THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR TRANSPORTING DECOMMISSIONED EQUIPMENT TO THE PUBLIC LIGHTING DEPARTMENT (PLD) YARD.
7. ALL SHOP DRAWINGS MUST BE APPROVED BY THE PUBLIC LIGHTING AUTHORITY (PLA). CONTACT (313) 324-8290.
8. CALL MISS DIG AT 811 OR (800) 482-7171 A FULL THREE WORKING DAYS PRIOR TO ANY EXCAVATION FOR THE LOCATIONS OF UNDERGROUND UTILITIES.
9. THE CONTRACTOR IS TO NOTIFY DTE GAS AT (800) 477-4747 IF A PROTECTIVE COATED GAS MAIN IS EXPOSED OR DAMAGED.
10. THE CONTRACTOR IS TO NOTIFY DTE ELECTRIC AT (800) 477-4747 IF THE PROTECTIVE COATING OF ANY DTE ELECTRIC HIGH VOLTAGE UNDERGROUND LINE IS EXPOSED OR DAMAGED.
11. ALL EXISTING PUBLIC LIGHTING DEPARTMENT (PLD) LIGHTING, PRIMARY TRANSMISSION, ETC., CIRCUITS MUST ALWAYS BE MAINTAINED IN AN OPERATIONAL CONDITION. NOTIFY THE PLD SYSTEM OPERATOR AT (313) 961-1364 48 HOURS PRIOR TO BEGINNING WORK ON PLD CIRCUITS AND KEEP THE OPERATOR INFORMED ON A DAILY BASIS.
12. ALL VEHICLE DIRECTION, STREET NAME AND PARKING SIGNS CITY OF DETROIT ROADS ARE THE PROPERTY OF THE CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS (DPW). THE CONTRACTOR WILL NOT REMOVE OR RELOCATE ANY VEHICLE DIRECTION, STREET NAME OR PARKING SIGNS UNLESS ADVANCE AUTHORIZATION IS GRANTED BY THE CITY OF DETROIT DPW. IN THE EVENT THAT A VEHICLE DIRECTION, STREET NAME OR PARKING SIGN IS ENCOUNTERED ON A STREET LIGHT POLE, THE CONTRACTOR WILL STOP WORK AND CALL THE DETROIT DPW SIGN SHOP AT (313) 224-6950 TO COORDINATE 72 HOURS PRIOR TO THE REMOVAL OR RELOCATION.
13. IF ANY PERMANENT SIGNS ARE DAMAGED OR REMOVED, THE CONTRACTOR SHALL REPLACE IN KIND.
14. REMOVAL, REPLACEMENT, EXCAVATION AND BACKFILL RELATED TO PAVEMENT, SIDEWALKS AND CURBS MUST BE DONE ACCORDING TO THE CITY OF DETROIT, DEPARTMENT OF PUBLIC WORKS, CITY ENGINEERING DIVISION STANDARD SPECIFICATIONS FOR PAVING AND RELATED CONSTRUCTION OR THE SPECIFICATION OF THE AUTHORITY HAVING JURISDICTION.
15. WITHIN FIVE DAYS OF COMPLETING EACH SECTION OF THE UNDERGROUND AND OVERHEAD WORK, THE CONTRACTOR SHALL FURNISH TO THE PUBLIC LIGHTING AUTHORITY (PLA) AN EXACT RECORD OF ALL UNDERGROUND AND OVERHEAD WORK INSTALLED (AS-BUILT DRAWINGS). THIS RECORD SHALL INCLUDE, BUT NOT LIMITED TO, STREET LIGHTING, CABLE ROUTING AND CONDUIT LENGTHS AND THEIR LOCATIONS.
16. THE CONTRACT UNIT PRICE SHALL BE PAYMENT IN FULL FOR FOUNDATION REMOVAL AND BACKFILLING THE HOLE WITH GRANULAR MATERIAL. DISPOSAL OF WASTE EXCAVATED MATERIAL ALONG WITH REMOVING PAVEMENT, SIDEWALK, CURB AND GUTTER ALONG WITH ANY ASSOCIATED REPLACEMENT IS ALSO INCLUDED.
17. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS COVERING HIS OPERATION INCLUDING PERMITS FROM THE PUBLIC AUTHORITIES HAVING JURISDICTION OVER THE STREETS OR OTHER PUBLIC PROPERTIES IN WHICH THE WORK IS LOCATED AND THE IMPROVEMENT THEREIN. THE BIDDER SHALL ASCERTAIN THE AMOUNT OF ANY CHARGES REQUIRED BY SUCH AUTHORITIES AND WILL INCLUDE THE COST THEREOF IN THE BID PRICES.
18. THE CONTRACTOR MUST ASCERTAIN THE REQUIREMENTS OF SAID AUTHORITIES AND WILL INCLUDE IN HIS BID PRICE ALL COSTS OF RESTORING EXISTING INFRASTRUCTURE INCLUDING SIDEWALKS, PAVEMENT AND LANDSCAPING TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION IN EACH CASE, WHICH MAY INCLUDE UPGRADES FROM THE EXISTING CONDITION.
19. THE CONTRACTOR ASSUMES ALL RISKS AND RESPONSIBILITIES BECAUSE OF EXISTING SOIL CONDITIONS AND MUST COMPLETE THE WORK IN WHATEVER MATERIAL AND UNDER WHATEVER GROUND CONDITIONS MAY BE ENCOUNTERED OR CREATED WITHOUT ADDITIONAL COST TO THE PUBLIC LIGHTING AUTHORITY (PLA).

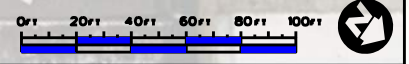
20. THE LOCATIONS OF EXISTING UNDERGROUND OBSTRUCTIONS OR FACILITIES OF OTHER UTILITIES ARE NOT NECESSARILY INDICATED ON THE PLANS. WHERE FACILITIES OF OTHER UTILITIES ARE SHOWN, LOCATIONS ARE ONLY APPROXIMATIONS. THE EXACT UTILITY LOCATIONS ARE NOT GUARANTEED FOR CORRECTNESS. THE CONTRACTOR MUST EXERCISE CAUTION IN AVOIDING DAMAGE TO OTHER UTILITIES AND MUST NOTIFY THE OTHER UTILITIES THAT HE IS IN FACT PROPOSING TO BREAK PAVEMENT OR EXCAVATE SO THAT THEY MAY PROVIDE THE CONTRACTOR WITH THE VERY LATEST LOCATION INFORMATION OF THEIR EXISTING FACILITIES.
21. HANDHOLE LOCATIONS ARE SHOWN IN PROXIMITY TO WHERE THEY ARE TO BE INSTALLED. THEY ARE NOT TO BE INSTALLED IN ADA RAMPS, SIDEWALK, ROADWAYS, DRIVEWAYS OR ON PRIVATE PROPERTY. ADDITIONALLY, THEY ARE TO BE INSTALLED CLEAR OF HYDRANTS, TREES AND ANY OTHER UNDERGROUND STRUCTURES AND UTILITIES.
22. NO SPLICING WILL BE ALLOWED BETWEEN: CONTROL CABINET AND HANDHOLE/MANHOLE; HANDHOLE/MANHOLE TO HANDHOLE/MANHOLE AND HANDHOLE/MANHOLE TO UNDERGROUND STREET LIGHTING STANDARD. THE SPLICING OF GROUNDS AND NEUTRALS IS ALLOWED IN HANDHOLES/MANHOLE.
23. THE FOLLOWING WIRE COLOR CODING IS TO BE USED FOR THE UNDERGROUND STREET LIGHTING AND RECEPTACLES ON THIS PROJECT: BLACK (A PHASE); RED (B PHASE); WHITE (NEUTRAL); GREEN (GROUND).
24. THE FOLLOWING CABLE IDENTIFICATION IS TO BE USED FOR GROUNDED OVERHEAD TRIPLEX AND QUADRUPLX ON THIS PROJECT: NO RIB (A PHASE); ONE RIB (NEUTRAL); TWO RIBS (B PHASE); BARE MESSENGER (EQUIPMENT GROUNDING CONDUCTOR OR EGC).  
  
THE CABLE IDENTIFICATION FOR INSTANCES OF EXISTING UNGROUNDED OVERHEAD DUPLEX OR TRIPLEX ALONG WITH CONNECTIONS TO THE EXISTING UNGROUNDED OVERHEAD ON THIS PROJECT: NO RIB (A PHASE); ONE RIB (B PHASE); BARE MESSENGER (NEUTRAL).  
  
IF ANY EXISTING OVERHEAD CABLE DOES NOT MATCH EITHER OF THESE SCENARIOS, CONTACT THE PROJECT ENGINEER PRIOR TO MAKING ANY CONNECTIONS.
25. THE CONTRACTOR MUST CORE INTO EXISTING HANDHOLES AND MANHOLES.
26. THE CONTRACTOR IS TO INCLUDE, FOR THIS PROJECT, PRICING FOR 1 EACH: (A) CONDUIT REPAIR UNDER SIDEWALK OR DIRT AND (B) CONDUIT REPAIR UNDER PAVEMENT.
27. THE CONTRACTOR IS TO TRIM EXISTING TREES TO PROVIDE A CLEAR 10 FOOT RADIUS AROUND EACH LUMINAIRE.
28. ALL UNDERGROUND STREET LIGHTING STANDARD LOCATIONS ARE TO BE INSTALLED WITH THE CENTER 3 FEET BACK OF CURB FACE (BOC) UNLESS OTHERWISE INDICATED ON THE PLANS.
29. IF ANY PERMANENT SIGNS ARE DAMAGED OR REMOVED, THE CONTRACTOR SHALL REPLACE IN KIND.
30. THE CONTRACTOR IS TO CALL ASHOK PINNAMANANI AT (313) 267-7210 FOR ANY DETROIT PUBLIC LIGHTING DEPARTMENT (PLD) FACILITIES COORDINATION.
31. THE CONTRACTOR IS TO CALL (313) 224-1610 FOR COORDINATING ANY DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC SIGNAL WORK.



REVISIONS	DATE:	DESCRIPTION:



		QUANTITIES	
MDOT CODE	DESCRIPTION	QTY	UOM
6020074	Conc Pavt, Misc, Reinf, 8 inch	3	Syd
8190016	Cable, Rem	1,000	Ft
8190029	Conduit, DB, 1, 3 inch	490	Ft
8190365	Luminaire, Rem and Salv	8	Ea
8190495	Wood Pole, Fit Up, Sec Cable Pole	2	Ea
8190505	Wood Pole, Rem	2	Ea
8190604	Conduit, Directional Bore, 2, 3 inch	205	Ft
8197050	Bracket Arm, Rem	7	Ea
8197050	Ground Rod, Install, Wood Pole	2	Ea
8197050	Light Std Fdn, Rockford Harbor	8	Ea
8197250	Hh, Polymer Conc, Modified	6	Ea
8197279	Light Std Fdn, Modified	1	Ea



Public Lighting Authority of Detroit  
 60 Cadillac Square, Suite 3100  
 Detroit, Michigan 48226  
 313-324-8290 office  
 313-636-2905 fax  
 @detroit.org

PROJECT DESCRIPTION  
 DESIGN ENGINEERING FOR RIOPELLE STREETSCAPE  
 I-75 SERVICE DRIVE TO DIVISION  
 UNDERGROUND CONSTRUCTION PLAN

Consulting Engineering Associate and Wade Trim Joint Venture  
 16580 Wyandling  
 Detroit, Michigan 48221  
 313-341-5797

Consulting Engineering Associates, Inc. WADE TRIM

REVISIONS	DATE:	DESCRIPTION:

SHEET  
**UG-01**  
 FIG. NO. 1792 JOB NO. 142814  
 PAGE 61 OF



**SEE SHEET UG-01  
FOR CONSTRUCTION  
IN THIS AREA**

MDOT CODE	DESCRIPTION	QUANTITIES	
		QTY	UOM
2040055	Sidewalk, Rem	25	Sft
8190016	Cable, Rem	125	Ft
8190365	Luminaire, Rem and Salv	3	Ea
8190505	Wood Pole, Rem	1	Ea



**Public Lighting Authority of Detroit**  
 165 Cadillac Square, Suite 3100  
 Detroit, Michigan 48226  
 313-324-8290 office  
 313-638-2805 fax  
 #detroit.org

**PROJECT DESCRIPTION**  
 DESIGN ENGINEERING FOR RIOPELLE STREETSCAPE  
 I-75 SERVICE DRIVE TO DIVISION  
 UNDERGROUND CONSTRUCTION PLAN

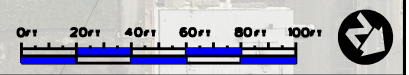
Consulting Engineering Associate and Wade Trim Joint Venture  
 16580 Wyoming  
 Detroit, Michigan 48221  
 313-341-5797

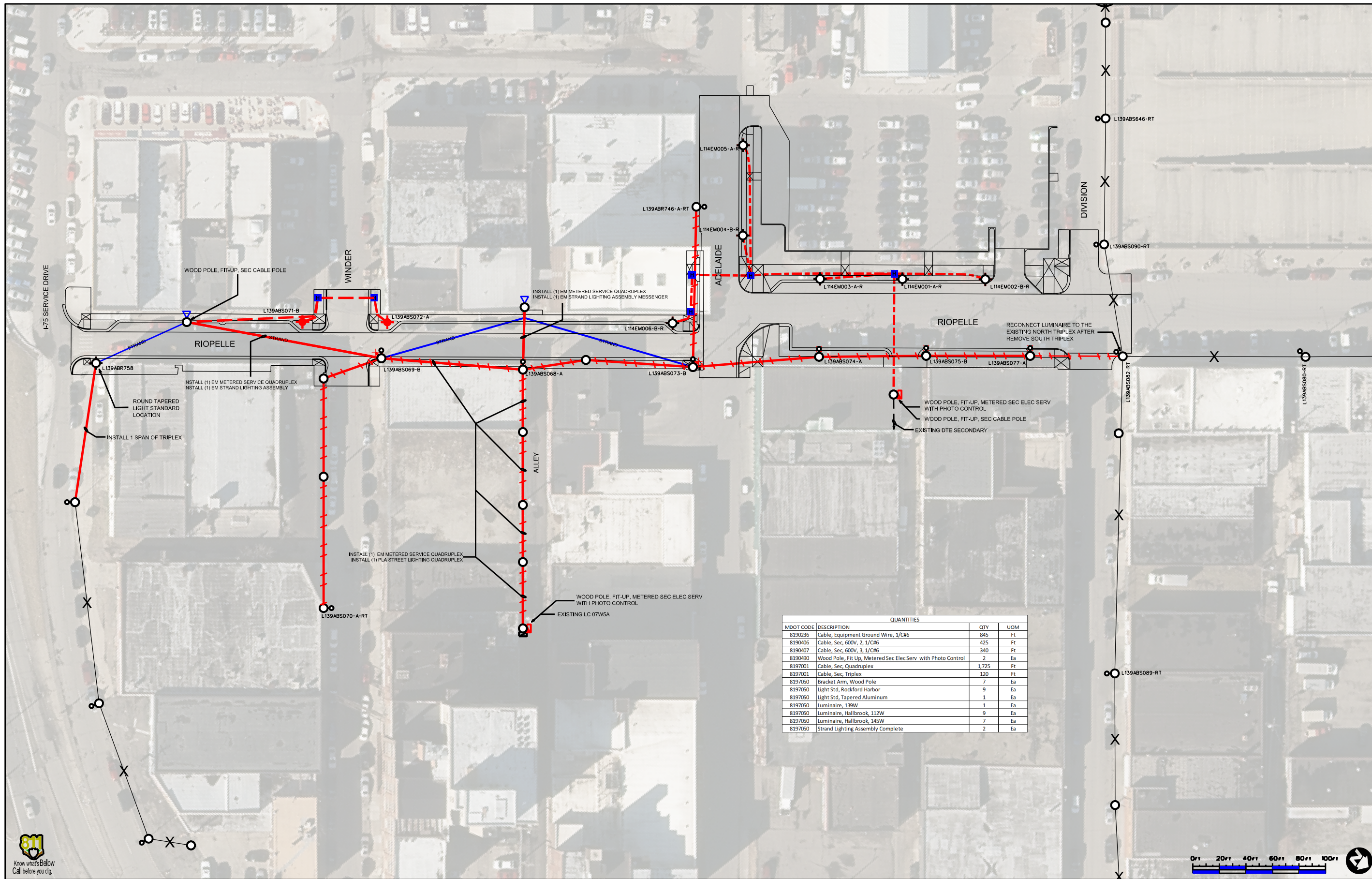
**Consulting Engineering Associates, Inc.** **WADE TRIM**

REVISIONS	DATE:	DESCRIPTION:

**SHEET UG-02**

FIG. NO. 1792 JOB NO. 142814  
 DATE: 11/20/14  
 PAGE 62 OF 62





QUANTITIES			
MDOT CODE	DESCRIPTION	QTY	UOM
8190236	Cable, Equipment Ground Wire, 1/C#6	845	Ft
8190406	Cable, Sec, 600V, 2, 1/C#6	425	Ft
8190407	Cable, Sec, 600V, 3, 1/C#6	340	Ft
8190490	Wood Pole, Fit Up, Metered Sec Elec Serv with Photo Control	2	Ea
8197001	Cable, Sec, Quadruplex	1,725	Ft
8197001	Cable, Sec, Triplex	120	Ft
8197050	Bracket Arm, Wood Pole	7	Ea
8197050	Light Std, Rockford Harbor	9	Ea
8197050	Light Std, Tapered Aluminum	1	Ea
8197050	Luminaire, 139W	1	Ea
8197050	Luminaire, Hallbrook, 112W	9	Ea
8197050	Luminaire, Hallbrook, 145W	7	Ea
8197050	Strand Lighting Assembly Complete	2	Ea

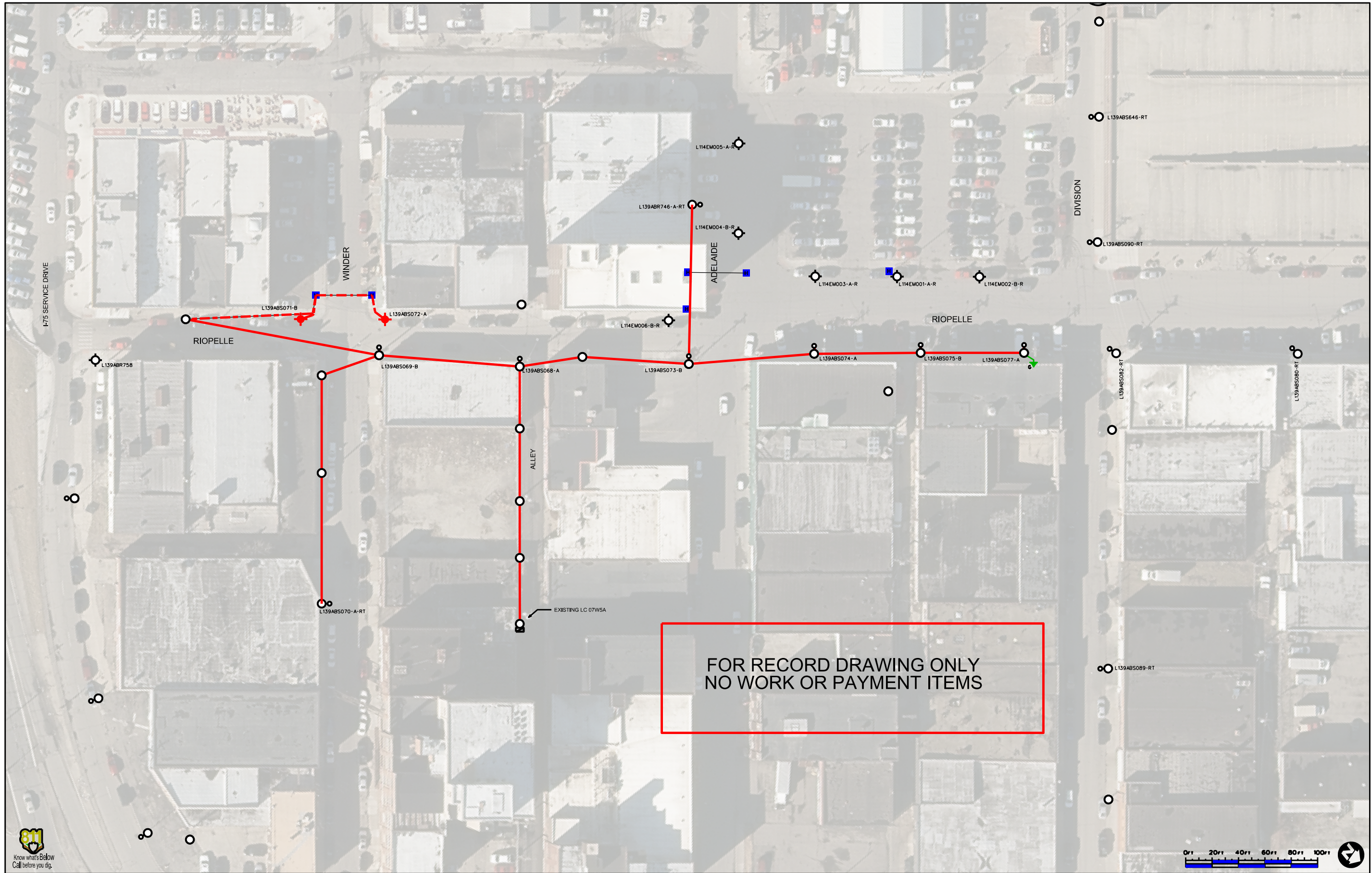


Public Lighting Authority  
of Detroit  
165 Cadillac Square, Suite 3100  
Detroit, Michigan 48226  
313-324-8290 office  
313-638-2805 fax  
pladetroit.org

PROJECT DESCRIPTION  
**DESIGN ENGINEERING FOR RIOPELLE STREETSCAPE**  
I-75 SERVICE DRIVE TO DIVISION  
OVERHEAD CONSTRUCTION AND CABLING PLAN

Consulting Engineering Associate and Wade Trim Joint Venture  
16580 Wyandling  
Detroit, Michigan 48221  
313-341-5797

REVISIONS	DATE:	DESCRIPTION:	SHEET <b>IN-01</b> FIG. NO. JOB NO. 1792 142814 PAGE 64 OF



FOR RECORD DRAWING ONLY  
NO WORK OR PAYMENT ITEMS



Public Lighting Authority  
of Detroit  
165 Cadillac Square, Suite 3100  
Detroit, Michigan 48226  
313-324-8290 office  
313-636-2905 fax  
pladetroit.org



PROJECT DESCRIPTION  
DESIGN ENGINEERING FOR RIOPELLE STREETSCAPE  
I-75 SERVICE DRIVE TO DIVISION  
LC 07W5A ELECTRICAL DIAGRAM

Consulting Engineering Associate and Wade Trim Joint Venture  
16580 Wyoming  
Detroit, Michigan 48221  
313-341-5797

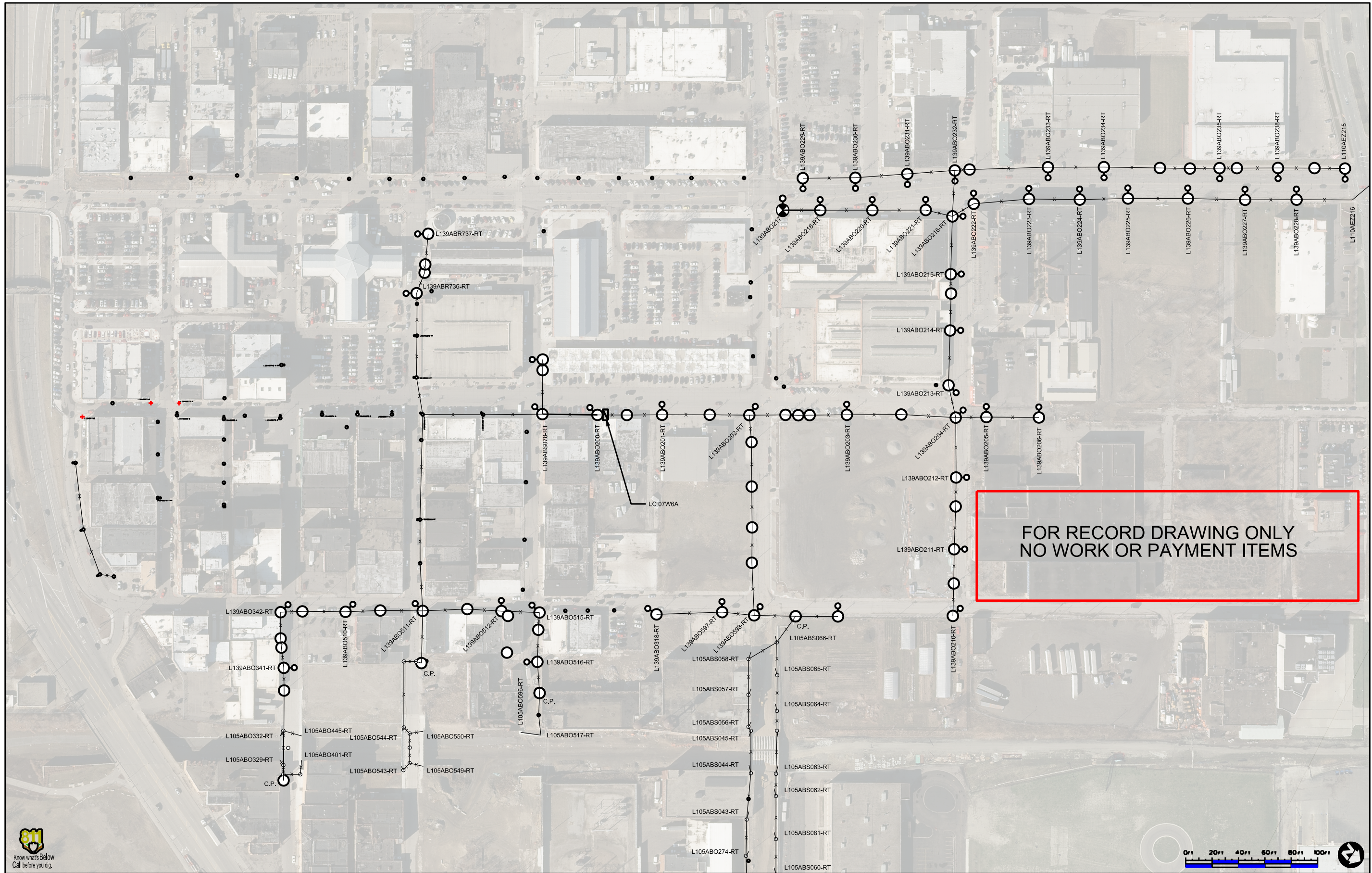
Consulting  
Engineering  
Associates, Inc.

WADE  
TRIM



REVISIONS	DATE:	DESCRIPTION:

SHEET  
ED-01  
FIG. NO. 1792 JOB NO. 142814  
PAGE 67 OF



FOR RECORD DRAWING ONLY  
NO WORK OR PAYMENT ITEMS



Public Lighting Authority  
of Detroit  
165 Cadillac Square, Suite 3100  
Detroit, Michigan 48226  
313-324-8290 office  
313-636-2805 fax  
lap@detroit.org

PROJECT DESCRIPTION  
DESIGN ENGINEERING FOR RIOPELLE STREETSCAPE  
I-75 SERVICE DRIVE TO DIVISION  
LC 07W6A ELECTRICAL DIAGRAM

Consulting Engineering Associate and Wade Trim Joint Venture  
16580 Wyandling  
Detroit, Michigan 48221  
313-341-5797

Consulting  
Engineering  
Associates, Inc. WADE  
TRIM

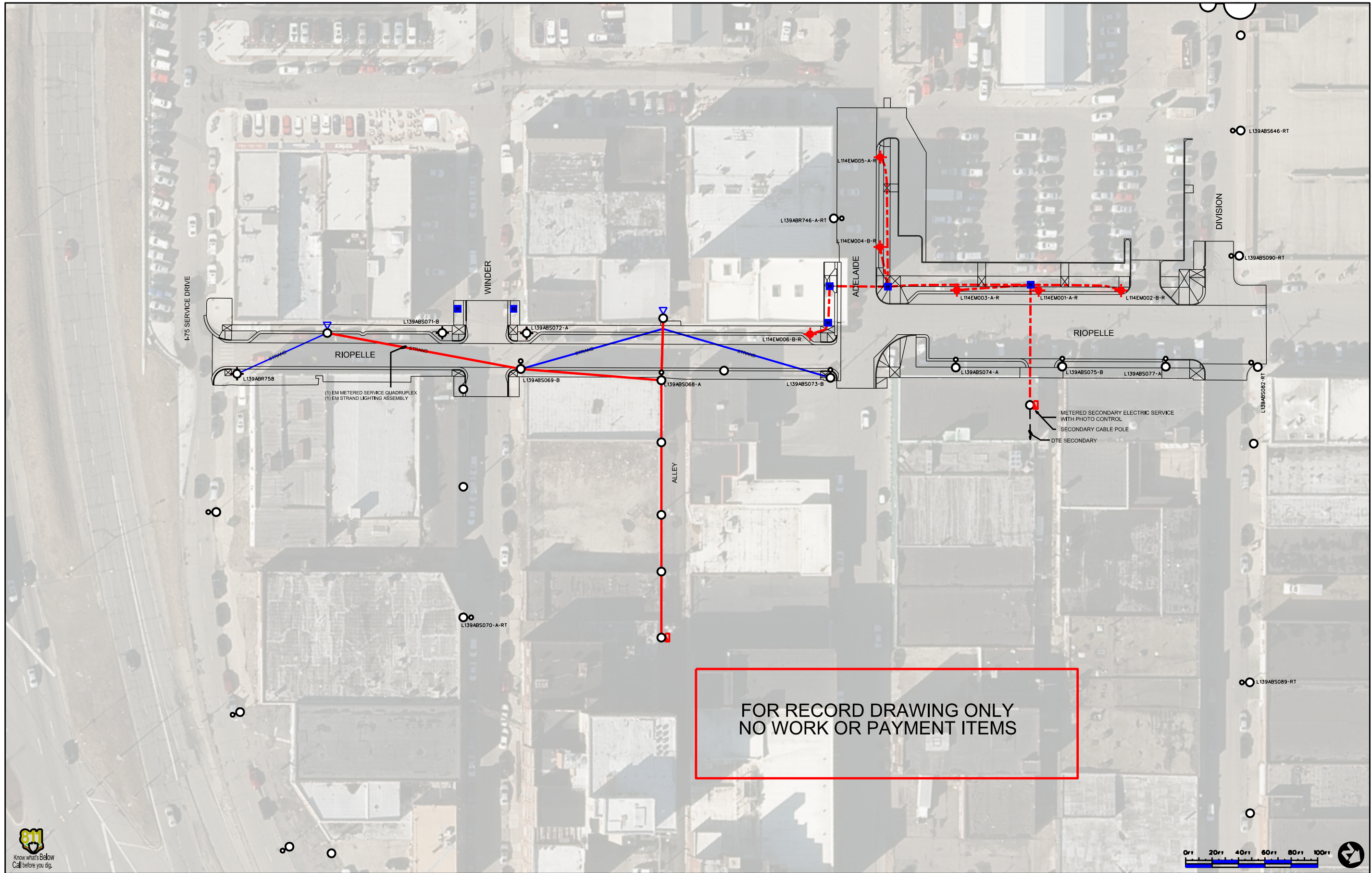
REVISIONS	DATE:	DESCRIPTION:

SHEET  
ED-02  
FIG. NO. 1792 JOB NO. 142814  
PAGE 68 OF

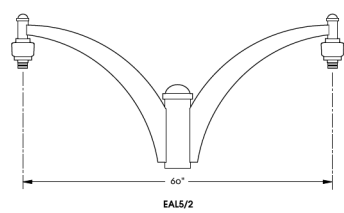
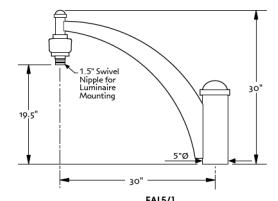
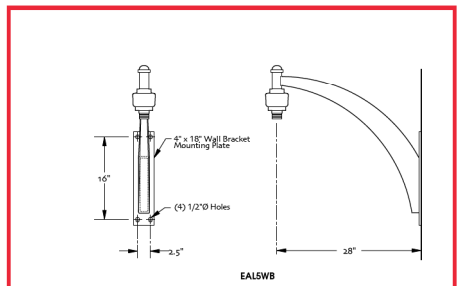








**EUROTIQUE™ ARMS**  
EAL Series • 5" dia. Arms & Wall Bracket



**SPECIFICATIONS**

**CONSTRUCTION**  
The arms and wall bracket shall be one-piece construction. The cast rectangular arms shall be welded to a center spool and plumbizer housing. For the wall bracket, the arm shall be welded to a flat wall plate. All welding shall be per ANSI/AWS D1.2. All welds shall be certified.

**MATERIALS**  
The arms, finials, plumb housing and swivel nipple shall be cast aluminum. The center spool, arm spools and wall bracket mounting plate shall be aluminum. All hardware shall be stainless steel. All exterior hardware shall be tamper resistant.

**INSTALLATION**  
The arms shall slip-fit a 4.375" O.D. x 8" post top tenon and attach with (8) socket set screws. Matching Eurotique poles shall be 5" diameter or 5.75" diameter. The center finial and arm finial shall be removable. The wall bracket shall have four 1/2" dia. holes for mounting to the wall. (Bracket mounting hardware furnished by others. 2" x 3" vertical junction box recommended) Both arms and wall bracket shall have 1.5" NPT swivel nipples for luminaire mounting. Optional twist-lock photocontrol installed at center spool top instead of finial.

For finish specifications and color options, see "Finish" section in catalog.

**ORDERING INFORMATION**

Choose the boldface catalog nomenclature that best suits your needs and enter it on the appropriate line.  
Example: **EALS/1 ANBK PER PE1**

Series	Finish
<b>EALS/WB</b> one	<b>ANBK</b> Black
<b>EALS/1</b> one	<b>ANDB</b> Dark Bronze
<b>EALS/2</b> one	<b>ANDG</b> Dark Green
	<b>ANDH</b> Dark Green
	<b>ANDJ</b> Verde Green
	<b>ANDK</b> Bronze/Patent
	<b>ANDL</b> Custom Match
	<b>ANDM</b> Custom Match
	<b>ANDN</b> Silver

**Options:**  
**PER** NEMA Twist-Lock Photocontrol only  
**PE1** NEMA Twist-Lock Photocontrol 100,200,240V  
**PE2** NEMA Twist-Lock Photocontrol 347V  
**PE3** NEMA Twist-Lock Photocontrol 347V  
**PE4** NEMA Twist-Lock Photocontrol 480V  
**PE5** NEMA Twist-Lock Photocontrol 480V  
**PE6** NEMA Twist-Lock Photocontrol 277V  
**PE7** NEMA Twist-Lock Photocontrol 277V

**NOTES:** 1. For finish specifications and color options, see "Finish" section in catalog.  
2. Twist-Lock Photocontrol not available with wall bracket.

**ANTIQUE Street Lamps**  
A Harsco Lighting Company  
2011 A W. Rundberg Ln • Austin, TX 78766  
PH (512) 977-6444 • FAX (512) 977-4622  
www.aml.com

EA 22

**Maximum Effective Projected Area - 1.2 ft<sup>2</sup>**  
**Maximum Weight - 46 lbs.**  
 Quick Lock Stem Mount (4) Shown  
 Optional NEMA Twist-Off Photocontrol Receptacle  
 Arm Mount  
 Cast Aluminum Housing  
 Spun Aluminum Cover  
 Hinge  
 Stainless Steel Tool-less Latch

**EXAMPLE: GELF2 P30 40K AS 4 B L3**

**COVER TYPE:** GELF2 = HALLBROOK EXTENDED

**COLOR TEMP:** 30K = 3000K, 40K = 4000K, 50K = 5000K

**VOLTAGE:** AS = AUTO-SENSING 120-277V, AH = AUTO-SENSING 347-480V

**COLOR:** A = AS SPECIFIED, B = BLACK, D = DARK BLUE, G = GRAY, H = GRAPHITE, N = GREEN, P = PRIME PAINT, V = WHITE, Z = BRONZE, TDC = TIGER DRYLAC COLOR (DRY LAC), CMC = CUSTOM MATCH COLOR

**OPTICS:** L2 = TYPE 2 DISTRIBUTION, L3 = TYPE 3 DISTRIBUTION, L4 = TYPE 4 DISTRIBUTION, L5 = TYPE 5 DISTRIBUTION

**MOUNTING STYLE:** 1 = ARM, 2 = PENDANT 1.5 NPT, 3 = PENDANT 1.25 NPT, 4 = QUICK LOCK STEM MOUNT

**H PCLL**  
**CONTROL OPTIONS:**  
 AD<sup>1</sup> = FIELD ADJUSTABLE OUTPUT  
 B<sup>2</sup> = BI-LEVEL 0-10V DIMMING CONTROL  
 D<sup>3</sup> = DIMMABLE HARDWARE  
 FPDxx<sup>4</sup> = FACTORY PROGRAMMED DRIVER (xx = % OF LUMENS OR WATTS)  
 H<sup>5</sup> = NEMA TWISTLOCK PHOTOCONTROL RECEPTACLE ONLY  
 PCLL<sup>6</sup> = DTL LONG LIFE TWISTLOCK PHOTOCONTROL FOR SOLID STATE LIGHTING, 120-277V  
 PCS<sup>7</sup> = DTL TWISTLOCK PHOTOCONTROL, 120-277 VOLT  
 PND<sup>8</sup> = 0-10V PART-NIGHT DIMMING, INCLUDES BLC2 & 120-277V BUTTON PHOTOCONTROL  
 PSE<sup>9</sup> = SHORTING CAP  
 P34<sup>10</sup> = DTL TWISTLOCK PHOTOCONTROL 347V  
 P48<sup>11</sup> = DTL TWISTLOCK PHOTOCONTROL 480 VOLT  
 P5<sup>12</sup> = DIMMING PHOTOCONTROL RECEPTACLE - 5 PIN  
 P7<sup>13</sup> = DIMMING PHOTOCONTROL RECEPTACLE - 7 PIN  
 PSE<sup>14</sup> = PREPARED FOR EXTERNAL 3PIN PHOTOCONTROL RECEPTACLE  
 PSE<sup>14</sup> = PREPARED FOR EXTERNAL 5PIN PHOTOCONTROL RECEPTACLE  
 P7E<sup>14</sup> = PREPARED FOR EXTERNAL 7PIN PHOTOCONTROL RECEPTACLE

**L25**  
**OPTIONS (Cont.):**  
 P10 = 3 FEET OF PREWIRED LEADS  
 L10 = 10 FEET OF PREWIRED LEADS  
 L20 = 20 FEET OF PREWIRED LEADS  
 L25 = 25 FEET OF PREWIRED LEADS  
 L30 = 30 FEET OF PREWIRED LEADS

**ACCESSORIES:**  
 SURGE PROTECTION  
 SPDPLUGIN = REPLACEMENT SURGE PROTECTOR 120-277V  
 SPDPLUGIN-48 = REPLACEMENT SURGE PROTECTOR 347-480V  
 SPDPLUGIN-MOV12 = REPLACEMENT SURGE PROTECTOR, MOV 120-277V  
 SPDPLUGIN-MOV48 = REPLACEMENT SURGE PROTECTOR, MOV 347/480V

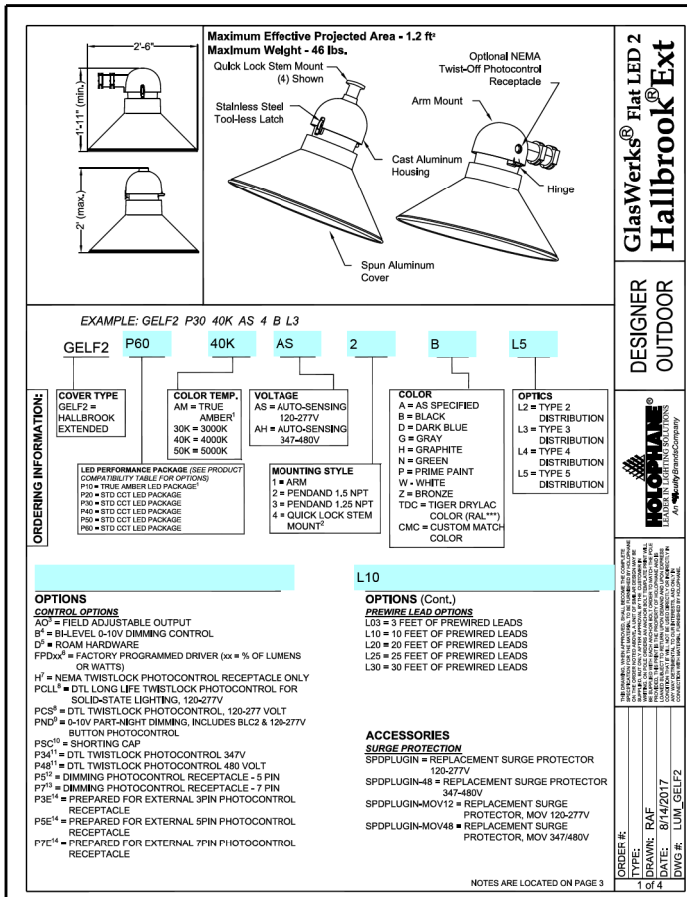
**ORDERING INFORMATION:**  
 ORDER NO.: 104  
 DRAWN BY: BAF  
 DATE: 8/14/2017  
 DWG NO.: LUM\_GELF2

**NOTES ARE LOCATED ON PAGE 3**

**Performance Data**

**Lumen and Wattage Data**

LED Package	Distribution	System Lumens	System Watts	System Efficacy (lm/W)	System Power Factor	System THD (%)	System Flicker (%)	System Color Temp. (K)
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000	10.0	1000	1.0	100	10	5000
L3	L3	10,000	10.0	1000	1.0	100	10	3000
L3	L3	10,000	10.0	1000	1.0	100	10	4000
L3	L3	10,000						



**GlasWerks® Flat LED 2 Hallbrook® Ext**

**DESIGNER OUTDOOR**



ORDER R: LUM\_GELF2  
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**EXAMPLE: GELF2 P30 40K AS 4 B L3**

**COVER TYPE:** GELF2 = HALLBROOK EXTENDED

**COLOR TEMP:** 30K = 3000K, 40K = 4000K, 50K = 5000K

**VOLTAGE:** AS = AUTO-SENSING 120-277V, AH = AUTO-SENSING 347-480V

**COLOR:** A = AS SPECIFIED, B = BLACK, D = DARK BLUE, G = GRAY, H = GRAPHITE, N = GREEN, P = PRIME PAINT, V = WHITE, Z = BRONZE, TDC = TIGER DRYLAC COLOR (RAL\*\*\*), CMC = CUSTOM MATCH COLOR

**OPTICS:** L2 = TYPE 2 DISTRIBUTION, L3 = TYPE 3 DISTRIBUTION, L4 = TYPE 4 DISTRIBUTION, L5 = TYPE 5 DISTRIBUTION

**LEAD OPTIONS:** L10 = 10 FEET OF PREWIRED LEADS, L20 = 20 FEET OF PREWIRED LEADS, L25 = 25 FEET OF PREWIRED LEADS, L30 = 30 FEET OF PREWIRED LEADS

**ACCESSORIES:** SURGE PROTECTION: SPDPLUGIN = REPLACEMENT SURGE PROTECTOR 120-277V, SPDPLUGIN-48 = REPLACEMENT SURGE PROTECTOR 347-480V, SPDPLUGIN-MOV12 = REPLACEMENT SURGE PROTECTOR, MOV 120-277V, SPDPLUGIN-MOV48 = REPLACEMENT SURGE PROTECTOR, MOV 347/480V

**NOTES ARE LOCATED ON PAGE 3**

**Performance Data**

**Lumen and Wattage Data**

Package	Distribution	System Watts	30K (3000K, 21 CRI)			40K (4000K, 21 CRI)			50K (5000K, 21 CRI)		
			Lumens	LPW	B U I C	Lumens	LPW	B U I C	Lumens	LPW	B U I C
L2	L2	96	2,300	17	2	2,400	18	2	2,500	19	2
L2	L3	96	2,300	17	2	2,400	18	2	2,500	19	2
L2	L4	96	2,300	17	2	2,400	18	2	2,500	19	2
L2	L5	96	2,300	17	2	2,400	18	2	2,500	19	2
L3	L2	96	2,300	17	2	2,400	18	2	2,500	19	2
L3	L3	96	2,300	17	2	2,400	18	2	2,500	19	2
L3	L4	96	2,300	17	2	2,400	18	2	2,500	19	2
L3	L5	96	2,300	17	2	2,400	18	2	2,500	19	2
L4	L2	96	2,300	17	2	2,400	18	2	2,500	19	2
L4	L3	96	2,300	17	2	2,400	18	2	2,500	19	2
L4	L4	96	2,300	17	2	2,400	18	2	2,500	19	2
L4	L5	96	2,300	17	2	2,400	18	2	2,500	19	2
L5	L2	96	2,300	17	2	2,400	18	2	2,500	19	2
L5	L3	96	2,300	17	2	2,400	18	2	2,500	19	2
L5	L4	96	2,300	17	2	2,400	18	2	2,500	19	2
L5	L5	96	2,300	17	2	2,400	18	2	2,500	19	2

**FPDxx Data Table (Only Available With 30K, 40K and 50K Options)**

System	FPD 30K					FPD 40K					FPD 50K				
	L2	L3	L4	L5	Watts	L2	L3	L4	L5	Watts	L2	L3	L4	L5	Watts
Standard	4,491	4,479	4,514	4,520	96	4,509	4,509	4,507	4,505	96	4,521	4,521	4,522	4,522	96
FPD05	4,222	4,209	4,202	4,240	95	4,268	4,264	4,264	4,260	95	4,312	4,298	4,297	4,300	95
FPD10	3,989	3,982	3,982	3,982	95	4,033	4,031	4,030	4,028	95	4,076	4,074	4,073	4,073	95
FPD15	3,689	3,647	3,632	3,637	49	4,005	4,002	3,999	3,976	49	4,448	4,454	4,430	4,404	49

**Projected LED Lumen Maintenance**

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-60-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Hours	Lumen Maintenance				
	P20	P30	P40	P50	P60
0	1.00	1.00	1.00	1.00	1.00
25,000	0.97	0.97	0.96	0.95	0.94
50,000	0.97	0.97	0.96	0.95	0.94
75,000	0.97	0.97	0.96	0.95	0.94
100,000	0.97	0.97	0.96	0.95	0.94

The ballasted data is extrapolated beyond the TM-21 standard.

E = (LM) x (CU) x (LAT) x (LLD)  
LM and CU are obtained from published photometry.

**ORDER R: LUM\_GELF2**  
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**GlasWerks® Flat LED 2 Hallbrook® Ext**

**DESIGNER OUTDOOR**



ORDER R: LUM\_GELF2  
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 DATE: 8/14/2017  
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**NOTES**

- True Amber is only available in the "P10" LED Performance Package. Not available with "FPDXX".
- Must use with BHD13, WLD13 or GWDF13 #3ar.
- Factory set device for 100% output. Not available with option "B", "D", "PND", "P5" or "P7". Refer to instructions on website for details.
- "AS" only must be used with option "H". Not available with the following options: "AO", "AH", "D", "PCLL", "PND", "PSC", "P5" or "P7".
- "AS" only must be used with option "H". Not available with the following options: "AO", "AH", "B", "PCLL", "PCS", "PND", "PSC", "P34", "P48", "P5" or "P7". Not CSA listed for US or Canada.
- Not available with "P10" LED Performance Package or "AM" Color Temperature Options.
- 3-pin NEMA receptacle, photocell not included. Not available with the "P5" or "P7" options.
- "AS" option only. Must be used with one of the following options: "H", "P5" or "P7". "PSC" option not required.
- Factory set device for 100% output. Not available with the following options: "B", "D", "PND", "P5" or "P7".
- Must be used with option "H", "P5" or "P7". Not available with options "PCLL", "PCS", "P34" or "P48".
- "AH" option only. Must be used with one of the following options: "H", "P5" or "P7". "PSC" option not required.
- 3-pin NEMA receptacle, photocell not included. Not available with the "AO", "B", "D", "H", or "P5" options.
- 7-pin NEMA receptacle, photocell not included. Not available with the "AO", "B", "D", "H", or "P5" options.
- Wired for external photocell receptacle. Not available with H, P5 or P7 option at luminaire level. Must be selected with same photocell when R, P5 or P7 is selected to reside within the filter.

**Lumen Ambient Temperature (LAT) Multipliers**

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

°C	°F	Average Lumen Ambient Temperature (LAT) Multipliers		
		LD Packages	Lumen Multiplier	LED Packages
0	32	1.04	1.04	1.06
5	41	1.03	1.03	1.05
10	50	1.03	1.03	1.03
15	59	1.02	1.02	1.02
20	68	1.01	1.01	1.01
25	77	1.00	1.00	1.00
30	86	0.99	0.99	0.98
35	95	0.98	0.98	0.98
40	104	0.97	0.97	0.97

**Projected LED Lumen Maintenance**

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-60-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Hours	Lumen Maintenance				
	P20	P30	P40	P50	P60
0	0.97	0.97	0.96	0.95	0.94
25,000	0.97	0.97	0.96	0.95	0.94
50,000	0.97	0.97	0.96	0.95	0.94
75,000	0.97	0.97	0.96	0.95	0.94
100,000	0.97	0.97	0.96	0.95	0.94

The ballasted data is extrapolated beyond the TM-21 standard.

E = (LM) x (CU) x (LAT) x (LLD)  
LM and CU are obtained from published photometry.

**ORDER R: LUM\_GELF2**  
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**GlasWerks® Flat LED 2 Hallbrook® Ext**

**DESIGNER OUTDOOR**



ORDER R: LUM\_GELF2  
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 DATE: 8/14/2017  
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**Specifications**

**GENERAL DESCRIPTION**  
The Euro style luminaire consists of a LED flat glass optical assembly shielded by a decorative formed reflector and a top mounted cast aluminum electrical assembly with a circumference 1.50 inch reveal.

**OPTICAL ASSEMBLY**  
The optical assembly consists of a thermal resistant flat glass panel mechanically held in a formed aluminum door frame. The door frame is attached to the spun cover with studs and lock nuts. Light from the LED module is distributed by precisely molded optical lens to maximize utilization, uniformity and luminaire spacing. Two LED boards are available for symmetrical or asymmetric distribution.

**MOUNTING STYLE (LEVELING FITTER OPTIONS)**  
The Quick Lock Stem Mounting style is compatible with the following leveling fitters:  
- Boston Harbor Decorative Arm Fitter (BHDF13)  
- GlasWerks Decorative Arm Fitter (GWDF13)  
- West Liberty Decorative Arm Fitter (WLD13)

**ELECTRICAL ASSEMBLY**  
The cast aluminum electrical housing has a smooth domed contour. A (3) station terminal block is provided that accepts #14 through #2 size wire and has a quick disconnect receptacle. The electrical housing is hinged with a tool-less latch to provide easy access to the gear assembly. The utilized electrical assembly, containing the electronic driver and other electrical components, plug into the quick disconnect receptacle. The pendant mount version has a welded stem (Quick Lock Stem Mounting), which aids in installation speed. The arm mount version is provided with two U-bolts with washers and nuts and two leveling set screws that lock the housing to a 2 inch nominal (2-3/8" O.D.) horizontal arm and allow a +/- 5 degree adjustment from horizontal to the cover.

**ELECTRICAL DRIVER**  
LED programmable dimmable driver.

**FINISH**  
The luminaire is finished with polyester powder paint to insure maximum durability.

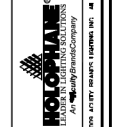
**LISTING**  
The luminaire is CSA listed as suitable for wet locations up to 40° C ambient temperature. IP55 rated electrical chamber, IP66 rated LED optic chamber.

**WARRANTY**  
Limited warranty located at [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)  
Specification subject to change without notice.

**ORDER R: LUM\_GELF2**  
**DRAWN: RAF**  
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**GlasWerks® Flat LED 2 Hallbrook® Ext**

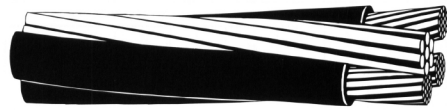
**DESIGNER OUTDOOR**



ORDER R: LUM\_GELF2  
 DRAWN: RAF  
 DATE: 8/14/2017  
 DWG R: LUM\_GELF2

# Quadruplex Service Drop

Aluminum Conductors, Polyethylene or Crosslinked Polyethylene Insulation.



### APPLICATIONS

Used to supply 3-phase power, usually from a pole-mounted transformer, to the user's service head where connection to the service entrance cable is made. To be used at voltages of 600 volts phase-to-phase or less and at conductor temperatures not to exceed 75°C for polyethylene insulated conductors or 90°C for crosslinked polyethylene (XLP) insulated conductors.

### SPECIFICATIONS

Southwire's quadruplex service drop cable meets or exceeds the following ASTM specifications:

- B-230 Aluminum Wire, 1350-H19 for Electrical Purposes.
- B-231 Aluminum Conductors, Concentric-Lay-Stranded.
- B-232 Aluminum Conductors, Concentric-Lay-Stranded, Coated Steel Reinforced (ACSR).
- B-399 Concentric-Lay-Stranded, 6201-T81 Aluminum Alloy Conductors.
- B-901 Compressed Round Stranded Aluminum Conductors Using Single Input Wire.

Southwire's quadruplex service drop cable meets or exceeds all applicable requirements of ICEA S-76-474.

### CONSTRUCTION

Conductors are concentrically stranded, compressed 1350-H19 aluminum. Insulated with either polyethylene or crosslinked polyethylene (XLP). Neutral messengers are concentrically stranded 6201, AAC, or ACSR. Conductors are manufactured with ridges for phase identification (one conductor one ridge, one conductor two ridges, one conductor plain.)



MADE IN THE USA

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## Quadruplex Service Drop

Code* Word	Phase Conductor			Base Neutral Messenger			Weight Per 1000 Ft.(lbs.)		Allowable Ampacities*		
	Size (AWG or kcmil)	Strand-ing	Insul. Thick. (mils)	Eqv. Dia. (AWG)**	Strand-ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY	
6201 ALLOY NEUTRAL MESSANGER											
Bay	6	1	45	6	30.58	7	1110	137	137	75	60
French Coach	6	7	45	6	30.58	7	1110	146	146	75	60
German Coach	4	1	45	4	48.69	7	1760	205	205	100	80
Arabian	4	7	45	4	48.69	7	1760	217	217	100	80
Belgian	2	7	45	2	77.47	7	2800	328	328	135	105
Sheffield	1/0	9	60	1/0	123.3	7	4460	519	519	180	140
Thoroughbred	2/0	11	60	2/0	156.4	7	5390	639	639	205	160
Trotter	3/0	17	60	3/0	196.7	7	6790	789	789	235	185
Walking	4/0	18	60	4/0	246.9	7	8560	977	977	275	210

\*Code words for XLP insulated products are formed by adding "XLP" to the conventional code words above (e.g. Bay(XLP)).  
 †Conductor temperature of 90°C for XLP, 75°C for Poly, ambient temperature of 40°C, emissivity 0.9, 2 ft./sec. wind in sun.  
 \*\*Designated sizes are: ACSR 6/1 diameter equivalent and AAC with equivalent resistivity per ASTM B-399 for 6201.

Code* Word	Phase Conductor			Base Neutral Messenger			Weight Per 1000 Ft.(lbs.)		Allowable Ampacities*	
	Size (AWG or kcmil)	Strand-ing	Insul. Thick. (mils)	Size (AWG or kcmil)	Strand-ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY
AAC NEUTRAL MESSANGER										
Clydesdale	4	1	45	4	7	881	198	198	100	80
Pinto	4	7	45	4	7	881	211	211	100	80
Mustang	2	7	45	2	7	1350	318	318	135	105
Crolio	1/0	9	60	1/0	7	1990	503	503	180	140
Parcheron	2/0	11	60	2/0	7	2510	619	619	205	160
Hanovarian	3/0	17	60	3/0	19	3310	764	764	235	185
Odenburg	4/0	18	60	4/0	19	4020	945	945	275	210
Lippizaner	336.4	19	80	336.4	19	6146	1519	1519	370	280

\*Code words for XLP insulated products are formed by adding "XLP" to the conventional code words above (e.g. Bay(XLP)).  
 †Conductor temperature of 90°C for XLP, 75°C for Poly, ambient temperature of 40°C, emissivity 0.9, 2 ft./sec. wind in sun.



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## Quadruplex Service Drop

Code* Word	Phase Conductor			Base Neutral Messenger			Weight Per 1000 Ft.(lbs.)		Allowable Ampacities*	
	Size (AWG or kcmil)	Strand-ing	Insul. Thick. (mils)	Size (AWG or kcmil)	Strand-ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY
ACSR NEUTRAL MESSANGER										
Moroclanca	6	1	45	6	6/1	1190	145	145	75	60
Chola	6	7	45	6	6/1	1190	153	153	75	60
Morgan	4	1	45	4	6/1	1800	217	217	100	80
Blackhawk	4	7	45	4	6/1	1800	229	229	100	80
Palomino	2	7	45	2	6/1	2850	347	347	135	105
Corona	1/0	9	60	1/0	6/1	4380	549	549	180	140
Grillo	2/0	11	60	2/0	6/1	5310	677	677	205	160
Suffolk	3/0	17	60	3/0	6/1	6630	837	837	235	185
Appaloosa	4/0	18	60	4/0	6/1	8350	1038	1038	275	210
Golding	336.4	19	80	4/0	6/1	8350	1494	1494	370	280
Bronco	336.4	19	80	336.4	18/1	8680	1548	1548	370	280

\*Code words for XLP insulated products are formed by adding "XLP" to the conventional code words above (e.g. Bay(XLP)).  
 †Conductor temperature of 90°C for XLP, 75°C for Poly, ambient temperature of 40°C, emissivity 0.9, 2 ft./sec. wind in sun.



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# Triplex Service Drop

Aluminum Conductors. Polyethylene or Crosslinked Polyethylene Insulation.



### APPLICATIONS

Used to supply power, usually from a pole-mounted transformer, to the user's service head where connection to the service entrance cable is made. To be used at voltages of 600 volts phase-to-phase or less and at conductor temperatures not to exceed 75°C for polyethylene insulated conductors or 90°C for crosslinked polyethylene (XLP) insulated conductors.

### SPECIFICATIONS

Southwire's triplex service drop cable meets or exceeds the following ASTM specifications:

- B-230 Aluminum Wire, 1350-H19 for Electrical Purposes.
- B-231 Aluminum Conductors, Concentric-Lay-Stranded.
- B-232 Aluminum Conductors, Concentric-Lay-Stranded, Coated Steel Reinforced(ACSR).
- B-399 Stranded 6201-T81 Aluminum Alloy Conductors.
- B-901 Compressed Round Stranded Aluminum Conductors Using Single Input Wire.

Southwire's triplex service drop cable meets or exceeds all applicable requirements of ANSI/CEA S-76-474.

### CONSTRUCTION

Conductors are concentrically stranded, compressed 1350-H19 aluminum. Insulated with either polyethylene or crosslinked polyethylene (XLP). Neutral messengers are concentrically stranded 6201, AAC, or ACSR.



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## Triplex Service Drop

Code* Word	Phase Conductor			Bare Neutral Messenger			Weight Per 1000 ft. (lbs.)		Allowable Ampacities*		
	Size (AWG)	Strand- ing	Insul. Thick. (mils)	Eqv. Dia. (AWG)++	Size** (Kcmil)	Strand- ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY
<b>6201 ALLOY NEUTRAL MESSENGER</b>											
Menex	6	1	45	6	30.58	7	1110	101	101	85	70
Hippa	6	7	45	6	30.58	7	1110	107	107	85	70
Prawn	4	1	45	4	48.69	7	1760	152	152	115	90
Barnacle	4	7	45	4	48.69	7	1760	160	160	115	90
Shrimp	2	7	45	2	77.47	7	2800	243	243	150	120
Gammanus	10	7	60	10	123.3	7	4460	390	390	205	160
Leda	10	9	60	10	123.3	7	4460	384	384	205	160
Dungeneise	20	7	60	20	155.4	7	5390	483	483	235	185
Cyclops	20	11	60	20	155.4	7	5390	474	474	235	185
Fluxtra	30	17	60	30	195.7	7	6790	587	587	275	215
Lepus	40	18	60	40	246.9	7	8560	728	728	315	245

\*Code words for XLP insulated products are formed by adding "XLP" to the conventional code words above (e.g.-Haisto/XLP).  
 +Conductor temperature of 90°C for XLP, 75°C for Poly, ambient temperature of 40°C, emissivity 0.9, 2 ft./sec. wind in sun.  
 ++Designated sizes are: ACSR G1 diameter equivalent and AAC with equivalent resistivity per ASTM B-399 for 6201.

Code* Word	Phase Conductor			Bare Neutral Messenger			Weight Per 1000 ft. (lbs.)		Allowable Ampacities*		
	Size (AWG)	Strand- ing	Insul. Thick. (mils)	Eqv. Dia. (AWG)++	Size** (Kcmil)	Strand- ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY
<b>6201 ALLOY REDUCED NEUTRAL MESSENGER</b>											
Artemis	4	1	45	6	30.58	7	1110	135	135	115	90
Crab	4	7	45	6	30.58	7	1110	143	143	115	90
Solaster	2	7	45	4	48.69	7	1760	216	216	150	120
Sandcrab	10	7	60	2	77.47	7	2800	347	347	205	160
Echmus	10	9	60	2	77.47	7	2800	341	341	205	160
Fulgur	30	17	60	10	123.3	7	4460	519	519	275	215
Arca	40	18	60	20	155.4	7	5390	643	643	315	245

\*Code words for XLP insulated products are formed by adding "XLP" to the conventional code words above (e.g.-Haisto/XLP).  
 +Conductor temperature of 90°C for XLP, 75°C for Poly, ambient temperature of 40°C, emissivity 0.9, 2 ft./sec. wind in sun.  
 ++Designated sizes are: ACSR G1 diameter equivalent and AAC with equivalent resistivity per ASTM B-399 for 6201.



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## Triplex Service Drop

Code* Word	Phase Conductor			Bare Neutral Messenger			Weight Per 1000 ft. (lbs.)		Allowable Ampacities*		
	Size (AWG or kcmil)	Strand- ing	Insul. Thick. (mils)	Size (AWG or kcmil)	Strand- ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY	
<b>AAC NEUTRAL MESSENGER</b>											
Patella	6	7	45	6	7	563	103	103	85	70	
Oyster	4	7	45	4	7	881	154	154	115	90	
Clam	2	7	45	2	7	1350	233	233	150	120	
Murex	10	7	60	10	7	1990	374	374	205	160	
Purpura	10	9	60	10	7	1990	368	368	205	160	
Nassa	20	7	60	20	7	2510	462	462	235	185	
Mella	30	17	60	30	19	3310	562	562	275	215	
Portunus	40	18	60	40	19	4020	696	696	315	245	
Nannynose	336.4	19	80	336.4	19	6146	1118	1118	420	325	

\*Code words for XLP insulated products are formed by adding "XLP" to the conventional code words above (e.g.-Haisto/XLP).  
 +Conductor temperature of 90°C for XLP, 75°C for Poly, ambient temperature of 40°C, emissivity 0.9, 2 ft./sec. wind in sun.

Code* Word	Phase Conductor			Bare Neutral Messenger			Weight Per 1000 ft. (lbs.)		Allowable Ampacities*		
	Size (AWG or kcmil)	Strand- ing	Insul. Thick. (mils)	Size (AWG or kcmil)	Strand- ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY	
<b>ACSR NEUTRAL MESSENGER</b>											
Paludina	6	1	45	6	6/1	1190	109	109	85	70	
Voluta	6	7	45	6	6/1	1190	114	114	85	70	
Whelk	4	1	45	4	6/1	1860	...	164	115	90	
<b>Purpurina</b>	<b>8</b>	<b>7</b>	<b>45</b>	<b>4</b>	<b>6/1</b>	<b>1860</b>	<b>172</b>	<b>172</b>	<b>115</b>	<b>90</b>	
Conch	2	7	45	2	6/1	2850	262	262	150	120	
Neritina	10	7	60	10	6/1	4380	420	420	205	160	
Conia	10	9	60	10	6/1	4380	414	414	205	160	
Runcina	20	7	60	20	6/1	5310	520	520	235	185	
Titon	20	11	60	20	6/1	5310	512	512	235	185	
Mursia	30	17	60	30	6/1	6520	636	636	275	215	
Zuzara	40	18	60	40	6/1	8350	789	789	315	245	
Lampet	336.4	19	80	336.4	18/1	8680	1167	1167	420	325	

\*Code words for XLP insulated products are formed by adding "XLP" to the conventional code words above (e.g.-Haisto/XLP).  
 +Conductor temperature of 90°C for XLP, 75°C for Poly, ambient temperature of 40°C, emissivity 0.9, 2 ft./sec. wind in sun.



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## Triplex Service Drop

Code* Word	Phase Conductor			Bare Neutral Messenger			Weight Per 1000 ft. (lbs.)		Allowable Ampacities*		
	Size (AWG)	Strand- ing	Insul. Thick. (mils)	Size (AWG)	Strand- ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY	
<b>ACSR REDUCED NEUTRAL MESSENGER</b>											
Scallop	4	1	45	6	6/1	1190	...	142	115	90	
Strombus	4	7	45	6	6/1	1190	151	151	115	90	
Cockle	2	7	45	4	6/1	1860	228	228	150	120	
Janthina	10	7	60	2	6/1	2853	366	366	205	160	
Ranella	10	9	60	2	6/1	2853	360	360	205	160	
Cavolina	20	7	60	1	6/1	3550	453	453	235	185	
Clio	20	11	60	1	6/1	3550	444	444	235	185	
Aega	30	17	60	10	6/1	4380	549	549	275	215	
Cerapus	40	18	60	20	6/1	5310	681	681	315	245	

\*Code words for XLP insulated products are formed by adding "XLP" to the conventional code words above (e.g.-Haisto/XLP).  
 +Conductor temperature of 90°C for XLP, 75°C for Poly, ambient temperature of 40°C, emissivity 0.9, 2 ft./sec. wind in sun.



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## SIMPULL XHHW-2® Copper XHHW Wire & Cable



600 Volts & 1000 Volts (see below). Copper Conductor. Cross-Linked Polyethylene (XLPE) Insulation. High-Heat and Moisture Resistant. SIM Technology® for easier pulling. Sizes 14 through 10 AWG also rated SIS.

### APPLICATIONS

Southwire® SIMpull XHHW-2® copper conductors are primarily used in conduit, Cable Tray or other recognized raceways for services, feeders, and branch circuit wiring, as specified in the National Electrical Code. SIMpull XHHW-2® copper conductors may be used in wet or dry locations at temperatures not to exceed 90° C. Voltage rating for XHHW-2 conductors is 600 volts for all sizes and 1000 volts for sizes 8 AWG and larger. Suitable for use in Health Care Facilities per Section 517.160 of the National Electrical Code where a dielectric constant of less than 3.5 maybe specified. This cable is designed to be installed without the application of pulling lubricant.

### STANDARDS & REFERENCES

Southwire® SIMpull XHHW-2® copper conductors comply with the following:

- ASTM- B3, B8 (7, 19, 37, 61 Strands), B787 (19 Strands)
- UL Standard 44
- NOM-ANCE 90° C
- Federal Specification A-A059544
- CT Rated Sizes 1/0 AWG and Larger
- Gas and Oil Resistant II sizes 8 AWG and larger
- Sunlight (UV) Resistant - 5 8 AWG and larger
- National Electrical Code, NFPA 70
- NEMA WC 7C Construction Requirements
- FT/IEEE 1202- Sizes 350 KCMIL and Larger
- RoHS/ REAC-I Chemical Limit Compliant

### CONSTRUCTION

Southwire® SIMpull XHHW-2® copper conductors are annealed (soft) copper. Insulation is an abrasion, moisture, and heat resistant thermoset cross-linked polyethylene (XLPE). Conductor sizes 8 AWG and larger are marked sunlight resistant. Colors are available and may be subject to economic order quantity.



Revised March 12, 2018

The Power of Connections.™

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Conductor Size (AWG or kcmil)	No. of strands	Insulation Thickness (mils)	Nominal O.D. (mils)	Approx. Net Wt. Per 1000' (lbs.)	Allowable Ampacities*			Standard Package
					60°C	75°C	90°C	
14"	7	30	130	18	15	15	15	AC
12"	1	30	141	24	20	20	20	AC
10"	1	30	147	26	30	30	30	AC
12"	7	30	162	37	20	20	20	AC
10"	7	30	171	40	30	30	30	AC
8	7	45	232	65	40	50	55	ABCD
6	7	45	288	96	55	65	75	ABCD
4	7	45	311	147	70	85	95	ABCD
3	7	45	337	183	85	100	115	BC
2	7	45	367	227	95	115	130	ABCD
1	19	55	435	291	110	130	145	ABCD
1/0	19	55	477	383	125	150	170	ABCD
2/0	19	55	521	453	145	175	195	ABCD
3/0	19	55	571	565	165	200	225	ABCD
4/0	19	55	627	706	195	230	260	ABCD
250	37	65	695	835	215	255	290	ABCD
300	37	65	748	995	240	285	320	C
350	37	65	798	1155	260	310	350	AB
400	37	65	843	1314	280	335	380	ABC
500	37	65	927	1633	320	380	430	ABC
600	61	80	1033	1965	350	420	475	ABC
700	61	80	1102	2282	385	460	520	NA
750	61	80	1135	2440	400	475	535	A
1000	61	80	1284	3229	455	545	615	NA

\*Sizes 14 - 10 AWG not available with patented SIM Technology® No Lube® jacket. \* Allowable ampacities shown are for general use as specified by the National Electrical Code, sections 310.15 and 240.4(D). Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C): 60° C When terminated to equipment for circuits rated 100 amperes or less or marked for 14 - 1 AWG conductors; 75° C When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.

Package Code  
A - 2500' Reel  
B - 1000' Reel  
C - 500' Spool  
D - 5000' Reel

#### RECOMMENDED SAMPLE SPECIFICATIONS:

Conductors shall be UL-listed SIMpull XHHW-2® copper conductors, suitable for operation at 600 volts or less (1000 volts or sizes 8 AWG & larger) in wet or dry locations, at temperatures not to exceed 90°C. Conductors shall be annealed copper, as manufactured by Southwire Company or approved equal.

Revised March 12, 2018

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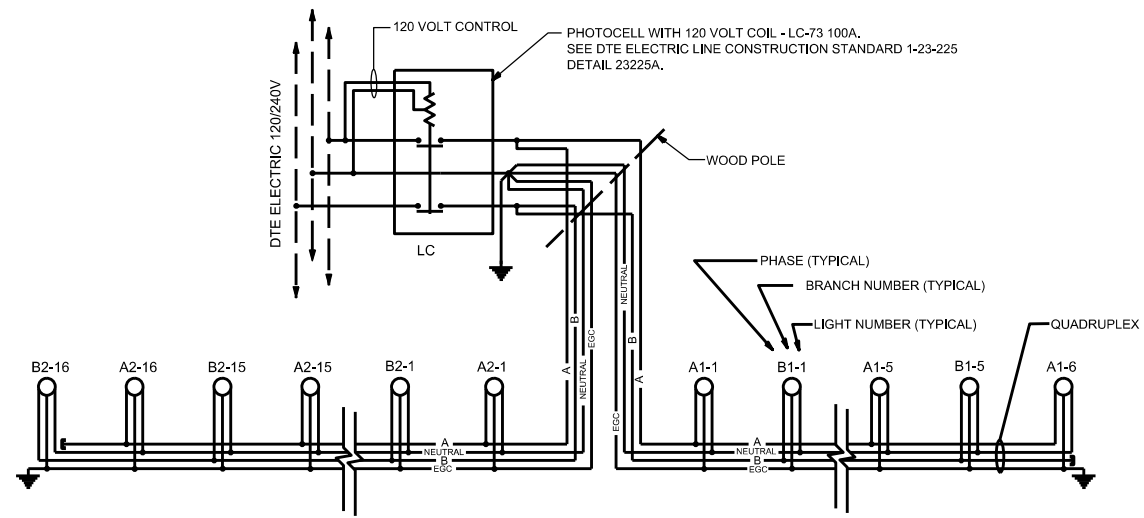
Conductor Size (AWG or kcmil)	No. of strands	Stock Numbers	
		Standard XHHW CU Stock #	SIMPULL XHHW-2® CU Stock #
14"	7	BK:112920, WE:370924, RD:370932, BE:370940, GN:370965, YW:370957, OE:370973, BN:370981, PE:370999, GY:371005	
12"	1	BK:550220, WE:550221, RD:550222, GN:550223, BE:550224, YW:550225, OE:550226, BN:550227	
10"	1	BK:137240, WE:550212, RD:550213, GN:550214, BE:550215, YW:550216, OE:550217, BN:550218	
12"	7	BK:112938, WE:371021, RD:371039, BE:371047, GN:371062, YW:371054, OE:371070, BN:371088, PE:371096, GY:371104	
10"	7	BK:112946, WE:371120, RD:371138, BE:371146, GN:371161, YW:371153, OE:371179, BN:371187, PE:371195, GY:371203	
8	7	BK:112953, WE:952721, RD:952713, BE:553059, GN:952739, YW:553062, OE:553061, BN:553060, GY:553063	
6	7	BK:112961, WE:678607, RD:952705, BE:959916, GN:553230, YW:553067, OE:959391, BN:683383, GY:553068	
4	7	BK:112979, WE:678599, RD:952697, BE:553846, GN:558627, YW:553849, OE:553848, BN:553847, GY:553850	
3	7	BK:267278, BK/RD:278085, BK/WE:278093, GN:890469	
2	7	BK:112987, WE:218107, RD:218115, BE:553087, GN:474122, YW:553090, OE:553089, BN:553088, GY:553091	
1	19	BK:112995, WE:550808, RD:550761, BE:550762, GN:550766, YW:553856, OE:553855, BN:553854, GY:553857	
1/0	19	BK:113001, WE:553858, RD:553860, BE:553861, GN:553862, YW:553865, OE:553864, BN:553863, GY:553866	
2/0	19	BK:113019, WE:553870, RD:553871, BE:553872, GN:552070, YW:553876, OE:553874, BN:553873, GY:553877	
3/0	19	BK:113027, WE:553880, RD:553881, BE:553882, GN:553884, YW:553887, OE:553886, BN:553885, GY:553888	
4/0	19	BK:113035, WE:553077, RD:553078, BE:553079, GN:552074, YW:552083, OE:553082, BN:553080, GY:553084	
250	37	BK:113043, WE:553892, RD:553893, BE:553894, GN:553895, YW:553898, OE:553897, BN:553896, GY:553899	
300	37	BK:113050, YW:561131, OE:561130, BN:561129, GY:584039	
350	37	BK:113068, WE:553902, RD:553903, BE:553904, GN:553905, YW:553908, OE:553907, BN:553906, GY:553910	
400	37	BK:113076, WE:561132, RD:561701, BE:561702, GN:558666, YW:561113, OE:561112, BN:561111, GY:561703	
500	37	BK:113084, WE:553074, RD:550369, BE:550261, GN:553072, YW:550259, OE:550262, BN:550260, GY:553074	
600	61	BK:113092, WE:553913, RD:553914, BE:553915, GN:553916, YW:553920, OE:553919, BN:553918, GY:553921	
700	61	BK:586272	
750	61	BK:113100, WE:553926, RD:553927, BE:553930, GN:553929, YW:553932, OE:553931, BN:553930, GY:553934	
1000	61	BK:113134	

Revised March 12, 2018

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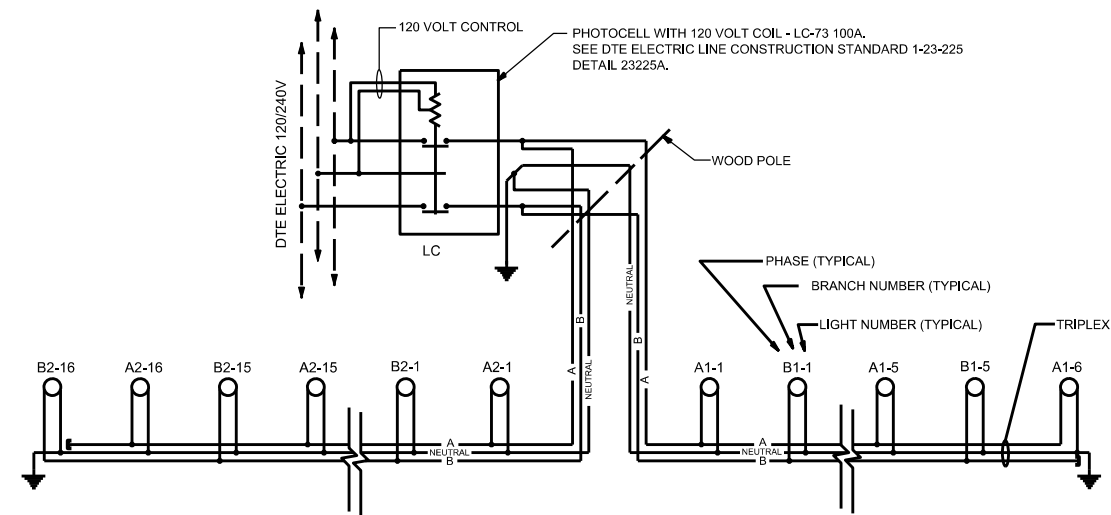
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**CURRENT LIGHTING CONTROL DIAGRAM  
 QUADRUPLEX WITH EQUIPMENT GROUND CONDUCTOR (EGC)  
 (TYPICAL)  
 NOT TO SCALE**

○ OVERHEAD FED LIGHT STANDARD OR POLE



**OBsolete LIGHTING CONTROL DIAGRAM  
 TRIPLEX WITH NEUTRAL BONDED TO GROUND  
 (TYPICAL)  
 NOT TO SCALE**

**OVERHEAD PHASE IDENTIFICATION**

**CURRENT OVERHEAD CONSTRUCTION WIRING STANDARD**

CABLE TYPE	NO RIB	1 RIB	2 RIBS	MESSENGER
QUADRUPLEX	A PHASE	NEUTRAL	B PHASE	EGC
TRIPLEX	A PHASE	NEUTRAL	---	EGC
DUPLEX	---	---	---	---

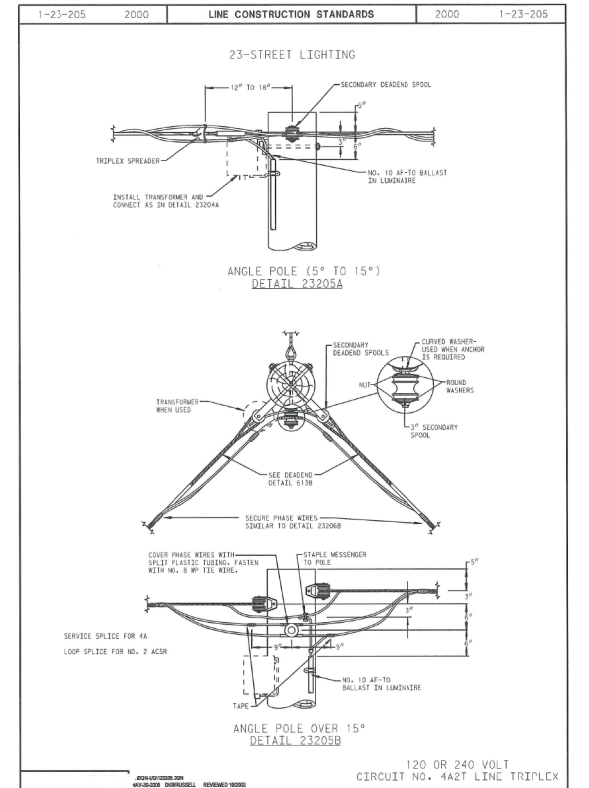
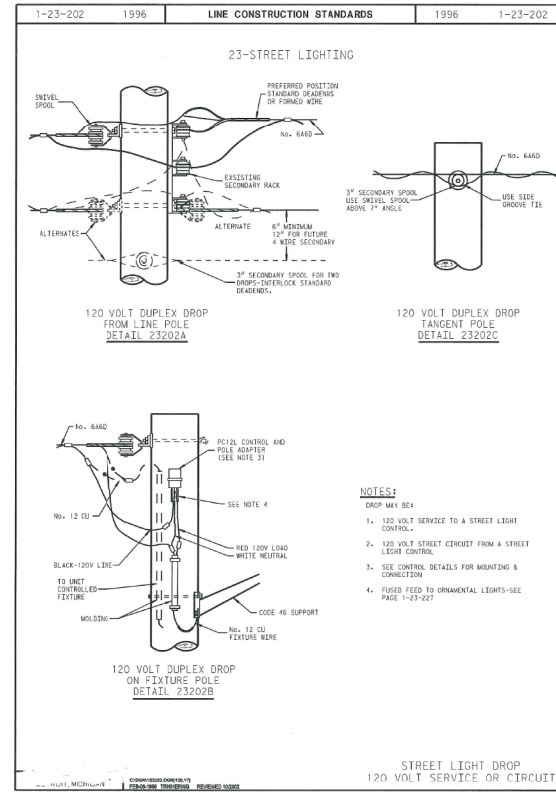
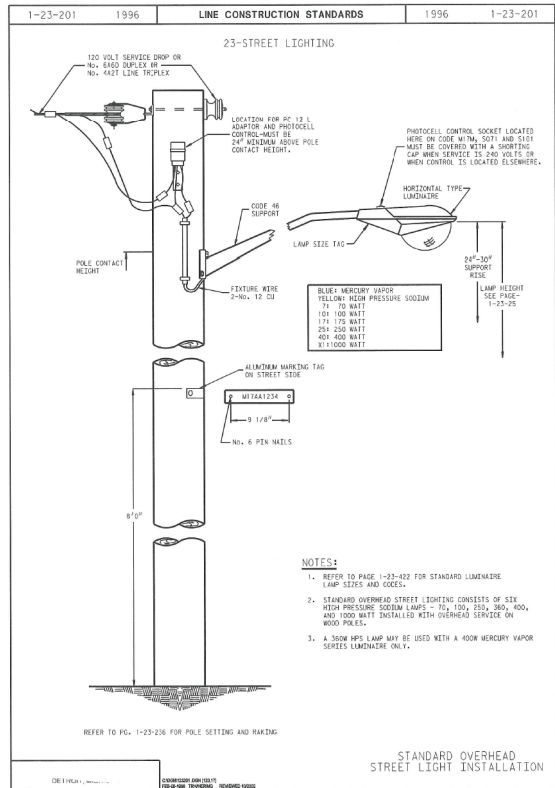
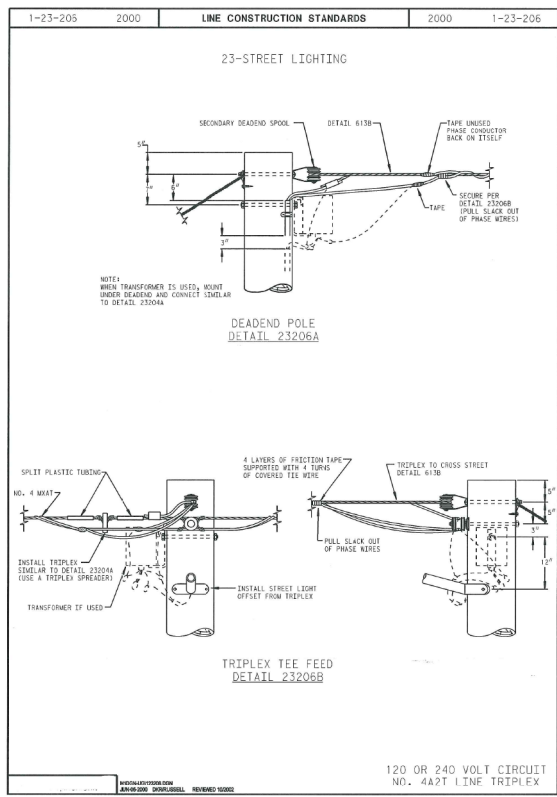
**OBsolete OVERHEAD CONSTRUCTION WIRING STANDARD**

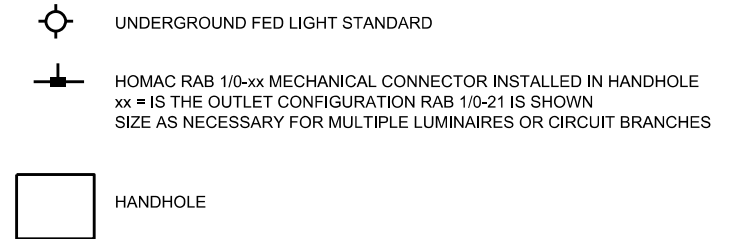
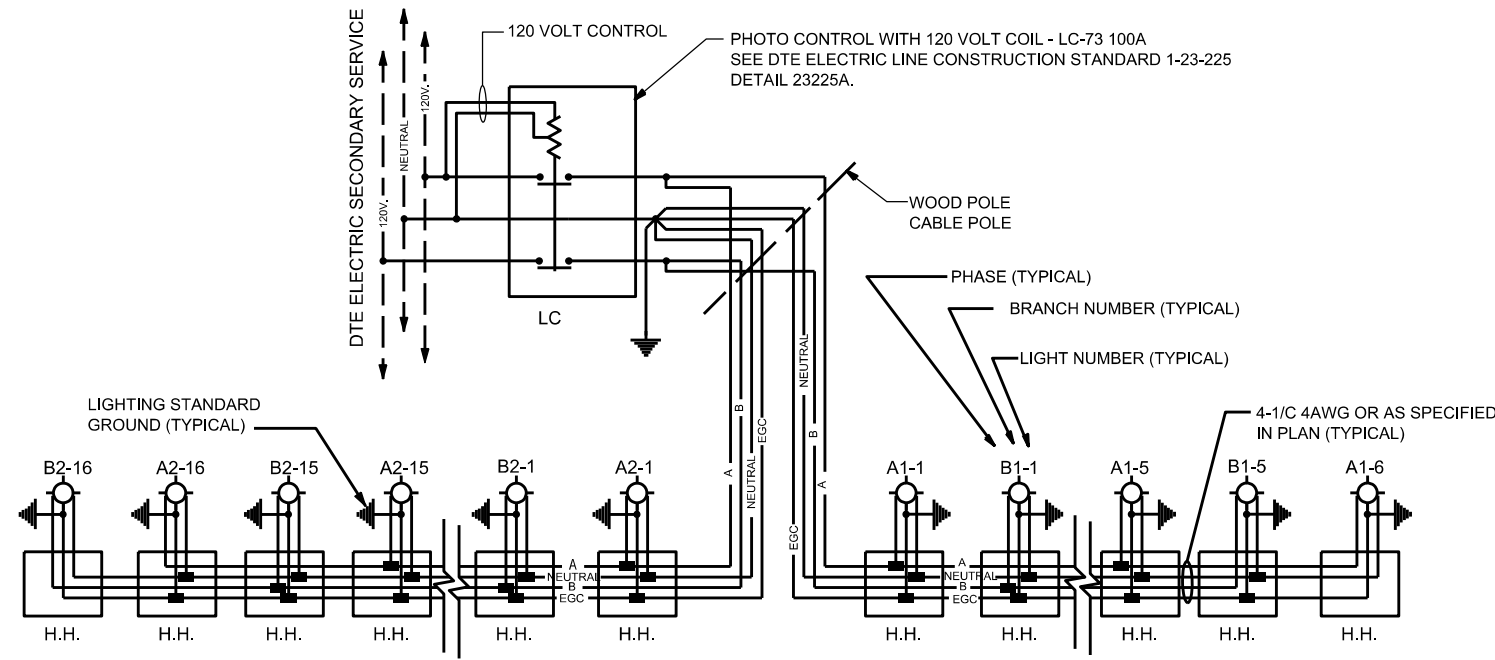
CABLE TYPE	NO RIB	1 RIB	2 RIBS	MESSENGER
QUADRUPLEX	---	---	---	---
TRIPLEX	A PHASE	B PHASE	---	NEUTRAL
DUPLEX	A PHASE	---	---	NEUTRAL

\*\*\* WHEN MODIFICATIONS OR ADDITIONS ARE REQUIRED ON OBSOLETE STYLE CONSTRUCTION CIRCUITS, THE CHANGES SHOULD BE MADE WITH THE OBSOLETE STYLE OR THE ENTIRE CIRCUIT MUST BE UPDATED.

\*\*\* THE CURRENT OVERHEAD CONSTRUCTION AND THE OBSOLETE OVERHEAD CONSTRUCTION STANDARDS SHALL NOT BE INTERMINGLED EXCEPT AT THE CIRCUIT SOURCE POINT WHERE THE NEUTRAL IS BONDED TO THE GROUND AT THE MAIN BREAKER.

\*\*\* THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CIRCUIT PHASE IDENTIFICATIONS PRIOR TO CONNECTING ANY NEW CIRCUIT CABLING TO EXISTING CIRCUIT CABLING. IF THE EXISTING CIRCUIT CABLING IS FOUND TO HAVE IMPROPER PHASE IDENTIFICATIONS THEN THE EXISTING CIRCUIT CABLING MUST BE CORRECTED PRIOR TO CONNECTING ANY NEW CABLING.





**UNDERGROUND STREET LIGHTING CIRCUIT TYPICAL WIRING SCHEMATIC  
THREE CONDUCTOR AND EQUIPMENT GROUND CONDUCTOR (EGC)**

NOT TO SCALE

**UNDERGROUND PHASE IDENTIFICATION**

**CURRENT UNDERGROUND CONSTRUCTION WIRING STANDARD**

CONDUCTOR ID	BLACK	WHITE/WHITE STRIPE	RED/RED STRIPE	GREEN/BARE
PHASE	A PHASE	NEUTRAL	B PHASE	EGC

**OBSOLETE UNDERGROUND CONSTRUCTION WIRING STANDARD**

CONDUCTOR ID	BLACK	WHITE/WHITE STRIPE	RED/RED STRIPE	GREEN/BARE
PHASE	A PHASE	NEUTRAL	B PHASE	---

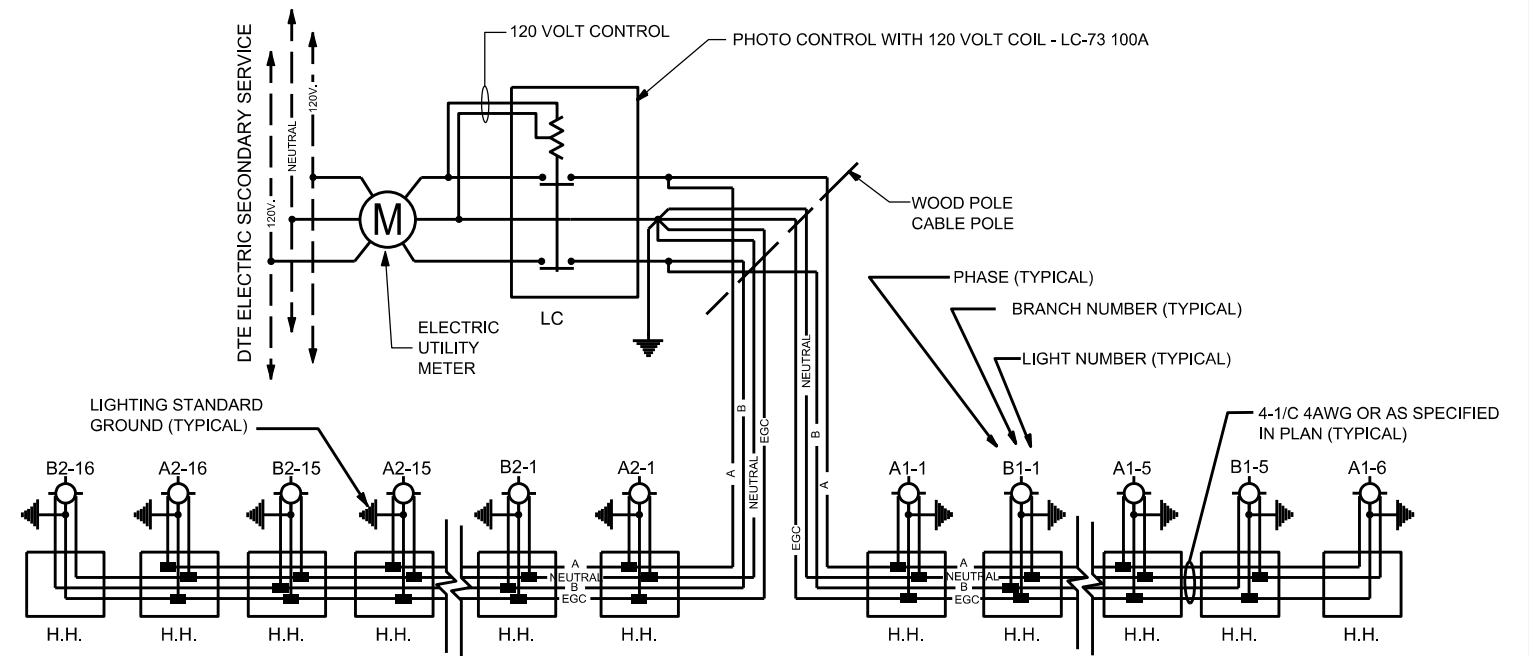
\*\*\* WHEN MODIFICATIONS OR ADDITIONS ARE REQUIRED ON OBSOLETE STYLE CONSTRUCTION CIRCUITS, THE CHANGES SHOULD BE MADE WITH THE OBSOLETE STYLE OR THE ENTIRE CIRCUIT MUST BE UPDATED.

\*\*\* THE CURRENT UNDERGROUND CONSTRUCTION AND THE OBSOLETE UNDERGROUND CONSTRUCTION STANDARDS SHALL NOT BE INTERMINGLED EXCEPT AT THE CIRCUIT SOURCE POINT WHERE THE NEUTRAL IS BONDED TO THE GROUND AT THE MAIN BREAKER.

\*\*\* THERE ARE INSTALLATIONS WHERE NEITHER COLOR-CODED, EITHER COLORED INSULATION OR PHASE MARKED, CONDUCTORS ARE USED SO THAT ALL THE CONDUCTORS ARE THE SAME COLOR, TYPICALLY BLACK. PHASING MUST BE FIELD VERIFIED PRIOR TO CONNECTING ANY COLOR-CODED CONDUCTORS TO NON-CODED CONDUCTORS.

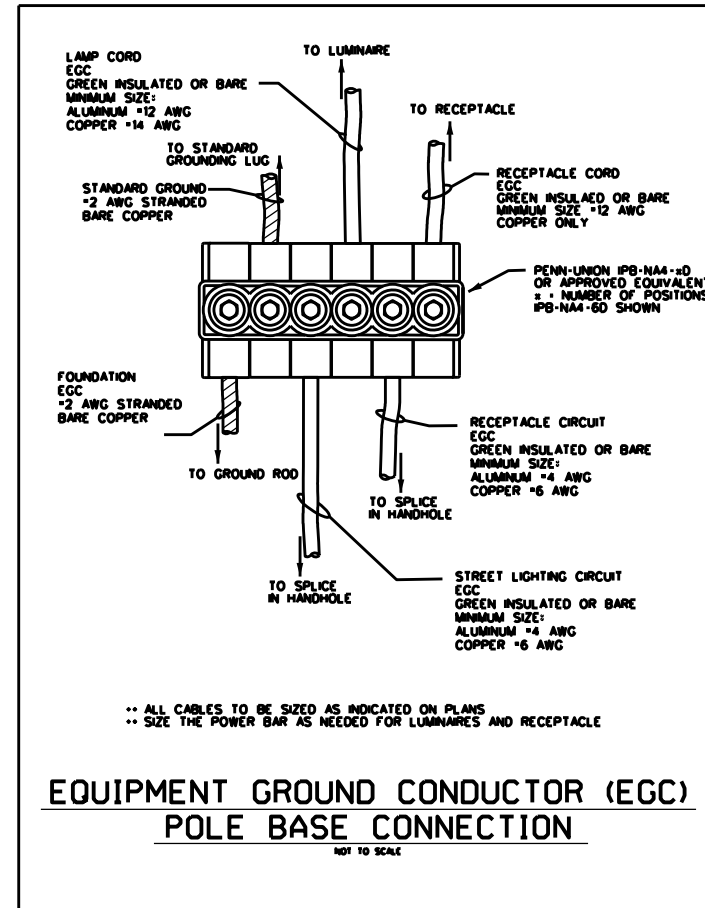
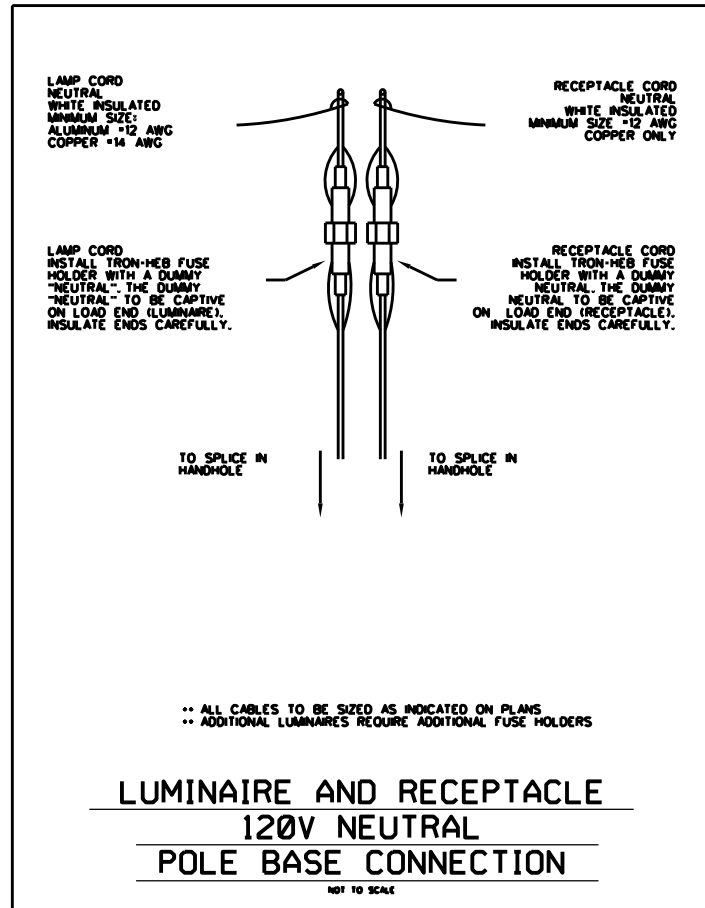
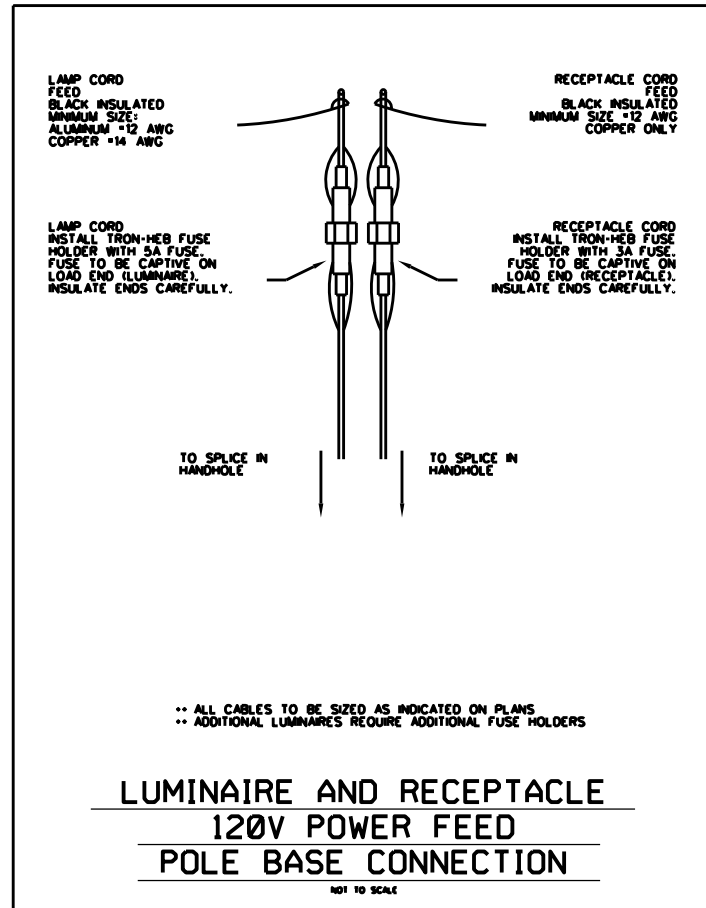
\*\*\* PRIOR TO CONNECTING ANY NEW CIRCUIT CABLING TO EXISTING CIRCUIT CABLING, CARE IS TO BE TAKEN BY VERIFYING THE EXISTING CIRCUIT CABLING PHASING TO ENSURE THAT PROPER ELECTRICAL CONNECTIONS ARE MADE. IF THE EXISTING CIRCUIT CABLING IS FOUND TO HAVE IMPROPER PHASE IDENTIFICATIONS THEN THE EXISTING CIRCUIT CABLING MUST BE CORRECTED PRIOR TO CONNECTING ANY NEW CABLING.

\*\*\* THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CIRCUIT PHASE IDENTIFICATIONS PRIOR TO CONNECTING ANY NEW CIRCUIT CABLING TO EXISTING CIRCUIT CABLING. IF THE EXISTING CIRCUIT CABLING IS FOUND TO HAVE IMPROPER PHASE IDENTIFICATIONS THEN THE EXISTING CIRCUIT CABLING MUST BE CORRECTED PRIOR TO CONNECTING ANY NEW CABLING.



**RECEPTACLE CIRCUIT TYPICAL WIRING SCHEMATIC  
THREE CONDUCTOR AND EQUIPMENT GROUND CONDUCTOR (EGC)**

NOT TO SCALE



## SIMpull THHN® Aluminum THHN Wire & Cable with Alumaflex® Brand Conductors



600 Volt Alumaflex® Brand Aluminum Alloy (AA-8176) Conductor. Thermoplastic Insulation/SIM Nylon Sheath, Heat, Moisture, Gasoline and Oil Sunlight Resistant. Also Rated THWN-2. SIM Technology® for Easier Pulling

### APPLICATIONS

Southwire SIMpull THHN® Aluminum THHN Wire & Cable with Alumaflex® Brand conductors are primarily used in conduit and cable trays for services, feeders and branch circuits in commercial or industrial applications as specified in the 2011 National Electrical Code. When used as Type THHN or T90 Nylon conductor is suitable for use in dry locations at temperatures not to exceed 90°C. When used as Type THWN-2 or TWN75, conductor is suitable for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C when exposed to oil or coolant. Voltage for all applications is 600 volts. This cable should be installed without application of pulling lubricant.

### STANDARDS & REFERENCES

- Southwire Aluminum SIMpull THHN® conductors comply with the following:
- ASTM B-800 and B-801
  - UL Standard 83
  - CSA
  - Federal Specification A-A-59544
  - VV-1 - Sizes 4 through 1 AWG
  - CT - Sizes 1/0 AWG and larger Sizes Rated for CT use
  - FT1 - Sizes 4 AWG through 750 kcmil
  - T90 Nylon - Sizes 4 AWG through 750 kcmil
  - TWN 75 - Sizes 8 AWG through 750 kcmil
  - National Electrical Code, NFPA 70
  - NEMA WC-70 Construction Requirements
  - RoHS/Reach Compliant

### CONSTRUCTION

Southwire SIMpull THHN® conductors are Alumaflex® Brand AA-8000 series aluminum alloy, compact stranded, insulated with a tough heat and moisture-resistant polyvinyl chloride (PVC), over which a SIM (SLIKQWIK® Infused Membrane) nylon (polyamide) or UL-listed equal jacket is applied. Conductor sizes 1/0 AWG and larger are listed and marked sunlight resistant in colors. Available in black, white, red, blue,



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purple, green, yellow, orange, brown, and gray. Also available in striped configurations. Some colors are subject to economic order quantity.

Conductor		Insulation Thickness (mils)	Jacket Thickness (mils)	Nominal D.D. (mils)	Net Wt Per 1000' (lbs.)	Allowable Ampacities*			Standard Package
Size (AWG or kcmil)	No. of strands					60°C	75°C	90°C	
8	7	30	5	204	27	35	40	45	B
6	7	30	5	239	38	40	50	63	C
4	7	40	6	305	62	55	65	75	BCD
2	6	40	6	360	91	75	90	100	BC
1	9	50	7	413	117	85	100	115	BC
1/0	10	50	7	450	141	100	120	135	BCD
2/0	12	50	7	490	172	115	135	150	BCD
3/0	16	50	7	537	210	130	155	175	BCD
4/0	19	50	7	589	257	150	180	205	BCD
250	22	60	8	656	311	170	205	230	ABC
300	35	60	8	706	365	190	230	255	BC
350	35	60	8	752	418	210	250	280	BC
400	35	60	8	795	471	225	270	305	BC
500	35	60	8	872	576	260	310	350	BC
600	58	70	9	971	700	285	340	385	BC
700	58	70	9	1035	804	310	375	420	C
750	58	70	9	1066	856	320	385	435	ABC
900	58	70	9	1139	1013	355	425	480	N/A
1000	58	70	9	1218	1117	375	445	500	N/A

\* Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D). Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C): 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 through 1 AWG conductors; 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG; 90°C - THHN dry locations and THWN wet or dry locations for ampacity adjustment purposes using NEC section 310.15.11(F)

Package Codes  
A-500  
B-2,500  
C-1,000  
D-5,000

### RECOMMENDED SAMPLE SPECIFICATIONS:

Conductors shall be UL-listed Type THHN and THWN-2, suitable for operation at 600 volts, as specified in the National Electrical Code. Sizes 8 through 1 AWG shall be rated VV-1, larger sizes shall be rated for CT Use. Conductors shall be Alumaflex aluminum alloy, insulated with high-heat and moisture resistant PVC, jacketed with abrasion, moisture, gasoline, and oil resistant nylon or UL-listed equivalent as manufactured by Southwire Company or approved equal.

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Conductor		Stock Numbers
Size (AWG or kcmil)	No. of strands	
8	7	Stock #: N/A
6	7	Stock #: BK:563768, RD:573834, BE:573835, WE:578332, GN:566358
4	7	Stock #: BK:563769, RD:573544, BE:573833, WE:577628, GN:562211
2	7	Stock #: BK:563770, RD:573541, BE:573542, WE:563493, BN:587026, OE:587027, YW:587028, GY:578329, GN:562745
1	18	Stock #: BK:563771, RD:583155, BE:583156, WE:578328, BN:587023, OE:587024, YW:587025, GY:578327, GN:562746
1/0	18	Stock #: BK:562747, RD:562748, BE:562749, WE:562750, BN:562753, OE:562754, YW:562752, GY:562755, GN:562756, PE:573380
2/0	18	Stock #: BK:562212, RD:562214, BE:562621, WE:562213, BN:562758, OE:562759, YW:562757, GY:562760, GN:562761, PE:573370
3/0	18	Stock #: BK:562663, RD:562665, BE:562666, WE:562664, BN:562763, OE:562764, YW:562762, GY:562765, GN:562766, PE:573371
4/0	18	Stock #: BK:562671, RD:562673, BE:562674, WE:562672, BN:561805, OE:561806, YW:561807, GY:562767, GN:562768, PE:573372
250	22	Stock #: BK:560444, RD:562626, BE:562627, WE:562625, BN:561863, OE:561864, YW:561865, GY:561866, GN:561867, PE:573373
300	35	Stock #: BK:562667, RD:562669, BE:562670, WE:562668, BN:562771, OE:562772, YW:562770, GY:562773, GN:562774, PE:573374
350	35	Stock #: BK:560443, RD:562623, BE:562624, WE:562622, BN:561858, OE:561859, YW:561861, GY:561862, GN:562775, PE:573375
400	35	Stock #: BK:562677, RD:562776, BE:562778, WE:562779, BN:562781, OE:562782, YW:562780, GY:562783, GN:562699, PE:573376
500	35	Stock #: BK:560442, RD:562696, BE:562697, WE:562696, BN:561853, OE:561854, YW:561855, GY:561856, GN:561857, PE:573377
600	58	Stock #: BK:560441, RD:562630, BE:562631, WE:562628, BN:561847, OE:561848, YW:561849, GY:561850, GN:561851, PE:573379
700	58	Stock #: BK:562689, RD:562690, BE:562691, WE:562692, BN:561843, OE:561844, YW:561846, GY:562693
750	58	Stock #: BK:562632, RD:562634, BE:562635, WE:562633, BN:561836, OE:561839, YW:561840, GY:561841, GN:561842, PE:573481
900	58	Stock #: BK:562679, RD:562681, BE:562682, WE:562683, BN:561782, OE:561783, YW:561785, GY:561786, GN:562684
1000	58	Stock #: BK:562680, BN:564280, OE:564281, YW:564282, GY:564283

Color Abbreviations  
BK-Black RD-Red BE-Blue WE-White BN-Brown  
OE-Orange YW-Yellow GY-Grey GN-Green

Revised March 12, 2018

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## SIMPULL THHN® Copper THHN Wire & Cable

600 Volts. Copper Conductor. Thermoplastic Insulation/Nylon Sheath, Heat, Moisture, Gasoline and Oil Resistant II. All Sizes Rated Both THHN and either THWN (sizes 14, 12, and 10 AWG) or THWN-2 (sizes 8 AWG and larger). Also Rated MTW and AWM (See Below). SIMpull® Technology for Easier Pulling.

### APPLICATIONS

Southwire® SIMpull THHN® copper conductors are primarily used in conduit and cable trays for services, feeders and branch circuits in commercial or industrial applications as specified in the National Electrical Code. Voltage for all applications is 600 volts. SIMpull THHN® copper conductors are designed to be installed without application of a pulling lubricant.

These conductors have multiple ratings. Depending upon the product application, allowable temperatures are as follows:

- THHN or T90 Nylon: Dry locations not to exceed 90°C
- THWN-2: Wet or dry locations not to exceed 90°C or locations not to exceed 75°C when exposed to oil
- THWN: Wet locations not to exceed 75°C or dry locations not to exceed 90°C or locations not to exceed 75°C when exposed to oil
- THWN-2: Wet locations not to exceed 75°C
- MTW: Wet locations or when exposed to oil at temperatures not to exceed 60°C or dry locations not to exceed 90°C (with ampacity limited to that for 75°C conductor temperature per NFPA 79)
- AWM: Dry locations not to exceed 105°C only when rated and used as appliance wiring material

### STANDARDS & REFERENCES

- Southwire® SIMpull THHN® copper conductors comply with the following:
- ASTM - B3, B8, and B787 (19 Wire Combination Unilay-Stranded)
  - UL Standards 83, 759, 1063, and 1581
  - CSA C22.2 No. 75: T90 Nylon/TW75 Sizes through 1000 kcmil
  - NOM-ANCE 90°C
  - Federal Specification A-A-59544
  - NEMA WC-70 (IEEE 3-95-656) Construction Requirements
  - National Electrical Code, NFPA 70
  - CT Rated in Sizes 1/0 AWG and larger
  - YW-1 - Sizes 14 through 1 AWG
  - FT1 - All Sizes
  - Sunlight Resistant - Sizes 2 AWG and larger
  - AWM - Sizes 14 through 6 AWG
  - MTW - Stranded Constructions Only
  - RoHS/REACH Compliant

### CONSTRUCTION

Southwire® SIMpull THHN® copper conductors are made with soft drawn copper. Sizes 14 through 4/0 AWG use a combination-unilay stranding while 250 kcmil and larger sizes use a compressed copper stranding. The wire is covered with a tough heat and moisture resistant PVC insulation with an overall nylon jacket utilizing SIMpull® Technology. Available in black, white, red, blue, purple, green, yellow, orange, brown, and gray. Also available in striped configurations. Some colors are subject to economic order quantity. Marked as THHN in all sizes. Also marked as THWN-2 in sizes 8 AWG and larger or marked as THWN in sizes 14, 12, and 10 AWG. Marked sunlight resistant in sizes 2 AWG and larger. Sizes 14, 12, and 10 AWG are available with SIMpull® Technology only in SIMpull BARREL™ cable drum or SIMpull® CoilPAK™ configurations.

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Conductor Size (AWG or kcmil)	No. of strands	Insulation Thickness (mils)	Jacket Thickness (mils)	Nominal O.D. (mils)	Approx. Net Wt. Per 1000' (lbs.)	Allowable Ampacities*			Standard Package
						60°C	75°C	90°C	
14"	1	15	4	102	15	15	15		AC
12"	1	15	4	119	23	20	20		AC
10"	1	20	4	150	36	30	30		AC
14"	19	15	4	109	18	15	15		AC
12"	19	15	4	125	24	20	20		AC
10"	19	20	4	161	38	30	30		AC
8	19	30	5	213	63	40	50		ABCD
6	19	30	5	249	95	55	65		ABCD
4	19	40	6	318	152	70	85		100 ABCD
3	19	40	6	346	189	85	100		115 ABCD
2	19	40	6	378	234	95	115		130 ABCD
1	19	50	7	435	299	110	130		145 ABCD
1/0	19	50	7	474	372	125	150		170 ABCD
2/0	19	50	7	518	462	145	175		195 ABCD
3/0	19	50	7	568	575	165	200		225 ABCD
4/0	19	50	7	624	719	195	230		260 ABCD
250	37	60	8	694	851	215	255		290 ABCD
300	37	60	8	747	1012	240	285		320 ABC
350	37	60	8	797	1174	260	310		350 ABC
400	37	60	8	842	1334	280	335		380 ABC
500	37	60	8	926	1655	320	380		430 ABCD
600	61	70	9	1024	1987	350	420		475 ABC
750	61	70	9	1126	2464	400	475		535 BC
1000	61	70	9	1275	3257	455	545		615 C

\* Sizes 14, 12, and 10 AWG are available with SIMpull® Barrel or CoilPAK® configurations. Standard put ups vary from the ones shown on this chart for standard 14-10 AWG THHN.  
 - Allowable ampacities shown are for general use as specified by the 2014 Edition of the National Electrical Code Sections 310.15 and 240.4(D).  
 Unless the equipment is marked for use at higher temperatures the conductor shall be limited to the following per NEC 110.14(C):  
 60°C - When terminated to equipment for circuits rated 100 amperes or less or marked for 1 - 1 AWG conductors.  
 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.  
 90°C - THHN dry locations and THWN-2 wet or dry locations for ampacity adjustment purposes using NEC section 310.15.

- Package Codes:  
 A - 2500' Reel  
 B - 1000' Reel  
 C - 500' Spool  
 D - 5000' Reel

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Conductor Size (AWG or kcmil)	No. of strands	Stock Numbers
12"	1	SIMPULL THHN® CU Stock #: BK:580203, WE:580215, WE/BK:580216, WE/BE:580218, WE/RD:580219, RD:580214, GN:580211, GN/YW:580212, BE:580204, PE:580202, YW:580220, OE:580213, BN:580205, GY:580206, GY/BN:580226, GY/OE:580208, GY/PE:580201, GY/YW:580210 Standard THHN CU Stock #: BK:115956, WE:115964, WE/BK:551545, WE/BE:551547, WE/RD:551546, RD:115972, GN:115998, GN/YW:611757, BE:115980, YW:116004, OE:116012, BN:116020, GY:229823, GY/BN:575309, GY/OE:575301, GY/YW:575302, PK:256384, PE:253396 SIMPULL THHN® CU Stock #: BK:585485, WE:580180, WE/BK:585484, WE/BE:581099, RD:585494, BE:585486, BE/WE:592686, GN:585490, YW:580181, OE:580177, BN:580172, BN/RD:592685, PE:580178, GY:580173, PK:581933 Standard THHN CU Stock #: BK:229559, WE:229567, RD:229575, RD/BK:662817, BE:229583, GN:229591, YW:229609, OE:229617, BN:229625, PE:239566, GY:229633, PK:244863, TN:320150
10"	1	SIMPULL THHN® CU Stock #: BK:580192, WE:580199, WE/BK:580192, WE/BE:580193, WE/RD:580194, RD:580196, BE:580222, GN:580195, GN/YW:583863, YW:580200, OE:580196, BN:585461, PE:580197, GY:580250, GY/BN:580207, GY/OE:580189, GY/PE:580188, GY/YW:580190, PK:581932 Standard THHN CU Stock #: BK:229614, WE:229656, WE/BK:311514, WE/BE:566441, WE/RD:566440, RD:229666, BE:229674, BE/WE:662981, GN:229682, GN/YW:663013, YW:229690, OE:229708, BN:229716, PE:232124, GY:229724, GY/BN:575307, GY/OE:575309, GY/YW:575310, TN:320168, PK:242593
14"	19	SIMPULL THHN® CU Stock #: BK:580221, WE:580256, WE/BK:580260, WE/BE:580261, WE/RD:580262, RD:580254, BE:580222, GN:585464, GN/YW:584567, YW:584570, OE:585465, BN:580223, PE:580253, GY:580250, GY/BN:580207, GY/OE:580257, GY/PE:580227, GY/YW:580259, PK:581930 Standard THHN CU Stock #: BK:229732, WE:229740, WE/BK:610029, WE/BE:556199, WE/RD:556198, RD:229757, RD/WE:663039, BE:229765, GN:229773, GN/YW:663112, PE:256594, YW:229781, OE:229799, BN:229807, GY:229815, GY/BN:575297, GY/OE:575298, GY/YW:575299, PK:260539, TN:320176
12"	19	Color Abbreviations BK-Black WE-White RD-Red BE-Blue GN-Green YW-Yellow OE-Orange BN-Brown GY-Grey PK-Pink PE-Purple TN-Tan

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Conductor Size (AWG or kcmil)	No. of strands	Stock Numbers
6	19	SIMPULL THHN® CU Stock #: BK:204933, WE:204941, RD:204958, BE:204966, GN:204974, YW:260687, OE:260679, BN:260695, GY:254649, PE:485607
4	19	SIMPULL THHN® CU Stock #: BK:204990, WE:205005, RD:204982, BE:205633, GN:251728, YW:411694, OE:411710, BN:411702, GY:511778, PE:552486
3	19	SIMPULL THHN® CU Stock #: BK:243469, WE:243477, RD:243485, BE:372763, GN:501971, YW:551080, OE:551079, BN:551078, GY:551081, PE:552533
2	19	SIMPULL THHN® CU Stock #: BK:205021, WE:205039, RD:205013, BE:315812, GN:295832, YW:420653, OE:610171, BN:610169, GY:610172, PE:552534
1	19	SIMPULL THHN® CU Stock #: BK:205047, WE:344580, RD:344598, BE:481945, GN:400192, YW:550887, OE:550888, BN:550890, GY:550891, PE:552488
1/0	19	SIMPULL THHN® CU Stock #: BK:205054, WE:558771, RD:558773, BE:558774, GN:556315, YW:558777, OE:558778, BN:558778, GY:558781, PE:551539
2/0	19	SIMPULL THHN® CU Stock #: BK:205062, WE:556111, RD:556113, BE:561114, GN:556115, YW:556116, OE:556117, BN:556119, GY:558784, PE:552535
3/0	19	SIMPULL THHN® CU Stock #: BK:205070, WE:556120, RD:556122, BE:556122, GN:556123, YW:556124, OE:556125, BN:556127, GY:556698, PE:551541
4/0	19	SIMPULL THHN® CU Stock #: BK:205088, WE:556128, RD:556129, BE:556130, GN:556131, YW:556132, OE:556133, BN:556135, GY:556697, PE:551540
250	37	SIMPULL THHN® CU Stock #: BK:205096, WE:556136, YW:556140, OE:556141, BN:556143, GY:556552, BE:556139, GN:556139, PK:592681, PE:551025, RD:556137, TN:592682
300	37	SIMPULL THHN® CU Stock #: BK:205104, WE:556144, RD:556145, BE:556146, GN:556147, YW:556148, OE:556149, BN:556150, GY:556551, PE:551026
350	37	SIMPULL THHN® CU Stock #: BK:205112, WE:556151, RD:556152, BE:556153, GN:556154, YW:556155, OE:556156, BN:556157, GY:556707, PE:551027
400	37	SIMPULL THHN® CU Stock #: BK:205120, WE:556158, RD:556160, BE:556161, GN:556162, YW:556163, OE:556164, BN:556165, GY:556550, PK:581977, PE:551028, TN:581798
500	37	SIMPULL THHN® CU Stock #: BK:205138, WE:556166, RD:556168, BE:556169, GN:556170, YW:556171, OE:556172, BN:556173, GY:556548, PK:581782, PE:551599, TN:581793
600	61	SIMPULL THHN® CU Stock #: BK:321471, WE:556174, RD:556176, BE:556177, GN:556178, YW:556179, OE:556180, BN:556181, GY:556859, PE:552485
750	61	SIMPULL THHN® CU Stock #: BK:320994, WE:564945, BE:564946, BE:564944, GN:551700, YW:550907, OE:550908, BN:550909, GY:550910, PE:552536
1000	61	SIMPULL THHN® CU Stock #: BK:289710, BN:552644, OE:552645, YW:552647
Color Abbreviations BK-Black WE-White RD-Red BE-Blue GN-Green YW-Yellow OE-Orange BN-Brown GY-Grey PK-Pink PE-Purple TN-Tan		

The Power of Connections.™



**Southwire**

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Public Lighting Authority of Detroit  
 80 Cadillac Square, Suite 3100  
 Detroit, Michigan 48226  
 313-324-8290 office  
 313-636-2805 fax  
 info@pladetroit.org



PROJECT DESCRIPTION  
**DESIGN ENGINEERING FOR RIOPELLE STREETSCAPE I-75 SERVICE DRIVE TO DIVISION**  
 RECEPTACLE CORD CABLE DETAILS

Consulting Engineering Associate and Wade Trim Joint Venture

16580 Wynnong  
 Detroit, Michigan 48221  
 313-341-5797



REVISIONS	DATE	DESCRIPTION

SHEET  
**DT-14**  
 PLO NO. JOB NO.  
 1792 142814  
 PAGE 81 OF

**COOPER Bussmann**

## TRON® In-Line Fuse Holders

### HEB Series Single-Pole Breakaway & Non-Breakaway for 1/2" x 1 1/2" Fuses

**Specification Data - Non-Breakaway & Loadside Breakaway**

Terminal Type	Conductor Data				Catalog Symbol
	Size	No. of Wires per Terminal	Solid	Stranded	
Copper Crimp	#12 to #8	1	*	*	A
	#12	2	*	*	B
	#8	1	*	*	C
	#8	2	*	*	D
Copper Setscrew	#8	1	*	*	E
	#8	2	*	*	F
	#10 to #18	1	*	*	Z
	#10 to #18	2	*	*	
Aluminum Crimp	#8	1	*	*	N
	#8	2	*	*	P
	#8, #4	1	*	*	Q
	#2	1	*	*	R
Aluminum Setscrew	#12 to #8	1	*	*	L
	#12 to #8	2	*	*	Y

**Non-Breakaway Fuse Holders**  
See page 2 for breakaway holders  
**Catalog Symbol:** HEB  
**Description:**  
Water resistant, single-pole non-breakaway in-line fuse holders for 1/2" x 1 1/2" midjet fuses. Typical fuse types: BAF, DCM, FNM, FNG and KTK.  
**Rating:**  
Volts: 600V (or less)  
Amps: Up to 30A\*

**Agency Information:**  
UL Recognized, Guide ZLT2, File E14853  
CSA Certified, Class 6225-01, File 47235  
RCE

**Coupling Nut Torque:** 10-20lb-in.  
**Part Number Explanation**  
Example: HEB-AK  
\* HEB = Holder series  
\* A = Loadside terminal (copper crimp for #12 copper wire)  
\* K = Lineside terminal (copper setscrew for two #8 copper wires)

**Part Number Selection**  
From the table on page three, select the combination of desired loadside and lineside terminals for the application (define terminal type, wire size, number of wires per terminal and whether the terminal accepts solid and/or stranded conductors). Then in the right hand two columns, select either the non-breakaway or breakaway holder part number to order.

**Available Part Numbers**  
HEB-AA<sup>(1)</sup>, HEB-AB<sup>(2)</sup>, HEB-AC<sup>(2)</sup>, HEB-AD<sup>(2)</sup>, HEB-AE<sup>(2)</sup>, HEB-AJ, HEB-AK, HEB-AL, HEB-AR, HEB-AY, HEB-BA<sup>(2)</sup>, HEB-BB<sup>(2)</sup>, HEB-BC<sup>(2)</sup>, HEB-BD<sup>(2)</sup>, HEB-CC<sup>(2)</sup>, HEB-DD<sup>(2)</sup>, HEB-JJ, HEB-JK, HEB-JL, HEB-JY, HEB-LL, HEB-NN, HEB-PP<sup>(2)</sup>, HEB-PP<sup>(2)</sup>, HEB-RR<sup>(2)</sup>, HEB-SS, HEB-TT<sup>(2)</sup>, HEB-ZA

**Insulating Boots**  
For insulating boots, see page 2. Insulating boots are not included with non-breakaway holders and must be ordered separately. They come standard with the breakaway holders. When insulating boots are utilized, extra heat retention requires that fuses are sized at a minimum of 200% of the RMS load current.  
\*Amp rating limited by conductor size.

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**Breakaway Fuse Holders**  
**Catalog Symbol:** HEB  
**Description:**  
Single-pole breakaway in-line fuse holders for 1/2" x 1 1/2" midjet fuses. Typical fuse types: BAF, DCM, FNM, FNG AND KTK.  
**Rating:**  
Volts: 600V (or less)  
Amps: Up to 30A\*

**Agency Information:**  
UL Recognized, Guide ZLT2, File E14853  
CSA Certified, Class 6225-01, File 47235  
RCE

**Coupling Nut Torque:** 10-20lb-in.  
**Part Number Explanation**  
Example: HEB-AW-RYC  
\* HEB = Holder series  
\* AW = Loadside terminal (copper crimp for #12 copper wire)  
\* RYC = Lineside terminal (copper setscrew for two #8 copper wires)

**Part Number Selection**  
From the table on page three, select the combination of desired loadside and lineside terminals for the application (define terminal type, wire size, number of wires per terminal and whether the terminal accepts solid and/or stranded conductors). Then in the right hand two columns, select either the non-breakaway or breakaway holder part number to order.

**Available Part Numbers**  
**Breakaway Units:**  
(Includes fuse holder, breakaway part and insulating boots)  
HEB-AW-RLA, HEB-AW-RLC-A<sup>(1)</sup>, HEB-AW-RLC-B, HEB-AW-RLC-C, HEB-AW-RLC-J, HEB-AW-RLA, HEB-AW-RYC, HEB-BW-RLC-A, HEB-BW-RLC-B, HEB-BW-RLC-C, HEB-BW-RLC-J, HEB-BW-RYC, HEB-KW-RLC-J, HEB-KW-RYC, HEB-LW-RLA, HEB-LW-RLC-J, HEB-LW-RYA  
**Fuse Holder Only:** HEB-AW<sup>(2)</sup>, HEB-BW<sup>(2)</sup>, HEB-DW<sup>(2)</sup>, HEB-JW, HEB-LW  
**Breakaway Part:** RLC-A, RLC-B, RLC-C, RLC-J, RYC, RLA, RYA

**Specification Data - Lineside Breakaway**

Terminal Type	Conductor Data				Catalog Symbol
	Size	No. of Wires per Terminal	Solid	Stranded	
Copper Crimp	#12 to #8	1	*	*	-RLC-A
	#8	1	*	*	-RLC-B
Copper Setscrew	#8	1	*	*	-RLC-C
	#12 to #8	1	*	*	-RLC-J
Aluminum Crimp	#12 to #8	1	*	*	-RLC-L
	#12 to #8	2	*	*	-RYC
Aluminum Setscrew	#12 to #8	1	*	*	-RLA
	#12 to #8	2	*	*	-RYA

**Insulating Boots**  
Two insulating boots come standard with the breakaway holders (example: HEB-AW-RLC-A). The insulating boots are not included with the non-breakaway holders (example: HEB-AA) or the individual pieces of the breakaway holders (example: HEB-AW, RLC-A). Two insulating boots must be ordered for each holder when ordering them separately. When insulating boots are utilized, extra heat retention requires that fuses are sized at a minimum of 200% of the RMS load current.

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### For HEB Holders Only

Directions: To select complete holder P/N, work from left to right starting with loadside terminal options and then lineside terminal options. Then determine breakaway or non-breakaway style.

Terminal Type	Loadside Terminal				Lineside Terminal				Available P/N's		
	Wire Size	No. of Wires per Terminal	Solid	Stranded	Terminal Type	Wire Size	No. of Wires per Terminal	Solid	Stranded	Non-Breakaway P/N (Boots not included)	Breakaway P/N (Boots included)
Copper	#12 to #8	1	Y	Y	Copper	#12 to #8	1	Y	Y	HEB-AA <sup>(1)(2)</sup>	HEB-AW-RLC-A <sup>(1)(2)</sup>
Crimp	#12	2	Y	Y	Crimp	#12	2	Y	Y	(3)	HEB-AW-RLC-B
Copper	#12 to #8	1	Y	Y	Copper	#8	1	Y	Y	HEB-AB <sup>(2)</sup>	HEB-AW-RLC-C <sup>(4)</sup>
Crimp	#12	2	Y	Y	Crimp	#10	2	Y	Y	HEB-AC <sup>(2)</sup>	HEB-AW-RLC-B
Copper	#12 to #8	1	Y	Y	Copper	#4	1	N	Y	HEB-AD <sup>(2)</sup>	HEB-AW-RLC-C <sup>(4)</sup>
Crimp	#12	2	Y	Y	Crimp	#8	2	Y	Y	HEB-AE <sup>(2)</sup>	N/A
Copper	#12 to #8	1	Y	Y	Copper	#20	1	N	Y	HFR-AR <sup>(2)</sup>	N/A
Crimp	#12	2	Y	Y	Crimp	#3	2	N	Y	HEB-AE <sup>(2)</sup>	N/A
Copper	#12 to #8	1	Y	Y	Copper	#12 to #3	1	Y	Y	HEB-AJ	HEB-AW-RLC-J
Crimp	#12	2	Y	Y	Crimp	#12 to #3	2	Y	Y	HEB-AK	HEB-AW-RYC
Copper	#12 to #8	1	Y	Y	Aluminum	#12 to #2	1	Y	Y	HEB-AL	HEB-AW-RLA
Crimp	#12	2	Y	Y	Aluminum	#12 to #2	2	Y	Y	HEB-AY	HEB-AW-RYA
Copper	#12 to #8	1	Y	Y	Aluminum	#1, #2	1	N	Y	HEB-AR	N/A
Crimp	#12	2	Y	Y	Crimp	#12 to #8	1	Y	Y	HEB-BA <sup>(2)</sup>	HEB-BW-RLC-A
Copper	#6	1	Y	Y	Crimp	#12	2	Y	Y	HEB-BB <sup>(2)</sup>	HEB-BW-RLC-B
Crimp	#10	2	Y	Y	Crimp	#6	1	Y	Y	HEB-BC <sup>(2)</sup>	N/A
Copper	#6	1	Y	Y	Crimp	#10	2	Y	Y	HEB-BC <sup>(2)</sup>	N/A
Crimp	#10	2	Y	Y	Crimp	#8	2	Y	Y	HEB-BD <sup>(2)</sup>	N/A
Copper	#6	1	Y	Y	Copper	#2	1	N	Y	HEB-CC <sup>(2)</sup>	N/A
Crimp	#10	2	Y	Y	Crimp	#4	1	N	Y	HEB-CC <sup>(2)</sup>	N/A
Copper	#6	1	N	Y	Crimp	#8	2	Y	Y	HEB-DD <sup>(2)</sup>	N/A
Crimp	#10	2	Y	Y	Crimp	#2	1	N	Y	HEB-DD <sup>(2)</sup>	N/A
Copper	#20, #18	1	Y	Y	Crimp	#6	2	Y	Y	HEB-ZA	N/A
Crimp	#12 to #3	1	Y	Y	Crimp	#12 to #3	1	Y	Y	HEB-JJ	HEB-JW-RLC-J
Copper	#12 to #3	1	Y	Y	Aluminum	#12 to #3	2	Y	Y	HEB-JK	HEB-JW-RYC
Crimp	#12 to #3	1	Y	Y	Aluminum	#12 to #2	1	Y	Y	HEB-JL	N/A
Crimp	#12 to #3	1	Y	Y	Aluminum	#12 to #2	2	Y	Y	HEB-JY	N/A
Aluminum	#8	1	N	Y	Aluminum	#12 to #2	1	Y	Y	HEB-LL	HEB-LW-RLA
Crimp	#6	1	N	Y	Aluminum	#8	1	N	Y	HEB-NN	N/A
Aluminum	#6	1	N	Y	Crimp	#6	1	Y	N	HEB-NN	N/A
Crimp	#4	1	Y	N	Aluminum	#6	1	N	Y	HEB-PP <sup>(2)</sup>	N/A
Aluminum	#3, #4	1	N	Y	Crimp	#4	1	Y	N	HEB-PP <sup>(2)</sup>	N/A
Crimp	#2	1	Y	N	Aluminum	#3, #4	1	N	Y	HEB-CC <sup>(2)</sup>	N/A
Aluminum	#1, #2	1	N	Y	Crimp	#2	1	Y	N	HEB-RR <sup>(2)</sup>	N/A
Crimp	#10	1	N	Y	Aluminum	#1, #2	1	N	Y	HEB-RR <sup>(2)</sup>	N/A
Self-Terminal for aluminum connector	#8 to #12	1	Y	N	Aluminum	#10	1	N	Y	HEB-TT <sup>(2)</sup>	N/A
Self-Terminal for aluminum connector	#10 to #14	1	N	Y	Aluminum	#8 to #12	1	Y	N	HEB-SS	N/A
					Self-Terminal for aluminum connector	#10 to #14	1	N	Y		

UL Recognized, Guide ZLT2, File E14853  
CSA Certified, Class 6225-01, File 47235  
RCE  
\*HEB-AW-RLC-C is for (1) #4 stranded wire only.

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# LUMINAIRE IDENTIFICATION TAG

1-23-452 1995 LINE CONSTRUCTION STANDARDS 1995 1-23-452

23-STREET LIGHTING

TYPICAL 1/2" NUMBERS ENGRAVED ON ALUMINUM TAG

LAMP SIZE AND SERIAL NO. TAG (IDENTIFICATION ONLY)

TYPICAL TAG FOR NEW CONSTRUCTION & MAINTENANCE

TAGS (ALUMINUM)

LETTER	Eq. No. 801	LETTER	Eq. No. 822
A	0453	T	0470
B	0454	U	0471
C	0455	V	0472
D	0456	W	0473
E	0457	X	0474
F	0458	Y	0475
G	0459	Z	0476
H	0460		
I	0477	0	0485
J	0481	1	0487
K	0482	2	0489
L	0483	3	0479
M	0484	4	0480
N	0485	5	0481
O	0486	6	0482
P	0487	7	0483
Q	0488	8	0484
R	0489	9	0485
S	0490		

CHARACTER PLATE

No. of CHARACTERS	Eq. No. 822
2	0487
4	0489
6	0491
8	0493

NOTES:

1. PROPER FASTENERS MUST BE ORDERED FOR WOOD POLES USE PIN NAILS Eq. No. 254-0087. FOR METAL POLES USE DRIVE SCREWS Eq. No. 355-0000
2. LAMP DESCRIPTIONS ARE ON PAGES 1-23-451 AND 440
3. TAG POSITIONS ARE SHOWN ON PAGES 1-23-451, 201 AND 300.
4. STOCK NUMBERS FOR TAG LETTERS, NUMBERS AND CHARACTER PLATES ARE SHOWN ON THE ADJACENT CHARTS.

STREET LIGHT MARKING TAGS

# CABLE IDENTIFICATION

## FASTTAGS™ MINIATURE MARKERS

The most versatile marking system available  
Designed for ease of use, visibility and legibility

No matter what it is that you have to identify, **FASTTAGS** can do it. The three dimensional tags create remarkably contrasting characters that remain legible in the most adverse conditions, even if they are painted over. The highly raised characters make these tags ideal for oily, dusty or dimly lit environments. The UV stabilized, hot stamped foil assures long term legibility.

Tags and Holders at Actual Size

Each card has 25 of the same character.

The same tags and holders can be used for both vertical or horizontal applications eliminating the need for dual inventories. The holders can be mounted using cable ties, nails, screws or adhesive, making the applications endless.

The tags are available with yellow or orange background colors, are non conductive and non corroding. Assembling the polymer tags into the holder is a breeze, no more fumbling and frustration.

See Reverse for Handy Tagging Kit

Please Turn →

### Cable Tagging Nomenclature

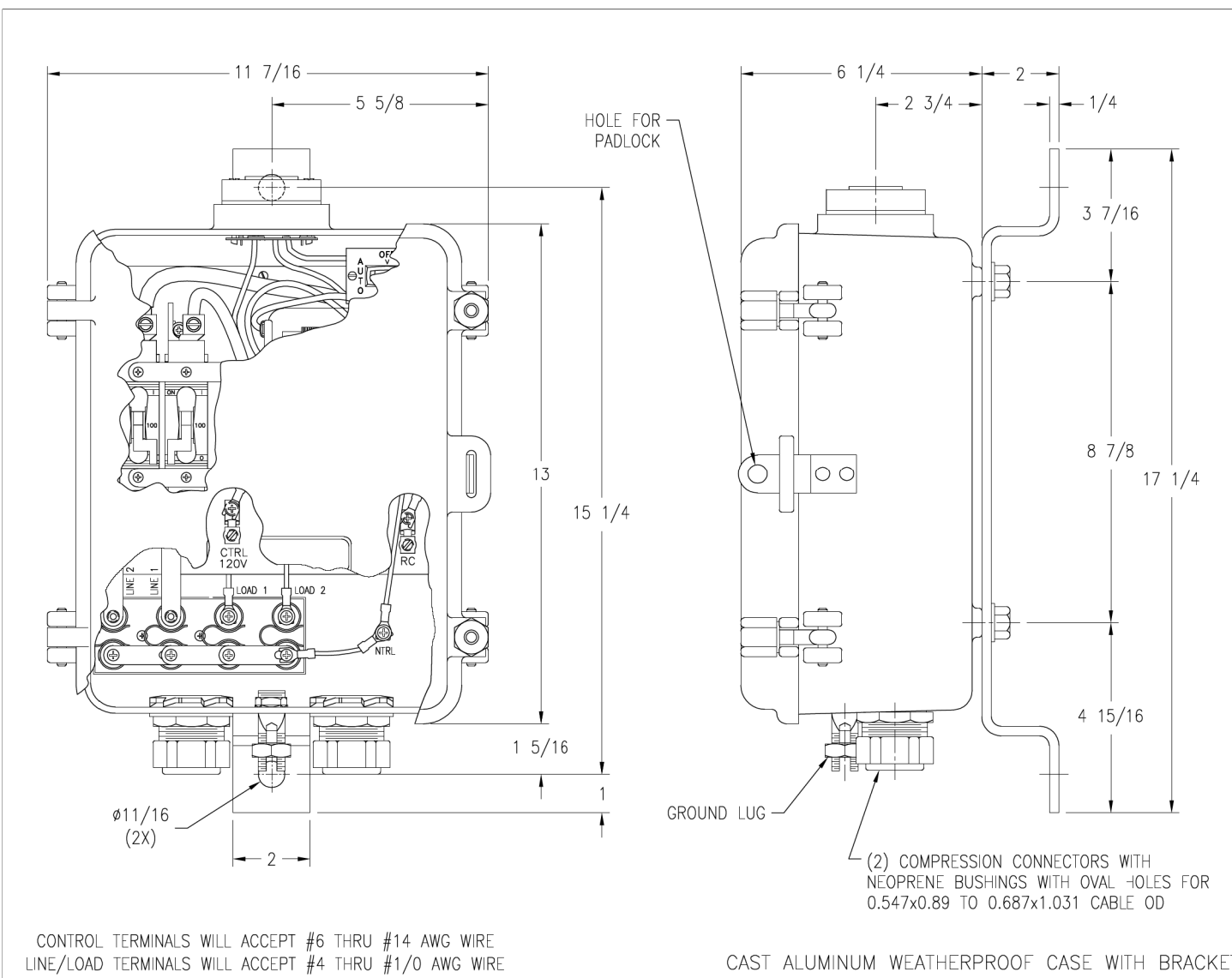
# PLA26W5AA1

PLA = Public Lighting Authority

26W5A = LC number

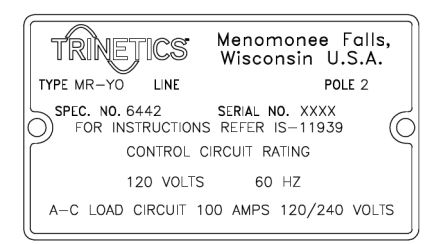
- 26 = Last two digits of ZIP Code (i.e. 48226)
- W = Design group, Wade Trim / CEA
- 5A = Unique Light Control (LC) number

A1 = Circuit Number

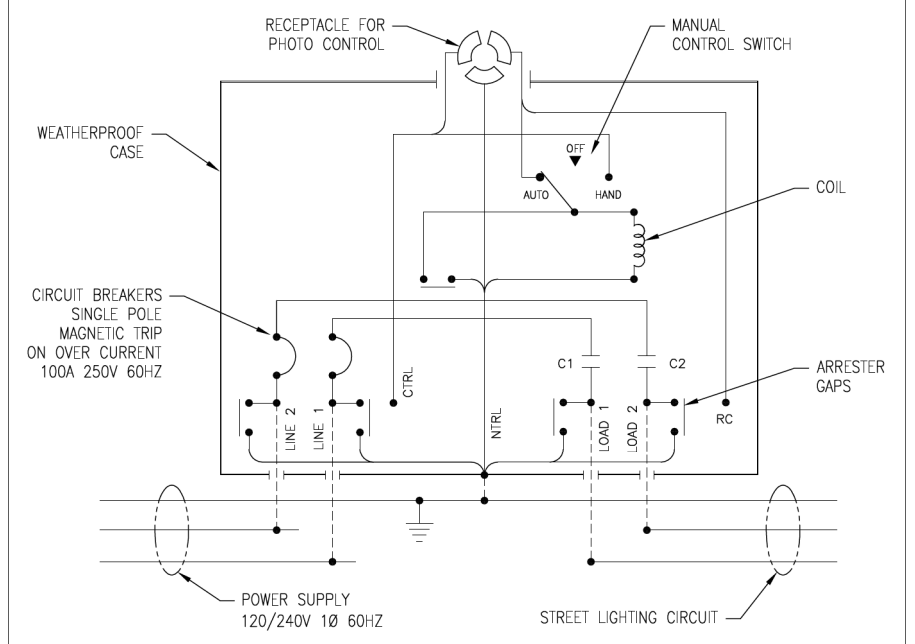


CONTROL TERMINALS WILL ACCEPT #6 THRU #14 AWG WIRE  
 LINE/LOAD TERMINALS WILL ACCEPT #4 THRU #1/0 AWG WIRE

CAST ALUMINUM WEATHERPROOF CASE WITH BRACKET



CONNECTIONS FOR TYPE MR-YO SPEC 6442 STREET LIGHT CONTROL ASS'Y WITH SINGLE POLE MAGNETIC TRIP ON OVERLOAD CIRCUIT BREAKERS.



TWO POLE STREET LIGHT CONTROL ASS'Y WIRED FOR OPERATION WITH 120V PHOTO CONTROL UNIT AND RATED FOR SWITCHING A STREET LIGHTING LOAD WITH NORMAL CURRENT WHICH DOES NOT EXCEED THE LOAD CURRENT RATING SHOWN ON THE NAMEPLATE. IF SUPPLY IS 240/480V, A SEPARATE 120V SOURCE MUST BE CONNECTED TO "CTRL" TERMINAL FOR PC OPERATION.

THE LOCATION OF THE PHOTO CONTROL UNIT MAY BE EITHER AT THE CONTROL ASS'Y AND PLUGGED INTO THE RECEPTACLE PROVIDED FOR SAME, OR AT A REMOTE POINT SUCH AS AN AUXILIARY PHOTO CONTROL MOUNTING ADAPTER OR ANOTHER STREET LIGHT CONTROL ASS'Y.

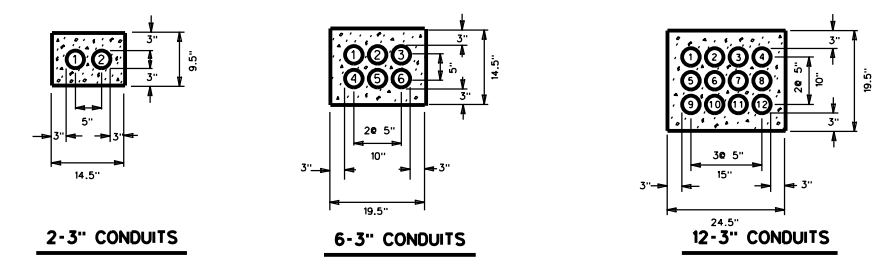
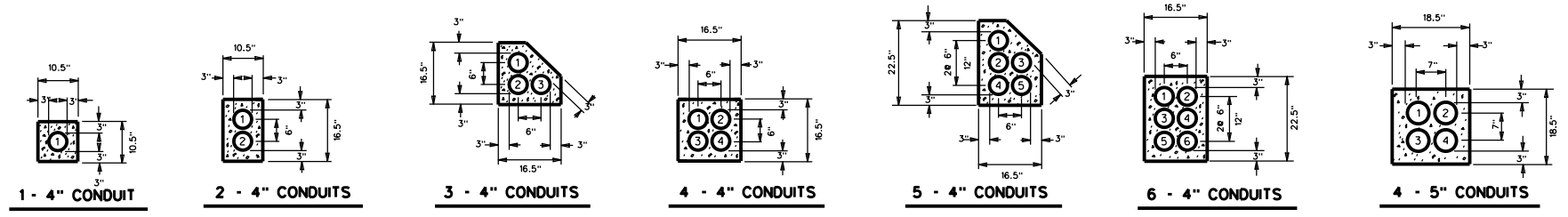
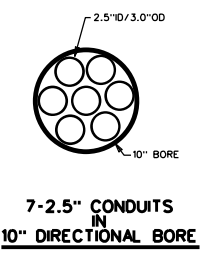
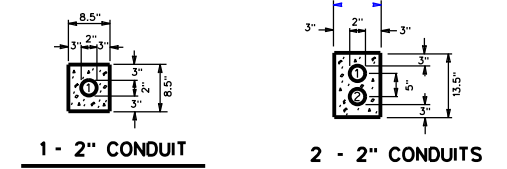
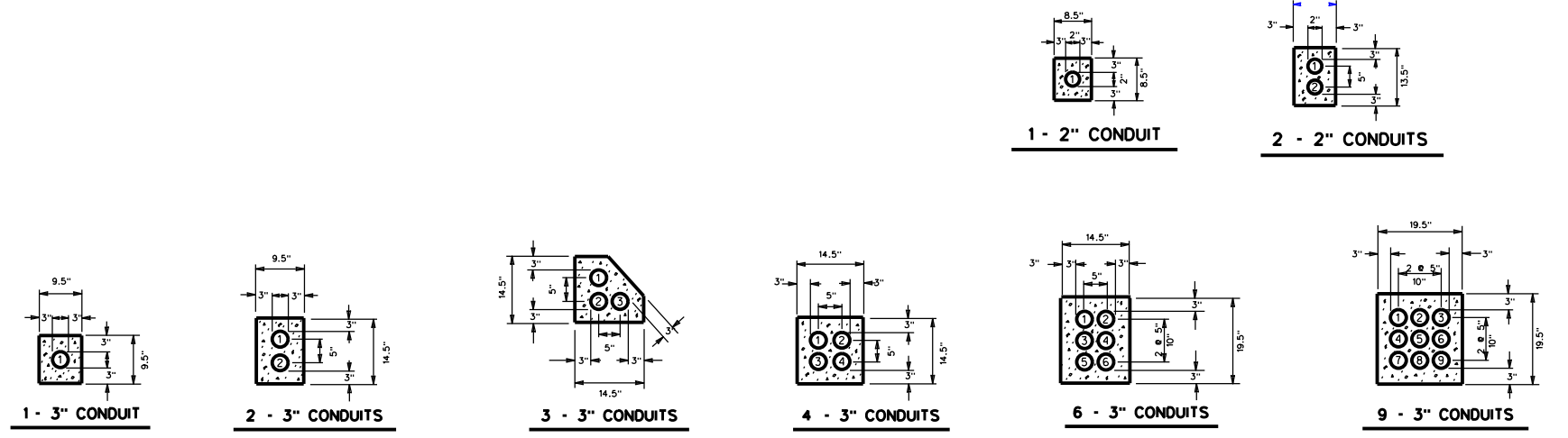
WHEN PHOTO CONTROL IS TO BE REMOTE, CLOSE THE SELF CONTAINED RECEPTACLE FOR PHOTO CONTROL WITH AN OPEN CIRCUITED CAP. ESTABLISH THE OPERATING CIRCUIT BY WIRING FROM THE "RC" TERMINAL TO THE LOAD LEAD OF THE REMOTELY LOCATED AUXILIARY PHOTO CONTROL MOUNTING ADAPTER, OR TO THE "RC" TERMINAL OF ANOTHER STREET LIGHT CONTROL ASS'Y. INTERCONNECTION OF "RC" TERMINALS OF TWO OR MORE STREET LIGHT CONTROL ASSEMBLIES PROVIDES GANG OPERATION WITH A SINGLE PC UNIT.

MANUAL CONTROL SWITCH IS SHOWN IN "AUTO" POSITION AND PHOTO CONTROL ESTABLISHES ON-OFF STREET LIGHT OPERATING SCHEDULE. MANUAL CONTROL SWITCH IN HAND OR OFF POSITIONS BY-PASSES PHOTO CONTROL TO PROVIDE, RESPECTIVELY, STREET LIGHT CIRCUIT ON OR OFF OPERATION. REMOTE PC LOCATION OR GANG OPERATION CONNECTIONS ARE NOT AFFECTED BY OPERATION OF INDIVIDUAL MANUAL CONTROL SWITCHES. HOWEVER, 120V MUST BE AVAILABLE AT EACH STREET LIGHT CONTROL ASSEMBLY TO PERMIT HAND-ON CIRCUIT OPERATION WITH RESPECTIVE MANUAL CONTROL SWITCH.

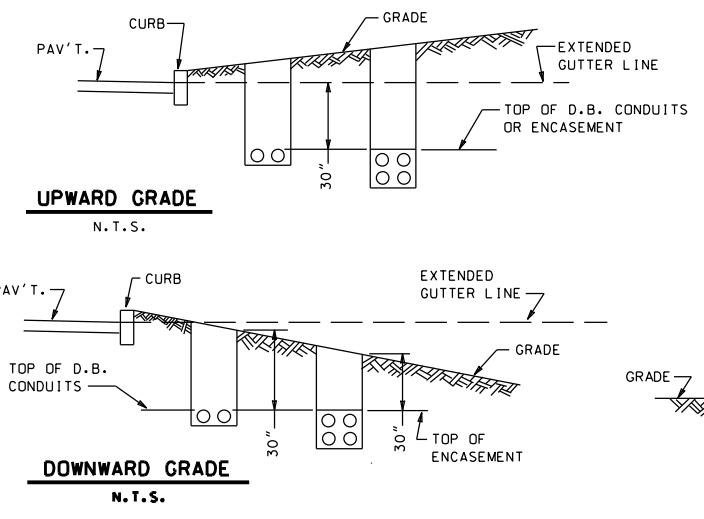
THE RELAY MUST BE ENERGIZED CONTINUOUSLY AT 120V DURING THE TIME OF RELAY CONTACT CLOSURE.

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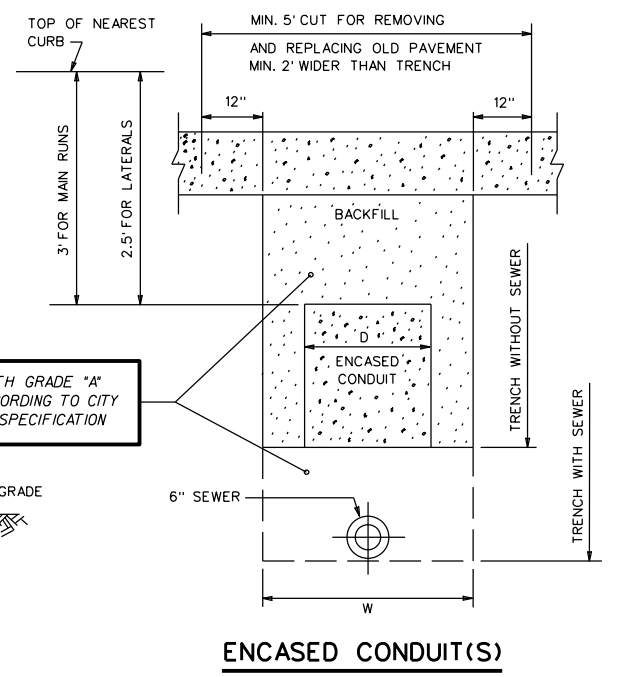
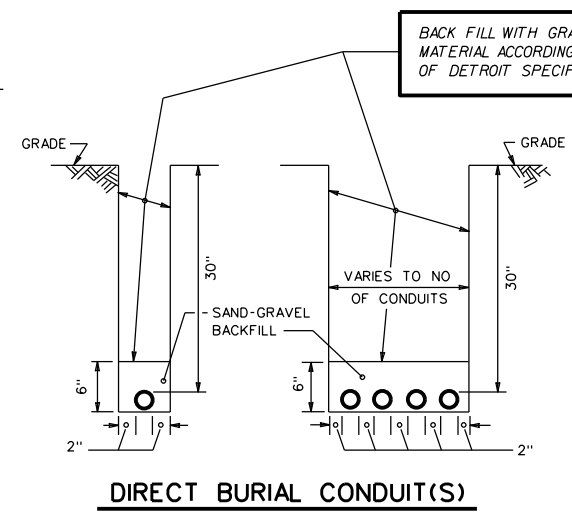
TRINETICS		RELAY ASSEMBLY	
		MR-YO SPEC 6442	
THIRD ANGLE PROJECTION	SIZE B	DRAWN BY G Pietschmann	DATE 7/14/11
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	FAMILY ID C1643	APPROX. WEIGHT 24 LB	SCALE 5/16
			PART NUMBER 31183000



**ALTERNATE ARRANGEMENT OF 3" CONDUIT**  
(TO SUIT FIELD CONDITIONS)  
(TO BE APPROVED BY THE ENGINEER)



**MISCELLANEOUS CONDUIT SECTIONS**

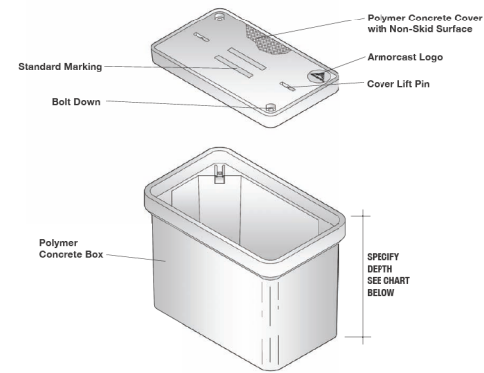


**NOTE:**  
THE PREFERRED TRENCH WIDTH "W" IS THE WIDTH OF "D" OF CONDUIT ENCASEMENT.

**13" x 24" BOX ASSEMBLY**  
12" to 24" DEPTHS



**POLYMER CONCRETE** ARMORCAST PRODUCTS COMPANY  
A6001946



**13"W x 24"L BOX ASSEMBLIES** Specify Depth Below

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY
Box & Cover Assembly	13" x 24" x 12"	10K	8	A6001946APCK12	83 lbs.	15
Box & Cover Assembly	13" x 24" x 18"	20K	15 / 22	A6001946APCK18 / A6001946HAPCK18	91 lbs.	15
Box & Cover Assembly	13" x 24" x 18"	10K	8	A6001946APCK18	117 lbs.	10
Box & Cover Assembly	13" x 24" x 18"	20K	15 / 22	A6001946APCK18 / A6001946HAPCK18	125 lbs.	10
Box & Cover Assembly	13" x 24" x 24"	10K	8	A6001946APCK24	125 lbs.	5
Box & Cover Assembly	13" x 24" x 24"	20K	15 / 22	A6001946APCK24 / A6001946HAPCK24	133 lbs.	5

**COMPONENTS** MORE COVER VARIATIONS ARE AVAILABLE IN OUR "COVER SECTION"

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY
Replacement Covers	13" x 24"	10K	8	A6001866	33 lbs.	60
Replacement Covers	13" x 24"	20K	15 / 22	A6001969 / A6001969HJ	41 lbs.	60
Replacement Boxes	13" x 24" x 12"	10K / 20K	8 / 15	A6001946PCX12	50 lbs.	15
Replacement Boxes	13" x 24" x 18"	10K / 20K	8 / 15	A6001946PCX18	84 lbs.	10
Replacement Boxes	13" x 24" x 24"	10K / 20K	8 / 15	A6001946PCX24	92 lbs.	5

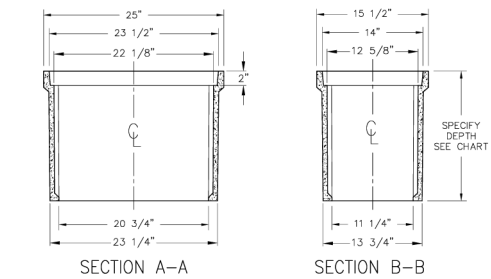
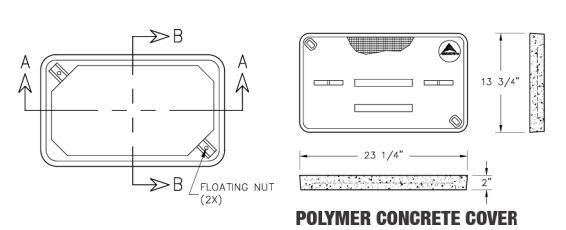
\* Boxes are Open Bottom and Stackable, also available with Solid Bottoms.  
\* For sizes not shown please contact Armorcast Products for more information.  
© 2011 Armorcast Products Company 811  
www.armorcastprod.com Tel: (818) 982-3600 Fax: (818) 982-7742

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**13" x 24" BOX ASSEMBLY**  
STANDARD DIMENSIONS

**POLYMER CONCRETE** ARMORCAST PRODUCTS COMPANY  
A6001946



**POLYMER CONCRETE BOX**

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33

**LITESPHERE**  
The Original Spec Grade Strand Light

**New Very High Output (VHO) LED Module**

23 times brighter than our standard output  
0.96 Watts  
90 Lumens  
Nichia SMD LEDs  
Thermal plastic base for optimal heat dissipation  
12V DC (Low voltage safe)

Dimmable

1900K 2700K 3000K 3500K 4000K 5000K  
Royal Blue Red Green Yellow Amber

**tivoli** APPLICATIONS | Litesphere

Community Decoration - Fairs and Festivals - Restaurants - Street Scene - Shopping Centers

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**tivoli** GUIDE | Litesphere

Strand 12V DC Shatterproof IP65 Made in USA Dimmable 5YR Warranty

**Features**

Socket and cord color available in Black or White  
Fitted O-Ring for IP65 rating  
Nichia SMD LED's L70 @ 60,000 hours STD, HO, or VHO LED's  
Shatterproof UV stabilized Polycarbonate globe.

**Mounting**

Catenary cable hangers (Hanger clips included, cable available)  
Direct/Surface

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**tivoli** PHOTOMETRY | Litesphere

**Standard Spacing Options & Max Run Chart**  
(Custom spacing available, please consult factory)

**Globes Available**

Clear (L/V) Frosted (L/V) Saber (V) Flare (V)  
Yellow Red Orange Green Blue Purple

Standard Output High Output Very High Output

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**tivoli** SPEC | Litesphere

Project: \_\_\_\_\_  
Type: \_\_\_\_\_ Length: \_\_\_\_\_  
Notes: \_\_\_\_\_

**Ordering Information**

Product	Wire	Spacing	LED Type	CCT	Globe	Voltage
Litesphere	B Black W White	06 6"OC 12 12"OC 18 18"OC 24 24"OC CS Custom	V Very High Output H High Output S Standard Output	19 1900K 27 2700K 30 3000K 35 3500K 40 4000K 50 *5000K AM *Amber RB *Royal Blue RD *Red GN *Green YL *Yellow	C Clear F Frosted Y Yellow R Red O Orange G Green B Blue P Purple Z Varied Colors	12 12V DC

V LED required  
S Saber  
L Flare

\*Available in VHO LED only For colored globes, 3500K recommended.

**Tivoli manufactures Litesphere to your specified lengths.**  
Individual lengths and runs must be specified at time of ordering as a separate line item.  
See page 7 for run length ordering information

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**tivoli** Lengths and Run Ordering

Standard 2' power lead

Lengths and Run Ordering Examples

L25 3  
Length in feet Number of Runs

25' End Cap

With the example above, you will receive 3 runs at 25' with standard factory 2' power lead with black wire.

**Replacement Parts**

LS Globes: All replacement globes come with (1) foam washer each.

LS-CG Clear LS-FG Frosted LS-SG Saber LS-FG Flare LS-YG Yellow LS-RG Red LS-OG Orange LS-GG Green LS-BG Blue LS-PG Purple

Very High Output Standard & High Output

LS-HANG-CLIP Hanger clip for installation from 8 gauge stainless steel aircraft cable (Sold Each)

LS-UVZP-BK-50 UV Zip Ties 50 pack bag of UV resistant heavy duty ties. Maximum length up to 100 lbs per tie.

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**tivoli** Mounting Accessories

10 - CABLE KITS 20 - CABLE LOCKS

LS-CABLE-60 Catenary Cable Kit - 60'  
LS-CABLE-110 Catenary Cable Kit - 110'  
LS-CABLE-500 Catenary Cable Kit - 500'  
LS-LOCK-4 Cable Lock 1/8th Cable  
LS-TT Catenary Tensioning Tool

**Power Supplies**

**NON DIMMING 5 NON DIMMING ADNM-60-1-5-12-D**

CAT NO	PRIMARY AND SECONDARY	TOTAL WATTAGE / AMPS PER BREAKER	MIN LOAD	DIMENSIONS	LISTING
ADNM-60-1-5-12-D	120-277VAC 12V DC	60W / 10A	6.00" W X 6.00" L X 4.00" D		
ADNM-150-2-5-12-D	120-277VAC 12V DC	120W / 20A			NEMA/UL listed
ADNM-240-3-5-12-D	120-277VAC 12V DC	180W / 30A		10.00" W X 10.00" L X 10.00" D	
ADNM-320-4-5-12-D	120-277VAC 12V DC	240W / 40A			

**ELV DIMMING**

CAT NO	PRIMARY AND SECONDARY	TOTAL WATTAGE / AMPS PER BREAKER	MIN LOAD	DIMENSIONS	LISTING
EMM601512	120VAC 12V DC	60W / 5A	3W	3.81" W X 1.41" L X 2.34" D	cETLus
EMM601528	120VAC 12V DC	60W / 5A	30W	3.81" W X 8.11" L X 1.39" D	cETLus
EMM601538	277VAC 12V DC	60W / 5A	30W	3.81" W X 8.11" L X 1.39" D	cETLus

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**Public Lighting Authority of Detroit**  
165 Cadillac Square, Suite 3100  
Detroit, Michigan 48226  
313-324-8290 office  
313-636-2905 fax  
info@detroit.org

**PROJECT DESCRIPTION**  
DESIGN ENGINEERING FOR RIOPELLE STREETSCAPE  
I-75 SERVICE DRIVE TO DIVISION  
STRAND LIGHTING DETAILS  
SHEET 1 OF 3

Consulting Engineering Associate and Wade Trim Joint Venture  
16580 Wyoming  
Detroit, Michigan 48221  
313-341-5797

**Consulting Engineering Associates, Inc.** **WADE TRIM**

**REVISIONS**

DATE:	DESCRIPTION:

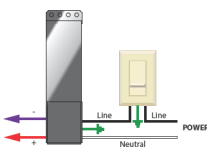
**SHEET DT-20.1**

FIG. NO. 1702 JOB NO. 142814  
PAGE 87 OF



POWER | Litesphere

Power Supplies Cont.

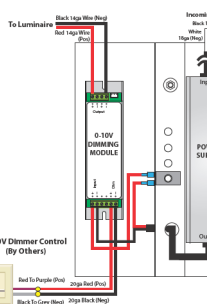


MLV DIMMING

Table with columns: CAT NO, PRIMARY AND SECONDARY, TOTAL WATTAGE/AMPS PER BREAKER, MIN LOAD, DIMENSIONS, LISTING. Lists various MLV dimming units.

\*Lowest operating temperature -40°F

Table with columns: DESCRIPTION, CAT NO, INPUT VOLTAGE, CONTINUOUS MAX WATTAGE, CONTINUOUS MAX VOLTAGE, MAX CLAMPING VOLTAGE, DIMENSION. Lists input/output specifications.



0-10V DIMMING

Table with columns: CAT NO, PRIMARY AND SECONDARY, TOTAL WATTAGE/AMPS PER BREAKER, DIMENSIONS, LISTING. Lists various 0-10V dimming units.

Back to Cover (Step 1) Page 10 of 10

Back to Cover (Step 2) Page 11 of 10

Back to Cover (Step 3) Page 12 of 10

Back to Cover (Step 4) Page 13 of 10

Back to Cover (Step 5) Page 14 of 10

Back to Cover (Step 6) Page 15 of 10

Back to Cover (Step 7) Page 16 of 10

Back to Cover (Step 8) Page 17 of 10

Back to Cover (Step 9) Page 18 of 10

Back to Cover (Step 10) Page 19 of 10

Back to Cover (Step 11) Page 20 of 10

Back to Cover (Step 12) Page 21 of 10

Back to Cover (Step 13) Page 22 of 10

Back to Cover (Step 14) Page 23 of 10

Back to Cover (Step 15) Page 24 of 10

Back to Cover (Step 16) Page 25 of 10

Back to Cover (Step 17) Page 26 of 10

Back to Cover (Step 18) Page 27 of 10

Back to Cover (Step 19) Page 28 of 10

Back to Cover (Step 20) Page 29 of 10

Back to Cover (Step 21) Page 30 of 10

Back to Cover (Step 22) Page 31 of 10

Back to Cover (Step 23) Page 32 of 10

Back to Cover (Step 24) Page 33 of 10

Back to Cover (Step 25) Page 34 of 10

Back to Cover (Step 26) Page 35 of 10

Back to Cover (Step 27) Page 36 of 10

Back to Cover (Step 28) Page 37 of 10

Back to Cover (Step 29) Page 38 of 10

Back to Cover (Step 30) Page 39 of 10

Back to Cover (Step 31) Page 40 of 10

Back to Cover (Step 32) Page 41 of 10

Back to Cover (Step 33) Page 42 of 10

Back to Cover (Step 34) Page 43 of 10

Back to Cover (Step 35) Page 44 of 10

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Back to Cover (Step 37) Page 46 of 10

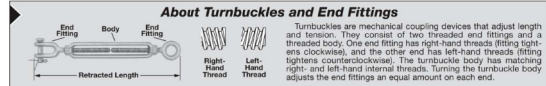
Back to Cover (Step 38) Page 47 of 10

Back to Cover (Step 39) Page 48 of 10

Back to Cover (Step 40) Page 49 of 10

Back to Cover (Step 41) Page 50 of 10

Turnbuckles 533-4009 1 OF 1



Turnbuckles About Turnbuckles and End Fittings

Turnbuckles are mechanical coupling devices that adjust length and tension. They consist of two threaded end fittings and a threaded body. One end fitting has right-hand threads fitting tightens clockwise, and the other end has left-hand threads fitting tightens counterclockwise. The turnbuckle body has matching right- and left-hand internal threads. Turning the turnbuckle body adjusts the end fittings an equal amount on each end.

Suited to your toughest applications, these turnbuckles have a strong, seamless, forged construction (unless noted). Clevis end fittings include a clevis pin with cotter pin. Stub end fittings are unthreaded. Stub end fittings are fully threaded. End fittings with oval eyes have more room than round eyes to attach connectors.



Table with columns: Cap., Retracted Length, Max. Adjust. Length, Thread Size. Lists specifications for Galvanized Steel with Round Eyes.

Table with columns: Cap., Retracted Length, Max. Adjust. Length, Thread Size. Lists specifications for 316 Stainless Steel with Oval Eyes.

Table with columns: Cap., Retracted Length, Max. Adjust. Length, Thread Size. Lists specifications for Galvanized Steel with Round Eyes.

Table with columns: Cap., Retracted Length, Max. Adjust. Length, Thread Size. Lists specifications for 316 Stainless Steel with Oval Eyes.

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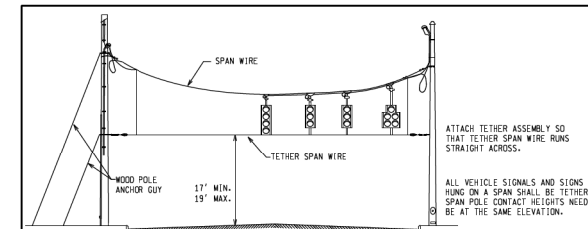
Table with columns: Cap., Retracted Length, Max. Adjust. Length, Thread Size. Lists specifications for Galvanized Steel with Round Eyes.

Table with columns: Cap., Retracted Length, Max. Adjust. Length, Thread Size. Lists specifications for 316 Stainless Steel with Oval Eyes.

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Table with columns: Cap., Retracted Length, Max. Adjust. Length, Thread Size. Lists specifications for Galvanized Steel with Round Eyes.

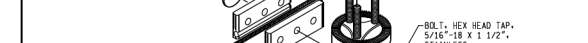


ELEVATION VIEW: BOTTOM TETHER INSTALLATION

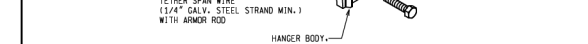
ATTACH TETHER ASSEMBLY SO THAT TETHER SPAN WIRE RUNS STRAIGHT ACROSS. ALL VEHICLE SIGNALS AND SIGNS HUNG ON A SPAN SHALL BE TETHERED. SPAN POLE CONTACT HEIGHTS NEED NOT BE AT THE SAME ELEVATION.



DETAIL "C": TETHER ASSEMBLY TRI-STUD BREAK-A-WAY

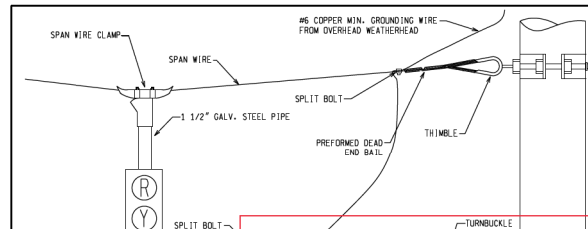


DETAIL "D": BREAK-AWAY TETHER ASSEMBLY FOR BOTTOM OF SIGNAL HEAD



TURNBUCKLE DETAIL

NOT TO SCALE. MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN. FHWA APPROVAL DATE. PLAN DATE. SIC-305-B SHEET.



BOTTOM TETHER SPAN WIRE STEEL POLE CONNECTION

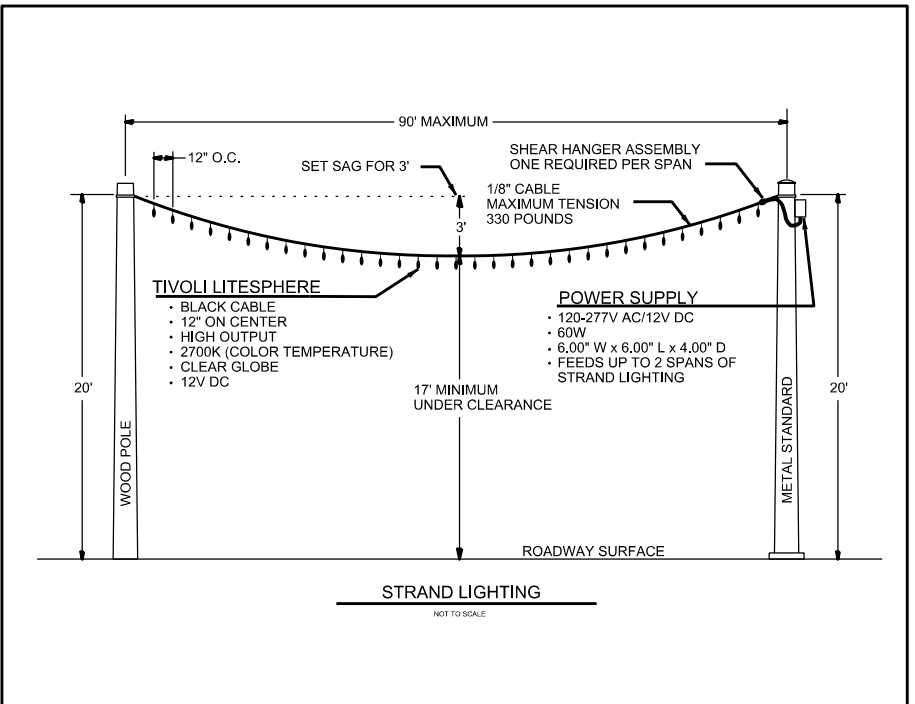
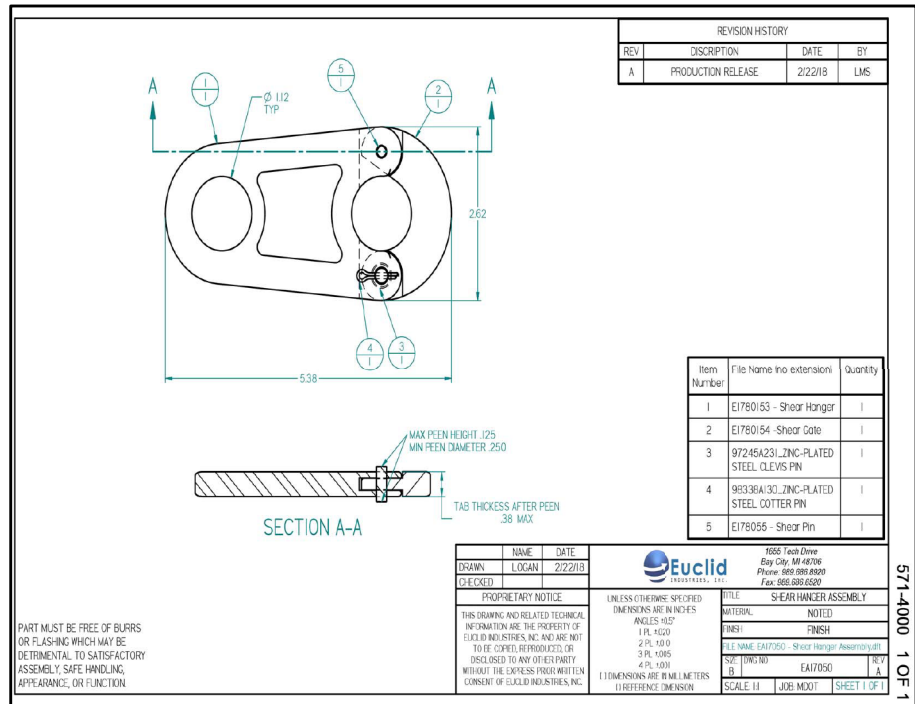
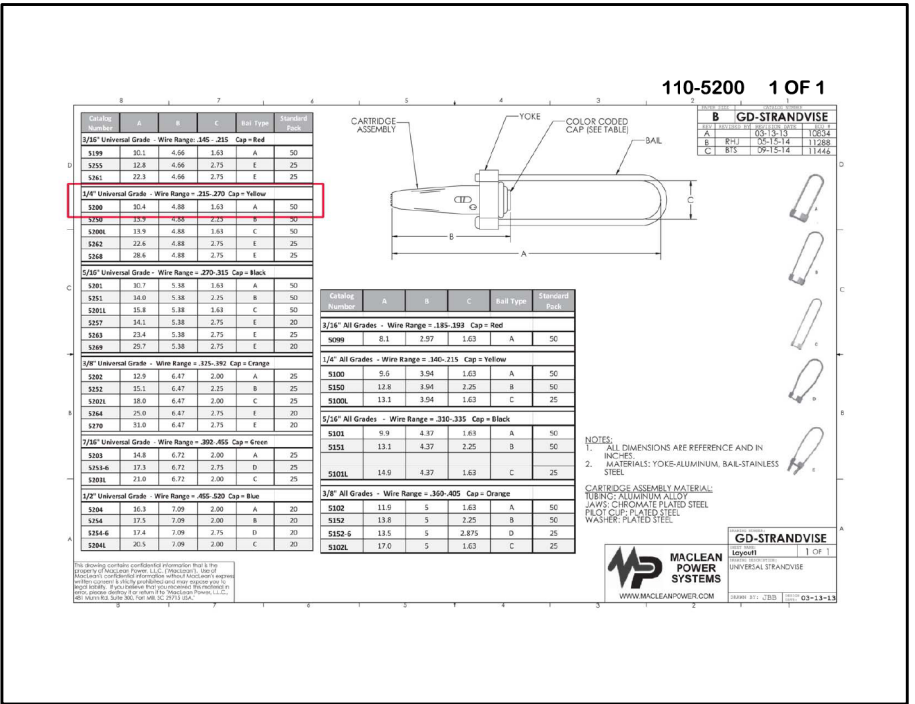
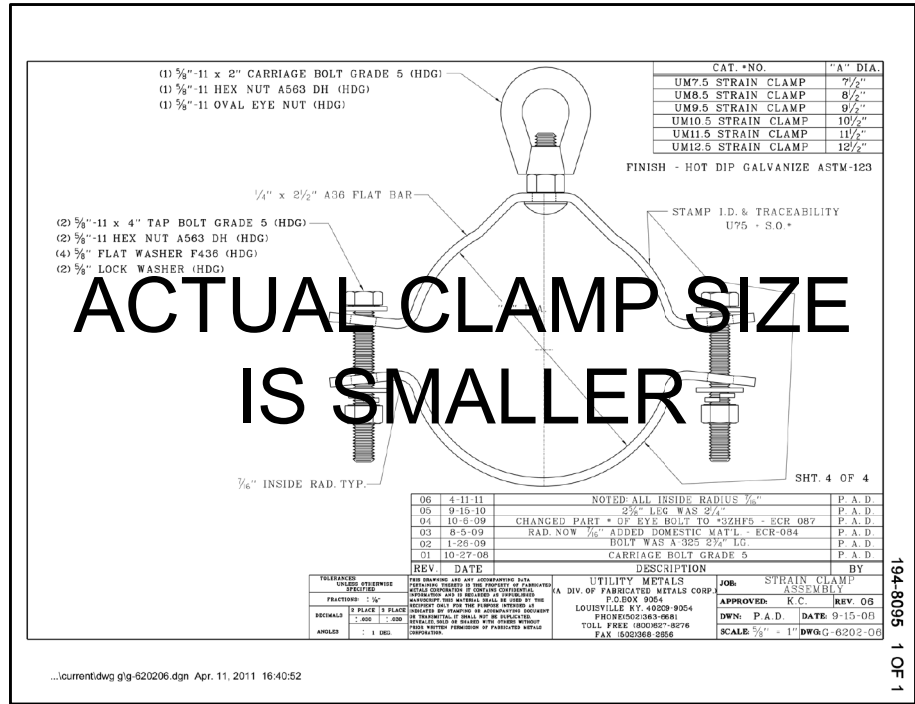
REFER TO BREAK-AWAY TETHER ASSEMBLY SEE DETAIL "C". INSTALL THE TETHER WIRE WITH 500 TO 750 LBS. TENSION.



BOTTOM TETHER SPAN WIRE WOOD POLE CONNECTION

REFER TO BREAK-AWAY TETHER ASSEMBLY SEE DETAIL "C". INSTALL THE TETHER WIRE WITH 500 TO 750 LBS. TENSION.

NOT TO SCALE. MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN. FHWA APPROVAL DATE. PLAN DATE. SIC-305-B SHEET.



**PROJECT NO. 2018087C DATE STARTED: 10/19/2018 DATE COMPLETED: 10/19/2018 LOG OF TEST BORING B-01**

ELEVATION ft	LOG OF SOIL PROFILE	DEPTH (ft)	FIELD DATA		LABORATORY DATA							▼ SPT N VALUE ▼							
			SAMPLE NO.	NO. OF BLOWS FOR 6-inch DRIVE	N VALUE	SAMPLE TIP DEPTH (ft)	UNCONFINED COMP STRENGTH (psf)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200	10	20	30	40			
620.7	Ground Surface Elevation 621 ft 3.25 inches of ASPHALTIC CEMENT CONCRETE	0																	
620.2	6.75 inches of PORTLAND CEMENT CONCRETE	0.3																	
618.0	FILL - Stiff lean clay with sand, few gravel, mottled grayish brown and gray (CL)	3.0	SS1	5-3-5-5	8	3.0	3000*	20.9											
616.0	FILL - Stiff lean clay, few sand, trace gravel, mottled grayish brown and gray (CL)	5.0	SS2	4-3-3-5	6	5.0	3500*	20.8											
	End of Boring at 5 ft.	5																	

LOG OF TEST BORING 2018087C SOIL BORING LOGS.GPJ SOMAT.GDT 10/24/18

**GROUNDWATER READINGS**  
 First Encountered: none  
 Upon Completion: none  
**BORING LOCATION INFORMATION**  
 Latitude: 42.34696  
 Longitude: -83.03934

Drilling Company: Strata Drilling  
 Drill Rig: CME-45  
 Engineer on Rig: H. Verduce  
 Drilling Method: 2 1/4 inch HSA  
 Method Notes: ---  
 Hammer Type: Automatic  
 Backfilled With: Grout/Core/Patch  
 Checked By: JDH  
 QA/QC By: JA  
 Remarks:



**City of Detroit Program Management Services**  
 Riopelle Street between Division Street and the  
 Gratiot Connector Service Drive  
 Detroit, Michigan

Coordinates/GSE determined by:  
 Estimated from Google Earth satellite imagery and hand-held GPS unit.

10/24/18

**PROJECT NO. 2018087C DATE STARTED: 10/19/2018 DATE COMPLETED: 10/19/2018 LOG OF TEST BORING B-02**

ELEVATION ft	LOG OF SOIL PROFILE	DEPTH (ft)	FIELD DATA		LABORATORY DATA							▼ SPT N VALUE ▼							
			SAMPLE NO.	NO. OF BLOWS FOR 6-inch DRIVE	N VALUE	SAMPLE TIP DEPTH (ft)	UNCONFINED COMP STRENGTH (psf)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200	10	20	30	40			
619.4	Ground Surface Elevation 620 ft 7.25 inches of ASPHALTIC CEMENT CONCRETE	0																	
618.5	Field Engineer reported sand and gravel FILL (Base Material)	0.6																	
615.0	FILL - Very stiff to stiff lean clay, few sand, trace gravel, mottled grayish brown and gray (CL)	1.5	SS1	6-5-4-3	9	3.0	5000*	19.7											
615.0		5.0	SS2	2-3-3-3	6	5.0	3500*	18.2											
	End of Boring at 5 ft.	5																	

LOG OF TEST BORING 2018087C SOIL BORING LOGS.GPJ SOMAT.GDT 10/24/18

**GROUNDWATER READINGS**  
 First Encountered: none  
 Upon Completion: none  
**BORING LOCATION INFORMATION**  
 Latitude: 42.347298  
 Longitude: -83.038892

Drilling Company: Strata Drilling  
 Drill Rig: CME-45  
 Engineer on Rig: H. Verduce  
 Drilling Method: 2 1/4 inch HSA  
 Method Notes: ---  
 Hammer Type: Automatic  
 Backfilled With: Grout/Core/Patch  
 Checked By: JDH  
 QA/QC By: JA  
 Remarks:



**City of Detroit Program Management Services**  
 Riopelle Street between Division Street and the  
 Gratiot Connector Service Drive  
 Detroit, Michigan

Coordinates/GSE determined by:  
 Estimated from Google Earth satellite imagery and hand-held GPS unit.

10/24/18

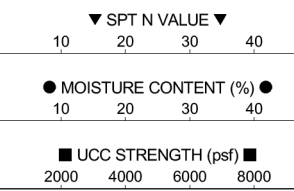
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							NO SCALE	DATE: 04/23/19	JN: PW-7008 RIOPELLE	SOIL BORINGS RIOPELLE STREETScape	DRAWING RIO BORING 001	SHEET 90
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE							

FILE: BORING001.dgn



PROJECT NO. 2018087C DATE STARTED: 10/19/2018 DATE COMPLETED: 10/19/2018 LOG OF TEST BORING B-03

ELEVATION ft	LOG OF SOIL PROFILE	DEPTH (ft)	FIELD DATA				LABORATORY DATA													
			SAMPLE NO.	NO. OF BLOWS FOR 6-inch DRIVE	N VALUE	SAMPLE TIP DEPTH (ft)	UNCONFINED COMP STRENGTH (psf)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200								
619.4	Ground Surface Elevation 620 ft 7.5 inches of PORTLAND CEMENT CONCRETE	0																		
617.0	FILL - Stiff lean clay, few sand, trace gravel, mottled brown and gray (CL)	3.0	SS1	5-7-6-7	13	3.0	3000*	18.7												
612.0	FILL - Medium lean clay with sand, few gravel, frequent silt pockets, occasional gravel pockets, mottled brown and gray (CL)	5.0	SS2	2-2-2-2	4	5.0	1000#	24.7												
612.0		8.0	SS3	2-4-3	7	7.5	1000#	24.4												
610.0	Hard LEAN CLAY, trace sand, trace gravel, mottled brown and gray (CL)	10.0	SS4	7-15-11-9	26	10.0	9000+*	12.8												
	End of Boring at 10 ft.	10																		



LOG OF TEST BORING 2018087C SOIL BORING LOGS.GPJ SOMAT.GDT 10/24/18

**GROUNDWATER READINGS**  
 First Encountered: none  
 Upon Completion: none

**BORING LOCATION INFORMATION**  
 Latitude: 42.346679  
 Longitude: -83.038558

**KEY**  
 # Torvane  
 \* Penetrometer  
 <> Disturbed Sample

Drilling Company: Strata Drilling  
 Drill Rig: CME-45  
 Engineer on Rig: H. Verduce  
 Drilling Method: 2 1/4 inch HSA  
 Method Notes: ---  
 Hammer Type: Automatic  
 Backfilled With: Grout/Core/Patch  
 Checked By: JDH  
 QA/QC By: JA  
 Remarks:  
 Due to utilities, boring was offset to sidewalk.

Coordinates/GSE determined by:  
 Estimated from Google Earth satellite imagery and hand-held GPS unit.

**SE Somat Engineering**  
 City of Detroit Program Management Services  
 Riopelle Street between Division Street and the  
 Gratiot Connector Service Drive  
 Detroit, Michigan

PAGE 1 of 1

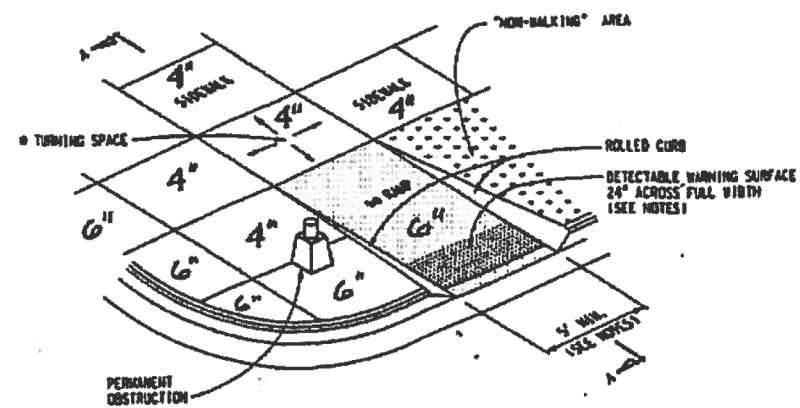
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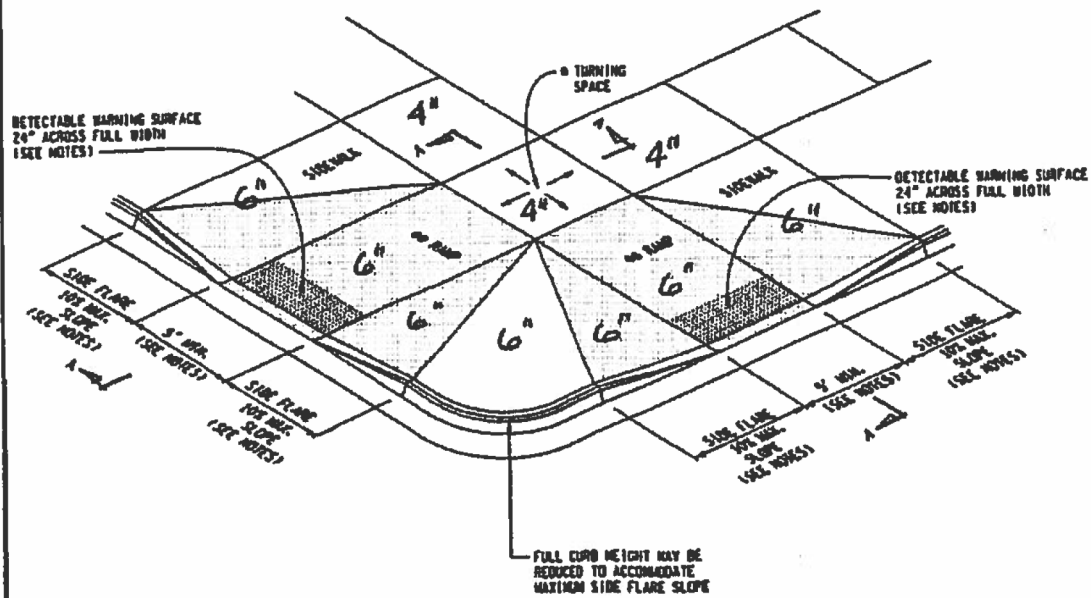
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• MAXIMUM TURNING SPACE SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.  
 • MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



**SIDEWALK RAMP TYPE R**  
(ROLLED SIDES)



**SIDEWALK RAMP TYPE F**  
(FLARED SIDES, TWO RAMPS SHOWN)



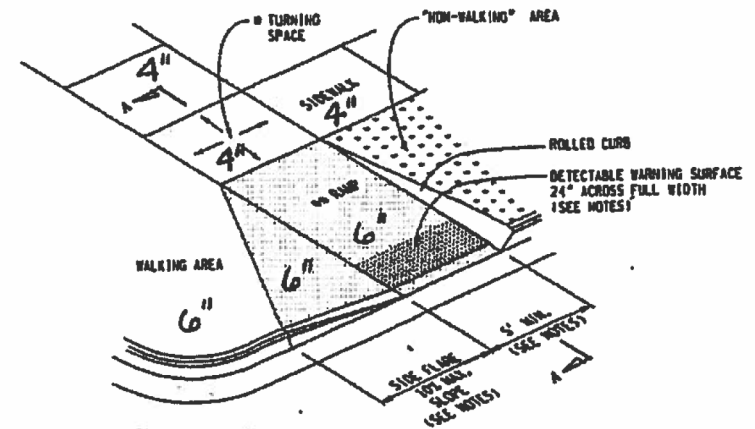
CITY OF DETROIT

DEPARTMENT OF PUBLIC WORKS, CITY ENGINEERING DIVISION  
**SIDEWALK RAMP AND  
 DETECTABLE WARNING DETAILS**  
 R-28-1 WITH CITY OF DETROIT  
 THICKNESS AMENDMENT

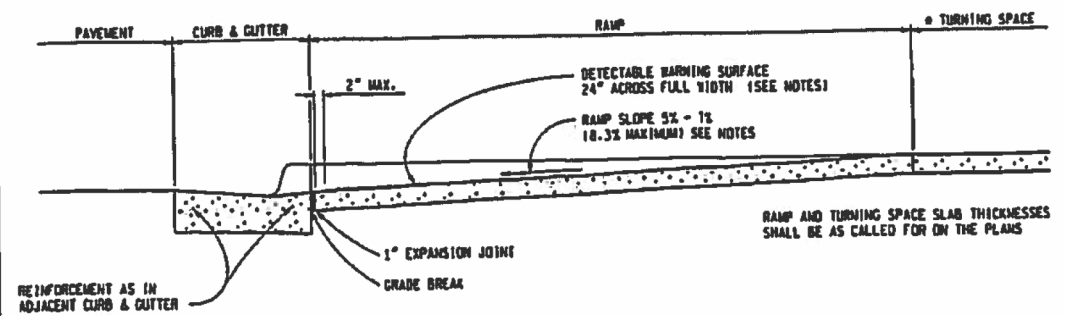
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SHEET 1 OF 7

• MAXIMUM TURNING SPACE SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.  
 • MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



**SIDEWALK RAMP TYPE RF**  
(ROLLED / FLARED SIDES)



**SECTION A-A**

••• TRANSITION ADJACENT CUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.  
 PAYMENT SHALL END FLUSH WITH THE GUTTER PAN  
 RAMP SLOPE  
 RAMP SHALL END FLUSH WITH BACK OF CURB  
 ••• 5.0% MAX.

**SECTION THROUGH CURB CUT**  
(TYPICAL ALL RAMP TYPES)



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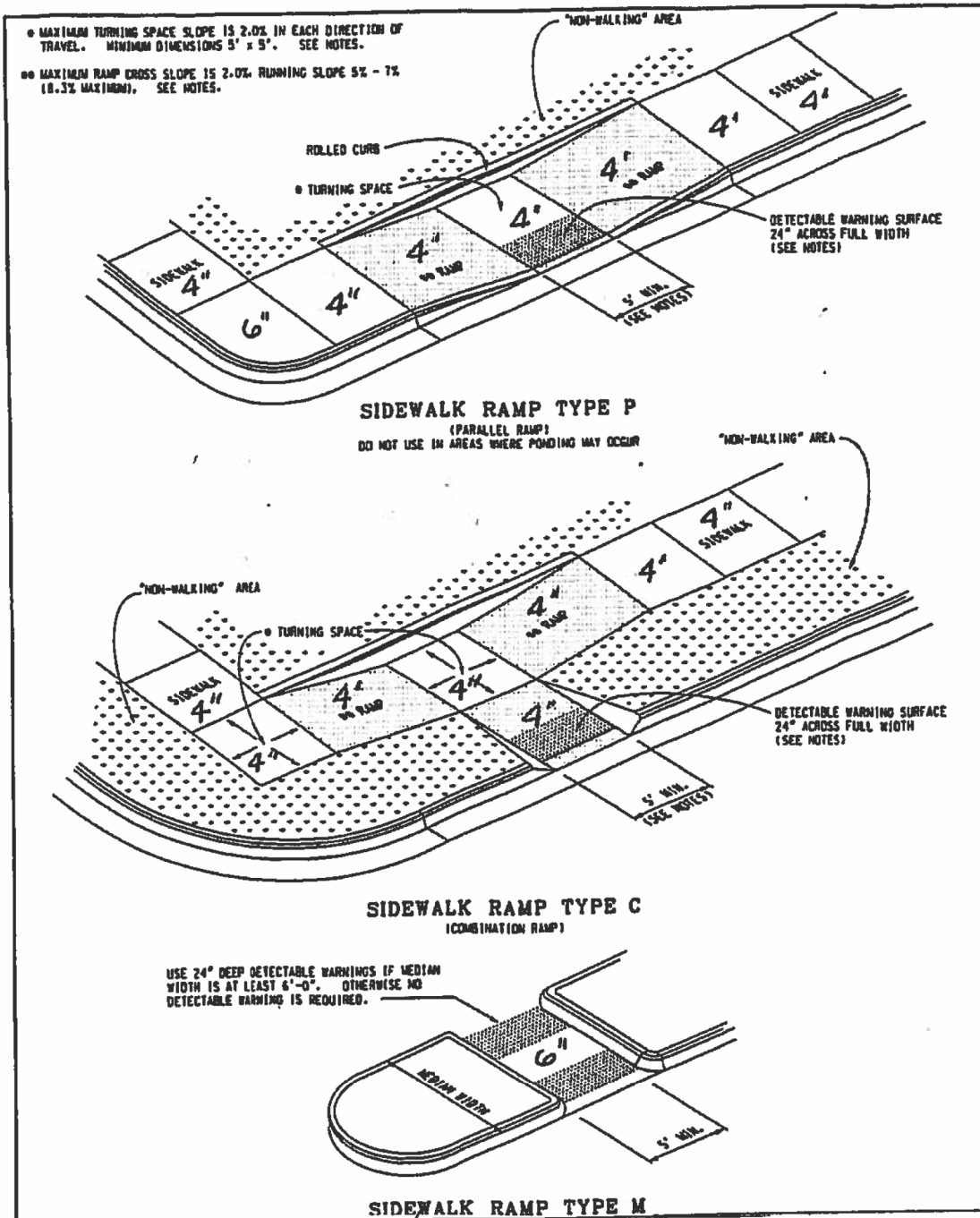
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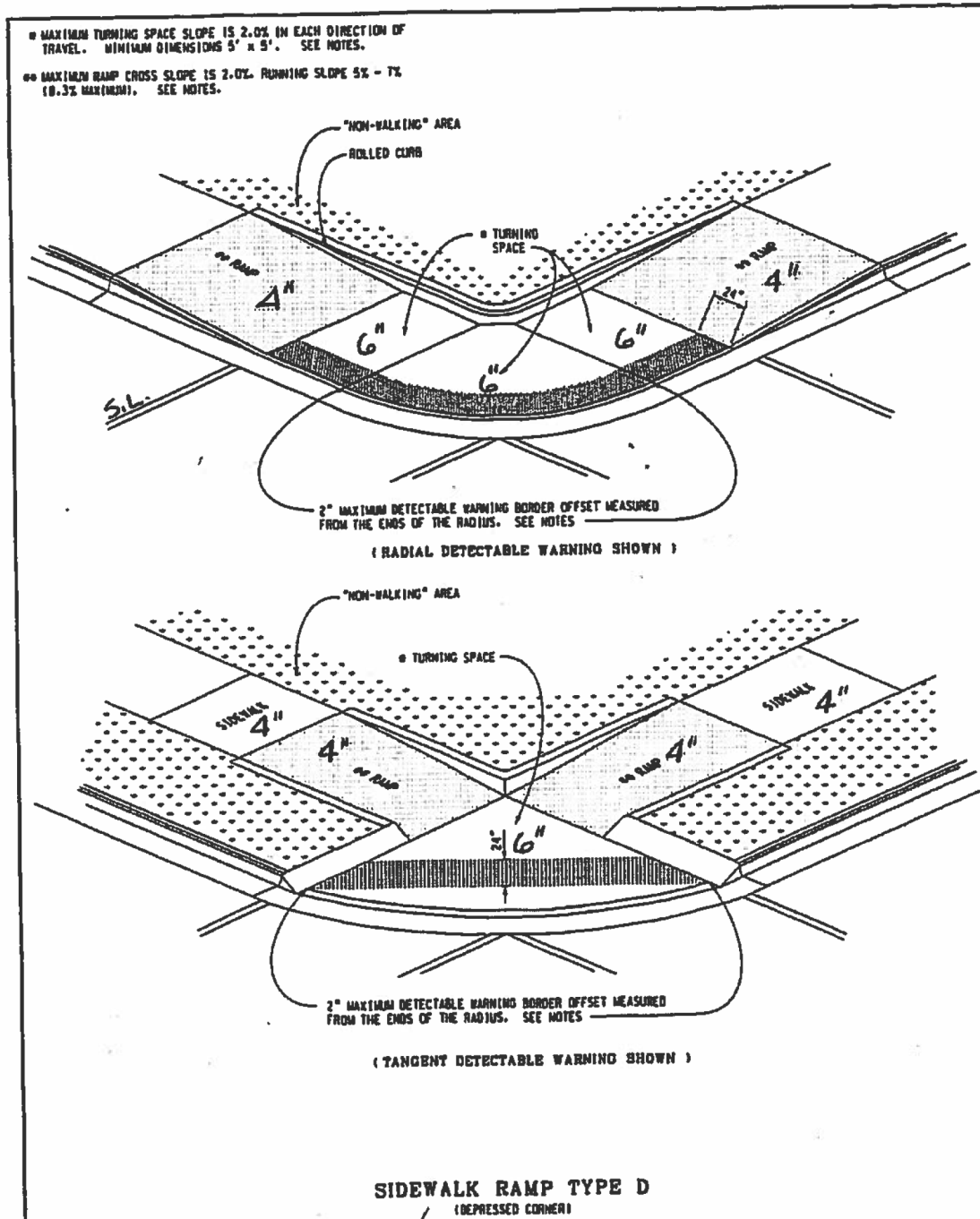
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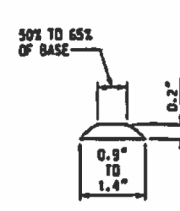
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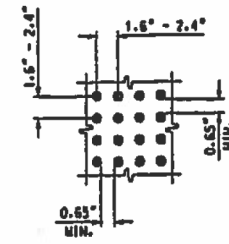
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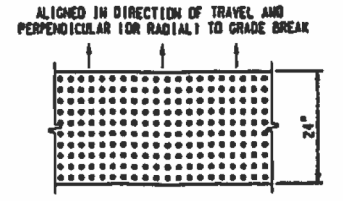




DOME SECTION



DOME SPACING



DOME ALIGNMENT

**DETECTABLE WARNING DETAILS**

**NOTES:**

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

SIDEWALK RAMP ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMP SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMP SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROODING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

PROVIDE TURNING SPACES WHERE PEDESTRIAN TURNING MOVEMENTS ARE REQUIRED.

WHEN 5' MINIMUM WIDTHS ARE NOT FEASIBLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND TURNING SPACES TO NOT LESS THAN 4' x 4'.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADIUS.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2.0%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 0.3% IS RELATIVE TO A FLAT 10% REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMP TO EXCEED 15 FEET IN LENGTH.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMP. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN 1/2" ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

TRANSITION THE GUTTER PAN CROSS SECTION SUCH THAT THE COUNTER SLOPE IN THE DIRECTION OF RAMP TRAVEL IS NOT GREATER THAN 5.0%. MAINTAIN THE NORMAL GUTTER PAN CROSS SECTION ACROSS DRAINAGE STRUCTURES.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

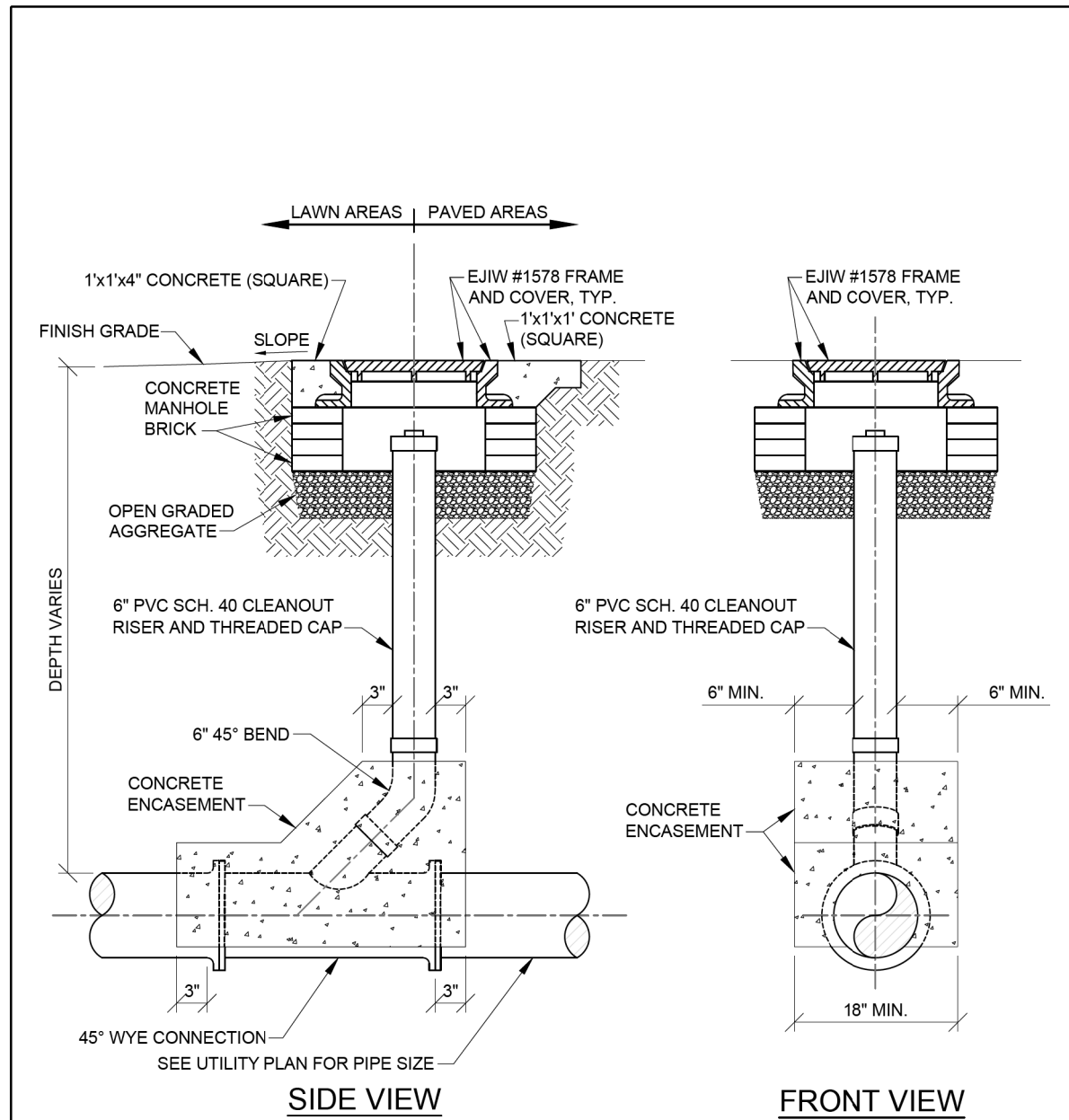
FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.



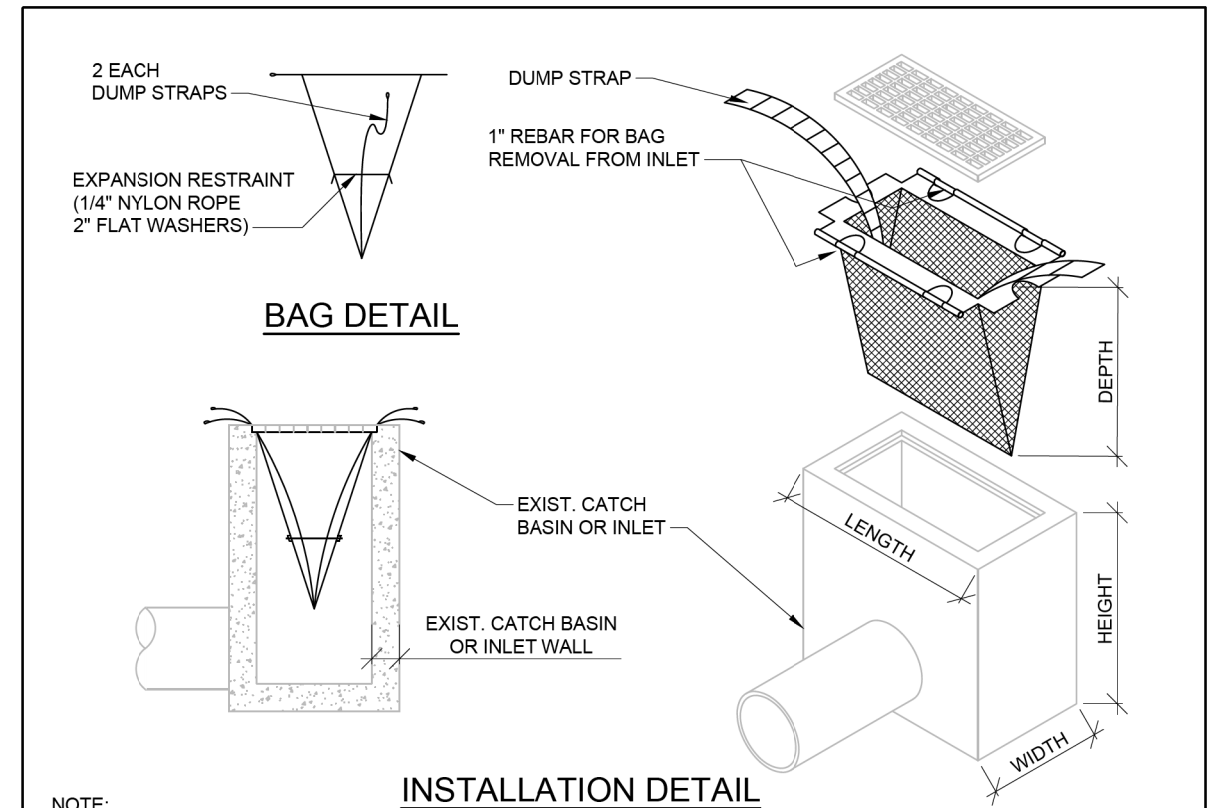
DEPARTMENT OF PUBLIC WORKS, CITY ENGINEERING DIVISION  
**SIDEWALK RAMP AND  
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<b>CLEANOUT</b>		<p>CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION</p>
SCALE	1 OF 1	
NONE	SHEET	
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9/2018	DWG. No.	



**NOTE:**  
TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL PAVED CATCH BASINS OR STORM INLETS. SEDIMENT FILTERS TO BE SIMILAR TO:

- "SILTSACK" TYPE B, REGULAR FLOW, BY ACF ENVIRONMENTAL, INC.
- "INLET PRO SEDIMENT BAG", STANDARD FLOW, WITH OPTIONAL FOAM DEFLECTOR BY HANES GEO COMPONENTS.
- "DANDY CURB SACK" BY DANDY PRODUCTS, INC.
- "BASIN BAG", REGULAR FLOW BY CSI GEOTURF, CLEAN FILTER AS NEEDED.

**GENERAL NOTES**

- CONTRACTOR SHALL OBTAIN PERMISSION OF THE ENFORCING ROAD AGENCY BEFORE THIS TYPE OF CONTROL IS CONSTRUCTED IN THE ROAD RIGHT-OF-WAY.
- CONTRACTOR SHALL KEEP CURBS & GUTTER INLET FILTERS (AFTER PAVING) IN PLACE UNTIL ALL AREAS CONTRIBUTING TO THEM ARE STABILIZED WITH VEGETATION.
- CONTRACTOR SHALL PERFORM WEEKLY INSPECTION AND MAINTENANCE TO ENSURE THAT THE CURB & GUTTER INLET FILTER (AFTER PAVING) OPERATES EFFICIENTLY.

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<b>INLET PROTECTION FABRIC DROP</b>		<p>CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION</p>
SCALE	1 OF 1	
NONE	SHEET	
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09/2018	DWG. No.	

**SOIL EROSION AND SEDIMENTATION CONTROL**  
**TEMPORARY FACILITIES**


THE CONTRACTOR SHALL CONSTRUCT THIS PROJECT IN COMPLIANCE WITH PART 91 OF ACT NO. 451 OF 1994, NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, OF THE MICHIGAN COMPILED LAWS ENTITLED "SOIL EROSION AND SEDIMENTATION CONTROL" UNDER THE CONTROL OF THE LOCAL PERMIT AGENCY CHARGED WITH ADMINISTERING THE PROVISIONS OF THIS ACT. THE CONTRACTOR SHALL FOLLOW THE PROCEDURES DELINEATED BELOW AND CONSTRUCT AND MAINTAIN THE FACILITIES SHOWN ON THE DRAWINGS TO CONTROL WATER AND WIND EROSION DURING CONSTRUCTION OF THIS PROJECT.

ALL DISTURBED SURFACE AREA (INCLUDING UTILITY TRENCHES) SHALL BE TEMPORARILY GRADED AND/OR DITCHED TO DIRECT ALL WATER RUNOFF FROM SUCH AREAS TO SEDIMENTATION CONTROL DEVICES WHICH WILL PREVENT WATER CARRYING ERODED SOIL FROM ENTERING A WATERCOURSE, SEWER, OR ADJACENT LANDS. SUCH SEDIMENTATION CONTROL DEVICES SHALL INCLUDE BUT NOT BE LIMITED TO PROTECTIVE DITCHES, SEDIMENT TRAPS, SEDIMENT FILTERS, DITCH TRAPS, PIPE BARRIERS, AND FILTERS AS DETAILED AND REQUIRED AND WHERE INDICATED ON THE DRAWINGS. AFTER THE PROJECT WORK HAS BEEN COMPLETED, INSPECTED, AND APPROVED, THE CONTRACTOR SHALL REMOVE ALL SEDIMENTATION CONTROL DEVICES, MATERIAL, AND THEIR COLLECTED SILT AND DEBRIS AND RESTORE THE AREA IN ACCORDANCE WITH THE DRAWINGS.

IN ROADWAY AREAS TEMPORARY AGGREGATE SURFACING SHALL BE PLACED IMMEDIATELY AFTER THE BACKFILLING OPERATION HAS BEEN COMPLETED. POSITIVE DUST CONTROL MEASURES SHALL BE TAKEN AT ALL TIMES.

PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN 5 DAYS OF FINAL EARTH CHANGE. FINAL CLEANUP AND RESTORATION WILL CONSIST OF FINAL GRADING, TOPSOILING, SEEDING AND MULCHING AND/OR SODDING OF ALL DISTURBED AREAS OF THE PROJECT.

IF SEASONAL CONDITIONS PREVENT FINAL CLEANING AND RESTORATION, THE CONTRACTOR SHALL PROCEED WITH TEMPORARY STABILIZATION OF THE DISTURBED AREA. TEMPORARY STABILIZATION SHALL CONSIST OF ROUGH GRADING THE DISTURBED AREA IN ACCORDANCE WITH THESE SPECIFICATIONS. TEMPORARY STABILIZATION MATERIALS SHALL BE REMOVED AND DISPOSED OF AND FINAL CLEANUP AND RESTORATION SHALL BE COMPLETED NOT LATER THAN 5 DAYS AFTER SEASONAL CONDITIONS ALLOW PERFORMANCE OF THE REQUIRED WORK.

			<b>SOIL EROSION SEDIMENTATION CONTROL, TEMPORARY FACILITIES</b>	 CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION
REV	DESCRIPTION	DATE	SCALE NONE	SHEET 1 OF 1
	REVISIONS		DATE 09/2018	DWG. No. 015713-10

**SOIL EROSION AND SEDIMENTATION CONTROL**  
**MAINTENANCE NOTES**

THE CONTRACTOR SHALL INSPECT SOIL EROSION AND SEDIMENTATION CONTROL DEVICES WEEKLY AND WITHIN 24 HOURS OF A SIGNIFICANT RAIN EVENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SOIL EROSION AND SEDIMENTATION CONTROL DEVICES.

MAINTENANCE INCLUDES ALL WORK NECESSARY FOR PROPER OPERATION OF THE DEVICES. DEVICES WHICH CAN NOT BE REPAIRED MAY NEED TO BE REPLACED. MAINTENANCE OF THE DEVICES SHALL BE PERFORMED WITHIN 24 HOURS OF INSPECTION.


SEDIMENT SHALL BE REMOVED AS NECESSARY TO MAINTAIN THE EFFECTIVENESS OF SOIL EROSION AND SEDIMENTATION CONTROL DEVICES.

SEDIMENT DEPOSITED ALONG SILT FENCE SHALL BE REMOVED WHEN IT REACHES 1/3 TO 1/2 THE HEIGHT OF THE FENCE.

TURF ESTABLISHMENT MEASURES SHALL BE MAINTAINED AS WOULD ANY OTHER DEVICES PRIOR TO ESTABLISHMENT OF PERMANENT TURF.

ALL MUD, DIRT AND DEBRIS TRACKED ONTO EXISTING ROADS FROM THIS SITE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.

CONTRACTOR SHALL ENSURE THAT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES PROTECT AGAINST LOSS OF SOIL BY THE ACTION OF WATER, ICE, GRAVITY OR WIND.

			<b>SOIL EROSION AND SEDIMENTATION CONTROL, MAINTENANCE NOTES</b>	 CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION
REV	DESCRIPTION	DATE	SCALE NONE	SHEET 1 OF 1
	REVISIONS		DATE 09/2018	DWG. No. 015713-11



**SUMMARY OF BASIC PRINCIPLES:**

1. KEEP DISTURBED AREA AS SMALL AS POSSIBLE.
2. STABILIZE AND/OR PROTECT DISTURBED AREAS AS SOON AS POSSIBLE.
3. KEEP STORM WATER RUNOFF VELOCITIES LOW.
4. RETAIN SEDIMENT WITHIN IMMEDIATE CONSTRUCTION AREA.

THE PURPOSE OF THIS PLAN IS TO SPECIFY METHODS FOR TEMPORARY EROSION CONTROL DURING CONSTRUCTION. IT IS INTENDED THAT MEASURES CALLED FOR IN THE SPECIFICATIONS AND SHOWN ON THESE STANDARD DETAILS PLANS BE STRICTLY ADHERED TO. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT CONSTRUCTION PROCEDURES UNDERTAKEN BE IN CONFORMANCE WITH THE STATE OF MICHIGAN ACT 451 OF 1994 PART 91, SOIL EROSION AND SEDIMENTATION CONTROL.

ALL SOIL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE REGULARLY MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT. COLLECTED SILT AND SEDIMENTATION SHALL BE REMOVED PERIODICALLY TO MAINTAIN THE EFFECTIVENESS OF THE SILT TRAPS OR SEDIMENTATION CONTROL DEVICES. WHERE REQUIRED, THE CONTRACTOR SHALL REPLACE FILTER MATERIALS WHICH HAVE BECOME INEFFECTIVE DUE TO CONTAMINATION OR PHYSICAL DETERIORATION.


IF POSSIBLE, NO GRUBBING SHOULD BE DONE WITHIN 30' OF AN ACTIVE WATERCOURSE.

AGGREGATES PLACED IN STREAMS SHOULD CONTAIN A MINIMUM OF FINES. AS A GENERAL RULE FOR DAMS IN SMALL STREAMS, AT LEAST 50 STONE SHOULD BE 6" DIAMETER OR LARGER. 3" OR LARGER STONE SHALL BE USED FOR LINING STREAM BOTTOMS WHERE LINING IS REQUIRED.

ALL TEMPORARY EROSION CONTROL FACILITIES SHOULD BE REMOVED BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION UNLESS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE. CARE SHALL BE TAKEN DURING REMOVAL TO MINIMIZE SILTATION IN NEARBY DRAINAGE COURSES.

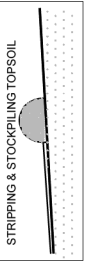
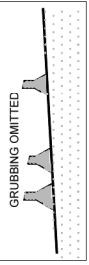
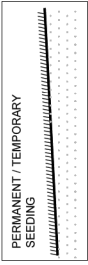
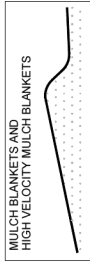
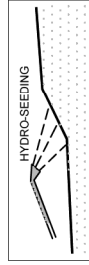
SURFACE DISRUPTION IN ADVANCE OF CONSTRUCTION INCLUDING CLEARING, GRADING OR SIGNIFICANT SOD REMOVAL SHALL BE LIMITED AS FOLLOWS, UNLESS PERMISSION IS OTHERWISE OBTAINED FROM THE GOVERNING AGENCY:


- A. WET WEATHER SEASON (MARCH, APRIL, MAY) - 5 DAYS PRIOR TO BEGINNING ANY EARTH CHANGE ACTIVITY.
- B. DRY WEATHER SEASON (JUNE, JULY, AUGUST, SEPTEMBER, OCTOBER, NOVEMBER) - 10 DAYS PRIOR TO BEGINNING ANY EARTH CHANGE ACTIVITY.
- C. COLD WEATHER SEASON (DECEMBER, JANUARY, FEBRUARY) - 15 DAYS PRIOR TO BEGINNING ANY EARTH CHANGE ACTIVITY.

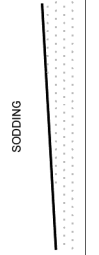
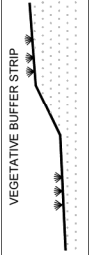

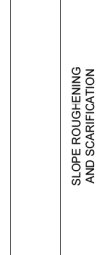
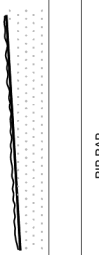
		<b>SOIL EROSION AND SEDIMENTATION CONTROL, GENERAL NOTES</b>	 CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION	SCALE	1 OF 1	
REV	DESCRIPTION			DATE	SHEET	
REVISIONS				DATE	015713-12	
				DWG. No.	09/2018	

ADJACENT PROPERTIES	G		*	*		*
BORROW AND STOCKPILE AREAS	F	*		*	*	*
SURFACE AREAS	E	*	*	*	*	*
LARGE FLAT SURFACE AREAS	D					
ENCLOSED DRAINAGE CONTROL (INLET & OUTFALL)	C			*	*	
SURFACE DRAINAGEWAYS	B					
STREAMS AND WATERWAYS	A	*	*	*	*	*
SLOPES						

\* INDICATES APPLICABILITY OF A SPECIFIC CONTROL MEASURE TO ONE OR MORE OF THE SEVEN PROBLEM AREAS.


KEY	DETAILS	CHARACTERISTICS
1		TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS A DIVERSION. STOCKPILE SHOULD BE TEMPORARILY SEEDED. AVOID EXTENSIVE AND UNNECESSARY CLEARING OF TOPSOIL.
2		SAVES COST OF GRUBBING, PROVIDES NEW SPROUTS. RETAINS EXISTING ROOT MAT SYSTEMS. REDUCES WINDFALL AT NEW FOREST EDGE. REDUCES SHEET FLOW VELOCITIES. DISCOURAGES EQUIPMENT ENTRANCE.
3		INEXPENSIVE AND VERY EFFECTIVE. STABILIZES SOIL, THUS MINIMIZING EROSION. PERMITS RUNOFF TO INFILTRATE SOIL. REDUCING RUNOFF. VOLUME SHOULD INCLUDE PREPARED TOPSOIL BED. FERTILIZING MULCHING AND WATERING REQUIRED.
4		MULCH BLANKETS PROVIDE AN IMMEDIATE AND EFFECTIVE COVER OVER RAW ERODIBLE SLOPES AFFORDING EXCELLENT PROTECTION AGAINST RAIN AND WIND EROSION. HIGH VELOCITY MULCH BLANKETS WORK WELL FOR STABILIZING THE BOTTOM OF DITCHES IN WATERWAYS.
5		EFFECTIVE ON LARGE AREAS. MULCH TACKING AGENT USED TO PROVIDE IMMEDIATE PROTECTION UNTIL GRASS IS ROOTED. SHOULD INCLUDE PREPARED TOPSOIL BED. FERTILIZING, MULCHING AND WATERING ARE REQUIRED.


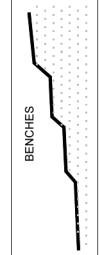
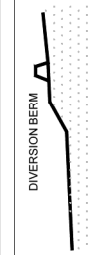
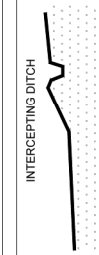
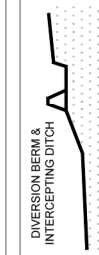
		<b>SOIL EROSION AND SEDIMENTATION CONTROL MEASURES (FROM 1-5)</b>	 CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION	SCALE	1 OF 7	
REV	DESCRIPTION			DATE	SHEET	
REVISIONS				DATE	015713-13	
				DWG. No.	09/2018	

* INDICATES APPLICABILITY OF A SPECIFIC CONTROL MEASURE TO ONE OR MORE OF THE SEVEN PROBLEM AREAS.		CHARACTERISTICS		ADJACENT PROPERTIES						
KEY	DETAILS			A	B	C	D	E	F	G
6		PROVIDES IMMEDIATE PROTECTION. CAN BE USED ON STEEP SLOPES WHERE SEED MAY BE DIFFICULT TO ESTABLISH. EASY TO PLACE. MAY BE REPAIRED IF DAMAGED. SHOULD INCLUDE PREPARED TOPSOIL BED.						*	*	*
7		SLOWS RUNOFF VELOCITY. FILTERS SEDIMENT FROM RUNOFF. REDUCES VOLUME OF RUNOFF ON SLOPES. ASSISTS IN ESTABLISHING PERMANENT VEGETATIVE COVER.								*
8		USED ALONE TO PROTECT EXPOSED AREAS FOR SHORT PERIODS. PRESERVES SOIL MOISTURE AND PROTECTS GERMINATING SEED FROM TEMPERATURE EXTREMES. SHOULD BE INSPECTED AFTER EVERY RAINSTORM AND REPAIRED AS NECESSARY UNTIL VEGETATION IS WELL ESTABLISHED.						*	*	
9		CAN BE ACCOMPLISHED BY HARROWING WITH A DISK, BACK BLADING, OR TRACKING WITH A DOZER PERPENDICULAR TO THE SLOPE. REDUCES VELOCITY AND INCREASES INFILTRATION RATES. COLLECTS SEDIMENT. HOLDS WATER, SEED, AND MULCH BETTER THAN SMOOTH SURFACES.						*	*	*
10		USED WHERE VEGETATION IS NOT EASILY ESTABLISHED. EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATIONS. PERMITS RUNOFF TO INFILTRATE SOIL. DISSIPATES ENERGY FLOW AT SYSTEM OUTLETS. SHOULD BE PLACED ON A GEOTEXTILE LINER.					*	*	*	

REV	DESCRIPTION	DATE
REVISIONS		


**SOIL EROSION AND SEDIMENTATION CONTROL MEASURES (FROM 6-10)**


**CITY OF DETROIT**  
 WATER AND SEWERAGE DEPARTMENT  
 ENGINEERING DIVISION  
 SCALE NONE SHEET 2 OF 7  
 DATE 09/2018 DWG. No. 015713-14

* INDICATES APPLICABILITY OF A SPECIFIC CONTROL MEASURE TO ONE OR MORE OF THE SEVEN PROBLEM AREAS.		CHARACTERISTICS		ADJACENT PROPERTIES						
KEY	DETAILS			A	B	C	D	E	F	G
11		STABILIZES SOIL SURFACE, THUS MINIMIZING EROSION. PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER. MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS. REDUCES POTENTIAL SOIL EROSION AND FUGITIVE DUST BY STABILIZING RAW AREAS.						*		
12		REDUCES RUNOFF VELOCITY BY REDUCING EFFECTIVE SLOPE LENGTH. COLLECTS SEDIMENT. PROVIDES ACCESS TO SLOPES FOR SEEDING, MULCHING AND MAINTENANCE.							*	
13		DIVERTS WATER FROM VULNERABLE AREAS. COLLECTS AND DIRECTS WATER TO PREPARED DRAINAGEWAYS. MAY BE PLACED AS PART OF NORMAL CONSTRUCTION OPERATION.							*	*
14		COLLECTS AND DIVERTS WATER TO A STABLE OUTLET OR SEDIMENT CONTROL DEVICE TO REDUCE EROSION. POTENTIALLY BE INCORPORATED IN PERMANENT PROJECT DRAINAGE SYSTEMS.							*	*
15		DIVERTS WATER TO A PREPARED DRAINAGEWAY. MAY BE USED AT INTERVALS ACROSS SLOPE FACE TO REDUCE EFFECTIVE SLOPE LENGTH.							*	*

REV	DESCRIPTION	DATE
REVISIONS		

**SOIL EROSION AND SEDIMENTATION CONTROL MEASURES (FROM 11-15)**


**CITY OF DETROIT**  
 WATER AND SEWERAGE DEPARTMENT  
 ENGINEERING DIVISION  
 SCALE NONE SHEET 3 OF 7  
 DATE 09/2018 DWG. No. 015713-15

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION




**NO SCALE**

DATE: 04/23/19  
 FILE: DET021.dgn

JN: PW-7008 RIOPELLE

CITY OF DETROIT DWSD DETAILS  
 RIOPELLE STREETSCAPE



**\* INDICATES APPLICABILITY OF A SPECIFIC CONTROL MEASURE TO ONE OR MORE OF THE SEVEN PROBLEM AREAS.**

	SLOPES	STREAMS AND WATERWAYS	SURFACE DRAINAGEWAYS	ENCLOSED DRAINAGE (INLET & OUTFALL CONTROL)	LARGE FLAT SURFACE AREAS	BORROW AND STOCKPILE AREAS	ADJACENT PROPERTIES
	A	B	C	D	E	F	G
<b>CHARACTERISTICS</b>							
<b>KEY</b>							
<b>26</b>			*		*		
<b>27</b>				*		*	
<b>28</b>				*			
<b>29</b>		*					
<b>30</b>	*					*	*

**CHARACTERISTICS**

**26** PROVIDES SETTLING AND FILTERING OF SILT LADEN WATER PRIOR TO ITS ENTRY INTO THE DRAINAGE SYSTEM. CAN BE USED IN MEDIAN AND SIDE DITCHES WHERE VEGETATION WILL BE DISTURBED. ALLOWS FOR EARLY USE OF DRAINAGE SYSTEMS PRIOR TO PROJECT COMPLETION.


**27** CAN UTILIZE MATERIAL FOUND ON SITE. EASY TO CONSTRUCT. FILTERS SEDIMENT FROM RUNOFF.

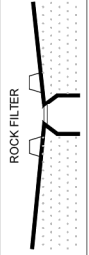
**28** EASY TO SHAPE. COLLECTS SEDIMENT. MAY BE CLEANED AND EXPANDED AS NEEDED. CAN BE USED WHERE MEDIUM FLOWS ARE ANTICIPATED.

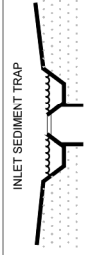
**29** MAY BE ROCK OR CLEAN RUBBLE. MINIMIZES STREAM TURBIDITY. INEXPENSIVE. MAY ALSO SERVE AS DITCH CHECK OR SEDIMENT TRAP.

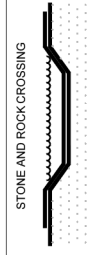
**30** A PERMEABLE BARRIER ERECTED BELOW DISTURBED AREAS TO CAPTURE SEDIMENTS FROM SHEET FLOW. CAN BE USED TO DIVERT SMALL VOLUMES OF WATER TO STABLE OUTLETS. INEFFECTIVE AS A FILTER AND SHOULD NEVER BE PLACED ACROSS STREAMS OR DITCHES WHERE FLOW IS CONCENTRATED.

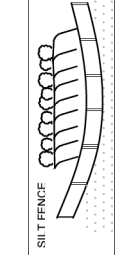
**DETAILS**

**26** 

**27** 

**28** 

**29** 

**30** 

**\* INDICATES APPLICABILITY OF A SPECIFIC CONTROL MEASURE TO ONE OR MORE OF THE SEVEN PROBLEM AREAS.**

	SLOPES	STREAMS AND WATERWAYS	SURFACE DRAINAGEWAYS	ENCLOSED DRAINAGE (INLET & OUTFALL CONTROL)	LARGE FLAT SURFACE AREAS	BORROW AND STOCKPILE AREAS	ADJACENT PROPERTIES
	A	B	C	D	E	F	G
<b>CHARACTERISTICS</b>							
<b>KEY</b>							
<b>31</b>				*			
<b>32</b>					*		
<b>33</b>						*	*

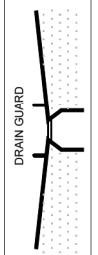
**CHARACTERISTICS**

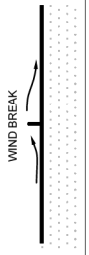
**31** PERMEABLE BARRIER ERECTED AROUND AN INLET TO CAPTURE SEDIMENTS.


**32** MINIMIZES WIND EROSION. MAY BE SNOW FENCE.

**33** PROVIDES A STABLE ACCESS TO ROADWAYS MINIMIZING FUGITIVE DUST AND TRACKING OF MATERIALS ONTO PUBLIC STREETS AND HIGHWAYS.

**DETAILS**

**31** 

**32** 

**33** 

REV	DESCRIPTION	DATE
REVISIONS		

**SOIL EROSION AND SEDIMENTATION CONTROL MEASURES (FROM 26-30)**

CITY OF DETROIT  
WATER AND SEWERAGE DEPARTMENT  
ENGINEERING DIVISION

SCALE NONE	SHEET 6 OF 7
DATE 09/2018	DWG. No. 015713-18

REV	DESCRIPTION	DATE
REVISIONS		

**SOIL EROSION AND SEDIMENTATION CONTROL MEASURES (FROM 31-33)**

CITY OF DETROIT  
WATER AND SEWERAGE DEPARTMENT  
ENGINEERING DIVISION

SCALE NONE	SHEET 7 OF 7
DATE 09/2018	DWG. No. 015713-19

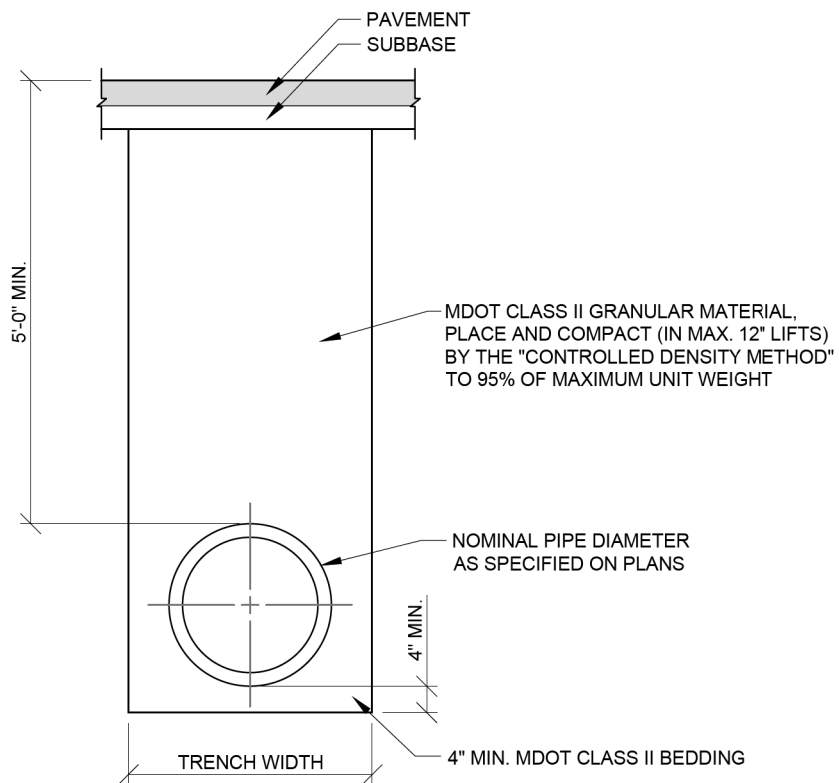
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

**NO SCALE**

DATE: 04/23/19

JN: PW-7008 RIOPELLE

FILE: DET023.dgn



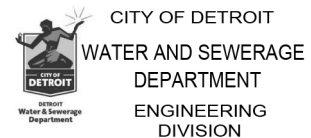
NOTE:  
REFER TO RESTORATION  
DETAILS FOR PAVEMENT  
WIDTH.

NOMINAL PIPE DIAMETER	MAXIMUM TRENCH WIDTH UP TO 12" ABOVE CROWN OF PIPE
LESS THAN 18"	30"
18" TO 24"	PIPE DIAMETER PLUS 18"
GREATER THAN 24"	PIPE DIAMETER PLUS 24"

**STANDARD TRENCH DETAIL FOR WATERMAIN  
UNDER ROAD BED, PARKING LOTS, SIDEWALKS,  
DRIVEWAYS, CURBS, GRAVEL ROADS AND ALLEYS**

REV	DESCRIPTION	DATE
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
REVISIONS		

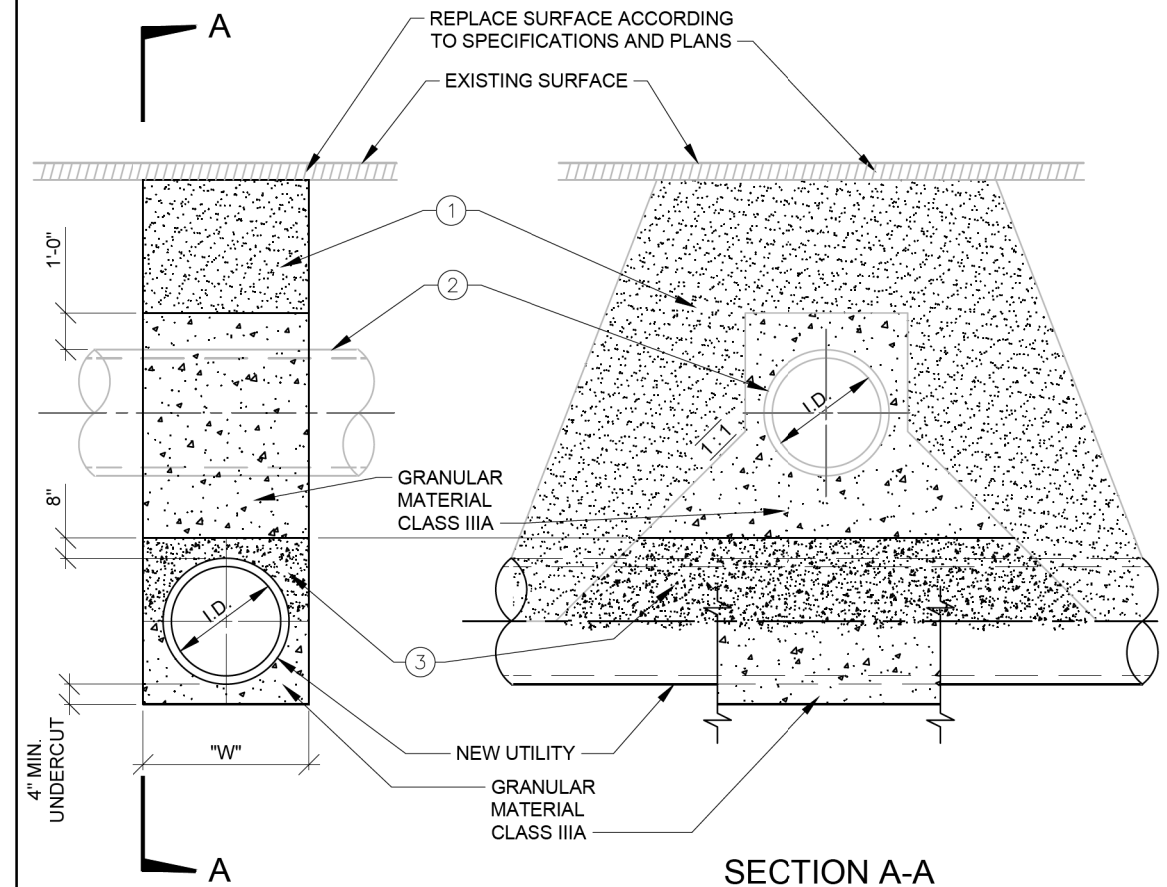
**UTILITY TRENCH,  
WATERMAIN**



SCALE	NONE	SHEET	1 OF 3
DATE	9/2018	DWG. No.	312333-04

**NOTES:**

- BACKFILL ACCORDING TO SPECIFICATIONS AND TYPICAL TRENCH SECTION.
- EXISTING CATCH BASIN DRAIN, SEWER OR OTHER UNDERGROUND UTILITY CROSSING NEW OPEN CUT CONSTRUCTION.
- BACKFILL WITH A DRY MIX OF ONE BAG CEMENT PER ONE BAG OF GRANULAR MATERIAL CLASS II.



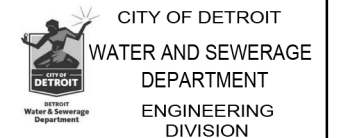
**NOTES:**

- ALL GRANULAR BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT.
- WATERMANS CROSSING UNDER SEWERS - WHEN IT IS IMPOSSIBLE TO OBTAIN THE MINIMUM 18-INCH CLEARANCE. REPLACE THE SEWER PIPE (MINIMUM OF 10 FT. ON BOTH SIDES OF WATERMAIN) WITH WATER WORKS GRADE 150PSI PRESSURE TESTED TO ENSURE WATER TIGHTNESS.
- "W" - SEE TRENCH DETAILS FOR TRENCH WIDTH.

**TYPICAL DETAIL AT CROSSING UNDER EXISTING UTILITIES**

REV	DESCRIPTION	DATE
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
REVISIONS		

**UTILITY  
CROSSING**



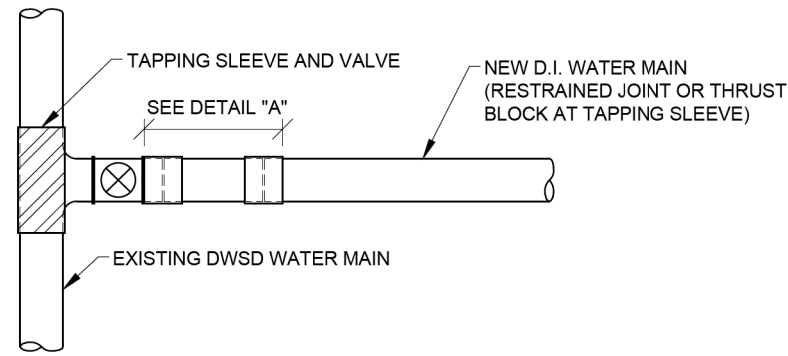
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DATE	09/2018	DWG. No.	312333-07

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION

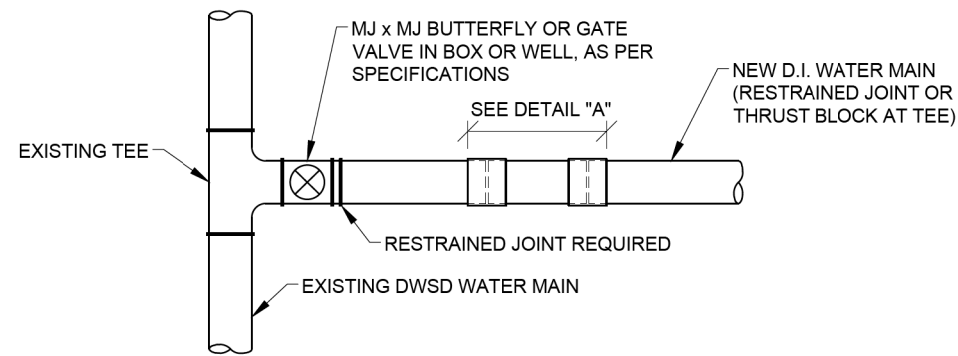
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DATE: 04/23/19	JN: PW-7008 RIOPELLE
FILE: DET006.dgn	

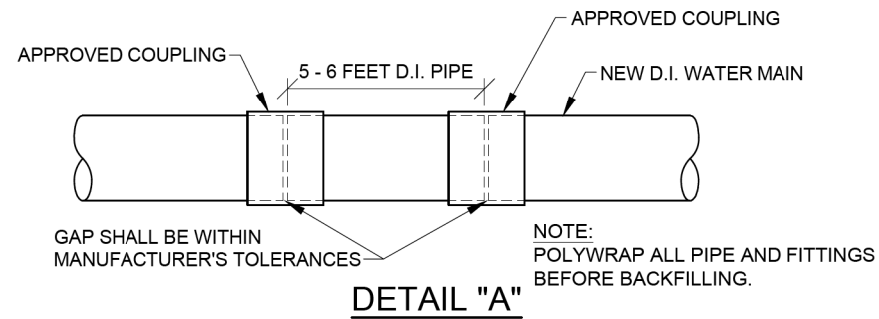
CITY OF DETROIT DWSD DETAILS		DRAWING	SHEET
RIOPELLE STREETScape		RIO DETAILS 012	103




**CONNECTION WITH EXISTING DWSD MAIN WITH TAPPING SLEEVE AND VALVE**

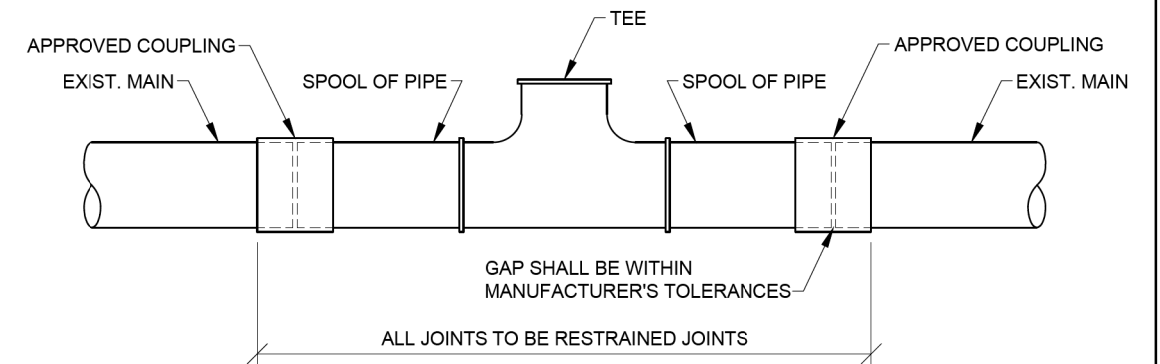


**CONNECTION AT EXISTING DWSD MAIN WITH TEE / VALVE**




**DETAIL "A"**

-	-	-	<p align="center"><b>CONNECTION WITH EXISTING WATERMAIN</b></p>  <p align="center">CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION</p>	SCALE	1 OF 2	
-	-	-		NONE	SHEET	
-	-	-		DATE	331413-08	
-	-	-		10/2018	DWG. No.	
REV	DESCRIPTION	DATE				
REVISIONS						



NOTE:  
POLYWRAP ALL PIPE AND FITTINGS BEFORE BACKFILLING.

-	-	-	<p align="center"><b>CONNECTION WITH EXISTING WATERMAIN</b></p>  <p align="center">CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION</p>	SCALE	2 OF 2	
-	-	-		NONE	SHEET	
-	-	-		DATE	331413-09	
-	-	-		10/2018	DWG. No.	
REV	DESCRIPTION	DATE				
REVISIONS						

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION



**NO SCALE**

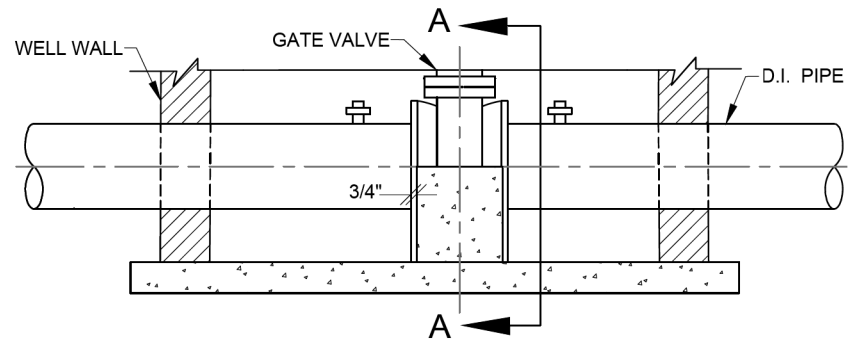
FILE: DET011.dgn

DATE: 04/23/19

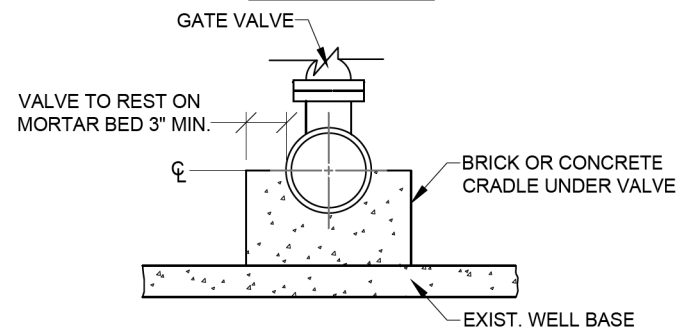
JN: PW-7008 RIOPELLE

CITY OF DETROIT DWSD DETAILS  
RIOPELLE STREETScape

DRAWING	SHEET
RIO DETAILS 013	104



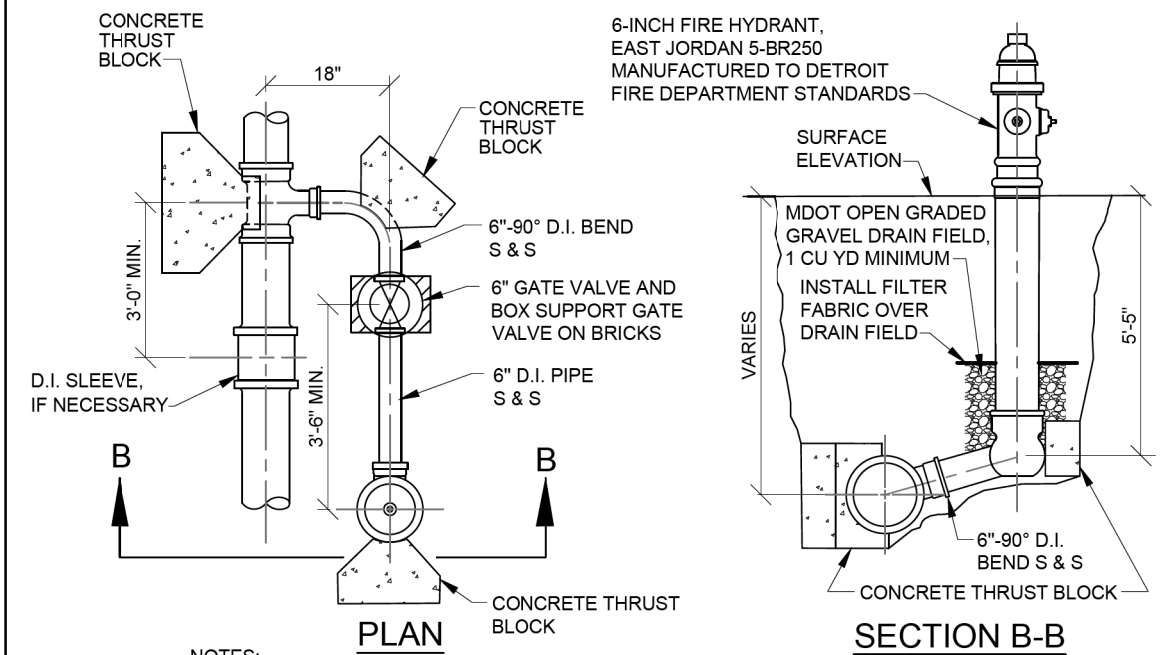
**ELEVATION**



**SECTION A-A**

NOTE:  
DESIGNER SHALL DETERMINE SIZE AND REINFORCEMENT REQUIREMENTS.

-	-	-	<b>VALVE, GATE, CRADLE SUPPORT, CONCRETE</b>	CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION	SCALE	1 OF 1
-	-	-			NONE	SHEET
-	-	-			DATE	331419-01
-	-	-			9/2018	DWG. No.
REV	DESCRIPTION	DATE				
	REVISIONS					

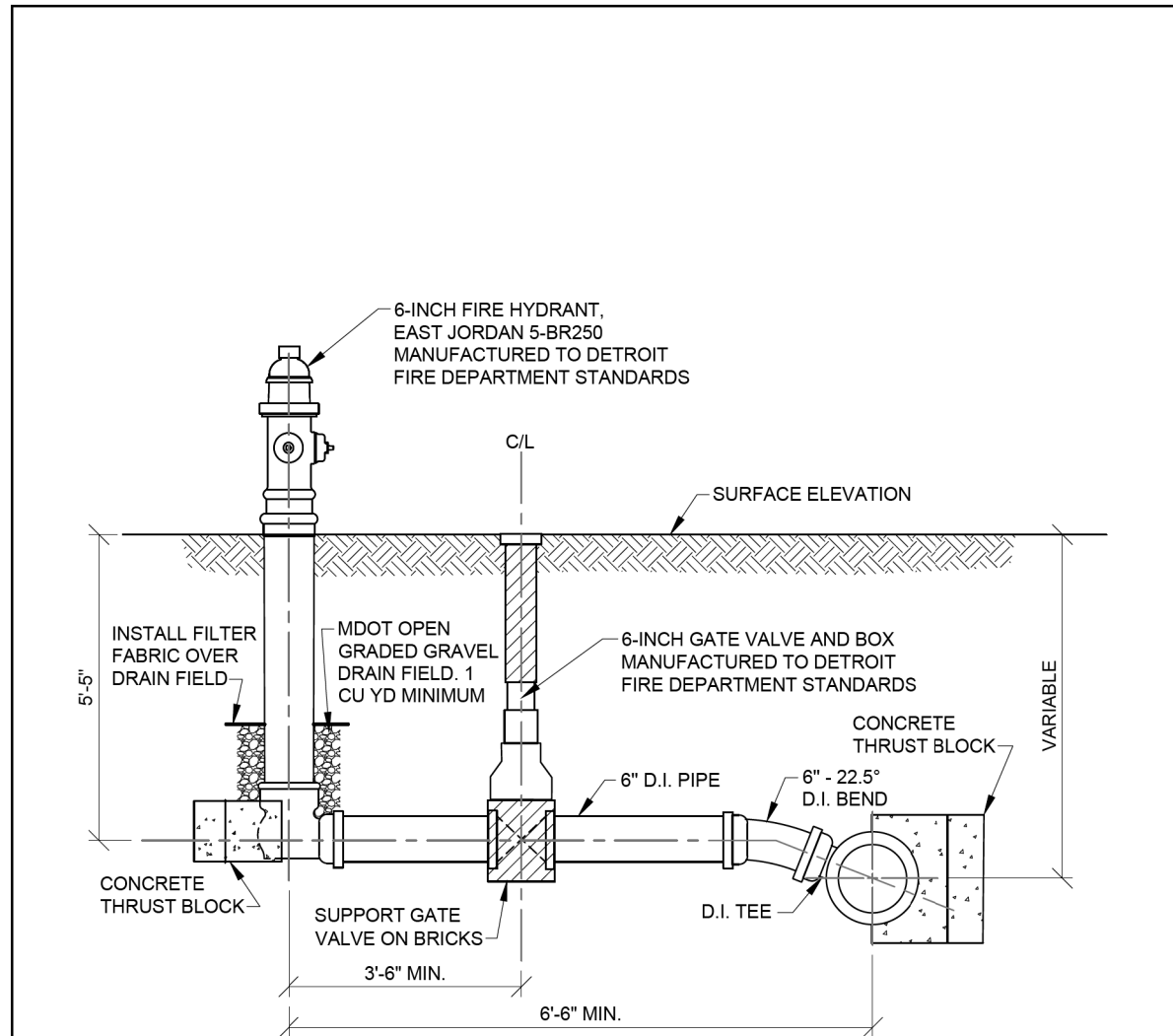


**PLAN**

**SECTION B-B**

- NOTES:
1. HYDRANT TO BE A MINIMUM OF 3 FEET BEHIND CURB.
  2. THRUST BLOCKS TO BE SIZED ACCORDING TO THRUST BLOCK STANDARD DETAIL DRAWING.
  3. CONCRETE BASE AND BLOCKING MATERIAL SHALL NOT BLOCK HYDRANT DRAINAGE.
  4. SEE TRENCH DETAIL FOR BACKFILL AND COMPACTION.

-	-	-	<b>HYDRANT, 6 INCH INSTALLATION OFFSET</b>	CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION	SCALE	1 OF 1
-	-	-			NONE	SHEET
-	-	-			DATE	331419-02
-	-	-			9/2018	DWG. No.
REV	DESCRIPTION	DATE				
	REVISIONS					



**NOTES:**

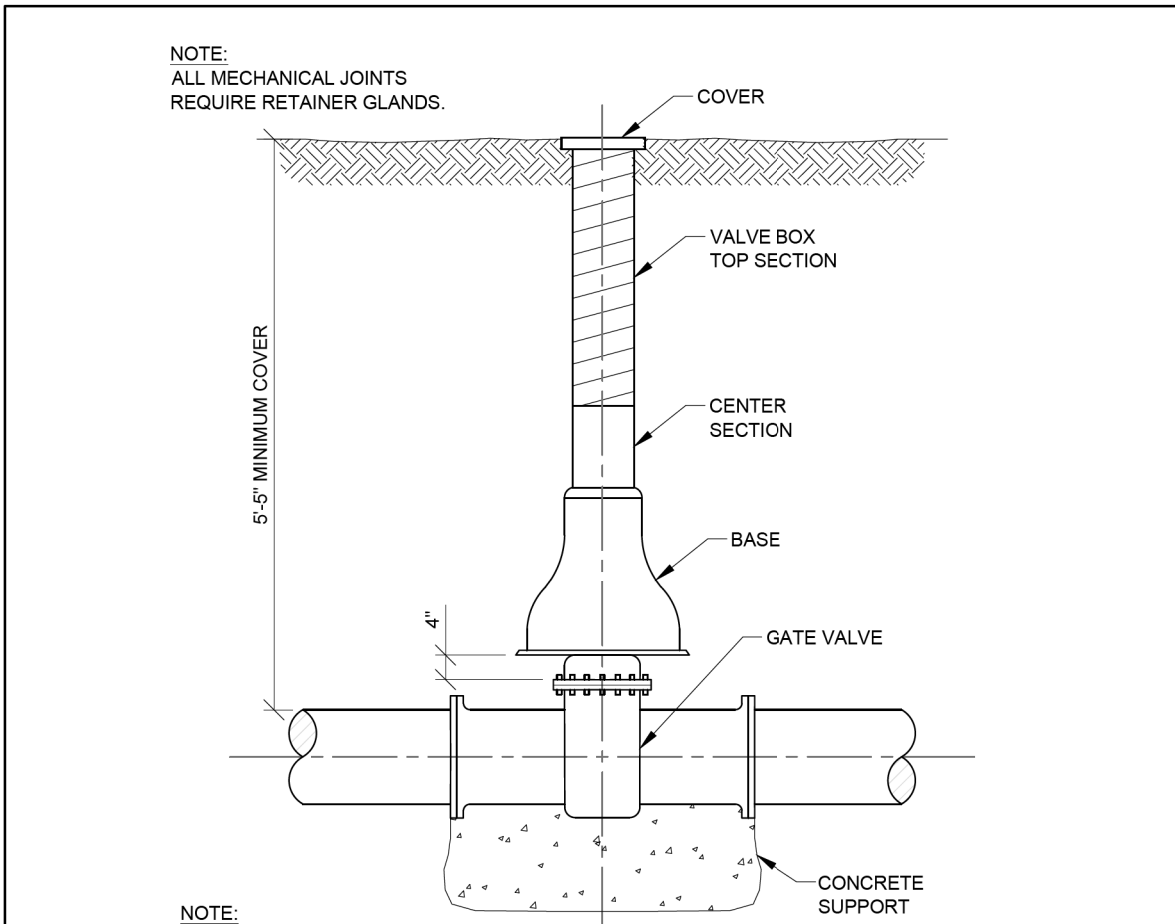
1. HYDRANT TO BE A MINIMUM OF 3 FEET BEHIND CURB.
2. THRUST BLOCKS TO BE SIZED ACCORDING TO THRUST BLOCK STANDARD DETAIL DRAWING.
3. CONCRETE BASE AND BLOCKING MATERIAL SHALL NOT BLOCK HYDRANT DRAINAGE.
4. SEE TRENCH DETAIL FOR BACKFILL AND COMPACTION.

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REV	DESCRIPTION	DATE
REVISIONS		

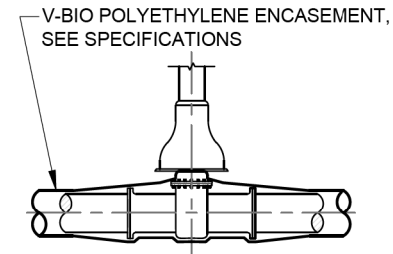
**HYDRANT, 6 INCH  
INSTALLATION  
STRAIGHT AWAY**

CITY OF DETROIT  
WATER AND SEWERAGE  
DEPARTMENT  
ENGINEERING  
DIVISION

SCALE	SHEET
NONE	1 OF 1
DATE	DWG. No.
9/2018	331419-03

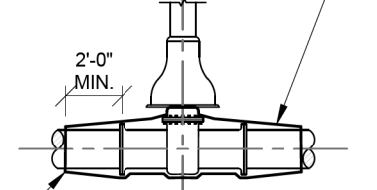


NOTE:  
POLYWRAP VALVE PER DETAILS BELOW.



**GATE VALVE ON D.I. PIPE**

OVERLAP V-BIO ONTO PE PIPE MIN. 2'-0\"/>



**GATE VALVE ON PE PIPE**

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
REV	DESCRIPTION	DATE
REVISIONS		

**VALVE BOX  
INSTALLATION**

CITY OF DETROIT  
WATER AND SEWERAGE  
DEPARTMENT  
ENGINEERING  
DIVISION

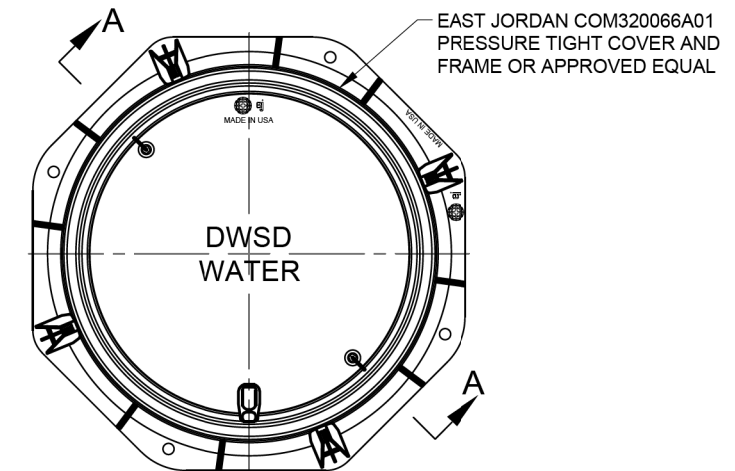
SCALE	SHEET
NONE	1 OF 1
DATE	DWG. No.
9/2018	331419-04

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION

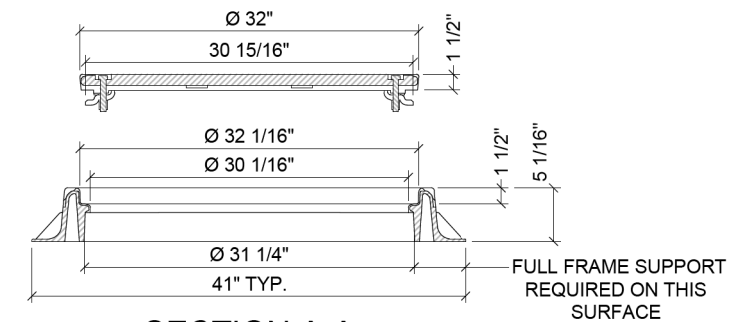
**NO SCALE**

DATE: 04/23/19	JN: PW-7008 RIOPELLE	CITY OF DETROIT DWSD DETAILS	DRAWING	SHEET
FILE: DET013.dgn		RIOPELLE STREETScape	RIO DETAILS 015	SECT 1 106






**PLAN VIEW OF COVER**



**SECTION A-A**

**NOTES:**

- FIBER REINFORCED POLYMER (FRP) COMPOSITE MANHOLE FRAME AND COVER, AS NOTED IN SECTION 7.1.1 AND 7.1.3 OF AASHTO M306 HIGHWAY LOADING.  
  
THE SEATING FACE OF THE COVER & SEAT FOR SAME ON THE FRAME SHALL BE MACHINE FINISHED, OR THE EQUIVALENT THERE OF, SO THAT THE COVER SHALL HAVE AN EVEN BEARING ON ITS SEAT AT ALL POINTS WITHOUT ROCKING OR TILTING.
- EAST JORDAN COM320066A01 PRESSURE TIGHT COVER AND FRAME OR APPROVED EQUAL.

-	-	-	<b>GATE WELL FRAME AND COVER WITH LOGO - WATERMAIN</b>	 CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION
-	-	-		
-	-	-		
-	-	-		
-	-	-		
-	-	-		
REV	DESCRIPTION	DATE	SCALE NONE	SHEET 1 OF 1
REVISIONS			DATE 9/2018	DWG. No. 330561-11

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



**NO SCALE**

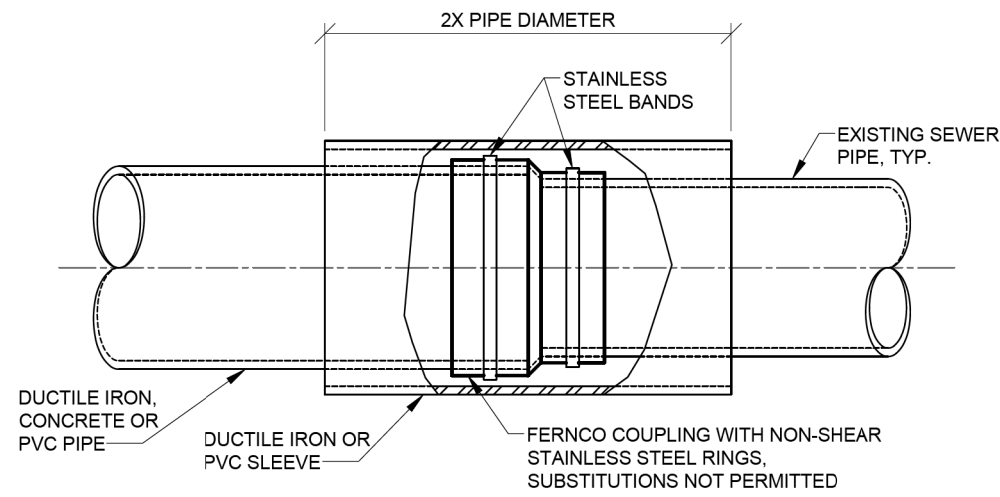
FILE: DET007.dgn

DATE: 04/23/19

JN: PW-7008 RIOPELLE

CITY OF DETROIT CED DETAILS  
RIOPELLE STREETScape

DRAWING	SHEET
RIO DETAILS 016	107



**DISSIMILAR SEWER PIPE JOINT DETAIL**

1. **DUCTILE IRON OR CAST IRON PIPE**  
PLAIN END PIPES CAN BE CONNECTED USING M.J. SLEEVE, M.J. TRANSITION SLEEVE OR M.J. SPLIT SLEEVE. BELL AND SPIGOT PIPES CAN BE CONNECTED IN A NORMAL WAY USING PUSH ON JOINT, METHOD. IF EXISTING BELL OR SPIGOT IS COMPATIBLE WITH NEW BELL OR SPIGOT, OTHERWISE M.J. SPLIT BELL SLEEVE MAY BE USED.
2. **PVC PIPE**  
PLAIN END PVC PIPES CAN BE CONNECTED USING ELASTOMERIC-GASKET PVC COUPLINGS. WHERE PVC COUPLINGS ARE NOT SUITABLE DUCTILE IRON M.J. SLEEVES MAY BE USED. IF MISSION BAND SEAL COUPLING IS USED UNDER AN ABNORMAL SITUATION, A DUCTILE IRON OR PVC SLEEVE PROTECTION MUST BE USED.
3. **CONCRETE PIPE**  
WHERE NORMAL BELL AND SPIGOT GASKETED JOINT IS NOT PRACTICABLE, MISSION BAND SEAL COUPLING WITH DUCTILE IRON OR PVC SLEEVE PROTECTION SHALL BE USED TO COMPLETE THE JOINT.

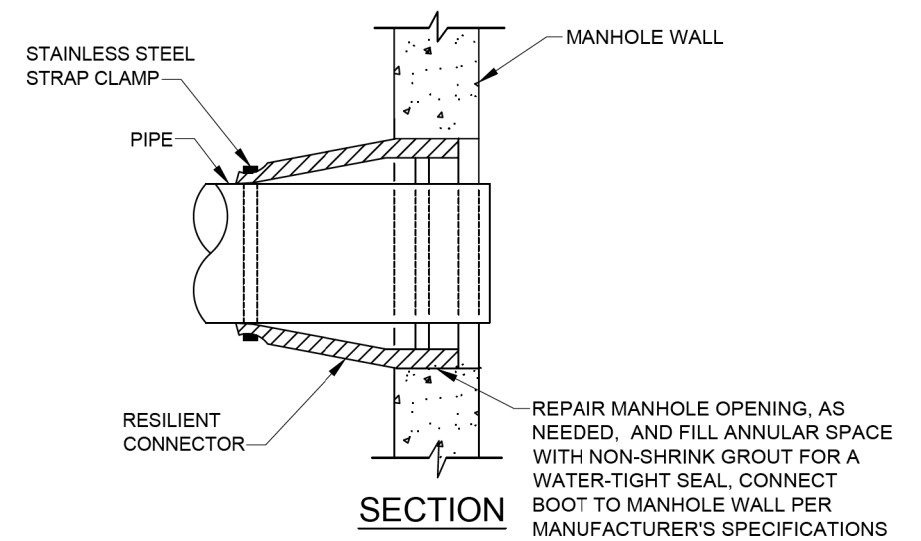
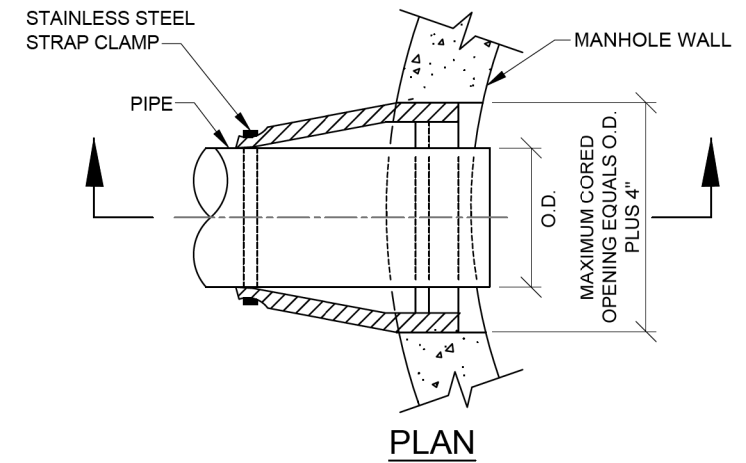
**SIMILAR SEWER PIPE JOINT DETAIL NOTES**

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
REV	DESCRIPTION	DATE
REVISIONS		

**SEWER PIPE JOINT DETAIL**

CITY OF DETROIT  
WATER AND SEWERAGE DEPARTMENT  
ENGINEERING DIVISION

SCALE NONE SHEET 1 OF 1  
DATE 9/2018 DWG. No. 333111-06



**WATERTIGHT RESILIENT CONNECTOR FOR CONNECTING PROPOSED PIPES TO EXISTING MANHOLES AND EXISTING PIPES TO PROPOSED MANHOLES**

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
REV	DESCRIPTION	DATE
REVISIONS		

**SEWER PIPE CONNECTION WITH MANHOLE**

CITY OF DETROIT  
WATER AND SEWERAGE DEPARTMENT  
ENGINEERING DIVISION

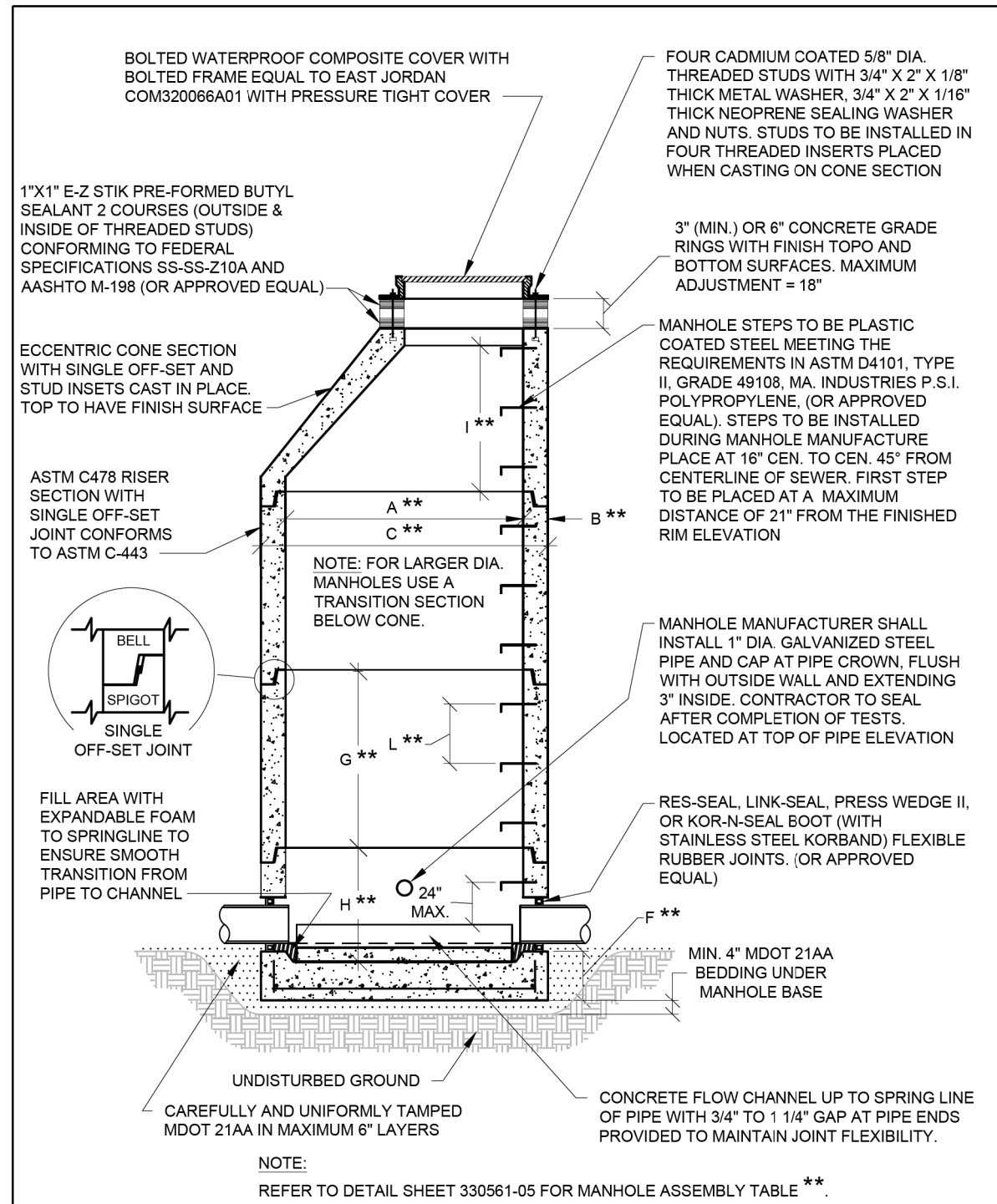
SCALE NONE SHEET 1 OF 1  
DATE 9/2018 DWG. No. 333111-07

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )					
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE

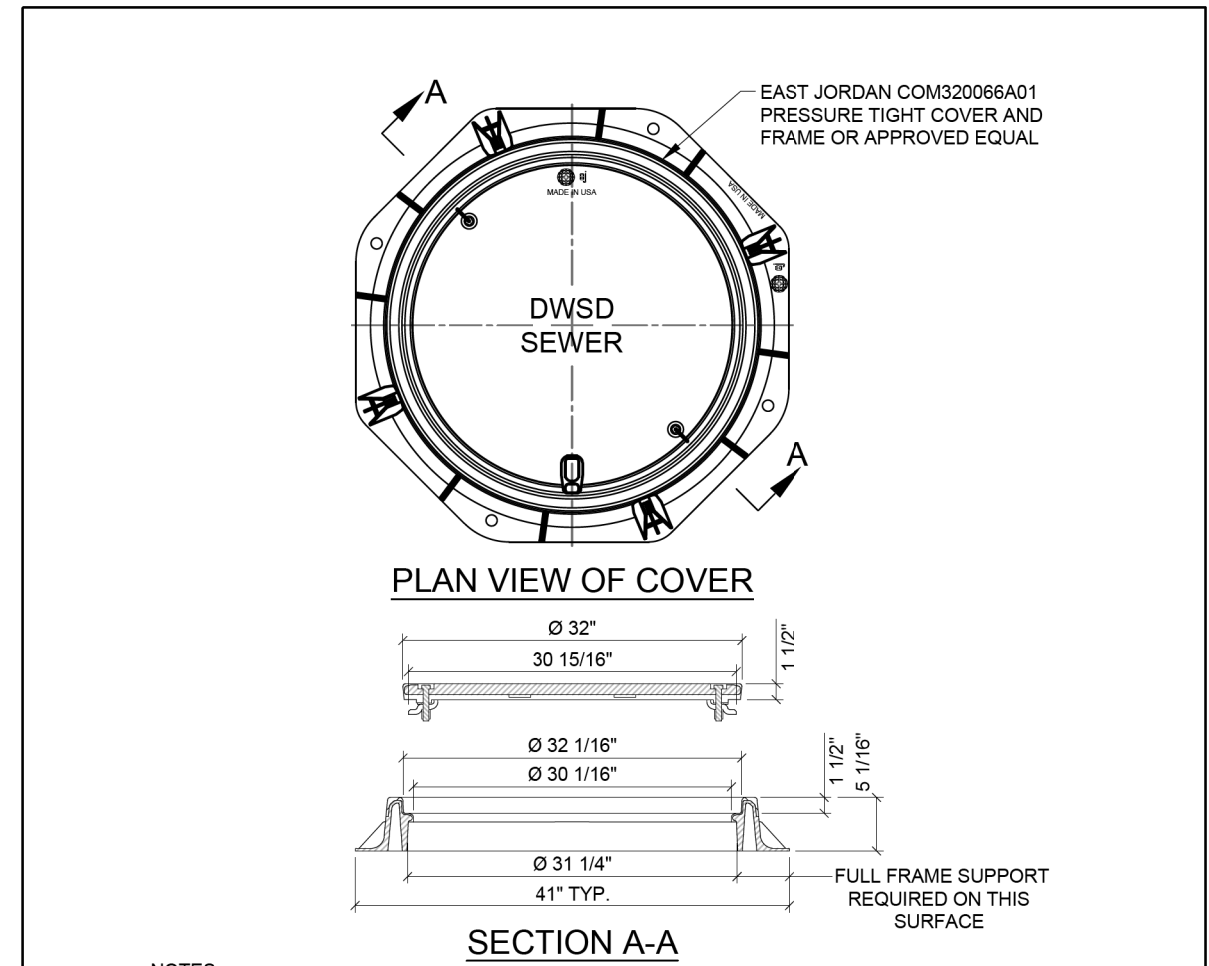
CITY OF DETROIT  
EASTERN MARKET  
OHM  
NO SCALE

DATE: 04/23/19  
JN: PW-7008 RIOPELLE  
FILE: DET010.dgn

CITY OF DETROIT DWSD DETAILS  
RIOPELLE STREETScape  
DRAWING SHEET  
RIO DETAILS 017 108

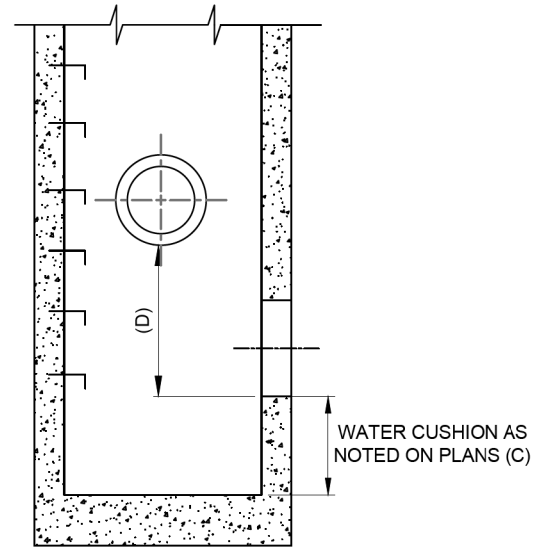


<p>NOTE: REFER TO DETAIL SHEET 330561-05 FOR MANHOLE ASSEMBLY TABLE **.</p>		
<p><b>STANDARD MANHOLE PRECAST</b></p>		
SCALE		1 OF 1
NONE		SHEET
DATE		330561-02
09/2018		DWG. No.
REV	DESCRIPTION	DATE
REVISIONS		



- NOTES:**
- FIBER REINFORCED POLYMER (FRP) COMPOSITE MANHOLE FRAME AND COVER, AS NOTED IN SECTION 7.1.1 AND 7.1.3 OF AASHTO M306 HIGHWAY LOADING.
- THE SEATING FACE OF THE COVER & SEAT FOR SAME ON THE FRAME SHALL BE MACHINE FINISHED, OR THE EQUIVALENT THERE OF, SO THAT THE COVER SHALL HAVE AN EVEN BEARING ON ITS SEAT AT ALL POINTS WITHOUT ROCKING OR TILTING.
- EAST JORDAN COM320066A01 PRESSURE TIGHT COVER AND FRAME OR APPROVED EQUAL.

<p><b>MANHOLE FRAME AND COVER WITH LOGO - SEWER</b></p>		
SCALE		1 OF 1
NONE		SHEET
DATE		330561-03
9/2018		DWG. No.
REV	DESCRIPTION	DATE
REVISIONS		



DIFFERENCE BETWEEN HIGHEST INLET AND OUTLET INVERTS (D)	DEPTH OF CUSHION (C)
2'-6" TO 4'-0"	12"
4'-0" TO 5'-6"	18"
5'-6" TO 8'-0"	24"
8'-0" TO 10'-0"	30"
OVER 10'-0"	36"

**NOTES:**

1. ALL OTHER REQUIREMENTS SAME AS FOR PRECAST MANHOLE RISER SECTIONS.
2. FOR PIPE SIZE AND INVERT SEE PLAN AND PROFILE.

			<b>MANHOLE WATER CUSHION</b>		CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION	
					SCALE NONE	SHEET 1 OF 1
					DATE 09/2018	DWG. No. 330561-04
					REVISIONS	
REV	DESCRIPTION	DATE				

A	RISER DIAMETER	IN	24	48	60	72	84	96	108	120
B	WALL THICKNESS	IN	3	5	6	7	8	9	9	10
C	OUTSIDE DIAMETER	IN	30	58	72	86	100	114	126	140
D	JOINT DEPTH	IN	2.75	2.75	4.75	5	5	5	5.25	7.5
E	-	-	-	-	-	-	-	-	-	-
F	INTEGRAL BASE	IN	6	8	8	8	8	8	8	8
G	RISER HEIGHTS	FT	2	1.33	1.33	1.33				
		FT	3	2.67	2.67	2.67	2.67	2.67	2.67	2.67
		FT		4	4	4	4	4	4	4
		FT		5.33	5.33	5.33	5.33	5.33	5.33	5.33
H	BASE HEIGHT RISER HEIGHTS CAN ALSO BE USED AS BASE SECTIONS	FT	2		2	2	2	2	2	2
		FT	3		3	3	3	3	3	3
		FT	4	3.33	3.33	3.33	3.33	3.33	3.33	3.33
		FT	4.5		3.67	3.67	3.67	3.67	3.67	3.67
		FT		4.67	4.67	4.67	4.67	4.67	4.67	4.67
		FT		5	5	5	5	5	5	5
		FT		6	6	6	6	6	6	6
I	CONE HEIGHT TO 24"	FT			2.5	3				
					CON.	CON.				
				3						
				4						
K	LOOSE BASE - OUTSIDE DIA.	6" THK.	IN	44						
		8" THK.	IN	48	72	84	96			
		12" THK.	IN			84	96	108	120	
L	STEP SPACING	IN		16	16	16	16	16	16	16
	APPROX. WEIGHT / FT.	LB	264	867	1295	1811	2409	3090	3400	4200

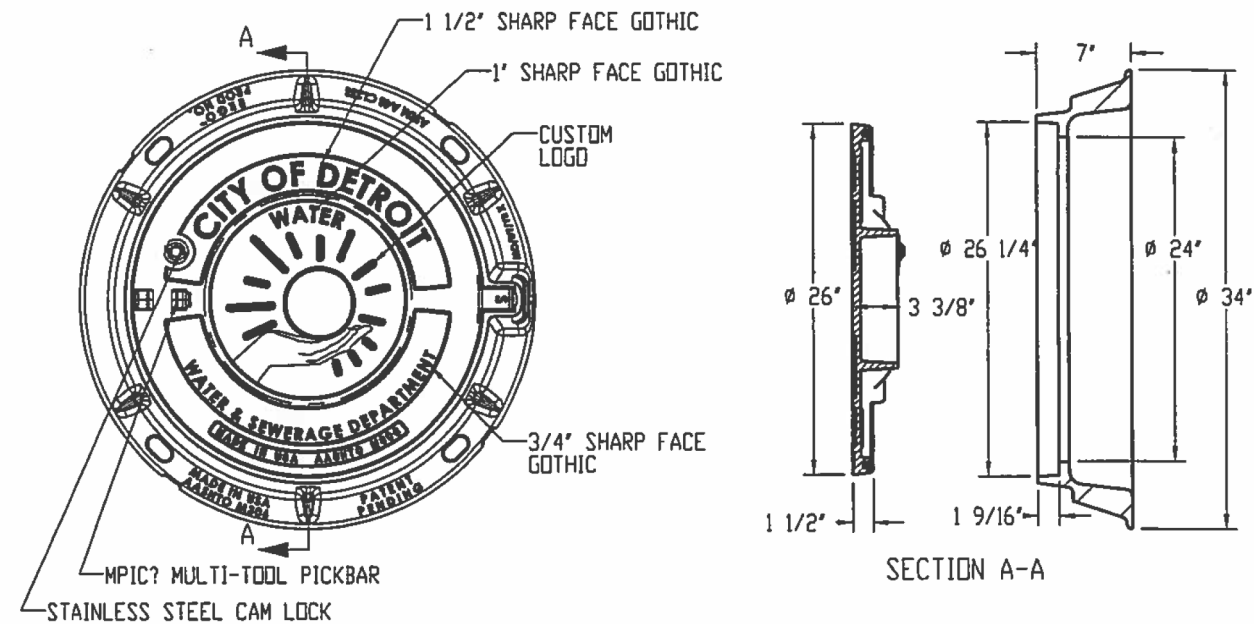
**NOTES:**

1. SOME DIMENSIONS MAY VARY BY MANUFACTURER. DESIGN ENGINEER SHALL ENSURE DETAIL MEETS AGENCY REQUIREMENTS.
2. SEE DETAIL SHEET 330561-02 FOR STANDARD MANHOLE PRECAST DESIGN.

**MANHOLES ASTM C-478**  
WEIGHTS AND DIMENSIONS - US CUSTOMARY

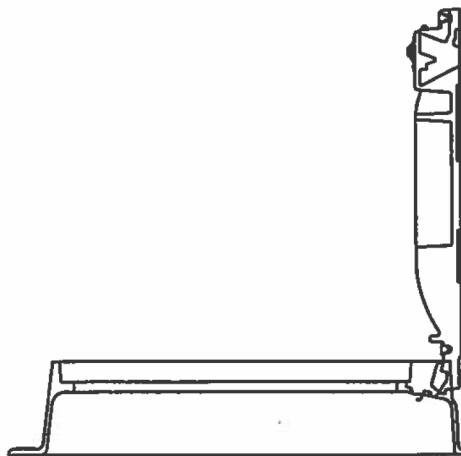
			<b>MANHOLE, ASSEMBLY</b>		CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION	
					SCALE NONE	SHEET 1 OF 1
					DATE 09/2018	DWG. No. 330561-05
					REVISIONS	
REV	DESCRIPTION	DATE				

# ERGO Assembly

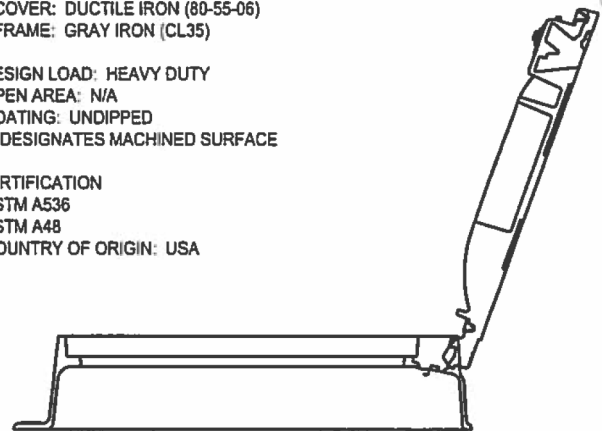


**DESIGN FEATURES**  
**-MATERIALS**  
 COVER: DUCTILE IRON (80-55-06)  
 FRAME: GRAY IRON (CL35)  
  
**-DESIGN LOAD: HEAVY DUTY**  
**-OPEN AREA: N/A**  
**-COATING: UNDIPPED**  
**- DESIGNATES MACHINED SURFACE**

**CERTIFICATION**  
 -ASTM A536  
 -ASTM A48  
 -COUNTRY OF ORIGIN: USA



SAFETY LOCK @ 90°



FULLY OPENED & REMOVAL POSITION @ 120°

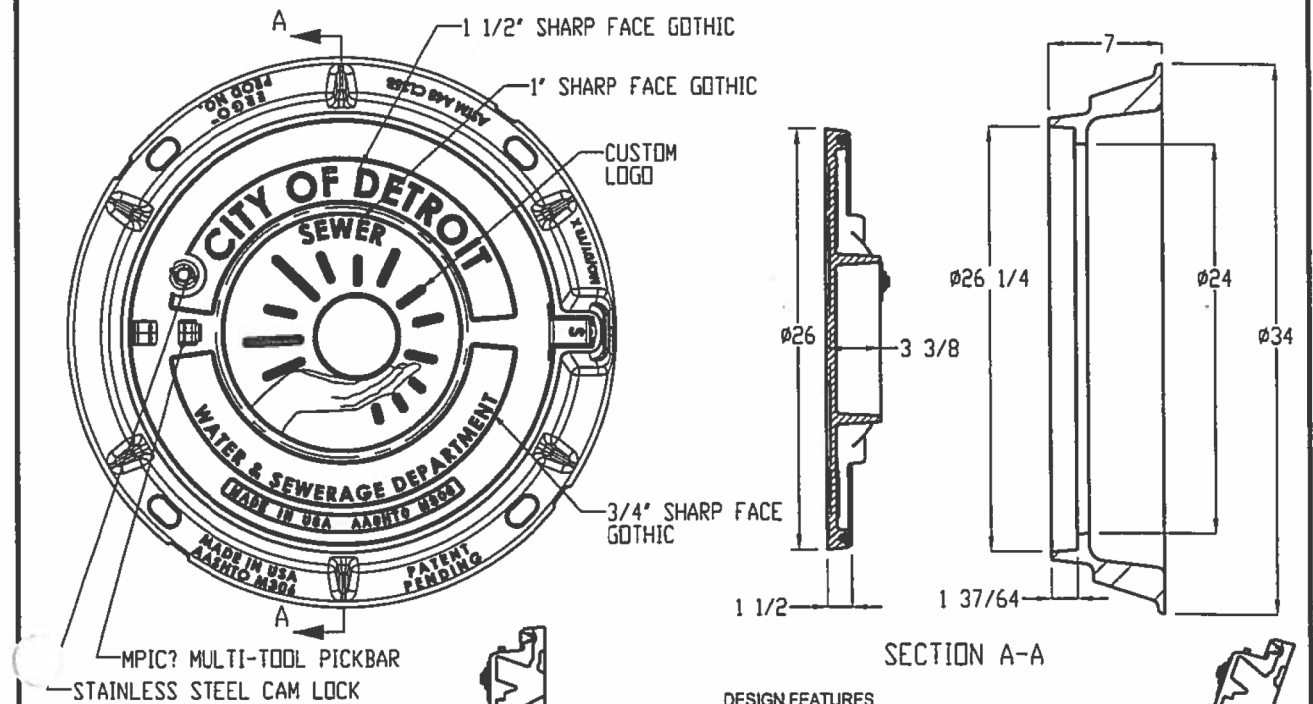
DWSD APPROVAL: *[Signature]* DATE: 04/16/14

CITY OF DETROIT  
 CITY ENGINEERING DIVISION  
 DPW

DWSD MANHOLE  
 ERGO ASSEMBLY

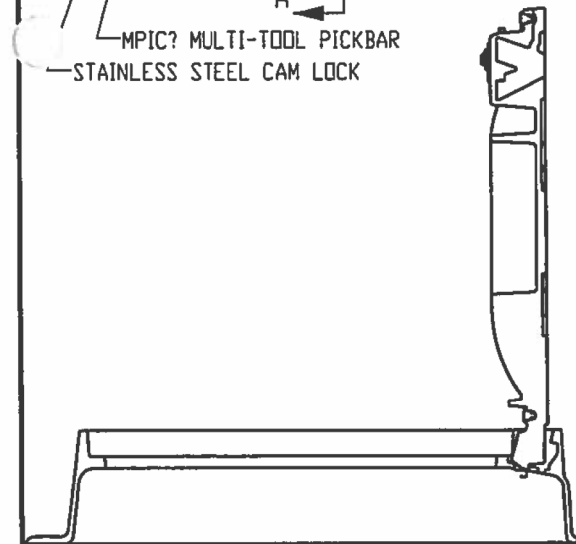
APPROVED: *[Signature]* 4/15/14  
 ENGINEER OF STREETS  
*[Signature]* 4/16/14  
 CITY ENGINEER  
 SHEET 1 OF 1  
 DETAIL STD. No.  
 DRAWING No. 101  
 DRAWN BY: N.Y. SANTOS  
 DATE: 01/5/2014

# ERGO Assembly

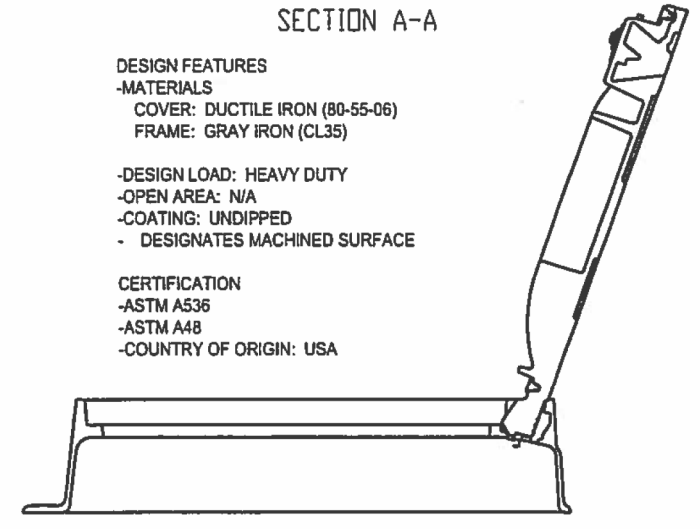


**DESIGN FEATURES**  
**-MATERIALS**  
 COVER: DUCTILE IRON (80-55-06)  
 FRAME: GRAY IRON (CL35)  
  
**-DESIGN LOAD: HEAVY DUTY**  
**-OPEN AREA: N/A**  
**-COATING: UNDIPPED**  
**- DESIGNATES MACHINED SURFACE**

**CERTIFICATION**  
 -ASTM A536  
 -ASTM A48  
 -COUNTRY OF ORIGIN: USA



SAFETY LOCK @ 90°



FULLY OPENED & REMOVAL POSITION @ 120°

DWSD APPROVAL: *[Signature]* DATE: 04/16/14

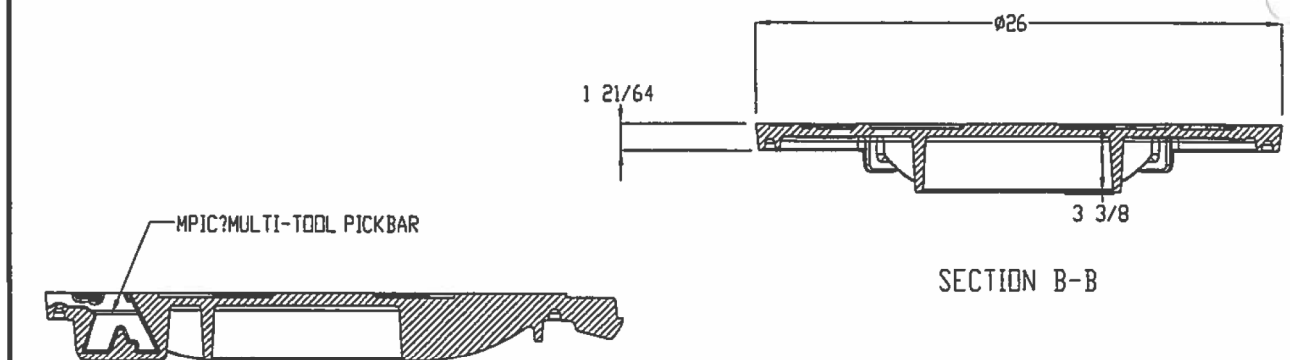
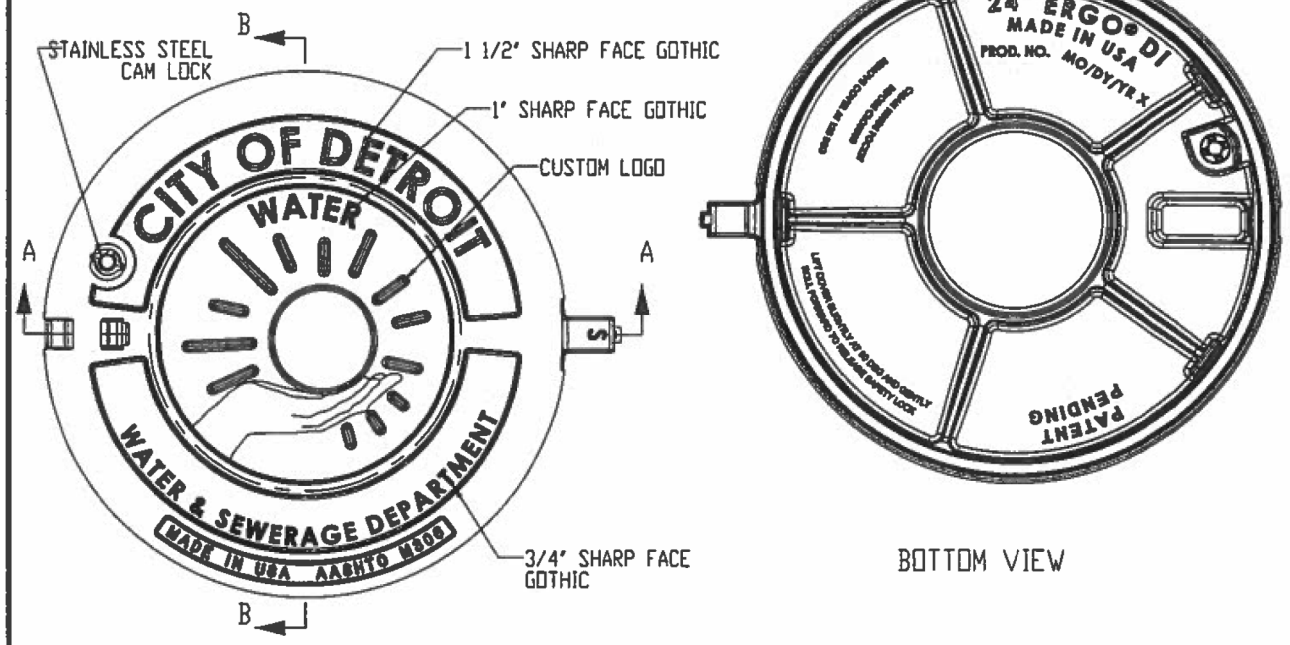
CITY OF DETROIT  
 CITY ENGINEERING DIVISION  
 DPW

DWSD MANHOLE  
 ERGO ASSEMBLY

APPROVED: *[Signature]* 4/15/14  
 ENGINEER OF STREETS  
*[Signature]* 4/16/14  
 CITY ENGINEER  
 SHEET 1 OF 1  
 DETAIL STD. No.  
 DRAWING No. 102  
 DRAWN BY: N.Y. SANTOS  
 DATE: 01/5/2014

Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

ERGO Cover

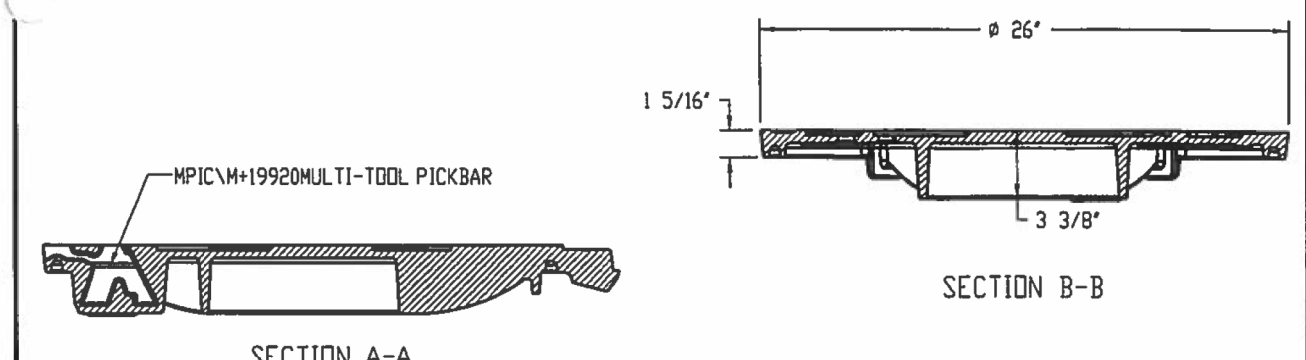
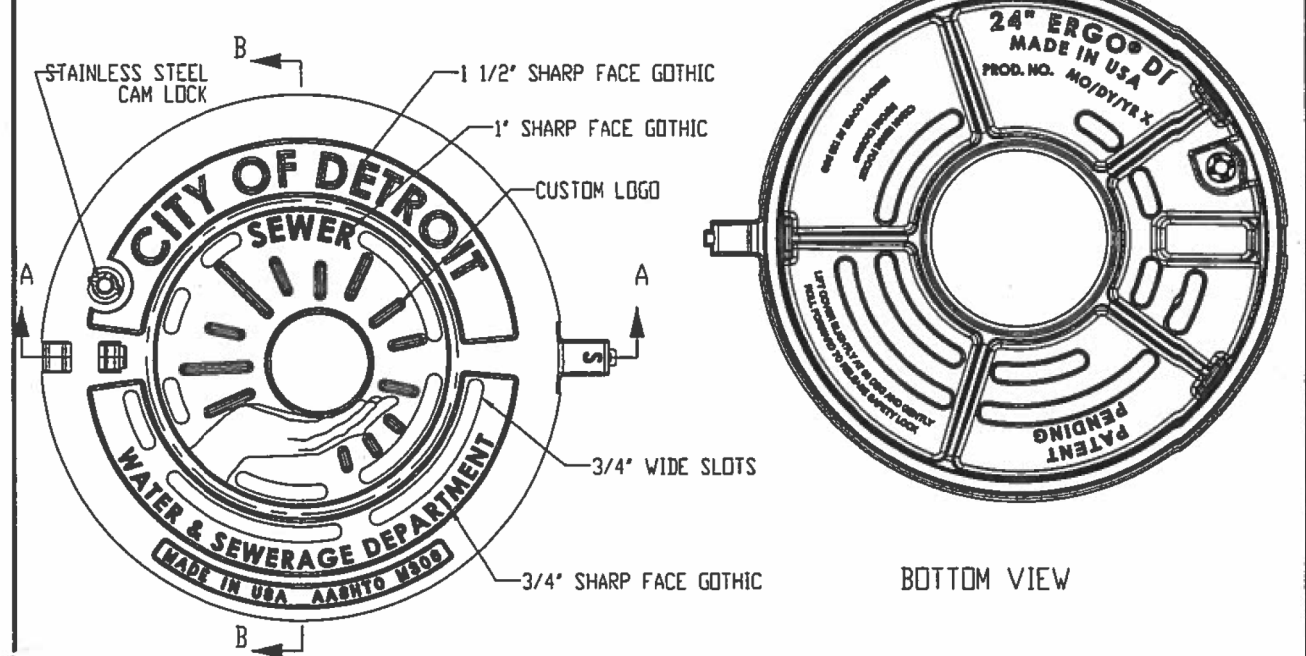


DESIGN FEATURES  
 -MATERIALS  
 COVER: DUCTILE IRON (80-55-06)  
 -DESIGN LOAD: HEAVY DUTY  
 -OPEN AREA: N/A  
 -COATING: UNDIPPED  
 - / DESIGNATES MACHINED SURFACE  
 CERTIFICATION  
 -ASTM A536  
 -COUNTRY OF ORIGIN: USA

DWSD APPROVAL: *R. Singley* DATE: 04/16/14

CITY OF DETROIT CITY ENGINEERING DIVISION DPW	DWSD MANHOLE ERGO COVER	APPROVED: <i>updated 4/16/14</i> ENGINEER OF STREETS	SHEET <u>1</u> OF <u>1</u>
		DRAWN BY: N.Y. SANTOS	DETAIL STD. No.
		DATE: 015/2014	DRAWING No. 111
		CITY ENGINEER	DATE: 015/2014

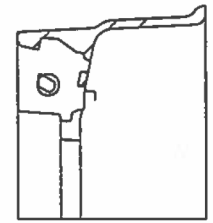
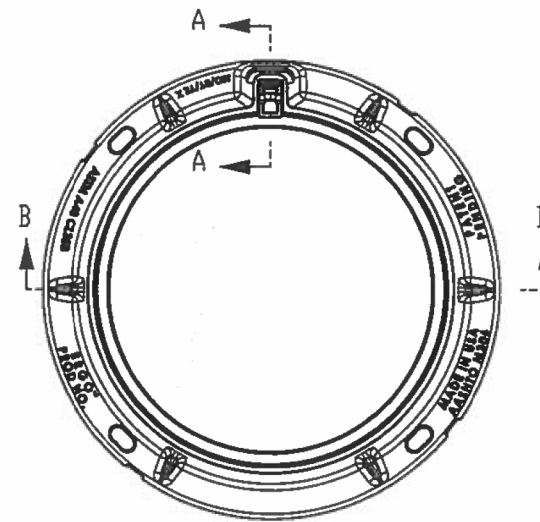
ERGO Cover



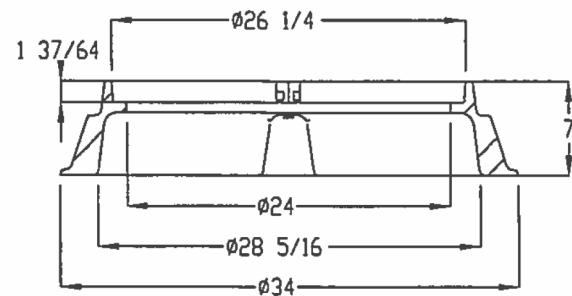
DESIGN FEATURES  
 -MATERIALS  
 COVER: DUCTILE IRON (80-55-06)  
 -DESIGN LOAD: HEAVY DUTY  
 -OPEN AREA: N/A  
 -COATING: UNDIPPED  
 - / DESIGNATES MACHINED SURFACE  
 CERTIFICATION  
 -ASTM A536  
 -COUNTRY OF ORIGIN: USA

DWSD APPROVAL: *R. Singley* DATE: 04/16/14

CITY OF DETROIT CITY ENGINEERING DIVISION DPW	DWSD MANHOLE ERGO COVER	APPROVED: <i>updated 4/16/14</i> ENGINEER OF STREETS	SHEET <u>1</u> OF <u>1</u>
		DRAWN BY: N.Y. SANTOS	DETAIL STD. No.
		DATE: 015/2014	DRAWING No. 112
		CITY ENGINEER	DATE: 015/2014




SECTION A-A  
SCALE 1 : 6



SECTION B-B

- DESIGN FEATURES**
- MATERIALS  
FRAME: DUCTILE IRON (70-50-05)
  - DESIGN LOAD: HEAVY DUTY
  - OPEN AREA: N/A
  - COATING: UNDIPPED
  - / DESIGNATES MACHINED SURFACE
- CERTIFICATION**
- ASTM A536
  - COUNTRY OF ORIGIN: USA

DWSD APPROVAL: *M. Sample* DATE: 04/16/14

 <p>CITY OF DETROIT CITY ENGINEERING DIVISION DPW</p>	<p>DWSD MANHOLE FRAME</p>	<p>APPROVED:</p> <p><i>updated 4/16/14</i></p> <p>ENGINEER OF STREETS</p>	<p>SHEET 1 OF 1</p>
		<p><i>RJS 4/16/14</i></p> <p>CITY ENGINEER</p>	<p>DETAIL STD. No.</p>
			<p>DRAWING No. 113</p>
			<p>DRAWN BY: N.Y. SANTOS</p>
		<p>DATE: 01/5/2014</p>	

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

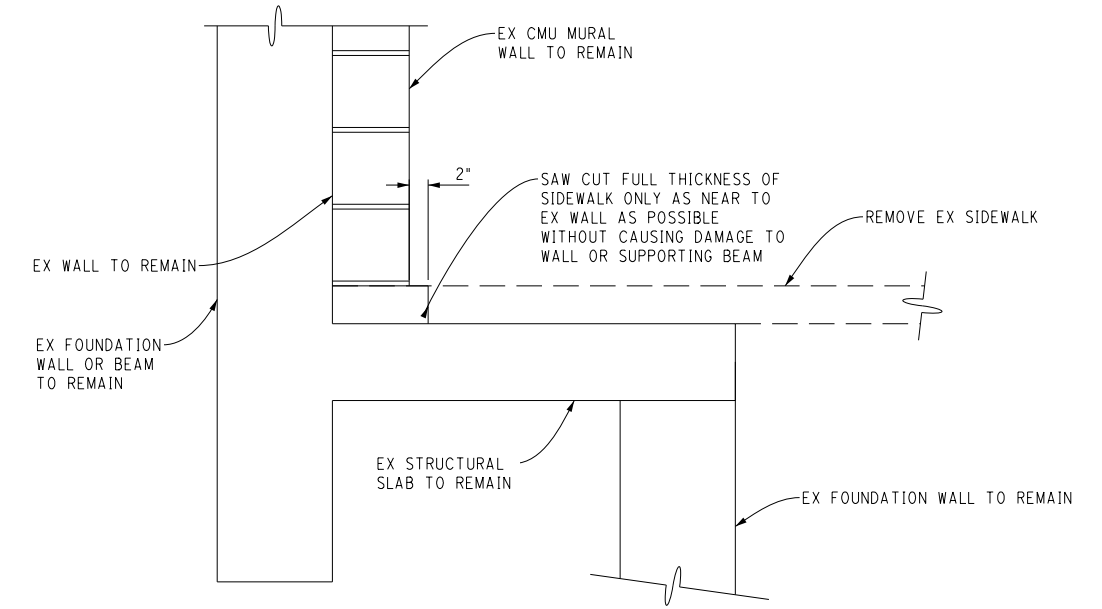
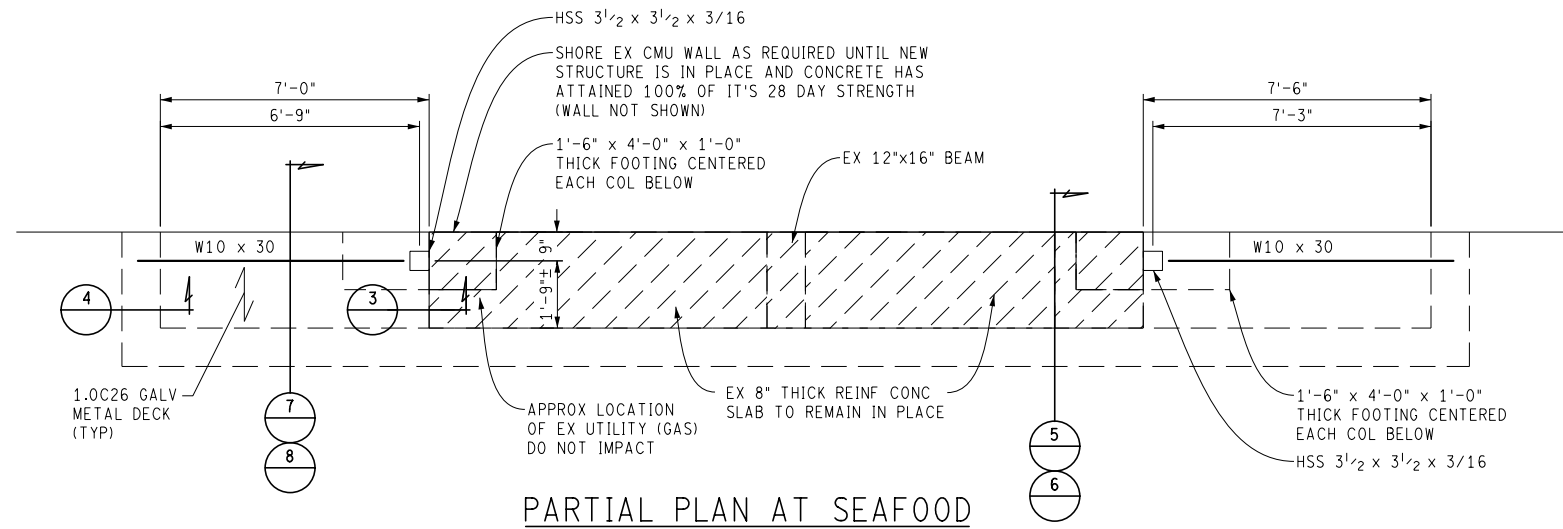


NO SCALE

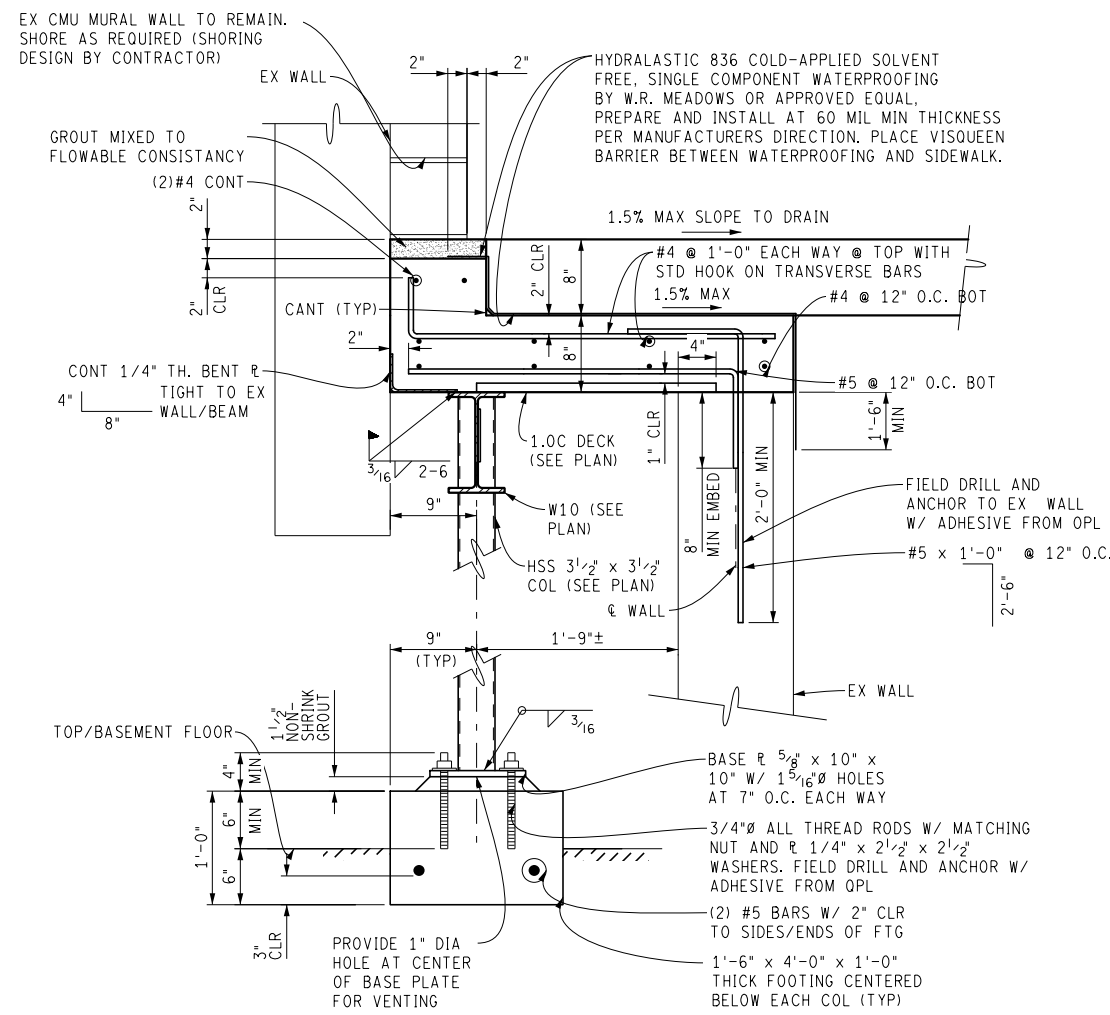
DATE: 04/23/19	JN: PW-7008 RIOPELLE	CITY OF DETROIT CED DETAILS	DRAWING	SHEET
FILE: DET018.dgn		RIOPELLE STREETScape	RIO DETAILS 022	SECT 1 113



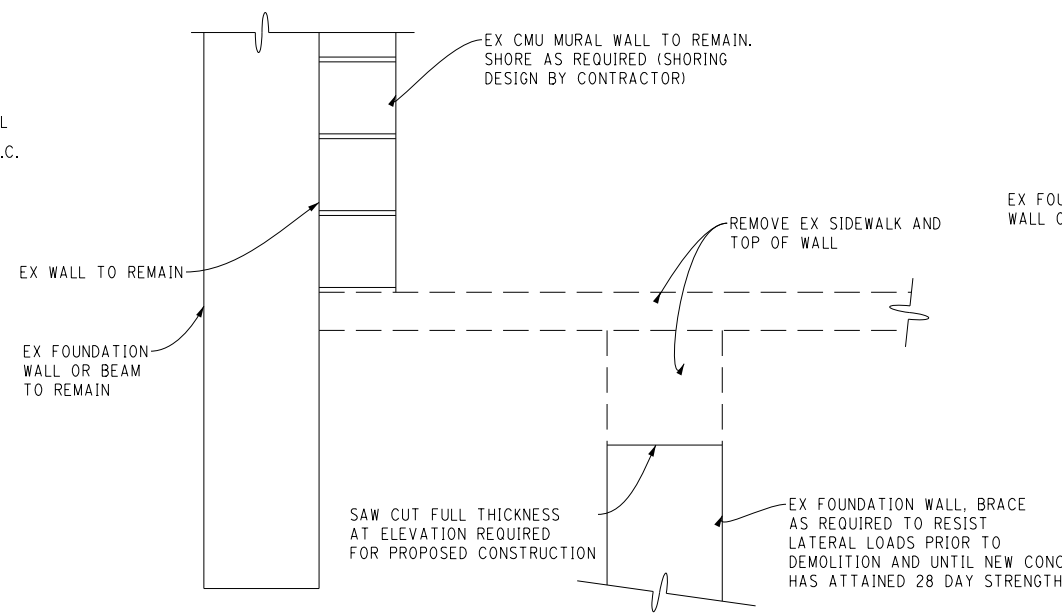




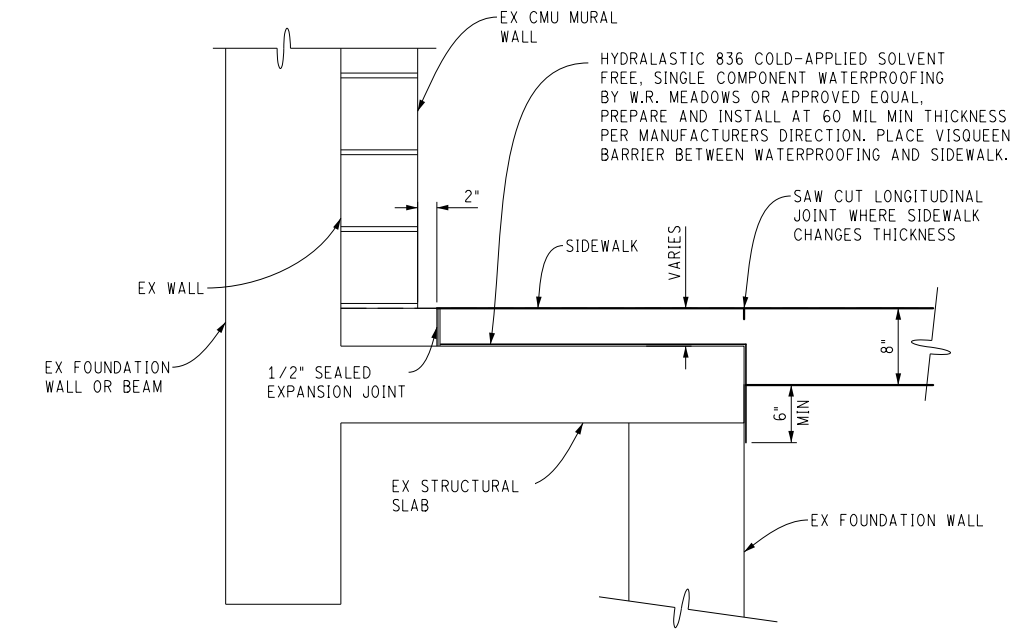
5 SECTION



8 SECTION



7 SECTION

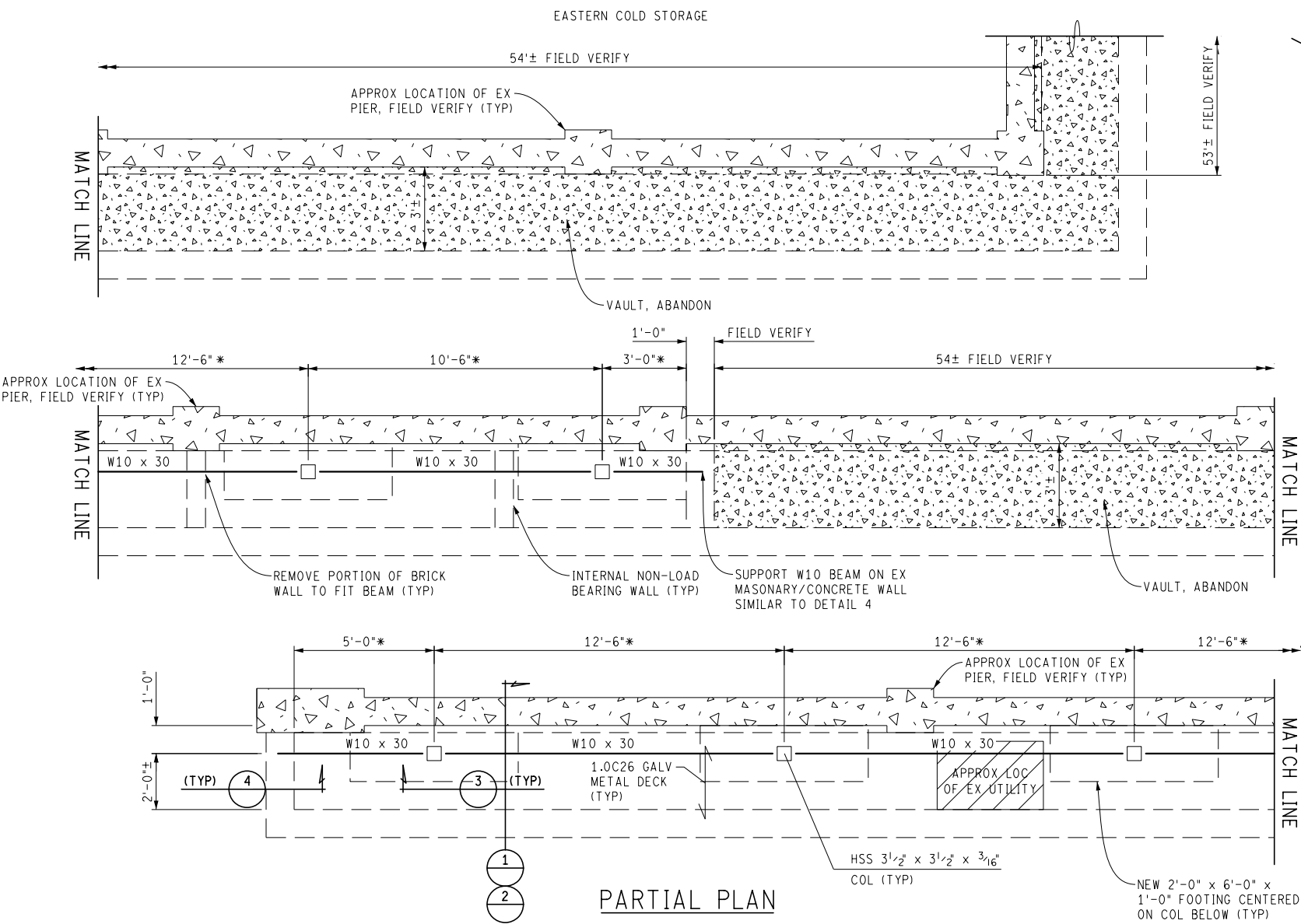


6 SECTION

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )						DATE: 10/11/19		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	BASEMENT DETAILS	
10	10/14/19		BASEMENT VAULT ROOFS					RIOPELLE STREETScape	
								RIO DET 1	SECT 1



FILE: Details.dgn  
 JUN: PW-7008 RIOPELLE



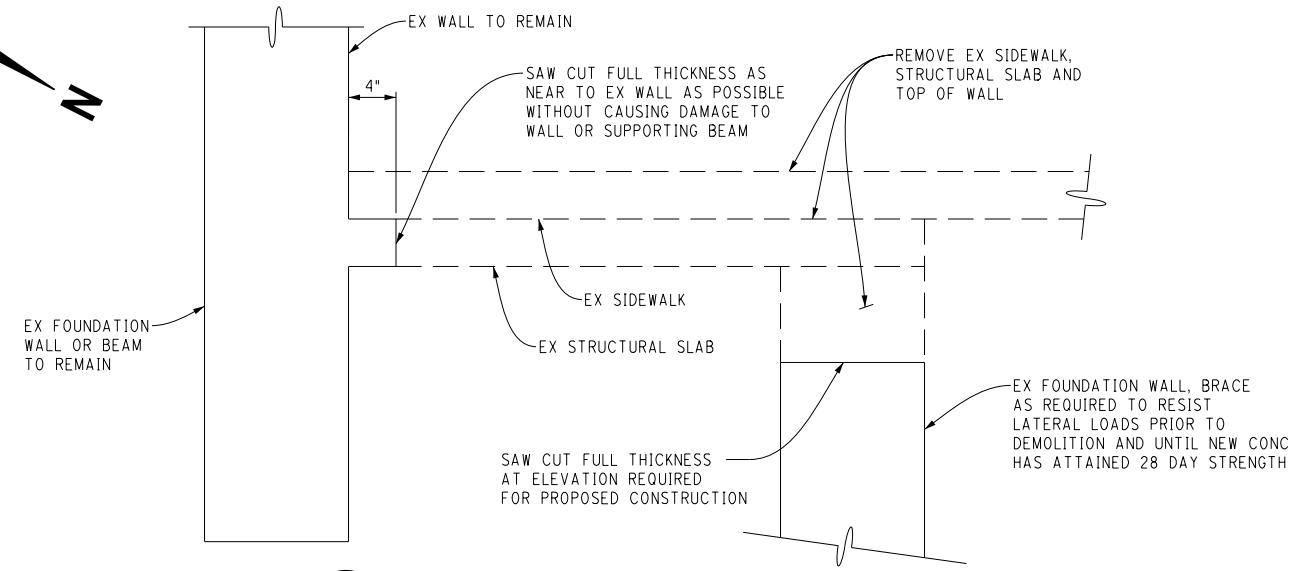
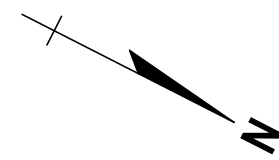
PARTIAL PLAN

NOTES

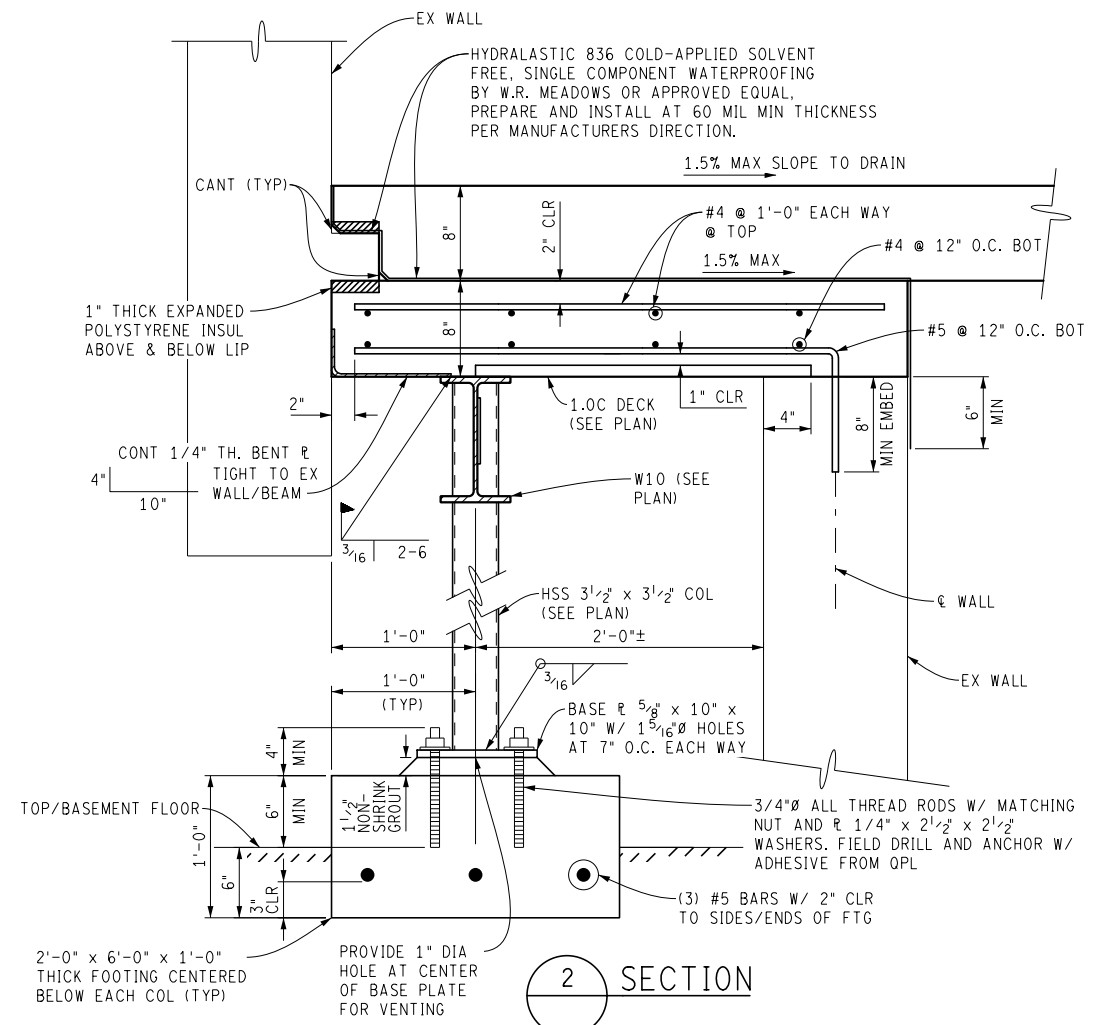
1. THE DESIGN OF THESE STRUCTURES IS BASED ON LIVE LOADS FROM AN MDOT TRUCK NO. 1, CONSISTING OF TWO AXLES SPACED AT 9'-0" APART WITH THE FRONT AXLE LOAD EQUAL TO 15.4 KIPS (15,400 LBS) AND THE REAR AXLE LOAD EQUAL TO 18.0 KIPS (18,000 LBS). WHEELS ON EACH AXLE SHALL BE SPACED AT 6'-0" ON-CENTER. THE CENTER OF ANY WHEEL LOAD OR AXLE LOAD SHALL BE NO CLOSER THAN 2'-0" TO THE FACE OF WALL.
2. AN ALTERNATE DESIGN LIVE LOAD ON THE SIDEWALK CONSISTS OF A UNIFORMLY DISTRIBUTED LOAD OF 250 PSF. THIS LIVE LOAD IS NOT CONCURRENT WITH THE TRUCK LIVE LOAD NOTED ABOVE.
3. UNLESS INDICATED OTHERWISE ON THE PLANS OR IN THE CONTRACT DOCUMENTS AND SPECIFICATION, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2012 EDITION.
4. THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:
  - A. CONCRETE: MDOT GRADE D F'c = 4,000 PSI (SLABS AND FOOTINGS)
  - B. STEEL REINFORCEMENT: ASTM A615 GRADE 60 - FY = 60,000 PSI
  - C. STRUCTURAL STEEL:
    - I. BEAMS: AASHTO M270 GRADE 50 FY = 50,000 PSI
    - II. COLUMNS: ASTM A500 GRADE C FY = 50,000 PSI
    - III. PLATES AND BARS: AASHTO M270 GRADE 36 FY = 36,000 PSI
    - IV. ANCHOR RODS: ASTM F1554 GRADE 36 FY = 36,000 PSI
5. LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03.J OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
6. CONCRETE REINFORCEMENT IN THE SLAB SHALL BE EPOXY COATED REINFORCEMENT COMPLYING WITH AASHTO M284.
7. STRUCTURAL BOLTS SHALL BE AASHTO M164 TYPE 1 WITH AASHTO M291 GRADE DH OR AASHTO M292 GRADE 2H HEAVY-HEX NUTS AND AASHTO M293 TYPE 1 HARDENED WASHERS. BOLTS, NUTS AND WASHERS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M232.
8. STRUCTURAL BOLTS SHALL BE INSTALLED TO THE SNUG-TIGHT CONDITION WITH THREADS ALLOWED IN THE SHEAR PLANE(S) (A325N).
9. ALL STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123.
10. ANCHOR RODS, NUTS AND PLATE WASHERS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153.
11. METAL FORM DECK SHALL BE GALVANIZED DECK OF THE PROFILE AND THICKNESS INDICATED.
12. ASSUMED ALLOWABLE BEARING CAPACITY OF SOIL BELOW FOOTINGS = 2,000 PSF.

\*NOTE: CONTRACTOR TO ADJUST SPACING OF COLUMNS AS NEEDED TO AVOID CONFLICTS WITH EXISTING UTILITIES AND OTHER FEATURES. 12'-6" MAX SPACING.

SEE NEXT SHEET FOR ADDITIONAL DETAILS



1 SECTION

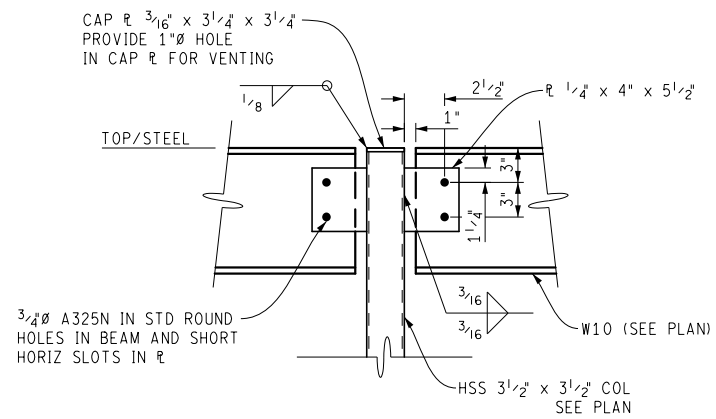


2 SECTION

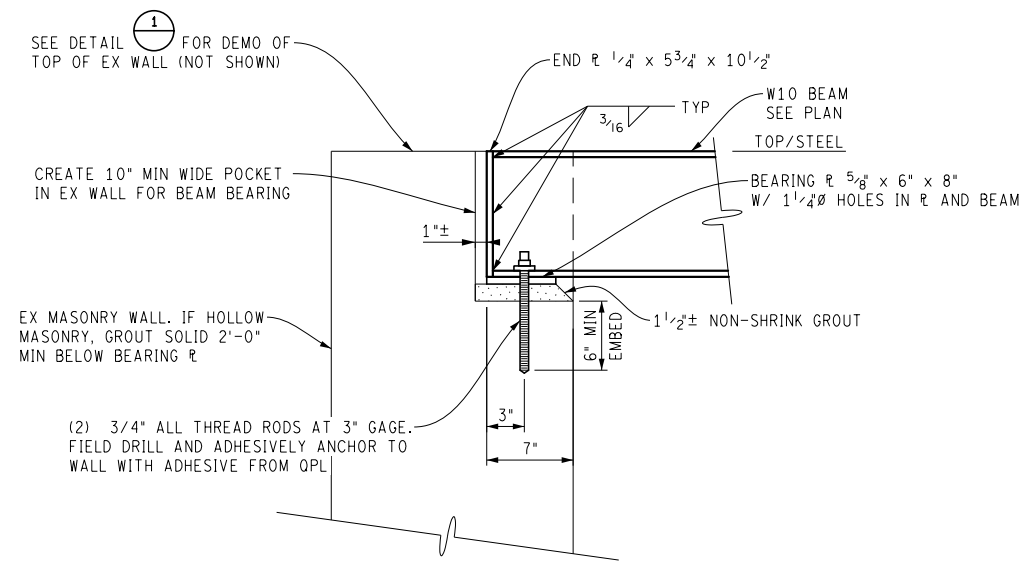
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )						DATE: 10/11/19		JN: PW-7008 RIOPELLE		BASEMENT DETAILS		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	RIOPELLE STREETScape		RIO DET 1	SECT 1		
5	10/14/19		BASEMENT VAULT ROOFS										



FILE: Details.dgn



3 TYPICAL BEAM-COL CONNECTION



4 BEAM BEARING ON WALL

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )								DATE: 10/11/19		JN: PW-7008 RIOPELLE		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	0		BASEMENT DETAILS		RIO DET	
5	10/14/19		BASEMENT VAULT ROOFS					HORZ. (FT)		RIOPELLE STREETScape		SECT 1	
								FILE: Details.dgn				1	

